

Ethnographic Resource Study

Subsistence Fishing on the Potomac and Anacostia Rivers



Prepared under a cooperative agreement between the University of Maryland, Department of Anthropology, the National Park Service, National Capital Region, Cultural Anthropology Program; in conjunction with the Chesapeake Watershed Cooperative Ecosystem Studies Unit, #P11AC30805.

Prepared By:

Shirley J. Fiske, PhD, University of Maryland
Don Callaway, PhD, Independent Researcher

With assistance of:

Noel Lopez, NPS

Amber Cohen, University of Maryland

Leslie Walker, NPS

Jeremy Trombley, University of Maryland

Katie Geddes, University of Maryland

Davis Shoulders, American University

University of Maryland
College Park, Maryland
January 30, 2020

Photos: Left; East Potomac Park, Hains Point. *Credit: S.J. Fiske.* Right; Anacostia Park. *Credit: J. Trombley*

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
2.0 ACKNOWLEDGEMENTS	6
3.0 INTRODUCTION	9
4.0 ETHNOHISTORICAL CONTEXT OF FISHING COMMUNITIES ON THE POTOMAC AND ANACOSTIA RIVERS	21
4.1 Ethnohistory of African American Communities, Anacostia and Potomac Rivers.....	22
4.2 Piscataway Ethnohistory	41
4.3 Latino and Hispanic Communities.....	63
4.4 Asian American and Pacific Islander Communities	72
5.0 RESEARCH DESIGN AND METHODOLOGY.....	78
5.1 Background	78
5.2 Research Process and Project Team	79
6.0 FINDINGS	81
6.1 Findings. Demographic, Social, and Fishing Data.....	81
6.2 Fishing Site Sampling Matrix and Field Notes	139
6.3. Ethnographic Findings and Discussion	147
7.0 ENVIRONMENTAL JUSTICE AND SUBSISTENCE FISHING	234
7.1 Principles of Environmental Justice	235
7.2 Food Insecurity and Subsistence Fishing	237
8.0 PARK PROFILES.....	240
8.1 Park Profiles Comparison	240
8.2 Anacostia Park.....	264
8.3 Chesapeake & Ohio Canal National Historic Park	282
8.4 George Washington Memorial Parkway	300
8.5 National Mall and Memorial Parks	320
8.6 Piscataway Park.....	339
9.0 RECOMMENDATIONS	358
9.1 Park Management Recommendations	358
9.2 Research Recommendations.....	365

EXECUTIVE SUMMARY

Introduction

The National Park Service (NPS) manages the majority of the Potomac and Anacostia riverfront in metropolitan Washington, D.C. Five administrative units, National Mall & Memorial Parks (NAMA), National Capital Parks-East (NACE), George Washington Memorial Parkway (GWMP), Rock Creek Park (ROCR), and the C&O Canal (CHOH), manage some 47 miles of riverfront. This shoreline is utilized by a wide variety of anglers and recreationalists. The major intent of this research is to provide the NPS with a detailed understanding of non-recreational subsistence anglers who consume and/or share their catch from a stretch of river that reaches up the Anacostia River to the District line, and up the Potomac to Great Falls, including Rock Creek Park, and down the Potomac on the Virginia and Maryland sides to Piscataway and Mount Vernon. For the purposes of this study, subsistence fishing means fishing *primarily* for consuming or sharing the catch; while recreational fishing is *primarily* for sport or pleasure, and typically fish are caught and released (see Section 6.3.2, “Subsistence”).

Research Design

The research design for this project is a multi-method approach that combines primary qualitative data from transcribed oral history interviews and more formal, inductive statistical analysis using descriptive, bivariate, and multivariate techniques. In addition, a number of GIS-generated data sets are integrated into the overall analysis, providing maps but also graphic connections between spatial anchors, individuals, and social and demographic attributes. Finally, ethno-contextual histories, including consideration of the existing secondary literature, will be provided for an historical grounding that helps explain social, political, and economic aspects of current fishing and consumption behaviors.

Data Collection

The process began with assessments of intensity of fishing sites in the field, then the collection and transcription of oral history interviews using an open-ended protocol with fishers in the Potomac and Anacostia river areas. Participants were recruited *in situ* as they engaged in fishing activities throughout the Potomac/Anacostia study area. During initial contacts, we looked for anglers who appeared to be harvesting for consumption or for consumption and/or sharing. Essentially, the “filter” excludes sports anglers who practice “catch and release.” A complete description of fishing sites, including a matrix of where and when interviews were conducted, can be found in Section 6.2, “Fishing Site Sampling Matrix and Field Notes.” Sampling was purposive, not random, so generalizations are made with some caution.

Focus of Study

In addition to assessing the nature of peoples’ traditional and contemporary associations with park resources, this study addresses who is fishing, what fish individuals are catching and eating, how they are preparing their food, their beliefs about fish contamination or safety, which types of fish are routinely shared, and with whom they share their catch. Demographic, social, and fishing data are presented in Section 6.1, followed in Section 6.3 by detailed ethnographic observations on meaning and significance of fishing; sharing, food preparation, and safety; subsistence fishing; food insecurity; and park-associated communities.

Although exploring the health effects of eating fish from the Potomac and Anacostia is not within the scope of this research, the project is, nonetheless, interested in understanding the cultural and personal underpinnings of why anglers continue to fish and consume the fish from these rivers. Two states (Maryland and Virginia) and the District of Columbia issue fish advisories on consumption of catfish,

perch, and largemouth, smallmouth, and striped bass, during a month's period of time. The waters are well-known to be polluted and contaminated; yet, anglers come to fish on the rivers, sometimes driving some distance from their homes, and consume their catch despite public health advisories on eating fish (e.g., signage posted at fishing sites) in English and Spanish, and advisories printed on the back of individual fishing licenses. In addition, a recent study, "Addressing the Risk" (OpinionWorks 2012), generated media attention and numerous newspaper articles in the D.C. metropolitan region that raised issues about the risks of eating fish from the rivers. At least two non-profit organizations provide fishing workshops on the Anacostia that encourage catch and release as opposed to consumption. Most fishermen were aware that there are risks of eating fish from the rivers. (see "Food safety and risk reduction," Section 6.3.3.6; and "Cleaning, preparation, and cooking," Section 6.3.3.5)

Major Findings

The first year's (2015) research resulted in the collection, processing, and analysis of 37 oral history interviews. The second field season (2016) generated 44 interviews, for a total of 81 interviews.

Where interviews took place:

- Two-thirds (67%) of all oral histories took place in five locations—Hains Point (Washington Channel and Potomac River sides), Piscataway, Fletcher's Cove, and Jones Point. One-third of the interviews were conducted at Hains Point—literally, a fishing "hot spot." The remaining interviews took place at more remote and less heavily used sites, such as the C&O Canal near Old Anglers Inn, Little Hunting Creek in Virginia, or the Fort Washington lighthouse, on the Maryland side (see Table 6.1.2).

Characteristics of the subsistence fishing sample:

- Almost 57% of the interviews were with African Americans. Twelve were Anglo fishermen, 11 were Hispanic fishermen, 7 were Asian or Pacific Islanders, and 5 individuals were categorized in the "Other" category—the majority being Native American.
- Eighty-eight percent of respondents were male, while 12% were female.
- Ages of respondents varied from 18 to 80 years of age, with an average age of 44 (median age about 49), with 75% of African Americans being older than 40.
- A large majority (82%) of anglers in this sample are high school graduates (or GED); nearly 20% had completed their bachelor's degree (13/68).
- The average number of years that respondents had been fishing was 22 years, but the vast majority had been fishing most of their lives.
- Ninety-five percent of the anglers fished at least once a week, while half fished 2-3 days per week; and 20% fished 4 or more days per week.
- The top species harvested by subsistence fishermen were blue catfish (84%), striped bass (78%), yellow perch (68%), and channel catfish (67%), in order of percentage of fishers who reported catching them (Tables 6.1.19, 6.1.21-23).

SECTION 1: EXECUTIVE SUMMARY

- Blue catfish, by a huge margin, provide the most biomass in the sample of anglers. Blue catfish are fished for most often, are harvested in the greatest amounts, and, on average, weigh the most of any species (Table 6.1.26).
- The highest harvesters (11 or more per week) of blue catfish are African American and Anglo fishers. In general, the oldest (51+) African American and Anglo anglers harvest the most blue catfish (Table 6.1.24).
- Aggregating all species, 82% of respondents consumed at least part of their harvest.
- Sixty-two of the 81 respondents harvested blue catfish. We calculated these 62 individuals harvested, in one year, about 400,000 lbs. of blue catfish, with a dressed consumable weight of about 200,000 lbs.
- Sixty of the 62 anglers (93%) who harvested blue catfish shared at least part of their catch. Seventy percent shared their yellow perch. Fewer anglers shared their striped bass (66%) (Table 6.1.39).
- Fishermen share fish broadly, although with whom they share depends on the species. Blue catfish are shared with friends, acquaintances, and neighbors first; whereas stripers (striped bass) are shared first with extended family and immediate family.
- The bulk of blue catfish (dressed weight) was shared or given to others. This pattern of giving away most of the catch holds constant regardless of ethnicity, age, or the amount of fish harvested.
- Thus, most of the blue catfish harvest is not for personal or immediate family consumption, but rather is shared with a broad and diffuse network of extended family, neighbors, friends, and/or acquaintances.
- An important but *unanticipated finding* is that, because food insecurity is widespread in the Washington, D.C. area, the extensive sharing of blue catfish, in particular, may provide a substantial buffer to hunger faced by households in the D.C. metro area. See Section 6.3.4 on “Food Insecurity.”

Following are major findings based on insights from qualitative data sets.

- ✓ *A hallmark of subsistence fishers is their strong commitment to fishing.* A key indicator is the startling fact that nearly everyone who was interviewed fished at least once a week; half of the anglers fished 2-3 days per week, but nearly 20% fished *4 or more days per week* (Table 6.1.16). These findings contrast with the OpinionWorks survey, in which only about a third (37%) of all respondents fished two or more times per week during the spring/summer (OpinionWorks 2012).
- ✓ *Parks are high-intensity fishing spots.* The argument can reasonably be made that subsistence fishermen are the most consistent users of parks’ shorelines, especially during the summer, but also during winter months. To put this in context, respondents communicated how much they

SECTION 1: EXECUTIVE SUMMARY

enjoyed, and counted on, going to parks as a destination for relaxation, and as a place to be with family members and to teach their children how to fish. When asked why they fished and what significance it had for them, many replied “it’s relaxing,” where they could get out from their living situations, their jobs, and just be outdoors in a beautiful riverine and natural setting. Anglers also mentioned the sociability and camaraderie associated with fishing as a key pleasure of the activity.

- ✓ *Fish are shared through family gatherings or extended family events and networks, such as 4th of July and Labor Day picnics or family cookouts during the summer months—that often take place at parks. Nearly 50% of anglers, overall, shared at one or more family events. Anglos were the least likely, at 80%, to attend any family events; other ethnicities, however, were more likely to bring fish to share at family gatherings—African Americans at 60%, Asian and Pacific Islander at 60%, Hispanic at 50%, and 60% of “Other” (largely Native Americans) brought fish to share to family gatherings. See Sections 6.3.3 on Sharing and Section 6.3.2 on Subsistence.*
- ✓ *Most high-frequency anglers (fishing 4+ days per week) were older and predominantly African American (Table 6.1.18). In addition, we found that 76% of African American males said they fished during the winter. This is a rate six times greater than any other ethnic group; Anglos are next, far down the list of winter anglers, at 12%.*
- ✓ *Fishers ascribe high significance to fishing. Being able to go fishing is important to the great majority of anglers; it means the pleasure of relaxation, enjoyment, and freedom from cares. It means sharing an interest or passion with other anglers, fishing buddies, and friends. It means having time for family—spending “quality time” with grandchildren or their own children—teaching them to fish and recalling the times with their own parents or grandparents.*
- ✓ *Fishing provides a sense of self-reliance for being able to provide for oneself, family, or neighbors in need, and a sense of self-respect garnered from the extensive sharing of their harvests. Anglers have a sense of satisfaction in their skill and ability to provision, and share the bounty with other anglers who are not catching any fish or need them.*
- ✓ *A strong “southern, rural subsistence tradition” undergirds contemporary subsistence fishing on the Potomac and Anacostia, especially among African American and Native American/Piscataway anglers. The rural south has deep roots in traditional subsistence systems as a way of life, including most recognizably Cajun (Louisiana), Gullah (Georgia sea islands), and rural African American lifeways (throughout Mississippi, South Carolina, Georgia, and Alabama). It manifests itself through the dedication to fishing as a way of living, maintaining traditional food ways, and provisioning over generations. See “Subsistence and rural heritage” in Section 6.3.2.*
- ✓ *Fishing is a family activity and avocation that spans extended kin and multiple generations. The vast majority of the fishermen and fisherwomen in the sample learned to fish from members of their immediate or extended family (uncles, grandparents, mothers-in-law). Among African Americans, 89% learned to fish from family members, including great-grandmothers in the rural south, and fourth-generation Washingtonian fathers in D.C. (Table 6.3.2.4). Family tradition is important, and respondents often indicated that fishing was part of an honored tradition and*

legacy in their family. They indicated their hope to keep it going by teaching their children/grandchildren.

Finally, another unanticipated finding is presented in the section on Environmental Justice. We distinguish between “distributive justice”—how to balance the burdens and benefits of environmental actions—and “participatory justice,” which asks “how are these distributive decisions made?” and “who makes them?” Minorities who organize around environmental justice issues heavily emphasize the participatory justice aspect. They do not want other actors balancing out the burdens and benefits for them; they want to be part of the decision-making process that balances out these issues. In the case of this research, they want to be part of the process that decides who bears the burdens of unhealthy waters, and who makes the decisions about the siting of toxic landfills, access to rivers, and the use and management of public lands and parks. Coincidentally, this need to be part of the decision-making process is congruent with a major recommendation from our respondents—the desire for increased interactions with park staff, specifically park rangers (Sections 7.0 “Environmental Justice,” and 9.0 “Recommendations”). This congruence between environmental justice and the parks’ ability to interact with anglers is a great opportunity for the NPS, which has searched for ways to increase minority presence in U.S. parks. It is thus all the more an opportunity, given that anglers constantly speak of the beauty of the parks they visit and speak often of the need for responsible stewardship.

Because of its length, we offer the following suggestions on “How to read this report.”

How to read this report

Read the Executive Summary.

- *Skim the Table of Contents for topics of interest.*
- *Begin with the Ethnohistory section, [especially 4.1](#), on Anacostia and African American ethnohistory, which provides a substantial context to understand many of the findings in this report. In addition, section 4.2, Piscataway Ethnohistory, provides a (sobering?) perspective on park-Native American relationships from the initial establishment of the park.*
- *Go to specific park units in the Park Profiles—a quick access to park-specific findings in [Section 8.0](#), “Park Profiles.” (link)*
- *Read the Recommendations.*

Appendices are available in a separate volume.

2.0 ACKNOWLEDGEMENTS

First and most importantly, we would like to thank the anglers who agreed to be interviewed and spend time during their fishing hours sharing their techniques, favorite spots, favorite fish and fish stories—and their life histories and concerns about fish and the rivers from which they fish. They also expressed their strong appreciation for being able to fish at parks with public access to beautiful, scenic spots. Although they remain anonymous, their stories, advice, and observations are the soul of the study; their time, their good will, and love of fishing is greatly appreciated. Almost all the interviewees are dedicated fishermen—many over several generations—who consume and share the fish they catch. They endured numerous questions on fish they had seen or caught, on which family members taught them to fish, and which generations fished and where. Many shared personal details of family backgrounds as it pertained to fishing or consuming resources from rivers and estuaries where they fished. They also told us of their experiences growing up in the District, and fishing on the rivers and tributaries in the area. These subsistence fishermen deserve better water quality and safer fish to eat, and this study underscores the importance and urgency of cleaning up the Anacostia River, in particular, and the Potomac River—both valued resources for fishing for food.

Secondly, we greatly appreciate the valuable interviews with community experts with whom we conducted in-depth oral history interviews. These individuals grew up on the Potomac and its tributaries, or the Anacostia River, or both; each person was identified because of their specific insights into their segment of the fishing community at large. They patiently shared their experiences regarding their networks of fishing partners, friends, and persons for whom fishing is a way of life or a lifelong pursuit. Dan Ward and Alex Binsted at Fletcher’s Boathouse seemed to know virtually everything about the Potomac and fishing, and made some very important long-term observations on the social aspects of fishing as well as the health and abundance of fish species over the course of their lives. Their enthusiasm for the river and fishing make Fletcher’s a popular and special place to fish and picnic under the spreading maple trees.

Rico Newman, tribal elder of the Choptico Band of Piscataway, and former Maryland state Commissioner on Indian Affairs, was extremely generous with his time and added enormously to our understanding of both growing up on the Anacostia during the latter half of the 20th century, and the way Piscataway see themselves in relation to riverine and estuarine environments through annual ceremonial cycles today. Anjela Barnes, current Vice President and Chief Operating Office for the Accokeek Foundation, very graciously provided us insights into growing up on a tributary to the Potomac, where fishing and eating out of the river are a way of life and provide a sustainable livelihood. We thank both Rico Newman and Anjela Barnes for their thorough review and comments in critical sections of the report. Dr. Lisa Hayes, then-Director of the Accokeek Foundation, was very helpful in connecting us with Piscataway individuals, and helped us to understand the Foundation’s educational and historical initiatives that recorded the wisdom and stories of elders. The Accokeek Foundation has played a major role in publicizing Piscataway history and search for identity and recognition. We would also like to give thanks to the staff at the Accokeek Foundation for hosting a community feedback session in early 2016.

We also note our sincere thanks to the non-profit community organizations and river advocacy groups with whom we met and coordinated at the outset of the project, and for comments and community updates later in the project. Individuals in these organizations provided excellent feedback, direction, and pertinent questions about fishing and fishers on the rivers. Thanks to Anthony (Tony) Thomas, Education Program Coordinator, Anacostia Community Museum; to Mike Balinger, Riverkeeper; and

SECTION 2: ACKNOWLEDGEMENTS

especially Trey Sherard, Riverkeeper, outreach coordinator and staff biologist with AnacostiaRiverkeeper (www.AnacostiaRiverkeeper.org).

Many thanks to Jim Foster, Director, Anacostia Watershed Society (AWS), for continuing the strong and effective advocacy role of the organization, and also for providing timely information in the writing of the Anacostia Community Ethnohistory and continued interest in the results of the study; and to Dan Smith, AWS Public Policy and Advocacy Director, for attending the American University session and asking cogent questions (www.anacostiawatershed.org).

We deeply appreciate the involvement and support of Ms. Rianna Teresa Murray, School of Public Health, Maryland Institute for Applied Environmental Health, and Dr. Sacoby Wilson, School of Public Health, Maryland Institute for Applied Environmental Health. The 2015 summer intern program was a joint effort between the School of Public Health and the Potomac-Anacostia Subsistence Fishing research project.

Thanks to Steve Raabe, Director, Director of OpinionWorks, whose firm undertook the 2012 fishing study, "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia Fish." He was enormously generous in sharing their data set, especially the redacted survey and the interview data, so that we could compare their results with our own (http://www.anacostiaws.org/userfiles/file/AWS_angling_FINAL_web.pdf).

We greatly appreciate the powerful photography of Becky Harlan and permission to use one of her photos for our subsistence fishing business card. Please see her project "The River" at: <http://www.beckyharlan.com/projects/album/the-river?p=1>.

A number of State and District environmental officials were enormously helpful during the study and the final writeup by providing us with the latest information on the Anacostia and related activities. Thanks to Jim Odenkirk, with Virginia Fish and Game for Northern Virginia, the District of Columbia DOEE (Department of Environment and Energy) Associate Director Bryan King, and the Maryland fisheries representative. We would also like to thank Teresa Rodriguez, who spent time explaining the public and youth outreach for fishing and wildlife in Anacostia—how the Aquatic Resources Education Center (AREC) works—a partnership between the U.S. Fish and Wildlife Service and the DOEE. We also thank Gretchen Mikeska, P.E., Associate Coordinator for the Anacostia River Sediment Project (DOEE), for her extremely helpful explanation of the role of District government and DC Water in the combined sewer overflow (CSO) re-engineering and cleanup for the Anacostia River.

This cooperative agreement between the NPS and the University of Maryland would not have become a reality without the vision and insight of Dr. Jennifer Talken-Spaulding, at the time the Cultural Anthropologist in the National Capital Region (currently, NPS Bureau Cultural Anthropologist). She saw the need for ethnographic research on a lesser-known park user group, engaged NPS personnel in pursuit of learning more about those fishing along NPS shorelines for food and for sharing, and brought the project into reality. She made sure the Research Team had the resources it needed, from kick-off meetings and familiarization tours, to assistance producing the outreach flyers, to providing meeting places for Research Team and community meetings. This project was truly a cooperative agreement, thanks to Jennifer's never-ending attention to details at the right time and place.

We are grateful for the Field Team that worked with us to undertake the interviews, coding, and Field Notes. These individuals, listed below, were the core "worker bees" who were the ethnographic engine of the project, and indispensable research assistants in the fieldwork portion of interviewing and interview coding. The Field Team made over 300+ trips (total) over 2+ years into field sites along the Anacostia and Potomac, in the summer and winter, spring and fall fishing seasons. They hiked down

SECTION 2: ACKNOWLEDGEMENTS

steep trails in the rain and fended off insects and thundershowers in the summer. (We required team members to go out in pairs for safety reasons.) In addition to their intrepid outdoor exploration skills and undertaking of adventurous hikes, they were adventurous in cooking and eating one of catfish proffered by one of the fishermen (“It was good!” according to Katie, who hails from Georgia, and Amber, from New Jersey).

Year 1: Noel Lopez, Cultural Anthropology Program Fellow, National Capital Region
Leslie Walker, Cultural Anthropology Program Fellow, National Capital Region
Amber Cohen, National Council for Preservation Education (NCPE) Intern
Jeremy Trombley, Research Assistant, Department of Anthropology, University of Maryland
Davis Shoulders, NCPE Intern

Year 2: Noel Lopez, Pathways Cultural Anthropologist, Edwin C. Bearss Fellow
Amber Cohen, Research Assistant, Department of Anthropology, University of Maryland
Katie Geddes, NCPE Intern
Davis Shoulders, NCPE Intern

The fieldwork portion of the project would not have been possible without support from the National Council for Preservation Education, with funding for NCPE interns and NPS cultural anthropology fellows to work on the project, who were supported by the NPS National Capitol Region. For a full description of roles and contributions of the project research assistants, please see the Introduction, “[Research design, methodology and Research Team.](#)”

Other NPS specialists and scientists provided critical assistance. Ms. Cynthia Wanschura, regional NPS GPS and GIS specialist, provided valuable and creative technical assistance and was instrumental in producing our first iteration of GIS maps (by park unit) in the 2015 Interim Report. Dr. Marian Norris, NPS aquatic ecologist, accompanied us as we visited parks in 2014, and provided insight into the biological health and water quality of the rivers, and also provided fish identification charts. We are also appreciative of the in-field help of Kate Birmingham, NACE cultural resource manager, and Stephen Syphax, NACE resource manager, as we visited fishing sites.

Additionally, Michael J. Evans, Chief, Cultural Anthropology Program and Senior Cultural Anthropologist, Midwest Region, NPS, provided insightful conversation that stimulated our thinking about traditionally associated peoples, ethnographic resources, and new ways to frame the concept of community in urban settings. In addition, Joshua Torres, Regional Archaeologist, was instrumental in bringing the project to closure and review, and in setting up the series of briefings for NPS parks in the region.

Last, but not least, we owe a debt of gratitude to our Editor, Mr. Terry Redding, MA, who designed, formatted, and copy edited the final report. We benefitted enormously from his careful reading and helpful suggestions for meaning and consistency. It is an enormous task to number and ensure order in a book-length document with literally hundreds of tables and photos, and to format all the information in a readable and accessible manner. We owe Terry a huge “thank you.”

[Signed]

Shirley J. Fiske, PhD

[Signed]

Don Callaway, PhD

3.0 INTRODUCTION

This Ethnographic Resource Study (ERS), “**Subsistence Fishing on the Potomac and Anacostia Rivers**,” documents subsistence fishermen and fisherwomen¹ who fish along Rock Creek and the Potomac and Anacostia rivers within multiple National Park Service (NPS) parks in the National Capital Region. The NPS manages the majority of the Potomac and Anacostia riverfront in metropolitan Washington, D.C., and the geographic scope of this study includes 47 miles of river shorelines and five NPS administrative units in D.C., Maryland, and Virginia: National Mall & Memorial Parks (NAMA), National Capital Parks-East (NACE), George Washington Memorial Parkway (GWMP), Rock Creek Park (ROCR), and the C&O Canal (CHOH).

The purpose of the study is to determine the characteristics and extent of non-recreational fishing—the persons who consume and/or share their catch—in these areas. We describe the fishermen and fisherwomen themselves, the species of fish caught and shared, the social, cultural, and community context of fishing, and basic demographic data about the fishers. The data and resulting analysis provide baseline information to park managers about the characteristics of their visitors and how these particular anglers use the parks: their motivations for fishing overall, why they fish for food, the seasonality and frequency of fishing, and which fish they harvest and how they prepare them to consume. We anticipate this information will be useful to NPS resource managers, rangers, public officials, and nonprofit organizations working on the rivers, and the relevant constituencies as well. The project spans three years, and this final report provides findings from Years 1, 2, and 3 (2015 to 2016-17). The project is a cooperative agreement between the National Park Service, National Capital Region (NCR), Cultural Anthropology Program, and the University of Maryland, Department of Anthropology, in conjunction with the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CESU).

Rationale for the study

The Ethnographic Resource Study was derived in part from observations, comments, and queries made by park staff from the five different administrative units within the region. Fishing is particularly visible along the Hains Point shoreline, the peninsula at the confluence of the Potomac and Anacostia rivers and where the NCR headquarters is located. Every day during the spring and summer, folks can be seen gathered along the perimeter walkways on both sides of Hains Point, alone or in groups, with their fishing poles, lines, buckets or coolers filled with fish, occasional barbecues and small windbreaks, with cars or SUVs parked nearby. Similar scenes can be found at Anacostia, Jones Point, Farmington Landing, and other locations where there is easy access to the rivers. The question resonated: who, exactly, is fishing during all seasons, with family groups or with fishing buddies or friends? What is their motivation and commitment to fishing? What do they catch? When, with whom, and how do they share it (if they do)?

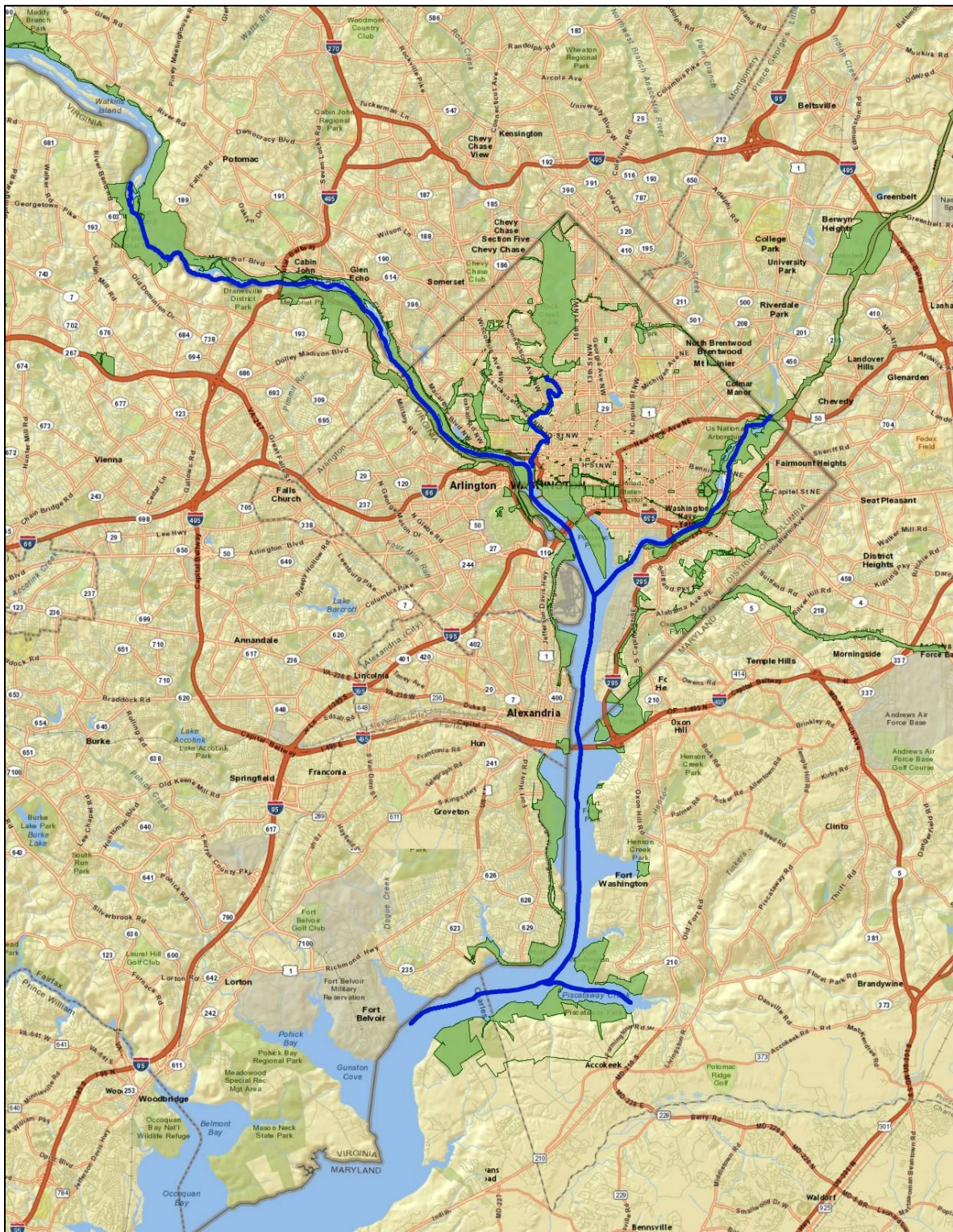
¹ This report uses both “fishermen” and “fisherwomen” to describe the subsistence fishing population, but uses fisherwomen when referring to female fishers specifically or where we want to be deliberately inclusive of gender. “Angler” and “fishers” are also used to include both genders. The report defaults to the generic “fishermen” most often, however, deferring to the terms that that fishermen and fisherwomen use to describe themselves. Subsistence fishers rarely refer to themselves as “anglers,” which has a connotation of sportfishing, and being a catch and release fisherman.

The known and the unknown

Park rangers and staff are familiar with bass fishermen in their “bass boats” who formally organize into clubs that have tournaments and fishing contests on a regular basis. Members fish for smallmouth and largemouth bass and are generally catch and release, except for trophy fish; fishing is usually done from boats on the Potomac, mainly from the Fletcher’s Boathouse area and south from the District. Well-known clubs are Bassmasters, Potomac River Smallmouth Club, and Potomac Teams (a bass fishing tournament circuit), which are easily found online. The Potomac, particularly near Belle Haven, is a well-known bass fishing destination, and many persons contract with fishing guides to take them out from Belle Haven Marina in Virginia.

Figure 3.1, below, shows the geographic extent of NPS boundaries (green shading) along rivers, and the scope of the study area (the blue line in the rivers).

Figure 3.1
NPS Parks on the Potomac and Anacostia Rivers
(Research areas marked in blue)



Source: Map courtesy of NPS.

Bass fishermen, however, are not necessarily the same anglers who congregate in informal groups on the piers and shorelines on park lands, who throw their line in at Roaches Run, along the Anacostia riverfront, Farmington Landing, or Jones Point, and about whom much less is known. Fishing is legal in NPS waters and from shorelines with a fishing license; and fishing is actively supported, for example, at Piscataway Pier, Fletcher’s Boathouse, and other places that sell bait. Anacostia Park (ANAC) has the Aquatic Resources and Education Center, and the river advocacy organization RiverKeepers sponsors fishing lessons or fishing days on the Anacostia on a regular basis in summer. These organizations encourage catch and release, not consumption. Yet on any given weekend or afternoon, you will find “die-hard” fishermen (sometimes with lady friends and family) and fisherwomen along Hains Point, or at Saylor Pier (Piscataway Park), explaining that they intend to take their catch with them and to whom they might give it. This study focuses on these persons—who eat or share their fish from the Potomac and Anacostia—because they are part of the “unknown” park user base who are obviously enjoying park experiences and resources.

Many assumptions are made by the general public, state and district health departments, and fishery managers about those who are fishing and why they eat the fish they catch:

- One assumption is that most of the fishermen are lower-income African Americans, and Hispanic and Asian immigrants, and they fish because they need to fish for food.
- Another assumption is that they are not aware of the fish consumption advisories posted along the shore, online, and on fishing licenses, and may not speak English or Spanish.
- A further assumption is that better signage about fish consumption risks and increased outreach to fishing groups will lead to a reduction of consumption and more catch and release of fish.

We found that while there is considerable food insecurity in our sample, most respondents stated that the primary reasons for going fishing are the enjoyment of the parks, being out-of-doors, the relaxation of fishing, and the camaraderie of being with family and other fishermen. “Fishermen are good dudes,” as one man expressed it. Most fishermen share their catch widely among friends, neighbors, acquaintances, and extended family, potentially ameliorating food insecurities in the community. Most of the fishermen were aware of the fish consumption advisories, and had heard that some fish were unsafe to eat; however, nearly everyone had some line of reasoning for continuing to fish, consume, and share. The many rationales included not eating more than the monthly limits; never getting sick from eating the fish, nor had anyone they knew gotten sick; examining the fish they caught closely and tossing back those that looked “bad;” and choosing a downriver fishing site that was purportedly a “cleaner” place to fish.

Among African Americans and other ethnicities, we found families with life-long and multi-generational commitments to subsistence fishing that are not likely to change with more signage. An earlier survey by OpinionWorks arrived at a similar conclusion. Among the immigrant groups fishing, most brought their fishing skills with them when they came to the United States, having learned them from their families in their countries of origin (see Findings, sub-sections 6.1, 6.3.1, and 6.3.3).

The OpinionWorks 2012 report, “Addressing the Risk: Understanding and Changing Anglers’ Attitudes about the Dangers of Consuming Anacostia Fish,” considered some of these same questions regarding fishing, consumption, and risks involved. The study resulted in strong recommendations for outreach

and communication about the risk of consuming fish from the Anacostia.² The findings offer important baseline information for this ethnographic study and are very useful for comparisons.

The scope of this study is different, however. First, the UMD-NPS study expands the *geographic area* under study beyond the Anacostia River, whereas the 2012 study interviewed fishermen primarily from Anacostia and Hains Point during a limited time period. This current study interviews fishermen up the Potomac River to Great Falls on the Virginia and Maryland sides; and down the Potomac on the Virginia and Maryland sides to Mount Vernon and Piscataway; and it extends up the Anacostia River to the District line, following the NPS-managed shorelines. Second, this study covers two fishing seasons and looks very closely at the *diversity of fishing and fishermen*. Third, this study offers an expanded and detailed understanding of reasons for fishing, consumption, preparation, and sharing of fish. And finally, this study considers urban fishing in the context of broader concepts and ideas of subsistence fishing in urban settings.

At the outset, the UMD-NPS subsistence fishing ethnography team would like to acknowledge the important help of OpinionWorks, the contractor for the 2012 study, for generously sharing their data and sampling frameworks. This made possible an analysis of the population base from which they sampled, and a teasing out of additional information about ethnic diversity in fishing. Still, many questions remain about the extent of consumption and widespread sharing of fish, making the fishermen along the rivers a population of interest because of the persistence and popularity of eating and sharing fish from the rivers, despite advisories against eating certain amounts of catfish, carp, and eel in particular.³ In addition, our research expanded the topics over the OpinionWorks questionnaire and provides greater depth and contextuality of cultural background through our use of oral histories.

Relevance and importance of the study

This ERS is an investigation of a particular community, or more accurately in this case, of multiple communities and family networks, and their historical and contemporary relationship to the landscapes of the rivers and their use. The study relies on ethnographic interviewing, augmented with research from secondary sources and historical information, to describe key cultural associations, such as historic settlement patterns, community formation and development, and resource use as it relates to lands and waters now located within NPS boundaries. Through this type of research, it is possible to learn if people(s) have developed traditional cultural practices, values, histories, and identities associated with park resources, and develop specific information and understanding about the meanings and importance of park resources to these peoples and groups (NPS Cultural Resource Management Guideline, 1997:160). In addition, it is hoped that the study will partially fulfill requirements of the 1966

² "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia River Fish," was funded by the Chesapeake Bay Trust, the National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency, with sponsorship and advisory assistance led by the Anacostia Watershed Society, Anacostia Riverkeepers, D.C. Environmental Health Collaborative, and the District Department of the Environment. The study was conducted by the consulting firm OpinionWorks: www.anacostiaws.org/userfiles/file/AWS_anqing_FINAL.

³ In 2016, the District of Columbia added striped bass to their "do not eat" list of fish from D.C. waters, a reversal of a long-standing green light to catch and eat stripers. Currently (2019), striped bass, eel, and carp are classified as "Do not eat" any amount of the fish. With respect to other fish, such as the ubiquitous blue catfish, the District urges everyone to limit their consumption to the following: Four servings per month of sunfish; or three servings per month of blue catfish or white perch; or two servings per month of largemouth bass; or one serving per month of brown bullhead catfish or channel catfish (<https://DOEE.dc.gov/service/fishdc>).

National Historic Preservation Act, as amended, and the NPS Director’s Orders #28: Cultural Resource Management, for the identification and management of ethnographic resources.

The NPS Cultural Anthropology Program was developed to document relationships between park resources and park-associated peoples and groups, which are defined in NPS policies as those who ascribe cultural importance to a national park or the natural and cultural resources within the park; whose associations precede the establishment of the park and have endured for at least two generations (approximately 40 years); and whose attachments to places and resources are understood through their traditional practices, values, beliefs, and identity as a coherent group or people.⁴

Park-associated communities and groups can usually be identified as coherent social groupings (that is, with shared sociocultural traditions, values, beliefs, and identity), and are distinguished from other categories of park users such as daily visitors, interest groups, and members of the general public, due to the nature of the group and the long-term basis of their attachment to the park. Thus, they are differentiated from self-selected groups such as bicyclists, joggers, and catch and release bass fishermen on the rivers. Park-associated peoples or groups may include park neighbors, kinship units (such as members of extended family groups), Native American bands and tribes, or other ethnic and religious groups that have traditional uses and associations with park places and resources.

With respect to this study of fishers using the parks, we observe that “fishing communities” may not be the appropriate unit that is traditionally associated with specific parks along the Potomac and Anacostia rivers. Furthermore, it appears that some groups in our sample have clearer links of being traditionally associated with the parks than others, such as the Piscataway bands living in and around Piscataway Park, and perhaps African American kinship groups living in the Anacostia and Southeast and Southwest areas of the District. It may be that family networks over generations are the appropriate unit of association. There will be further discussion of traditional associations with fishing families and of cultural resources associated with them in Section 6.3.5.

One of the implicit objectives of this ethnographic study is to challenge assumptions about subsistence fishers and provide an accurate description of user communities. Subsistence is one of those concepts to challenge.

Scope of the study

The Research Team was frequently asked whether we would focus on the health effects of eating fish from the Anacostia and Potomac rivers. To be clear, the scope of the study does not have a public health or prevention focus, and our scope of work would have required enormous expansion to conduct

⁴ The exact wording used in Park Management Guidelines (2006) is as follows: “Traditionally associated peoples generally differ as a group from other park visitors in that they typically assign significance to ethnographic resources—linked closely with their own sense of purpose, existence as a community, and development as ethnically distinctive peoples. These places may be in urban or rural parks, and may support ceremonial activities or represent birthplaces of significant individuals, group origin sites, migration routes, or harvesting or collecting places. While these places have historic attributes that are of great importance to the group, they may not necessarily have a direct association with the reason the park was established or be appropriate as a topic of general public interest.” (NPS Management Policies 2006, Section 5.3.5.3)

a public health line of inquiry. We did contact and coordinate, however, with other researchers and state agencies who have that focus. The Research Team kicked off the study with a phone meeting with state and District fisheries biologists and ecologists, and we met with public health researchers from the University of Maryland School of Public Health for background on health issues and allied work in this area. We were accompanied during our initial field survey of fishing sites by a Park Service aquatic ecologist. In the Year 2 field season, we added a question on food safety and risk mitigation to assess what fishermen and fisherwomen believed could be done to make the fish from the rivers safer to eat. These data are coded in MAXQDA, and are the basis for the analysis of food safety in section 6.3.3.6, Food Safety and Risk Reduction.

By using anthropological and sociological methodologies, techniques, and statistical analyses, this study aims to provide a deeper understanding of the cultural communities of anglers and their relation to the land and river resources. The resulting ERS provides (1) an ethnohistorical overview of fishing communities on the Potomac and Anacostia rivers, (2) ethnographic and demographic data about contemporary anglers, and (3) an understanding about the cultural relevance of park resources to persons and groups, described below in the original Statement of Work (SOW):

1. Document the ethnohistoric context of fishing on the Potomac and Anacostia rivers. The proposed project will provide a contextual overview of people and groups using the Washington waterways for non-recreational fishing. While the research for this study will focus on contemporary park connections that have continuity with earlier patterns of association, it is necessary to ground such discussions in the context of the historical, social, and demographic patterns out of which they emerged. This information will help frame the description and analysis of continuity in patterns of traditional use and association, as distinct from other park uses (or park visitors). The project will result in the production of an ethnography of (subsistence) anglers and an integrated ethnohistorical overview of fishing on the Washington waterways.

2. Document contemporary associations of non-recreational fishing communities to park resources. The research will document the cultural and natural resources in the parks that long-term park neighbors and other local users define as having cultural significance and value, or use in culturally distinctive ways. In particular, non-recreational or subsistence use of cultural and natural resources (including land and waterways); fish and wildlife; certain places and sites that are viewed as appropriate for certain kinds of cultural practices; and other uses that have been customarily practiced by members of local communities. This study will examine the extent to which these patterns of association continue. This research will identify and describe any traditional harvesting (fishing) or other natural resources for subsistence purposes. This project will research potential tribal associations to river or fishing resources now managed by the NPS within the project area. The research will be based primarily on ethnographic observation and interviewing in communities within the study area.

3. Provide understandings about the cultural relevance of park resources to people and groups, specifically with regard to sharing fish and consuming fish, and events that may precipitate the sharing of fish; but also, with regard to the fishing experience itself, and the “communities” that form around specific locales. The sense of pride in being self-sufficient that may accompany fishing, or satisfaction in “providing” for one’s family, whether siblings or children; or, the sheer enjoyment of being outdoors in a beautiful location and to be able to fish. “It’s like a hobby, but with a bonus,” as one fisherman put it. Document the values and significance that fishing groups place on the NPS sites and resources for these uses. Describe the nature and significance of the continuity and longevity of association with the park of these park-associated communities. Provide information about the perceptions of the park and the effects of park management on the traditional practices and uses of these communities and groups.⁵

⁵ The Statement of Work includes six specific points included in the ERS in regards to non-recreational fishing.

The Subsistence Fishing Study consists of several related tasks: (1) the collection and analysis of known bibliographic information relevant to the fishing along the Potomac and Anacostia rivers and Rock Creek; (2) field research and data collection—data collection and analysis of interviews with persons who fish and eat their catch and /or share it, and locational data to be entered into GIS formats; (3) meetings with park management and community groups regarding the interim data findings;⁶ (4) use of feedback from the meetings to generate research questions, the research design, and field work plans; (5) data analysis and interpretation, and the production of presentations and an interim report; (6) a final summary report and dissemination meetings with Park superintendents and personnel. In addition to the gathering, evaluating, and documenting of fishing practices, this project will also attempt to identify and record new ethnographic (cultural) resources and provide recommendations for further research.

Research design, methodology, and Research Team

The Research Team included two senior investigators who provided leadership in the development, planning, and implementation of research design, semi-structured protocols, sampling methods, training, data entry, and analysis. Lead PI (Principal Investigator) was Dr. Shirley J. Fiske, and the co-leader was Dr. Don Callaway. We were fortunate to have a superb Field Team of colleagues: graduate students who undertook virtually all field interviews as well as data entry, and who were supported by the University of Maryland grant and the NPS as interns, fellows, and research assistants, in both the first and second years. In Year 3, the PIs led on the majority of data analysis, both quantitative (SPSS) and qualitative (MAXQDA).

During the “kickoff tour” in late fall of 2014, we visited each individual park unit along the shorelines in our study area, with the assistance of Park Service cultural resource officers, superintendents, and National Capital Region project officers and senior Park Service consultants. We drove and hiked to a wide array of fishing sites, both intensively used and rarely or seasonally used, to get a ground-truthed introduction to the individual parks and fishing sites from the north Potomac to the south and around the Anacostia. The Research Team spent subsequent months planning a systematic approach to accessing fishermen and fisherwomen along the shorelines of the Anacostia and Potomac rivers.

We considered many standard methods for identifying and interviewing subsistence fishermen, including a random survey of the population of licensed fishermen, creel surveys, focus groups, analysis of secondary data sources, and directly approaching fishermen and families as they fished. In the end, the team settled on a combination of methods that we consider fairly robust—direct interaction with the fishing population on-site in the field, with systematic variation of season, fishing site location, time of day, and day of week (see Section 6.2, Fishing Site Sampling Matrix). We also used historical and secondary data sources to provide demographic context; and the integration of GPS and locational data into GIS databases for production of mapping products. We received institutional review board (IRB) certifications for human subject research from the University of Maryland, and developed the consent forms for both the Park Service and the University. Participants were required to sign both.

⁶ The Research Team met with community groups, park superintendents, resource managers, and biologists in sessions that provided feedback and direction in the fall of 2014 at National Capitol Region headquarters; in early January of 2016 to report interim findings; and plans a series of meetings at individual parks with community groups and NPS personnel in the fall of 2019.

We convened again in spring 2015, as the fishing season got underway, to develop the open-ended research protocol and beta test it in the field. We honed our interview skills in the field, and trained the team in both quantitative and qualitative software to analyze interview data (SPSS and MAXQDA). We launched the project with flyers, cards, consent forms, note pads, digital audio recorders, and bright orange clip pads in spring 2015. For a full discussion of the methodology, please see section 5.0, Research Design and Methodology.

Over the next two fishing seasons, the Field Team visited both intensively-used and nearly empty fishing sites each week, on hot summer days and in the middle of winter, during shad season and temperate fall days, with the intent that we would interview a range of weather-extreme fishermen and dedicated fisherwomen.

The following section identifies our Field Team, of whom we are still in awe for their persistence—whatever the season, hot and humid, or freezing and sleety—and intrepid footsmanship, hiking the social trails and the formal trails along the Potomac to find fishermen; and little-visited and sketchy areas along the Anacostia, as well as scenic areas in Anacostia Park. We provide a month's worth of Field Notes (6.2 Fishing Site Sampling Matrix and Field Notes) to get a sense for the reality of their work in the field. When they returned to the office, they still had to code and write up Field Notes.

Members of the team changed over the three-year project, as individuals naturally ended their internships and went on to other jobs or graduated from graduate programs and moved on to careers; and as personnel needs changed with the seasons and immediate objectives. The core team from beginning to end were Noel Lopez, Amber Cohen, Don Callaway, and Shirley Fiske. We were joined at the beginning by Jeremy Trombley and Leslie Walker; and towards the end of field work by Davis Shoulders and Katie Geddes. Because of the changes over time, and so we could show all our Field Team and research assistants, there are three separate photos arranged sequentially from the start of the project to Year 3.




Image courtesy of Becky Harlan all rights reserved

Do you fish in the Anacostia and Potomac Rivers?

*If you catch fish for food or to share,
we'd like to hear from you*

The University of Maryland, in partnership with the National Park Service, is undertaking a project to document subsistence fishing along along 47 miles of river in the metropolitan DC area.

Who? We are interested in talking to people who fish within the National Park Service managed areas of Rock Creek, and the Anacostia and Potomac rivers within the metropolitan DC area, and who use the fish for food.

Why? To understand the importance of fishing, fishing for food, and sharing within the communities along Rock Creek and the Anacostia and Potomac Rivers.

Where? National parks along Rock Creek, the Potomac and Anacostia Rivers including:
 The Chesapeake & Ohio Canal National Historical Park
 George Washington Memorial Parkway
 Kenilworth Gardens
 Anacostia Park
 Piscataway Park
 Great Falls
 East Potomac Park & Hains Point
 Rock Creek Park

**If you want to participate, please contact Dr. Shirley Fiske,
Mr. Noel Lopez, or Mr. Jeremy Trombley at 240-473-2906 or by email at:
FishingStudyUMD@gmail.com**

Fishing study flyers were distributed and posted broadly.



Photo credit: S.J. Fiske

The 2015 Research Team, pictured above, from left to right:

- Noel Lopez, NPS Cultural Anthropology Program Fellow, now a Edwin C. Bearrs Fellow (2014-2018). PhD candidate, Cultural Studies, George Mason University,
- Jeremy Trombley, research assistant (2014-2015), Univeristy of Maryland; PhD candidate, now PhD, Department of Anthropology, University of Maryland. Recipient of a Hunt Postdoctoral fellowship from Wenner-Gren 2017.
- Jennifer Talken-Spauling, Cultural Anthropology Program Manager, NPS-National Capital Region, now NPS Bureau Anthropologist.
- Dr. Don Callaway, independent consultant.
- Leslie Walker, NPS-NCR Cultural Anthropology Fellow, National Council for Preservation Education (NCPE) (2014-2015). MAA, University of South Florida.
- Dr. Shirley Fiske, Research Professor, Department of Anthropology, University of Maryland.



Research Team, fall 2015. Left to right, Shirley Fiske, Leslie Walker, Noel Lopez, Amber Cohen, and Don Callaway. Amber Cohen started with the project as a NCPE intern in 2015 (as an American University undergraduate), and later became a research assistant for the University of Maryland when she entered the MAA program in Anthropology (2016-2018). She has graduated and taken a job with the Peace Corps in Zambia. *Photo credit: S.J. Fiske*

Benefits

The study provides insights into who is fishing, their reasons and motivations for fishing, what anglers are catching and eating, how they are preparing the food, and with whom they share the catch. The study also incorporates feedback from anglers about their experiences in parks, and recommendations to NPS about how to improve these experiences.

We heard from both state fisheries managers and river advocacy organizations that they want *more* information about sharing behavior—how, why, when, and with whom. They also wanted more information on how fishers prepare their fish to eat, and what beliefs about fish contamination enter into their choices for catching and sharing. Park managers want to know who is fishing along their river segments—where they come from (country of origin), where they live, and the perspectives of fishers at particular fishing spots along the NPS shorelines.

Much of this information is essential in designing and communicating information about risk and consumption, such as the advisories for eating fish issued by the District and States, and outreach campaigns sponsored by river advocacy groups. It is



August 2016. Katie Geddes, NCPE Intern (2016), University of Maryland MAA (white shirt), later a Knauss Sea Grant Fellow at NOAA; Davis Shoulders, NCPE Intern, American University (2015-2016) (blue shirt). Photo credit: A. Cohen

important as well for creating opportunities for community engagement and collaboration by knowing who is fishing, their backgrounds, their enjoyment, and reasons for fishing in the parks. This study provides baseline ethnographic data and resource information regarding the extent of non-recreational fishing, and traditionally associated fishing in specific parks, which will aid park managers in making culturally informed decisions along the watershed. Finally, and most importantly, it is hoped that this information will be useful in assessing the impacts of proposed or impending waterfront changes along the Anacostia riverfront, which have the potential to displace fisherfolk their pursuit of subsistence fishing.

Please note that the presentation of quantitative data, especially in section 6.1 is interspersed with Qualitative Portraits, or cameos, of fishermen and fisherwomen, as their picture came into focus and emerged from the interviews and Field Notes. The Portraits are clearly labeled, in a contrasting blue font, so the reader will know when switching from quantitative to qualitative understandings. There are several for each Park Profile in section 8.0.

A word about duplication of quotes and text: The authors realize that a long report probably will not be read from cover to cover; hence there is some duplication of text and ideas in various sections, so that a reader picks up one section and not a previous one, they will still get a robust understanding of the ideas nonetheless. In addition, the Subsistence section, 6.3.2, is a paper presented at a conference, and it is inserted in its entirety, so contains duplicative sections. We apologize for any inconvenience in advance.

Reference

OpinionWorks, 2012. "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia River Fish." 20 pp. www.anacostiaws.org/userfiles/file/AWS_angling_FINAL, accessed October 2014.

This study will provide baseline ethnographic data on the extent of non-recreational fishing along the NPS-managed shorelines of the Potomac and Anacostia, and the subsistence fishers who consume and share the resources they harvest. It will shed light on this relatively unknown user group of park resources, their motivations for fishing, and the extent of traditionally associated fishing in specific parks.

4.0 ETHNOHISTORICAL CONTEXT OF FISHING COMMUNITIES ON THE POTOMAC AND ANACOSTIA RIVERS

Three ethnohistories are provided here: one for African Americans in D.C., focusing on their relationship to the Anacostia and Potomac rivers and fishing; one for Piscataway tribal members and their relationship with the Potomac and its tributaries; and an abbreviated ethnohistory for Latino-Hispanic communities. In a fourth section, we provide brief immigration data on Asian American and Pacific Islander (AAPI) communities for fishermen and their families who fish on the Potomac and Anacostia rivers.

Both African American and Piscataway fishermen and fisherwomen have used river resources literally for centuries, and have long-standing, continuous relationships with the rivers and their tributaries. This can be seen from the oral histories of fishermen and fisherwomen in our study, and in historical literature and secondary sources. Ethnohistories are a way to bring data and perspectives from these multiple sources together and provide contextual and historical background on how communities have relied on resources from the rivers over long periods of time—during the pre-colonial period, during the early years of this nation, and contemporaneously—and how this relationship changed over time.

Ethnohistories “ground” discussions of contemporary park use and connections in the broader contexts of the historical, social, and demographic patterns out of which they emerged.

This study also notes sizeable numbers of Anglos, Hispanic/Latino families, and AAPI fishermen who are fishing the rivers. The Hispanic fishermen (11 total) were first- and second-generation immigrants from Colombia, El Salvador, Guatemala, and Cuba. The AAPI fishermen and fisherwomen in our sample were both first generation and some second-generation Asian Americans from the Philippines and Vietnam (seven total). We also observed a few women dressed in *saris* at some of the fishing sites, but did not have the opportunity to interview any South Asian families (please see the Fieldnotes in Appendix G). It is our impression that apart from Anglos, the fishers in this group and their families appear to be part of the post-1980 immigrant influx—not members of long-standing Chinese, Japanese, or Hispanic groups that settled in the Washington, D.C., region earlier in the 20th century.

As noted above, full ethnohistories were created for the two communities most clearly associated with rivers over long periods of time—African Americans and Anacostia; and Piscataway tribal bands. We should note that we did not find highly localized fishing communities, per se, or neighborhoods of fishing communities, as suggested by the title of the study.⁷ We did find, however, that there were

⁷ “Fishing communities” generally refers to communities whose economic and social well-being depends on fishing, such as Gloucester, MA, or Apalachicola, FL. NOAA has defined fishing-dependent communities for regulatory purposes and monitors the impacts of natural disasters and floods on the fishing communities (Abbott-Jamieson and Clay 2010). In the D.C. metropolitan area, the families of Piscataway living in residential clusters or in towns (from the Piscataway River south to Mattawoman Creek, Nanjemoy and Nanjemoy Creek, Port Tobacco, as far down as Cobb Island, Chaptico, and Swan Point) are the closest to the NMFS definition of fishing communities. While outside the study area, these locations appeared in our interviews as contemporary places of Piscataway family residence, usually with integrated farming (raising some or much of one’s food) and fishing lifeways.

SECTION 4.1: African American Ethnohistory

“heritage fishing families” (our term), in which fishing crossed multiple generations and for whom fishing was a continuous tradition, and valued part of their lifeways, food heritage, and social life.

We did not undertake full ethnohistories of the Asian and Hispanic immigrant communities that rely on the rivers for food and for a place to bring their families to relax. Our impression is that, similar to other groups of fishers in our study, they are not a “fishing community” in a geographic sense; in addition, the fishermen in our sample are only one to two generations into their fishing experiences on the Potomac and Anacostia rivers (although they brought experience and love of fishing as a food source from their countries of origin). None of the families were here prior to the formation of national parks (as far as could be determined). As mentioned above, the Asian/Pacific Islanders in the sample were from Vietnam and the Philippines—strikingly, not from Japan, Korea, or China, and something to investigate further since this study’s small sample size cannot address this. The Hispanic sample in our study was predominantly Salvadoran, reflecting the large number of immigrant families from El Salvador in the D.C. metro area. Again, we have a small sample, and it is hard to call these families “heritage fishing families” since we do not yet know in most cases whether the children will continue to fish, even though the parents said they are teaching them.

We also did not have the resources to do an ethnohistory of Anglo subsistence fishing on the Potomac and Anacostia rivers. The CHOH Park Profile (Section 8.3) contains insights into several long-time Washingtonian families’ long associations with the rivers, specifically the Potomac River. Section 8.3 contains observations by boat masters and bait shop owners, who are on the river continuously, observing the changing patterns of anglers on the Potomac and Anacostia rivers over the decades. Their observations are validated by immigration data. The era of boathouses and recreation on the rivers is changing rapidly, and we suggest interviewing the 20th century-era marina owners, boathouse concessioners, and the fishermen associated with them as soon as possible.

4.1 Ethnohistory of African American Communities, Anacostia and Potomac Rivers

4.1.1 Overview

An ethnohistory of African American fishing communities in the District of Columbia is intimately intertwined with the District’s relationship to the Potomac and Anacostia rivers, which together provide boundaries that are physical, symbolic, and political. The Potomac River, on which George Washington built his plantation, flows between the Commonwealth of Virginia and the State of Maryland, and after 1790, between Virginia and the District, where the two rivers conjoin. The Potomac has long been a physical and a symbolic boundary line between the South and the North, harboring the promise of freedom from enslavement in the District (Cummins 2010).

The Anacostia River, or the “Eastern Branch of the Potomac,” as it was called historically, is also a physical and symbolic boundary between the white portions of the District and the predominantly African American wards of the city, referred to as “East of the River.” The development of African American communities East of the River is a historic and contemporary story of self-reliance and hope in the face of segregation and industrial development, river contamination, urban renewal and gentrification; it is presaged by and intertwined with the “death and life” of the Anacostia River over a 300-year period, as Wennersten titles his book (2008; see also below). Unfortunately, as Constance McLaughlin Green argues, for much of that 300-year period, “[African American] Washington was psychologically a secret city all but unknown to the white world... acquainted with only the most obvious facts” (Green 1967:vii).

SECTION 4.1: African American Ethnohistory

Anacostia is the most historic and largest African American “community” in the District. It is actually a set of neighborhoods rather than a single community, including neighborhoods like Fairfax Village, Hillside, Naylor Heights, Congress Heights, Barry Farm, Bellevue, Garfield Heights, Woodland, and River Terrace. There were other historically African American neighborhoods in D.C., such as centrally located LeDroit Park, near Howard University, home of well-known African American politicians and leaders in the 1940s; parts of Capitol Hill in Southeast D.C.; parts of the Northeast quadrant; and particularly Southwest D.C. along South Capitol street and toward Buzzards Point. These neighborhoods were historically African American; however, their housing and residents have been systematically “removed” through urban renewal programs and gentrification over time, although some areas remain today. The fact that African American communities have concentrated primarily in the eastern half of the city is not accidental. Rather, the pushing of African Americans eastward is a cumulative result of historic and contemporary policies, segregation, local and national programs, and forces of economic development including real estate markets.

We are fortunate to have a growing number of resources that document the community’s history and relationship to the river. A number of excellent social and political chronologies and environmental histories provide details on the forces that affected the Anacostia River and the communities adjacent to it. These include Brett Williams’ *A River Runs Through Us*, published in 2001, and *Gentrifying Water... in 2002*; *Death and Life of an American River*, by John R. Wennersten (2008); *Secret City: A History of Race Relations in the Nation’s Capital* (Green 2015); and *Chocolate City. A History of Race and Politics in the Nation’s Capital* (Asch and Musgrove 2017).

In addition, there has been a resurgence and recognition of community-based historical interest and pride in accomplishment, including the development of the Anacostia Community Museum (supported by the Smithsonian and NPS), and initiatives from the District’s Planning Office, Office of Historic Preservation, resulting in several excellent publications: “The Ward 8 Heritage Guide. A Discussion of Ward 8 Cultural and Heritage Resources,” available on the D.C. Planning Department website⁸; and Portia James’s “East of the River. The History of Settlement and Land Use along the Eastern Branch,” from the Anacostia Community Documentation Initiative of the Anacostia Community Museum.⁹ The D.C. Southwest Neighborhood Assembly has posted a thoroughly documented historical retrospective of the Southwest neighborhood of Buzzard Point, written in 2014.¹⁰ Recently published, *Historically African American Leisure Destinations around Washington D.C.* provides very important historical perspective on African American recreational activities and destinations during segregated America (Fletcher 2015). Most recently, WAMU FM radio did an excellent broadcast and investigative report on environmental justice in Anacostia.¹¹

African American settlement and contemporary movement into Anacostia have deep roots in the colonial period and the period before the Civil War. These historical roots will be outlined in the sections below, as we concentrate on the African American community’s relationship to the Anacostia and Potomac rivers as their primary river orientation, for livelihoods, businesses and jobs, residential

⁸ <https://planning.dc.gov/publication/ward-8-heritage-guide>. Text by Patsy Fletcher.

⁹ <http://cdi.anacostia.si.edu/wp-content/uploads/2011/10/Portia-James-EOR-Article.pdf>.

¹⁰ https://www.swdc.org/wp-content/uploads/2017/10/Buzzard-Point-DC_compressed.pdf.

¹¹ Fenston, Jacob and Tyrone Turner. 2018. “Anacostia Rising. What’s next for Washington’s ‘forgotten river’?” <https://wamu.atavist.com/anacostia-rising>.

SECTION 4.1: African American Ethnohistory

areas, and neighborhood life. If you are watching those fishing on the Anacostia today, they are fishing on their historic “neighborhood river,” an environmental and social legacy of at least 200 years.

4.1.2 Life on the river and early industry: The 18th century to the Civil War

Historically, the colonial tobacco economy up and down the Potomac depended on enslaved labor, and it is estimated that about 8,000 slaves were brought to the Potomac area from West Africa prior to the American Revolution (Wennersten 2008: 27). There was a small, freed black population in the Potomac-Anacostia area early on, who worked “in small shipyards (e.g., at the port of Bladensburg) or as stevedores loading the great tobacco ships for the fall voyage to England” (Wennersten 2008:29). They also worked the waters of the Anacostia, harvesting shad and herring for pickling and exporting, basically as early commercial fishermen who also worked other aspects of fish harvesting, processing, distribution, and sale. “...working on the water fostered self-reliance and a more personal dignity than the routine drudgery of plantation life,” and there were ample choices of bass, herring, shad, and catfish (Wennersten 2008:30). The Research Team sees the contemporary values of self-reliance and dignity in fishing expressed by participants in this study as reflective of the historic importance of fishing and employment provided by the rivers in earlier centuries.

Plantations, like George Washington’s Mount Vernon River Farm, had enslaved populations harvesting shad. A plentiful and profitable fish, the early spring harvest of shad was a regional tradition. The work was hard and often late at night, but it did provide some respite as it was “also a time of joy and hilarity.” This was because of the nature of working the shad fishery, which “took place in the evening and at night, with minimum supervision” (Cummins 2010:12). Some of the shad would be prepared for consumption by being “planked,” a tradition that was possibly, “an African American adaptation of the methods used by Native Americans” (Cummins 2010).

The Potomac River was not only a boundary with the U.S. South; in the colonial period the river was used by many watermen sympathetic to the freedom of enslaved peoples, who used the waterway for inter-plantation communication and transporting people from the south to the north. Both enslaved and freed backs depended on the robust shad populations in the Potomac and Anacostia for subsistence and for employment (Cummins 2010).¹²

The genesis of riverine change and watershed decline began with European colonization in the 1700s, as plantations made the transition from tobacco to grain, trade increased among colonies and abroad, and indigenous peoples were pushed off their lands. Land speculation and migration to the area was fueled in the late 1700s when planning for the new District of Columbia was authorized by Congress. L’Enfant’s vision for a commercial and residential hub in Anacostia in the end failed to materialize, leaving a legacy of agricultural use, sedimentation, and industrial wharves along the shoreline. It is argued that African Americans were disproportionately affected by the accompanying decline in numbers of shad and herring, as sedimentation, loss of habitat, and overfishing of shad impinged on the abundance of the springtime shad runs in the rivers (Cummins 2010:2).

¹² Jim Cummins, a local historian and fisheries biologist with the Interstate Commission on the Potomac River Basin, has researched and written extensively on the shad fishery on the Potomac River, and the history of those who have fished it.

SECTION 4.1: African American Ethnohistory

By 1800, it was reported by the U.S. Census that the District had a total population of 14,093, of whom 10,066 were White and 4,027 were Black (783 free, 3,244 enslaved).¹³ At that time, in addition to the Southeast and Southwest populations of African Americans, there was a small settlement near the “mouth of the Anacostia and in a small settlement near the mouth of Rock Creek Park” (Brown, Letitia Woods, cited in Wennersten 2008:53).

The city became a beacon of freed African Americans: “In 1800, (over) 25% of D.C.’s population was African Americans and most were enslaved. Thirty years later, most had obtained their freedom” (McQuirter 2003). They “...resisted slavery and injustice by organizing churches, private schools, aid societies, and businesses; by amassing wealth and property; by leaving the city; and by demanding abolition” (McQuirter 2003:4).

The Civil War period provided a growth spurt to Washington, D.C., and the entire population nearly doubled in size. The African American population itself grew rapidly as well, as both freedmen and enslaved peoples migrated northward from the South, seeking affiliation and employment with the Union Army, or work in the shipyard and commercial sectors of D.C. By 1863, it was estimated by the Army that there were over 40,000 ex-slaves in the area: refugees who needed housing, clean water, and safety. The Quakers and the Freedman bureau teamed up to buy land in Anacostia where newly freed African Americans could settle, becoming the first “neighborhood” of D.C. (1867; see Fletcher n.d.: 9). There were two locations for settlement at the time: Barry Farms on the eastern side of the Anacostia, which became the first “suburb” in the District; and a second settlement located on Robert E. Lee’s plantation in Arlington, VA.

By the end of the Civil War and through Reconstruction, “25,000 African Americans moved to Washington,” and many found refuge and employment along the river banks (McQuirter 2003:4). During the Civil War era, the Potomac and Anacostia rivers helped “feed contraband communities,” which were often under-supplied with provisions (Cummins 2010:21). After the war, the Potomac shad industry was major source of employment and provided freed blacks with opportunities for economic independence.



African American men and women working at shad and herring fish processing.
Photo credit: NPS historical marker at Jones Point, Potomac River

¹³ Washington D.C. History Resources. <https://matthewbgilmore.wordpress.com/district-of-columbia-population-history/>.

SECTION 4.1: African American Ethnohistory

African Americans continued working the river and shore in much the same way that they did before the Civil War. Small African American “fishtowns” popped up along the Potomac; African Americans combined their traditional use of the shad and herring resource with Native American techniques in how they processed and prepared shad (Cummins 2010:23). In the 1870s post-Civil War period, we know that there was a large commercial herring and shad fishery on the Potomac River located near Jones Point, in Alexandria, VA. The photo above, from an NPS historical marker at Jones Point, shows African American men and women providing the labor for fishing and for processing. There was a seasonal shantytown where people lived and worked, called “Fishtown.” One hundred years later, all of the waterfront processing and shantytowns were replaced by industrial and now residential uses, or removed to make way for infrastructure of the Wilson Bridge.¹⁴

There is evidence that fishing played a significant role in the early history of Georgetown. In the late 1700s, a dedicated fish market, a fishing wharf, and a roadway named "Fishing Lane" (now 31st Street NW) were all part of the local scene. Small river vessels brought thousands of shad and hundreds of thousands of herring to sell at the market. The fish were cleaned for salting and packing by African American women; they also supplied bait to local men, who would fish in front of the wharf. It seems that great numbers of small fish were attracted by the fishy remains of the cleaning process at the market, which were swept into the river, and fishermen could catch as many fish as they wished.

In addition, after a permanent market house was erected in 1795, the fishing business expanded rapidly, including the production of fish fertilizer. The fish market led to the development of a produce market, and these markets served and were stimulated by settlers who were beginning to pass southwest by way of Georgetown through the Cumberland Gap.

Excerpted from "Historic Georgetown Waterfront, Washington, D.C.: A Review of Canal and Riverside Architecture," National Park Service and U.S. Commission of Fine Arts, 1968.

<http://www.npshistory.com/publications/georgetown-historic-waterfront.pdf>

Federal operations, particularly the military, helped develop and shape the area. As Wennersten puts it, “From its inception, the Navy Yard was the most significant employer on the Washington waterfront, and it had a major impact along the Anacostia River” (2008: 52). By 1804, the U.S. Navy had acquired property at the conjoining of the Potomac and Anacostia, with easy access to Washington, D.C. In the same year, the Navy Yard became the first federally owned shipyard and repair facility for the young Navy fleet. The Navy Yard has continued in operation to this day; its mission changing after the War of 1812 and the Civil War to munitions and ordnance, and to gunboat production nearing WWII. The Anacostia River provided a convenient dumpsite for chemicals, heavy metals, and solvents over more than a century. As of 2018, the Navy Yard remains a toxic hotspot and is listed as an EPA Superfund site.

4.1.3 Early 20th century

In 1901, African Americans were about one-third of the D.C. population (Wennersten 2008:79). African American residences were localized around the U.S. Capitol in the SE and SW quadrants, in proximity to the rivers. The core of the African American community increasingly was in Anacostia, east of the river, which until the mid-1950s had mixed populations of Anglos and African Americans, although schools other public institutions remained segregated.

¹⁴ There still remains a small African American neighborhood in north Alexandria, near the George Washington Memorial Parkway entrance to Alexandria, just north of Old Town Alexandria.

SECTION 4.1: African American Ethnohistory

The Anacostia community lacked access to political power in D.C. and to the U.S. Congress. In general, the Anglo population in D.C. developed residences to the North and West (DuPont Circle, and along Connecticut and Massachusetts avenues), and received public services early in the century, getting their water from the upper reaches of the Potomac. Their sewerage systems drained into the canals near the Capitol and ultimately into the Anacostia River (Wennersten 2008:108). In Anacostia, the arrival of public transportation and household drinking water lagged—Anacostia received neither sewerage nor water until the 1920s. The Anglo population, by moving to the north and northwest away from the Anacostia area, effectively abandoned the riverfront along the SE, SW, and the Anacostia with its disease-laden waters and odor of sewage. The Anacostia and Potomac rivers were de facto repositories through the next 40 years for the public’s sewage and garbage, as well as growing commercial and industrial wastes. Public health concerns were rampant in all quarters of the city, due to “fevers” and typhoid coming from marshlands and rivers where the rivers joined.

By the eve of World War I, the Anacostia River area was thoroughly “industrialized,” with the Navy Yard, the Washington Gas & Light Company, railyards, and slaughterhouses on its shores; and garbage dumps and sewage pipes pumping directly into the river. District and federal governments began to recognize issues with the Anacostia River water quality. The early part of the 20th century saw a number of well-intentioned plans by engineers and reformers to “renew” and beautify the Anacostia, from introducing rowing clubs and parks along the river, to straightening the river’s flow to increase depth and circulation. The Anacostia had silted in by about 1850, making it impossible for large vessels to navigate the river, dooming upstream ports like Bladensburg. Many of the plans involved the U.S. Army Corps of Engineers, and embraced ideas of dredging the river upstream to enhance its commercial viability. But, in a story repeated over the century, the U.S. Congress never appropriated enough money to complete many of the plans.

It was not unexpected, then, that the Potomac was the river of choice for organized recreation: for boating, swimming, amusement parks, beaches, and resorts. Since Washington, D.C. was highly segregated at this time, and the Anacostia a polluted marshland, there were few destinations on the Anacostia. With the exception of the Seafarers Yacht Club, the first known African American boat club in 1945 (Fletcher 2015:172; Wennersten 2008), most of the leisure destinations for Washington, D.C. African Americans were down the Potomac or on other rivers like the Patuxent, where the political elite sought relaxation and respite from segregation. In the 1900s, steamboats plied the rivers, leaving from the 7th Street SW wharf, down the river on excursions to Colonial Beach, Piney Point, and Notley Hall. In the 1920s to 1940s, with the advent of automobiles, historically black beach communities and amusement parks became popular destinations, such as Highland Beach on Chesapeake Bay, and Marshall Hall on the Potomac (Fletcher 2015; Kahl 2008).

SECTION 4.1: African American Ethnohistory



Baptisms. Likely in Anacostia River. Photo credit: Unidentified photographer, *International News Photos*, September 1933

Anacostia of the 1930s was a low-density, stable and diverse community of homes, churches, and local businesses.¹⁵ Ten years later, World War II brought a growth period for federal agencies, employment and a growing working class; residential development in Anacostia also boomed, resulting in many elegant homes along Branch Avenue, SE and the surrounding neighborhood. It was segregated unofficially into an Anglo community, Anacostia, and an African American community, Hillside. Black neighborhoods began to take shape—some with historic roots in the Civil War era

and before, and some more contemporary—including Congress Heights and Hillside (see Jones n.d.:8, 13).

4.1.4 Post-World War II and urban renewal to 1970

The newly created National Capital Park and Planning Commission (now the National Capital Planning Commission), dedicated to “slum clearance” and blight removal (Wennersten 2008: 141-2), was slow to gain its footing in the 1920s, but was destined to become one of the more influential agencies in shaping D.C.’s neighborhood demographics. During WWII, the group undertook one of the first removals of African American residents from neighborhoods, presaging their much greater role in the future. They moved a small settlement of African Americans from land needed for the Pentagon in Arlington, and resettled the former residents across the river in Anacostia, setting a removal precedent.

After WWII, the Commission gained power with the creation of the Redevelopment Land Agency (RLA), whose mission was urban renewal. The rationale for urban renewal was to create more downtown office space for federal workers, and to create safe shopping areas for businesses through the Urban Renewal Program.¹⁶ This meant clearing out the blighted areas that were marked on maps as “the problem areas” (Williams 2001:421). In other words, the RLA had the authority, through eminent domain, to move people out of their houses to clear the land for developers.

The RLA targeted and cleared Southwest D.C., a mix of poorer and middle-class residences and a healthy business district, with both African American and Anglo neighborhoods. It had a robust neighborhood life, but was nonetheless considered to be a slum area as defined by the RLA. The process had its critics

¹⁵ In the adjacent image, it is unclear from the source whether this is the Anacostia or Potomac River. It would be more likely to be on the Anacostia due its more tranquil entry points for mass immersion. Buzzards Point was known as a popular spot for baptisms for “colored people.” https://www.swdc.org/wp-content/uploads/2017/10/Buzzard-Point-DC_compressed.pdf.

¹⁶ Authorized through the Fair Housing Act of 1949, it continued until 1973 when the program ended.

SECTION 4.1: African American Ethnohistory

from the beginning, and African American leaders called it “Negro removal” program (Wennersten 2008: 149). Legal cases against the RLA were filed by residents and business owners in Southwest, who argued that the RLA’s actions were without cause and that the use of eminent domain was unconstitutional. After a lower court victory for the residents, the case went all the way to the Supreme Court, which ultimately took the broad interpretation of eminent domain, ruling in 1954 that cities and counties can seize private property if the cause is in the “public good.”

“In 1952, more than twenty thousand people lived in the racially mixed community of Southwest. In addition to razing an entire neighborhood, the RLA demolished thirteen out of fifteen churches... When Southwest was finally rebuilt in 1970, only about 14,000 people resided in the renewal district, and many of those were not the original [poor or black] inhabitants” (Wennersten 2008:157).

Uprooting thousands of residents created a high demand for housing for those whose dwellings were razed. The developers and architects of Southwest had no incentive to build moderate and low-income housing on the urban redevelopment sites, so few of the urban poor were able to buy back into the SW neighborhood. The District Housing Authority built high-rise public housing projects—all of which were in Anacostia—displacing the local, stable middle-class, single-family residences, both Anglo and African American. The area was continually re-zoned from single family to high density, multi-family housing to accommodate public housing. The construction was so rapid and the number of apartment buildings so numerous that it changed nature of the community itself, and led to white flight into other areas. “By 1970, apartment zoning accounted for over 75% of Anacostia, while elsewhere the zoning laws dictated that 80% of housing was to be single family homes” (Wennersten 2008:159).

In mid-1944, the Suitland Parkway was built, a highway for commuters from suburbs into D.C., which divided, isolated, and disrupted the historic African American neighborhoods in Anacostia (James n.d. page 11). These changes, plus white flight in the 1950s as Anacostia schools became integrated and more African American and poor people were relocated there, ultimately led to the perception and reality of Anacostia as a poor, high unemployment, and high crime area in the 1960s, 1970s, and 1980s.

Industrial sites such as the Potomac Electric (PEPCO) generating plant, the Kenilworth landfill and trash site (today a transfer station), and sewage outfalls all followed Washington Gas and Light locating in SE D.C. and the shores of the Anacostia River (and *notably*, not the Potomac), with direct dumping into the waterways. Urban sewerage leaks from outdated local sewer systems, lack of capacity at the Blue Plains Treatment plant, and runoff and leaching from dumpsites, rose to a crescendo as the area became increasingly African American and poor. This is well-detailed in Williams’ (2002) and Wennersten’s (2008) environmental and socio-political histories of the river and its communities. Between 1950 and 1958, the number of persons on the east side of the Anacostia grew rapidly, adding 14,000 African American residents in seven public housing developments.

The litany of contaminants is familiar in urban areas: PAHs, PCBs, chlordane, mercury, other heavy metals and toxic materials, and fecal coliform—all of which ended up in the water column or settled to the bottom of the Anacostia. Fecal coliform made the waters themselves “harbors” for infection and infectious diseases. It has been prohibited to swim or to recreate in the Anacostia for three decades now. “African Americans residing along the polluted riverbanks in the 1980s were, therefore, fishing for trouble” (Wennersten 2008:192).

SECTION 4.1: African American Ethnohistory

4.1.5 Activism in the Anacostia, 1970-1990 and beyond

During the period of the 1970s and early 1980s, the Anacostia community literally felt, in their health and in their bodies, the results of years of industrialization and sewage dumping into the Anacostia. Air quality was poor, both from the adjacent new highways (Interstate 295 was built along the Anacostia in the mid-1960s) and the water quality was poor; residents of Anacostia suffered from asthma, congestion, and infections from the river areas (Williams 2001:422). Numerous activist organizations emerged during this period from within the Anacostia community that drew attention to the fact that residents in Anacostia were bearing the brunt of the metropolitan area's garbage dumping (and incineration), electricity generation and PCBs, and sewage outfalls into the rivers. There were some victories, such as defeating a PEPCO plan to site two new generators on their existing plant on the Anacostia. Awareness within African American neighborhoods in Anacostia was on the rise, and residents were (and continue to be) angry over the lack of responsiveness of politicians, and lack of progress in cleaning up the river and air.

Organizations and activists made history. This included city council member Kevin Chavous, who represented the River Terrace Community Organization against PEPCO when the latter wanted to locate two new coal-fired generators on the Anacostia, and who later represented Ward 7 in Anacostia for over 10 years; and Frazer Walton, Jr. and the Kingman Park Civic Association. The election of Mayor Marion Barry, a prominent civil rights activist, resident, and advocate for Ward 8, set the stage for the visibility of river issues. The four-term mayor and 16-year city council member focused efforts on economic development for the community as a whole, and specifically African American businesses and residents, who were the majority in the District. However, as in the past, while outrage and intentions for environmental cleanup were important, the resources to do so lagged behind.

An important turning point for the water quality all U.S. rivers was the passage of the suite of federal laws, including the Clean Air Act and Clean Water Act (CWA), and the creation of the EPA in the early 1970s, and Superfund legislation (CERCLA) in 1980—all in response to the deplorable national conditions in air and water quality. Still, the Anacostia River did not immediately benefit from these environmental and public health statutes. The “river that runs through us” was in a poor, African American community, and D.C. had little political access to lobbyists or Congress (see Williams 2001). A structural political problem with historic roots is the fact that much of the District budget is appropriated by Congress; authorizations favor the interests of Congressional members more than they reflect the interests of the District residents, and consequently the cleanup of rivers, sewage, and drinking water in poorer and less influential wards (Wards 7 and 8) seem to get deferred and delayed.

The new environmental statutes, however, assured important rights that gave new impetus to Anacostia groups and non-profits seeking to clean up the Anacostia River. The CWA recognizes U.S. citizens' rights to “fishable, swimmable waters” and, importantly, gives nongovernmental organizations and advocacy groups leverage to demand change. Wennersten calls the period from 1980 to 2000 the period of “rescuing the ruined river.” He credits the Anacostia Watershed Society's (AWS) emergence as an energetic and resourceful advocate for cleaning up the river through collaborating with community organizations in Anacostia. In the mid-1990s, the AWS, along with Barry Farms Residents Association Kingman Park Civic Association, and other litigants, filed suit against the Navy Yard under the CWA. Eventually, the EPA and Department of Justice (DOJ) took over the suit. In 2005 the District government, EPA, DOJ and the District's water authority entered into a consent decree to come into compliance with the CWA. EPA declared the Navy Yard site a Superfund Site. Because of continuous

SECTION 4.1: African American Ethnohistory

problems in appropriating funds to the Superfund program, it remains on the National Priority List—still designated for cleanup today (2019).

Progress on the Anacostia cleanup is slowly moving ahead, but in the view of people fishing, swimming, or boating on the river, there remains an environmental disaster in the Anacostia. The Navy Yard is the only toxic site to be put on the Superfund National Priorities List. Yet there are numerous “toxic hot spots” on the Anacostia, identified by NOAA and the D.C. Department of Environment and Energy (DOEE). The Anacostia is considered somewhat safer than it was in the 1970s—i.e., safe for *non-contact recreation*—but it is still not possible to enter the water to swim or wade, much less fish and eat certain fish. The AWS’s landmark work subsequent to filing the lawsuit against the Navy Yard has been instrumental in promoting a cleanup of the river, a topic that will be revisited later in this section.

4.1.6 Gentrification, waterfront development, and restoration, 1990-2017

Economic development, or the likelihood of it, accompanied by the forces of gentrification, have been the primary impetus in shaping the most recent demographics of the remaining African American neighborhoods in Southwest and Southeast D.C. Gentrification is responsible for driving low-income African American home owners and renters into areas of more reasonable rents, primarily in Anacostia and nearby Prince George’s County, MD.

African Americans are leaving, or being pushed from, the District, reversing the trends of the last century. The 2010 U.S. Census shows that D.C. is less than 50% black for the first time in over 50 years (Tavernise 2011). Overall, the census shows that the number of African Americans living in the District dropped by 39,000 over the past decade (2000-2010). While African Americans now make up slightly less than half of the population, Anglos and Hispanics have made modest gains. Wards 7 and 8 (East of the River) are almost solidly African American, and the number of Anglos living there continues to drop. The U.S. Census data show changes in ethnicity since 1990, which are graphically demonstrated in the animated Washington Post site at the URL footnoted below.¹⁷

It is worth noting that the District’s planning goals and processes in this time period generated a cycle of optimism about economic development in SE, SW, and Anacostia, resulting in a growth in the number of development corporations and construction activity in the Southwest and “Near East” Capitol Hill neighborhoods—which in turn contributed to pushing blacks and lower-income whites out of their neighborhoods. In 1996, the National Capital Planning Commission (NCPC) came out with a long-awaited “Legacy Plan” that would create a band of monuments and public spaces along the waterfront from Georgetown to Anacostia, involving re-zoning the Anacostia from industrial to commercial and residential, and putting a Metro stop in the Navy Yard (SE).¹⁸ The most immediate effect of the plan was to fuel the excitement of developers and builders who believed they would be able to acquire large tracts in SW near Buzzards Point and elsewhere close to the waterfront for very little investment (Wennersten 2008: 230-235).

The Anacostia Waterfront Initiative (AWI),¹⁹ a memorandum of understanding (MOU) signed in 2000, promised “A 30-year effort to transform the shores of the Anacostia River in Washington, D.C.” The

¹⁷ <http://www.washingtonpost.com/wp-srv/special/local/dc-census-2010/>

¹⁸ The NCPC is the federal government’s central planning agency for the National Capital Region, and does planning and policy making for areas around the Capitol where there are national parks, federal office buildings, and federal workers—with Congressional oversight.

¹⁹ <https://www.anacostiawaterfront.org/>

SECTION 4.1: African American Ethnohistory

much-anticipated AWI Framework Plan was released in 2003, and is available at the website noted in the footnote below; it is the first District-led commitment to restoring the Anacostia River in a holistic sense. The Framework Plan is the operational plan that commits parties to six broad goals designed foster economic development and to restore the Anacostia River and its tributaries.²⁰

However, as the Natural Resources Defense Council (NRDC) typified it, “the Anacostia Waterfront Initiative involves spending \$10 billion (an earlier estimate) over 30 years to turn the river’s beleaguered shoreline into a vibrant and dynamic asset to the several communities—most of them poor or working-class—that flank it. Its vision for the Anacostia is one in which the many abandoned and derelict stretches of waterfront are transformed into parks, recreational facilities, bike and walking paths, and commercial centers that will create jobs” (Turrentine 2016).

The initiative focused on the “near Southeast” and the Southwest, two areas with open space and public housing that needed renewal, according to city planners. Importantly, the initiative included the creation of a new baseball stadium on the waterfront in SW (completed, for the Washington Nationals), and repurposing the scuttled 11th Street bridge across the Anacostia to be modeled after New York City’s successful High Line project—a pedestrian-friendly bridge linking the African American and Anglo, affluent and non-affluent, parts of the District across the river and to enhance economic development on the east side of the River.

Once it became clear that there were opportunities for developers, builders, and bankers to access federal funding to make money in the SW and SE quadrants, gentrification proceeded unabated in ways that would increase the tax base of the city. The AWI involved “21st century” urban renewal in Ward 6, including as tearing down 800 public housing units and replacing them with 1,600 homes, some at market rates, but some reserved for moderate-income residents. Financing came from the federal Hope VI program that replaced “distressed housing” with mixed-use communities (e.g., condos, townhouses, senior apartment facilities, and luxury single-family homes), for which displaced residents would receive housing vouchers (Bernstein 2005). By 2005, the Arthur Capper/Carrollsborg dwellings, two public housing complexes with 707 dwellings on 23 acres in Southeast, became one of the last large areas to be redeveloped. The housing stock had been described “barracks style” and “old and obsolete” by the D.C. Housing Authority.²¹

One of the capstone initiatives of the AWI is the 11th Street bridge project, a repurposing of an existing but unused bridge between Anacostia and the SE quadrant of D.C. The plan is to transform it into a park-like walkway celebrating the unification of the District, with exhibition spaces, performance places, art and paths for walking, biking, and connecting with others. The ambitious \$45 million public-private project is in the process of building community and financial support, choosing architectural plans, and securing financing. Hopefully benefitting Ward 7 and 8 residents with jobs and economic development, Anacostia residents are wary because they have been burned by such mega-projects and promises in the past. They are concerned about gentrification that would likely endanger Anacostia’s historic and current residential base. They have reason to be concerned: “The median sales price for Congress Heights homes rose 37% last year, from \$155,000 to \$212,000, and Anacostia’s rose 26.6% to \$264,212” (O’Connell 2016). Historic districts have been formed; the Anacostia Community Museum has

²⁰ To see the Framework Plan, go to <https://planning.dc.gov/publication/anacostia-waterfront-framerwork-plan-2003>.

²¹ District of Columbia Housing Authority, Development, HOPE VI: Arthur Clapper/Carrollsborg Dwellings. <http://www.dchousing.org/doc.aspx?docid=9>.

SECTION 4.1: African American Ethnohistory

developed into a community resource for history and culture, and the 11th Street bridge project has established community land trusts for current residents.

Given the residents' and the District's learning curve on urban renewal, public housing, and gentrification, a central focus of the 11th Street bridge project promises to promote "equitable development" to mitigate the effects of gentrification—through conscious use of community land trusts—to allow residents to build equity as homeowners and preserve affordability for future generations, setting local hiring goals for construction and operations, providing preference for business opportunities for African Americans, and perhaps the use of specialized tax districts to preserve low income home ownership.²² The plan will develop in the next 5 to 10 years. What will the "re-purposing" of the bridge bring to the National Park shorelines for those who fish, and enjoy the view and being outdoors on the river? This remains to be seen.

"As Chocolate City becomes Latte Land, where will all the history go?" Petula Dvorak, Washington Post columnist, September 10, 2019.

4.1.7 "You're part of the problem!" The co-author's personal, neighborhood story

Co-author's note: Arriving in Washington, D.C., in 1980, my husband and I first rented housing on Capitol Hill East and later bought a townhouse just five blocks away near the Eastern Market Metro stop. D.C.'s most egregious urban renewal projects had been in the Southwest quadrant, but our Southeast neighborhood was still racially diverse. What happened over 40 years on our block and in our neighborhood is a case study in gentrification. The title quote above is from Dr. Tony Whitehead, University of Maryland Anthropology Professor Emeritus. He asked me where I lived in one of our first meetings, and pronounced, "You're part of the problem"—of gentrification. My husband Steve McConnell and I have lived on Capitol Hill for almost 40 years, and I introduce this vignette of our experience to give granular detail to the process of gentrification as we experienced it in our neighborhood from 1980-2019.

One by one, older African American (and Anglo) neighbors, mostly single women, passed on; their homes went on the market and were sold. Sometimes their children (who had long before left for the suburbs) inherited the homes, found that they had back taxes due, and sold the homes to pay the taxes; others simply did not want the older homes and sold them outright. Those African American families on the block who had been renting ultimately faced higher rents as the property assessments in the neighborhood increased. Two families who could not pay the higher rents demanded by their landlords vacated their houses, and the properties were sold, or the rents increased and Anglos moved in. In each case, young, white, professional couples or singles moved in, often with young children. Our diversity index dropped, unless it is based on the "kids index"—not a bad thing by itself. Real estate "flippers" further inflated the prices—the real estate flippers bought at incredibly low prices, renovated, and flipped the houses for profits of hundreds of thousands of dollars. White, upper middle-class families and professional couples continued moving into the neighborhood, renovating even more by excavating basements for more rooms that could be rental units. None of the new residents are people of color.

Two other events are iconic of the pushing out of low-income families and minorities: The local after-school youth program, with predominantly African American teenagers, had met in a small building (something

²² One of the park's first grants, \$1.2 million from the Kresge Foundation, will support the opening of a home buyers' club east of the river in partnership with nonprofit housing developer (O'Connell 2016).

SECTION 4.1: African American Ethnohistory

between a shack and a shed) that was on the grounds of the Old Naval Hospital. The property was publicly owned, but the building looked dilapidated and little used. The youth group either lost their lease or funding, but roused a protest to rally community support, but were unsuccessful in staving off their eviction. The group left, and the doors were closed. The Old Naval Hospital, an historic site, was subsequently renovated and is now a successful community center with yoga, art classes, music events, and a full program of activities for the public. The youth group's former building has become a high-end wine bar and brunch destination.

Finally, a highly accoladed, predominantly African American middle school, Hines Junior High, just a block away, was closed as the District implemented a downsizing and consolidation of public schools as African American families with children left the neighborhoods. It is worth noting that the District generated significant revenue by selling their undersubscribed school properties to developers. District officials reasoned that many inner-city public school properties were "excess," because of low enrollment, as African American families left Ward 6 and Anglo parents enrolled their children in private schools—so the undersubscribed public school properties were sold and developers moved in. The developer of the Hine Junior High site dedicated a portion of the new condos and commercial space to low- and moderate-income apartments and condos as part of the development agreement, preserving at least a small token of diversity. All of this happened within a three-block radius of our block in SE; and undoubtedly it has been replicated in other neighborhoods across the District.

4.1.8 Finally cleaning up the Anacostia

In parallel with the AWI are a number of significant, much-anticipated, and long-needed projects for the restoration of the Anacostia River. Two long-term and important projects take aim at the dual issues of sewage and run-off contamination in the river, and the accumulation of toxins in the riverbed sediments and mud—persistent and centuries-old problems. The first project targets the cleaning of trash and debris from the water and limiting the inflow of sewer water during heavy rains from D.C.'s outdated combined sewer overflow (CSO) system.²³ which would make the river more "swimmable." Second, and even more importantly, a long-term project aims to remove toxic sediments (e.g., carcinogenic PCBs, PAHs and chlordane) from the river sediments, which would make the river more "fishable."

The first project, sequentially, called the Long-Term Control Plan (Clean Rivers Project), will limit sewage and debris flows into the Anacostia and Potomac rivers by 98%, by revamping the District's outdated CSO system so that it does not drain into the rivers. The plan involves the construction of large, underground tunnels that will serve as collection and retention systems for combined sewage during high flow conditions, replacing 14 CSOs on the Anacostia. Eighteen miles of 20-foot high tunnels will be bored underground and will transport wastewater from Northeast Washington under the Anacostia River to D.C.'s Blue Plains Wastewater Treatment Plant. The overflow will be held in these underground retaining tunnels after a rain storm passes, and from there will go to the Blue Plains plant. The second in the series of four tunnels, the Anacostia River Tunnel, now connected to the Blue Plains Tunnel, opened in March 2018, reducing the CSO flow into the Anacostia by 81%.²⁴

The second major project, the Anacostia River Sediment Project (ARSP), also part of the original AWI framework plan, is led and funded by the D.C. Government's Department of Energy and Environment, and works with multiple partners. DOEE is currently testing the river's sediments to isolate exactly which pollutants are in the river and to identify the specific areas where they are most concentrated.

²³ As part of the debris cleanup, the District in 2014 passed a plastic bag tax and food service Styrofoam ban to target the worst of the large plastic pollution.

²⁴ <https://www.dwater.com/projects/anacostia-river-tunnel-project>, accessed June 2019.

SECTION 4.1: African American Ethnohistory

The identification is nearly complete (see 2016 report). In the next phase of investigation, the District and its partners will consider remediation—how best to clean up the sediment through options such as removal, bioremediation, or capping the deep sediments. Simultaneously, a legal and technical investigation is in progress to identify the responsible parties of the contaminants: their role and share of the problem. DOEE and NPS are heading up the investigation, but are also parties in the contamination, along with Washington Gas and Light, PEPCO, the Navy Yard, and other responsible federal agencies. The investigation and negotiations are expected to take some time.

These long-term plans to clean up the Anacostia will stretch into the future, especially the consideration and the removal of cancer-causing organic chemicals in the river's sediments. However, an ARSP DOEE spokesperson makes the point that the *water column* of the Anacostia will feel the effects of CSO diversion and tributary treatment almost immediately, and will bring the Anacostia River closer to the goals of being fishable and swimmable in just a few years.²⁵ On the other hand, the toxins buried in the sediments will take longer, of course, because of technical, legal, and funding issues. Among the many stakeholders in Anacostia River water quality are the usual panoply of nonprofits and advocacy groups, but it is hoped that this report will help recognize another group who have a stake in the river—subsistence fishermen who have grown up in the Anacostia area, fish throughout the fishing season two or three times per week, and share their fish widely.

4.1.9 Postscript

Scholars and historians, politicians and activists have laid out the clear case of environmental *injustice* and the Anacostia—linking the pollution of the river and the health of residents with larger forces of power at work in the District, through lack of representation, federal programs, and District incentives for developers and development. Although the old-style razing of “blighted areas” such as occurred in the urban renewal programs of the 1950s, 60s, and 70s has come to a close, technically, the processes underlying market-based gentrification have remained, and have accelerated the transformations of the Southeast and Southwest quadrants, which were the last strongholds of African American rentals and residences on the west side of the Anacostia River. Now, the same processes are knocking at the door in Anacostia neighborhoods, as the river's waterfront becomes more desirable for living and businesses, as water quality is targeted for improvement. The environmental justice irony is that as the river becomes cleaner and more desirable, it becomes more costly and difficult for long-time residents to continue to live there.

In the last 15 years, Southwest D.C. has been transformed from one of the last remaining waterfront neighborhoods. Low-income housing projects were torn down, and a major league baseball stadium for the Nationals, a soccer stadium for DC United team (Audi Stadium), and high rises for condominiums were erected in their place. Southwest has been re-populated by federal agencies and federal workers (Navy Yard, CIA, and U.S. Department of Transportation). Historically appropriate townhouses have been built where older shotgun flats and townhouses once stood. Catfish po'boy sandwich shops have been replaced by micro-breweries.

Buzzards Point Marina, with boat slips and docks for nearly 60 owners and a neighborhood refuge for boaters and fishermen, was closed in 2015. The Park Service said the upkeep and repairs needed to

²⁵ We appreciate the insights of Gretchen Mikeska, P.E., the Anacostia and River Sediment Project Coordinator, Department of Energy & Environment, of the District of Columbia, who was an enormous help in understanding the relationship among the objectives of the intermingling projects of watershed development and Anacostia restoration. Via telephone conversation, 22 January, 2018.

SECTION 4.1: African American Ethnohistory

make it safe would be too costly to undertake; they pledged to “work with the community on planning the park’s future use.”²⁶ The Buzzards Point community, arguably the last remaining residential community in Southwest which is under pressure from development, continues to bear the end results of the half-century-long process of gentrification and urban renewal and removal: unhealthy air quality in “Old Southwest” and the Anacostia River. The Buzzards Point area is a neighborhood heavy with industry, which includes a PEPCO generating stations, and now a substation; a long-standing cement plant (that generates particulates); a scrap metal industrial site; and endless construction, from the razing of old buildings in the urban renewal between the 1960s and 1990s, to the two new sports stadiums along the waterfront. Additionally, there is the just-initiated replacement of the Frederick Douglass Bridge on the neighborhood boundaries, and a new freeway interchange across the river, part of the AWI plan.

The Advisory Neighborhood Commission (ANC) Commissioner Rhonda Hamilton wrote a scathing editorial in *The Washington Post* (2018), excoriating the District for ignoring the health issues of her constituents from the industrial production of cement and the dust and particulates from the rampant construction in the area. “My community is combating environmental injustices and housing disparities. While we are grateful to those who have stood beside us and volunteered endless hours to help us, city officials have been largely absent. Despite research, advocacy, and meetings with city agencies, we continue to take a back seat to development.” The Commissioner’s neighborhood is primarily African American, with a median income of about \$32,070. The Commissioner cited two recent studies identifying “chronic lower respiratory diseases” as a top cause of death in that zip code area ([2016 Community Health and Safety Study](#)); and the Buzzard Point environmental impact statement that stated that residents may qualify as “potential environmental justice communities of concern.”

In a 2013 analysis and visualization posted on the “Z Geography” blog, the comparison between 2000 and 2010 census data shows tremendous changes in the Southeast and Southwest populations of African Americans. The Near East of Capitol Hill, the Capitol Hill East area, and the Southwest near the Washington Nationals stadium (Old Southwest) have gone from 75-100% “black alone households” to between 50-74% “black alone;” the wave of white households on Capitol Hill East is pushing farther eastward toward RFK Stadium and the banks of the Anacostia River.

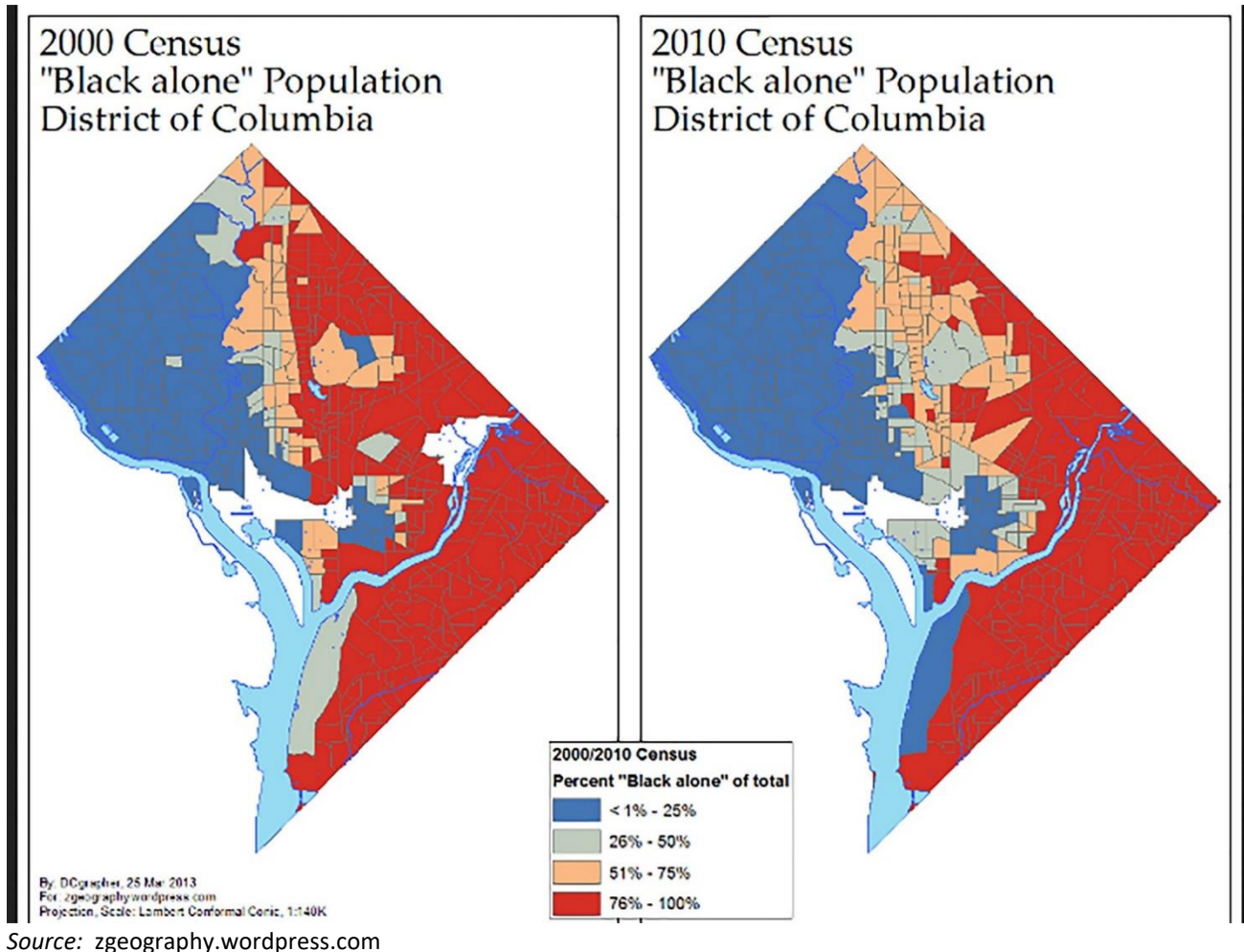
The plight of the Buzzards Point neighborhood can be graphically understood by looking at demographic maps from two recent censuses. In the figure below, the left side graphic is based on year 2000 census data; year 2010 census data are on the right. On the left, one can draw a line from north (upper corner of D.C.) to south, directly down the middle, and notice a clear segregation of households by race, with most African American households to the east of the line. Looking at the 2010 census data, there has been a “pushing” of the “black alone” households to the east, as the “white alone” households spread out more and more to the east in the Northeast, Southeast, and Southwest quadrants of the city. Particularly noteworthy is the loss of African American neighborhoods along the shores of the Anacostia in the Capitol Hill and Near East areas. On the right, it is possible to see what has become an “island” of black alone households in Buzzard Point—the Old Southwest neighborhood described in the Hamilton editorial. The data are aggregated from U.S. Census data at the block group level, which is smaller than census tract level, but larger than a block.²⁷

²⁶ “Buzzard Point Marina to close in December, after a half-century of use.” *Washington Post* Sept. 3, 2015. https://www.washingtonpost.com/local/buzzard-point-marina-to-close-in-december-after-half-a-century-of-use/2015/09/03/ef35c4c2-5288-11e5-933e-7d06c647a395_story.html?utm_term=.34f46042a15a/

²⁷ <https://zgeography.wordpress.com/2013/03/26/visualizing-gentrification-reversing-white-flight-in-the-district/>

SECTION 4.1: African American Ethnohistory

Figure 4.1
"White Alone" or "Black Alone" Ethnicity by Census Block Level, 2000 and 2010



As the District continues to develop and refine its relationship with its defining rivers—the Anacostia, the “river that runs through us,” and the stately Potomac—it is worth noting that the economic development policies, plans, and housing programs that have displaced African American (and Anglo) poor populations from the river’s edges have, at the same time, ironically, enabled the political will to identify and allocate resources and organizations to clean up the river so that it becomes fishable and swimmable.

As Fenston and Turner reported in their 2018 WAMU FM investigation, “...development is underway and housing prices east of the river are rising faster than in the rest of the city.” They interviewed “gentrification attorney” Ari Theresa, who stated that “gentrification is already happening all over his neighborhood. On every side of my house, behind me, to the side, across the street, on the other side of me, there’s some sort of activity, some sort of speculation going on,” pointing out the construction projects in various stages of completion (quoted from Fenston and Turner 2018).

Melissa Checker, an urban studies professor at Queens College in New York, calls this process “environmental gentrification,” and says there is an inherent paradox in it. “For historic reasons, often

SECTION 4.1: African American Ethnohistory

having to do with redlining and various forms of institutional racism, people of color have lived around industrial neighborhoods,” she said.

In many of those neighborhoods, activists have spent years fighting to get them cleaned up. Now it is finally starting to happen, but, said Checker, “It’s coming along with this redevelopment that is going to price them out of the neighborhood.”

Checker says gentrification does not have to be a bad word. It is not the improvement that is the problem, it is the displacement. “There are ways to slow down or stop displacement near these green projects, including zoning laws requiring affordable units and programs that help low-income buyers with down payments” (quoted from Fenston and Turner 2018, <https://wamu.atavist.com/anacostia-rising>).

Even as the river became more toxic and polluted in the 19th and 20th centuries, residents in Anacostia still were loyal to and held a deep connectedness with the river. They remember swimming in the Anacostia River when the city's swimming pool was closed to African Americans; after the public pools were opened to African Americans, fishermen told harrowing stories of fording and swimming across the Anacostia to get to newly integrated swimming pools—but they wanted to avoid the bridges, where they would be met by Anglo gangs who would threaten them and chase them off.

Many fishermen recalled learning to fish with their fathers and friends in the slow waters of the Anacostia, cutting their fishing teeth on the creeks that emptied into the river. Williams describes the Anacostia as a river that is “precious”—they loved the river, “smells and all, and the freedom and pleasure of being on the river or in the water. Understanding both that long connectedness and the more recent disruption to the area by urban renewal and gentrification clarifies many of the contradictions today: the pollution and preciousness of the river, the massive physical presence of the state in neighborhoods bereft of jobs and social services, and the thorough racial segregation that outsiders dismiss or find pathological” (Williams 2001:424).

Hains Point is currently one of the most well-integrated fishing spots and is well-loved by African American anglers. It is remembered as one of the few integrated places one could go to fish and recreate in the 1950s, as a place to meet girls and to see “the submarine races,” or as a place where fathers and/or mothers taught children how to fish, and where families would come on the weekends. Visitors appreciate the tranquility of the peninsula and the amenities and maintenance of the Park Service.

Other fishermen told us of growing up in Anacostia or Southeast, and going out with friends or parents on the Anacostia River—usually by foot—exploring and fishing in the 1950s. One fisherman recalled:

“... we used to come from Clark Street and walk across the train track—now, see, they built a soccer field, and you can't walk across the train track. I haven't been over there in years. Now *that* was a good spot where me and my father used to fish out, we used to catch alligator gar over there, that's what we grew up on eating (fish) back in the day.”

Fishing is a positive activity based in experience and rooted in deep heritage with the rivers around D.C.—a pleasant and family oriented use of the rivers. A fisherman on his bicycle (with fishing poles sticking out of his pack) was spotted by our Research Team on a busy Friday afternoon during rush hour, heading to the Anacostia a few blocks away (Pennsylvania Ave SE near the Navy Yard).

SECTION 4.1: African American Ethnohistory

Given the data from the subsistence fishing study, the Anacostia and Potomac rivers are used much more frequently than one would expect for fishing, consuming, and sharing of fish. The number of fish pulled and shared from the river is astounding—as found by both the Assessing the Risk study (2012) and our own investigations (see Findings, Section 6.1.18)—and using an environmental justice lens provides an even more urgent message to clean up the river and make it fishable and swimmable.

While the processes of economic development and gentrification continue to unfold, it becomes doubly important to understand who is using the rivers' shorelines for recreation and for harvesting and sharing resources. This study provides an opportunity to get to know those who have lived near the river, counted on it, and have adopted the Anacostia for generations—so that they and their children can continue to enjoy its multifaceted bounty. It has been a place for baptisms by African American churches, a site for weddings and family reunions; it is also the home of the first African American Yacht Club, the Seafarers' Yacht Club (Fletcher 2015:172-3; Wennersten 2008:224-8), and it has been a recreational outlet for picnicking, socializing, and fishing for many generations. This study of subsistence fishermen makes a clear statement of the importance of preserving shoreline access for the community—for fishing, boating, and swimming, in the face of the latest waves of economic development.

References

- Abbott-Jamieson, Susan, and Patricia M. Clay. 2010. The Long Voyage to Including Sociocultural Analysis in NOAA's National Marine Fisheries Service. *Marine Fisheries Review* 72(2): 1–33.
- Bernstein, Fred. 2005. "Revitalizing the Banks of Washington's 'Forgotten River.'" *New York Times*, March 27, 2005.
- Cummins, Jim. 2010. "American Shad and African American Watermen: Aspects of a Heritage Nearly Forgotten." Lecture presented at African American Heritage Day, Accokeek Foundation, Accokeek, MD. September 25, 2010.
- Cummins, Jim. 2012. "A Compilation of Historical Perspectives on the Natural History and Abundance of American Shad and Other Herring in the Potomac River." <http://www.potomacriver.org/wp-content/uploads/2014/12/PotomacShadHistory201203.pdf>, accessed January 29, 2018.
- Fenston, Jacob and Tyrone Turner. 2018. "Anacostia Rising. What's next for Washington's 'forgotten river'?" WAMU FM (American University Radio, 88.5), NPR affiliate in Washington, D.C. Published March 26, 2018. <https://wamu.atavist.com/anacostia-rising>, accessed 7-18-2018.
- Fletcher, Patsy Mose. 2015. *Historically African American Leisure Destinations around Washington, D.C.* Charleston, SC: The History Press.
- Fletcher, Patsy M. n.d. "Ward 8 Heritage Guide. A Discussion of Ward 8 Cultural and Heritage Resources." District of Columbia Office of Planning. <https://planning.dc.gov/publication/ward-8-heritage-guide>, accessed January 2018.
- Green, Constance McLaughlin. 2015. *Secret City: A History of Race Relations in the Nation's Capital*. Princeton, NJ: Princeton University Press.
- Hamilton, Rhonda. 2018. "D.C. development is leaving historic black communities in the dust." *The Washington Post*, Opinion Section. March 9, 2018.

SECTION 4.1: African American Ethnohistory

James, Portia. East of the River. The History of Settlement and Land Use along the Eastern Branch. Continuity and Change. .pdf available at <http://cdi.anacostia.si.edu/wp-content/uploads/2011/10/Portia-James-EOR-Article.pdf> (Accessed March 2019)

Kahrl, Andrew W. 2008. "The Slightest Semblance of Unruliness': Steamboat Excursions, Pleasure Resorts, and the Emergence of Segregation Culture on the Potomac River." *The Journal of American History*, 94(4):1108–1136. JSTOR, www.jstor.org/stable/25095322.

McQuirter, Marya Annette. 2003. "African American Heritage Trail" Brochure, Cultural Tourism DC. Washington, D.C. https://www.culturaltourismdc.org/portal/c/document_library/get_file?uuid=e9ded752-0908-42f5-9d30-e4b01555db39&groupId=701982.

O'Connell, Jonathan. 2016. "Can D.C. build a \$45 million park for Anacostia without pushing people out?" *Washington Post Magazine*, January 21, 2016. http://wapo.st/1QftAuO?tid=ss_mail&utm_term=.7e9d5dfabad4, accessed 1/29/2018.

Taverenise, Sabrina. 2011 "A Population Changes, Uneasily" *Washington Journal*, *New York Times*. <http://www.nytimes.com/2011/07/18/us/18dc.html?pagewanted=all&r=0>.

Turrentine, Jeff. 2016. "Healing the Anacostia's Troubled Waters. After two centuries of neglect, NRDC is helping revitalize Washington, D.C.'s forgotten river." <https://www.nrdc.org/stories/healing-anacostias-troubled-waters>.

Wennersten, John R. 2008. *Anacostia: The Death and Life of an American River*. Baltimore, MD: Chesapeake Book Company.

Wetzel, Hayden M. 2014. "Buzzard Point, D.C.: A Brief History of a Brief Neighborhood." Southwest Neighborhood Assembly. https://www.swdc.org/wp-content/uploads/2017/10/Buzzard-Point-DC_compressed.pdf, accessed May 2019.

Williams, Brett. 2001. "A River Runs Through Us." *American Anthropologist* 103(2):409–31.

Williams, Brett. 2002. "Gentrifying Water and Selling Jim Crow." *Urban Anthropology and Studies of Cultural Systems and World Economic Development* 31(1):93–121.

Zauzmer, Julie and Faiz Siddiqui. 2015. "Buzzard Point Marina to close in December, after a half-century of use". *Washington Post*, local news. September 3, 2015. <https://www.washingtonpost.com/local/buzzard-point-marina-to-close-in-december-after-half-a-century-of-use/2015/>

4.2 Piscataway Ethnohistory

Developing a succinct but accurate Piscataway ethnohistory poses many challenges. Not only does their history cover a very long time span, but many voices have been silenced, overlooked, or lost for many years. Only now are their voices beginning to come to the fore as front-row interpreters of the history of the Chesapeake region native peoples. Understandings are constantly being enlarged and improved from these multiple voices.

The ethnohistory of Piscataway is a story of survival, adaptation, and resilience, overcoming a now-familiar litany of colonial expansion, European disease, incursions onto and expulsions from their lands, warfare, shifting alliances, and institutional prejudice and racism over the period of this nation's history (NMAI 2006:2). We are fortunate to have a growing literature and oral histories from Piscataway descendants to add to the interpretations of early explorers, settlers, and colonists—which were quite expectedly written from the colonists' point of view. Archaeological and anthropological research and historical investigations have led the way in understanding the paleo and pre-contact life, as well as the historic struggle to maintain identity over centuries. These and other disciplines continue to broaden our understanding of the Piscataway chiefdom and their neighbors, the Nanticoke and Powhatan and their subgroups, and how they have survived and changed over time.²⁸

It should be noted that the interpretation of what happened in different time periods, who was involved, the dates and timing of the events, and even the nomenclature of the Piscataway people is continually being reinterpreted; critical events and long periods of time during the approximately 400-year contact period have multiple meanings within and among the Piscataway, not to mention the early colonists and their descendants. The name for the confederacy or chiefdom is variously termed the Piscataway-Conoy Confederacy, the Conoy Chiefdom, the Piscataway/Conoy, or the Piscataway chiefdom. It is noted that “Conoy” is the term the Iroquois used for the Piscataway, and the name ascribed by Speck (1927) in his early ethnographic work. In this section of the report, we use “Piscataway chiefdom” to comprise multiple subgroups, often—but depending on the alliances of the time—including the Patuxent, Nacochtanks (Anacostans), Pamunkeys, Nanjemoy, and Potapacos (all in southern Maryland); and the Doegs and the Patowomekes of Virginia, in a confederation headed by a head chief or *tayac*. We understand that there may be alternative nomenclatures preferred by particular groups.

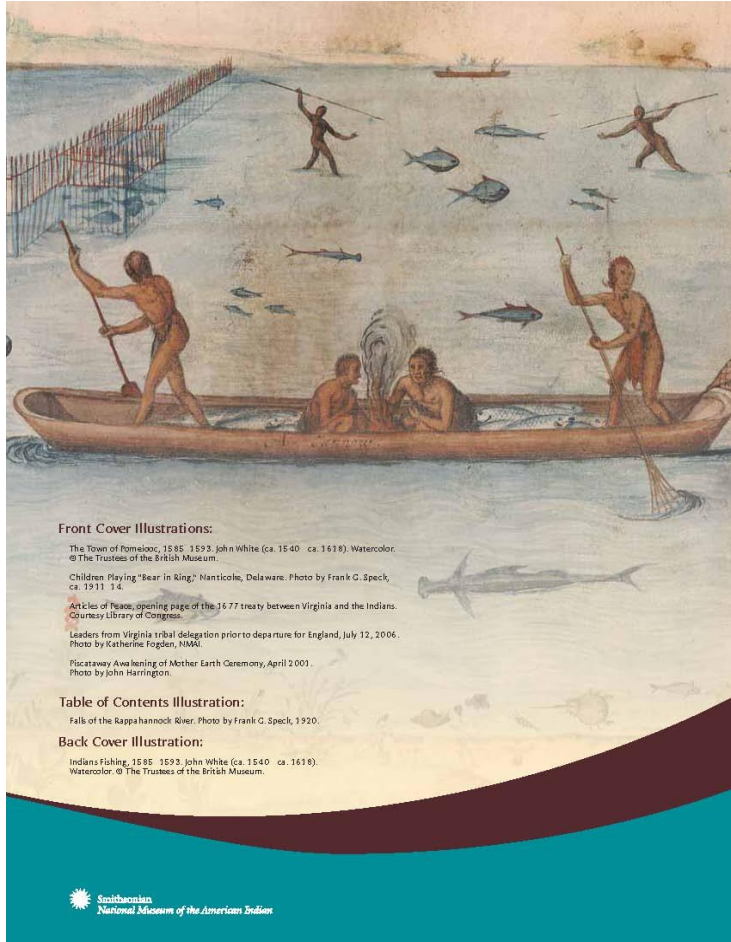
4.2.1 Precontact: 1st to 16th century

Contemporary, collaborative archaeological research continues to advance the understanding of pre-contact Piscataway and other early, indigenous groups who peopled the creeks, rivers and estuaries in the Potomac River watershed and the Mid-Atlantic as early as 100-1,000 A.D. An increasing number of sites with middens filled with oyster shells, pottery shards, and chert blades are being discovered and

²⁸ The Research Team would like to thank Dr. Lisa Henry (President and CEO, Accokeek Foundation), Mr. Rico M. Newman, and Ms. Anjela Barnes for their valuable contributions and insightful reviews of this ethnohistory. We are also grateful to Mr. Newman and Ms. Barnes for the in-depth interviews they provided to enhance our understanding of the important role of rivers, riverine resources, and the Piscataway way of life in southern Maryland along the Potomac and its tributaries. We thank Ms. Barnes for additional help in correcting the history of Piscataway Park and the role of the Accokeek Foundation and others in creating the Park; and in reviewing transcripts and narrative of her oral history. Additionally, we acknowledge the helpful background work of Ms. Amber Cohen, MAA, a graduate student researcher and Field Team interviewer on this project whose 2016 Master's paper was important in developing this ethnohistory.

SECTION 4.2: Piscataway Ethnohistory

interpreted with the help of Piscataway elders and archaeologists—most recently a site on Battle Creek, MD, that dates from 100 to 1,100 A.D. (Briscoe 2016). In this ethnohistory, we are particularly interested in the Piscataway’s relationship with the rivers and creeks of the Potomac, and the resources they used—oysters, clams, other shellfish, and finfish—and the centrality of these resources to Piscataway culture and lifeways; and how aspects of dependence on environmental resources and



cultural life have changed or been maintained over time. Of all the ethnohistories in this subsistence fishing study, clearly the Piscataway have the longest and most entrenched cultural history involving fishing, shellfish harvest and use, and other river resources over the centuries. It is interwoven in the fabric of their culture, yesterday and today.

It is estimated that Algonquian speakers moved into the Middle Atlantic around 1 to 900 A.D. (Potter 1993: 3), and that around 500 A.D. the Piscataway became “riverine-adjusted” people, living in year-round settlements, using the rivers, adjacent marsh lands, and intertidal areas for fishing, hunting, and gathering resources²⁹ (Seib and Rountree 2014, Cissna 1986). They relied heavily on fishing and gathering shellfish, as species such as oysters and sturgeon were available in the Potomac at this time (Seib and Rountree 2014: 7. See adjacent image³⁰)

²⁹ The Algonquian-speaking Piscataway originating from the New York region and migrated into south into the Chesapeake area; they specialized in living along the shores of rivers and creeks of the Potomac. In terms of ecological adaptation, they are distinguished from the Patuxent groups, who were also Algonquian-speaking, but who were more estuarine-based and arrived slightly earlier, about 400 B.C. (Dr. Wayne Clark, Maryland State Historian, quoted in news article on midden find in Briscoe 2016). Much later, perhaps in the 1500s, the Patuxent became a subgroup affiliated with the Piscataway chiefdom, consolidated under a paramount chief (*tayac*).

³⁰ This image is from the NMAI publication “We Have a Story to Tell. Native Peoples of the Chesapeake Region,” Tayac, et al. 2006. The image is courtesy of the British Museum, London. It was painted by the English painter John White in ~1585-1593. It is suspected that the painting depicts fishing practices and technologies of the Nanticoke, near where he settled with the Roanoke Colony in Virginia. Before landing on the continent, their boat sailed through the Caribbean, and the types of fish painted in the watercolor depict deep-water Caribbean (hammerhead sharks, dolphinfish) as well as mid-Atlantic fish and crustaceans.

Around the years 1200 or 1300, the Piscataway established several major settlements, including Moyaone near Accokeek Creek (Seib and Rountree 2014, Cissna 1986, Ferguson 1960).³¹ This major settlement was the *tayac*'s settlement, occupied by the political elite, that is the chief and his family, close kin, ceremonial leaders, and councilors. This is where the chief stored "tribute" received from outlying villagers in the form of corn, deer, and hides, and other goods that might sustain them over winter or during a period of trading, warfare, or provide for newly arrived English explorers and settlers. Smaller outlying villages or settlements were led by a *werowance* (the Algonquian word for chief), organized into the larger chiefdom led by the *tayac*. In addition, there were "seasonal fishing camps along the area's waterways, including one on Hunting Creek in Alexandria and another on Rock Creek,"³² where inhabitants gathered to take advantage of the spring runs of herring and shad (Potter 1993).

The Piscataway were and still are matrilineal with respect to property and land, although the political leaders were generally men.³³ Women were the cultivators and harvesters, growing maize, beans, melons, and squash; men hunted for game and fished (Savoy 2008), made political alliances, and fought. Everyone had a role in the harvesting of fish and shellfish, which included clams, oysters, mussels, anadromous fish of shad and herring, and other varieties of finfish. The John White painting (above) from the late 1500s shows the variety of weirs and traps, fish spears, clam rakes, and other implements used to fill canoes and larders with fish and shellfish. By the end of the 16th century, the villages below the "fall line" of the Potomac (who had the greatest fish resources) had banded together for self-defense against incursions by Susquehanna groups (from the north and northeast), and were united under a *tayac* to whom they paid tribute.³⁴

4.2.2 Early contact: 1608 to 1640

The arrival of the English significantly altered the life of native peoples in the short course of 50 years, resulting in cumulative losses of autonomy as sovereign nations and dispossession of lands by the 1700s. It also offered the chiefdoms the possibility of alliances with new groups, since the Chesapeake tribes were apparent in a state of continual raids and counter-raids with a number of Iroquoian groups.

At the turn of the 1600s, the Piscataway were a populous and prosperous chiefdom, at the height of their political power, receiving tribute or taxes³⁵ from as many as 7,000 inhabitants living near the Potomac and the Patuxent (Merrill 1979: 552). Closely associated with the Piscataway were the Nacotchtank people (*Anacostans or Nacostans*), who lived in the area around the watershed of the present-day Anacostia River and Rock Creek (that drains into the Potomac near the confluence of the two rivers). The black and white drawing below shows the cultivation of squash, corn, and other crops

³¹ Captain John Smith's 1609 map of the region depicts a longhouse, typically associated with a chiefdom, at Battle Creek (a tributary to the Patuxent River), where an important midden site has been found (Briscoe 2016).

³² The way of life of Piscataway and Powhatan is well-documented and described in a number of sources, including Potter 1993; and Rountree 1989 and 1990. See also Wholey and Nash 2018.

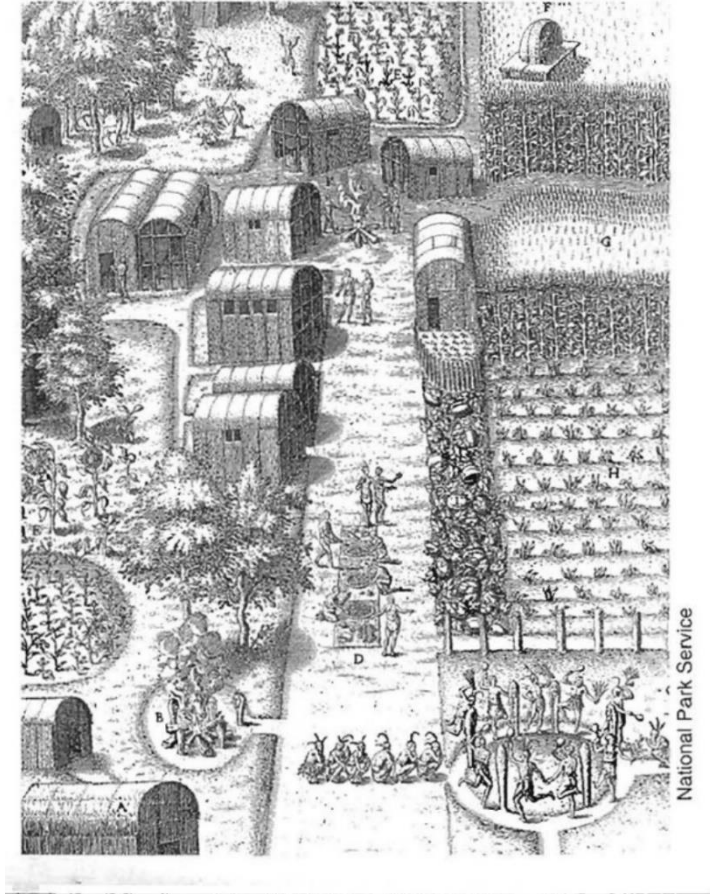
³³ Comparative ethnological research indicates a very low relationship between matrifocal cultural attributes and political leadership by women.

³⁴ Wikipedia. https://en.wikipedia.org/wiki/Piscataway_people#Precontact, accessed 6 February 2018.

³⁵ The nature of "tribute" appears to be contributions of game, such as deer and hides, and grains or other foodstuffs of value. Piscataway descendants challenge the use of the term "tribute," preferring a less value-laden term such as "taxes" (#227) that do not connote the exalted status of an emperor. They point out that the *tayacs* ruled in consultation with other village leaders, redistributed the tribute, and were expected to work alongside the other members of the tribe in the production of food and sustenance (#227) (Tayac et al. 2006).

SECTION 4.2: Piscataway Ethnohistory

in a prosperous and industrious Nacochtank village. On Captain John Smith's 1608-1609 voyage around the Potomac, he estimated that Moyaone (the primary Piscataway settlement) had 425 warriors, and Nacostan had 340, with a total of around 400-500 residents (Seib and Rountree 2014; Merrill 1979; Ferguson 1960). Smith called the Piscataway "Moyaons," which is the Piscataway word for the settlement of the *tayac* or paramount chief (Newman 2017).



Seventeenth century interpretation and depiction of Anacostan settlement, agriculture, and ceremonial activity. Image credit: National Park Service.

The Piscataway were surrounded by other powerful chiefdoms and their subgroups: the Patawomeke, across the Potomac river in Virginia, the Susquehannock to the north, the Powhatan to the south, and Massawomecke to the northwest. After the arrival of the English, the Piscataways were decimated by epidemic diseases (as were other native groups), including the bubonic plague in 1617, and another wave of illness and death in the 1620s, further decimating the population. In 1623 the major Piscataway settlement, Moyaone, was burned to the ground and crops destroyed by the English, in retaliation for the supposed killing of an English trading party and colonists. The Piscataway subsequently abandoned Moyaone and moved south down the Potomac (Merrill 1979: 554), but their relocation did not stop raids by the Massawomecke and the Susquehannock. Together, the raids, introduction of disease, and retaliatory actions by the English decimated the Piscataway population by 28% (Cissna 1986; Merrill 1979).

4.2.3 Encroachment and shifting alliances: ~1640 to 1700

In the early 1600s, the Piscataway held power and political persuasion, as the Piscataway *tayac* at the time strategically deflected a request by the English Governor of the newly chartered Maryland Colony (Governor Leonard Calvert) in 1634 to settle his colonists on Piscataway lands near Moyaone, their main settlement on the Potomac River. Instead, the Governor agreed to establish a settlement much farther down the peninsula in what is now St. Mary's County, MD (Merrill 1979:555; see also Cissna 1986; Potter 1993), in essence providing the chief a buffer zone against English settlement near the Piscataway, and also against incursions from Iroquoian enemies from the north.

The alliance with the English proved useful for the Piscataway in the short run, as they established larger trade networks and gained military and political protection. As the Maryland Colony grew stronger, however, and despite the earlier agreements, English settlers pushed the edges of their frontier towards the Piscataway, beginning to clear lands and settle in Piscataway homelands. After encroaching on

SECTION 4.2: Piscataway Ethnohistory

Piscataway lands, the English pressured 12 tribes to sign a formal treaty of Peace and Amity in 1666 or become “enemies” of the English, a status the beleaguered tribe could not afford (Cissna 1986:159-163).³⁶ The treaty ushered in important political changes, ultimately weakening the viability of the *tayac* system. They agreed to abide by English law and let the colonial political elite select the *tayac*’s successors; the treaty also established the Piscataway as a “subordinate tribe” that provided tribute to the governor of the colony (Merrill 1979:557).

Over the next 50 years, the Piscataway suffered a sequence of territorial dispossessions, increasing dissatisfaction with Maryland Colony “peace and amity” agreement, and ultimately a diaspora on the part of the Piscataway people. The Piscataway were forced to move south to Fort Zekiah in Maryland (Ferguson 1960), as the trust between the two allies began to erode;³⁷ and in a final irony, the Colony of Maryland invited the Susquehannocks³⁸ (long enemies of the Piscataway) to settle in Maryland, where Governor Calvert could presumably keep a better eye on them and have them act as a buffer against the Iroquois. They settled in the formerly vacated lands where Piscataway Creek joins the Potomac.³⁹

The toll of English encroachment and settlement, the breaking of treaties, reciprocal destruction of crops and farmlands, weakening of political leadership, and the prospect of being moved to “manors” (reservations), resulted in an out-migration from their homelands and a dispersion of subgroups of the Piscataway. As early as 1650, one subgroup (the Patuxent) had already moved off of the lands they had occupied prior to English contact (on the Patuxent River), and relocated to a Choptico reserve, on the Wicomico River, which empties into the Potomac River (Feest 1978:246). Other Piscataway-Conoy, Chopticos, Yaocomacos, and Patuxents migrated into northern Virginia and joined the Powhatans; and moved again in about 1699 up the Potomac River to Conoy Island, near Point of Rocks, MD (Curry 2011: 344-5). At that point, it appeared that the group of Piscataway were “about 300 surviving members” as recounted by Hyslop (1995). By 1750, they had left the Potomac River drainage for Iroquoian territory in the upper Susquehanna River Valley of Pennsylvania and lived under their protection in tributary status to the Iroquois Confederacy (Haudenosaunee) (Cole 2010:12). Paul Cissna found that those who migrated to Pennsylvania stayed in Conoy Town, near Bainbridge, PA until 1743, when the English again threatened their settlements, and they moved to Juniata River (1986:193). Others Piscataway went to live with their neighbors, the Pomonkeys (Seib and Rountree 2014: 133), in Virginia. The last colonial reference of the Piscataway in Accokeek was in 1705, as the government official wrote of the annual meeting: “The Piscataways failed to come” (Cissna 1986: 109, Ferguson 1960: 143).

³⁶ The 1666 Articles of Peace and Amity, between the Maryland Colony and the Piscataway Confederacy and its subtribes, promised “That from this day forward there be an inviolable peace and amity” between them; further, the rights of the Indians to continue to hunting, fishing, harvesting of crabs and fowl “shall be preserved to the Indians inviolably” (Cissna 1986: 159-163).

³⁷ Zekiah Fort, 1680-1698 (Curry 2011: 345). The location of the fort and its history are being continuously revealed through archaeological excavations and research along with Piscataway interpretations (see Roylance 2011). The fort was established in 1680 by Gov. Charles Calvert, the third Lord Baltimore, for the “protection” of the Piscataway people and other Maryland Indian groups that were targets of the Susquehannock from the north. The fort was ultimately abandoned in 1698 with the diaspora of Piscataway from the Potomac coastal watershed.

³⁸ The Susquehannocks were in a severely weakened position after a long struggle with their enemies in the Iroquois Confederacy (namely the Mohawks) and the effects of infectious disease.

³⁹ Piscataway Fort/Kittamaquund, ca. 1634–1680 (Curry 2011: 344-5). In the end, after more years of attacks (including by the Piscataway), and even greater decline in their power, the Susquehannock left for a safer haven in Pennsylvania after William Penn signed a treaty with the Iroquois; they re-joined their Iroquoian-language “brothers” on the Susquehanna River.

Many Piscataway, however, did not want to leave their homeland remained in Maryland. Those who stayed in southern Maryland were able to maintain a modicum of independence, in part because they lived in rural, somewhat remote areas (at that time), living close to rivers and on productive lands on which they continued to raise crops. While they were supposed to follow English law, many members ignored this, or used deception or persuasion to avoid it (Merrill 1979: 562). Consequently, the majority were able to continue their ceremonial and religious practices, as the Jesuits did not convert the majority of Piscataway to Catholicism; they were able to sustain their language during this period despite continual decades of contact (Cissna 1986: 153). Some tribal members assimilated into the local economy, farming and fishing, and intermarrying and blending in with the rural population (NMAI 2006:8).

4.2.4 Two centuries of the “End of the Piscataway:” 1700s to 1900

Because of the dispersal of tribal bands and the apparent assimilation of Piscataway who stayed in place, it was generally assumed this was “the beginning of the end” for the Piscataway—once the largest confederacy in the region (Merrill 1979:559). But was it?⁴⁰

The Piscataway dispersed into at least two, and probably three or more groups as mentioned previously, moving into Pennsylvania and some into Ohio—near Miami, Ohio (Curry 2011:351)—and a group stayed in southern Maryland. Between 1700 and 1900, the United States had major wars, such as the American War of Independence, and developed a Constitution for governance of the new nation, including laws for taxes and representation. This was a turbulent time for individual rights, the rights of the states, and of Indian nations, whether treaties were signed or not. The 1783 Treaty of Paris, at the conclusion of the Revolution, unilaterally extended the western border of the new United States to the Mississippi River, in effect appropriating large tracts of Indian lands and dispossessing them of their homelands and hunting grounds, without their representation. Contemporaneously and subsequently, the new American nation pushed native peoples westward in a seemingly never-ending battle to secure American settlers’ safety and add new lands on the frontiers, whether it happened piecemeal on individual homesteads, or in formal American policies such as Indian Removal and the “Trail of Tears.”

These national trajectories provided momentum to the idea of the “vanishing Indian” after the diaspora of Piscataway from Maryland, as tribal ties were attenuated if not lost for generations. Those who remained in southern Maryland found that their Indian identity was stigmatized as “uncivilized,” and as “savages” likely to raid settlers’ fields and livestock—in the view of colonists in Maryland and indeed among some Continental leaders. It is no wonder that Piscataway who stayed in Maryland found it to their advantage to downplay their identity over the centuries, and found ways to adapt and assimilate into local social networks and economies, at least on the surface (Cissna 1986: 191). By the turn of the 19th century, the Piscataway and other tribes had adopted English and American customs as well as the social, political, economic, and ecological changes that accompanied them (Seib and Rountree 2014).

Adding to the appearance of “disappearance,” census enumerations constantly changed categories, typically leaving out “Native” or “Indian” as a choice. The Continental Congress needed to know the number of persons in each county and state in order to apportion the tax burden, determined by the

⁴⁰ The recent (2012) recognition of three groups of Piscataway by the state of Maryland confirms their continuous existence from pre-contact through the 21st century, and is seen by tribal members as an official affirmation of their identity (see Savoy 2008 quote in this section).

number of “inhabitants.” The first federal census in 1790 was limited to counting whites (age and sex), “all other free persons,” slaves, and “except Indians not taxed.”⁴¹

Paul Cissna points out that by the 18th century, the U.S. Census had the categories “White, Negro, Mulatto (white/black, white/Indian), and Indian” (1986:206). Several years later, the categories became “White, Negro, Free Mulatto,” with Indians considered Free Mulattos by the census-takers, even if native peoples did not think of themselves or identify with the term (Cissna 1986: 208). Because of their lack of visibility in official census records, dispersal of the population, and the tendency by Native peoples to down-play Indian identity, many scholars and public officials believed the tribe had “vanished.”

In the early 20th century, anthropologist Frank Speck (1927), was hired by the Smithsonian to trace descendants of the vanished Eastern Indian tribes. He named those Piscataway who stayed behind “Conoys,” a name which is in use today by one of the bands recognized by the state of Maryland. Recent research shows they were descendants of numerous tribes from the area who had intermarried with each other and with other ethnic and racial groups (Seib and Rountree 2014; Cissna 1986).

4.2.5 Modern Piscataway: resurgence and identity: 1900s to ~2018

While their official numbers changed according to how state and federal agencies categorized them, family and community kinship patterns and networks remained. Indian identity was based on kinship, shared values and social activities, and residential geography. Seib and Rountree (2014) argue that there were most likely seven families from which most “modern” Piscataway descended; scholars were also able to identify the geographic areas where families were clustered (2014:151-152). After the Civil War, Indian landowning status changed and they were able to buy land instead of rent it. Typically, a family would buy a tract and relatives would live and work on it, and eventually inherit or buy pieces of it (2014:155). This explains the residential pattern that still exists today, in which families tend to live in close proximity along a road or in the same neck of land between creeks and rivers. Interviewees in this study reported growing up with lots of cousins, aunts and uncles, and grandparents living in adjacent plots of land (#227). Another interviewee said both their parents had farms on the local creek and that the farms had been owned by her grandparents before that, and her great-grandparents before that, and “possibly even further” back. “...My grandfather was a WWII veteran and my grandmother raised like seven, eight kids, and had lots of grandkids, and we all just lived kind of together in the same farm space,” but in multiple houses (#226). Another interviewee told us that their parents and grandfather are from near Swan Point (Maryland) and “They live right on the water. They fished and oystered and all that stuff,” as do a lot of their relatives down there. “I’ve got a cousin on that side, she’s a female. And she can out-fish most of the males” (#217).

Multiple families living on the same tract of farmland on or near creeks was a natural and rational adjustment to the social environment of the late 1800s all the way into the 1950s, when people of color (African Americans and Indians) faced Jim Crow laws and segregation in the outside world.⁴² They developed their own businesses and institutions. There were grocery stores run by Indians, or that catered to Indians, which became gathering places for news and gossip; they went to church together

⁴¹ Maryland State Archives. Guide to Government Records, Census. <http://guide.mdsa.net/pages/viewer.aspx?page=census>, accessed 14 February 2018.

⁴² Billy “Redwing” Tayac remembered having to sleep in the car when he traveled and avoid eating at “white only” or “white gentiles only” restaurants in the 1940s (Tayac 2008).

SECTION 4.2: Piscataway Ethnohistory

and had parties together from potlucks to “pound parties” (where each family member brought a pound of food) (2014:170). Being virtually self-sufficient in rural communities and thereby “hidden” from government officials, was a positive survival strategy developed by Piscataway descendants.

Mervin Savoy, one of the leaders of the two main bands of Piscataway, described for the *Baltimore Sun* what life was like as she grew up in the mid-twentieth century:

“Savoy didn't see anything unusual in the way her grandparents lived off the land. Her grandmother picked mint and peach leaves to flavor food. For a headache, she prescribed bark from a weeping willow tree. For a bee sting, she rubbed the irritated skin with three types of grass. ‘All of these things, you could just walk out to the yard and get,’ Savoy says. Her family used knives with handles made of deer antlers and hooves. They owned handmade eel traps. Every day, it seemed, a grandparent or great-grandparent told some story of the deep past.”

"You got this big, you knew who you were," says Savoy's sister, Diana, holding her hand a few feet off the floor. "You're not black, you're not colored, you're not white. You're Native American, and don't let anybody tell you different." (Walker 2012)

By the early 1900s, some Piscataway worked as laborers on farms other than their own, or worked the rivers, while others sought employment such as teaching, clerical, and other jobs. Some worked in blue-collar jobs, and women generally worked in the service industry or as secretaries. A number of young men went into the military service for the World Wars. They maintained a strong matrilineal focus with power remaining among the mother's line (Cissna: 1986:276).

The resurgence of Piscataway identity in the 20th century has been linked to the activities of Phillip Proctor (also known as Turkey Tayac) as early as the 1920s and 30s, and was later energized by the American Indian Movement (AIM) of the 1960s and 1970s (Curry 2011: 315). Tayac was inspired by his experience in World War I to find other Piscataway descendants among the Eastern seaboard. Along with Frank Speck, and later William Gilbert, both anthropologists interested in documenting the “vanishing Indian,” Tayac began organizing his people and holding festivals with other Algonquian tribes in Virginia and Delaware to make his tribal heritage visible and active once again. Tayac had always been outspoken in his Indian identity, and became a facilitator for his people when they began organizing formally in the 1970s (Cissna: 176).

While the Piscataway Indians began to shed their silence over their identity and reactivate native ways, Alice G. and Henry Ferguson published their first work on the Piscataway settlements found on their 130-acre farm, Hard Bargain, near Accokeek, MD.⁴³ This work, published in 1960, claimed to “carry on the history of the Piscataway Indians (Potomac Creek People), from the time of first contact with Europeans to the final disappearance of the tribe” (Ferguson 1960:1). In the 1930s, informal digs occurred on the site—unearthing a refuse pit (midden), post molds, and burials. The Fergusons

⁴³ Alice and Henry Ferguson bought the Hard Bargain Farm property in 1922 “as a summer and weekend retreat.” At the time, Henry Ferguson was a geologist with the U.S. Geological Survey and Alice Ferguson was an artist trained at the Corcoran School of Art” (Alice Ferguson Foundation website: <http://fergusonfoundation.org/history/the-ferguson-era/>). They were urbanites from the D.C. area who believed in conservation of natural landscapes, a vision which they carried out throughout their lives. She was an amateur archaeologist whose 1930s discoveries and interpretations on Piscataway homelands provided evidence that the site had been occupied for over 10,000 years.

concluded, “it became evident we had rediscovered the ancient seat of the Piscataway Empire” (1960:6).⁴⁴

The artifacts were sent to the Smithsonian Institution, who helped finish the excavations, along with the University of Michigan. During the excavation, Turkey Tayac worked as a digger on the excavation team, and believed that the Fergusons disrespected Indian spirituality and patrimony because they would “just reach in and pull a bone out” (Tayac 2008). The Smithsonian took 7,000 burial remains and put them in repositories for study, which Billy Tayac called “a theft of a human soul.” When Billy complained to his father, he said, “there’s nothing we can do Billy, they’re too powerful for us.” In his oral history, Billy Tayac recounted his resentment over the actions and handling of burial materials by the Fergusons. He asked, “...what’s the most valuable thing you have?” His answer: “...your soul...and if anyone has the power to steal your soul...it’s a pretty powerful thing. ...it’s not right. It’s not right, you know?” (2008).

4.2.6 The creation of Piscataway Park

The creation of Piscataway Park gained momentum over a 30-year period, starting with the Fergusons, and was abetted by a number of local actions, tribal pressures, farmers’ reactions, and national forces. The growing recognition of a Moyaone Piscataway homeland in Accokeek, the purchase of the roughly 500-acre Bliss farm at Bryan Point, MD, the formation of the Accokeek Foundation, and the foresight and leadership of Congresswoman Frances Payne Bolton⁴⁵ were important formative events. The Bliss farm, renamed Bryan Point Farm, was purchased by Congresswoman Bolton in 1955. The Accokeek Foundation was formed in 1957, with Congresswoman Bolton serving as its first president.⁴⁶

The Congresswoman was a regent on the Mount Vernon Ladies Association, an organization that had a great deal of influence at Mount Vernon, located in the direct viewshed across the Potomac River. The leadership at Mount Vernon was a key ally in the quest to create a Piscataway Park. The donation of Bryans Point Farm (1960-61) was a critical spark enabling the creation of the park. A combination of growing suburban development across the Potomac in Maryland, a proposal by an oil company to locate oil storage tanks there, and the proposed building of a sewage treatment plant at Mockley Point, just north of Bryan Point Farm, led to the first of the pieces of enabling legislation for preserving the seven miles of Potomac River shoreline introduced in 1961. The NPS website states that “Piscataway Park,

⁴⁴ To continue with the history of the Fergusons, they founded the Moyaone Reserve, named after the Piscataway settlement in Accokeek. The Fergusons bought the land after World War II, which was adjacent to their Hard Bargain Farm. The lands were subdivided into five-acre parcels and sold to “individuals who shared the Fergusons’ values regarding environmental conservation.” Most of the individuals built homes on the land and became active in the “fight to preserve the Potomac shoreline from industrial development during the 1960s.” (Alice Ferguson Foundation: “An Overview.” <http://fergusonfoundation.org/history/the-ferguson-era/>). Today the Accokeek Foundation, the Moyaone Reserve, and the National Park Service are active partners in the formal management of Piscataway Park. Although Alice Ferguson died in 1952, her husband Henry established the Alice Ferguson Foundation to carry on her vision of a protected viewshed “preserving the beauty of the land and the open space across from Mount Vernon...” (Ferguson Foundation 2012); and to promote conservation and environmental education. The mission of the Foundation is “to connect people to the natural world, sustainable agricultural practices and the cultural heritage of their local watershed through education, stewardship and advocacy.” They offer environmental education programs and lifelong learning about stewardship of natural resources. See the Foundation’s website at <http://fergusonfoundation.org/>.

⁴⁵ <https://accokeekfoundation.org/about/#1524675637488-f70f2503-f87e>.

⁴⁶ The Accokeek Foundation “cultivates passion for the natural and cultural heritage of Piscataway Park and commitment to stewardship and sustainability” (see <https://accokeekfoundation.org/>) and was a critical avenue for the Park’s creation, and is a crucial part of the NPS management team for the Park.

SECTION 4.2: Piscataway Ethnohistory

part of the National Park Service, was established in 1961 as a pilot project in the use of easements to protect parklands from obtrusive urban expansion” (<https://www.nps.gov/pisc/pway.htm>).⁴⁷

During this period there was considerable pushback from local farmers in Maryland, who held large parcels of land and who resisted the re-valuation of their lands away from the agricultural heritage and toward conservation and scenic value (Meringolo 2008). The passage of the National Historic Preservation Act of 1966 signaled a strong federal interest in conservation and historic preservation, and the bills were signed into law. The dedication of the park took place in 1968, after donated and purchased land, scenic easements, and Congressional appropriations were assembled to complete the park. Today the park is jointly managed by the Moyaone Reserve, the National Park Service (Piscataway Park is a unit of the National Park Service), and the Accokeek Foundation.^{48,49}

Contemporaneously with the creation of Piscataway Park, Piscataway individuals were working to re-establish the collective identity and recognition of their Native ancestry and heritage. Inspired by the American Indian Movement in the late 1960s and early 1970s, Turkey Tayac and others founded the Piscataway Conoy Indians, Inc. in 1973—the first formal Indian organization in southern Maryland. They chose “Piscataway” as the official tribal name because it was the most frequently used name by the English. In



The 1968 ceremony to dedicate Piscataway Park—on George Washington’s birthday. Note the presence of (presumably) Turkey Tayac, head of Piscataway Conoy band. *Photo credit: Accokeek Foundation*

⁴⁷ Piscataway Park was created as a unit of the National Park Service on October 4, 1961, through Public Law 87-362. The park is located along the Maryland shore of the Potomac River approximately 10 miles south of Washington, D.C., and contains more than 4,500 acres of parkland. Approximately one-third of the land that comprises Piscataway Park is owned by the National Park Service, and nearly two-thirds of the park is privately owned. The National Park Service holds scenic easements over the privately owned land. The park also includes the 8.3-acre, 296-slip Fort Washington marina. The protection of the landscape serves to preserve the views from historic Mount Vernon and Fort Washington.

⁴⁸ Technically and legally, the Park Service manages the shoreline as easements from private property owners. The partners involved today in the preservation and protection of the park and its viewshed include: Accokeek Foundation, Alice Ferguson Foundation, Mount Vernon Ladies’ Association, Moyaone residents (through scenic easements), and NPS.

⁴⁹ The Accokeek Foundation “cultivates passion for the natural and cultural heritage of Piscataway Park and commitment to stewardship and sustainability” (<https://accokeekfoundation.org/>). The National Colonial Farm is among their many accomplishments—a “living demonstration” of Tidewater agriculture and husbandry; they have also recently initiated a “Celebrate the Potomac” day in the spring, which brings Piscataway members to participate in demonstrating and sharing their heritage on the river.

1976, they opened a cultural center in Waldorf, MD, began holding powwows, and had a Lakota-influenced sun dance (Seib and Rountree 2014).

As Turkey Tayac grew older, he became concerned about where he would be buried and wanted to be buried on his peoples' ancestral lands. In 1947, before the park was created, he had applied for land ownership, resulting in an agreement with the NPS that he would waive his ownership for the guarantee that he could be buried in the ancestral land and that his people could visit (Tayac 2015; Tayac 2008). He shook hands with the Secretary of the Interior to seal the deal. Ten years passed. Tayac, then in his late 70s, fell ill and asked his son Billy to check the burial rights. The Secretary said he had no documentation of the event. "He was really shocked," Gabrielle Tayac, his granddaughter said, "because he was born in 1895 so he thought making a verbal agreement and shaking on it was enough" (Sheir 2011).

But Turkey Tayac did not give up. He attended the opening ceremony of the park, with the goal of meeting with Senator Sarbanes and continuing his lobbying campaign for his burial at Moyaone (Tayac 2008). Along the way, he grew frustrated as the process continued, complaining to Billy: "They don't want me buried here. What do they think I'm going to do, contaminate the land? My ancestors are there. How can I contaminate the land?" Turkey Tayac died on December 8th, 1978. His children, particularly Billy, continued lobbying, using the media to pressure Congress over opposition from the Park Service and others (Sheir 2011, Tayac 2008, Hodge 1979).

Billy Tayac went to the Indian Lands Claim Commission for guidance. Congresswoman Gladys Spellman introduced a bill in Congress to permit the burial of Turkey Tayac at Piscataway Park; and after its initial failure she reintroduced the bill again a year later (Tayac 2008). This time, notably with Park Service support, the bill became P.L. 96-87 in October 1979.⁵⁰

His burial occurred on December 11, 1979, over a year after his death; *The Washington Post* covered the event. "We had an Act of Congress," Gabrielle remembered, "but there was so much racial animosity down here during that time period" (Sheir 2011) that the funeral procession to the burial site at Moyaone was met with protesters from the community. The Park Service had threatened them with arrest, but they continued the procession and burial (Seib and Rountree 2014, Tayac 2008). More than 300 friends and relatives helped carry Tayac's coffin down a mile to the river bank (Tayac 2008, Hodge 1979). The ceremony was conducted by Lakota Chief Eagle Feather.

When the Chief was about to name Billy the new chief, seven of his siblings started chanting "Billy's not a chief," and "Billy's a fraud!" (Hodge 1979). This eruption of long-simmering tensions had to do—at least proximately—with the role of *tayac*, and whether it was inherited through lineal descent and passed down from father to son, making him *tayac* of all Piscataway. This was disputed by other families, and led to decades of dispute and contention prior to state recognition.

⁵⁰ As reported in the media, "The National Park Service, which until this year opposed Turkey Tayac's wish to be buried in the three-year-old Federal park, now supports the Tayac burial bill that Rep. Gladys Spellman (D-MD) says she will introduce. A bill introduced last spring while Tayac was alive failed, but a spokesman for Mrs. Spellman said the new bill is expected to be approved quickly." *Indianapolis Star*, March 4, 1979. <https://www.newspapers.com/newspage/106980716/>.

4.2.7 21st Century Piscataway and the struggle for recognition

After the funeral, the Piscataway formed three separate organizations that continued a fractious history. They separated into The Piscataway Indian Nation (the original group under Chief Turkey Tayac's leadership); the Maryland Indian Heritage Society (eventually the Cedarville Band of Piscataway); and the Piscataway-Conoy Confederacy and Subtribes Incorporated. The Cedarville Band ultimately joined the Piscataway-Conoy Confederacy and Subtribes in pursuing state recognition.⁵¹ In January 2012, fully 34 years after the legendary Chief Tayac's death, Maryland Governor Martin O'Malley issued two executive orders officially recognizing the Piscataway Indian Nation and the Piscataway Conoy Tribe, which includes both the Piscataway Conoy Confederacy and Subtribes, and the smaller Cedarville Band of Piscataway Indians (Miller 2016).

"It says we're still here," said Billy Redwing Tayac, chief of the Piscataway Indian Nation, of the executive order recognizing his tribe. "We're not invisible people. That's very important" (Miller 2012). Mervin Savoy, elected leader of the Piscataway-Conoy, said they began their quest for state recognition in the 1970s, and that "We just wanted our identity back" from the 200 years of having it "robbed from them" and having to hide it (Walker 2012; Shields 1995).

Both groups have their "sacred" places, according to one news article. The Piscataway Conoy have an important church on the Port Tobacco River, the St. Ignatius Church, where in 1641, Father Andrew White converted a Piscataway chief to Catholicism. The Piscataway Indian Nation considers their sacred place to be Moyaone, a 20-acre area in the middle of Piscataway National Park, where Chief Turkey Tayac and many of Billy Tayac's ancestors are buried (Walker 2012). Tayac called for Moyaone to be a "sacred legacy from past generations...a thriving village, capital of a Piscataway federation destined to wither under European contact" (Shields 1995).

Earning state recognition changed the narrative that the Piscataway had died out, but it has been a continuous struggle with the non-Indian world to establish their legitimacy and to establish equitable relationships with other organizations and the state. With respect to the Moyaone site and relationships with Piscataway, some Piscataway leaders claim it has been an uphill battle to push the park management to address some of the key purposes of Piscataway Park. According to Gabrielle Tayac, speaking at the Accokeek Foundation Native American Scholarly Colloquium in 2008, "the preservation and interpretation of American Indian



Demonstrating traditional fish trap at Celebrate the Potomac festival 2015. *Photo credit: S.J. Fiske*

⁵¹ At this time (2018) the Piscataway Conoy band is headed by Mervin Savoy, who was elected in 1981. The tribal chairwoman for the Cedarville Band of Piscataway Indians is Natalie Proctor; and Piscataway Indian Nation is led by Bill Tayac.

SECTION 4.2: Piscataway Ethnohistory

sites to educate the public about their significance” is one of the several key purposes of Piscataway Park listed in the 1983 General Management Plan. And, “we’ve included the importance of these topics in at least our last three strategic plans. But the comprehensive program based on those resources and those relationships remains to be developed” (Accokeek Foundation 2008).

The work of the Accokeek Foundation actively engages the Piscataway community through oral histories, scholarly colloquia by establishing an education center dedicated to advocating their story, and promoting Piscataway traditional celebrations on park premises, such as the “Celebration of the Potomac” around the time of the Feast of the Waters. Their website and educational displays at the Accokeek Education Center spotlight Piscataway history and interpretations; and the “Piscataway Voices” of the website bring insights from interviews with local members.

Oral histories conducted as part of two projects of the Accokeek Foundation provide important information on the significance of the riverine and estuarine landscape to the Piscataway. The first event was a Native American Scholarly Colloquium convened May 20-21, 2008, which included representatives from the Piscataway Indian Nation, the Piscataway Conoy Tribe, and the Cedarville Band of Piscataway Indians. The second project was Piscataway Connections to the Land, which involved conducting interviews with members of the Piscataway community and then using material from these interviews to develop a traveling exhibit. With permission from the Foundation, we analyzed the transcripts for themes related to using river resources, fishing, and sharing of fish in ceremonial use or in daily life, to get a fuller picture of how the contemporary peoples and their forbearers (great grandparents, etc.) fished and used shellfish from the rivers and creeks, and how it was integrated into their yearly cycle of life. (For more details, please see Appendix D, “Thematic summary—Piscataway transcriptions.”)

Transcripts of the colloquium, and the oral history interviews we conducted as part of this study, included accounts from a number of participants about traditional Piscataway fishing techniques, contemporary experiences, and traditional seasonal celebrations and how they have changed given the demands of contemporary living.

Traditionally, the fishing season began in the spring, correlating with the shad and herring runs. The runs are a period in which shad migrate from the Chesapeake Bay and from further out in the Atlantic Ocean to swim up (or “run”) the Potomac River to spawn on gravel beds. The annual run was an important event for Piscataway fishers who would capture fish as they ran upriver. Mervin Savoy, former tribal chair of the Piscataway Conoy Tribe and Subtribes, recounts that entire families would partake in this fishing event.

The men would go down to the river's edge, and usually whole families went. Not just the men would go fishing. Entire families went, and they would throw the nets out into the sea and catch fish, and I remember my husband's grandmother and grandfather always had a time when the whole family—and she was the mother of sixteen—so the whole family would get together at the river's edge and catch these fish and then you would salt them and put them in barrels, and everybody took home fish for the winter. (Savoy oral history 2008)

Rico Newman⁵² provides memories of his childhood and net fishing on the Potomac near the mouth of Piscataway Creek.

When I was a kid, soon as spring came around, you see guys going up and down the road with these big chicken wire nets on top of their cars, that were made from wood limbs, and they'd stretched chicken wire over, and they'd go down especially in Piscataway Creek. And they would dip those, and they would come up with barrels and barrels of fish... But, Piscataway Creek almost claimed my life when I was 12. Being a curious kid as I was, I would go with my dad and uncle up there to catch herring, and while they were busy packing what had been caught, I decided I'd get the net. The net is bigger than this table. And I stuck it in the creek, and no sooner I did, the fish hit it. So fast. I said, "uh-oh." Tried to pull the net back. I wasn't going to let it go. I should have. (Newman 2017)

A wide range of fish and shellfish are available to harvest today, although many fewer than in pre-colonial times, because of fishing restrictions on certain species and because some species are less available. For example, herring and shad are catch and release only in the District of Columbia, because of declining populations; eel are less prevalent due to a number of causes including overfishing and development; and sturgeon have not been seen for decades—only one of our 81 interviewees reported hearing about a sturgeon in his or her lifetime. Fish were a large part of the traditional diet, along with bivalves, including clams, oysters, and mussels. Fishermen used eel baskets and eel weirs; and crabs played an important role in subsistence as well, in more saline parts of the watershed.

The Piscataway, as well as other Native American woodland peoples, had an annual round of ceremonies associated with seasonal changes, accompanied by social obligations at the beginning or ending of harvests. Fish and shellfish were and are an important part of the celebrations. There are three important festivals in Piscataway tradition which continue to be celebrated today—the Feast of the Waters, the Green Corn Ceremony, and the Mid-winter festival—although the dates and the content of the events have changed over time. There are also ceremonies around the equinox, solstice, and the spring solstice.

“(The Spring solstice) would be March 22nd. So that's when we have seed gathering, we come together and we had fun and eat, and the idea is whatever's left over, historically, left over from the stores, would be used and consumed, because now we're going to do planting and renewing resources. The seeds would be distributed—and families would have an obligation (this is back in the day)—and the seeds would be distributed to families and towns, and it would be a coming together from everywhere. This was usually on the first day of spring, but “not exactly the first of spring; course, nowadays everybody's got their '9-to-5s', so we do it on the closest weekend.” (Newman interview 2017)

It was not clear to the Research Team whether the seed gathering event is combined with the Feast of Waters, or whether it takes place earlier in the year. Some describe the Feast of the Waters as early summer, in June—usually the day before Father's Day—when “the fish start coming back, so we celebrate; and this is sort of *after* the runs, ...because you can't celebrate and be out working collecting fish at the same time—so we do it at summer, official summer, June 21st about then.” (Newman 2017)

⁵² Mr. Rico Newman, one of our key informational interviewees, is an elder of the Piscataway Conoy tribe, and an elder council member of the Choptico Band of Piscataway. He has been appointed by the Governor to the Maryland Commission on Indian Affairs; he has been a spokesperson and a leader for cultural stewardship for Piscataway. He continues to be a historian of Indian affairs, an ardent student of archaeology, and an advocate for understanding and recognition of Indian cultural heritage in Maryland.

SECTION 4.2: Piscataway Ethnohistory

“...all of them (festivals) have fish in them. But the only one with fish as the focal point, is the Feast of the Waters. To celebrate that they have come back, that once again we can get this food source from the Waters, be it clams, be it mussels, be it crabs, the fish, the herring, the shad, rockfish. There’s an old legend that to test your mettle as a man, you had to wrestle with a sturgeon of at least equal size, you had to rattle them out of the water; then... you could have bragging rights.” (Newman interview 2017)

Later in summer is the Green Corn Festival, when the corn is ripening and corn harvest is beginning in August. It is perhaps the best-known event to the public because a number of Native American peoples of the Eastern Woodlands and Southeastern tribes practiced the celebration.

“Well the Green Corn Fest, feast—and that was always August the 15th—it was a big time for our people. The Catholic Church decided later in years that it was because of a Catholic ceremony. But we always said no, that was an Indian ceremony and in reading the old newspapers back in the ‘20s and ‘30s it says no matter what day of the week, August 15th fell on, our people didn't go to work. It was a celebration day, everybody did something. It was a big picnic at church, or at someone's farm, and all of the women carried in their foods and their best dishes and there were sewing contests...” (Savoy oral history 2008)

In a later response, Mrs. Savoy discusses the importance of fish and oysters at the Green Corn Festival. The details she provides of the food preparation for the festival are rich in culinary traditions.

“[There is] always succotash, always squash. Those two things were some of the main dishes, and our people still traditionally prepare it. I've seen some different recipes for these things, like ‘Wow. We never grew up with them fixed that way,’ but hey. Times change and tastes change, so. And made corn soup. Oyster stew. That was a big thing. The dried fish, when they were—the men would go down to the river's edge and usually whole families went. Not just the men would go fishing.

But the women always made sure they had built the fires along the river's edge. And had the frying pans out so the people were getting fresh fish fried right then and there. Nothing's better than fish fresh caught and cooked right at the river's edge. You've got a meal then. But the people—you know, they got together to do this and made a big thing out of it, when they went fishing to catch the fish and dry them, salt them and dry them. Put them in the barrels. And everyone made sure there was enough food for the winter.” (Savoy oral history 2008)

“...everybody's familiar with green corn, when the corn is “in the milk,” when you poke the corn kernel and the milk pops, it's ready. ‘Cause the corn had to be harvested, some of it put up to dry for seed. As a kid we go down to the farm, we'd have to shuck the corn, get the kernels off for planting—very rough on your hands. Hey, what're you going to do? [laughing] So, green corn, you're celebrating that you've got all this corn to harvest that's going to last you through winter, that's going to be turned into bread, that's going to be dried, and consumed now. Big celebration. And corn is a central thing for that.” (Newman interview 2017)

We asked an interviewee whether catching fish for the Green Corn fest was an important part of preparing for the celebration. It is always surprising, at least to anthropologists, how tradition is adapted to contemporary circumstances and technology:

RN: Oh yeah, we going to fry some fish [for the Green Corn Festival]. Usually we'll go either Gray's Market, down on Chicamuxen [Road], and he sells us these cakes of whiting or trout, and we'll get maybe a case, depending on how many we expect are going to come, and we'll fry, deep fry it.

Interviewer: You don't catch the fish?

SECTION 4.2: Piscataway Ethnohistory

RN: Oh no...it's too labor intensive. It's easier today to go buy a cake of fish that has maybe 50-60 fillets in it, than go out and try to catch that many and clean em. But... back in the day, when this was done, yes, it had to be done [catch the fish]. You've seen the pictures of 'em even out at night, with a fire, to attract the fish, catch 'em with nets. They had to do it the old way. But today we don't do it that way, we just go to Gray's... and cook 'em up." (#227).

Another interviewee told us an even more "efficient" way of getting fish for large groups, specifically for church picnics. That is to "go and wholesale some fish from a person that's coming in with a load..." which allows the buyer to purchase a lot of fish cheaper. "...(you) go down to the Hampton (Virginia), catch one of them fishing trawlers coming in, and buy his load off him. And that way you can feed a couple churches." (#217)

The Midwinter Festival has changed dates and meanings,⁵³ but the way one individual describes it, "And then the last one, of course, would be, usually would be the Midwinter Festival, but instead we started doing the celebration of our elders, because they're in the winter of life. So, the community has been doing those consistently now for, I think we're now into the seventh year consecutively that we've been doing them." (Rico Newman 2008). "Winter we celebrated the elders, that's the winter of life, so we all come together and everybody in the tribe that we knew that's 75 and above, and we honor them and feast them." (#227)

Interviewee Rico Newman's many memories from his childhood show a centrality of the rivers and fishing in his upbringing and family life. He recalls fishing on many of the creeks that enter the Potomac. Spring fishing was usually best on the narrower creeks with good tidal current.

"If you go down Indian Head highway and you cross over Piscataway Creek you can just look down there and you can see how rapidly the water runs. It is tidal so depending on when the fish are coming up and the tide is coming in; when it goes back out they go out. You can catch them going and coming. There are other creeks, Mattawoman, where it was very active. (Also) we would go up to Georgetown above D.C.

My mother used to threaten my father with taking me up there to Fletcher's Boathouse, up above there. There was very dangerous currents in that river in that part of the river [among the rocks above Fletcher's]. I could understand my mom's apprehension with us going up there. We didn't net, we snagged. You just throw your lines out and you had these big snag hooks. As fast as you can throw it out and pull it in you would have five or six of them snagged and you put them in the bucket. On one occasion me and some of my little buddies from the neighborhood would go up there and snag and we had our little buckets and coming back we had to get on the bus, which was not well received." (Newman interview 2017)⁵⁴

For different kinds of fish, they would go to different parts of the river. "Again, the different parts of the river, you went to different parts to fish for different things." When he was a teen, and was looking for catfish or perch, he would go to the Anacostia up around Bladensburg.

⁵³ There seem to be several related interpretations of this festival. The Feast of the Dead—meaning in the dead of the winter—a festival of the elders, and a remembrance of those who have passed away. They all would have been held in mid-winter timeframe.

⁵⁴ American shad are the largest of the herring family, so snagging would make sense to catch fish, especially if there were plentiful fish in the river, as there were historically. The snagging described above took place around 1952-1960, which was before snagging was prohibited on the Potomac, and before catching shad and herring was prohibited. Today snagging of an aquatic resource is prohibited, and the shad and herring runs are catch and release only.

SECTION 4.2: Piscataway Ethnohistory

“That part of the river right behind Boys Town Village, the reform school, off Bladensburg Rd, if you know where Smith’s junkyard is on Kennilworth, ‘cause we’d walk down the railroad tracks past Smith’s junkyard, on the rail trestles; usually there’d be five or six boys in our early teens, 13-14, and that’s where we fished. We’d go there just before dark, and we’d each pull three or four out. Good sized ones.”

“Oh, that [catfish] was good eating. My mother hated to clean them because they are not easy to clean. Pulling the skin off of them was a chore, which was my job, with a pair of pliers.”

“You know, once you filet ‘em, we would soak them in milk, I don’t know why my mom always soaked the catfish, rabbit, squirrel—but they had to be soaked. Raw milk, she would get it from somebody who had cows. Straight off the cow. It had to be raw milk. Mom did all the cooking. She didn’t mind all the other fish, but she didn’t like the catfish. It was a chore to clean them. ...after they soaked, she would dry them off, put them in like a batter, and she would put them in the oven or deep-fry them. If she deep-fried them, she would cut them up in nuggets. Delicious.”

When he was young, Newman’s family moved to near the District, “in the projects” of SE, near the Navy Yard and the Anacostia River. The breadth of places he went fishing, with family, but mostly with friends, is amazing. From north of Fletcher’s, to Rock Creek Park, to the Anacostia, all the way up to Bladensburg, MD. Farther south on the Potomac was also part of his territory, since his family had land there.

“We were just two blocks from the Anacostia and we were always going down to the river to throw out a line. We didn’t have fishing poles but we would throw out a fishing line, dig up some worms, go down and see what we could catch, which wasn’t much. Usually we would get run away from down there whenever the police happened to come by there.”

He also remembers fishing in Rock Creek when he was a youth, “catching shad and herring, running the creek, you could grab ‘em with your hands, it was fun, we’d catch ‘em and throw them back—what’re you going to do, put in your pocket? [laughing]. There’s another Creek called Beaverdam [a tributary to the Anacostia, near Bladensburg] where we’d catch ‘em by hand, which runs back up off of Sheriff Road and Addison Road...so up a lot of the small creeks, they’d get as far up on the rivers as you could imagine.” (Newman 2017)

But as far as “real fishing,” Newman said, “we would fish especially down at my grandmother’s home down in Issue [MD], down by Cobb Island, if you ever been down that way, and we’d catch the same variety of fish, spot, croaker, eels... I hate eels, tear your line up.”

That’s where he first learned to fish: “as kids, as far as fishing with the older men, that’s the way it was, but every summer, while we were there Maryland, down below Mt. Victoria where the family farm was, we would go out with lines, and bait ‘em with worms, or night crawlers, or crickets, and toss ‘em out and catch whatever we would catch. And we’d take the little rowboat that we had, and we would walk through the seaweed, where the crabs run, and net ‘em, and the distance between here and where you parked we’d have a bushel. Good luck trying to do that now! But you know, as kids it was fun it was fun – we crabbed, we even used, when the aunts would kill a chicken, we had the necks; we drop ‘em down and pull ‘em up really quick, and we had the rods we could cast out.”

He also remembers clamming, or looking for clams:

“ ... we would just go out there in the shallows, and you know barefoot, and you look for telltale signs, like bubbles, different things; and when you saw that, you would have, just like regular, look like a, a garden tool, and just dig, grab clams, put ‘em in your basket, and as you walked through you could feel ‘em, with your feet—sometimes it was just a rock. But at the end of the day you had a nice stash of shells, of oysters or clams.”

They also went with their families to the mouth of the Patuxent River to get oysters, clams, and mussels. As he became an adult, had family and became an elder, the sense of passing along fishing and the traditions around their native heritage became more insistent.

“When I got older, I would take all the younger fellows, ‘cause I had a place down... on the Virginia side of the Potomac, take all of my sons, nephews, my younger cousins, take a whole bunch of ‘em down and we’d camp out three or four days of it prior to Feast of Waters, that time of year when you’re getting into June, and the idea was for them to catch the fish for ...we didn’t call it a ceremony, we’d call it an “event.” It always occurs in June, matter of fact it always seems to occur the day before Father’s Day [chuckling]. They got the opportunity to catch fish, usually it’d be spot or croaker, we don’t pull any eels out of the river now for some reason, and what’s the other...[drums fingers] toadfish.

“I took all my sons down, nephews, we would catch and cook, my family would come down, and that’s where we would have a Feast of the Waters; and then the next day we’d go somewhere else and celebrate Father’s Day [laughing]. And first thing we cooked is the fish that the kids caught. It’s amazing now that they’re in their 30 and 40s, and they still talk about it. It’s a memory, that’s what it is. I still have all the fishing rods, ‘course they don’t come down any more, they got jobs and kids of their own. I wish they’d pick it up and continue it.”

“If you get out camping, you get down on the river and you have your fishing equipment, you cook it there on the open fire, and you see the stars, and you hear all the life around you or whatever—it’s something that goes in here, and it never comes out. But yeah, I still fish.”

Anjela Barnes grew up on Mattawoman Creek in Maryland, a tributary to the Potomac south of Piscataway, and an area of the original Piscataway homelands.⁵⁵ Both of her grandparents had farms on the Mattawoman, and her mother’s family fished the creek and the Potomac, selling crabs and finfish commercially. The land had been owned by her grandparents, and her great-grandparents before that, and “possibly even further” back. Her father’s family (who are Piscataway) also owned land on the Mattawoman and owned local grocer/butcher shop. She grew up around fishing and eating “whatever came from the river” as a way of life.⁵⁶

⁵⁵ Anjela Barnes is a Piscataway band member and a key interviewee for this project. She is a graduate of the University of Maryland with a B.S. in Marketing and is Vice President/Chief Operating Officer (COO) for the Accokeek Foundation. She is a dedicated outdoors fan, along with her family, and an advocate for revealing the living stories and heritage of southern Maryland’s rural and native people. See the Piscataway Voices blogs at <https://accokeekfoundation.org/category/history-and-culture/piscataway-indigenous-culture/> for more information.

⁵⁶ Barnes clarified that the farm where she described her childhood memories was her mother’s farm and side of the family (which is Anglo); her father, who is Piscataway, also had farmland on the Mattawoman, and his family owned a local business.

SECTION 4.2: Piscataway Ethnohistory

“...just because it was our family business and we lived and grew up on the water. Fishing and water life was our life, you know. I didn’t really know any other thing. In fact, it wasn’t until I was an adult and working here [Accokeek Foundation] that I realized you were supposed to have a license because I had free range to do whatever I wanted on our own private property.”

She remembers her uncle’s crabhouse, where the whole family would gather in the summer to pick crabs and socialize.

“Almost every breakfast there was definitely, if there was fish, or sometimes the special catch would be, like a soft-shell crab sandwich or a soft-shell crab, Grandma would fry it up. My uncle would come in and just hand it to her, like this is what I got, this is special.”

She describes her growing-up years as a “southern country” way of life, since in fact they lived in southern Maryland:

“Everything we brought in we ate. My family farmed, and I guess back in the earlier days it was tobacco, so we had a tobacco barn, but there was also like gardens and corn and things. Everything we ate, you know. Fish roe for breakfast, fried fish roe for breakfast. To me, I just saw it as a way of life and it’s just, you know, it’s how we ate. There was always catfish, always fried catfish. Rockfish, you know, I mean, everything from trout, you name it.”

They also ate turtle (“Yep, we kept snapping turtle”) and dug for clams. Barnes said they had clams on the half-shell any time they wanted. They dug for clams along the muddy banks of the Potomac and tributaries, and ate them raw, right out of the shell.

Barnes fished when she was young; her grandfather taught her, and his father taught him before that. Her cousins and uncles all fish and in fact, they took over the family crabbing business, and they now have an “open crabbing store front.” “It’s primarily crabbing right now but he still is out there fishing and being the local guy that you go to for your crabs and fish and stuff for the year.” Her father’s family were also the town butcher and grocery store owners. Where she grew up, her family were also her closest neighbors. Growing up on the Creek made her fondest memories:

“Yeah, I mean the Mattawoman was definitely special to me. It’s where and what I grew up on. It was my swimming hole, it was my fishing hole, and it was my backyard... Like I said, we would spend summers eating crabs and chasing fireflies and, you know, just being kids. Tree forts and jumping off of things and breaking things.”

Today, Barnes’s own family has an annual tradition that involves fathers and sons fishing together on Father’s Day, a tradition that was passed along through her husband’s father.⁵⁷

⁵⁷ The Father’s Day tradition of taking out your Dad for a fishing trip (often done on boats, not from the shore) seems to be a widespread tradition up and down the Potomac and Anacostia, and not necessarily linked to Piscataway tradition except that it (Father’s Day) is in the late spring, after the shad run and Feast of the Waters, and conveniently fits with Native traditions of valuing the waters and fish. Father’s Day fishing expeditions were mentioned by Piscataway, by Anglo fishermen, Hispanic fishers, and by African American heritage fishing families, so the event appear to be a widespread custom adopted by families who know their fathers love to fish, and love time with their children.

“My husband—his father would put his boat out at Marshall Hall and go on the river and then come into the creek [Mattawoman] and then do fishing. Every summer he would take my husband and his son and they would have a Father’s Day out on the river and then come in and bring in whatever they caught and he would bring it and split it up between his house and our house. I would usually do a fish fry and whatever and it was kind of like really nice because we would just like, ‘hey you guys just caught this and we are now sitting down and eating it.’ My stepson was like, ‘oh, I don’t like fish’... but I’m like, ‘but you caught it!’ To me it’s just what you do.”



Talking “fish stories” at the 2015 Celebrate the Potomac Festival. Saylor Grove Pier, PISC. Photo credit: S.J. Fiske

traditional fishing implements and how to make and use them—the source of the photos of traditional fishing gear and dress.

Even though historical changes in the cultural landscape of the Piscataway Indians have taken place and components of festivals have changed—such as the Green Corn Festival becoming a church picnic for some bands of Piscataway—access to the water and fisheries resources, and the social relationships predicated on fishing and the water, remain an important part of native food gathering, consumption, and cultural practices. (Please see Appendix D, “Thematic summary—Piscataway transcriptions”)

References

Barnes, Anjela. 2016. Subsistence fishing oral history interview. December 2016.

Cissna, Paul. 1986. “The Piscataway Indians of Southern Maryland: An Ethnohistory from Pre-European Contact to the Present.” Doctoral dissertation, American University.

4.2.8 Summary

To conclude and recap, the purpose of this series of ethnohistories is to put the history of each ethnic group of fishers in the context of their historic relationship to the rivers and their resources—as sustenance, livelihood, a source for ceremonial activities, and as a place to grow up and establish families. It is clear that fish and shellfish from the Potomac River, its tributaries, and nearby rivers like the Patuxent have always been an important part of the Piscataway foodways and sustenance. More importantly, fish and shellfish have been and continue to be recognized in numerous yearly ceremonies, and are important to their identity as tribal members, particularly the Feast of the Waters, the shad and herring run, the seed gathering in the spring, and the Green Corn festival in late fall.

The site of Piscataway Park encompasses much of the ancestral homeland areas of the Piscataway, at the former settlement of Moyaone, and is a cultural landscape with much meaning to descendants of Piscataway. The Research Team visited with members of the Piscataway Conoy Tribe at the Accokeek Foundation’s “Celebrating the Potomac” event in June 2015, during which tribal members demonstrated

SECTION 4.2: Piscataway Ethnohistory

Cohen, Amber M. 2016. "Connecting People and Places: Deconstructing the Interpretive Narrative of Piscataway Park, Accokeek Maryland." Final paper in Master's degree class for Dr. Mark Leone, on Theories of the Past, ANTH 740. May 14, 2016.

Cole, Hannah L. 2010. Documentation of the Baltimore and Drum Point Railroad. Prepared for the environmental review and Section 106 consultation process associated with the Calvert Cliffs 3 nuclear project (CC3), Calvert County, MD. UniStar Nuclear Energy, LLC (UniStar). <https://www.nrc.gov/docs/ML1022/ML102210249.pdf>, accessed 7 February 2018.

Curry, Dennis. 2011. "A Closer Look at the 'Last Appearance' of the Conoy Indians." *Maryland Historical Magazine*, 106:3.

Ferguson, Alice L. and Henry G. Ferguson. 1960. "The Piscataway Indians of Southern Maryland." Alice Ferguson Foundation, Accokeek, MD.

Hyslop, Stephen G. 1995. "Life in America 400 years ago." Review of Potter, 1993. *The Washington Post*, June 14.

Hodge, Paul. 1979. "Chief is buried in Piscataway." *The Washington Post*, online, <https://www.washingtonpost.com/archive/local/1979/11/12/chief-is-buried-in-piscataway/963934ce-d0fe-4ae0-b4e4-9972446fc7a8/>.

Hopkinson, Natalie. 1999. "Resurgent Piscataway Tribe Seeks Recognition, Respect." *The Washington Post*, online <https://www.washingtonpost.com/archive/local/1999/10/10/resurgent-piscataway-tribe-seeks-recognition-respect/e7175e29-e8d3-4147-be5e-4641d480f1b5/>>

Meringolo, Denise D. 2008. "CRM: The Journal of Stewardship Heritage." The Accokeek Foundation and Piscataway Park, 5(1), Winter 2008. <https://www.nps.gov/pisc/pway.htm>.

Merrill, James. 1979. "Cultural Continuity among the Piscataway Indians of Colonial Maryland." *The William and Mary Quarterly*, 36(4): 548-570.

Miller, Mark. 2012. "Two Maryland Indian tribes won't seek federal recognition." *The Daily Record*, Maryland's trusted source for business, legal, and govt news. January 16, 2012.

Miller, Robert J. 2006. American Indians and the United States Constitution. <http://www.flashpointmag.com/amindus.htm>, accessed 1 February 2018.

National Museum of the American Indian (NMAI). 2006. "We Have a Story to Tell. Native Peoples of the Chesapeake Region." Coauthors, researchers: Gabrielle Tayac, Ph.D. (Piscataway), Edwin Schupman (Muscogee), contributing writer: Genevieve Simermeyer (Osage).

Newman, Rico M. 2008. Oral History. Accokeek Foundation.

Ibid. 2017. Subsistence fishing oral history interview. January 2017.

Newman, Christopher. 2015. "Piscataway Voices: A Homecoming Story." Accokeek Foundation, online, <http://accokeekfoundation.org/piscataway-voices-a-homecoming-story/>.

Potter, Stephen. 1993. *Commoners, tribute, and chiefs: the development of Algonquian culture in the Potomac Valley*. Charlottesville, VA: University Press of Virginia.

SECTION 4.2: Piscataway Ethnohistory

Proctor, Cryz. 2015. "Piscataway Voices: The Benefit of Piscataway People to Maryland: It's Time for Reciprocity." Accokeek Foundation, online. <http://accokeekfoundation.org/the-benefit-of-piscataway-people-to-maryland-its-time-for-reciprocity/>.

Roynance, Frank. 2011. "Long-sought Zekaih Fort likely found." *Baltimore Sun*, September 14, 2011, www.baltimoresun.com.

Rowntree, Helen C. 1989. *The Powhatan Indians of Virginia: Their Traditional Culture*. Norman, OK: University of Oklahoma Press.

Ibid. 1990. *Pocahontas's People: The Powhatan Indians of Virginia through Four Centuries*. Norman, OK: University of Oklahoma Press.

Seib, Rebecca and Rountree, Helen. 2014. "The Indians of Southern Maryland." Baltimore: The Maryland Historical Society.

Savoy, Mervin. 2008. Oral History. Accokeek Foundation.

Shields, Todd. 1995. "Just who is a Piscataway?" *The Washington Post*, <https://www.washingtonpost.com/archive/local/1995/12/28/just-who-is-a-piscataway/58ba5872-935e-4530-a1cc-ccaf840be18f/>.

Speck, Frank G. 1927. *The Nanticoke and the Conoy Indians: with a review of linguistic material from manuscript and living sources: an historical study*. No. 1-2. Wilmington: Historical Society of Delaware.

Tayac, Billy "Redwing". 2008. Oral History. Accokeek Foundation, unpublished.

Tayac, Gabrielle. 2015. "Piscataway Voices: Coming Full Circle." Accokeek Foundation, online, <http://accokeekfoundation.org/piscataway-voices-honoring-full-circle/>.

Walker, Childs. 2012. "Maryland recognition of Piscataways adds happy note to complicated history." *Baltimore Sun*, January 16, 2012. <http://www.baltimoresun.com/news>.

Wholey, Heather A., and Carole L. Nash, editors. 2018. *Middle Atlantic Prehistory: Foundations and Practice*. Rowman & Littlefield Publishers.

4.3 Latino and Hispanic Communities⁵⁸

4.3.1 Overview and earliest Spanish contact

The story of Spanish speakers in the National Capital Region is one of a constant but small presence that has grown exponentially over the last 40 years. This point is underscored in *Washington at Home: An Illustrated History of Neighborhoods in the Nation's Capital* (Smith 2010). “Washington always had a small Spanish-speaking population; it grew along with the rest of the city in the 20th century as Washington became a world capital” (Smith 2010: 441). While the historical record is clear, there is a disjuncture in how the regional Latino experience is often expressed: that Latinos are recent arrivals rather than long-time residents.

This ethnohistory attempts to provide context for communities that are often seen at National Capital Regional parks, or rather, communities that are sometimes unseen and easily misunderstood. Also, any ethnohistory of the communities of Latino anglers on NCR-managed shorelines would be remiss if it did not mention the relationship between those Spanish-speaking communities and all regional National Parks, including the Statues of the Liberators along Virginia Avenue NW, as well as intensive use of parks like Meridian Hill and other small neighborhood parks in D.C. by Latino residents.

Earliest Spanish contacts

In 1524, well before any English word had been spoken in the Chesapeake region, Captain Pedro de Quejo surveyed Virginia and the Eastern coastland for the Spanish Crown, initiating a period of exploration and exploitation. About the same time, Portuguese-born Estevao Gomes entered the Chesapeake Bay and mapped the coastline.⁵⁹ But the start to an extended presence began in 1561 when a Spanish caravel was blown off course, landed somewhere in the tidewater region of Virginia, and encountered a Virginian Indian named Paquiquineo, a contemporary of Chief Powhatan. He was taken aboard, and the ship returned to Europe. Captain Antonio Velazquez convinced King Phillip II to send a mission back to the Chesapeake Bay with Paquiquineo (now known as Don Luis de Velasco) as an interpreter. The Spanish empire sent Paquiquineo back to Virginia to establish the Jesuit Ajacan Mission (1570) in Virginia, 36 years before the English settlement of Jamestown. However, the entire party was massacred in 1571 by Paquiquineo and members of his tribe.⁶⁰ The failure of this and other missions, and the success of the English settlements, meant that Spanish institutions and culture never became the dominant culture/language in the D.C. region.

The Wars of Independence

The start of a significant Latin American population in the region came after the Latin American Wars of Independence, during the late 18th and early 19th centuries, when Spanish colonies (save for Cuba and Puerto Rico) gained independence from the Spanish Empire. The American and French Revolutions were precursors to the revolutions that occurred in French, Spanish, English, and Portuguese colonies

⁵⁸ We use both Latino and Hispanic together (Latino/Hispanic) and generally interchangeably to refer to peoples from South America, Central America, Mexico, and Spanish-speaking islands in the Caribbean and Puerto Rico (Tatian, et al. 2018). However, we acknowledge there are subtle differences between the terms, and that some individuals do not see them as equivalent. We have tried to use both in reference to communities. Indicative of the fluidity in terms, the 2000 U.S. Census collapsed Latino and Hispanic into one overlapping category; and in the 2010 Census there was a move toward identifying being Hispanic/Latino as an ethnicity rather than a race (<http://www.prb.org/Publications/Articles/2012/us-census-and-hispanics.aspx>).

⁵⁹ <http://www.virginiaplaces.org/settleland/spanish.html>.

⁶⁰ https://www.encyclopediavirginia.org/don_lua.

SECTION 4.3: Hispanic Ethnohistory

across the Americas. Emboldened by the Monroe Doctrine (1823), Latin American countries established diplomatic ties with the United States, sending diplomatic corps, along with their families and domestic workers, to Washington. A remnant of this period can be experienced on NAMA's self-guided walking tour of American Latino Heritage. The tour website highlights how the success of the American colonists in defeating the British during the American Revolutionary War influenced liberators in other colonies, as they sought to establish republic ideals throughout the Americas and to gain independence from Spain. Through the Wars of Independence, Hispanic liberators successfully freed most of the Spanish colonies in the Western Hemisphere, except Cuba and Puerto Rico. Statues of Gervasio Artigas, Simón Bolívar, José de San Martín, Bernardo de Gálvez, and Benito Juárez, among others, were presented by various Latin American countries as tokens of friendship with the United States, while serving the secondary purpose of substantiating their claims of nationhood and independence.

Post-World War II growth

World War II ushered in a significant growth in the Hispanic/Latino population,⁶¹ with Hispanics arriving in the 1940s to take advantage of the growing number of federal jobs and international posts. Because of their status as American citizens, many who came to the District looking for employment were of Mexican American⁶² and Puerto Rican origin. In addition, the establishment of the International Conference of American States (eventually becoming the Organization of American States in 1948) and the creation of the Pan American Health Organization (PAHO, dating to 1902) drew more Latinos. From domestic workers to diplomats, representatives from various Latin American countries began living in D.C. during this period. Those earliest Latino residents of the District lived throughout the city. However, the establishment of embassies along Embassy Row meant that professional staff members as well as domestic workers took up residence in the Adams Morgan neighborhood because of its convenience.

Casa Peña, one of the first of the Latino neighborhood stores, opened up in the early 1950s in the Mount Pleasant area, providing a social gathering place and a place to buy products and goods from Latino cultures. Because of the proximity to Embassy Row (where many foreign embassies are located), what today is Adams Morgan, Columbia Heights, and Mount Pleasant became the neighborhoods of choice for Hispanics for both residences and job-seeking. One of the earliest Mexican restaurants was located in the 18th Street corridor in Adams Morgan, where one could hear *mariachi* music in the 1980s; a nearby Cuban club played salsa music. Early immigration was often connected with families and persons working in diplomatic posts, who were the well-educated elites of their countries. The expansion of the Latino community was marked with the opening of the first bodega (grocery store) in Mount Pleasant in 1962. The trend continued with establishments like "Casa Dilone," a Dominican market; La Sevillana; and the PanAmerican Laundry, opening during the late 1960s through the '70s to meet a growing demand.

1960s—a critical mass

A community that began as a mixture of mostly Mexican Americans and Puerto Ricans with a small smattering of diplomatic envoys and their employees started to change at the beginning of the 1960s. A

⁶¹ A note about terminology and the use of "Latino" versus "Latinx": at this point in time there is no strong consensus on the use of the term Latinx as a non-gendered term of reference for Hispanics. Although the authors recognized its value and usefulness, we have chosen to use the more generally accepted term "Latino" to refer to Hispanic communities.

⁶² After the Treaty of Guadalupe in 1848 and the Gadsden Purchase (1853), many Mexicans became American citizens in the annexed territories of New Mexico and Arizona, and the states of Texas and California.

SECTION 4.3: Hispanic Ethnohistory

wave of immigration of foreign-born Latinos fleeing revolutions in Cuba (1959) and the Dominican Republic (1965) and fleeing bureaucratic authoritarianism in South America began arriving in the District. Adams Morgan and Mount Pleasant, once primarily white communities, became, by the 1950s, firmly working-class urban neighborhoods, with pockets of Latino immigrants and African American migrants from the South. This demographic shift was due to a combination of factors over the course of two decades. First, the population boom in the District during WWII caused a housing shortage. In response, homeowners took in boarders or converted their properties into rooming houses or apartments. Second, the maintenance of the District's segregated housing practices was changed by Supreme Court rulings that struck down housing covenants in 1948 and segregated schools in 1954.

In the 1960s, the Latino community population was small but dense, and in 1969, Mayor Walter Washington initiated the first large-scale Latino festival, called "Spanish Day Festival" or "Fiesta Espagnol," which was held at Fort Reno in the summer of 1969. The Mayor issued a "...proclamation that declared the last Saturday in July to be Spanish Heritage Day" (Cadaval 1998: 65). The festival served as the closeout event for "Summer in the Parks," an NPS initiative focused on developing community-oriented programming for residents of the D.C. metropolitan area. Co-produced by the Inter-American Agency, the Coordinating Council for the Spanish-Speaking Community of the Washington Metropolitan Area, and the Neighborhood Planning Council, the event showcased the growing diversity of the Latino community. To that point, it was the largest gathering of the Latino community of Washington, D.C. Described in a *Washington Post* article as a "panoply of nations," the festival had representation from various Latin American nations including Mexico, Paraguay, Argentina, and Ecuador.

The H-Street Riots of 1968 following the assassination of the Rev. Dr. Martin Luther King, Jr., devastated the nearby 14th Street corridor, and caused some residents to leave. The resulting low housing prices attracted a diverse mix of young people, artists, musicians, and families fleeing political and economic turmoil in Central America, Southeast Asia, and elsewhere. By the 1970s, Mount Pleasant and nearby Adams Morgan were recognized as the heart of the Latino immigrant community and centers for group houses and counter-culture politics.

In 1991, ongoing tensions between the Latino community in Mount Pleasant and city police boiled over. A shooting incident between a police officer and a Latino community member set off street protests, riots, and a curfew. The Mount Pleasant riots also marked the beginning of the shift of Latinos out of the city. From the 1990s through the mid-2000s, the Latino population explosion began moving to close-in suburbs, in direct contrast to the 1970s and 80s, when Latin American immigrants concentrated in the neighborhoods of Mount Pleasant, Columbia Heights, and Adams Morgan.

Continuation of population explosion and suburbanization

The core Latino/Hispanic neighborhoods in the center of the District continued to grow, although more slowly, through the 1970s and 1980s, but the countries of origin dramatically shifted⁶³ as did residential choices. During the 1970s and 1980s, civil wars and social and economic strife resulted in the growth of immigrants from El Salvador, Guatemala, Honduras, and Nicaragua. Latinos from these civil war-torn, natural disaster, and gang violence-ridden central American countries have increasingly immigrated to

⁶³ As of the 2000 census, the Mount Pleasant-Columbia Heights-Pleasant Plains-Park View neighborhood cluster in D.C. had the highest number of immigrants (15,000) and highest share of foreign born (nearly one-third of the population) of neighborhoods. Salvadoran immigrants are nearly half of the immigrant population (48.6% of the total), with much smaller percentages from Vietnam (5.7%) (Singer 2003:10).

SECTION 4.3: Hispanic Ethnohistory

the National Capitol Region, settling in fairly concentrated Maryland suburbs in Montgomery and Prince George's Counties; and Virginia's Arlington and Fairfax Counties.

The Pew Hispanic Center documented this trend of suburbanizing and noted that, "Montgomery County, Fairfax and Prince George's each had as many or more Latin American immigrants than the District." In the 2000s, the trend of out migration continued as Latinos began leaving even the ringed suburbs of D.C. for the outer suburbs. Pew notes that the D.C. population of Latinos begin to shrink, and that also suburban areas in Arlington County and Alexandria have lost Hispanic residents. Indeed, many of the 'metropolitan counties' that have experienced the fastest rate of growth in their Hispanic population in this decade are either suburbs (now including the outer suburbs) or small or mid-sized cities. For example, the fastest-growing Hispanic county in the country in the current decade—Frederick County, Virginia, whose Hispanic population has more than quadrupled since 2000—is in a small-city metropolitan area adjacent to Washington, D.C." (Fry 2008).

The Washington, D.C. metropolitan area has the 12th largest Latino population in the country, with more than 900,000 individuals, or approximately 15.3% of the region's population. According to a Pew Hispanic report, the majority of Latino immigrants in the metropolitan area are from El Salvador, Mexico, and Guatemala. Some 53.1% of the region's Latinos are foreign born, and 20.4% are 18 years old or younger. The D.C. metropolitan area is also home to the nation's largest population of Latinos of Bolivian origin. Most of the region's Latinos rent rather than own, and spent more than 30% of their household income on rent.

Overall, the region has one of the highest standards of living for Latinos in the country, with the highest number of Latino college graduates among adults in the nation. However, this region, unlike other eastern seaboard cities, lacks a traditional industrial base to attract migrants looking for employment. Therefore, most Latinos end up working in construction and restaurants; the service sector is a common outlet for labor. Persons of Latin American origin live throughout the region, but primarily in the counties of Montgomery and Prince George's in Maryland, and Arlington, Fairfax, Prince William, and Loudoun counties in Virginia. Prince William County has seen some of the most dramatic growth, with the Latino population tripling between 2000 and 2006. And although there is no firm number, many of these Latinos speak languages aside from just Spanish and English. One account found that at least 20 indigenous languages communities with Latin American roots (e.g., *Quechua*, *Ixil*, and *Kichwa*) are spoken in and around the District.

In recent years, the growth of Hispanics in the Washington metropolitan suburbs surpassed the growth within the District neighborhoods that had long been the pulse of the Hispanic community. This is not surprising, since the number of immigrants in the Washington, D.C. metropolitan area has the region has *quintupled* over the 30-year period from 1970 to 2000 (Singer 2003: 2), and there simply is no more room in the already-dense central city neighborhoods. The growth in the suburbs is fueled by both the out-migration of second-generation Hispanics to the suburbs (reflecting the economic vitality of the Latino community and the attainment of entrance, for some, to the middle class), and the robust growth of immigration from Latin American, Central America, and Mexico. In the state of Maryland, for example, 39.6% of the foreign-born population is from Latin America.⁶⁴ A recent study done for current D.C. Mayor Marian Bowser shows that within the District, Latinos are the largest immigrant group, with

⁶⁴ <http://dls.maryland.gov/pubs/prod/InterGovMatters/InterImm/2016-International-Immigration-to-Maryland.pdf>, accessed May 18, 2019.

SECTION 4.3: Hispanic Ethnohistory

about 34% of the immigrant population.⁶⁵ In 2016, the Smithsonian Anacostia Community Museum opened a new exhibit called Gateways/Portales. The exhibit celebrated the region’s role as an entrance for migrating Hispanics and the diversity of the Hispanic population in the region.

Currently, the American Immigration Council reports that the top countries of origin for immigrants in the District were El Salvador (15.3% of all foreign-born immigrants), China (4.9%), Ethiopia (4.7%), Mexico (4%), and India (3.9%).⁶⁶ In the D.C. metro area as well, El Salvador tops the list of immigrant groups, at about 12.6% of the region’s total immigrant population, with over 100,000 persons (Singer 2003:8)—twice the percentage of the next largest immigrant group. Similarly, in Maryland, El Salvador is the leading country of origin, with Salvadorans accounting for 11.8% of the foreign-born population.

Table 4.3.1
Top-ranked Countries of Birth, Washington Metropolitan Area, 2000
(Total population of foreign-born = 832,016)

Rank	Country	Percent of Total Foreign-Born Population
1.	El Salvador	12.6%
2.	Korea	5.5%
3.	India	5.5%
4.	Vietnam	4.5%
5.	Mexico	3.9%
6.	China (including Hong Kong)	3.9%
7.	Philippines	3.8%

Source: excerpted from Singer, 2003, Table 4, p. 8⁶⁷

“Clustering” of immigrants into the same neighborhoods is relevant to the question of whether there are “fishing communities” composed primarily or exclusively of Salvadoran, Vietnamese, or Filipino residences. It is clear that by 2010, there were cities and census designated places (CPDs) where Salvadoran, Vietnamese, and Filipinos tended to concentrate, even if they were not in the majority.

In Maryland, the most well-known neighborhoods of residence of Hispanic/Latino families are the Silver Spring, Takoma Park, Wheaton, Langley Park and Hyattsville neighborhoods. Substantial proportions of Salvadorian live in these areas, just across the northeast border of the District. Specialized restaurants, such as *pupuserías*, as well as Latino-owned grocery stores, such as Mega Mart, are common.

Silver Spring, for example, in Maryland’s inner suburbs, has nearly 27,000 immigrants, with 35.2% being foreign-born. Salvadorans are the largest group at 22.4%, followed by a much smaller proportion of immigrants from Ethiopia (5.6%) and Vietnam (5.4%), then followed by West African and Guatemalan immigrants. Langley Park, in the same cluster of inner suburbs, has nearly two-thirds of the population

⁶⁵ Again, in this study, Latinos were defined as peoples from South America, Central America, Mexico, and Spanish-speaking islands in the Caribbean and Puerto Rico. Tatian, McTarnaghan et al. 2018.

⁶⁶ <https://www.americanimmigrationcouncil.org/research/immigrants-in-washington-dc>, accessed May 18, 2019.

⁶⁷ A Brookings Institution report in 2003 analyzed immigrant trends in the National Capitol Area and provided a ranking of the top 30 countries of origin of foreign-born persons in the D.C. metro area. The top seven are presented in Table 4.3.1. Although this ranking is from the 2000 U.S. Census, more recent studies reflect similar rankings of country of origin, with the exception of Ethiopia, which now ranks third, ahead of Mexico (Singer, et al. 2003).

SECTION 4.3: Hispanic Ethnohistory

being foreign-born. Latinos are the largest immigrant group, with 39% from El Salvador and another 31% coming from Guatemala, Mexico, and Honduras. Another 6% come from Jamaica (Singer 2003:8).

Those from El Salvador comprise about 40% of all Latino immigrants, both within the District and in the suburban metro area at large, at. An Urban Institute report for the D.C. Mayor provided the following ranking of countries of origin from the 2012-2016 American Community Survey (Table 4.3.2).

Salvadorans make up the largest group of the D.C. metro region's foreign-born population, at 12% (2000); and Salvadorans make up almost 40% of Latino/Hispanic immigrants (2012-2016).

Table 4.3.2
Country of Origin, Latino Immigrants in the District of Columbia, 2012-2016⁶⁸
(Total population of Latino immigrants=37,100)

Country	Percent of Latino Immigrants
El Salvador	38%
Mexico	8%
Guatemala	8%
Puerto Rico	5%
Honduras	5%
Dominican Republic	5%
Colombia	5%
Brazil	4%
Peru	4%

Source: Urban Institute

4.3.2 Social indicators and fishing

In our study sample of fishermen, we found that among all ethnic groups, Latinos (all of whom were immigrants or children of immigrants) were most likely to be food insecure; that is, they worried about putting food on the table, or there were times in the last year that some in their households did not have enough to eat. The following social indicators from the U.S. Census (2012-2016 ACS) corroborate the possibility.⁶⁹

Renters. Most Latinos (69%) in the District were renters. Forty-six percent of D.C. residents spent 30% or more of their income on rent, and 25% of residents spent 50% or more. The neighborhoods of Mount Pleasant, Cathedral Park, and 14th and U Streets NW are experiencing a high rate of in-migration of young professionals, the development of high-rise condos, and a very tight housing market, exacerbating the problems of immigrants with less than median incomes. The same processes of transition and gentrification that pushed out African American families in the SW and SE neighborhoods is putting similar pressure on low-income immigrants and other low-income residents in inner District

⁶⁸ <https://www.urban.org/stateofdcimmigrants>.

⁶⁹ The data were compiled by the Urban Institute using American Community Survey data (2012-2016), updating the 2000 Census data. <https://www.urban.org/stateofdcimmigrants>.

SECTION 4.3: Hispanic Ethnohistory

areas that once had more affordable housing. The high costs of housing in D.C. has hit many households hard—renters in particular—forcing residents to spend a large portion of their income on housing. About 44% of immigrant renters spent more than 30% of their income on rent, utilities, and other housing costs in 2012–16 (<https://www.urban.org/stateofdcimmigrants>).

Occupations. Latino immigrants most frequently held jobs in building and grounds cleaning and maintenance (23%), followed by food preparation and serving (17%), and construction and extraction/demolition work (12%). The top occupational category for AAPI and Caribbean immigrants was in management, business, science, and arts (the same as for D.C. workers overall) representing 17% of AAPI workers and 13% of Caribbean workers. African immigrants were most likely to work in transportation and material moving (14%), and sales and related jobs (12%), followed by office and administrative support jobs, and management, business, science, and arts jobs (8% each).

Unemployment. The unemployment rate for Latino workers ages 16 and older was 6.5%, lower than D.C.'s overall rate of 8.7%. Many Latino immigrants work in low-wage jobs, specifically, as mentioned above, in the service and maintenance industries. Among all immigrants in the labor force, 6.3% were unemployed in 2012–16. African immigrants in the labor force were at 9.9% unemployment; Caribbean immigrants were at 8.0%; and the AAPI rate was 3.3%. The figures reported here are from the 2012–2016 ACS census; nonetheless, the researchers would like to point out that unemployment figures vastly underreport actual unemployment for a variety of factors, many of which are specific to immigrant status in the United States.

https://www.urban.org/sites/default/files/publication/99031/state_of_immigrants_in_dc_brief.pdf

Wages. Wages tended to be slightly more modest for immigrant workers compared with D.C. workers overall. The share of workers earning under \$10,000 per year was similar for immigrants and all District workers (13 to 14%). And although immigrant workers were more likely than all D.C. workers in general earn annual incomes between \$10,000–\$49,999, they were also less likely to earn \$100,000 or more a year than all D.C. workers (<https://www.urban.org/stateofdcimmigrants>).

Overall, the Latino/Hispanic communities appear by multiple measures to be vulnerable to vicissitudes in the economy, to lapses in construction contracts, and lower than average wages. The poorest Hispanic communities in the District are under enormous housing pressure, and Latinos pay more of their household income for housing than other ethnic groups, at the same time that wages are slightly less than for the overall D.C. metro area. While about 80% have health insurance, it is distributed unevenly across the population. Twenty-three percent of male Latino immigrants are uncovered, compared with 10% of female Latino immigrants. As the Urban Institute report says, with the high cost of living in the D.C. metro area, even people who have slightly above-average incomes may have difficulties in getting necessities. Thus, it makes sense to fish for food when the future is precarious, supplementing the family's food supply while enjoying time out of doors.

4.3.3 Latinos and the outdoors

In 2015, the Recreational Boating & Fishing Foundation published a Special Report on Fishing. The report found that although Hispanics made up 10.7 % of the fishing population, they averaged more than 25 fishing outings a year, an amount that was six days more than the overall average. For immigrants coming from Latin America, and in particular Central America (Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama), fishing is a cultural activity that links them to similar cultural traditions from home. As described by one Hispanic fisherman:

SECTION 4.3: Hispanic Ethnohistory

“Well, I was born and raised in DC, I never moved out of the state, and, well, it’s a beautiful place to explore, the tourists love it here, you know, it’s right in our backyard, you know. And how I got into fishing is like my uncle got me into this with his little bottle technique, which I’m about to explain to you guys. It’s a technique that came from my country El Salvador, I mean not just from El Salvador, from Central America. It’s like basically a way for people...to get fish.” (Hispanic fisherman with his family at Hains Point)

This brief historical and contemporary sketch provides data as background for our sample of Hispanic subsistence fishermen, as it relates to their residential concentrations, household incomes, and food security vulnerabilities. This analysis and others underscore how immigration trends are changing the population base in the D.C. metro area, and, ultimately, the user groups in state and national parks who use resources there. We recommend further study into immigrant groups who fish on the Potomac and Anacostia rivers, and consideration of how regional development⁷⁰ will enable or discourage fishing for these groups.

References

American Immigration Council. <https://www.americanimmigrationcouncil.org/research/immigrants-in-washington-dc>, accessed May 19, 2019.

Cadaval, Olivia. 1998. “Creating a Latino Identity in the Nation’s Capital: The Latino Festival.” In “Emerging Voices: Political, Social, Cultural and Legal Issues.” Antoinette Sedillo Lopez, Editor. New York: Garland Publishing, Inc.

Fry, Richard. October 2008. “Latino Settlement in the New Century.” Washington, DC: Pew Hispanic Center. <http://www.pewhispanic.org/2008/10/22/latinos-account-for-half-of-us-population-growth-since-2000/>.

Singer, Audrey. 2003. “At Home in the Nation’s Capital: Immigrant Trends in Metropolitan Washington.” Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy. 20 pp. <https://www.brookings.edu/wp-content/uploads/2016/06/immigration-1.pdf>.

Smith, Kathryn Schneider (editor). 2010. “Washington at Home: An Illustrated History of Neighborhoods in the Nation’s Capital.” Baltimore: Johns Hopkins University Press, second edition.

State of Maryland. 2016. “International Immigration to Maryland. Demographic Profile of the State’s Immigrant Community.” Annapolis, MD: Department of Legislative Services, Office of Policy Analysis, Maryland General Assembly. <http://dls.maryland.gov/pubs/prod/InterGovMatters/InterImm/2016-International-Immigration-to-Maryland.pdf>.

Tatian, Peter A., Sara McTarnaghan, Olivia Arena, and Yipeng Su. 2018. “State of Immigrants in the District of Columbia. Data Profiles of Immigrants from Latin America, Asia, Africa, and the Caribbean.” Washington, D.C.: The Urban Institute, Report for Mayor Marian Bowser, District of Columbia, 21pp. <https://www.urban.org/stateofdcimmigrants>.

⁷⁰ Construction and development in the Southwest, Southeast, and Anacostia waterfront areas are already displacing some subsistence fishermen, who complain about access to favorite fishing sites where fences and construction equipment prevent them from getting to the water. One historic and traditional site has been recently closed and is in transition (Buzzards Point)—a good time for community input on planning for the future. Hains Point and the Fletcher’s Boathouse area north of the boathouse are favored spots for Hispanic families to fish. Hains Point is threatened by long-term sea level rise and tidal flooding, both of which erode the perimeter sidewalks. These may also gradually threaten the ability to fish safely and access the Potomac shoreline, Washington Point, and East Potomac Park. It is hoped that there are long-range plans to maintain and encourage fishers, fishing, and general use of Hains Point.

SECTION 4.3: Hispanic Ethnohistory

Ibid. 2018. "State of Immigrants in the District of Columbia Data Profiles of Immigrants from Latin America, Asia, Africa, and the Caribbean." December 2018. Washington, D.C.: The Urban Institute, online interactive report. https://www.urban.org/sites/default/files/publication/99031/state_of_immigrants_in_dc_brief.pdf.

Additional Resources

Peña, Elaine A. 2010. "Latino D.C. History Project. Synopsis and Prototype Case Study Phase 1 (2009-2010)." Smithsonian Latino Center. Principal Investigator: Dr. Elaine A. Peña. http://www.latino.si.edu/pdf/phase_1_latino_dc_history_project_pena.pdf.

Sprehn-Malagonm, Maria, Jorge Hernandez-Fujigaki, and Linda Robinson. 2014. "Latinos in the Washington Metro Area." Charleston, SC: Arcadia Publishing.

The epicenters of residential growth for both Latino/Hispanic and AAPI immigrants have moved to the close-in suburbs, and now the distant suburban areas, of Virginia and Maryland in the post-1970s immigration period.

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

4.4 Asian American and Pacific Islander Communities

The AAPI (Asian American and Pacific Islander) communities in Washington, D.C.'s metro area are growing rapidly. The resurgence, growth, and diversification began in the 1970s and continues today (Singer et al. 2003; Tatian et al. 2008).

Historically, the District of Columbia has had a “Chinatown,” located downtown approximately around H Street NW and 7th to 9th streets NW, marked by Chinese-inspired archways that bookend the main commercial streets at the east/west ends of the area. D.C.'s Chinatown is a legacy of the earliest wave of Chinese immigration—Chinese men who had migrated to the west coast and who gradually worked their way East in the mid-1880s, and established businesses near Pennsylvania Avenue and the now-demolished Central Market.

“By 1936, 800 people—including 32 families—were living in Chinatown. They established Chinese schools, clubs, and entertainment facilities. Chinatown also had a number of community organizations, including family associations to provide social services and support, district associations to settle disputes, and civic or merchant associations.” (<https://www.nps.gov/places/dc-chinatown.htm>)

The neighborhood grew steadily over the 100-year period, and has been the vital center of D.C.'s Chinese community and the hub of Asian social life. The area has been home to numerous Chinese restaurants, grocery stores, residences, and places of worship. A smaller population of Chinese residents remains today, as the next generation of Chinese and other Asian immigrants move into the close-in suburbs in Virginia and Maryland. The restaurant base in old Chinatown is beginning to diversify into Thai and Vietnamese restaurants, among others.

A number of factors have contributed to the changing character of Chinatown in the District: The 1968 H Street riots after Dr. Martin Luther King Jr.'s death, higher housing and commercial rents from continual redevelopment pressures, and moves to the suburbs by younger generations to less dense and cheaper housing. As an example of these pressures and attempts to accommodate long-time Chinese residents, “In the early 1980s, the D.C. government built a new convention center between 9th and 11th streets, displacing many Chinese residents living in the area. To provide housing for the displaced residents, Chinese community groups worked together to build the Wah Luck House apartment building at the corner of 6th and H Streets NW. Designed by noted Chinese American architect Alfred Liu, the apartment building uses modern Chinese design motifs and also features a Chinese garden with pathways and seating.”⁷¹

In the post-1970 immigration period, the epicenter of growth for AAPI immigrant families has moved to the suburbs, particularly the Virginia suburbs for Vietnamese and Filipinos—the two AAPI groups in our sample fishermen and fisherwomen. Vietnamese have been attracted to Washington, D.C. because of the abundance of government, military and defense-related jobs, and the opportunities to own their own businesses in an area with critical numbers of Vietnamese and other Asians to support them. Neighborhoods, such as those dubbed “Little Saigon” in Clarendon, and later the popular and expansive Eden Center, in Falls Church, Virginia, are Vietnamese-focused hubs of economic and social activity that

⁷¹ Chinatown is part of the National Register of Historic Places-listed Downtown Historic District, in Washington D.C.'s original downtown. The NPS has posted a more detailed history of the District's Chinatown at <https://www.nps.gov/places/dc-chinatown.htm>.

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

have developed in the 1980s and 1990s.⁷² The Eden Center is predominantly Vietnamese-owned businesses; retail and grocery shops and multiple restaurants that are constantly written up in D.C.'s dining and food magazines. Right up the road in Fairfax is the "Super H Mart," which is a Korean grocery store chain that caters to pan-Asian tastes; the large "Super H Mart" stores and restaurants draw residents and tourists from the entire D.C. metro area. The stores are well-known to all peoples of Asian heritage, and especially those who cook in the Asian community, namely chefs, restaurant suppliers, and the cooks in AAPI families, as "the place" to get bitter melon or live fish for the restaurant aquarium.

Our sample of AAPI fishermen (n=7) turned out to be first or second-generation immigrants from the Philippines and Vietnam. They were not sons or daughters of earlier waves of Chinese or Japanese American families, but were recent immigrant families and individuals, and they brought their love of fish and fishing. One Filipino fisherman told us that he loves to fish on the Potomac because, "back home, in my country, we got our fish fresh that day from the river or the ocean," thus his love of very fresh fish and fishing. Another younger fisherman said his family was in the U.S. military, so he had lived all over—Hawaii, California, and now here—and as a consequence he grew up fishing with his father and family in many different places. Many Asian fishermen and in one case, their mother who was fishing with them and had organized the fishing trip, told us of the dishes they prepared with the catfish or striped bass they caught. It is a well-known stereotype that East Asians like fish and enjoy it cooked in many different ways.

The following paragraphs provide a brief historical note on Asian immigration and its often-checked past in this country, in order to put the current immigration and their neighborhoods in context. The first wave of Chinese immigration in 1848-1865 was to the west coast (California, Washington, and Oregon), and much later to Hawaii. Chinese immigrants, the bulk of whom were single men, left the political uncertainty in coastal provinces of southeast China for economic opportunity in California during the gold rush, and to work as laborers on the Transcontinental Railroad. Some enterprising individuals made their way to cities on the east coast, such as D.C., where they helped to establish Chinatown in the District. As the economy tightened after the U.S. Civil War, racial animosity toward Chinese immigrants heightened in California and at the federal level, resulting in the Chinese Exclusion Act of 1884, which banned all immigration from China.

Soon after Chinese immigration, Japanese immigrants followed—the majority between 1885 and 1924—only to face increasing and renewed racial animosity against Asians and legal restrictions on land ownership, miscegenation, and naturalization. In 1924, the National Origins Act banned all immigration from east Asia. During World War II, the bombing of Pearl Harbor resulted in the forced removal of Japanese American families to detention camps and the effective liquidation of their property and assets.

The first wave of Filipinos began arriving in the U.S. in the 1920s to fill labor shortages in agricultural fields of Hawaii and in California—the shortages ironically caused in part by legal restrictions on the other major labor pool, Japanese migrants (Matsouka and Ryujin 1991:128). While the U.S. east coast had immigration from eastern Europe, Ireland, and England during the same time period, it is worth

⁷² <https://wamu.org/story/19/02/25/this-is-how-the-eden-center-became-a-hub-for-vietnamese-in-virginia/>, accessed August 2019.

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

noting that Asian immigration was primarily to the west coast, and through San Francisco at Angel Island, the “Ellis Island of the West.”⁷³

In mid-century an immigration watershed occurred with the 1965 Immigration Act and Naturalization Act, which, after 50 years, loosened exclusionary immigration rules and dramatically changed Asian immigration and demographics in the United States. Effectively, it set quotas by country of origin, and Taiwan, Hong Kong, and mainland China were treated as separate countries. Chinese immigration increased steadily; it also provided unlimited family reunification visas, which were important ways to gain immigrant status.

Although Filipino immigration started early in Hawaii and California, after WWII a second wave of immigration ensued in many states. By 2016, there were 50,609 Filipinos who obtained legal permanent residency. Of this group, most were new arrivals (66%), but 34% were immigrants who adjusted their status while in the United States.⁷⁴

The war in Vietnam ended in 1975 and the fall of Saigon ushered in waves of migration; one of the earliest waves was individuals who were connected to the U.S. or South Vietnamese governments, and who feared the heavy hand of communist dictatorship. A second wave, about 1978 to the mid-1980s, involved the well-known “boat people,” who fled on overcrowded boats to escape the famine and hardship of “re-education” refugee camps and the political instability of the communist regime. In response to the refugee crises, the United States passed the Refugee Act of 1980, which eased restrictions on the entrance of Vietnamese refugees. Between 1981 and 2000, the United States accepted over 531,000 political refugees and asylum seekers.⁷⁵ Vietnamese refugees initially scattered through the country where they found sponsorships, but most settled in California, then Texas, with smaller groups in other states, from Pennsylvania to the District of Columbia. According to a report by Kim O’Connell (2016), more than 130,000 refugees moved to the United States between 1975 and 1978. O’Connell also quoted a 1979 *Washington Post* article that estimated that as many as 20,000 moved to the D.C. area, making it the third-largest concentration of Vietnamese immigrants in the country behind only Southern California and Houston, TX (O’Connell 2016). The most current estimate (Wikipedia 2019) estimates that the three largest Asian groups immigrating to the United States overall are Chinese, Indians (south Asians), and Filipinos.⁷⁶

Little Saigon, in Clarendon (VA) and later the Eden Center, in nearby Falls Church (VA) became hubs of Vietnamese business and social activity for Asian Americans in the D.C. metropolitan area.

⁷³ Angel Island is now a state park, commemorating the memories and experiences of Chinese and Japanese immigrants during the period of restricted immigration and those who were held there as their cases for immigration were determined.

⁷⁴ Department of Homeland Security (DHS) quoted in Wikipedia, “Immigration from the Philippines to the United States in 2016.” https://en.wikipedia.org/wiki/History_of_Filipino_Americans, accessed August 2019.

⁷⁵ Wikipedia. https://en.wikipedia.org/wiki/History_of_Filipino_Americans, accessed August 2019.

⁷⁶ Wikipedia. “History of Vietnamese Americans.” https://en.wikipedia.org/wiki/Vietnamese_Americans, accessed August 2019.

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

Returning to a discussion of AAPI immigrants in the Washington, D.C., metro area, Asian American and Pacific Island countries account for 36% of foreign-born persons in the metro area, the second-largest group of immigrants after Hispanics (Singer 2003:1). The top seven countries of origin, based on 2000 census data, are Vietnam, China, and the Philippines (see Table 4.4.1 below, which is a duplicate of Table 4.3.1 in the Latino/Hispanic section.)

Table 4.4.1
Top-ranked Countries of Birth, Washington Metropolitan Area, 2000
(n=832,016)

Rank	Country	Percent of Total Number of Foreign Born
1.	El Salvador	12.6%
2.	Korea	5.5%
3.	India	5.5%
4.	Vietnam	4.5%
5.	Mexico	3.9%
6.	China (including Hong Kong)	3.9%
7.	Philippines	3.8%

Source: (excerpted from Singer, 2003, Table 4, p. 8)⁷⁷

In recent decades, the metropolitan region's AAPI population has begun growing again, after the end of the Vietnamese War and surge of Vietnamese refugees. AAPI immigrants in D.C. grew from 11,800 to 14,400 between 2000 and 2012–16, an increase of 22%; but the biggest increases in the number of AAPI immigrants since 2000 were from China, India, and Korea.⁷⁸

AAPI immigrants have tended to settle in neighborhoods in the inner suburbs, although some families still start in the downtown areas of the District. The D.C. neighborhoods of Mount Pleasant and Columbia Heights still serve as gateway neighborhoods for Vietnamese, although many fewer Vietnamese start there compared to inner suburb areas. There were small pockets in the Logan Circle/Shaw and North Cleveland Park neighborhood clusters as well (Singer et al. 2003).

Virginia's inner suburb of Clarendon (Arlington County) hosted the first Vietnamese neighborhood, nicknamed Little Saigon because of the predominance of Vietnamese residents, restaurants, and stores. O'Connell estimates that the years of 1975-1979 were a high point of immigration and settlement in the area (2016). As more and more Vietnamese residents arrived, by 2000 they had expanded their settlements into Fairfax County and the neighborhoods of Seven Corners and Annandale. Fairfax County had the highest proportion of Vietnamese, at 18.9% of foreign-born; followed by Seven Corners and Springfield, but Vietnamese are spread widely across the county, including in the neighboring county of Arlington.

⁷⁷ A Brookings Institution report in 2003 analyzed immigrant trends in the National Capitol Area and provided a ranking of the top 30 countries of origin of foreign-born residents in the D.C. metro area. The top 10 are presented in Table 4.3.1 and 4.4.1. Although this ranking is from the 2000 US Census, more recent studies reflect very similar rankings of country of origin, with the exception that Ethiopia which now ranks third, is ahead of Mexico (Singer, et al. 2003).

⁷⁸ Urban Institute. December 2018. "State of Immigrants in the District of Columbia."
https://www.urban.org/sites/default/files/publication/99031/state_of_immigrants_in_dc_brief.pdf.

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

Seven Corners is a well-known hub of the Asian residential and business community, with the popular restaurant named Mark's House of Duck a major draw across the pan-Asian and multi-ethnic communities that are becoming the fabric of the District and Virginia suburbs. Seven Corners has a large percentage of mixtures of immigrant groups, such that nearly two-thirds of the population is foreign born (Singer 2003:9). Seven Corners' population also includes a predominance of Salvadorans (30%), but 16% were from Vietnam in 2000 (a very high percentage), while Guatemala, Bolivia, and India contributed 7%, 6%, and 3%, respectively (Singer 2003: 15. Appendix A).

Annandale, a neighborhood in Arlington and also a close-in Virginia suburb, has nearly 19,000 immigrants who make up 34.5% of the total population. Immigrants from Vietnam are about half of the total of foreign-born population (15.6%), followed by Korea (15.2%), and then Bolivia, El Salvador (7.9%), India, and others.

In Maryland, Montgomery County had 8.2% Vietnamese in White Oak, followed by similar proportions in Glenmont and Wheaton (Singer 2003:15, Appendix A).

Focusing for a moment on immigrants from the Philippines, the seventh-largest group of immigrants in the D.C. metro area, we find they tend to live intermixed with other Asian, south Asian, and Latino immigrants in Virginia. In Fairfax County, VA, the communities of Springfield (7.8%), Groveton (5.7%), and Burke (6.3%) have large populations of Filipinos; for Centreville, a far outer suburb, the figure is 6.4%.

In Maryland, there are concentrations of Filipinos in Montgomery Village and Potomac (both 4.9%) (Singer 2003, Appendix A). In the District, residents from the Philippines concentrate in the "North Cleveland Park/Van Ness/Forest Hills" neighborhood cluster (4.5%); they are 6.9% of the foreign-born population of the "Cathedral Heights/McLean Gardens/Glover Park/Massachusetts Avenue Heights" neighborhood cluster.

The following demographic picture of the AAPI community is derived from D.C. households only. It does not represent the trends in suburban Virginia and Maryland, but it has more recent information than other demographic reports (Bulleted data are from Tatian, et al. 2018:5-11):

- For AAPI immigrants, English language proficiency is high, at about 73% (versus 69% for all D.C. immigrants); with few households (14%) that are linguistically isolated, in which the native language, such as Tagalog, is spoken only by people over 14 years of age.
- The top occupational categories for AAPI immigrants are in management, business, science, and the arts (the same as for D.C. workers overall), representing 17% of AAPI workers.
- Unemployment for AAPI was estimated to be about 3.3% in the 2012-2016 ACS census, much lower than the overall D.C. unemployment rate of 8.7%. For AAPI immigrant workers in 2012–16, annual earnings tended to be similar to D.C. workers overall, but they had larger shares at the bottom and top ends of the wage scale.
- AAPI immigrant households are increasingly likely to be smaller than households in D.C. overall, with the share of one- or two-person households growing from 48% to 60% from 2000 to 2012–16. This trend toward smaller households in the District probably reflects the out-migration of children and their children to the close-in suburbs in Virginia and Maryland.
- Only 8% of AAPI immigrants lacked health insurance, one of the lowest rates among D.C.'s ethnic groups

SECTION 4.4: Asian American and Pacific Islander Ethnohistory

References

- Blitz, Matt. n.d. "This Is How The Eden Center Became A Hub For Vietnamese In Virginia." WAMU 88.5 American University Radio. <https://wamu.org/story/19/02/25/this-is-how-the-eden-center-became-a-hub-for-vietnamese-in-virginia/>, accessed on line August 19, 2019.
- O'Connell, Kim A. 2016. "Echoes of Little Saigon. Vietnamese Immigration and the Changing Face of Arlington." 26 pp. Arlington, VA: Virginia Foundation for the Humanities. <https://virginiahumanities.org/wp-content/uploads/2016/09/Echoes-of-Little-Saigon.pdf>, accessed July 2019.
- Matsouka, John K. and Donald H. Ryujin. 1991. "Asian American Immigrants: A Comparison of the Chinese, Japanese, and Filipinos." *The Journal of Sociology & Social Welfare* 18 (3) article 8: 123-133.
- Singer, Audrey. 2003. "At Home in the Nation's Capital: Immigrant Trends in Metropolitan Washington." Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy. 20 pp. <https://www.brookings.edu/wp-content/uploads/2016/06/immigration-1.pdf>.
- Tatian, Peter A., Sara McTarnaghan, Olivia Arena, and Yipeng Su. 2018. "State of Immigrants in the District of Columbia: Data Profiles of Immigrants from Latin America, Asia, Africa, and the Caribbean." December 2018. Washington, D.C.: The Urban Institute. On-line interactive report. https://www.urban.org/sites/default/files/publication/99031/state_of_immigrants_in_dc_brief.pdf.

5.0 RESEARCH DESIGN AND METHODOLOGY

Section 5.0 provides the rationale behind the research design that was developed for the Potomac-Anacostia subsistence fishing study and the process the Research Team used to undertake the study.

5.1 Background

The research design for the joint UMD/NPS project titled “Ethnographic Resource Study: Subsistence Fishing on the Potomac and Anacostia Rivers” uses a multi-method approach; it combines primary qualitative data in the form of transcribed oral histories, and a more formal, inductive statistical analysis using descriptive and bivariate statistics coupled with multivariate tables. In addition, a number of GIS-generated data sets are integrated into the overall analysis, providing not only mapping products but also graphic connections between spatial anchors and behavioral attributes. Finally, formal ethnohistories, detailed for African American and Piscataway groups, have been included. These ethnohistories incorporate an assiduous consideration of the existing secondary literature, and provide a historical context that helps explain the impact of social and economic changes on current fishing and consumptive behaviors.

The process began with the collection and transcription of oral histories that were conducted with fishers in the Potomac and Anacostia river areas managed by the NPS. Participants recruited to provide these oral histories were selected *in situ* as they engaged in fishing activities throughout the Potomac and Anacostia study area. A screening filter was employed during the initial contacts. This conceptual and visual filter attempted to single out fisherfolk who caught and consumed the fish they harvested. In addition, we also wished to know if anglers shared or gave away their harvest to others for consumption. Essentially, the Field Team did a visual check to see if they had coolers or other ways to store the fish, or a string in the water; or whether they had a grill to cook; or multiple poles in the water. This screening was an attempt to eliminate “recreational” anglers who practiced “catch and release,” in order to focus on subsistence fishers. The intent of the research was to identify, describe, and analyze the variety of fisherfolk who used this area. In addition, we wished to explore the family history, socialization, and importance of fishing at these sites for our respondents. Therefore, as described in this paragraph, the sampling design is based on an availability sample and does not assume that its findings are representative of *all anglers* within the study area.

Once potential respondents were approached and tentatively agreed to participate, they were apprised of the project’s research goals and then were requested to sign two informed consent agreements. The dialogue with anglers was guided by an open-ended protocol (see Appendix E) that covered topics such as “how long has the respondent been fishing,” “what do they catch,” “do they eat what they catch,” and “do they share what they catch and if so, with whom?” It must be emphasized that this open-ended protocol is not a survey research questionnaire with forced choice responses. However, an interview and survey research effort was conducted in 2011 on the Anacostia River, primarily around Hains Point and Anacostia (OpinionWorks 2012). The research firm, OpinionWorks, kindly provided this project with an SPSS file (redacted of any personal identifiers) containing the responses to their sample of 111 anglers. The UMD/NPS Research Team has analyzed this file, and its findings are compared with this analysis where informative and appropriate.

All interviews in the UMD/NPS study were digitally recorded in English or Spanish, and then the digital files were transcribed into MS Word documents. The oral histories, once transcribed, were entered into

SECTION 5: RESEARCH DESIGN AND METHODOLOGY

MAXQDA, a qualitative data analysis software package, which allows for the analysis of these histories by coding each transcript using a consistent set of thematic codes (for the codes, see Appendix B). MAXQDA provides a series of tools that allows an analyst to search and organize a variety of qualitative data sets. For example, after coding multiple transcripts, the transcripts can then be searched, organized, and displayed as excerpts of a specific theme, for example, who taught the angler to fish, or how they prepare fish for consumption.

In the first field season, 37 oral history interviews were completed; 44 interviews were completed in Year 2, the second field season, for a total sample of 81 interviews. In addition, after each interview was transcribed and coded into a MAXQDA data set, it was then coded quantitatively into an Excel spreadsheet using a set of 149 variables (see Appendix B).

These spreadsheets were then entered into a program developed in another software package, the Statistical Package for the Social Sciences (SPSS). SPSS data sets allowed for formal statistical analysis of the interview data.

SPSS quantitative data sets provided a number of systematic and consistent outcomes. First, using descriptive statistics, we can describe the fishers by age, ethnicity, how long they have fished, where they live, what fish they catch, what parks they use when they are fishing, how often they fish, and so forth. In addition, as indicated in Section 6.1, a number of bivariate and multivariate tables were analyzed. For example, a review by ethnicity and age of those fishers who catch and consume blue catfish. This data set also allows comparisons with parameters and measures (e.g., means, tests of significance, and correlations) of other research, such as that conducted by OpinionWorks mentioned earlier.

There are two other methodologies employed but not comprehensively discussed in this report. GIS spatial referencing is used to show fishing locations (including park boundaries) and the respondent's home (residential) community. Maps from Year 1 (2015) and Year 2 (2016) are found in Section 8, Park Profiles, within each of the park sections and the Compilation section. In the Findings Section (6.1) the report provides data tables linking census tract attributes (such as ethnicity, income, and housing types) with home community.

The ethnohistorical component of the project is found in Section 4.0 of this report, with ethnohistories of African Americans in Anacostia and Piscataway tribal bands; briefer ethnohistories are provided for the Hispanic/Latino communities, and Asian American and Pacific Island communities in the D.C. metro area.

5.2 Research Process and Project Team

In fall 2015, we kicked off the cooperative agreement with a large public meeting at National Capital Region headquarters, located in East Potomac Park, to which most of the principals in the region had been invited, from the Associate Director on down. The group also included partners and river advocate groups such as Riverkeepers. Jennifer Talken-Spaulling introduced the project, the rationale, the background work that had been done prior to soliciting proposals, and the Project Team. The Project Team laid out plans for the multi-year project, as best we could foresee, and took comments and questions from the group.

SECTION 5: RESEARCH DESIGN AND METHODOLOGY

The next few days were spent on a “familiarization tour” up and down the Potomac and Anacostia rivers, visiting every fishing spot that could be reached within a reasonable time and hike. Accompanying us in the van, depending on the site(s) being visited, were individuals with valuable insight, such as from an ecological point of view or an historical fisheries perspective. These individuals were former contractors or current employees of the NPS. The purpose of the visits was to meet the superintendents, if possible, and cultural resource managers at the major park units, to apprise them of the study, and to walk and hike around some of the sites, like the C&O Canal, which stretches for miles. Along the way, another purpose was to hear from NPS employees who worked on the rivers, about the observations and concerns they had about fishing, fishermen, and fisherwomen on the rivers. Some of the concerns raised were about reports the poaching of protected species in marshlands or illegal commercial fishing on the Potomac.

We also met with major partnering groups, such as the Accokeek Foundation (in Piscataway). After four days of hiking, walking, driving and talking, with the help of our collaborators we identified 53 different fishing sites that fishermen visit in order to catch fish. Some were clearly “high-intensity” fishing spots, while others were seemingly not being used at all, although there was evidence of fishing activity and they were known fishing locations. Some were challenging hikes down through boulder fields to reach the Potomac, while others were strolls in the sluggish green backwaters of the Anacostia near the Aquatic Gardens, where one can easily walk up to the river and drop a line. See section 6.2.1, Fishing Site Sampling Matrix, for a complete listing of all the fishing sites, when they were visited (time of day, day of week, month), and how many interviews were conducted at each.

The Project Team was headed by Principal Investigators Dr. Shirley Fiske and Dr. Don Callaway. Depending on the year, help was provided by up to five part-time research assistants, affiliated with either the NPS or as graduate students at American University or the University of Maryland. In addition, in Year 1, we were assisted by summer interns from the University of Maryland School of Public Health. We greatly appreciate their assistance and the intrepid, dedicated site visits and interviews that they undertook up and down the Potomac and Anacostia rivers. Please see Section 3.0, Introduction, for a list of Field Team members, graduate assistants, their roles, and years.

The Project Team met in spring 2015 at National Capital Region headquarters, conveniently located at East Potomac Park, to develop the open-ended protocol questions that would provide information on the questions of interest to the Park Service and its partners. The team undertook in-house training from SPSS expert Don Callaway, developed codebooks for SPSS and for thematic codes for MAXQDA, and also provided one-day training for the new qualitative software with Ms. Jordan Tompkins, MAA graduate from the University of Maryland. Project Team members completed the required online training in human subjects, consent forms were developed for both the NPS and the University of Maryland, and the IRB approval was requested and granted (2014-2015). The NPS provided digital tape recorders. In follow-on meetings, we incorporated detailed discussions of the sample, statistical reviews of SPSS output, and careful review and enumeration of the MAXQDA data files. At the end of Year 1, a 120-page interim report was submitted. This was followed by Year 2 fieldwork, which eventually was aggregated with the Year 1 interviews and analyzed for the production of the draft final report.

6.0 FINDINGS

In this section, we discuss the multiplicity of findings through fieldwork, interviews, and literature review. Subsection 6.1 (immediately below) covers demographic, social, and fishing data. Subsection 6.2 provides the sampling matrix used for the selection of fishing sites, and includes an example of Field Notes detailing the Field Team's quest in locating subsistence fishermen to interview. Section 6.3 covers multiple ethnographic findings and a discussion, and presents several specific topics, such as the fishermen's motivations for fishing and its significance to them, subsistence, sharing of fish, food insecurity, and concludes with park-associated communities and ethnographic resources.

6.1 Findings. Demographic, Social, and Fishing Data

As mentioned in the methodology section, this research project integrates several different methodologies, including qualitative analysis of oral histories, statistical analysis, GIS, and, finally, the integration of information from secondary data sources. The process begins with the collection and transcription of oral histories that are conducted with fishers in the Potomac and Anacostia river areas. These oral histories are guided by an open-ended protocol (see Appendix E) that covers topics such as the length of time the respondent has been fishing, what it is they catch, whether they eat what they catch, if they share what they catch, and, if so, with whom.

In the field season from 2015 through 2016, 81 oral histories were completed. The oral histories, once transcribed, were entered into MAXQDA, a qualitative data analysis software package, which allows qualitative analysis of the histories by coding each transcript using a consistent set of thematic codes (see Appendix B).

In addition, after an interview is transcribed and coded into a MAXQDA data set, it is then coded quantitatively into a Microsoft Excel spreadsheet using a set of 157 variables (see Appendix F). These spreadsheet data are then entered into another software package, the Statistical Package for the Social Sciences (SPSS). SPSS data sets allow for formal statistical analysis of the interview data.

SPSS quantitative data sets provide us with a number of systematic and consistent outcomes. First, using descriptive statistics, we can describe the fishers by age, ethnicity, how long they have fished, where they live, what fish they catch, what parks they use when fishing, how often they go fishing, and so forth. In addition, we can accomplish bivariate and multivariate analysis, for example, identifying by ethnicity and age those fishers who catch and consume blue catfish. Furthermore, this data set allows the Research Team to compare the parameters and measures (e.g., means, tests of significance, and correlations) with similar research, such as the survey research conducted by the Anacostia Watershed Society and their partners.

It is important to note that this data set is not derived from survey research using a random sample. Typically, survey research attempts to generalize to a population larger than the sample of individuals interviewed, with substantial attempts to select individuals (or households) randomly.

Sampling in the research to be described and analyzed below was not random, but rather individuals were selected by availability (see Section 5.0 on methodology, above). Fishing sites were visited and individual anglers were contacted on-site while fishing. Their consent was requested in providing oral histories (taped and later transcribed) about their life-long engagement in fishing activities. From a

SECTION 6.1: FINDINGS. Demographic Data

sampling and statistical perspective, our results cannot be considered as representative of the general population of anglers who use National Park resources. In fact, technically, one cannot generalize to the population of anglers that use a particular park. However, some fishing sites, such as Hains Point, provided a substantial number of interviews (27) and one might conclude that the park's results are a fairly reasonable representation of the anglers and the activities they engage in for that park. Table 6.1.1 below details the fishing site locations where oral histories were conducted.

The primary question in the SOW is, "Who is fishing along the Park shorelines of the Potomac and Anacostia Rivers?" A general picture of the fishermen and fisherwomen can be gained from the non-random sample we talked with who were fishing along the shorelines. Within these "snapshots," no one person will necessarily have all elements of interest, and there are important differences by ethnicity, gender, age, location of fishing, and targeted species of fish.

6.1.1 The known and the unknown: who is fishing along the Park shorelines of the Potomac and Anacostia rivers?

A composite snapshot would show that if you are fishing in the park units along the Potomac and Anacostia rivers, you are likely to be, on average, about 42 years old. You are also highly likely to be male (89%), to have a high school degree, and perhaps a few years of college or technical training. Most female anglers, however, had some college experience. You are likely to self-identify as African American and your grandparents or earlier generations likely came from the South. You have been fishing on the rivers for a long time—22 years' worth of experience fishing in and around the D.C. metropolitan area. Most likely you got your fishing skills from your father, uncle, or other family member who taught you the basics, and you have positive memories of those experiences. Your mother or grandmother is likely to have taught you how to clean, prepare, and cook the fish. You are likely to have children, and to have taught them to fish, too. You are likely to be a committed fisherman, fishing two to three days a week during your season (66%), and you are likely to harvest blue and channel catfish, striped bass, yellow perch, and shad.

The five species mentioned in the box (blue and channel catfish, striped bass, yellow perch, and shad), account for almost all of the biomass taken out of the rivers. However, in the majority of cases fishermen will not eat the blue cats they catch, but share them with acquaintances, co-workers, other fishermen at the site, or people who need food. When or if they catch a striped bass, however, they will likely consume it or eat it with their own family. All fishermen share their catch extensively, especially if they know someone who is having economic problems or if they have too many fish in their freezer already. Fishers are likely to go fishing on their day off, or during lunch break, or, if retired, they will have more flexibility to choose your times. Most men and women had blue collar jobs such as construction or driving heavy equipment. A few were students in high school or college, on in training (to be a chef or nurse's assistant), and one or two had white collar jobs prior to retirement (e.g., in public education). One was on disability and one simply said he "didn't work." You are likely to be well-enough off to have a car or truck, and to drive to your fishing site; it also means you have enough income to buy rods, lines, and lures or live bait. Many fishermen also did ocean or Chesapeake Bay fishing, in addition to fishing near home or at their favorite river spots.

This section relies heavily on quantitative analyses and data tables. To give the reader more insight into fishermen and fisherwomen as people, the team has added qualitative cameos and vignettes of

SECTION 6.1: FINDINGS. Demographic Data

individual fishermen that are derived from the interviews and Field Notes in MAXQDA. These Qualitative Portraits appear throughout the section 6.1 and section 8.0 with distinctive font type and color to set them apart from the quantitative analyses. They are clearly numbered by section, and have individual titles.

6.1.2 Fishing sites and interview locations

Two-thirds (67%) of all oral histories took place in five locations—Hains Point (Washington Channel and Potomac River sides), Piscataway, Fletcher’s Cove, and Jones Point (highlighted in yellow,⁷⁹ below in Table 6.1.1). One-third of all interviews were conducted at Hains Point—literally, a fishing hot spot.

Table 6.1.1
Fishing Interview Locations

Fishing Location	N	Percentage	Cumulative Percent
Hains Point Washington Channel Side	19	23.5%	23.5%
Hains Point Potomac Side	8	9.9%	33.3%
National Colonial Farm & Saylor Grove Pier	10	12.3%	45.7%
Farmington Landing (Wharf Road)	3	3.7%	49.4%
Ft. Washington Lighthouse Picnic Area	1	1.2%	50.6%
ANAC Entire Waterfront	1	1.2%	51.9%
ANAC Boat Ramp	3	3.7%	55.6%
ANAC Pirate Ship	6	7.4%	63%
ANAC Outfalls	1	1.2%	64.2%
ANAC Riverwalk Trail SE	1	1.2%	65.4%
C&O Canal Great Falls, MD	4	4.9%	70.4%
Fletcher's Cove	9	11.1%	81.5%
Roaches Run	1	1.2%	82.7%
Roaches Run South Culvert	1	1.2%	84%
Gravelly Point	1	1.2%	85.2%
Belle Haven Park	1	1.2%	86.4%
Little Hunting Creek	2	2.5%	88.9%
Riverside Park South of Collingwood	1	1.2%	90.1%
Jones Point Park & Pier	8	9.9%	100%
Total	81	100%	

For quick reference, Table 6.1.2 (following page) aggregates fishing locations where interviews were conducted, with the NPS park units associated with those locations.

⁷⁹ In general, the yellow highlights appearing in the tables refer to points made in the text previously or subsequently, to guide the reader’s attention to those points.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.2
Fishing Interview Locations and NPS Units
 (by park unit associated with that location)

Fishing Location	Number of Interviews and Park Unit Associated with Fishing Locations					Total
	National Mall & Memorial (NAMA)	Piscataway (PISC)	Anacostia Park (ANAC)	C&O Canal NHP (CHOH)	G.W. Parkway S. of 14th St. Bridge	
Hains Point, Washington Channel Side	19	0	0	0	0	19
Hains Point, Potomac Side	8	0	0	0	0	8
National Colonial Farm/Saylor Grove	0	10	0	0	0	10
Farmington Landing (Wharf Road)	0	3	0	0	0	3
Ft. Washington Lighthouse Picnic Area	0	1	0	0	0	1
ANAC Entire Waterfront	0	0	1	0	0	1
ANAC Boat Ramp	0	0	3	0	0	3
ANAC Pirate Ship	0	0	6	0	0	6
ANAC Outfalls	0	0	1	0	0	1
ANAC Riverwalk Trail SE	0	0	1	0	0	1
C&O Canal Great Falls, MD	0	0	0	4	0	4
Fletcher's Cove	0	0	0	9	0	9
Roaches Run	0	0	0	0	1	1
Roaches Run South Culvert	0	0	0	0	1	1
Gravelly Point	0	0	0	0	1	1
Belle Haven Park	0	0	0	0	1	1
Little Hunting Creek	0	0	0	0	2	2
Riverside Park South of Collingwood	0	0	0	0	1	1
Jones Point Park & Pier	0	0	0	0	8	8
Total	27	14	12	13	15	81

The sites where the interviews took place were in five parks that adjoined the Potomac and Anacostia Rivers. As seen in Table 6.1.3 (following page), with respect to National Mall & Memorial (NAMA), which includes Hains Point, 70% (19/27) of anglers interviewed were African American. In contrast, about 45% (6/13) of anglers interviewed at C&O Canal (CHOH), which includes Fletcher’s Boathouse, were Anglo, with an almost equal proportion of anglers being Hispanic (39%). About two-thirds (64%, or 9/14) of the anglers interviewed at Piscataway (PISC) were African American. In general, about half of the Anglo and Hispanic anglers in this sample fished at CHOH while the majority and Native Americans fished at PISC. An eclectic mixture of ethnicities fished at George Washington Parkway South.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.3
Park Unit Interview Locations
(by angler ethnicity)

Park Unit	Angler Ethnicity											
	Anglo		African American		Asian		Hispanic		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
National Mall & Memorial (NAMA)	1	8.3%	19	41.3%	4	57.1%	2	18.2%	1	20%	27	33.3%
Piscataway (PISC)	2	16.7%	9	19.6%	0	0%	0	0%	3	60%	14	17.3%
Anacostia Park (ANAC)	0	0%	12	26.1%	0	0%	0	0%	0	0%	12	14.8%
C&O Canal NHP (CHOH)	6	50%	1	2.2%	1	14.3%	5	45.5%	0	0%	13	16%
G.W. Parkway, South of 14th St. Bridge	3	25%	5	10.9%	2	28.6%	4	36.4%	1	20%	15	18.5%
Total	12	100%	46	100%	7	100%	11	100%	5	100%	81	100%

Looking at the 46 African American fishers at all fishing sites, Table 6.1.4 (following page) below shows that the majority of African American anglers in our sample lived in mixed ethnic communities lacking a majority of any one ethnicity. A majority of Anglo anglers also lived in mixed communities but these communities, while mixed, had an Anglo majority of residents. Nearly all Asian anglers live in mixed Anglo majority communities, while three-quarters of Hispanics did so. More than half of Native American anglers had communities of similar composition. The modal residence for 39% of all anglers (31/79) was residence in mixed communities without sizeable ethnic majorities. The second most frequent residence was mixed communities with Anglo majorities (26/79 or 33%). Two-thirds of all the anglers in this sample come from mixed communities (See yellow highlights in the “Total” column in the table below).

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.4
Angler Ethnicity
(by home community demographics)

Ethnic Demographics of Angler's Home Community	Respondent Ethnicity											
	Anglo		African American		Asian		Hispanic		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
African American majority	0	0%	9	20.5%	0	0%	0	0%	1	20%	10	12.7%
Anglo majority	0	0%	1	2.3%	0	0%	0	0%	0	0%	1	1.3%
Hispanic majority	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
African American, sizable Hispanic	0	0%	1	2.3%	0	0%	0	0%	0	0%	1	1.3%
Mixed	2	15.4%	5	11.4%	0	0%	0	0%	1	20%	8	10.1%
Mixed, no majority	3	23.1%	24	54.5%	1	16.7%	3	27.3%	0	0%	31	39.2%
Anglo, sizable Hispanic	1	7.7%	1	2.3%	0	0%	0	0%	0	0%	2	2.5%
Mixed, Anglo majority	7	53.8%	3	6.8%	5	83.3%	8	72.7%	3	60%	26	32.9%
Total	13	100%	44	100%	6	100%	11	100%	5	100%	79	100%

Before reviewing additional tables, the following Qualitative Portrait of a fishing family will give a more holistic insight into peoples' fishing lives; other, shorter portraits are provided later in the section as well. We also urge the reader to review the Park Profiles for specific parks, which include additional Qualitative Portraits of fishers at specific parks. The Qualitative Portraits are composites derived from the transcripts in MAXQDA, the coded data in SPSS, and fieldnotes taken by the Field Team. The names of individuals have been changed for anonymity.

6.1.2.1 "Yeah, this is my spot." Father and son at Saylor Grove Pier

On a muggy and still summer morning in late August, two men were watching their rods, leaning out over the Potomac River on Saylor Grove Pier (Piscataway Park). They were alone on the pier, since it was early Monday morning, and they were seeing what they could catch, but mainly "relaxing" and hanging out on the river.

They turn out to be father and son, telling us that fishing gives them "peace of mind," and a connection with their family. The father offered, "I guess you would kind of say it's tradition, you know, coming from my dad, my grandma, my brother, so yeah."

They are fishing primarily for catfish and have four tall surf rods lined up on the pier—surf rods let them cast out farther into the river. They are pursuing bottomfish with these rods, using sinkers, "...so it'll drop to the bottom and the fish that feed at the bottom—which are the fish we like to catch—catfish, you know, the scavengers" will go after them. They catch predominantly blue catfish and channel cats—"for

SECTION 6.1: FINDINGS. Demographic Data

every 10 blue [catfish] you catch, you might catch one channel," and they catch yellow perch, but usually return them to the river. They have not caught any snakeheads but have heard they are good to eat. They do not take home many stripers, primarily because they have to meet the size limits in order to take them, but when they do catch one that is big enough, "you're the king of the day," and "...yeah, that's like gold." They take home maybe six rockfish the whole year.

This father and son combination are "high-intensity" fishermen, fishing at least twice a week, and they fish "almost all year round as long as the water isn't frozen." On a good day, "you might fill up the cooler, you know 10, 12 fish; on a bad day, one or two." They catch a fair share of eel, "all the time [laughs], they're irritating!" (They do not eat them.)

If they have too many fish to take with them, they try to give the fish away first before returning them. "You might have some folks [other fishermen] that are out here that keep everything and they are definitely fishing for food, right, to feed. So, if I catch some I'll always ask before I throw them back, 'does anybody want them?' on the deck, yeah." The father explained, "...if we got, you know, some in the freezer and I got an overload here in the cooler, then I'll go pass by my brother's [house] or have them come over [to pick them up], yup."

Darryl is 42 years old and has been fishing since he was about nine, which means he's been fishing on the rivers for 33 years. Dewayne, his son, told us his dad taught him to fish when he was about 11 years old. "When I was young my dad used to fish all the time, so yeah, he got me started."

The fishing came from Darryl's father's side, and he mentioned his grandmother in particular, who passed it along to his father and brothers/uncles, as well as the knowledge of how to prepare and cook fish. Darryl is now a divorced dad, but he has the three boys, a 20-year-old and two teenagers (including Dewayne) living with him. He taught them all to fish. Darryl and Dewayne usually fish together or with his father's older brother, his uncle, who is around 60 years old and, according to Dewayne, runs a computer lab at American University.

They usually do their own cleaning and cooking. "So basically, with a catfish you gotta get the skin off because it's terrible [laughter]. So what we do is pretty much skin it, cut out the big filets and I soak it in vinegar and lemon juice and that takes the wild taste out of the catfish, and cook it up, yup." Soaking it in vinegar makes it a "nice, white fillet" that tastes "like Van de Kamp's [laughter]...like something out of the box." Fishing is a big part of their lives, and during the summer they have regular family events like cookouts on the weekends, where he estimates that 10 or 12 family members come. "I fry it, yeah, yeah I fry it. Occasionally we'll put it on the grill, wrap it up in foil...they love the catfish nuggets, yeah, yeah."

This family of dedicated fishers are not fishing because they have to put food on the table. They depend on it for social occasions and for their own eating, and because they enjoy fishing. Darryl, the father in the family, said it has been 20 years since he had to worry about it, and he now he does not worry at all because "we've been very fortunate." He said his household had enough to eat last year, but he added that "...there's been times..." when he worried a lot about his nephew (his extended family outside of the household), "so when me and my brother would fish and catch a lot of fish, that'd be the first place we would always go."

Ironically, they only discovered the pier at Piscataway as a fishing site a few years ago. Darryl was "coming down to check out the park itself. Saw the sign that said fishing pier, got out and walked down and I've been here ever since." They are now die-hard Piscataway fans, and fish there 90% of the time.

He told us, "Yeah, this is my spot."

SECTION 6.1: FINDINGS. Demographic Data

They go to Anacostia very rarely, but go to Ft. Washington down by the lighthouse maybe once a month. They get to Hains Point fairly often, fishing along the Washington Channel side facing The Wharf. But their favorite spot is right where they are, at Saylor Grove Pier, or, on a nearby bank of the river when it gets too crowded on the pier. They always manage to catch fish there and it is very close to where they live—a five-minute drive for them. Convenience is one of the important draws to Piscataway, “because it’s so close to home, yeah, you know the boys, it’s convenient so....” They never go over to the Virginia side to fish.

Even though they are relative newcomers to Piscataway Park, we asked about their perceptions of the Park and if they had recommendations. “Oh absolutely, yeah... I love it, couldn’t live without it [laughter]. Yeah, they make sure that everything is accessible, they’re very good about letting us know when things are gonna be closed or things of that nature so, ah, man, it’s been a great relationship, yeah, so I don’t know how I could be without it.”

6.1.3 Ethnicity and gender

As Table 6.1.5 indicates, slightly more than half of our interviews were with African American anglers. With respect to gender, 10 of the 81 interviews (12%) were conducted with female anglers.

Table 6.1.5
Angler Ethnicity
(by number and proportion)

Ethnicity	N	Percent
Anglo	12	14.8%
African American	46	56.8%
Asian	7	8.6%
Hispanic	11	13.6%
Other	5	6.2%
Total	81	100%

6.1.4 Age distribution

The average age of the 81 respondents who provided their age was about 44 years. However, as Table 6.1.6 below indicates, about three-quarters of the African American male anglers were over 35. Slightly more than a quarter of all anglers (regardless of ethnicity or gender) were under the age of 35. Half of the female anglers were African American, while 80% of all female anglers were over the age of 35. The yellow highlights indicate where all the female anglers fall in the distribution.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.6
Angler Ethnicity and Gender
 (by age interval)

Angler Ethnicity			Age Recoded into Three Intervals						Row Total N
			18-34 years		35-50 years		51+ years		
			N	Row %	N	Row %	N	Row %	
Anglo	Gender	Male	4	40%	2	20%	4	40%	10
		Female	0	0%	1	50%	1	50%	2
African American	Gender	Male	10	24.4%	14	34.1%	17	41.5%	41
		Female	0	0%	1	20%	4	80%	5
Asian	Gender	Male	4	57.1%	1	14.3%	2	28.6%	7
		Female	0	0%	0	0%	0	0%	0
Hispanic	Gender	Male	3	33.3%	2	22.2%	4	44.4%	9
		Female	2	100%	0	0%	0	0%	2
Other	Gender	Male	0	0%	3	75%	1	25%	4
		Female	0	0%	1	100%	0	0%	1
Total	Gender	Male	21	29.6%	22	31%	28	39.4%	71
		Female	2	20%	3	30%	5	50%	10

Table 6.1.7 (follow page, color coded into three groups) presents the overall distribution of fishers' ages, with the youngest being 18 and the oldest being 80. In the OpinionWorks survey, "Addressing the Risk" (2012), 108 anglers provided information on their age, with the youngest angler being 20 while the oldest was 75. The average age of the OpinionWorks fisher was 46.7 years, slightly older than the mean age (44 years) of anglers in this study. Table 6.1.8 (second page following) shows the number of years fished by all anglers, color coded into three groups.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.7
Age Distribution of Anglers

Age	N	Percent	Cumulative
18	2	2.7%	2.7%
19	1	1.4%	4.1%
20	1	1.4%	5.5%
21	1	1.4%	6.8%
24	1	1.4%	8.2%
25	3	4.1%	12.3%
26	1	1.4%	13.7%
27	2	2.7%	16.4%
28	2	2.7%	19.2%
29	1	1.4%	20.5%
30	4	5.5%	26%
31	3	4.1%	30.1%
34	1	1.4%	31.5%
35	2	2.7%	34.2%
36	1	1.4%	35.6%
37	1	1.4%	37%
39	2	2.7%	39.7%
40	4	5.5%	45.2%
41	2	2.7%	47.9%
42	1	1.4%	49.3%
43	1	1.4%	50.7%
46	3	4.1%	54.8%
47	3	4.1%	58.9%
48	1	1.4%	60.3%
49	2	2.7%	63%
50	2	2.7%	65.8%
51	1	1.4%	67.1%
52	4	5.5%	72.6%
54	1	1.4%	74%
55	2	2.7%	76.7%
56	1	1.4%	78.1%
57	1	1.4%	79.5%
58	1	1.4%	80.8%
59	1	1.4%	82.2%
60	4	5.5%	87.7%
62	1	1.4%	89%
63	1	1.4%	90.4%
65	1	1.4%	91.8%
66	1	1.4	93.2%
67	2	2.7%	95.9%
68	1	1.4%	97.3%
74	1	1.4%	98.6%
80	1	1.4%	100%
Total	73	100%	
Missing	8		
Total	81		Average = 43.6 years

SECTION 6.1: FINDINGS. Demographic Data

**Table 6.1.8
Number of Years Fished**

Years Fished	N	Percent	Valid Percent	Cumulative Percent
1	8	9.9%	11.1	11.1%
2	4	4.9%	5.6	16.7%
3	1	1.2%	1.4%	18.1%
4	2	2.5%	2.8%	20.8%
5	4	4.9%	5.6%	26.4%
6	1	1.2%	1.4%	27.8%
7	1	1.2%	1.4%	29.2%
8	1	1.2%	1.4%	30.6%
9	2	2.5%	2.8%	33.3%
10	3	3.7%	4.2%	37.5%
15	3	3.7%	4.2%	41.7%
17	1	1.2%	1.4%	43.1%
20	6	7.4%	8.3%	51.4%
21	2	2.5%	2.8%	54.2%
22	2	2.5%	2.8%	56.9%
24	2	2.5%	2.8%	59.7%
25	2	2.5%	2.8%	62.5%
27	4	4.9%	5.6%	68.1%
28	2	2.5%	2.8%	70.8%
30	2	2.5%	2.8%	73.6%
31	1	1.2%	1.4%	75%
32	1	1.2%	1.4%	76.4%
35	2	2.5%	2.8%	79.2%
37	2	2.5%	2.8%	81.9%
40	3	3.7%	4.2%	86.1%
42	1	1.2%	1.4%	87.5%
44	2	2.5%	2.8%	90.3%
50	2	2.5%	2.8%	93.1%
53	1	1.2%	1.4%	94.4%
60	2	2.5%	2.8%	97.2%
63	1	1.2%	1.4%	98.6%
67	1	1.2%	1.4%	100%
Total	72	88.9%	100%	

6.1.5 Length of time fishing on rivers

In the OpinionWorks survey (2012), respondents were asked how long they had been fishing in the Anacostia. The average was 15.2 years; however, the distribution is informative in that the median was only five years, with more than half the respondents having fished five years or less. This strongly bimodal distribution indicates that the OpinionWorks survey was heavily influenced both by high numbers of relative newcomers (< five years) and by long-term users (> 20 years).

SECTION 6.1: FINDINGS. Demographic Data

In contrast, the distribution in this study (n=72), which asked the question over many more fishing sites along the Potomac and Anacostia rivers, is much less skewed, with a mean of 21.75 years and a median of 20 years.

In an additional analysis, we segmented the distribution into three equally represented intervals (1-9, 10-27, and 28-67 years) represented by the shading (table 6.1.10 below), changing it into an ordinal variable so that it could be cross-tabulated. In future analyses, the interval distribution of 72 responses will be divided into a three-interval, ordinal variable.

Table 6.1.9
Number of Years Fished
(Recoded into three intervals)

Years Fished	N	Percent	Cumulative Percent
1-9 years	24	29.6%	29.6%
10-27 years	25	30.9%	60.5%
28-67 years	32	39.5%	100%
Total	81	100%	

As could have easily been anticipated (see Table 6.1.10 below), the younger anglers (18-34) have fished the fewest number of years. Interestingly a majority (61%, or 11/18) of these young African American, Asian and Hispanic anglers appeared to have fished most of their life (blue shading).

A huge proportion (80%, or 20/25) of middle-aged anglers (35-50 yrs.) have fished more than 10 years and most of all the ethnic groups have fished a significant proportion of their lives (yellow shading). Finally, a majority of older anglers (over age 51) have fished all their lives. In general, most anglers interviewed in this project have been fishing for most of their lives.⁸⁰

Table 6.1.10
Angler Ages and Years Fishes (recoded)

Age Recoded Into Three Intervals			Angler Ethnicity					
			Anglo	African American	Asian	Hispanic	Other	Total
			N	N	N	N	N	N
18-34 years	Years Fished	1-9 yrs.	3	5	1	2	0	11
		10-27 yrs.	1	3	2	3	0	9
		28-67 yrs.	0	2	1	0	0	3
35-50 years	Years Fished	1-9 yrs.	0	2	1	0	2	5
		10-27 yrs.	1	6	0	1	0	8
		28-67 yrs.	2	7	0	1	2	12
51+ years	Years Fished	1-9 yrs.	2	6	0	0	0	8
		10-27 yrs.	0	4	2	2	0	8
		28-67 yrs.	3	11	0	2	1	17
Total			12	46	7	11	5	81

⁸⁰ Although anglers are broken into three age intervals and years fished, the overall data show a high correlation between age and years spent fishing. Thus, most fishers, young or old, have spent most of their lives fishing.

SECTION 6.1: FINDINGS. Demographic Data

6.1.6 Educational attainment

The majority of female anglers (56%, or 5/9) have at least some college education, whereas 41% (24/59) of male fishermen had some college experience. In general, 82% of all the anglers in this sample are high school graduates.

Table 6.1.11
Angler Educational Attainment
(by gender and ethnicity)

Last Grade of Education Completed?		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
< High School	Male	1	4	2	3	0	10
	Female	0	2	0	0	0	2
12th/GED	Male	2	20	2	1	1	26
	Female	0	1	0	0	0	1
Some College	Male	1	6	3	0	3	13
	Female	0	0	0	2	0	2
Bachelor's Degree	Male	4	5	0	1	0	10
	Female	0	2	0	0	1	3
Some Graduate School	Male	0	1	0	0	0	1
	Female	0	0	0	0	0	0
Total		8	41	7	7	5	68

Although the sample is very small, Hispanics seem to have the highest proportion (43%, or three of seven) of anglers who lack a high school education. This may be an artifact of the project's sampling strategy and/or a reflection of the fact that Hispanic anglers tend to be among the newest immigrants to the area. In contrast, half of the Anglo anglers have a college degree.

6.1.7 Length and intensity of fishing season⁸¹

In the UMD-NPS 2015-2016 sample, a quarter of the respondents started fishing as early in the year as January, and by the end of March around half were on the rivers (see Table 6.1.12, following page).

⁸¹ "Fishing season" refers to the personal habits of anglers and the number of months they fish during a typical year, and not to any state-designated season.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.12
Starting Month for Fishing
(2015 and 2016)

Month	N	Percent	Cumulative Percent
January	16	23.2%	23.2%
February	3	4.3%	27.5%
March	16	23.2%	50.7%
April	16	23.2%	73.9%
May	11	15.9%	89.9%
June	6	8.7%	98.6%
September	1	1.4%	100%
Total	69	100%	
Not Applicable	8		
Missing Information	4		
Total	12		
Total	81		

Eight of 10 female anglers indicated their starting month. Six (or three-quarters of the 10) started in April or later. Of the eight female anglers, five were African American; of these five, three started in May or later, while the other two started in February.

As seen in Table 6.1.13, nearly two-thirds of male African American anglers were fishing by the end of March, while about half of Anglo anglers start during the same period. In general, African American anglers begin fishing much earlier in the year when compared to other ethnicities, although three out of four anglers of “other” ethnicity (the majority being Native Americans) were also fishing by the end of March. It is important to remember that the sample sizes are very small.

Table 6.1.13
Starting Month for Fishing: Male Anglers
(by ethnicity, 2015 and 2016)

Spring/Summer Start Month	Angler Ethnicity									
	Anglo		African American		Asian		Hispanic		Other	
	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %
January	1	12.5%	14	40%	0	0%	0	0%	1	25%
February	1	12.5%	0	0%	0	0%	0	0%	0	0%
March	2	25%	7	20%	2	33.3%	3	37.5%	2	50%
April	2	25%	5	14.3%	2	33.3%	4	50.0%	0	0%
May	0	0%	8	22.9%	0	0%	1	12.5%	1	25%
June	1	12.5%	1	2.9%	2	33.3%	0	0%	0	0%
July	0	0%	0	0%	0	0%	0	0%	0	0%
August	0	0%	0	0%	0	0%	0	0%	0	0%
September	1	12.5%	0	0%	0	0%	0	0%	0	0%
Total	8	100%	35	100%	6	100%	8	100%	4	100%

SECTION 6.1: FINDINGS. Demographic Data

About three-fourths (7/9) of female anglers stopped fishing by October, with only one still fishing in December. In contrast, a majority of male African American, Hispanic and “Other” fishers stopped fishing later in the year, e.g., November/December (Table 6.1.14). In general, female anglers started fishing later in the year and stopped earlier when compared to their male counterparts. A majority of African American males were engaged in the longest fishing seasons.

Table 6.1.14
Ending Month for Fishing: Male Anglers
(by ethnicity, 2015 and 2016)

Spring/Summer End Month	Angler Ethnicity									
	Anglo		African American		Asian		Hispanic		Other	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
January	0	0%	0	0%	0	0%	0	0%	0	0%
February	0	0%	0	0%	0	0%	0	0%	0	0%
March	0	0%	0	0%	0	0%	0	0%	0	0%
April	0	0%	0	0%	0	0%	0	0%	0	0%
May	0	0%	0	0%	0	0%	0	0%	0	0%
June	0	0%	0	0%	0	0%	0	0%	0	0%
July	0	0%	0	0%	1	16.7%	0	0%	0	0%
August	1	10%	2	5.6%	2	33.3%	0	0%	0	0%
September	3	30%	6	16.7%	2	33.3%	0	0%	2	50%
October	2	20%	10	27.8%	0	0%	4	50%	0	0%
November	1	10%	3	8.3%	1	16.7%	3	37.5%	1	25%
December	3	30%	15	41.7%	0	0%	1	12.5%	1	25%
Total	10	100%	36	100%	6	100%	8	100%	4	100%

Somewhat surprising, given the reported start and ending dates of their fishing season, only about a third of all anglers (25/73 or 34%) for whom we have information declared they fished during the winter (see Table 6.1.15 below). No women said they fished during the winter, and most anglers who said they did were male African Americans.

Table 6.1.15
Fishing During the Winter Months
(by ethnicity and gender)

Angler Ethnicity	“Do You Fish During the Winter Months?”							
	Yes				No			
	Respondent Gender				Respondent Gender			
	Male		Female		Male		Female	
	N	Column %	N	Column %	N	Column %	N	Column %
Anglo	3	12%	0	0%	7	17.9%	2	22.2%
African American	19	76%	0	0%	17	43.6%	5	55.6%
Asian	0	0%	0	0%	5	12.8%	0	0%
Hispanic	2	8%	0	0%	6	15.4%	2	22.2%
Other	1	4%	0	0%	4	10.3%	0	0%
Total	25	100%	0	0%	39	100%	9	100%

6.1.8 Frequency of fishing

A key indicator of the respondents’ commitment to fishing is the startling fact that during their fishing season, two-thirds of the anglers fished at least two or three days per week, while a substantial segment of anglers (20%) fished four or more days per week. *Nearly everyone (95%) who fished did so at least once per week during the months that they fished.* These findings contrast very sharply with the OpinionWorks survey, where only about a third (37%) of all respondents fished two or more times per week during the spring/summer.

Table 6.1.16
“How Often Do You Go Fishing?”

How Often Do You Go Fishing?	N	Percent	Cumulative Percent
4+ days per week	15	19.7%	19.7%
2-3 days per week	35	46.1%	65.8%
Once per week	22	28.9%	94.7%
1-2 times per month	4	5.3%	100%
Total	76	100%	
Not Applicable	3		
Missing Information	2		
Total	5		
Total	81		

Table 6.1.17 (following page) below indicates that slightly over half of all female anglers (5/9, in the light brown highlight) fish at least two or three days per week. All of these high-frequency female anglers were African American. All the Anglo and Hispanic female anglers (red highlight) fished about once per week.

Subsequent analysis shows that all of the high frequency (two or three days per week or more) female African American anglers were over the age of 51. In contrast, all of the Hispanic female anglers were under age 35, while all of the female Anglo anglers were over 35.

About two-thirds (about 65%) of the very frequent (4 or more days per week) male anglers were African Americans, whereas just over one-third (38%) of the Anglo anglers (shown in yellow highlights) were very intensive in their fishing activities. Both these ethnicities account for nearly all of the intensive anglers.

We have a small sample size of Anglos and women. The data are accurate for our sample, but we are not generalizing to a larger population since this was a purposive and not a random sample. We do not know if those proportions would change significantly with a larger sample size.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.17
Frequency of Fishing
(by ethnicity and gender)

Angler Ethnicity and Gender			"How Often Do You Go Fishing?"							
			4+ days per week		2-3 day per week		Once per week		1-2 times per month	
			N	Row %	N	Row %	N	Row %	N	Row %
Anglo	Gender	Male	3	37.5%	0	0%	5	62.5%	0	0%
		Female	0	0%	0	0%	2	100%	0	0%
African American	Gender	Male	9	23.1%	20	51.3%	8	20.5%	2	5.1%
		Female	1	20%	4	80%	0	0%	0	0%
Asian	Gender	Male	1	14.3%	4	57.1%	2	28.6%	0	0%
		Female	0	0%	0	0%	0	0%	0	0%
Hispanic	Gender	Male	0	0%	5	55.6%	3	33.3%	1	11.1%
		Female	0	0%	0	0%	2	100%	0	0%
Other	Gender	Male	1	25%	2	50%	0	0%	1	25%
		Female	0	0%	0	0%	0	0%	0	0%
Total	Gender	Male	14	20.9%	31	46.3%	18	26.9%	4	6%
		Female	1	11.1%	4	44.4%	4	44.4%	0	0%



Winter fishing on Saylor Pier.
Photo credit: A. Cohen

As Table 6.1.18 (following page) shows, most (80%, or 12/14) high-frequency (4 or more days per week) anglers (yellow highlight) were over age 35, while nearly half (43% or 11/26) of low-frequency (once per week or less) anglers (light green highlight) were under 35. In general, whether for male or female, most high-intensity anglers were older and predominantly African American.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.18
Frequency of Fishing
 (by age and ethnicity, all respondents)

Angler Ethnicity by Age Category		"How Often Do You Go Fishing?"			
		4+ days per week	2-3 days per week	Once per week	1-2 times per month
		N	N	N	N
Anglo	18-34 yrs.	1	0	3	0
	35-50 yrs.	0	0	3	0
	51+	2	0	1	0
African American	18-34 yrs.	1	6	2	1
	35-50 yrs.	4	9	0	1
	51+	5	9	6	0
Asian	18-34 yrs.	1	1	2	0
	35-50 yrs.	0	1	0	0
	51+	0	2	0	0
Hispanic	18-34 yrs.	0	2	3	0
	35-50 yrs.	0	1	1	0
	51+	0	2	1	1
Other	18-34 yrs.	0	0	0	0
	35-50 yrs.	1	2	0	0
	51+	0	0	0	1
Total	18-34 yrs.	3	9	10	1
	35-50 yrs.	5	13	4	1
	51+	7	13	8	2

(As mentioned earlier, we have included individual vignettes throughout the data section to provide insight into how the data come together as individual fishermen and fisherwomen. The names have been changed, of course, to protect confidentiality.)

6.1.8.1 "It depends on what I catch." Juan Salcido at Roaches Run.

In between the roar of airline jet engines taking off at Ronald Reagan National Airport in Alexandria, VA, we found Juan Salcido fishing at Roaches Run, a lagoon off the Potomac less than half a mile from the airport. The lagoon is attached to the Potomac by several culverts, making it tidal and with a similar array of fish, although probably not the anadromous species. There is very easy access to the water at Roaches Run, from a pullover on the George Washington Parkway, which is also frequently used as a "cellphone waiting area" for people awaiting incoming flights at the airport. It is technically part of the GW Parkway and not the airport authority itself.

We started off with the usual question, "All right, so just to start off, would you consider yourself catch and release, or do you eat it, or do you release some and give some away? How would you describe your fishing?"

Juan responded: "Um, depends what I catch."

He explained, "Yeah, some of the catch I will give it away if some other angler hasn't gotten anything in a day or they feel that it's something that they want; but most of the times if it's a particular type of fish then I'll just keep it and take it." Juan Salcido is a "catch and share" fisherman. In fact, it turns out that

SECTION 6.1: FINDINGS. Demographic Data

90% of the time he does not take fish home to eat, but either returns them if too small, or gives them, especially catfish, away to other fishermen.

Of the fish in the rivers, about the only fish he targets and keeps is bass. Smallmouth bass is preferred over largemouth, and if they are "big enough," he will take them home to cook. Striped bass is even better, but he generally fishes for stripers in the Chesapeake Bay. "Generally, like I said, ...if they haven't caught anything, and I caught something pretty large and I don't have the means to either carry them back... I just offer it to them if they go ahead and want it then they'll take it; if not, I just put it back." He says most guys prefer either catfish or bass, but usually they do not reject much. He will generally give away perch or put them back.

This was actually his first time fishing at Roaches Run. He had seen others doing it and they seemed to be catching something, so he thought he would try. He goes fishing "probably twice a week" for an hour or two, depending on how good the fishing is. The day of the interview he was using artificial bait, "...like a lizard type of lure," to test what was in the water. He was not targeting catfish, although he had heard there are plenty of catfish in Roaches Run lagoon. He was using one of his father's rods, which he keeps in the car trunk to be ready when he finds himself near a good fishing site.

Juan is a 39-year-old rideshare driver with a high school diploma. Being a rideshare driver gives him the flexibility to do what he wants. He currently lives in Colesville, MD (in a mixed Anglo, African American, and Hispanic community) but "I used to live in D.C. My dad used to teach me how to fish in the Potomac, right by Hains Point, that area." His Dad taught him to fish when he was six or seven years old. "...if, you know, I decide to go fishing I might go there (Hains Point), but most of the times I'll try to stay out in Maryland somewhere." He has fond memories of fishing with his dad in D.C. and Ocean City, MD, and still goes fishing with his dad when he comes to the United States to visit (he is currently living back in El Salvador).

For Juan, much of the meaning and significance of fishing comes from the times he spent with his dad learning how to fish, the memories of fishing, and his relationships with his father, but also the sociability of going out with relatives and friends to fish. "Sometimes it's just, um, I guess you could say the excitement of actually catching a fish; but yeah, it goes back to, you know, spending time with my dad. You know, when I used to go out with him all the time. Also, uh, learning new techniques, finding new, different areas to go to and, you know, bring out my friends or family out to this area so... uh... definitely... I just enjoy it. It's a good pastime." He does not have any children ("not yet"), but he will definitely teach them how to fish when he does. He said he feels there is a community aspect to fishing, "...well, to me [there is] because I mean, I have friends and family that does it (fishing) so...it's like a time where you can just spend some quality time to talk about other things and just enjoy everybody catching something, you know?"

Juan is an enthusiast, who currently fishes about twice a week. He has been fishing for over 30 years on the area rivers (as well as Atlantic Ocean and Chesapeake Bay fishing). He also enjoys cooking, sharing, and eating the fish as well, going out with family and friends to fish, and putting on cookouts during the summer with both family and friends. His step-brothers and step-sisters in his immediate family do not like to fish, but he fishes with his maternal cousins (his mother's sister's children), and there are 10 of them. There are "four boys and the rest are girls and they all like to fish." He also gets out two or three times over the summer fishing with friends, in which a group of about eight of them will go out on a charter boat to fish, including for rockfish. They have caught up to 40 fish in one charter trip. "Yeah, in total, 'cause everybody either brings like two or three rods at the same time so... and we all spread out, too." When they catch fish, they have a big family event with, "Cousins and friends or... just close by, uh, family, you know, even (step-) brothers sometimes. They don't like to fish, but they like to eat it" [Laughing]. So I'll do all the work and they'll eat the benefit." Juan brings in either bass (smallmouth) or

SECTION 6.1: FINDINGS. Demographic Data

rockfish if he has been out to the Chesapeake. These events happen two or three times a summer and they appeared to be central to his social and family life.

He had a varied list of fishing sites that sounded opportunistic, given his job. They ranged up and down the Potomac, and he was one of the few fishermen interviewed who fished at Rock Creek Park. In fact, he was there two to three times this year, "... near the zoo area. Uh, like there's some creeks right there." He catches "Just some small fish. Just you know, sunfish or um... I haven't seen too much perch and some small bass. Yeah." He also fishes regularly at Hains Point and prefers the Washington Channel side; he also fishes at Ft. Washington, south of the District in Maryland. He has been up to the Maryland side of the Potomac Gorge, but that has been about three years. Notably, he does not fish in the Anacostia River fishing sites.

He is not food insecure (does not worry "at all" about putting food on the table) and had enough food to eat last year. But the questions immediately made him think about his family in El Salvador, historically and currently; he thought his mother might have lacked food in El Salvador during the civil war. "I think of my mom because they live that area where... or that time of uh... scare... because of the wars that were going on." But he added, "Yeah, in El Salvador, yeah. But other than that, I think everybody else has been fine because my... one side of my dad has been agricultural and the side of my mom they've been farmers, so... so they do both really well."



Fishing at Roaches Run, 2014. Photo Credit: S.J. Fiske

His ideas for the parks were generally appreciative. "I mean, I appreciate what they do, but I haven't had any issues... I definitely appreciate that they also try to conserve whatever's in here, you know, and maintain the whole area. I mean, there are some anglers there that kind of abuse the system or abuse the park area and leave things, and that's a shame, but you know, hopefully the more, uh, people know about taking care of it, definitely we'll take care of the future of our ponds and lakes."

6.1.9 Harvest of fish

The following harvest tables are for *the top five species only*, although the Field Team inquired about virtually all edible species in the Potomac and Anacostia (from eel to pike, and from white perch to striped bass).⁸² These five species constitute nearly all of the fish biomass harvested by our fishers, and there were few instances of heavy targeting outside these top five species. The first table shadings represent no, low, medium, and high-harvesters of blue catfish.

⁸² Through the use of pictures in field guides, which were shown to respondents.

SECTION 6.1: FINDINGS. Demographic Data

**Table 6.1.19
Blue Catfish Harvest, Weekly Total**

Blue Catfish Caught Weekly	N	Percent	Valid Percent	Cumulative Percent
0	5	6.2%	7.4%	7.4%
1	8	9.9%	11.8%	19.1%
2	4	4.9%	5.9%	25.0%
3	3	3.7%	4.4%	29.4%
4	7	8.6%	10.3%	39.7%
5	7	8.6%	10.3%	50%
6	5	6.2%	7.4%	57.4%
7	4	4.9%	5.9%	63.2%
8	2	2.5%	2.9%	66.2%
9	2	2.5%	2.9%	69.1%
10	3	3.7%	4.4%	73.5%
12	4	4.9%	5.9%	79.4%
14	1	1.2%	1.5%	80.9%
15	5	6.2%	7.4%	88.2%
16	1	1.2%	1.5%	89.7%
17	1	1.2%	1.5%	91.2%
18	1	1.2%	1.5%	92.6%
20	1	1.2%	1.5%	94.1%
24	1	1.2%	1.5%	95.6%
28	1	1.2%	1.5%	97.1%
75	1	1.2%	1.5%	98.5%
200	1	1.2%	1.5%	100%
Total	68	84%	100%	
Not Applicable	7	8.6%		
Missing	6	7.4%		
Total	13	16		
Total	81	100%		

While the value of 200 blue catfish harvested per week seems extreme in the above table, it was validated through follow-up conversations and observations.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.20
Channel Catfish Harvest, Weekly Total

Channel Catfish Caught Per Week	N	Percent	Valid Percent	Cumulative Percent
0	17	21%	31.5%	31.5%
1	6	7.4%	11.1%	42.6%
2	7	8.6%	13%	55.6%
3	2	2.5%	3.7%	59.3%
4	3	3.7%	5.6%	64.8%
5	2	2.5%	3.7%	68.5%
6	3	3.7%	5.6%	74.1%
7	1	1.2%	1.9%	75.9%
8	1	1.2%	1.9%	77.8%
10	5	6.2%	9.3%	87%
12	4	4.9%	7.4%	94.4%
20	2	2.5%	3.7%	98.1%
75	1	1.2%	1.9%	100%
Total	54	66.7%	100%	
Not Applicable	14	17.3%		
Missing	13	16%		
Total	27	33.3%		
Total	81	100%		

Table 6.1.21
Shad Harvest, Weekly Total

Shad Caught Per Week	N	Percent	Valid Percent	Cumulative Percent
0	39	48.1%	79.6%	79.6%
1	2	2.5%	4.1%	83.7%
2	1	1.2%	2%	85.7%
4	1	1.2%	2%	87.8%
10	2	2.5%	4.1%	91.8%
12	1	1.2%	2%	93.9%
20	1	1.2%	2%	95.9%
30	1	1.2%	2%	98%
100	1	1.2%	2%	100%
Total	49	60.5%	100%	
Not Applicable	21	25.9%		
Missing	11	13.6%		
Total	32	39.5%		
Total	81	100%		

The shad run occurs in March and April as the shad return to the rivers to spawn. There is a moratorium on the harvest and consumption of shad and river herring; however, in our sample, fishermen reported

SECTION 6.1: FINDINGS. Demographic Data

catching shad and it was uncertain as to whether they are consumed or released. Fishermen can still catch and release shad, but not take them home to consume.

Table 6.1.22
Yellow Perch Harvest, Weekly Total

Yellow Perch Caught Per Week	N	Percent	Valid Percent	Cumulative Percent
0	20	24.7%	36.4%	36.4%
1	9	11.1%	16.4%	52.7%
2	7	8.6%	12.7%	65.5%
3	7	8.6%	12.7%	78.2%
4	4	4.9%	7.3%	85.5%
5	1	1.2%	1.8%	87.3%
10	7	8.6%	12.7%	100%
Total	55	67.9%	100%	
Not Applicable	15	18.5%		
Missing	11	13.6%		
Total	26	32.1%		
Total	81	100%		

Table 6.1.23
Striped Bass Harvest, Weekly Total

Striped Bass Caught Per Week	N	Percent	Valid Percent	Cumulative Percent
0	18	22.2%	28.6%	28.6%
1	19	23.5%	30.2%	58.7%
2	5	6.2%	7.9%	66.7%
3	5	6.2%	7.9%	74.6%
4	4	4.9%	6.3%	81%
5	2	2.5%	3.2%	84.1%
6	3	3.7%	4.8%	88.9%
7	1	1.2%	1.6%	90.5%
8	1	1.2%	1.6%	92.1%
10	1	1.2%	1.6%	93.7%
15	1	1.2%	1.6%	95.2%
20	2	2.5%	3.2%	98.4%
21	1	1.2%	1.6%	100%
Total	63	77.8%	100%	
Not Applicable	10	12.3%		
Missing	8	9.9%		
Total	18	22.2%		
Total	81	100%		

SECTION 6.1: FINDINGS. Demographic Data

6.1.10 Harvest of blue catfish

The highest harvesters (11 or more per week) of blue catfish are African American and Anglo anglers. About 45% (21/46) of African American anglers harvested more than 11 fish per week (and some considerably more). Similarly, about 45% (5/11) of Anglo anglers are “high harvesters.” These two groups account for 84% (26/31) of all high harvesters in this sample. In addition, most “substantial” harvesters (more than five fish per week) are older anglers, with about two-thirds (29/46) of African American “substantial” harvesters being over 35; half of the African American “high” harvesters are over 51. In contrast, 83% (5/6) of Anglo anglers over 35 harvest “substantial” (more than 5 fish per week) amounts of blue catfish. In general, the oldest (51+) African American and Anglo anglers harvest the most blue catfish.

Table 6.1.24
Blue Catfish Harvest, Weekly Total
 (Recoded by age and ethnicity)

Number of Blue Catfish Caught Per Week	Age Groups	Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
1-4 per week	18-34 years	2	2	3	3	0	10
	35-50 years	2	4	0	0	0	6
	51 years	1	3	0	2	0	6
	Total	5	9	3	5	0	22
5-10 per week	18-34 years	0	5	0	1	0	6
	35-50 years	1	4	1	0	1	7
	51 years	0	7	2	1	0	10
	Total	1	16	3	2	1	23
11+ per week	18-34 years	1	3	1	1	0	6
	35-50 years	0	7	0	1	2	10
	51 years	4	11	0	0	0	15
	Total	5	21	1	2	2	31

Table 6.1.26 (second table following) presents in descending order the total number of fish harvested by species. Several issues need to be discussed prior to the analysis of this and subsequent tables. First, respondents were not asked to estimate the total number of each fish species that they harvested annually. The Research Team surmised that such an estimate would be more difficult for the angler to calculate, and settled on a shorter time period, such as a weekly estimate. In addition, it was suspected that such a method would be fraught with significant variance as some anglers, especially low harvesters, would be better at estimating catch over such an extended period. The team decided that estimates for a shorter period of time would provide a more accurate assessment. Thus, in these estimates, the team asked anglers to estimate their average catch per week per species.

As the tables below indicate, some anglers occasionally harvested a particular species during their fishing season, but the number was so low as to be a fraction of a species per week. These anglers, plus all anglers that estimated a weekly harvest of a particular species, are contained in the column “Sample Size of All Who Fished,” (that is, all anglers who intended or wanted to catch that type of fish). Another

SECTION 6.1: FINDINGS. Demographic Data

column entitled “Sample Size of All Who Harvest” contains just those anglers who were successful in harvesting a particular species on a weekly basis.

In addition, the reader must be sensitive to the enormous variance in weight (biomass), average sizes, and availability among the different fish species harvested. Table 6.1.25 below provides a brief description of this variability.

Table 6.1.25
Size and Availability of Top Five Species Harvested

Species	Ave. Length	Ave. Weight	Anadromous
Blue Catfish	25-46 inches	6-50 lbs.	No
Channel Catfish	12-24 inches	5-8 lbs.	No
Yellow Perch	4-12 inches	6-10 oz.	No
Striped Bass	24-36 inches	8-40 lbs.	Yes
Shad	11-16 inches	3-8 lbs.	Yes

“Availability” indicates whether the species is available most of the year, in contrast to species that are anadromous, that is, available only during a short time window as they return in runs to their stream of origin to spawn. Catfish of several varieties and perch are available in all seasons, easy to catch, and abundant.

Table 6.1.26 (following page) clearly indicates that blue catfish, by a huge margin, provide the most biomass in the sample of anglers. Blue catfish, an invasive species from Mississippi, are fished for most often, are harvested in the greatest amounts, and, on average, weigh the most of any species. In summary, blue catfish:

- Are locally available (i.e., fished for most of the year).
- Represent the highest total number harvested by the sample per week (745).
- Have the largest average size of all available fish species ($\bar{x} = 25$ lbs.).
- Are harvested by the highest proportion of the study sample (78%).

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.26
Weekly Total of Fish Harvested
 (by species, ordered from most to least)

Species	Sample Size of All Who Fished	Sample Size of All Who Harvest	Avg. Harvest (per week) All Who Fished	Avg. Harvest (per week) All Who Harvested	Total (All Anglers) Fish Harvested (per week)
Blue Catfish	68	63	10.96	11.8	745
Channel Catfish	54	37	5.44	7.95	294
Shad	49	10	3.88	19	190
Striped Bass	63	45	3	4.2	189
Yellow Perch	55	35	2.45	3.86	135
Largemouth Bass	52	18	1.77	5.1	92
Eel	51	33	1.73	2.66	88
Smallmouth Bass	52	18	1.25	3.6	65
Catfish (generic species)	8	6	5.88	7.83	47
Snakehead	52	7	0.44	3.29	23
Carp	52	11	0.4	1.9	21
Walleye	48	2	0.27	6.5	13
Brown Bullhead Catfish	13	2	0.77	2	10

Table 6.1.27
Proportion of Anglers Who Harvest Weekly
 (by species, ordered from most to least)

Species	Sample Size of All Who Fished	Percent	Sample Size of All Who Harvest	Percent
Blue catfish	68	84%	63	78%
Striped bass	63	78%	45	56%
Channel catfish	54	67%	37	46%
Yellow perch	55	68%	35	43%
Eel	51	63%	33	41%
Smallmouth bass	52	64%	18	22%
Largemouth bass	52	64%	18	22%
Carp	52	64%	11	14%
Shad	49	60%	10	12%
Snakehead	52	64%	7	9%
Catfish (generic species)	8	10%	6	7%
Brown bullhead catfish	13	16%	2	2%
Walleye	48	59%	2	2%

Fourteen anglers, about one-fifth of the sample, catch fish *only to share*. The majority of these anglers (72%) who love to catch fish but do not like to eat them are African American and Anglo. This group of anglers share or give away all the fish that they catch. They are also the two ethnic groups who catch the most blue catfish.

SECTION 6.1: FINDINGS. Demographic Data

6.1.11 Throwing fish back

Nearly all anglers (93%) throw fish back at one time or another (Table 6.1.28). The major reason (at 78%) for throwing fish back is that the fish are too small to consume or share; the second most frequent reason (12%) is that the fish appeared unhealthy (e.g., lesions).⁸³

Table 6.1.28
“Do You Throw Fish Back?”

“Do You Throw Fish Back?”	N	Percent	Valid Percent	Cumulative Percent
Yes	68	84%	93.2%	93.2%
No	5	6.2%	6.8%	100%
Total	73	90.1%	100%	
Not applicable	7	8.6%		
Missing	1	1.2%		
Total	8	9.9%		
Total	81	100%		

Table 6.1.29
Reasons for Not Harvesting Fish

“Why Do You Throw Fish Back?”	N	Percent	Valid Percent	Cumulative Percent
Other	3	3.7%	7.1%	7.1%
Lesion	5	6.2%	11.9%	19%
Size (too small)	33	40.7%	78.6%	97.6%
Springy/mushy flesh	1	1.2%	2.4%	100%
Total	42	51.9%	100%	
Refused	1	1.2%		
Not Applicable	13	16%		
Missing Information	9	11.1%		
System	16	19.8%		
Total	39	48.1%		
Total	81	100%		

There is very little differentiation by ethnicity as to the reasons for throwing back fish, as about 80% of anglers of all ethnicities throw fish back for being too small (yellow highlights above and below). The exception seen in Table 6.1.30 below is Asian anglers, whose replies are difficult to interpret because of the small sample size. Some fishermen specifically mentioned the size limits for certain species, but most did not elaborate—it was common sense to them to return very small fish. A very small proportion of African American and Hispanic anglers looked for lesions and threw fish back if they saw them on the fish (orange highlights below).

⁸³ These findings mirror Ebbin’s findings among Connecticut subsistence fishermen, that is, “too small” and “looking sick” were the main reasons for throwing fish back (2017:5).

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.30
Reasons for Not Harvesting Fish
(by ethnicity)

“Why Do You Throw Fish Back?”	Angler Ethnicity											
	Anglo		African American		Asian		Hispanic		Other		Total	
	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %	N	Col. %
Other	0	0%	1	4.2%	1	50%	0	0%	1	33.3%	3	7.1%
Lesion	0	0%	3	12.5%	0	0%	2	22.2%	0	0%	5	11.9%
Cloudy eye	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Tumor	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Size (too small)	4	100%	19	79.2%	1	50%	7	77.8%	2	66.7%	33	78.6%
Springy/mushy flesh	0	0%	1	4.2%	0	0%	0	0%	0	0%	1	2.4%
Total	4	100%	24	100%	2	100%	9	100%	3	100%	42	100%

6.1.12 Consumption patterns

Eighty-two percent of all the anglers in this research consume at least part of their catch (across all species). About one in five anglers fish to share their fish only, and not to consume (18%). Notice the proportion of “share only” anglers decreases (from 18% to 10%) as we compare consumption patterns by ethnicity in the second table below (Table 6.1.32). Part of the explanation for the difference in percentages is explained by missing information in the ethnicity variable.

Table 6.1.31
Consumption and Sharing of Fish
(All respondents)

Consumption and Sharing Patterns of Anglers	N	Valid Percent	Cumulative Percent
Share only	14	17.9%	17.9%
Some share/some consume	56	71.8	89.7%
Consume only	8	10.3%	100%
Total	78	100%	
Not Applicable	2		
Missing Information	1		
Total	3		
Total	81		

In Table 6.1.32 (following page), eight anglers, a small proportion of the sample (10%), harvest fish for *personal consumption only*. The majority of anglers who fish solely for personal consumption are African American and they comprise about three-fourths of the small “consume only” category of anglers. Interestingly, later analysis of the variable “Do you personally eat the species that you harvest?” indicated that these findings underestimate the amount of fish shared but *not* consumed by individual anglers (Table 6.1.35).

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.32
Consumption and Sharing of Fish
 (by ethnicity)

Angler Ethnicity	Consumption Pattern							
	Share Only		Some Share/ Some Consume		Consume Only		Total	
	N	Column %	N	Column %	N	Column %	N	Column %
Anglo	3	21.4%	8	14.3%	0	0%	11	14.1%
African American	6	42.9%	34	60.7%	6	75%	46	59%
Asian	2	14.3%	4	7.1%	0	0%	6	7.7%
Hispanic	2	14.3%	9	16.1%	0	0%	11	14.1%
Other	1	7.1%	1	1.8%	2	25%	4	5.1%
Total	14	100%	56	100%	8	100%	78	100%

Table 6.1.33 below indicates that female anglers fish to consume and share, excepting all but one (an Anglo) who fishes strictly to share, and one African American fisherwoman who fishes strictly to consume (blue shadings). Proportionally, about twice as many male fishermen fish to “share only” when compared to female anglers. About one-third (2/6) of the very small sample of Asian anglers do not consume the fish they harvest, but share only. In general, Anglo anglers, at 27% (3/11), have one of the higher proportions of share only (with no consumption) of any ethnicity in this sample. At 13% (6/46), few African Americans do not consume at least part of their catch, while two Hispanic anglers only share their catch.

Table 6.1.33
Consumption Patterns
 (by gender and ethnicity)

Consumption Pattern by Gender and Ethnicity		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
Share only	Male	2	6	2	2	1	13
	Female	1	0	0	0	0	1
Some share/ some consume	Male	7	30	4	7	1	49
	Female	1	4	0	2	0	7
Consume only	Male	0	5	0	0	2	7
	Female	0	1	0	0	0	1
Total		11	46	6	11	4	78

Surprisingly, well over half (57%, or 8/14) of those anglers who fish not to consume but to share are over age 51 (yellow highlight in Table 6.1.34 below). Note that all age categories were selected with about an equal number of respondents, so one would expect only 33% of more senior anglers to “share only,” but nearly twice many fishermen age 51 and older were “share only” (double what would be expected). It may be that at this time in their life cycle, middle age and older, anglers may have more resources than earlier in life, focus on return to the community, are teaching grandchildren or are supporting their own

SECTION 6.1: FINDINGS. Demographic Data

children’s families; but this is speculation on the team’s part. Sample sizes are too small to draw conclusions about the role ethnicity plays in this behavior.

Table 6.1.34
Consumption Patterns (recoded)
 (Recoded by age and ethnicity)

Age Recoded into Three Intervals, by Consumption Pattern		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
18-34 years	Share only	1	0	1	1	0	3
	Some share/some consume	3	9	3	4	0	19
	Consume only	0	1	0	0	0	1
35-50 years	Share only	0	1	0	1	1	3
	Some share/some consume	3	12	1	1	1	18
	Consume only	0	2	0	0	1	3
51+ years	Share only	2	5	1	0	0	8
	Some share/some consume	2	13	0	4	0	19
	Consume only	0	3	0	0	1	4
Total		11	46	6	11	4	78

6.1.13 “Do You Personally Eat?”

The team wanted to know whether fishers personally ate their harvested fish, and what proportion of that fish they consumed. Furthermore, we were also interested in whether the species of fish harvested and the ethnicity of the angler influenced personal consumption. The first table found below (Table 6.1.35) investigates personal consumption (“do you personally eat?”) by angler ethnicity and the harvested fish species. One of the most surprising findings of this research is revealed in this table. With the exception of striped bass, the majority of anglers—regardless of their ethnicity—stated that they personally *did not eat* most of the other species that they harvested. This indicates that fishermen are eating much less of their catch than presumed from data presented above in [Table 6.1.31: “Consumption and Sharing of Fish”](#) (all respondents).

The earlier question on whether fishermen “consumed only,” “shared only,” or both “consumed and shared” indicates that 80-90% of the fishermen in this sample ate at least some of the multiple species they harvested. By asking the second question, “Do you personally consume this fish?” by species and ethnicity, it shows that a majority of anglers personally consumed striped bass, while only a minority personally consumed any of the remaining species. This is explained by the fact that any angler, across all ethnicities, consumed at least one species of fish, but that for any particular species (excepting striped bass) only a minority of anglers consumed that species. In summary, the table below shows a high proportion of fishermen do not personally eat what they catch, for most river fish species, except striped bass (see highlighted ‘Total’ column).

Following ethnicity, whether fishers personally eat the fish again depends on the species. For example, 70% of the Anglo anglers who catch blue catfish eat them, whereas around half the African American and Asian anglers eat harvested blue catfish. These proportions decrease to about one-third for Hispanic anglers, and about a quarter for anglers of “other” ethnicities (primarily Native Americans).

SECTION 6.1: FINDINGS. Demographic Data

Thus, the species that accounts for the greatest amount of biomass harvested seems to be primarily harvested for purposes other than personal consumption, most probably for the enjoyment of fishing and for sharing and giving away.

For channel catfish, Asian and Native American (with one exception) anglers never harvest for personal consumption (but respondent numbers are small, so generalizability is not clear), while for all other ethnicities, about half the anglers harvest for personal consumption.

For yellow perch, only about a third of anglers harvest for personal consumption, with most perch being given away.

In contrast, bass, and especially striped bass, are harvested for personal consumption, with two-thirds of all anglers eating them. Slightly more than two-thirds of African Americans and nearly all the Hispanic anglers harvest striped bass for personal consumption. Half of Anglo and Asian anglers harvest striped bass for personal consumption. For all species of fish, Asian anglers, in the 30 reported harvest occurrences, harvested only 40% (12/30) of the time for personal consumption.

No anglers harvest walleye, and only one harvested shad, for personal consumption. Only a small percentage (~8%) of African American anglers and one Asian angler harvested eel for personal consumption.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.35
“Do You Personally Eat the Species that You Harvest?”
 (by ethnicity)

Personally Eat Species Harvested?		Angler Ethnicity											
		Anglo		African American		Asian		Hispanic		Other		Total	
		N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Blue Catfish	Yes	7	70%	22	53.7%	3	42.9%	4	36.4%	1	25%	37	50.7%
	No	3	30%	19	46.3%	4	57.1%	7	63.6%	3	75%	36	49.3%
Channel Catfish	Yes	4	66.7%	13	46.4%	0	0%	3	42.9%	1	25%	21	44.7%
	No	2	33.3%	15	53.6%	2	100%	4	57.1%	3	75%	26	55.3%
Brown Bull Head Catfish	Yes	0	0%	1	33.3%	0	0%	0	0%	0	0%	1	16.7%
	No	0	0%	2	66.7%	0	0%	2	100%	1	100%	5	83.3%
Catfish (generic)	Yes	0	0%	4	66.7%	0	0%	0	0%	0	0%	4	50%
	No	0	0%	2	33.3%	0	0%	1	100%	1	100%	4	50%
Yellow Perch	Yes	1	50%	9	36%	1	25%	1	20%	2	100%	14	36.8%
	No	1	50%	16	64%	3	75%	4	80%	0	0%	24	63.2%
Striped Bass	Yes	4	50%	23	69.7%	3	50%	8	88.9%	2	66.7%	40	67.8%
	No	4	50%	10	30.3%	3	50%	1	11.1%	1	33.3%	19	32.2%
Smallmouth Bass	Yes	1	20%	9	64.3%	1	50%	4	100%	1	33.3%	16	57.1%
	No	4	80%	5	35.7%	1	50%	0	0%	2	66.7%	12	42.9%
Largemouth Bass	Yes	2	40%	11	68.8%	1	100%	4	57.1%	1	50%	19	61.3%
	No	3	60%	5	31.3%	0	0%	3	42.9%	1	50%	12	38.7%
Walleye	Yes	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	No	1	100%	12	100%	0	0%	3	100%	1	100%	17	100%
Eel	Yes	0	0%	2	8.3%	1	25%	0	0%	0	0%	3	7%
	No	6	100%	22	91.7%	3	75%	6	100%	3	100%	40	93%
Snakehead	Yes	2	66.7%	2	13.3%	1	50%	0	0%	0	0%	5	19.2%
	No	1	33.3%	13	86.7%	1	50%	3	100%	3	100%	21	80.8%
Carp	Yes	0	0%	6	40%	1	50%	1	33.3%	0	0%	8	33.3%
	No	1	100%	9	60%	1	50%	2	66.7%	3	100%	16	66.7%
Shad	Yes	0	0%	1	11.1%	0	0%	0	0%	0	0%	1	5.6%
	No	1	100%	8	88.9%	0	0%	6	100%	2	100%	17	94.4%

6.1.14 Proportion of fish consumed

The following tables describe, by fish species and fisher ethnicity, how much of each species harvested is actually consumed. Note that five species of fish—brown bullhead, catfish (generic), walleye, carp, and shad—have been dropped from this analysis for a variety of reasons. For example, for brown bullhead (also called mudcats), only five anglers fished for them and of these five, only one consumed them. Of the 17 anglers who fished for walleye, only one consumed them. Similar reasoning is used in the deletion of carp and shad. Most of the analysis is derived from Table 6.1.35 above, which summarizes the amount of a specific fish species that is usually consumed by the angler.

Corroborating the previous data table asking whether fishers personally eat their fish or not, a striking proportion of anglers in Table 6.1.36 below said they eat none of the fish they catch. With only two

SECTION 6.1: FINDINGS. Demographic Data

species —blue cats and striped bass—do a majority of anglers actually eat some of the fish. For the remaining six species, as enumerated in Table 6.1.36 below, a majority of anglers eat none of the fish.

About one-third of African American anglers eat most or all of the blue catfish, channel catfish, and striped/smallmouth/largemouth bass. A small proportion of these same anglers (8-15%) eat most the yellow perch and eel that they catch.

Less than 20% of Anglo fishers consume blue catfish and striped bass; and no Anglo eats “most or all” of any of the remaining species that they catch. The exception is snakehead, in which a whopping 67% of Anglos said they ate “most or all” of their snakehead catch—vastly more than with any other species or ethnic group, including the valued striped bass (13%).

Hispanic anglers are fond of striped bass, with nearly half eating most or all of the fish, while about a quarter eat most or all of the remaining bass species. Slightly less than one-fifth of Hispanic anglers eat most or all of the catfish they catch.

With the exception of snakehead (where half consume “most or all”), none of the Asian anglers eat more than “some” of any other fish that they catch. Anglers in the “Other” category, mostly Native American, are the only ethnicity to consume most/or all of the yellow perch they catch (100% of our small sample). Two-thirds said they consume “most or all” of the striped bass that they catch. In contrast, for African American fishermen, only one in four (27%) consume “most or all” of striped bass.

Table 6.1.36
Summary Proportion of Fish Consumed
(by species and angler ethnicity)

Species	Proportion Consume	Anglo	African American	Asian	Hispanic	Other	Total
Blue catfish	None	30%	39%	57%	64%	75%	45%
	Most/All	20%	30%	14%	18%	25%	27%
Channel catfish	None	33%	48%	100%	71%	75%	54%
	Most/All	0%	31%	0%	14%	25%	23%
Yellow perch	None	67%	62%	100%	80%	0%	64%
	Most/All	0%	15%	0%	20%	100%	18%
Striped bass	None	63%	36%	60%	11%	33%	38%
	Most/All	13%	27%	20%	44%	67%	29%
Smallmouth bass	None	80%	50%	50%	25%	67%	54%
	Most/All	0%	42%	0%	25%	33%	27%
Largemouth bass	None	60%	53%	0%	43%	50%	50%
	Most/All	0%	27%	0%	29%	50%	23%
Eel	None	100%	84%	75%	100%	100%	89%
	Most/All	0%	8%	25%	0%	0%	7%
Snakehead	None	33%	100%	50%	100%	100%	89%
	Most/All	67%	0%	50%	0%	0%	12%

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.37 below provides more detail on the proportion of each species consumed, by angler ethnicity. This table will be important in explaining the difference between consumption and sharing between different ethnic groups.

Table 6.1.37
Proportion of Fish Eaten
(by species and angler ethnicity)

Species and Proportion Eaten		Angler Ethnicity											
		Anglo		African American		Asian		Hispanic		Other		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Blue catfish	None	3	30%	16	39%	4	57.1%	7	63.6%	3	75%	33	45.2%
	Some	5	50%	11	26.8%	2	28.6%	2	18.2%	0	0%	20	27.4%
	Most	2	20%	11	26.8%	0	0%	0	0%	1	25%	14	19.2%
	All	0	0%	3	7.3%	1	14.3%	2	18.2%	0	0%	6	8.2%
Channel catfish	None	2	33.3%	14	48.3%	2	100%	5	71.4%	3	75%	26	54.2%
	Some	4	66.7%	6	20.7%	0	0%	1	14.3%	0	0%	11	22.9%
	Most	0	0%	9	31%	0	0%	1	14.3%	1	25%	11	22.9%
	All	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Yellow perch	None	2	66.7%	16	61.5%	3	100%	4	80%	0	0%	25	64.1%
	Some	1	33.3%	6	23.1%	0	0%	0	0%	0	0%	7	17.9%
	Most	0	0%	3	11.5%	0	0%	1	20%	1	50%	5	12.8%
	All	0	0%	1	3.8%	0	0%	0	0%	1	50%	2	5.1%
Striped bass	None	5	62.5%	12	36.4%	3	60%	1	11.1%	1	33.3%	22	37.9%
	Some	2	25%	12	36.4%	1	20%	4	44.4%	0	0%	19	32.8%
	Most	1	12.5%	8	24.2%	0	0%	3	33.3%	2	66.7%	14	24.1%
	All	0	0%	1	3%	1	20%	1	11.1%	0	0%	3	5.2%
Smallmouth bass	None	4	80%	6	50%	1	50%	1	25%	2	66.7%	14	53.8%
	Some	1	20.0%	1	8.3%	1	50%	2	50%	0	0%	5	19.2%
	Most	0	0%	4	33.3%	0	0%	1	25%	1	33.3%	6	23.1%
	All	0	0%	1	8.3%	0	0%	0	0%	0	0%	1	3.8%
Largemouth bass	None	3	60%	8	53.3%	0	0%	3	42.9%	1	50%	15	50%
	Some	2	40%	3	20%	1	100%	2	28.6%	0	0%	8	26.7%
	Most	0	0%	3	20%	0	0%	2	28.6%	1	50%	6	20%
	All	0	0%	1	6.7%	0	0%	0	0%	0	0%	1	3.3%
Eel	None	6	100%	21	84%	3	75%	6	100%	3	100%	39	88.6%
	Some	0	0%	2	8%	0	0%	0	0%	0	0%	2	4.5%
	Most	0	0%	2	8%	0	0%	0	0%	0	0%	2	4.5%
	All	0	0%	0	0%	1	25%	0	0%	0	0%	1	2.3%
Snakehead	None	1	33.3%	15	100%	1	50%	3	100%	3	100%	23	88.5%
	Some	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	Most	2	66.7%	0	0%	0	0%	0	0%	0	0%	2	7.7%
	All	0	0%	0	0%	1	50%	0	0%	0	0%	1	3.8%

6.1.15 Sharing of fish

As Table 6.1.38 (second page below) indicates, there are five species of fish (not including generic catfish) that have the highest frequency of sharing; this is remarkably consistent for both male and female anglers. These species include blue catfish, channel catfish, striped bass, and small and largemouth bass. A sixth species, yellow perch, is included for consideration because, although only

SECTION 6.1: FINDINGS. Demographic Data

10% of male anglers share this species, nearly a quarter of female anglers (orange highlights) share this catch.

An unexpected finding is that sharing practices, irrespective of the type of fish caught or the anglers' gender, are very consistent across all age groups. Because previous analyses indicated that age and gender played an important part in understanding other variables such as the length of an angler's fishing season and the frequency that an angler fished, we expected to find age-related sharing practices as well. The sharing table below indicates that for all catfish, large- and smallmouth bass, and striped bass, all anglers exhibit a very similar sharing pattern, regardless of age, so that younger fishermen and women are sharing at the same rate that older and more experienced individuals are. Sharing appears to be pervasive and extensive, and a well-developed practice among urban river fishers. Westphal et al. (2008) also found extensive sharing among urban fishermen in the Chicago-Calumet region. It is important to remember that age was re-coded so that each age grouping (18-34, 35-50 and 50+) contains an equal number of anglers.

The yellow highlights on Table 6.1.38 show the comparison/similarities between blue catfish and striped bass sharing patterns. The orange highlights for females reveal sharing differences by gender for yellow perch.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.38
Sharing Patterns for Fish Harvested
 (by age and gender, all respondents)

Species and Whether Shared		Gender of Angler							
		Male				Female			
		Age, recoded into three intervals				Age, recoded into three intervals			
		18-34 years	35-50 years	51+ years	Total	18-34 years	35-50 years	51+ years	Total
		N	N	N	N	N	N	N	N
Blue catfish	Yes	19	18	21	58	2	2	3	7
	No	2	1	2	5	0	0	0	0
Channel catfish	Yes	4	12	14	30	1	1	2	4
	No	5	3	3	11	1	0	0	1
Brown bullhead catfish	Yes	1	1	1	3	0	0	0	0
	No	0	2	1	3	0	0	0	0
Catfish (generic)	Yes	0	1	4	5	0	0	1	1
	No	0	1	1	2	0	0	0	0
Yellow perch	Yes	2	3	3	8	1	0	1	2
	No	8	8	11	27	1	0	2	3
Striped bass	Yes	9	12	10	31	2	0	3	5
	No	8	3	6	17	0	1	1	2
Smallmouth bass	Yes	4	5	1	10	1	0	1	2
	No	6	2	6	14	0	0	1	1
Largemouth bass	Yes	4	5	6	15	0	0	1	1
	No	7	2	4	13	1	0	0	1
Walleye	Yes	0	0	0	0	0	0	0	0
	No	3	3	9	15	1	0	1	2
Eel	Yes	1	3	1	5	0	0	0	0
	No	11	9	10	30	2	1	4	7
Snakehead	Yes	1	1	2	4	0	0	0	0
	No	6	5	8	19	1	0	2	3
Carp	Yes	1	1	2	4	0	0	0	0
	No	4	4	7	15	1	1	1	3
Shad	Yes	0	1	0	1	0	0	0	0
	No	6	3	5	14	2	0	1	3

Table 6.1.39 (following page) indicates that nearly every angler, regardless of ethnicity, shares blue catfish (yellow highlight). About 80% of Anglo, African American, and “Other” anglers share channel catfish, while about half of Asian and Hispanic anglers share channel catfish. African Americans are the least likely ethnicity to share smallmouth bass, while about half share largemouth bass. Although the sample size is small, a majority of Anglo, Asian, and Hispanic anglers are likely to share both small- and largemouth bass. American Indians are very unlikely to share either of these bass species, but again the sample size is very small.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.39
Sharing Patterns for Fish Harvested, Top Species
 (by ethnicity, all respondents)

Species and Whether Shared		Angler Ethnicity											
		Anglo		African American		Asian		Hispanic		Other		Total	
		N	Percent*	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Blue catfish	Yes	9	90%	37	97.4%	7	100%	9	81.8%	3	75%	65	92.9%
	No	1	10%	1	2.6%	0	0%	2	18.2%	1	25%	5	7.1%
Channel catfish	Yes	5	83.3%	22	78.6%	1	50%	3	50%	3	75%	34	73.9%
	No	1	16.7%	6	21.4%	1	50%	3	50%	1	25%	12	26.1%
Striped bass	Yes	5	62.5%	17	54.8%	3	75%	9	100%	2	66.7%	36	65.5%
	No	3	37.5%	14	45.2%	1	25%	0	0%	1	33.3%	19	34.5%
Smallmouth bass	Yes	3	75%	4	28.6%	1	50%	3	75%	1	33.3%	12	44.4%
	No	1	25%	10	71.4%	1	50%	1	25%	2	66.7%	15	55.6%
Largemouth bass	Yes	3	75%	8	50%	1	100%	4	57.1%	0	0%	16	53.3%
	No	1	25%	8	50%	0	0%	3	42.9%	2	100%	14	46.7%

* All percentages in all columns are column percent

In Table 6.1.40 (following page), “Do People You Share with Prefer this Species? by Ethnicity,” not all species are represented because some, such as brown bullhead, walleye, shad, and carp, have too few sharing instances to be included. In addition, because the table is disaggregated by ethnicity, the sample size in some cells is very small due to missing information.

As one might expect, anglers rarely share fish that they think the recipient will not want, or which are not a “preferred” species. Hispanics never share unless it is a recipient’s preferred species, with the exception of channel catfish. Bass (of any species) are always preferred species, with 90% or more of recipients preferring them. A close second to bass are blue and channel catfish, with 8 out of 10 recipients considering them a preferred species. Although the sample size is small, snakehead are always a preferred species by recipients, although it is the team’s guess that snakehead are only offered to recipients that the angler knows prefer them. The same suspicion might also be applied to eel, although some African American anglers do offer them to recipients who do not consider them a preferred species.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.40
“Do People You Share with Prefer this Species?”
 (by ethnicity)

Species and Preference Levels of Recipients		Angler Ethnicity											
		Anglo		African American		Asian		Hispanic		Other		Total	
		N	Percent*	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Blue Catfish	All the time	5	71.4%	32	88.9%	5	71.4%	7	100%	3	100%	52	86.7%
	Sometime	2	28.6%	2	5.6%	1	14.3%	0	0%	0	0%	5	8.3%
	Never	0	0%	2	5.6%	1	14.3%	0	0%	0	0%	3	5%
Channel Catfish	All the time	3	100%	17	81%	0	0%	1	50%	3	100%	24	80%
	Sometime	0	0%	2	9.5%	1	100%	1	50%	0	0%	4	13.3%
	Never	0	0%	2	9.5%	0	0%	0	0%	0	0%	2	6.7%
Catfish (generic)	All the time	0	0%	5	100%	0	0%	1	100%	0	0%	6	100%
	Sometime	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	Never	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Yellow Perch	All the time	1	100%	0	0%	1	100%	1	100%	1	100%	4	66.7%
	Sometime	0	0%	1	50%	0	0%	0	0%	0	0%	1	16.7%
	Never	0	0%	1	50%	0	0%	0	0%	0	0%	1	16.7%
Striped Bass	All the time	5	100%	10	83.3%	2	100%	8	100%	2	100%	27	93.1%
	Sometime	0	0%	2	16.7%	0	0%	0	0%	0	0%	2	6.9%
	Never	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Smallmouth Bass	All the time	2	100%	3	100%	1	100%	2	100%	1	100%	9	100%
	Sometime	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	Never	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Largemouth Bass	All the time	3	100%	3	75%	0	0%	4	100%	0	0%	10	90.9%
	Sometime	0	0%	1	25%	0	0%	0	0%	0	0%	1	9.1%
	Never	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Eel	All the time	1	100%	1	33.3%	1	100%	0	0%	1	100%	4	66.7%
	Sometime	0	0%	1	33.3%	0	0%	0	0%	0	0%	1	16.7%
	Never	0	0%	1	33.3%	0	0%	0	0%	0	0%	1	16.7%
Snakehead	All the time	2	100%	0	0%	1	100%	0	0%	1	100%	4	100%
	Sometime	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	Never	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

*All percentages in all columns are column percent

The following two tables examine consumption (“Personally Eat?”) and sharing practices for the top five species harvested by anglers in the sample (see Table 6.1.25 above). In general, the results of Table 6.1.41 below confirm the analysis of consumption by ethnicity. Slightly over half (55%) of the anglers consume and share blue and channel catfish. In contrast, about two-thirds of anglers consume striped bass, while about three-quarters share the species. Because of this difference, it appears that anglers

SECTION 6.1: FINDINGS. Demographic Data

that do not particularly like to eat fish are aware that their relatives and friends really like to eat striped bass.

Table 6.1.42 (2nd below) extends the analysis to yellow perch and shad for the sake of completeness. It shows that only one angler consumes shad but does not share the catch. Of those anglers who consume yellow perch, most share the catch. In contrast, the majority of anglers who catch but do not eat yellow perch rarely share their catch.

Table 6.1.41
“Do You Personally Eat the Species that You Harvest?”
 (by “Do You Share this Species?” catfish and bass)

Species and Whether Personally Eaten		Blue catfish - Share species?				Channel catfish - Share species?				Striped bass - Share species?			
		Yes		No		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%	N	%	N	%
Blue catfish	Yes	36	55.4%	0	0%	18	52.9%	4	33.3%	18	52.9%	9	47.4%
	No	29	44.6%	5	100%	16	47.1%	8	66.7%	16	47.1%	10	52.6%
Channel catfish	Yes	20	51.3%	1	20%	19	57.6%	1	8.3%	9	42.9%	7	50%
	No	19	48.7%	4	80%	14	42.4%	11	91.7%	12	57.1%	7	50%
Striped bass	Yes	34	69.4%	3	60%	18	69.2%	7	63.6%	28	77.8%	9	47.4%
	No	15	30.6%	2	40%	8	30.8%	4	36.4%	8	22.2%	10	52.6%

Table 6.1.42
“Do You Personally Eat the Species That You Harvest?”
 (by “Do You Share this Species?” perch and shad)

Species and Whether Personally Eaten		Yellow Perch - Share Species?				Shad - Share Species?			
		Yes		No		Yes		No	
		N	%	N	%	N	%	N	%
Yellow perch	Yes	7	70%	5	20%	1	100%	7	50%
	No	3	30%	20	80%	0	0%	7	50%
Shad	Yes	1	20%	0	0%	0	0%	1	5.9%
	No	4	80%	11	100%	1	100%	16	94.1%

6.1.15.1 A High-harvest fisherman and the sharing economy. Mike Ebbitt

Mike Ebbitt, 36, is retired military, living with his family in Fredericksburg, VA. He is a “high-harvest” fisherman (up to 200 catfish a week) and a “catch and share” fisherman who does not consume any of the fish he catches, and releases about 50% of his catch because he targets very specifically. However, he would “rather feed somebody than return the fish back to the river” and has a wide array of individuals and groups that he gives the fish to, including his family, Catholic churches that have fish fries, organizations that prepare wild catch (from hunters and fishermen) for homeless, other fishermen at the rivers or lakes, and more, so that none of the fish he takes from the rivers go to waste. He is one of the few fishermen we found who harvests and cooks snakehead to eat.

He releases any catfish over 25 pounds, because they tend to “store more mercury in the fat as they get older.” He went on to explain that “when you eat that, you can get early onset dementia and Alzheimer’s.” For rockfish, he goes by the regulations of keeping two at 20-28 inches and one over 28 inches. “Anything bigger than that (28”) you keep, and those are the fish that everybody really likes to eat. Snakehead you keep every single one of 'em, they say it's better eating than rockfish, and you can't

SECTION 6.1: FINDINGS. Demographic Data

put 'em back... But my thing is I just don't want people going hungry. If someone's up here and they're up here trying to catch fish and they don't catch anything all day, I'll give 'em a fish..."

He was fishing at Jones Point, on the path to the lighthouse, in July 2016, and was totally up-to-date on the regulations for all jurisdictions: "no carp, no eel, no rockfish right now, and that's been since February." He was fishing in D.C. waters—he pointed to the District-Virginia boundary marker. "That's where D.C. starts. So technically this is by D.C. laws. On this side, I can catch as many white perch at any size I want, but on that side of the river [VA], I can only catch so many and they've got to be a minimum of 8 inches." His point was that it is all the same river, and it would help anglers in MD, D.C., and VA work together on size limits of the same species.

We asked about his occupation, and he said, "fish." "And I'm talking, you know, at least 50 hours a week. This is all I do."

When Mike got back from the service, he worked for about 10 years [not clear where] and got so stressed out, he said 'forget all this, I'm just gonna go fishing all day. I got enough money to pay for bills and I don't have a mortgage, I own my house, I don't have any car payments, I don't have any loans, I pay everything in cash."

He tries to fish six or seven days a week; he also does tournaments occasionally. He comes as close to a recreational fisherman as any of the people we interviewed, in terms of catching and releasing, for pure enjoyment of the sport 100% of the time, and the fact that he does catch and release tournaments during the year.

He learned to fish from his dad when he was about four years old, and his dad learned from his father, who was from Germany. "The first real memory I have of me fishing is out there [Colonial Beach, VA], catching little blue gills and caught a snapping turtle that wouldn't fit in a 5-gallon bucket. I was like 4 or 5 years old riding a little bike and had a bucket and a fishing pole and that was it."

He keeps a daily log of his fishing and catch so that at the end of the year he knows how many, and when/what month, and where he caught them. He estimates that per week, he catches about 200 blue catfish, 20 white perch, and 10 channel catfish.

Mike knows every species on the fish identification cards, and others that were not on them. As we were going through the cards, he said, "Chain pickerel? Not on this river. I haven't seen any of them up here. Walleye, no, yellow perch, I caught probably... [breaking off, looking at the water]... There's a big snakehead who just jumped right there, probably about 17 to 18 pounds! His tail was probably that wide [holding hands far apart], they've been jumping all day. Usually snakeheads won't come over here 'cuz the water's too deep. But I've been seeing 'em swim this wall, and I tried throwing a cast net at 'em trying to get 'em, they're just too fast!"

"Rockfish, real good. You can get them but they're migratory. So I was out here catching in the beginning of May, I caught 4 in a half-hour and tossed 'em right back in because the season hadn't started yet. So I can't keep 'em, I'm not trying to go to jail over a small fish. But usually it's you can't keep more than two a day anyway."

"Carp, yes. I caught a 25-pound mirror carp up here... that's the reason I bought that net, is 'cuz I didn't land him. He broke off, and it would have been a state record. He hit a little quarter inch piece of worm. Trash snagged me up again [messing with line]. That's the problem you have here, there's just so much trash in the bottom. Whatever it got into, it rubbed and broke me off, so. Yeah, it gets expensive. I come here and lose \$30 worth of gear every time I come, every time."

SECTION 6.1: FINDINGS. Demographic Data

He noted that white perch were not on the cards, which led him to comment that they are not considered a game fish in the District, but about 50 feet away in Virginia they are, and you cannot keep more than 10 of them, and they have to be at least eight inches. He noted also that he catches bluegill, black crappie, and white crappie here ("you catch them right on the corners", and pumpkin seed and sun fish, which were not on the identification cards, either.

He continued describing the deceptively urban fishing spot, "you see the white pipes [5-7 pipes coming off the Woodrow Wilson Bridge]? That's your runoff from the bridge. A lot of people like to fish up underneath there 'cuz it's basically a food chute. All the shit people throw off on the side of the road washes off and comes down right in there. So now you got an issue of, all your trash is, guess what, dumping right off the bridge right into the f...ing river.

"But the biggest thing is, is it's hard to fish through here when you're fishing through trash, you know, you've got logs, used condoms, used tampons, baby dolls, bags of trash. I'm surprised I haven't hooked a dead body yet. They had one guy did around the Key Bridge, hooked into one, yeah."

He has an active network of 50-60 fishing buddies who also fish avidly. They keep in touch through www.Fishbrain.com, an app which he described as like Facebook for fishermen. They compare notes about where they are, schedules for where they are going, where the big rockfish are, where the herring are spawning. "Fishing is all about guessing, estimated guessing. It's taking as much information in as you possibly can and trying to convert that into catching fish, and catching fish of size if that's what you're looking for. But what that app does is takes out another 15% of guessing, so it gives you an idea of what you might need or what you might want to start with, a good base point to start with."

He brings a good amount of the fish home, and although he does not consume it, his wife does. "I have the missus as my cut man. Yeah, she's the one who does all my skinning filleting, scaling, all that stuff."

He does the cooking and the preparation when she wants to eat fish. Although he has taught his three children to fish, they are teenagers now and developing other interests, so he usually fishes with "Me, myself, and I! We're a big trio! I mean I fish with a lot of people, friends, uh, the missus, me and her go out all the time—she gets my bait! She catches my bait for me." He has friends from high school who he still fishes with (one friend just came back from Nantucket), and now he is going from stripers to largemouth bass. "So, you know, then you run into people that fish all the time. If you fish a lot you'll keep running into people."

Although Mike does not owe a lot on anything, he is on limited income, and says he "worries a little" about putting food on the table. We asked if he counted on fishing to support himself or his family and he said he never has. He "got injured in the service and that...that pays for most of the bills." He also "sells things here and there on the side and that's it." He says there were never times when his family did not have enough to eat.

If Mike is catching all these fish, and even releasing about 50% of them, that is still a lot of fish to take home or give away. Who does he share them with? Does he share with people he knows, like the security guard friend he introduced us to? "Nope, don't even know 'em. Ninety-five of the time I don't even know 'em. They're like, 'are you throwing it back in?' and I'll say 'not if you want it,' and they say 'I'll take it,' and I'll say 'okay it's yours.' It's everybody. It's everybody, Black, White, Asian, Korean, El Salvadorian, Laos, anybody that wants to eat fish." We asked if the others were just failed fishermen, or why they are not catching any fish. "They're not going at it too intent. A lot of people come out to relax and stuff. Necessity fishing has kind of gone away with markets and all of that stuff, you know, feed yourself, unless you get out towards the mountains where there's not too many stores, follow the James River all the way out to Waynesboro, a lot of people still fish to eat out there."

SECTION 6.1: FINDINGS. Demographic Data

Mike estimates that about 80% of the people he gives fish to take the fish home and feed their families, implying that they really need the fish for food.

“I was out at Leesylvania [Virginia State Park] last year and we caught 300 some odd fish in about seven days. And I had a stringer, had 300 pounds of fish on it, had probably 35 fish on it, nothing over 25 pounds; but then I had that and had filled up three other coolers and one of those shopping carts, expandable shopping carts, and they all went to all the Mexicans out there, they took 'em all home and ate 'em all. One guy went back and busted out a grill and had a fish fry. We're on the dock and we could smell 'em cooking right down there. Lot of guys out at 301 bridge, they had gone out in a little boat and caught a lot of stuff, came back in, they cleaned it all and cooked it all right then and there.”

6.1.16 Sharing at community and family events

A small proportion, from one-fifth to one-third of the anglers in this sample, attend “community events” to which they bring fish they caught. The data do support that African Americans and Hispanic anglers are much more likely to attend community events than are Anglos or Asians. Community events are defined as organized activities where people know each other outside of family ties, such as living in the same apartment building or neighborhood, a church dinner, or Veterans of Foreign Wars (VFW) cookouts. We were surprised at the lack of sharing within community events. We hypothesize that post-1980 immigrant communities are broadly distributed geographically across the D.C. metro area, and this distributed geography may contribute to fewer community events. The other factor is that we do not have the sample size to make a lot of generalizations, except for African Americans. The data do support that African American and Hispanic anglers are much more likely to attend community events than are Anglos or Asians.

Anglers are much more likely to share fish at a family get-together than to attend or share fish at community events (see the tables following). With the notable exception of Anglo anglers (80% of whom do not bring fish to family events (see red shading in Table 6.1.45), more anglers from other ethnicities are likely to bring fish when they attend extended family events (55%: see beige shading in Table 6.1.45). For a fuller discussion of sharing at family events and the types of events people mentioned, see [Sections 6.3.3](#) on Sharing and [Section 6.3.2](#) on Subsistence.

Table 6.1.43
Sharing Fish at Community Events

Sharing Fish at Community Events	N	Percent	Valid Percent
Yes, attend	21	25.9%	28.4%
No, do not attend	53	65.4%	71.6%
Total	74	91.4%%	100%
Missing	7	8.6	
Total	81	100%	

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.44
Sharing Fish at Family Events

Share Fish at Family Events	N	Percent	Valid Percent	Cumulative Percent
Attend no events	37	45.7%	52.9%	52.9%
Attend one event	18	22.2%	25.7%	78.6%
Attend 2-6 events	15	18.5%	21.4%	100%
Total	70	86.4%	100%	
Missing	11	13.6%		
Total	81	100%		

Table 6.1.45
Sharing Fish at Community and Family Events
(by ethnicity)

Sharing of Fish at Community or Family Events		Angler Ethnicity											
		Anglo		African American		Asian		Hispanic		Other		Total	
		N	%*	N	%	N	%	N	%	N	%	N	%
Community Events	Yes, attend	2	18.2%	14	33.3%	1	20%	2	18.2%	2	40%	21	28.4%
	No, do not attend	9	81.8%	28	66.7%	4	80%	9	81.8%	3	60%	53	71.6%
Family Events	Attend no events	8	80%	20	50%	2	40%	5	50%	2	40%	37	52.9%
	Attend one event	0	0%	12	30%	0	0%	4	40%	2	40%	18	25.7%
	Attend 2-6 events	2	20%	8	20%	3	60%	1	10%	1	20%	15	21.4%

*All percentages in all columns are column percent

6.1.17 Food security

The text below is a summary. Please see [Section 6.3.4](#) for an expanded analysis of the topic and for details on references cited.

While this research did not focus on food insecurity, a previous study of fishing on the Anacostia by OpinionWorks (2012) did include questions about food insecurity. In addition, previous research by one of this study’s principal investigators (Callaway) considered the topic of food insecurity in Alaska Native populations. This research investigates two themes on food insecurity, which were commensurate with questions asked by the U.S. Department of Agriculture (USDA) in their assessments of food insecurity in the United States. The questions were shown to have construct validity in previous research.

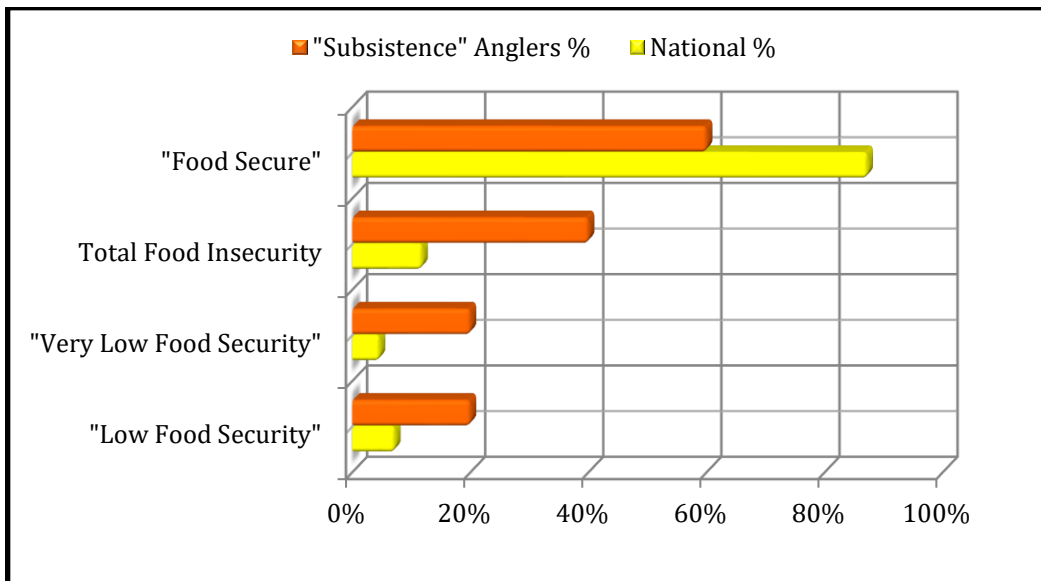
The first theme considered the psychological state of the angler: “did he/she worry about putting food on the table?” Responses were coded into three attributes: did the fisherman worry a lot, a little, or not at all. Ten percent of our respondents worried a lot, a quarter worried a little, and two-thirds did not worry at all. The second open-ended theme was a behavioral measure: “last year were there times your household did not have enough to eat?” Eighteen percent of the respondents were coded yes to this

SECTION 6.1: FINDINGS. Demographic Data

topic. The great majority of respondents on this question, 82%, said there were no times in the last year that their households did not have enough to eat.

The next step in the analysis was to compare the results of this research with parameters and findings established by the USDA. Essentially, the USDA has a three-part measure that includes “low food security,” “very low food security,” and the combined proportions of “low” and “very low” food security, which equals the proportion of total U.S. households that are “food insecure.” To make the current team’s results comparable to USDA measures, we recoded all of the individual anglers as to whether they “worried a little” (= USDA “low food security”). Any angler who “worried a lot” or indicated that there were times they “did not have enough to eat” (=USDA) were considered “very low food security.” The results of this comparison are shown in Figure 6.1 below:

Figure .6.1
“Subsistence Anglers” on the Potomac and Anacostia Rivers,
versus U.S. National Proportions of Food Insecurity



In table format (below) the results of the current research show that our sample of respondents have about three times the proportion of “low food security” and over four times the proportion of “very low food security” individuals, compared to national rates.

Table 6.1.46
Proportion of Food Insecure Individuals

Proportion of Food Insecure Individuals	National Percentage	"Subsistence Anglers" Percentage
"Low Food Security"	7.2%	20%
"Very Low Food Security"	4.6%	20%
Total Food Insecurity	11.8%	40%
"Food Secure"	87.2%	60%

SECTION 6.1: FINDINGS. Demographic Data

Why these stark contrasts? First, it must be understood that Washington, D.C. and its environs (our study area) has the highest proportion of income inequality in the nation. In addition, the proportion of children living in food-insecure households is the highest in the nation (31%) (Mississippi is second). Washington, D.C. and environs have the greatest discrepancy between rich and poor households as measured by income.

6.1.17.1 Populations at risk

In addition, the USDA research for all of the United States indicates that certain populations are most at risk for food insecurity. The proportion of food-insecure households varied by ethnicity and income levels:

- African American, non-Hispanic households (22.5%)
- Hispanic households (18.5%)
- Low-income households (incomes below 185% of poverty threshold) (31.6%)

Repeating a table from early in this section, Table 6.1.5 indicates the ethnic distribution of anglers in the current sample.

Table 6.1.47
Angler Ethnicity
(by number and proportion)

Ethnicity	N	Percent
Anglo	12	14.8%
African American	46	56.8%
Asian	7	8.6%
Hispanic	11	13.6%
Other	5	6.2%
Total	81	100%

6.1.17.2 Risk factors for food insecurity

The current sample, like the national results, indicates that being African American or Hispanic, or being old and/or poor, or being all three, are strong indicators of being seriously at risk for food insecurity.

- Ethnicity. Whereas 46 individuals (57%) of our sample are African American, two-thirds of these 46 individuals report “low food security,” and more than half report “very low food security. A third of the Hispanic anglers had “very low food security.”
- Age. More than half of the “food insecure” individuals are over age 35, while three-quarters of all anglers under the age of 35 are food secure.
- Education/income. Two-thirds of anglers who lack a high school education are “food insecure,” while half of those with only a high school education are also “food insecure.”

SECTION 6.1: FINDINGS. Demographic Data

Additional analysis of our “food insecure” respondents indicates that female anglers are slightly less at risk of food insecurity. Whereas half of the general sample of anglers did not consume all the fish species they harvested, almost all of the food insecure anglers consumed the fish they harvested.

Fifty-nine anglers in the sample harvested blue catfish. These 59 individuals harvested, in one year, about 400,000 pounds of live weight blue catfish. Dressed for edible consumption, this represents about 200,000 pounds of edible protein that are consumed and/or widely distributed to neighbors, friends, and extended family members; a majority of these households more than likely face food insecurity.

6.1.18 A detailed discussion: blue catfish harvest and sharing

To underscore the impact of the number and biomass of blue catfish harvested and shared, the team created a rough approximation of the total poundage of blue catfish that is harvested per year by our sample of 81 anglers. The literature reveals that the average weight of a blue catfish (of any age or length) is between 6 and 50 pounds, thus the team took a median estimate of about 25 pounds for the average blue catfish caught by this study’s anglers. Of those anglers that actually harvested blue catfish (n=63), the average taken in any particular week was about 12.

Table 6.1.48 below has selected only those anglers who gave a weekly estimate of the number of blue catfish caught, and who provided a starting and ending date for their fishing season. The final column in the cross-tabulation below has added the total number of months of fishing for those anglers with a specific start date (e.g., January). In row one, therefore, 14 anglers started fishing in January and fished the whole year until December, a total of 168 fishing months for these anglers. Seasonality, of course, may skew the results somewhat since there is no indication that the same number of blue catfish are caught during the winter months as in other seasons (spring through fall). To control for this, the team simply deducted the winter months (November through February) from the total months fished of 389. Deducting 77 winter months leaves a grand total of 312 total angler-fishing months for the 55 anglers with available information on the blue catfish harvest.

Twelve fish per week times four weeks gives an average of 48 blue catfish harvested per month. This monthly total of 48 multiplied by the 312 fishing months provides a total of 14,976 (~15,000) blue catfish harvested by the 81 anglers in the sample. At an average weight of 25 pounds, this totals about 374,400 lbs. of blue catfish biomass extracted from the Anacostia and Potomac rivers by the sample. Of course, the dressed weight of these fish (i.e., the fillet and other parts that are actually eaten) weighs much less. A Google search of “fresh fish butchering yields” revealed that the dressed weight of catfish (head off and gutted) to be about 50% of live weight. This very rough approximation reveals about 200,000 pounds of blue catfish consumed and shared by the small sample of 81 anglers per year.

SECTION 6.1: FINDINGS. Demographic Data

**Table 6.1.48
Only Anglers Who Harvested Blue Catfish, Start and End Dates**

Spring/Summer Start Month	Spring/Summer End Month						Total	Total Months Fished
	July	Aug.	Sept.	Oct.	Nov.	Dec.		
January	0	0	0	0	0	14	14	168
February	0	0	0	2	1	0	3	27
March	1	0	2	5	3	2	13	93
April	0	1	4	4	2	1	12	50
May	0	0	3	3	0	1	7	34
June	0	2	2	1	0	0	5	14
September	0	0	0	0	0	1	1	3
Total	1	3	11	15	6	19	55	389

Table 6.1.49 below, which has interval-level variables, has been recoded into a three-part ordinal variable so that cross-tabulations can be accomplished by comparing this new ordinal variable with other ordinal and nominal variables in the data set.

In general, we define “low harvesters” as anglers who harvested 1-4 blue catfish per week. “Moderate harvesters” are defined as 5-10 per week, while “high harvesters” take 11 or more per week. (The total number of blue catfish harvested has been re-coded in equal ordinal categories.)

**Table 6.1.49
Total Number of Blue Catfish Harvested Per Week (recoded)**

Catfish Harvested Per Week	N	Percent	Cumulative Percent
1-4	22	34.9%	34.9%
5-10	23	36.5%	71.4%
11 or more	18	28.6%	100%
Total	63	100%	

Table 6.1.50 (following page, repeated from Table 6.1.19 but with different analysis) indicates that 45% (5/11) of Anglo anglers are low harvesters of blue catfish. In contrast, the vast majority (80%, or 37/46) of African American fishermen are moderate to high harvesters, with only 20% (9/46) being classified as low harvesters. Anglo anglers are fairly equally represented at all age levels, while the majority of the African American moderate to high harvesters are over 51. The majority of Asian anglers are young and are low harvesters of blue catfish. Most (5/9) of the Hispanic harvesters are young, with the majority being low harvesters.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.50
Total Weekly Blue Catfish Harvest
 (Recoded by age and ethnicity)

Blue Catfish Harvested Per Week, by Age of Angler		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
1-4 per week	18-34 years	2	2	3	3	0	10
	35-50 years	2	4	0	0	0	6
	51+ years	1	3	0	2	0	6
	Total	5	9	3	5	0	22
5-10 per week	18-34 years	0	5	0	1	0	6
	35-50 years	1	4	1	0	1	7
	51+ years	0	7	2	1	0	10
	Total	1	16	3	2	1	23
11+ per week	18-34 years	1	3	1	1	0	6
	35-50 years	0	7	0	1	2	10
	51+ years	4	11	0	0	0	15
	Total	5	21	1	2	2	31
Total N		11	46	7	9	3	76

Ninety-three percent (60/62) of all harvesters of blue catfish share at least part of their catch. Of those that share, a substantial amount (42%, or 25/60) consume none of their catch. All African Americans share their harvested blue catfish; however, about 60% consume “none” or “some” of their catch. This 60% proportion holds regardless of whether they are a “low,” “medium,” or “high” harvester.

While all Asian anglers share their harvest of blue catfish, most (83%) are low or moderate harvesters and eat little or none of their blue catfish catch.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.51
Total Number of Blue Catfish Harvested Per Week (recoded)
 (by ethnicity of angler, amount consumed, and sharing)

Blue Catfish Harvested Per Week (recoded) by Amount Consumed by Angler, and Whether Angler Shared Blue Catfish				Angler Ethnicity					
				Anglo	African American	Asian	Hispanic	Other	Total
				N	N	N	N	N	N
1-4 per week	Proportion eaten?	None	Share Species? Yes	0	4	1	2	0	7
			Share Species? No	1	0	0	0	0	1
		Some	Share Species? Yes	3	1	2	2	0	8
			Share Species? No	0	0	0	0	0	0
		Most	Share Species? Yes	1	4	0	0	0	5
			Share Species? No	0	0	0	0	0	0
All	Share Species? Yes	0	0	0	1	0	1		
	Share Species? No	0	0	0	0	0	0		
5-10 per week	Proportion eaten?	None	Share Species? Yes	0	6	2	2	1	11
			Share Species? No	0	0	0	0	0	0
		Some	Share Species? Yes	1	5	0	0	0	6
			Share Species? No	0	1	0	0	0	1
		Most	Share Species? Yes	0	2	0	0	0	2
			Share Species? No	0	0	0	0	0	0
All	Share Species? Yes	0	2	1	0	0	3		
	Share Species? No	0	0	0	0	0	0		
11+ per week	Proportion eaten?	None	Share Species? Yes	2	4	1	1	1	9
			Share Species? No	0	0	0	0	0	0
		Some	Share Species? Yes	1	4	0	0	0	5
			Share Species? No	0	0	0	0	0	0
		Most	Share Species? Yes	0	4	0	0	0	4
			Share Species? No	0	0	0	0	0	0
All	Share Species? Yes	0	1	0	1	0	2		
	Share Species? No	0	0	0	0	0	0		

About 90% (8/9) of Anglo anglers share their catch of blue catfish, but only one Anglo angler consumes most of his catch (a low harvester, 1-4 per week). All Hispanic anglers share at least a portion of their blue catfish. And while about 18% of Hispanic anglers of blue catfish are high harvesters, only half of these high harvesters consume most or all of their catch. About half (45%) of all Hispanic anglers eat none of their harvest. Ninety-seven percent of African American anglers share their harvest of blue catfish. However, only about a third (34%) eat most or all of the fish they harvest.

In summary, nearly every angler, regardless of their ethnicity, shares a portion of their blue catfish catch. Surprisingly, about two-thirds of all anglers, irrespective of how much they harvest, eat none or at most some of their harvest. In general, Table 6.1.51 above demonstrates a pattern where most of the blue catfish harvest is shared or given to others. This pattern of giving most of the catch away holds constant regardless of ethnicity, age, or the amount of blue catfish harvested.

SECTION 6.1: FINDINGS. Demographic Data

Below, all three sharing options are combined into one table, regardless of first, second, or third level of sharing priority.

Table 6.1.52
With Whom Are Blue Catfish Shared? Categories #1 through 3

Person Shared With	Whom	Share #1	Whom	Share #2	Whom	Share #3	Total	Total
	N	Percent	N	Percent	N	Percent		Percent
Wife	7	10.8%					7	4.5%
Brother/ Sister	1	1.5%	2	3.7%	2	5.7%	5	3.2%
Parent	6	9.2%	-	-	1	2.9%	7	4.5%
Children	4	6.2%	7	13%	1	2.9%	12	7.8%
Relative, Extended Family	17	26.2%	12	22.2%	5	14.3%	34	22%
Friend/Neighbor	22	33.8%	21	38.9%	7	20%	50	32.4%
Acquaintance	8	12.3%	12	22.2%	19	54.3%	39	25.3%
Total	65	100%	54	100%	35	100%	154	100%

Respondents were asked an open-end question of whom they share their harvest with, in this case blue catfish. Responses were then coded for a total of three catch recipients: the individuals (or categories of individuals) who were mentioned first were coded as “Whom Share #1;” the second named recipient was coded as “Whom Share #2,” and so forth. About 70 anglers of the total sample of 81 harvest blue catfish. Thus, about 85% of the anglers interviewed harvest blue catfish, and of this group, nearly all share their harvest (about 7% do not). The final columns of Table 6.1.52 above aggregates the codes for those who receive blue catfish. An immediate impression is how little is shared with immediate family members (wife, brother/sister, parents, or presumably grown children). These four categories of recipients, out of seven categories, account for about 20% of the sharing. Relatives in the extended family receive a similar proportion (22%). Most interesting is that about 57% of all sharing is conducted with more distant relationships in their social networks such as friends, neighbors, other acquaintances, or individuals at the fishing site. As reported to earlier in the report, the majority of all blue catfish harvested are not personally consumed but rather are shared; therefore, we conclude that the vast majority of the tremendous catch of blue catfish biomass is not harvested for personal or immediate family consumption, but is shared with a broad and diffuse network of extended family, neighbors, friends, and/or acquaintances.

Further analysis, based on Table 6.1.53 (following page), indicates that nearly three-fourths (72%) of African American harvests are shared with this diffuse network of friends and neighbors. Interestingly, low-harvest African American fishermen and households share the least (or fail to report with whom they share), and the sharing they do report is almost never with close or immediate family members.

Anglo fishermen, mostly low-harvesters, never share with close or immediate family members. Hispanic anglers, consisting mostly of high harvesting anglers, have about 20% of their sharing going to immediate or close members. However, in the majority of cases for African Americans (68%) and Hispanics (58%), the modal relationship for sharing is with extended family members. We are presented with an impression for African American and Hispanic anglers of high harvests of blue catfish with low or moderate personal and family consumption, but with extensive sharing with more distantly related relatives.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.53
Blue Catfish Harvested Per Week (recoded)
 (by ethnicity of angler and who #1 angler shared blue catfish with)

Blue Catfish Caught (recoded) by #1 Whom Shared with by Ethnicity		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
1-4 per week	Wife	0	1	0	1	0	2
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	0	0	1	1	0	2
	Children	1	1	0	0	0	2
	Relative Extended Family	1	3	0	1	0	5
	Friend/Neighbor	2	2	1	2	0	7
	Acquaintance	1	1	1	0	0	3
5-10 per week	Wife	0	3	0	0	0	3
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	0	2	1	0	0	3
	Children	0	1	0	0	0	1
	Relative Extended Family	0	3	0	1	0	4
	Friend/Neighbor	0	4	1	1	1	7
	Acquaintance	0	3	0	0	0	3
11+ per week	Wife	0	1	0	0	0	1
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	0	0	0	0	0	0
	Children	0	1	0	0	0	1
	Relative Extended Family	0	6	0	2	0	8
	Friend/Neighbor	1	3	1	0	0	5
	Acquaintance	1	0	0	0	1	2
Total	Wife	0	5	0	1	0	6
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	0	2	2	1	0	5
	Children	1	3	0	0	0	4
	Relative Extended Family	1	12	0	4	0	17
	Friend/Neighbor	3	9	3	3	1	19
	Acquaintance	2	4	1	0	1	8

Although age, gender, and ethnicity seem to make little difference in the proportion of anglers who share blue catfish, ethnicity seems to make some difference with respect to with whom blue catfish are

SECTION 6.1: FINDINGS. Demographic Data

shared. About half of all anglers, regardless of ethnicity, share with friends/neighbors or acquaintances (i.e., non-relatives). However, ethnicity does seem to make some difference in that African Americans and Hispanics are much more likely to share with “extended” family members than are Anglo, Asian, or “Other” ethnicities. The category of “extended” family includes uncles, aunts, and grandmothers and grandfathers, who assumedly are not living under the same roof as “close” family. Close family includes the first five categories of Wife, Husband, Brother/Sister, Parent, and Children, all of whom are presumably living together in the same household.

About half of anglers who harvest blue catfish share them first with non-family friends and acquaintances. African Americans and Hispanics tend to share them first with extended family members more frequently than other ethnic groups.

Table 6.1.54
“Blue Catfish with Whom You Share #1”
 (by ethnicity, all respondents)

Blue Catfish, Whom Share #1	Angler Ethnicity											
	Anglo		African American		Asian		Hispanic		Other		Total (n=65)	
	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %
Wife	1	12.5%	4	10.5%	1	14.3%	1	11.1%	0	0%	7	10.8%
Husband	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Brother/Sister	0	0%	1	2.6%	0	0%	0	0%	0	0%	1	1.5%
Parent	1	12.5%	2	5.3%	2	28.6%	1	11.1%	0	0%	6	9.2%
Children	1	12.5%	3	7.9%	0	0%	0	0%	0	0%	4	6.2%
Extended Family	1	12.5%	13	34.2%	0	0%	3	33.3%	0	0%	17	26.2%
Friend/Neighbor	2	25%	11	28.9%	3	42.9%	4	44.4%	2	66.7%	22	33.8%
Acquaintance	2	25%	4	10.5%	1	14.3%	0	0%	1	33.3%	8	12.3%

In an alternative analysis of the above table, if one assumes that some extended family members live with the angler’s nuclear family (i.e., in the same household), one could collapse the categories of extended family and nuclear family members into one category of “family members.” For example, grandmothers often live with their daughters or grandchildren in the same household. One can then compare “Family members” with “Non-family” friends and acquaintances. Re-analyzing the data using these two broad categories shows that 53% of fishermen share their blue catfish first with “Family members;” and 46% share with the combined category of “Non-family friend, neighbor, or acquaintance.” See Section 6.3.3.2 for further analysis.

6.1.19 Striped bass: harvest and sharing

While blue catfish represent the largest amount of biomass taken from the river and contribute to the extensiveness of sharing throughout the fishing community, the team wanted to look at sharing with a contrasting species, namely striped bass. Striped bass are a species that are preferred for consumption. Many fewer stripers are harvested than catfish, in part because of the seasonality of their run in the

SECTION 6.1: FINDINGS. Demographic Data

spring when they return to spawn (although the fishing season is mid-May to the end of December), and the size limits for keeping striped bass (two fish, 20 to 28 inches in length).

Sixty-three of the sample of 81 anglers harvested or attempted to harvest striped bass. However, 18 of the 63 (29%) anglers who said they would harvest striped bass caught them so infrequently that they were not included in this analysis. The 45 remaining anglers actively harvested striped bass, and on the average caught slightly more than four per week. Two-thirds (29/45) of the anglers harvested three or fewer per week; most of the remaining anglers (n=12) were high harvesters, who took five or more striper per week.

Table 6.1.55
Weekly Striped Bass Harvest (recoded)

Striped Bass Harvested Weekly	N	Percent	Valid Percent	Cumulative Percent
1 per week	19	23.5%	42.2%	42.2%
2-4 per week	14	17.3%	31.1%	73.3%
5+ per week	12	14.8%	26.7%	100%
Total	45	55.6%	100%	
Missing + "0"	36	44.4%		
Total	81	100%		

A majority (~50%) of the high harvesters (five or more fish) were Anglo or Hispanic, with about 15% of the African American anglers catching substantial amounts of striped bass. A majority of the Anglo harvesters were under the age of 35, and this age group accounted for 40% of Anglo high harvesters. In contrast, a slight majority of the Hispanic harvesters were over the age of 51, and this age cohort comprised half of the high Hispanic harvesters. Three-quarters (19/25) of the African American anglers who harvested striped bass were over 35 years of age, and most of these anglers harvested less than four striped bass weekly.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.56
Striped Bass Harvested Per Week (recoded)
 (by angler ethnicity and age)

Striped Bass Harvested Weekly			Angler Ethnicity									
			Anglo		African American		Asian		Hispanic		Other	
			N	%	N	%	N	%	N	%	N	%
1 per week	Age	18-34 yrs.	1	50%	2	22.2%	2	66.7%	2	50%	0	0%
		35-50 yrs.	1	50%	4	44.4%	0	0%	1	25%	0	0%
		51+	0	0%	3	33.3%	1	33.3%	1	25%	1	100%
		Total	2	100%	9	100%	3	100%	4	100%	1	100%
2-4 per week	Age	18-34 yrs.	0	0%	3	25%	1	100%	1	100%	0	0%
		35-50 yrs.	0	0%	2	16.7%	0	0%	0	0%	0	0%
		51+	0	0%	7	58.3%	0	0%	0	0%	0	0%
		Total	0	0%	12	100%	1	100%	1	100%	0	0%
5+ per week	Age	18-34 yrs.	2	66.7%	1	25%	0	0%	1	25%	0	0%
		35-50 yrs.	0	0%	3	75%	0	0%	1	25%	1	100%
		51+	1	33.3%	0	0%	0	0%	2	50%	0	0%
		Total	3	100%	4	100%	0	0%	4	100%	1	100%
Total Anglers (n= 45)			5		25		4		9		2	

Most Anglo anglers are high harvesters of striped bass, and all share their catch. In fact, only one Anglo angler, who harvests very little, does not share any catch. Interestingly, 60% of Anglo anglers eat none of the striped bass they harvest.

By comparison, nearly two-thirds of African American anglers eat at least some of the striped bass they catch, although most (~80%) catch four or less striped bass per week. In contrast with Anglo anglers, about 40% (9/23) of African American fishermen do not share the striped bass they catch.

All Hispanic anglers, irrespective of how much they catch, shares the striped bass they harvest, and all but one angler eat some proportion of the fish (see Table 6.1.57, following page).

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.57
Number of Striped Bass Harvested Per Week (recoded)
 (by proportion eaten, sharing pattern, and angler ethnicity)

Striped Bass Harvested Weekly, by Amount of Bass Consumed and Whether Angler Shared					Angler Ethnicity									
					Anglo		African American		Asian		Hispanic		Other	
					N	%	N	%	N	%	N	%	N	%
Catch 1 per week	None	Share?	Yes	0	0%	1	33.3%	1	50%	0	0%	0	0%	
			No	1	100%	2	66.7%	1	50%	0	0%	0	0%	
	Some	Share?	Yes	1	100%	3	100%	0	0%	2	100%	0	0%	
			No	0	0%	0	0%	0	0%	0	0%	0	0%	
	Most	Share?	Yes	0	0%	0	0%	0	0%	1	100%	1	100%	
			No	0	0%	2	100%	0	0%	0	0%	0	0%	
All	Share?	Yes	0	0%	0	0%	0	0%	1	100%	0	0%		
		No	0	0%	1	100%	0	0%	0	0%	0	0%		
Catch 2-4 per week	None	Share?	Yes	0	0%	1	33.3%	0	0%	0	0%	0	0%	
			No	0	0%	2	66.7%	0	0%	0	0%	0	0%	
	Some	Share?	Yes	0	0%	3	75%	1	100%	0	0%	0	0%	
			No	0	0%	1	25%	0	0%	0	0%	0	0%	
	Most	Share?	Yes	0	0%	3	100%	0	0%	1	100%	0	0%	
			No	0	0%	0	0%	0	0%	0	0%	0	0%	
All	Share?	Yes	0	0%	0	0%	0	0%	0	0%	0	0%		
		No	0	0%	0	0%	0	0%	0	0%	0	0%		
Catch 5+ per week	None	Share?	Yes	2	100%	1	50%	0	0%	1	100%	1	100%	
			No	0	0%	1	50%	0	0%	0	0%	0	0%	
	Some	Share?	Yes	0	0%	0	0%	0	0%	2	100%	0	0%	
			No	0	0%	0	0%	0	0%	0	0%	0	0%	
	Most	Share?	Yes	1	100%	2	100%	0	0%	1	100%	0	0%	
			No	0	0%	0	0%	0	0%	0	0%	0	0%	
All	Share?	Yes	0	0%	0	0%	0	0%	0	0%	0	0%		
		No	0	0%	0	0%	0	0%	0	0%	0	0%		
Total Anglers Who Harvest Striped Bass					5		23		3		9		2	

Each respondent was asked about their relationship to three people with whom they most often shared their striped bass. This includes all three top choices for sharing, whether it is their first, second, or third priority, a combination of all sharing preferences. The data below show that about 60% of fishermen shared their catch with individuals who were not close family members (that is, not wife, brother, sister, parent, children). They share instead with friends, neighbors, co-workers, others at the fishing site, or extended family members (who do not live in the same house, such as uncles and aunts, and perhaps grandparents).

However, if one assumes that some extended family members live with the angler's nuclear family (i.e., in the same household), one could collapse the categories of extended family and nuclear family members into one category of family members. This way, one can compare "Family members" with "Non-family friends and acquaintances." Looking at the data with these two broad categories shows that 63% of fishermen share first with "Family members," or "Relatives" and 37% share with the combined category "Friend, neighbor or acquaintance." See also Sharing section, 6.3.3.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.58
Striped Bass Sharing Choices, “Kin” and “Non-Family” (Who share with #1?)
 by ethnicity (n=35)

Sharing Choice	Anglo Number/ Percent	African American Number/ Percent	Asian Number/ Percent	Hispanic Number/ Percent	Other Number/ Percent	Total Number/ Percent
Kin (Immediate family and extended family)	3 (14%)	12 (55%)	2 (9%)	4 (18%)	1 (5%)	22 (63%)
Non-Family (Friend/neighbor/acquaintance)	1 (8%)	5 (38%)	1 (8%)	5 (38%)	1 (8%)	13 (37%)
Total	4	17	3	9	2	35 (100%)

Table 6.1.59
Relationship of Persons with Whom Anglers Share Striped Bass

Striped Bass	Whom	Share #1	Whom	Share #2	Whom	Share #3	Total	Total %
Person Shared With:	N	Percent	N	Percent	N	Percent		
Wife	5	14%	1	4%	1	5%	7	9%
Brother/Sister	2	6%	5	19%	2	11%	9	11%
Parent	6	17%	1	4%	0	0%	7	9%
Children	2	6%	6	22%	2	11%	10	12%
Relative (Extended family)	7	20%	4	15%	6	32%	17	21%
Friend/Neighbor	7	20%	7	26%	4	21%	18	22%
Acquaintance	6	17%	3	11%	4	21%	13	16%
Total	35	100%	27	100%	19	100%	81	100%

Table 6.1.60 (following page), “Number of Striped Bass Harvested per Week (recoded) by Angler Ethnicity and Relationship to Whom Shared” deals only with the first response from anglers about with whom they shared striped bass. In general, the majority of low and moderate harvesters of striped bass share with individuals outside their immediate family. However, a majority of high harvesters share with close family members.

Of the Anglo anglers who responded to this question, all were high harvesters, and a majority shared with their parents.

Two-thirds (9/14) of African American anglers, irrespective of how much they harvested, shared only outside of the immediate family.

Hispanic fishermen mirrored African American anglers in that two-thirds (6/9) shared only with distant relatives, neighbors, or acquaintances.

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.60
Number of Striped Bass Harvested per Week (recoded)
 (by ethnicity of angler and relationship with whom they shared)

Number of Striped Bass Harvested (recoded) by #1 Person Shared With		Angler Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
1 per week	Wife	0	1	0	0	1	2
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	0	0	1	1	0	2
	Children	0	0	0	0	0	0
	Relative in Extended Family	0	2	0	1	0	3
	Friend/Neighbor	0	0	0	1	0	1
	Acquaintance	0	1	0	1	0	2
	Total	0	4	1	4	1	10
2-4 per week	Wife	0	0	0	0	0	0
	Husband	0	0	0	0	0	0
	Brother/Sister	0	1	0	0	0	1
	Parent	0	1	0	0	0	1
	Children	0	0	0	0	0	0
	Relative in Extended Family	0	3	0	0	0	3
	Friend/Neighbor	0	2	1	1	0	4
	Acquaintance	0	0	0	0	0	0
	Total	0	7	1	1	0	9
5+ per week	Wife	0	1	0	0	0	1
	Husband	0	0	0	0	0	0
	Brother/Sister	0	0	0	0	0	0
	Parent	2	0	0	1	0	3
	Children	0	1	0	1	0	2
	Relative in Extended Family	0	1	0	0	0	1
	Friend/Neighbor	0	0	0	2	0	2
	Acquaintance	1	0	0	0	1	2
	Total	3	3	0	4	1	11
Totals, Number of Striped Bass Harvested (recoded) by #1 Person Shared With							
Number of Striped Bass Harvested (recoded) by #1 Person Shared With		Anglo	African American	Asian	Hispanic	Other	Total
		N	N	N	N	N	N
Total	Wife	0	2	0	0	1	3
	Husband	0	0	0	0	0	0
	Brother/Sister	0	1	0	0	0	1
	Parent	2	1	1	2	0	6
	Children	0	1	0	1	0	2
	Relative in Extended Family	0	6	0	1	0	7
	Friend/Neighbor	0	2	1	4	0	7
	Acquaintance	1	1	0	1	1	4
	Total	3	14	2	9	2	30

SECTION 6.1: FINDINGS. Demographic Data

Table 6.1.61 below offers a summary of the relationship between ethnicity and the practice of sharing striped bass. This summary uses only the first instance of an angler’s response regarding with whom they share striped bass. In general, half to three-quarters of the anglers of Anglo, Asian, or “Other” ethnicity share striped bass within the immediate family. In contrast, for African American and Hispanic anglers, two-thirds of the sharing occurs with individuals outside the immediate family, that is, with extended family members not living in the household, friends, neighbors, or acquaintances.

**Table 6.1.61
Angler Ethnicity and Relationship #1 of Persons
with Whom They Share Striped Bass**

Striped Bass Whom Share #1	Angler Ethnicity											
	Anglo		African American		Asian		Hispanic		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Wife	1	25%	2	11.8%	1	33.3%	0	0%	1	50%	5	14.3%
Husband	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Brother/Sister	0	0%	2	11.8%	0	0%	0	0%	0	0%	2	5.7%
Parent	2	50%	1	5.9%	1	33.3%	2	22.2%	0	0%	6	17.1%
Children	0	0%	1	5.9%	0	0%	1	11.1%	0	0%	2	5.7%
Relative (Extended family)	0	0%	6	35.3%	0	0%	1	11.1%	0	0%	7	20%
Friend/Neighbor	0	0%	2	11.8%	1	33.3%	4	44.4%	0	0%	7	20%
Acquaintance	1	25%	3	17.6%	0	0%	1	11.1%	1	50%	6	17.1%
Total	4	100%	17	100%	3	100%	9	100%	2	100%	35	100%

Reference

Ebbin, Syma Alexi, 2017. “Fishing for Food: Piloting an Exploration of the Invisible Subsistence Harvest of Coastal Resources in Connecticut.” *Agriculture & Food Security* 6: 12.

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

6.2 Fishing Site Sampling Matrix and Field Notes

This section explains the field methodology developed to cover the long shoreline and multiple fishing sites in the study unit. We hope to convey the systematic effort undertaken by the Field Team, who visited fishing sites and conducted interviews based on the open-ended protocol (see Appendix E). This section contains two pieces: the field site sampling matrix and its explanation, and Field Notes from “A Month in the Field” (July 2015). Field Notes were written up as a part of the research effort documenting the ethnographic context of the interviews; they give the reader a week-by-week sense for the work of the Field Team.

6.2.1 Field Site Sampling Matrix

The following Field Site Sampling Matrix shows fishing sites, by park unit, rated by intensity (Low, Medium, and High), with the number of site visits by time of day (AM, PM, or evening), time of week (weekday or weekend), and season of year (March/April/May, July/July/August, etc.). The intent of the matrix is to show the total range of fishing sites visited, and the distribution of effort over weekdays, weekends, and time of day. The matrix for 2015 was provided in the Interim Report; it was used as a planning review tool, to adjust sampling strategies and targets for 2016.

The blue column on the left of the shaded cells indicates the fishing intensity of the site, which we assessed through input from NPS as well as from site visits over the course of the 2+ years. The bottom row of each park unit indicates the number of 2015-2016 visits to those fishing sites and the totals. The far-right column labeled “2015-2016 Interview Totals” indicates the total interviews that occurred at each specific fishing site between 2015 and 2016.

Fishing Site Sampling Matrix												
No.	Name	Intensity Rating	AM	PM	Eve	WD	WE	MAM	JJA	SON	DJF	2015-2016 Interview Totals
Rock Creek Park (ROCR)												
1	Peirce Mill dam	L	5	2	0	7	0	0	6	0	1	0
2	Fishing hole near Klinge Road	L	5	1	0	6	0	0	5	0	1	0
3	Thompson Boathouse	L	6	5	1	12	0	0	11	0	1	0
	Subtotal		16	8	1	25	0	0	22	0	3	0
National Mall and Memorial Parks (NAMA)												
4	Inlet Bridge	L (a.m.)	3	3	0	5	1	1	5	0	0	0
5	Outlet Bridge	L (a.m.)	3	3	0	5	1	1	5	0	0	0
6	Kutz Bridge shoreline, Tidal Basin side	M (a.m.)	2	3	0	4	1	1	4	0	0	0
7	(NAMA) HQ – south side of chain fence	H	2	4	0	6	0	1	5	0	0	0
8	Hains Point Washington Channel Side	H	6	9	5	17	3	2	17	1	0	19
9	Hains Point Potomac River Side	H	4	6	3	12	1	2	9	0	2	8
10	Tidal Basin	L	2	3	0	4	1	1	4	0	0	0
	Subtotal		22	31	8	53	8	9	49	1	2	27

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

No.	Name	Intensity Rating	AM	PM	Eve	WD	WE	MAM	JJA	SON	DJF	2015-2016 Interview Totals
Piscataway Park (PISC)												
11	Marshall Hall landing (boat ramp)	L/M	0	2	0	2	0	0	1	0	1	0
12	Saylor Grove Pier & National Colonial Farm	H	6	5	0	10	1	2	7	1	1	10
13	Mockley Point	M	2	1	0	3	0	0	3	0	0	0
14	Farmington Landing (Wharf Road)	H	4	5	0	9	0	2	7	0	0	3
15	Ft. Washington lighthouse-picnic area at river edge	H Weekend	6	2	0	8	0	2	6	0	0	1
16	Harmony Hall	L	2	1	0	3	0	1	1	0	1	0
17	Fort Foote	M/L	1	2	0	3	0	1	2	0	0	0
18	Oxon Cove	M/?	1	1	1	3	0	0	3	0	0	0
	Subtotal		22	19	1	41	1	8	30	1	3	14
Anacostia Park (ANAC)												
19	Entire ANAC waterfront	H	4	3	2	8	1	0	8	1	0	1
20	Boat ramp	H	2	3	2	7	0	2	5	0	0	3
21	Pirate ship	M	1	4	0	5	0	1	3	1	0	6
22	ANAC Outfalls	H	2	2	0	4	0	0	4	0	0	1
23	Anacostia Riverwalk Trail, River Trail east side of river	L	2	1	0	3	0	0	2	1	0	0
24	Near Park Entrance & underneath Pennsylvania Ave. Bridge (Sousa Bridge)	L	2	3	0	5	0	0	5	0	0	0
25	Kenilworth Aquatic Gardens	L	2	0	0	2	0	1	1	0	0	0
26	Anacostia Riverwalk Trail SE (Stadium, west bank)	L	1	5	0	6	0	0	6	0	0	1
27	Anacostia Riverwalk Trail SW (near Buzzard Point)	L	1	2	0	3	0	0	3	0	0	0
	Subtotal		17	23	4	43	1	4	37	3	0	12
C&O Canal National Historic Park (CHOH), Maryland												
28	C&O Canal near Great Falls, MD	M	4	2	0	6	0	0	5	0	2	4
29	River Trail near Conn Island	L	1	1	0	2	0	0	2	0	0	0
30	Catfish Hole & Mary's Wall	M	2	1	0	3	0	0	3	0	0	0
31	Swain's Lock (did not visit)	?	3	1	0	4	0	0	3	0	1	0
32	C & O Canal near Old Angler's	M	1	1	0	2	0	0	2	0	0	2
33	Fletcher's Cove, near Fletcher's Boathouse, or north	H	6	9	2	15	1	3	11	0	2	9
	Subtotal		17	15	2	32	1	3	26	0	5	13

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

No.	Name	Intensity Rating	AM	PM	Eve	WD	WE	MAM	JJA	SON	DJF	2015-2016 Interview Totals
George Washington Memorial Parkway - N (GWMP-N), Virginia												
34	Theodore Roosevelt Island (TRI)	L	3	2	0	5	0	0	5	0	0	0
35	Outfall in TRI parking lot, easy access	M	2	2	0	4	0	0	4	0	0	0
36	Potomac Heritage Trail (PHT) north of TRI	L	1	0	0	1	0	1	0	0	0	0
37	Overlooks: PHT along Potomac River; "social trails"	?	0	0	0	0	0	0	0	0	0	0
38	Pimmit Run (social trail to Potomac access)	H	2	1	0	2	0	0	3	0	0	0
39	Turkey Run	L/M	1	0	0	1	0	1	0	0	0	0
40	Difficult Run	L	1	1	0	1	0	0	1	0	0	0
41	Great Falls Park, VA	M	4	2	0	5	0	0	5	0	0	0
42	Fishing eddy	M	0	0	0	0	0	0	0	0	0	0
43	Chain Bridge	H	5	4	0	9	0	2	7	0	0	0
	Subtotal		19	12	0	28	0	4	25	0	0	0
George Washington Memorial Parkway - S (GWMP-S), Virginia												
44	Roaches Run	H	3	3	0	5	1	1	5	0	0	1
45	Roaches Run, south culvert	H	3	0	0	3	0	1	2	0	0	1
46	Gravelly Point	L	4	3	0	6	0	1	5	1	0	1
47	Belle Haven Park	M	6	3	0	9	0	1	8	0	0	1
48	Dyke Marsh & Wildlife Preserve	L	2	1	0	3	0	1	2	0	0	0
49	Little Hunting Creek, mouth Potomac	H	8	4	0	10	1	1	10	1	0	2
50	Riverside Park, Waynewood Dr. (parking lot)	L	4	0	0	1	0	1	3	0	0	0
51	Riverside Park, south of Collingwood Park (parking lot)	L	5	0	0	5	0	1	4	0	0	1
52	Riverside Park, cigarette turnaround	L	3	2	0	5	0	1	4	0	0	0
53	Jones Point Park and Pier; under Wilson Bridge & along shoreline)	H	8	8	2	15	2	3	14	1	0	8
	Subtotal		46	24	2	62	4	12	57	3	0	15
	Total		159	132	18	284	15	40	246	8	13	81

Because of the complexities of accessing many of these urban shorelines, and the sheer scope of the study area, the Project Team conferred with each park manager to map observed fishing locations. This was done at the beginning of the project, in fall 2014, with the input of park staff, community members, and field visits and observations. The fishing locations were rated as to fishing intensity (how often or how many anglers fish there)—High, Medium, or Low intensity. The product of those efforts created the initial Fishing Sampling Matrix, which the team used to plan their field visits. The ratings were revised over time, reflecting multiple visits to fishing sites.

Primary visits to the parks were scheduled in advance by the Field Team of research assistants. Each park received a focused, week-long (two weeks for GWMP) initial field visit in 2015. During this initial field visit period, on Mondays, the team drove the length of that week's park, looking for fishermen and potential interviews, scoping out fishing locations, and trying to learn the terrain. For example, the team traveled from Roaches Run to Little Hunting Creek on a Monday, stopping at every park on the

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

southern end of the George Washington Memorial Parkway. From those initial impressions, and with input from park managers, the team determined which study areas within that park required a more concerted effort, and which study areas could get by with a “drive-by” approach.

If no anglers were found at a study area, the team examined the area for social trails and fishing litter, or what is called in the anthropological literature, “material culture.” This material culture could consist of discarded line, empty nightcrawler containers, hooks, grocery store Styrofoam containers (with raw chicken), and other forms fishing/bait-related detritus. Since the finding of material culture suggests fishing activity, the team would infer the intensity of fishing at the site and prioritize whether to return immediately or at some future date.

This project focuses on *subsistence* fishers, and consequently, the Field Team focused on areas where subsistence fishers might be found. The team quickly learned to identify subsistence fishers by their gear: numerous rods, multiple/large coolers, buckets, and stringers of fish in the water. Additionally, some parks were found to be more popular during weekday mornings, which is when the team would often conduct fieldwork. Other parks, like Fort Washington, Rock Creek, and Oxon Cove, receive more fisherfolk during the weekends.

6.2.2 A Month in the Field—July 2015 Field Notes

This section includes an *example* of Field Notes from the month of July 2015, in order to provide insight into the sampling strategies that the Field Team used to locate and identify fishers, including the sites visited, the time of day, time of week, and season. The Field Notes also give a descriptive “first-impression” picture of the fishermen, conversations with them and their families, and the park units where the team traversed in search of subsistence fishermen. They include the Field Team’s experiences along the way, with humorous anecdotes on the situations in which the team members found themselves, the interactions with NPS personnel and rangers, and the observations on debris and trash left by fishermen and by the rivers. The Field Notes touch on many of this report’s themes, including the range of ethnicities encountered in various locations, the historical contexts of different parks, observations on commercial fishing activities, trash and debris management, and perceived changes in the rivers themselves.

The following is one week’s worth of Field Notes, July 27-July 29, 2015. *The full month of Field Notes can be found in Appendix G: July 2015 Field Notes.* The Field Notes are a week-by-week log of the work of the Field Team as they visited parks and searched for subsistence fishermen and fisherwomen. It gives a first-hand impression of the fieldwork side of the project. These notes were written by Amber Cohen, a key member of the Research Team. Please note that all names, except for the Field Team members, are pseudonyms.

July 27, 2015: With Jeremy and Noel

Jeremy, Noel, and I went out at 7 p.m. to Hains Point after work. We did a lap around the Point, many groups were outside: Asian, African American, couples on dates, a large party. We saw a group of Asian men and one child fishing. We saw one of the older men posing for a photo with a giant catfish: we *had* to stop and talk to them. We pulled over, and came over to the group, asking to see their catfish. They pointed to a large cooler. Noel opened the cooler, and yelled: a giant catfish laid inside, its large oval mouth gaping for water, only receiving air. It was huge, at least an arm length, and plump. The men were Vietnamese, as was the younger boy they were with. The younger boy and the two men continued to fish during the interview. We sat on a picnic bench, Jeremy, Noel and I on one side, the

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

man, an older Vietnamese with a wrinkled face, sitting across from us. Just as we started recording, the line jingled and the man got up to reel in. We chatted among ourselves about how we are usually unlucky for our interviewees (they tend to not catch anything during our interviews). He came back, retying the line to his rod. He went to re-cast, Noel asking “How far was that?” “I don’t know,” the man replied. Though the rod was a 10-footer, so it had to be about that far. Powerful cast—the sign someone has fished for a long time.

Noel asked him, “Who cooks the fish?” “I cook,” he answered. “What do you make?” Noel followed up. “Soup: clean it (cut and peel the skin), put it in hot water so the skin falls off, cut the fish into pieces.” He did not know how to say the name in English, but restaurants in the Eden Center (a well-known bastion of delicious Vietnamese food) sold it. After some research, I think the soup is *Canh Chua Ca* or sweet and sour soup, where they mix catfish pieces into a lemongrass broth infused with tamarind and chili powder. He likes to share the fish because people are always happy to receive it.

Interestingly, he learned how to fish by just watching others at Lady Bird park. Now a fisherman for 20 years (thus the strong casting ability), he bought a rod and just learned from others.

When we asked him our usual ending questions (what is your language, education, etc.), he gave an answer that opened us up to a new trend. Noel asked about if he had enough food or worried about food, and he answered laughing, “I always have food. I’m always full!” Then he followed up with: “I’m always full, you know, if there’s no food, I come in here and got to fish!” This answer in conjunction with several others of the same trend made us question how we viewed food security. He wasn’t worried about food because he was fishing. So asking a yes/no answer: he said no he wasn’t worried, but without that follow-up about needing fishing, we may have believed, erroneously, that he was doing well getting food from the “regular” (grocery store) sources. Other fishermen would say to us that fishing helped fill a gap in food, alleviating worries and food insecurity.

After the interview, we took a few more photos, and then Noel had to head home. Jeremy and I continued looking for fisher people. We saw Mark, a short African American man, fishing with two poles (our sign for subsistence?) and decided to go talk to him. At this point, it was after 8:30 p.m. and slightly dark. We asked him how the fishing was going and eventually found out he shared the fish. Mark continued to fish while we interviewed, though he did not catch anything (part of our ongoing bad luck!). He only recently started fishing again with his dad. He revealed he would eat certain fish: rockfish and carp. He has a daughter, and because the gates on the Potomac side were broken, he stuck to the safer and better maintained Washington Channel side. When I asked him if he was worried about food, he said yes, but he goes to fishing to help clear his mind. I then asked if he used fishing to put food on the table and he said a few times. He started out the interview claiming he did not eat the fish, but after talking to us, eventually admitted that fishing helped out with food insecurity.

July 28, 2015: With Noel and Leslie, and interns

We decided to change our field methods. Instead of everyone going to the same place, we split the Field Team in two to cover more ground. Noel took two interns, Natalie and Ben, over to Jones Point while Leslie, Aaron and I went around Hains Point. We saw a group of Latino or Hispanic men and women fishing and picnicking, dressed in very conservative clothes. Noel pointed them out to us before they left, saying they were probably part of a church group. They had three rods. We saw an older man take a water bottle, wrap line around it, throw the line with the hook into the water, and wedge the water bottle into the fence separating the Potomac from the sidewalk.

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

They came prepared to spend the day by the water. They had magazines, a huge jug of water, food from 7-11, raw chicken breast from the grocery store for bait, empty plastic water bottles, a small cooler with worms, Slim Jims, and line, and a box of tackle covered the ground. They had already been successful fishing: one catfish swam around in a bright blue bucket. Francisco showed me his baits and tackle: spinners, kamikazoo hooks for catfish, bass lures, crank baits.

There were several different generations fishing together: an older gentleman, Francisco (25 years old; the older gentleman is his father), two ladies in their 60s, and two young kids who looked around 10 years old, a boy and a girl. Francisco was willing to be interviewed, and excitedly talked about the new methods he learned. Francisco's family emigrated from El Salvador about 30 years prior. Fishing was critical to survival in the war-torn country. While not as extreme here, Francisco and his father like to fish because they can help out their neighbors. Their commitment to giving fish away and helping others could be related to their religious beliefs. At first, we thought the group was a family. However, only one of the women and the older man are related to Francisco (his father and mother). The other woman and two kids were part of the same church; he called them his "friends." Their church is their community, and they give back through fishing.

We assumed that children of immigrants would use their parent's traditional fishing methods. And this was partly true for Francisco. His father did not start fishing until about a year ago. So, he learned the "bottle technique" described earlier from his brother, Francisco's uncle. Francisco does appreciate how effective the bottle technique is, but also relies on the Internet (particularly YouTube) to learn new techniques. He learned most of his bait handling from one YouTube channel. The YouTuber taught five different methods for tying bait so it would not fall off the hook. So far, Francisco had only practiced one method. In a case of good timing, his father came over to re-bait his hook. He took the raw chicken breast, put it in the hook, and then used line to secure the bait. Thus, the son taught the father this time. Like so many younger people his age, Francisco uses the Internet to gain new information.

While I interviewed Francisco, his two younger friends watched the poles and helped the father with his bottle technique. The two women sat on a blanket underneath the tree, enjoying the mild summer weather. One woman, I assume Francisco's mother, walked up to the poles, peered down into water looking for fish, and talked to Francisco's father. Leslie also hung out over by the father, watching him fish and started chatting with the mother. Suddenly, his father caught a fish on the line, and Francisco ran over to help him. They pulled the fish out, a small alewife they called a "platinum fish" (they did not have a name for it in Spanish). The small fish would be used for bait, and they placed it in the blue bucket with the catfish.

Francisco finished up the interview by talking about the importance of nature. Another El Salvadoran I interviewed about a month before said a similar spiel about protecting the environment. I asked Francisco if there was anything else he wanted to discuss. He brought up the beauty of Hains Point. It's a great place to explore, he said, "But that's our part to take care of what we have. It's in our part to do our best to keep it clean, to protect it, to not contaminate it, and leave it how it is, how nature formed it. It's a beautiful place." Oscar, the El Salvadoran I spoke to a month ago, had similar sentiments: "I mean, there are some anglers there that kind of abuse the system or abuse the park area and leave things, and that's a shame, but you know, hopefully the more, uh, people know about taking care of it, definitely we'll take care of the future of our ponds and lakes."

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

July 29, 2015: With Noel

I am out again with Noel. We decided to get lunch at the Maine Avenue Fish Market. We checked out the different vendors. It was incredibly crowded, hard to get a parking spot. We picked up lunch at the cooked seafood restaurant and headed to Hains Point to eat it. After our lunch, we drove around the island. Again, we saw more fisher people on the Washington Channel side. We saw one African American man fishing by himself. We parked in the parking lot and went to talk to him, though he did not seem receptive. He barely made eye contact with us, and did not want to be interviewed, although he had signs of eating the fish (a cooler/multiple rods).

We moved on, seeing two men sitting on a bench, watching their two fishing poles. We introduced ourselves; they showed us their catch (a catfish). One of the men, Pedro (who we ended up interviewing) was older, 80 years old. (Later he did not have a permit: "My age is my permit!" because anyone over age 60 does not need a license). The other was much younger, in his 30s, and shied away during the interview. He seemed like he was trying to avoid being asked any questions. He kept fishing throughout the interview.

Pedro and his friend are both Filipino. Although he eventually moved to the city, he grew up fishing in the country side. "That's why we are very close on the river and the sea, and we do fishing. I remember I was only 7 years old, we'd go fishing, swimming in the sea. So I learned how to fish and I love fishing," he told us. Pedro fished on the Potomac for 25 years, and he knew his friend (who was ignoring us during the beginning of the interview) for 15 years. We asked if Pedro ever gave the fish away, and Pedro said they usually just ask people if they want it. His friend then asked us, "If you want fish too, we can get you some!" Tempting offer, though we did not have any method of taking the fish home.

As the interview continued, the friend interjected more into the conversation. When we asked about the herring/shad run in the spring, he claimed they caught around 500. There's no need for bait, he said, you just dip your rod in. The friend was also the first person we interviewed who ate eel. "Eel is good!" he said. By this point, he was now sitting on the bench with Pedro, watching the rods, but integrated into the interview.

When Pedro ate catfish, he cooked *adobong hito* or catfish adobo. There are two variations of adobo: coconut milk, garlic, "Kikkoman" (soy, interesting that he used the brand name) sauce, ginger root versus "Kikkoman" sauce with the vinegar, garlic, ginger root, hot pepper. Adobo is a popular cooking style in the Philippines. Mostly, he said, they deep fry the fish.

Pedro liked catching rockfish, but he knew that there were "un-uniformed" police who regulate the fish size. They would fine "300-400" dollars for catching and not releasing a rock. Pedro did not seem too concerned about the police. One time he was fishing and a police man fished right next to him; though he claimed the police do not eat the fish, they throw them back.

They caught two small herring or alewives, which they threw back into the river since they did not use cut-bait. Pedro's answer for why he liked fishing was something we heard numerous times from diverse fishermen: African American, Asian, Latino, young, old, etc. He said, "Instead of staying at home watching TV, much better here. Fresh air, and you forget some, every problem. At home, you, problems like this, problems like this, so many problems at home. But here, you can laugh, you can shout, everything you can do it! [laugh] Free!"

SECTION 6.2: FINDINGS. Sampling Matrix and Field Notes

At the end of the interview, their pole started bending. “You have another one over there!” Noel told them. The bell on another rod started jingling. “Oh my god!” Noel said. We stopped the recording since they needed to fish. They caught a large catfish, and offered the blue to us. Again, we declined the offer, but one day we planned on eating a catfish right out of the Potomac.

6.3. Ethnographic Findings and Discussion

6.3.1 Significance and Meaning: The Fishing Experience

As noted in the Introduction, the development of this study was influenced by years of Park personnel observations that individuals were fishing along Park shorelines of the Potomac and Anacostia rivers, from the C&O Canal and Great Falls to Piscataway Park; and from the Arboretum to the Pennsylvania Avenue bridge. Hains Point, where the National Capitol Region offices were located and the Potomac and Anacostia rivers merge, is a well-known, high-intensity fishing spot; generally, on any given day during fishing season, dozens of fishermen and fisherwomen are found with multiple poles in the water. Some fishermen told us that it was so crowded on the weekends with families and children that it was hard to find a fishing spot.

Even in informal conversations we heard fishers say, “I’m out here every day of the year. I fish all the time.” It was a statement of pride (in their dedication and skill) and a statement about how much the rivers and access to them mean to fishermen. The parks are highly valued resources.

Why do fishermen come to the Potomac and Anacostia to fish? We were asked by NPS to find out: “What does fishing mean to people who fish along the rivers?” and “How are fishermen using NPS shorelines and resources?”

The Statement of Work asked the Research Team to find out, “who are these people, how do they use the resource (fish), and *what does it mean to them?*”

6.3.1.1 Parks are high intensity fishing spots

We were surprised to find that during their fishing season, 66% of the anglers fished two to three days per week, while a dedicated segment (20%) fish four or more days per week. Nearly everyone who was interviewed fished at least once a week (95%) during the months that they fished, indicating a strong commitment to fishing and consuming.

We asked what months they started and finished fishing during the year to get an idea of their seasonal round. *About one-third of anglers said they fished all winter.* About 41% of African American fishermen were out fishing by January, a much higher proportion than other ethnic groups); about the same percentage said they finished in December—much later than other ethnic groups (Tables 6.1.15, 6.1.13, and 6.1.14 respectively).

Especially on weekends, family groups used the parks along the Potomac and the Anacostia as destinations for recreation, teaching children to fish, enjoying the scenery, and other fishing activities. Even during weekdays, folks enjoyed their time outdoors and fishing. The riverbanks and piers are popular spots for gathering—in fact, the parks may be among the few remaining public spots that visitors can reach and fish along the 47-mile shoreline, including Rock Creek Park. The parks’ shorelines and rivers are scenic wooded and riverine areas, with roaring falls upstream, and wide expanses of undulating waters and wetlands downstream. The exceptional visual and aesthetic experience is a critical part of the fishing experience, one that is often articulated spontaneously by fishermen.

“Well, I was born and raised in D.C., I never moved out of the state, and, well, it’s a beautiful place to explore, the tourists love it here, you know, and it’s right in our backyard...” (#106, interviewed at Hains Point)

SECTION 6.3.1: FINDINGS. Significance of Fishing

Hains Point was cited as a favored spot for fishermen, particularly African Americans, but also Asians, Hispanics, and other immigrant groups—a very multi-ethnic user group of fishers. Hains Point has a long history, at least in the memories of African American fishermen, of being racially integrated when other fishing spots and places of recreation were not. It was considered a “safe” place to go for recreation and for fishing, even in the 1950s and 1960, when there was still much *de facto* segregation in the District, Virginia, and Maryland.

At Hains Point, we often saw groups of four or five men, sometimes with a woman or two, who were mostly fishing, some hanging out, with boom boxes going, pickups or van parked nearby, a cooler and barbeque grill set up, with multiple poles in the water, leaning on the guide fence along the water’s edge. All were talking, sharing, laughing, or quietly enjoying the park, the trees, and the flowing river.



East Potomac Park and Hains Point. *Photo credit: J. Trombley*

They fished alone and in small groups, but most anglers were likely to fish with others, mainly family members or groups of friends. We asked why individuals fished and what significance or meaning it had. Most anglers started with, “because it’s relaxing,” meaning that fishing allowed them to get away from their living situation, their job, and just be outdoors in a peaceful, reflective setting.

We asked, “What does it mean to you to go fishing on these rivers? What’s the significance of fishing to you?” We asked follow-on questions about how they learned to fish, who taught them, the memories they had, and their favorite fishing spots. This provided a fairly well-rounded picture of why they enjoyed fishing, their favored locations, and fishing techniques. Several themes recurred in an analysis of the MAXQDA data. The following themes are also discussed in the Subsistence section, 6.3.2, under the subsection “Why do fishermen fish? Motivation for fishing.” In addition, within the Subsistence section, there is an in-depth analysis of kinship relations and who taught/learned to fish between generations (see subsection “Handing down knowledge” (Section 6.3.2.5), since subsistence includes a critical component of sharing knowledge between generations. In the themes below, “Handing Down Knowledge” is re-titled “Family and Fishing,” subsection number 6.3.1.5, since it is treated here in the context of themes of meaning and significance.

6.3.1.2 Relaxation

The most frequent theme was relaxation—simply being outdoors, enjoying the rivers and scenery, and the salutary effect of being out on the rivers with the distance from everyday problems. Anglers said it allowed them to clear their minds. They liked being outdoors, in a beautiful environment, and allowing their minds to move off the problems in their lives or work life.

“So why I go get that fishing rod, and throw that line out? All that anger and frustration I have inside, it takes it out into the water.” (#213)

SECTION 6.3.1: FINDINGS. Significance of Fishing

- “Ah, just for the relaxation of the sport. Like, being by the water, being relaxed, sometimes I even come out here and just fall asleep [laughing].” (#105)
- “Relaxation, meeting good people. There's no weirdos fishing, fishing is like normal guys. Regular guys, like football, beer, you know, and women.” (#210)
- “I enjoy my time outdoors. It's better than sitting home watching soap operas.” (#102)
- “It's peaceful. It's fun. You know, it's something positive you can have on your mind. You can put positive things in your mind. Keep negative stuff out. Stuff like that. And I love doing it. It keeps me calm, away from the stuff that I've been through. Stuff like that.” (#107)
- “Ain't nothing to fishing. It's very relaxing. If you're arguing with your man or your girl, you and your girlfriend had an argument, when I say girlfriend, I mean best friend or whatever, and you be like, you know what, I'm putting all this to the side and I'm going fishing.” (#512)
- “...I love fishing. I always, every year, every week, 2 times, 3 times, I come in here and go fishing, just for fun. I love fishing. Instead of staying at home watching TV, much better here. Fresh air, and you forget some, every problem. At home, problems like this...so many problems at home. But here, you can laugh, you can shout, everything you can do it! [laughing] Free!” (#210)
- “For me, to go fishing, is more than just a sport. Because I enjoy myself, I relax, I forget about my problems, I forget about paying my rent. I forget about many things. Here, things are very different.” (#219)

6.3.1.3 Sociability, camaraderie, community

A second theme is that urban fishing has aspects of sociability, camaraderie, and being part of a community, even if temporary. Although they may not have used those exact words, the “social-ness” of fishing is sometimes underappreciated as a significant aspect of urban fishing.

Many anglers fished with friends or relatives, or brought their children, and/or were teaching their children to fish. While some fishermen like to be left alone, a majority of fishermen at the urban, high intensity fishing sites like Hains Point, Piscataway, ANAC, Fletcher's Cove, and Jones Point seemed to be very sociable and would share gear and help out other fishermen—and talk to researchers who approached them. This is a good example of social solidarity organized around a common interest.

They expressed a “community of purpose” with other fishermen and willingness to share while at their fishing site. Fishermen are constantly learning from each other, and meeting new fishing buddies. One of the ethnographic insights is the apparent development of a temporal sense of “community” among persons when they are doing the same activity on the same part of shoreline or pier—sharing bait, line, or stories—and also sharing the catch with other anglers and even strangers who come by to check out the fishing. We collected numerous examples in which fishermen helped each other and met new friends: “...if you can come out early [in the day] and you catch people in that nice, relaxed environment, ...most people will sit back and chit chat with you all day.” (#209)⁸⁴

⁸⁴ Fishing provides the opportunity for groups of non-related individuals to get together on a consistent basis over time (a “sodality”). These men often meet at the same place at agreed-upon days to enjoy each other's company (see Lowie, Robert H. 1963. *Social Organization*. New York: Holt, Rinehart and Winston, p.14).

SECTION 6.3.1: FINDINGS. Significance of Fishing

- "...there's a lot of people when I go fishing. I met a young guy here one time before, and he didn't know me, I didn't know him, and we got to start talking, he's a good guy. And two other people were out here too. Yeah. He helps me and I help him. We help each other and we sit back and laugh and joke." (#107)
- "So I had a rod, and he [referring to a fisherman to his left] had a rod, but [my rod] didn't have no, it just had a line on it. So I walked up to him, I was gonna buy a hook from him, and a sinker. He said 'man I got you man,' he hooked everything up. So... we been having fun ever since. And I met him yesterday! And he brought the children. Yeah, we been laughing since yesterday! Fishermen is good dudes, and good dudes stick together." (#210)
- "And people come to chat. I fish up by the entrance [Hains Point, Channel side]. There are tourist, and many people pass by. Kids pass by. And I'm catching fish, and I give it [the fishing pole] to them and let them catch the fish." (#203)
- "It's a good social outing. You have conversations with other adults and kids that you wouldn't ordinarily have in another environment – it's not like they can get up and they can't go and turn a TV on. They're stuck!" (#227)

An Asian/Pacific Islander explained his love of fishing as an opportunity for socializing and enjoying the outdoors:

"I tell my people, if you want change, you come fishing. Sometime it good for you. You know everybody. You come in here, you enjoy, you know. Stretch out, come in here, talk, sometime we bring some, you know. And we cook out [at Hains Point], yeah. We cook fish and barbecue, you know." For this fisherman, it was all about "Friends. Make it fun, joy, you know, when you get stressed out, come and fishing, you know, make you feel good when you sitting here. Quick smoke, quick drinking, go fishing." (#215)

Some Hains Point fishermen even choose their location along the water strategically for socializing, and especially meeting the ladies.

"Yeah, the whole Hains Point [is good for socializing], but I'm saying, these [where he is sitting and fishing] are the prime spots right here; and like, that one right there, so you can park and be grilling. If you get here early and you get this table and this parking space, and some chicks come, and they ain't got no table, you got prime real estate, you get more chicks. Yeah, all their friends come. A table is a rare commodity, unless you bring your own table. People, there'll be like a thousand people in the park every Sunday." (#210)

Indeed, weekends at Hains Point are crowded with fishermen, joggers, bicyclists, and tourists. Fishermen complain that "there are poles all the way down" to the point, and they can hardly find a place to set up. Others complain humorously that the children who are learning do not look behind them when they cast, and are a danger to themselves and others.

6.3.1.4 Self-reliance, providing, sharing, and giving away

The interview data revealed a sense of satisfaction in catching fish and providing something to eat, to share, or give away. Perhaps it is a validation of one's worth as a provider. After all, a fisherman is doing a good job if he/she brings home the fish, just like bringing home the proverbial bacon.

Catfish is a well-appreciated fish in the South and a valued food. It is often considered a "southern food," and D.C. being considered a southern city, catfish nuggets are available at the local fish markets

SECTION 6.3.1: FINDINGS. Significance of Fishing

and are spotted on some of the highest tier restaurants in the District. We found fishermen who specifically target catfish. It is a part of their traditional foodways. Anglers commented along the lines of, “I have to catch a catfish to take home to my mother-in-law tonight. She loves her catfish on Saturday night” (a female angler); in another instance, a female companion of a man fishing was excited to see her companion catch a large catfish because she likes to eat catfish heads in soup. In another case, an older (Anglo) fisherman around Jones Point told of the 40-pounder that got away, and how he had planned to take it home to his Filipina wife, who loves to cook catfish for the extended family, including her mother.

Across all ethnicities, the vast majority of anglers interviewed have been fishing a significant proportion of their lives. A majority of older anglers (over the age of 51) have fished *all their lives*. In addition to this long-term use, the majority of anglers learned to fish from within their family—from fathers, grandfathers, uncles, and from grandmothers and mothers who also fished. This additional insight suggests long-term, consistent patterns of fishing and use of resources.

Most fishermen who consume also give fish away—sometimes almost exclusively if they caught many blue catfish. Anglers expressed satisfaction over catching fish, sharing them or giving them away, and eating their preferred catch. There was a subtle pride, and acknowledgement of skill, in being able to catch and to provide good food for an event, such as a family celebration, a holiday gathering, or a family reunion—or in simply sharing with neighbors or co-worker or one’s family and relatives.

Most of the fishermen stated they did not economically “need” to catch and consume the fish; however, as discussed in Section 6.3.4, a significant proportion of these fishermen had some level of food insecurity in their extended families. A few talked about added value in supplementing their food choices by fishing or in providing for others with fewer choices (homeless or those who did not catch fish). Some saw catching their food as translatable to saving money—not paying for expensive seafood in the market or going out to eat. Being able to fish means that “I’ll never go hungry.”

- “Oh this [fishing for catfish] is for me and my fiancé. We have an engagement dinner in August and her family’s coming down from [Michigan], you know...some of them... They told me we gonna buy some fish and we gonna do this, we gonna have a fish fry. I said ‘Baby,’ I said, ‘I’m gonna fish tomorrow, whatever I catch, get it cleaned. I throw it in the freezer, I ain’t spending no money, we can get ready to get married [laughs].’ They can spend money on fish; I’m gonna catch some fish!” (#209)
- “In my case, in this country, I do this as a diversion. Like a sport. Because I work, I earn a check every week and I have the right or the freedom to eat at any restaurant and eat what I want. But, if this sport provides some fish, I catch one, two or three, I save money. It’s a savings, and that money I save, I can spend on anything.” (#219, Salvadoran fisherman interviewed at Saylor’s Pier)

Part of self-reliance is provisioning others, and even teaching others to fish. All fishermen shared some part of their catch, and many gave most of it away, especially blue catfish. Generally, there was a plethora of blue cats and anglers were very willing to share. No one expressed disdain for those who asked for fish, or hesitated in giving fish away. It was part of the abundance of food in the rivers, and the fishers’ philosophy of sharing with persons in need. Anglers seemed to be sharing fish using a similar philosophical framework suggested by Regis and Walton (2015) in their study of subsistence in coastal Louisiana—that fishermen believe they are harvesting and sharing an abundant resource and a valued food.

SECTION 6.3.1: FINDINGS. Significance of Fishing

Fishermen can tell if others are looking for fish—"if they walk by and ask, 'did we catch anything' or 'did we have any luck' and stuff like that." Fishermen can also see if other anglers' buckets are empty and they are not catching anything. "I ain't got no problem in giving it to 'em. I ain't got no problem at all, I always say, 'I'm gonna give my blessings somehow, somehow.'" (# 511)

More discussion on these topics can be found in section 6.3.3 on Sharing Practices and also section Subsistence section 6.3.2, section (c) Self-reliance.

6.3.1.5 Family and fishing

Another theme that runs through subsistence fishing in this sample is the connection of family and fishing that anglers carried with them—about their fathers, uncles, brothers, mothers, and grandmothers teaching them how to fish, how to prepare fish to eat, and about teaching their children and grandchildren to fish. One of our open-ended topics generally discussed with respondents how they learned to fish, if they had any memories attached to it, and whether they are planning to teach their own children. As one fisherman said, "And another part (that I like about fishing) is when I take my son out, spending some quality time together. Go fishing, laugh, talk. My grandkids too." (#107)

There seemed to be strong significance to the intergenerational family component, based on memories of going fishing with a father or uncle, or with the whole family. Quite a few anglers said the whole extended family fished—"I'm from a family of fishermen!"—in an inclusive and multi-generational way.

"My whole family fishes—yeah, my cousins, uncles, aunts. They all come down to Hains Point to fish and they are all from D.C." (#205)

"(Fishing) for me, it brings back a lot of memories of my great-grandparents, you know, being with them. I was just telling him [the other fisherman] earlier, I was laughing, (I remember) tangling up my great-grandfather's line and he used to cuss up a storm, get mad, because he gotta stop fishing and untangle my line [laugh]." (#209)

By far, most individuals—especially almost all the African American respondents (over 90%)—learned from a first-, second-, or sometimes third-generation family relative: an uncle, father, brother, grandmother, great-grandmother, aunt, or mother. It appeared that many of the older generation were originally from the South (South Carolina, North Carolina, Georgia) as opposed to New England, the Mid-Atlantic, or the West. Sometimes the fishermen remembered spending summers with their grandparents in more rural southern areas. More on this is found in the Subsistence section 6.3.2.5, "Handing down knowledge."

In the following interview passage, the fisherman has fond memories about his great-grandmother and grandfather teaching him. He keeps the personal legacy of his fishing family close at hand through the fishing rods that he keeps and uses.

My great-grandma [taught me to fish], and my great-grandfather. [I'd be] tying up his line, watching him cuss when I was little [laughs]. This was in a river in South Carolina. My aunt fished, that's her rod [points to his left]; my other aunt on my—we're related on my father's side; on my mother's side, that's my Aunt Ruth's rod [pointing to a different rod]; and I got two more at home by her. She had a stroke so she doesn't fish anymore, but her and her husband, before he passed away, they traveled, they used to go hunting and fishing and you name it they was in their van. They were going to South Carolina to hunt. *But they fished everywhere.*" (#209)

SECTION 6.3.1: FINDINGS. Significance of Fishing

One fisherman, an African American and D.C. native, has memories of his father teaching him how to fish “we mostly started down [at] Fletcher’s Boathouse down in the canal when my father took us out. And we started off with bamboo poles and then eventually got up to regular poles and he just told us the basic things about fishing.” (#201) This fisherman was fishing, along with his brother, out on the Potomac side of Hains Point on the day of the interview. Their mother (now deceased) also loved to fish, and now his younger cousins are getting into fishing. His father fished (and *his father* taught him), as did his uncle.” (#201)

6.3.1.6 Tradition and heritage

A recurrent theme is the idea that families had a “heritage” or “tradition” of fishing. As a father and son duo fishing at Piscataway’s Saylor Pier told us, “...I guess you would kind of say it’s tradition, you know, coming from my dad, my grandma, my brother, so yeah.” (#102)

Meaning and significance of subsistence fishing:

- *Relaxation, being out of doors, being free from pressures, worries*
 - *Social-ness and being part of fishing community*
 - *Family and fishing, continuing between generations*
 - *Fishing as tradition and heritage*
 - *Self-reliance, provisioning, and sharing with persons in need*
-

Others told us that it is the heritage of African Americans to fish, while Anglos go hunting. Others told us simply that it is the African American heritage from the South to fish and eat off the land, and it has been brought up north to urban areas. Native Americans also articulated that living off the land and the waters of the region are part of their heritage.

One interviewee, with Piscataway background, responded to the question about the significance of fishing in a way that made it clear that fishing was not something “separate from” living and growing up and daily activities. The activity of fishing was not a hobby or sport, but part of an integrated whole of living from the farm and the creeks and rivers around them. “It was just what you ate. It was just how you lived. I don’t really know how else to explain it but, I mean... growing up, my grandparents, I mean my grandfather, was a WWII veteran and my grandmother raised like seven, eight kids, and had lots of grandkids, and we all just lived kind of together in the same farm space. Multiple houses, but it was just, you had to eat and they made a living off of it and fed their family.” (#226)

The connection with rural heritage and subsistence fishing is particularly evident with African American, Native American, and ethnic immigrants in our sample. It is an important part of subsistence fishing, and a more detailed writeup is included in the sub-section on “[Subsistence and rural heritage](#)” in the 6.3.2 Subsistence section. “Sharing, consuming, and distribution” are also described in the Subsistence section, 6.3.2.

6.3.1.7 The sport aspects of fishing

One last theme, less frequent but still worth mentioning, is the tug and pull and sometimes challenge of catching a fish. Sport fishermen and recreational anglers often talk about the struggle of landing

SECTION 6.3.1: FINDINGS. Significance of Fishing

different types of fish, whether they are fighters or not, or easy to catch, like catfish. Subsistence fishermen along the shores in this study also related that sense of challenge and the enjoyment it brings.

“Well, I don't know, but for me it's enjoyable. It's just like, you know, when you start reeling in and you can feel the sensation of the fish that's pulling against you, yes. Just like that, and uh, I like watching the scenery where you fish, the scenery, the quiet area, place, you know, something like that.” (#224)

“Yeah, it's just... there's no way to explain, but it's just nice, you know, when you catch that fish. It just motivates you to keep on going. To catch the bigger ones, you know.” (#106)

Subsistence fishermen and fisherwomen could remember where they were, or at least who they were with, when they caught their first fish, which was a memorable event.

“Ah, my friend and his dad always fished so I asked my dad, how 'bout we go fishing, you know what I mean. So we started to fish, always come to Hains Point and just try to fish. I remember the first time, like the first time I came out here there was nothing, no bites at all, just upset. I came back out the next day and caught like three or four catfish, I was excited, so you know what I mean? I always came back. Yeah.” (#105)

Reference

Regis, Helen and Shana Walton. 2015. “Subsistence in Coastal Louisiana. Volume I: An Exploratory Study.” 187 pp. U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA, OCS Study BOEM.

6.3.2 Subsistence fishing on the Anacostia and Potomac Rivers⁸⁵

This cooperative agreement is titled “An Ethnographic Study of Subsistence Fishing;” the latter is a term for fishers who harvest and consume the catch, but are not technically recreational fishermen.⁸⁶ Our objectives from the Statement of Work (SOW) are to provide ethnographic data about contemporary anglers who are doing “non-recreational” fishing along the riverbanks of the Potomac and Anacostia rivers.

Because subsistence has multiple legal, social science, popular, and technical meanings in regional contexts, this section tries to parse the various uses of the terms “subsistence living” and “subsistence fishing” and provide some insight into a foundational base of meaning for contemporary, non-traditional settings. Its elasticity and ambiguity amongst technical experts and the invisibility of subsistence fishers themselves have been compounded by the terms’ usage in the mass media and general public—often connoting extreme poverty and economic need—as in those who are barely surviving at the “subsistence level” and the idea that individuals do not have enough money to buy food at stores, so they have go hunting and fishing. In more rural and alternative lifestyle contexts, subsistence also means “living off the land,” or perhaps off-the-grid in a closer connection with nature, as some imagine that American Indians did historically. Ironically, the term is often used, somewhat rosily, as a positive virtue for crafting a sustainable lifestyle.

One of the implicit objectives of this ethnographic study is to challenge assumptions about subsistence fishers and provide an accurate description of user communities. Subsistence is one of those concepts.

This Subsistence section has three parts. The first and shortest part provides an historical and conceptual discussion of the foundational concept of subsistence and subsistence fishing. The second part describes four regions of the United States and the development and use of the term in those areas: Alaska; the Gulf of Mexico (Louisiana); the coastal Northeast, including specific subsistence fishing studies in Connecticut and Rhode Island; and metropolitan Washington, D.C., urban, tidal river fishing (Potomac-Anacostia Rivers). We discuss our findings from this study of common and unique factors about subsistence shared by Potomac-Anacostia fishermen, including sharing and distribution systems, intergenerational knowledge and ties, and cultural tradition and heritage among subsistence fishermen in our study. The third and concluding section is a discussion of the term “subsistence fishing” and the challenges in its application to contemporary settings outside of Alaska and the Arctic. The discussion includes a reflection on the framing of the concept and how the term is used, and suggestions for re-thinking subsistence in its contemporary context.

As a quick re-cap, one of our objectives was to challenge assumptions about subsistence fishers and provide accurate descriptions of the user communities. We collected oral histories from 81 fishers on

⁸⁵ A version of this section was presented at the 2019 Society for Applied Anthropology meetings, in a session “Re-thinking subsistence in turbulent times: new contexts, configurations, and intersections with social and environmental justice.” Portland, OR, March 2019. The paper has been included in its entirety, so there will be duplication of some sections and quotes from fishermen. Apologies in advance.

⁸⁶ We found that Potomac-Anacostia subsistence fishermen overlap with “recreational fishermen” (who fish *primarily* for recreation) because they both enjoy fishing, being outdoors, and the relaxing, friendly nature of the activity; but subsistence fishermen are not “catch and release” anglers. They fish primarily for food, either for themselves, their family, or others; and they also enjoy the social aspects of fishing, the sense of accomplishment and sense of provisioning that it brings.

NPS riverbanks, canal banks, and popular fishing sites who were not catch and release fishermen, but who fished for enjoyment and consumption or sharing the catch. We found dedicated fishers who find it relaxing, enjoyable, and are knowledgeable about fish, fishing, and fishing gear. The average age is about 44 years old, and the average amount of time they have been fishing on the Potomac and Anacostia rivers is 22 years. They are “catch and share” fishermen and fisherwomen: most of them (82%) took some part of their catch home to enjoy baked whole, fried, or in catfish nuggets (except for blue catfish, which was usually given away), and they also shared their catch widely with family, friends, co-workers, and other fishermen. Only 18% were “share only” fishers. The majority had several generations or more of fishing in their family history, and learned from relatives within their family. The data describe those who are fishing for enjoyment, for provisioning family and friends, and who maintain some traditional values of rural heritage in a highly urban area in which they currently live. As a group, they shared some elements of subsistence fishing and some elements more often thought of as recreational fishing (that is, enjoyment of fishing). Please see Section 6.1 Findings for more detail.

6.3.2.1 Subsistence—concepts and approaches

The following paragraphs provide a telescoped overview of the development and evolution of the subsistence concept. The term has historical precedents in 19th century Marxist theory that focused on the means of production and the social relations of production (modes of production). Historically in anthropology, the term contrasted the economies of pre-literate social groups with descriptions of formal economies wherein production, exchange, and distribution typically occur through impersonal markets. Anthropology in the early and mid-20th century focused on tribal groups, chiefdoms, and hunter-gatherers and their subsistence systems (production, distribution, and exchange), and how those related to their social organization. In the 1930s—50s, subsistence was used by anthropologists to describe, broadly, the livelihoods of groups (e.g., tribal groups, hunter-gatherers, or chiefdoms) where the ecology of the area and a group’s technology for the production of foods were determining factors for the group’s type of social organization (see Steward 1938 and 1995). In the 1960s and 1970s, Marshall Sahlins, among others, offered critiques to the cultural ecology approach, arguing that a subsistence system and its activities are more than “protein and profit,” and form a coherent value and ideological system integrated with economic activities (Sahlins 1972 and 1978). He and others argued that, in addition to providing protein, subsistence systems provide core meaning and values to societies, transference of skills and values between generations, gender roles in the production and preparation of food, leadership in distribution of goods, and sharing/distribution networks that reinforce kinship.

These views provided a foundation for contemporary approaches to subsistence, particularly for anthropologists, who saw subsistence as a way of life, where “...social configurations and their sustaining ideology carry greater consequence than material transaction. Though still prominent, the exchange of material goods is not the object of social alliances but instead a vehicle for their maintenance (Schumann and Macinko 2007:709).” In addition, some anthropologists noted that, even in the early 1900s, subsistence and market economies were not *dual* economies but that subsistence was fully integrated with the market economies and co-existed interdependently with them in an industrialized world of manufactured goods and wage labor.

Subsistence activities and cultural systems continue to persist in developed-country economies such as the United States, where innumerable sub-groups continue to maintain subsistence as a way of life, either by tradition or choice. Extensive research has shown that subsistence economies are themselves not self-sustaining at this time—they depend on wage work, transfers, and income from a variety of sources to purchase the technology to harvest and process wildlife resources. In Alaska, for example,

even in the most traditional of “subsistence” communities, it is clear that no community could survive solely by using traditional hunting and gathering activities, without the infusion of money to heat their homes, and access important services such as health care, education and senior services. Long abandoned is the “seasonal round” where communities would move *en toto* to harvest localized resources. Seasonal camps, e.g., fish camps, do exist but they are accessed through a variety of expensive technologies, including snow machines, four-wheelers, aluminum boats with outboard engines, fishing tackle (including nets), rifles, and ammunition, and gasoline to fuel all this technology. Communities are now sedentary—a transition linked to mandatory education for their children. For example, in the 1950s, most families abandoned a seasonal round under the threat that their children would be removed from their care. Their adaptation was to live in a sedentary community but to have small task groups utilize technology to access former seasonal camps, harvest the resources, and then return to the established sedentary community.

In Louisiana, a subsistence “way of life” characterizes coastal counties and regional areas—predominantly bayou and rural—where residents live close to the land and water; they maintain a self-sufficient lifestyle with self-provisioning, trade, and exchange among themselves ubiquitously, on a daily basis. They still need to generate cash, however, to buy things and participate in cash exchanges, and they may sell shrimp from the back of their pickup to get cash to repair their boat, or buy a new freezer (Regis and Walton 2015). These transactions may never get reported to local or federal tax agencies or the bureau of labor statistics—even though they live in a nation and era with fully developed market economy. Similar to Alaska, Regis and Walton find that, “Far from a pristine or isolated way of life, subsistence food gathering and harvesting in coastal Louisiana operates in close interaction with commercial fishing, wage-based employment (including the oil industry and other blue-collar trades), and entrepreneurship” (Regis and Walton 2015:2). Ebbin finds a similar integration of subsistence and wage labor in her study of subsistence coastal fishermen: “In market economies, the seasonal round of activities may include regular employment along with a range of non-market provisioning strategies, the latter of which may increase in importance as unemployment rates rise and wages stagnate or decline” (Ebbin 2017: 3). We will discuss subsistence in Puerto Rico and the U.S. Virgin Islands later in the section, where fishermen undertake “coastal resource foraging” as well as wage labor and work for cash to forge a livelihood (Garcia-Quejano et al. 2015). The persistence of subsistence systems and their sustainability over time in a globalized world continues to be a topic of debate among native people, social scientists, and resource managers (see Burnsilver et al. 2017).

To be clear, the subsistence fishing we studied along the Potomac and Anacostia rivers is one slice of a subsistence system, that is, fishing undertaken in the context of a U.S. urban metropolitan environment in which most anglers are integrated into formal economic systems either with jobs, retirement, or part-time work. Subsistence fishing as used in the title of this study means harvesting fisheries resources for consumption and sharing, rather than for commercial sale. Subsistence fishing in this context (and in fisheries management) does not imply that the fishers in question necessarily have subsistence lifeways as in Louisiana, Alaska, or Puerto Rico. It focuses on specific behavior (harvesting, consumption, and sharing) of aquatic resources, whether fish, shellfish, gastropods, or bivalves. It also means that the fishers are not “catch and release” who fish primarily for sport or purely for enjoyment (these individuals are generally classified as “recreational fishermen”). Subsistence fishing is a “non-wage

based economic activity carried out in the midst of the market economy” (Schumann and Macinko 2007: 717).⁸⁷

We begin with Alaska because as it is the area within the U.S. that has an extensive Native population who are subsistence hunters and has a well-codified definition of subsistence developed by researchers and Natives and enacted through statute and subsequent regulation. It also is a model for the inclusion of cultural and traditional elements of subsistence systems in formal legal definitions that have important policy ramifications. We then pivot our focus on the growing number of recent studies that describe subsistence activities in the “lower 48” in less-traditional settings—including urban rivers, urban parklands, coastal New England “catch and keep” fishing, and Puerto Rico. Although participants in the distinct geographic areas engage in similar activities—sharing resources, passing knowledge, harvesting a variety of species, engaging in these activities over multiple generations and so forth—it will become clear that the weight, the intensity, and cultural commitment to various components of subsistence varies between regions and ethnicities, pointing to the term’s very elastic nature.

6.3.2.2 Subsistence and Alaska

Subsistence research in Alaska and the Arctic is the most detailed and extensive in industrial market economies. In its totality, it clearly makes the connection between subsistence activities and cultural tradition and values, which we focus on here. The term carries legal weight in Alaska and allocates the rights to harvest wildlife on state and federal lands and waters for personal consumption (not for sale commercially). We provide details on the need for subsistence recognition and policy, the extensiveness of subsistence resources, the cultural importance of subsistence, and differences between Native and non-Native organization for production and sharing of resources. We conclude with a listing of the eight factors considered in Customary and Traditional (C&T) determinations.

It may be helpful to have some background on the demographics of rural Alaska and the underlying political and legal structures that frame the subsistence issue in Alaska.⁸⁸ The majority of the 200 or so rural Alaskan communities are only accessible by plane and seasonal barge deliveries (the latter usually deliver bulk commodities such as diesel fuel). In general, most rural communities in the state are very poor: they have one-fourth to one-third the per capita income of urban communities within Alaska. In addition, one in four individuals are below the U.S. poverty line, and the cost of living in general is double that of urban areas within Alaska. For example, in 2005, Savoonga, a small Alaskan Native community of 700 people on St. Lawrence Island, had an effective unemployment rate of over 50%; the cost of living was 245% that of Anchorage, and the price of food, electricity, and gas was three times what it would cost in the lower 48 states. The per capita income in Savoonga is less than \$11,500.

⁸⁷ Marine fishery management is overseen by the federal government, through eight regional fishery management councils, in conjunction with states, that generally manage resources in state waters. To over-simplify, fisheries management generally recognizes two categories of fishing for purposes of resources management: commercial fishing (those with licenses who primarily sell their catch) and recreational. NOAA/NMFS recognizes subsistence fishing and its variants, and there is at least one subsistence plan in place now—halibut in Alaska. There has been historical interest in identifying and describing the residual category of fishing for subsistence, but there has not been much research on subsistence fishermen (outside of Alaska), as consistently noted in fishery social science literature. One exception is the work by the Southeast Fisheries Science Center, e.g., Griffith et al. 2007.

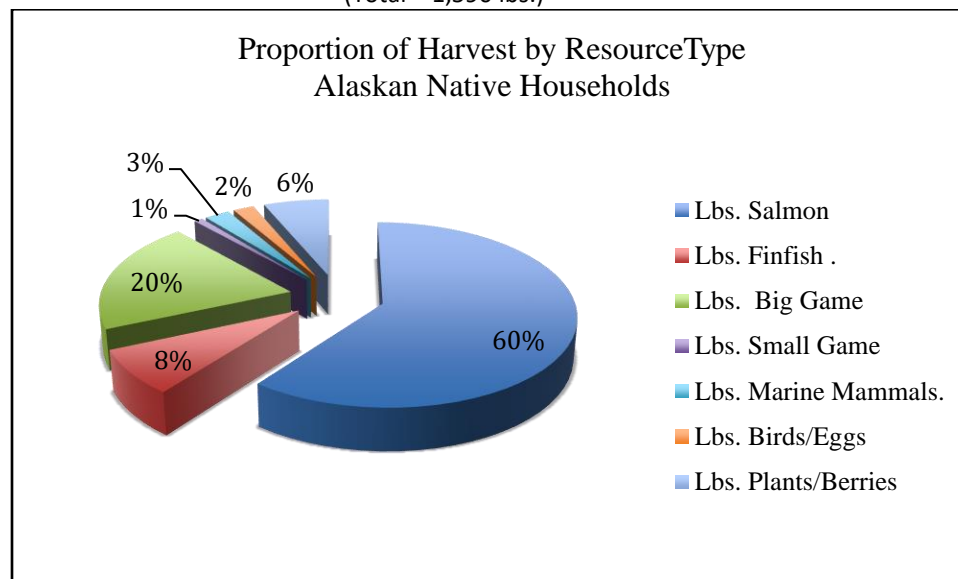
⁸⁸ The following data on Savoonga and Bristol Bay are provided by Dr. Don Callaway, based on his extensive experience in Alaska with subsistence and with Alaska Natives. Source documents available on request.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Consequently, the ability to harvest of wildlife and plant-based resources (including fish, marine mammals, land mammals, birds, plants, berries, and so forth) is of critical importance to rural residents in Alaska. Alaska Native households, on a per capita basis, harvest about twice the salmon and nearly two-and-a-half times the total of all wildlife resources compared to non-Native individuals in the Southwest Aleutian region. Native households, which average slightly under four household members, have a dietary dependence on subsistence harvests, and would have to replace a considerable proportion of their diet should their access to wildlife resources be interrupted. Animal protein, given shipping and other expenses, is extremely expensive to purchase in small rural communities.

Figure 6.3.1 below graphically illustrates the breadth of dietary dependence on the harvest of wildlife resources in the 17 villages in the Bristol Bay area. Nearly 70% of their harvest is salmon and finfish.

Figure 6.3.1
Average Pounds of Harvest by Resource Type
Bristol Bay, 17 Communities, Alaska Native Households
(Total = 1,590 lbs.)



Source: Don Callaway

The 1980 Alaska National Interest Lands Conservation Act (ANILCA) provides the most important legal structure for recognizing subsistence. Title VIII of ANILCA, Subsistence Management and Use, details the Federal Government’s regulatory regime. Section 803 of Title VIII defines subsistence uses as:

“the customary and traditional use in Alaska of fish, wildlife, and other renewable resources for direct personal or family consumption, for the making and selling of handicraft articles from the non-edible by-products of fish and wildlife taken for direct personal or family consumption and for customary trade, barter, or sharing for personal or family consumption.”

The endeavor to define subsistence is not simply an academic exercise. Alaska rural communities that are granted “subsistence” status, measured through an analysis of the eight C&T factors, are given priority to access resources on the considerable federal lands within Alaska, including access to National Park Service lands—where the harvesting of wildlife resources in the lower 48 states is usually forbidden. As a point of reference, this is potential access to about 233 million acres (excluding

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Department of Defense jurisdictions), or about 64% of the entire state of Alaska. Consequently, the determination of subsistence is of considerable importance.

In Alaska, subsistence means the customary and traditional uses of wild, renewable resources for personal or family consumption and for the sharing of those resources. The cultural dimensions of subsistence, and the interrelationship of subsistence and social networks, serve to build a necessary resilience to the vagaries of employment and income. Northwest Alaska, as an example, is a region dominated by the harvest of a mixture of fish and marine and land mammals. The average indigenous resident of northwest Alaska harvests and consumes $\bar{x}=271$ kgs. (597 lbs.) of wildlife resources per year; the replacement cost, on average, of such wildlife harvests at \$6/lb. would be about \$3,582 or around 30% of an average household's total income. Social networks serve to redistribute both income and wildlife resources throughout the extended family and community. Successful hunters and fishers within the community share their harvest with extended family members and community members. In addition, the availability of resources is irregularly distributed over the landscape and many resources, such as fish and caribou, have seasonal and long-term ecological cycles that may limit their abundance in any particular year. To combat this uncertainty, households and communities employ two traditional resilience strategies. First, they harvest every variety of resource type that is available to their community. If caribou populations are low, they harvest more fish or (if available) more marine mammals. Second, in addition to exchanges within the community, resources that are scarce in one area (e.g., seal oil), are imported through a variety of social networks from seal-rich coastal areas. In exchange, inland species such as musk ox are traded to coastal areas.

As viewed by rural, indigenous peoples, however, the economic and dietary aspects of subsistence activities are not the most important outcomes of these endeavors. Subsistence resources do provide sustenance and are a major portion of the diet, especially in small communities where transportation costs make the purchase of store brought foods prohibitive. However, subsistence resources *and the activities associated with the harvest of these resources* provide more than food. Participation in family and community subsistence activities, whether it be clamming, processing fish at a fish camp, or seal hunting with a father or brother, provide the most basic memories and values in an individual's life. These activities define and establish the sense of family and community. These activities teach how a resource can be identified, methods of harvest, efficient and non-wasteful processing of the resource, and preparation of the resource as a variety of food items.

"Subsistence is a way that Native peoples of Alaska have preserved their cultures. This way of life is not confined to the land. It stretches out to the sky and ...the waters and the rivers. The creatures of the earth give themselves to the people, who in turn share with family and friends, shaping relationships that celebrate life." Helga Eakon, Inupiaq Eskimo, member of the Federal Subsistence Board.

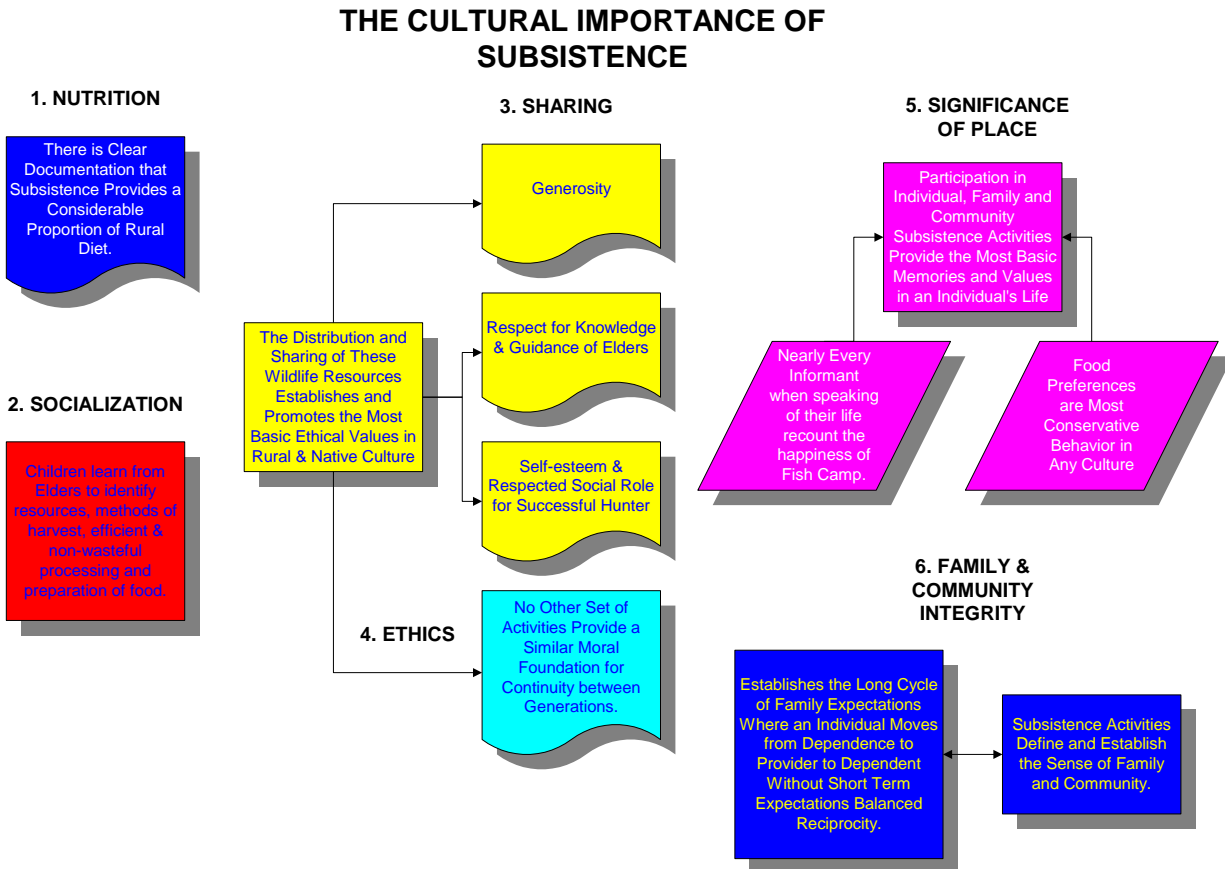
The distribution of these resources establishes and promotes the most basic ethical values in Native and rural culture—generosity, respect for the knowledge and guidance of elders, self-esteem for the successful harvester of a resource, and family and public appreciation in the distribution of the harvest. No other set of activities provides a similar moral foundation for continuity between generations.

Food preferences are the most conservative behaviors in any culture. The unique preparation and special taste of foods encountered by children as they grow up stays with them forever. Years later, the

SECTION 6.3.2: FINDINGS. Subsistence Fishing

taste and smell of certain foods evoke memories of family and belonging. The figure below summarizes this cultural significance.

Figure 6.3.2
Cultural Importance of Subsistence Activities for Alaska Indigenous Groups



Source: Created by Don Callaway

As noted above, a key factor in subsistence activities is that resources mean more than simply protein or food on the table to those who harvest them. A commonly heard assumption around Washington, D.C., is that “they’re fishing because they need to”—to put food on the table—an argument that reduces subsistence fishing to procuring protein for lack of other alternatives. While providing food is part of subsistence, the research from Alaska shows that, for Natives, subsistence is *more than* producing protein when there is not enough income to buy it, and they have strikingly different ethos and values about subsistence resources (compared with non-Natives).

In the aftermath of the 1989 Exxon Valdez Oil Spill (EVOS), a major study was undertaken to identify the social and cultural impacts of EVOS on the communities of Prince William Sound. One aspect of the multi-method study of over 2,700 interviews focused on subsistence practices among Alaska Native and non-Native households. Jorgenson’s work demonstrates empirically that Alaska Natives and non-natives think very differently on key social features with respect to environmental ethics—ideas, sentiments, and acts in the same environment (i.e., their communities in Prince William Sound). For example, Natives have greater knowledge about species within that landscape than do non-Natives; and Natives

SECTION 6.3.2: FINDINGS. Subsistence Fishing

more frequently identify spiritual values, rather than commodity values, as the preeminent attribute of the environment (Jorgenson 1995: Table K29). In fact, nearly half the Native respondents viewed the landscape as possessing *only* spiritual values, whereas less than 6% of the non-Natives perceived the environment the same way (Jorgenson 1995: Table K29). In addition, Natives more frequently report that places in the environment have special meanings for them and their kinspersons, past and present (Jorgenson 1995: Table Q7; see also Basso 1996). Jorgensen concluded that Natives and non-Natives “differ significantly” in their knowledge of the environment and wildlife in their local areas.

In addition, Jorgenson identified significant differences in the organization of production, sharing and consumption between Native and non-Native subsistence, as seen in the table below.

Table 6.3.2.1
Sharing and Consumption of Wildlife Resources and Labor
by Ethnicity

Activity Measured by Variable	Native %	Non-Native %
Informant regularly shares labor with other households in community	64%	34%
Regular sharing of wildlife resources with other households in community	68%	25%
One or more (up to eight) meals shared with relatives in other households during last 2 days	53%	21%
Over 50% of diet was obtained from wildlife resources during last year	47%	22%
Regular sharing of wildlife resources between communities	18%	2%

Jorgensen concludes a “subsistence tradition” occurs when sharing and consumption of a wide variety of resources are organized within kinship-affinal networks that extend to friends and elders, buttressed by a “a nexus of visiting customs” that have persisted over time (1995:33).

Below (Table 6.3.2.2) is a simplified list of the eight factors used in the Customary and Traditional (C&T) use determination process, that is, evidence by which the State of Alaska and the federal government determine whether a set of peoples’ activities are “subsistence” or not.⁸⁹

⁸⁹ See the Code of Federal Regulations, CFR 242.16, for the complete citation.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Table 6.3.2.2
Eight Factors Used in Customary and Traditional Determinations in Alaska

Factor 1:	Long term, consistent pattern of use of animal and plant species, including duration and consistency of use.
Factor 2:	Use pattern recurring in specific seasons.
Factor 3:	Methods and means of harvest, including mode of transportation, method of harvest, and composition of hunting party.
Factor 4:	Harvest near, or reasonably accessible, to residence.
Factor 5:	Handling, preparing, preserving, and storage of subsistence goods.
Factor 6:	Handing down of knowledge, including knowledge of the environment and wildlife.
Factor 7:	Distribution or sharing of resources.
Factor 8:	Reliance on a wide diversity of resources and importance of wild foods in diet.

In Alaska, as we have tried to demonstrate, subsistence refers to coherent cultural traditions of harvesting and use of a broad number of resources, including spiritual beliefs and ethical values inherent in the landscape, wildlife, and community life that sustain a people and culture over time. Subsistence exists when there is widespread sharing among kinship and affinal networks, and among friends and elders, imbedded in a tradition of visiting and sharing. Among the geographic areas and cultures we examine, only the Louisiana case describes a full-sector subsistence system as broadly based, as in Alaska, albeit with significant differences with ethos of resources.

6.3.2.3 Subsistence in Louisiana coastal parishes

In this regional analysis, we rely on the work of Regis and Walton (2015) for a portrayal of subsistence in contemporary bayou areas, concentrating on two coastal Louisiana parishes—Terrebonne and Lafourche, southwest of New Orleans. The cooperative agreement with BOEM/OCS was developed in the aftermath of the British Petroleum Deepwater Horizon oil spill (DWH), in an effort “to determine the best and most appropriate methods for documenting and characterizing the scope and quality of subsistence practices in coastal Louisiana.” Regis and Walton’s charge was to “explore the full range of subsistence activities related to production, exchange and use of wild resources, including such activities as sharing, gift exchange, barter, and small-scale informal sales from the harvest,” among other things (2015:102).

In Louisiana and the Gulf Coast, bayou dwellers are immersed in broadly based resource harvesting and distribution systems, where they grow things in gardens, and harvest shrimp, oysters, finfish, and a wide variety of other things from bayous (e.g., deer, alligator, ducks); these are shared with family, but part of the catch is also sold or bartered on a daily basis. It is characterized by the “ubiquity and ordinariness” of hunting and harvesting, “its pervasiveness and density” in everyday life, and its “routineness.” (Regis and Walton, p. 101). Regis and Walton documented over “a thousand instances of harvesting, collecting, or sharing among half a dozen families” (2015:27). In the Louisiana bayous, subsistence activities were central to peoples’ lives on a daily and weekly basis. Locals made no distinctions between the harvest they sell, recreational activities, and everyday sharing and eating one’s harvest. It all blended into a way of life.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

They describe subsistence as “a diverse array of activities (or practices), which are governed by non-market logics, which have goals other than generating profit, and, while contributing to food needs, also contribute to the pleasure of producing fresh, flavorful, valued foods and sharing those with friends and family. Most importantly, those who participate in subsistence activities are themselves embedded in households and social networks that involve multiple livelihoods or hybrid economies” (2015:25).

A key here is that the significance of the activity is “more than material.” The authors identify a number of core characteristics of subsistence in coastal counties of Louisiana: 1) First, as mentioned previously, they noted the pervasiveness and ordinariness of harvesting in everyday life (2015:101), its “routineness.” Residents did not think of it as subsistence, it is simply “a way of life.” As described by one man, “We fish in the summer, hunt in the winter, and sometimes we go to Houma to work,” pointing to the centrality of hunting and fishing, and his need to work to earn a living to pay for it (2015:102). 2) Hunting and harvesting are important to people—they set their yearly calendars around activities, they teach their children and grandchildren, make investments in equipment (duck blinds, deer stands, rods, rifles, boats), and build social events around the harvest calendar. 3) It imparts meaning and values: a life training of attitudes about life and relationships with others, it enhances sharing and identity. 4) “Being able to eat what you catch brings pride and appreciation of work.” “Tomorrow, my kids are going to come over, and there will be meat all over my grill, and every bit of it comes from behind the woods” (2015:105). Individuals talk about better tasting food and pride in provisioning. 5) Identity and values: “hunting and harvesting are connected to identity in complex ways. People talked about regional identities, personal identities, racial identities, ethnic identities, and value-based identities (a “good person”).” 6) Hunting and harvesting play a key role in celebrations at both the family and community levels, such as the “Blessing of the Fleet” or other community festivals. Crab boils are frequent family events. “People who have camps, often have huge crab boils each weekend, sometimes both Friday and Saturday nights” (2015:109). This includes the idea that harvested food is highly valued, “...worth the cost of time and labor required to produce. It is often said to be better than anything you could buy in a store. Everyone talked about ‘sharing the bounty’” (2015:106). This food is also highly meaningful, invoking ideas of self-sufficiency, simplicity, and upright values. (2015:109). Hunting and fishing are closely intertwined with life cycles and family structures, so that elderly family members who used to hunt now get much of their protein from their children or grandchildren who are hunters and fishers.

“Every year at the end of the season we have a get-together here with about 40 people and we cook—sometimes I smoke them (ducks), last year we roasted them, pot-roasted them, had duck gumbo, duck and oysters, stuff like that. So, I mean, nothing that we take out there is wasted, whether it’s fishing or hunting” (Regis and Walton 2015:38).

The DWH oil spill in 2010 disrupted subsistence patterns and the way of life in coastal Louisiana. The U.S. Oil Pollution Act of 1990 (and subsequent amendments) provide a statutory basis for liability and compensation by oil companies such as British Petroleum, the party responsible for the DWH oil spill. According to Regis and Walton, the Gulf Coast Claims Facility (GCCF) was prepared to compensate commercial fishing captains for their losses, but were unclear how to compensate the individuals or businesses who filed for subsistence losses, the value of lost resources (that they could not harvest). The court had great difficulties defining what constituted subsistence and subsequent compensation for resources lost. They realized that some commercial fishing businesses, specifically Vietnamese-owned, retained a portion of their catch for household and family consumption; and they linked subsistence to ethnicity. Since they could measure the ex-vessel price of the commercial catch, they reasoned that

they could extrapolate and put a value on the subsistence catch that was retained for family consumption. They also recognized that Native Americans like the United Houma Nation (the “true subsistence fishermen”) practice subsistence fishing and that they should also be compensated (Regis and Walton 2015:16).

The problem came with other types of subsistence resources and the difficulty identifying the value of resources that locals otherwise would have harvested when subsistence lifeways were abridged. The gathering of plants, hunting of wildlife, marine resources, and the sharing and bartering of these were all lumped together and considered “recreational,” by the judge, and therefore were not compensated. The Court reasoned they could not put a value on “enjoyment.”

“By July 12, 2015, the GCCF received 53,162 subsistence claims (the third largest category of claims, after individual economic loss and business economic loss), slightly more than 15% of all claims filed. Ultimately, only about 19% of those claims received compensation, the average amount being \$7,910 per claimant” (about 19%) (Regis and Walton 2015:17).

Both Alaska subsistence and Louisiana share some elements in common—both subsistence systems are all-encompassing lifeways of people that include harvesting (production), distribution, and cultural elements that support identity and values that attend the harvests and the consuming of wild foods. It could be argued that the definition of subsistence in Alaska and in Louisiana (post-DWH) are based on different premises: in Alaska, the law and regulations codify culture and tradition as part of subsistence, while in Louisiana there was no statutory base. The Louisiana court-determined subsistence fishing definition, after the DWH spill, does not acknowledge customary use and traditional activities, presumably severely limiting compensation.⁹⁰

6.3.2.4 Subsistence fishing in Northeast coastal areas

The following sections consider recent studies on “subsistence fishing,” particularly in the Northeast coastal states, which have geographical relevance to the UMD-NPS study in the mid-Atlantic. In the world of marine fisheries management, there are management plans and regulations for two major categories of fishing—commercial and recreational. Subsistence fishing is usually lumped into the recreational category, since it is unclear how many persons are subsistence fishing, what they are harvesting, and whether separate regulations are needed. Artisanal fishing also is recognized as a type of fishing—particularly in the U.S. Caribbean and U.S. Pacific Islands. Recreational fishing (sport fishing) and commercial fishing for profit are regulated in federal waters by NOAA’s National Marine Fisheries Service through eight regional Fishery Management Councils; individual states manage fisheries in state waters.

Schumann and Macinko (2007) provide a broad review of contemporary definitions of subsistence fishing, which in general refer to fishing that is local and for provisioning oneself, one’s family, and the community at large; it is not primarily for commercial sale or recreation (2007:707), but it can contain elements of both. They categorize subsistence fishing into four essential meanings, based on their

⁹⁰ Ironically, in the Alaska case, both lawyers and economists spent a great deal of time quantifying the value of well-codified subsistence, but the compensation outcomes were very similar with Louisiana. Lawyers for both Exxon and Native Alaskans argued you “can’t commodify subsistence practices,” making it very difficult to put a value on impacts and importance of lost access and resources. How to value subsistence activities and resources remains an open question.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

extensive literature review: (1) economic activities or systems that maintain a livelihood; (2) economies of sharing, rather than selling; (3) social and cultural norms and networks for non-market distribution; and (4) culturally significant activities, i.e. tradition, and food producing and distributing (Schumann and Macinko 2007; adapted from Ebbin 2017:3). The classic definition from Berkes defines subsistence fishing as “local, non-commercial fisheries, oriented not primarily for recreation but for the procurement of fish for consumption of the fishers, their families, and community” (Berkes 1988).

Rhode Island

Macinko and Schumann brought their four essential categories to Rhode Island to undertake a “quasi-deductive” field investigation to understand small-scale fisheries (Macinko and Schumann 2007). They point out that without formal recognition in fisheries management, subsistence fishermen are “vulnerable” and that if there is a significant subsistence fishing sector, there may be implications for resource allocation, impact assessments and planning for regional economic development (2007:592). Their 2007 call for greater research on subsistence fishing, its extensiveness, and distinctive characteristics has drawn a response from the research community (e.g., Steinback, Wallmo, and Clay 2009; Ebbin 2017), and this study in the mid-Atlantic on urban rivers adds to the growing literature on subsistence fishing.

Macinko and Schumann interviewed 23 key informants and 63 fishermen in Rhode Island, with the overarching research question being: “Is subsistence fishing occurring in Rhode Island coastal areas?” (Macinko and Schumann 2007). Their questions to fishermen probed economic motivation (would they still fish even though it was more expensive than to buy them?), and the importance of culture and tradition (how long have they been fishing and how they learned to fish). They found people digging for clams, jigging for squid, and fishing for scup, tautog, bluefish, and other finfish, to give an idea of the types of fishing. Although fishing occurred predominantly from shore or along the shoreline, they also found some who subsistence fished from charter/party boats. Their sample of fishermen was 36% white (compared to the general Rhode Island population of 85% Anglo); 13% African American (4.5%); 23% Asian (2%) and 28% Hispanic (9%) (2007:597). Anglo fishermen did not think of themselves as subsistence fishers; in fact, they viewed subsistence fishermen as “the Others” — “*It’s the Asians, blacks, ethnic groups, Portuguese*” (2007:598).

They started with four types of conceptual configurations of subsistence, derived from their previous survey of the literature (Schumann and Macinko 2007), and then queried their interview data to see if subsistence fishing existed within any of those four types. They concluded that they did not find subsistence fishing that fit exactly in their categories, and questioned whether an inductive methodology might be more appropriate for exploratory research and shed better light on the topic.

Coastal counties in the Northeast

Studying marine recreational fishers in coastal counties from Virginia to Maine, Steinback, Wallmo and Clay (2009) used an add-on set of questions to the annual Marine Recreational Fisheries Statistical Survey (MRFSS, conducted by NOAA/NMFS) that targets marine recreational fishers. The goal was to determine and compare how many marine recreational (REC) fishermen are “catch and keep” fishermen, who take their fish for themselves or family and/or income (F/I); that is, those who said they fished predominantly for home consumption, to give to relatives or friends, use as bait, or occasionally to supplement income (2009:54). They used the term “reliance on self-caught marine resources” rather than subsistence fishermen. They found less than 2% of fishers sold to markets or local restaurants for income. Over a quarter of their entire sample (27.8%) reported that they fished for reasons other than

SECTION 6.3.2: FINDINGS. Subsistence Fishing

food and income, including for recreation (2009:54). This group of subsistence fishermen (versus the primarily recreation catch and release fishermen) were more likely to be minorities, have lower educational attainment, and lower incomes, "...when generalized to the total number of coastal county residents that participated in marine recreational fishing in the Northeast" in 2005. Up to one-fifth fished for economic reasons on at least some of their trips (2009:56). Fisherman who took home self-caught fish tended to eat it themselves (33%) and share with family and friends (49.6%) (2009:55).

The study was motivated by the need for better information for fisheries management, since the marine recreational allocation often exceeded the take limits. They concluded that higher "no-keep" limits on the size and number of fish might not affect marine recreational fishermen, but that it might inadvertently harm (loss of food and welfare; satisfaction) the food production or income of subsistence fishermen, resulting in concerns over environmental justice.

Subsistence fishing in Connecticut

In Connecticut, subsistence fishing is counted and regulated as recreational fishing, even though subsistence fishing is different from sport fishing because it has the "explicit goal of consuming what is collected or caught" (Ebbin 2017:6). Ebbin and her students set out to find out who is harvesting, what they are harvesting, how it is distributed, and how much is consumed in a sample from the coastal county of New London, Connecticut.

As Table 6.3.2.3 below indicates, there are a number of interesting demographic similarities and contrasts between Ebbin's sample of Connecticut anglers and the Anacostia/Potomac sample. Male anglers dominate both samples, with 9 out of 10 respondents being male. The vast majority (~80%) of anglers in both samples consume at least some of the fish that they harvest, and similar proportions of fishermen return fish that are considered too small, unhealthy looking, unappetizing by-catch, or exceed their bag limits.

However, there are substantial contrasts. The Ebbin sample is mostly white, young, and much less avid in their fishing. The majority of the Potomac/Anacostia sample is African American, with nearly 75% of our sample being African American or Hispanic. Other researchers found a similar profile among "catch and keep" fishermen, who were more likely to be minority and have lower incomes than the general Connecticut population (Steinback et al. 2007). Westphal et al. also found differences among the fishermen that target fish for consumption: 58% of African Americans were "catch and keep" fishermen; 50% of Hispanics; and 20% of Anglos targeted fish mainly for consumption (2008:51).

Another startling comparison with Ebbin and the Potomac-Anacostia sample is that among the Connecticut anglers, two-thirds fished only once a month (or less), whereas in this study we found that fishermen were *avid in their commitment* to fishing, with nearly everyone fishing at least once a week (95%, see below) and *two-thirds fishing multiple times each week*. There are sharp contrasts in the age of fishermen as well—half the Potomac/Anacostia sample is over the age of 45, whereas three-quarters of the Connecticut anglers are under the age of 45.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Table 6.3.2.3
Comparison of Anglers, Coastal Connecticut Versus Anacostia/Potomac Rivers

Variable	Connecticut (N=47)	Potomac/Anacostia (N=81)
Gender: Male	91%	88%
Ethnicity: Anglo	80%	17%
Age: 18-24 years	25%	8%
Age: 25-34 years	25%	23%
Age: 35-44 years	25%	19%
Age: 45-64 years	25%	40%
Age: 65+ years	0%	10%
Why Fish? Lack of money/need to put food on the table	2%	18%*
Consume catch	76%	82%
Shared catch	68%	93% (90%)
Share with household	91%	17%
Share with friends	60%	46%
Share with family	43%	37%
Return: too small	77%	79%
Return: sick/injured	55%	21%
Return: undesirable species	43%	-
Exclusively catch/release	21%	0%**
Fishing frequency: once a week or more	28%	95%
Fishing frequency: once a month	32%	5%
Fishing frequency: once every 2 months	28%	0%

* Based on those who answered positively to two different questions measuring food insecurity: one on worry/concern about putting food on the table; and another asking if there were times they did not have enough to eat.

** By design, we excluded all catch and release.

Sharing is a prominent feature in all regional subsistence fishing, and the Ebbin study and Potomac-Anacostia study provide additional data that sharing is important. In comparison with Ebbin, however, nearly everyone in the Potomac-Anacostia sample shared their catch (90% are consume and share; see Table 6.1.31), and only about two-thirds share in the Connecticut angler sample. In addition, the patterns of sharing are very different—nearly all the Connecticut anglers share their catch within their household; with fishermen in the Potomac/Anacostia study, it depended on the species of fish. The sharing priorities for blue catfish were first to acquaintances and friends, with immediate and extended family second choice; with striped bass, the #1 choice was with family, and secondly to acquaintances and friends (see Table 6.1.58 “Striped Bass Sharing Choices: ‘Kin’ and ‘Non-family’ (Who share with #1?), by Ethnicity” and Table 6.1.54, “Blue Catfish with Whom You Share #1” by Ethnicity (all respondents)?).

In the Potomac-Anacostia study, the sharing rate with family and friends varied by the species of catfish most frequently harvested—blue catfish, white and other catfish, perch and striped bass. A majority of

anglers in the Potomac-Anacostia study share their “blue cat” harvest with friends first. In another comparison, in the Northeast, Steinback, Wallmo and Clay (2009) found that subsistence fishermen of marine fish (fishermen who keep and consume self-caught fish) shared over 50% of their catch with family and friends; they personally ate about 33% of their self-caught fish; a very small percentage (2.2%) was sold to restaurants (2009: 55).

6.3.2.5 Subsistence fishing in D.C.: Potomac and Anacostia rivers

The Potomac-Anacostia study did not attempt to describe recreational fishermen who consider themselves catch and release, such as those who fish from their bass boats on the Potomac and hold tournaments on a regular, annual schedule. Largemouth bass are touted on bass websites as by far the most popular gamefish in the United States. They are a well-known user group to Park rangers, state fish and game and natural resources officials, and the general fishing public. The Virginia Department of Game and Inland Fisheries does annual creel surveys on the boat ramps of the tidal Potomac (Virginia side), collecting the standard set of data from recreational fishermen—effort (trip length and costs), catch, and harvest of all fish species.⁹¹

In this study we focus on the “other” group of less well-known fishers—subsistence fishermen, fisherwomen, and families—who fish predominantly from the shore and who take their catch to share or to consume with family and relatives. In the field, we targeted fishing-to-consume-or-share individuals, and found that we could reliably differentiate those fishermen from recreational anglers by



Perfect fishing site on the Anacostia River, an abandoned CSO outfall from the 1930s. November 2018 (Anacostia Park). Photo credit: S.J. Fiske

looking for buckets, coolers, small portable grills for cooking, and even plastic bags. As our initial question, we asked each potential respondent if they considered themselves catch and release, and if they told us they were catch and release, we thanked them and moved on to find fishers who combined “catch and consume,” and “catch and share.”

Who and what kind of subsistence fishers are these? The mid-Atlantic

subsistence fishermen we interviewed shared many elements in common with studies of subsistence fishing in coastal areas of the northeast United States, and added or substantiated additional

⁹¹ Virginia is currently most interested is in documenting the extent of invasive snakehead and harvest (Odenkirk and Owens 2007). While we found some fishermen who had caught snakehead, the majority did not, although they had heard it was good to eat and they knew the authorities wanted to take out all the snakehead they could.

dimensions of meaning to subsistence fishing on urban rivers.⁹² We discuss four clusters of elements that typified Potomac-Anacostia river subsistence fishermen and fisherwomen: 1) sharing and distribution systems—extensive sharing of resources even outside of family and extended family; 2) passing down knowledge and skills from generation to generation; 3) subsistence and rural heritage stemming from rural southern subsistence living; and 4) motivations for fishing and its significance—why they fished—particularly enjoyment, relaxation and being out of doors, the sociability of fishing, and satisfaction in self-provisioning.

The Potomac-Anacostia subsistence fishermen overlapped with several of the eight components on the Alaska C&T determinations previously noted (Section 6.3.2.2 above)—e.g., elements such as sharing and distribution systems—which were less formulaically linked to kinship and status of elders than in Alaska, but were statistically strong. It seemed that passing down knowledge was less linked with status and tradition as in Alaska, but was still apparent in all ethnic groups. Resource handling, processing, and storage existed, but was often linked more tenuously with southern rural tradition, food preparation and preferences, and oral history over generations. As mentioned previously, if one compares Potomac-Anacostia fishermen with the high standard of customary and traditional components necessary to determine subsistence in Alaska, then subsistence fishing is a partial shadow of a subsistence system, and makes a slightly uneven comparison, since it is only one resource/activity (fish/fishing) and lacks the broad resource base and robust occurrence in peoples' everyday lives (or at least we did not measure that) as found in Louisiana. However, subsistence as we found it among urban fishermen shared much in common with other subsistence fishing in the lower 48, Puerto Rico, and in coastal Northeast United States, and had its own distinctive attributes.

Sharing, consuming, and distribution

Among Potomac-Anacostia fishermen, there appeared to be a broad willingness to share with others and give away some or all of their catch—more so than other studies of subsistence fishermen on the East Coast, and perhaps even Louisiana.⁹³ The prioritization of family over friends was true for Connecticut fishermen as noted by Ebbin (2007). In the Potomac-Anacostia study, the priorities varied by species. With striped bass, anglers shared with immediate and extended family first, friends and acquaintances second, and last-among-last were those who were not catching any fish, or who walked by or seemed to need food. With blue cats, the priority was friends, acquaintance, and other fishermen first, and immediate and extended family second.

We asked directly whether anglers shared some of their fish with passersby who looked “homeless” or asked for fish. Nearly everyone did. They expressed some version of the feeling that if someone looked

⁹² Our sample of fishers differs from others in the lower 48 in the extent to which we interviewed more minorities than Anglos, and were interested in motivation for fishing and ethnic differences among subsistence fishers. The proportion of African Americans is relatively large (n=46/81); Hispanics (n=11) and Asians (n= 7) are represented, but proportionally small. Our sample size for Native Americans (Piscataway or other) is also small (n=4) (see Section 4.2 on Piscataway Ethnohistory).

⁹² In another study on urban fishing, in the Calumet region (Illinois), Westphal et al. found a similar “strong tendency” to give away “unwanted caught fish (either surplus fish or species they did not want) to others on site.” (2008:51) are proportionally small. Our sample size for Native Americans (Piscataway or other) is also small (n=4) (see Section 4.2 on Piscataway Ethnohistory).

⁹³ In another study on urban fishing, in the Calumet region (Illinois), Westphal et al. found a similar “strong tendency” to give away “unwanted caught fish (either surplus fish or species they did not want) to others on site.” (2008:51)

SECTION 6.3.2: FINDINGS. Subsistence Fishing

like they needed fish, they would be happy to give it to them. “...So, if a homeless, or somebody, walked past and asked for ‘em, I ain't got no problem in giving it to ‘em. I ain't got no problem at all...”

No one expressed disdain for those who needed fish/help with food, or a judgmental view of sharing. Most of the fishing sites in the dense downtown D.C. area (NAMA and Anacostia, and Jones Point in Virginia) are heavily trafficked, and it is not surprising that some persons might walk by and “troll” for extra fish. Other fishermen told us that they catch so many fish that they cannot eat them all, and that is why they want to give them away—“to make them happy.” It was an act of sharing the bounty when they caught so much that they could not eat it all. There was also the sense of not wanting to waste good food: “I don't believe in no catch and release too much [laughs]. If I catch him and keep him on a string and he dies, I'm gonna take him home. Granddaddy taught us a rule: Don't kill nothin' you not gonna eat.” (#109) The same phrase was reported in the Louisiana subsistence study.

We also found that the proportion of fish shared or given away, compared to the proportion of fish eaten by the fishermen themselves, depended on the type of fish. Almost everyone shared blue catfish (virtually 100%), the most frequently caught fish on the rivers. But anglers were more likely to share “blue cats” with co-workers, friends and other anglers at the fishing site than they were to take it home for their family. Striped bass, on the other hand, were a different story—nearly 63% consumed some/most or all of their catch at home and with family (“Kin”) (See Table 6.1.58).

Another gentleman told us he was “catch and share.” His philosophy is to share his catch with “Whoever that's down here that want ‘em, pretty much. Whoever that want ‘em. Yeah, I was down here [yesterday], caught like six catfish...I gave him three [the fisherman next to him] and I took three. We went about our business.” The three that he took home, he cleaned, soaked in buttermilk, and put in the freezer. (#503)

In the Louisiana study, much of harvesting (production) and trade (sharing) is motivated by maintaining social relations and sustainability over time, trading for goods and services that build longterm social capital, and by household and extended family consumption—but not by profit (see Regis and Walton 2015). Sharing promotes ethical behavior and values (generosity and respect) and it builds social capital and reciprocity in subsistence systems. Westphal et al. notes that the urban fishermen they interviewed saw sharing as one of the social aspects of fishing, as part of “being a good neighbor, and/or as part of being a good provider” (2008:52), which resonates with our findings about generosity and sharing.

These observations are a sub-text for what we found among subsistence fishers on the Potomac-Anacostia rivers. There was a philosophy of helping out those in need, like fishermen that did not catch anything, or seniors, or neighbors. “Fishermen are good people,” we were told, and most were very willing to share fish with those in need, whether homeless or members of the extended family.

We also asked about sharing through community events (e.g., church cookouts) and family events such as 4th of July picnics, family reunions, and other ties to family life styles. We wanted to know the vectors where fish percolated through the community, and if there were gatherings that were held as a tradition over time. Across all ethnic groups, however, fewer fishermen took their fish to church dinners or community events than to family-oriented events. In fact, 72% reported that they *did not* share their fish at VFW potlucks, church cookouts, or other community events, leading us to conclude that in the D.C. metropolitan area, there are fewer community events for which fish is caught and shared than in

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Louisiana or Puerto Rico, where you might have a “Blessing of the Fleet,” a community Saint’s Day, or another organized group events.

However, with family events, nearly half of all fishermen (47%) attended from one to six family cookouts/fish fries per year. Among African Americans, the percentage was even higher—50% of African Americans brought their catch to up to six family events per year; among Anglos, only 20% went to family events where they ate the fish they caught. African Americans were much more likely to share fish at family fish fries and cookouts, especially during the summer months.⁹⁴ One African American described his family reunions as big events, sometimes in D.C., sometimes in North or South Carolina, with attendees coming from all over the world. He said that they have not held one recently, but they used to have one annually, switching sites around geographically. He said he brings catfish most of the time, but insisted that they like “Whatever I bring!” (#107). Sharing fish at informal family events, we concluded, was linked to ethnicity, with African Americans, Hispanics, and Native Americans more likely to have weekend family cookouts or other family events than Anglos.

Handing down knowledge

Intergenerational transfer of knowledge of fishing, skills to catch fish, preparing fish, and local environmental knowledge of the rivers and fish habitat were clearly evident in the sample of fishermen and fisherwomen we interviewed. Subsistence systems typically rely on teaching of skills about harvesting and how to do it successfully through inter-generational transfer, coming from elders (including grandmothers or uncles, parents, or uncles and aunts). Among Alaska subsistence hunters and fishers, the intergenerational component is an essential part of production and distribution, and underscores the value of respect for elders and their knowledge, and well as building long-standing expectations of reciprocity with the younger generation.

We specifically asked Potomac-Anacostia fishermen how they learned to fish—who taught them, where, and any special memories attached. Although we received a few answers like, “I learned it on the internet,” “YouTube,” or “Nobody. I just came down and hung around it learned it from the old guys who fish here,” the vast majority learned from someone in their immediate or extended family, as shown in the tables below.

Among African Americans, 89% learned to fish from family members, including great-grandmothers in the rural south and fourth generation Washingtonian fathers in D.C. One fisherman told us he learned from his great-grandmother in South Carolina, and thought her great-grandparents had taught her, harkening back to a more subsistence lifeway in earlier generations.

⁹⁴ Dan Ward (Boatmaster and manager at Fletcher’s Boathouse) comes from a long-time Washington family of three or four generations. He remembers that his great aunt Florence (pseudonym) had a summer fish camp called “Restmore” just above what is now the Washington Canoe Club (above Key Bridge) in the woods. As a child, he remembers the “little shanties” out in the woods. “...when the Park took over this [area] they allowed the people that were already here to, to live out their time and then of course when they died then they wouldn’t let anybody move in; but ...there were still people living in the woods down here when I started working here.” Fish camps and summer camps are perhaps harbingers of an earlier era of greater subsistence and summer respite retreats in Washington, D.C. (#206)

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Table 6.3.2.4
“How Did You Learn to Fish/ Who Taught You?”
 by Ethnicity

Ethnicity	Family/Relatives	Non-family*	Total (valid cases)
Anglo	9 (75%)	3 (25%)	12
African American	40 (89%)	5 (11%)	45
Asian American	6 (86%)	1 (14%)	7
Hispanic	7 (70%)	4 (30%)	10
Other	4 (80%)	1 (20%)	5
Total		14	79

* Includes teaching themselves on YouTube (2); taught myself/nobody taught me (5); a buddy/friend/“brother”(4); “older guys” down on the river(1); no specific person, but (in my country) you had to fish and hunt to get by (rural El Salvador)/“Nobody teach us how to fish, but you do it by yourself” (grew up in Philippines)(2).

Nearly everyone had memories of the first fish that they caught with their father or uncle, providing a powerful legacy to bolster family memories and history. Many first went fishing in D.C. along the Potomac and Anacostia, or farther south in Maryland along the Potomac. For others, their first experience was in rural rivers or ponds in the South or in their countries of origin.

“My aunt fished—that’s her rod—we’re related on my father’s side. On my mother’s side, that’s my Aunt Ruth’s rod, and I got two more at home by her. She had a stroke so she doesn’t fish anymore, but her and her husband, before he passed away, they traveled. They used to go hunting and fishing and you name it; they was in their van.”

They would go to South Carolina to hunt. “But they fished everywhere.” He told us how they go down to the river to go fishing, “there was a place down there called Pat’s Pond and we used to go down there and catch a lot of fish. You’d catch bream there and we used to catch turtles there, snapping turtles. Gut it up, yeah, soup, and my grandma would cut the meat up and she’d put it in like okra, you know she’d mix different stuff together, that’s good eating.” (#209)

Among Asians-Pacific Islanders in the Potomac-Anacostia sample, all but one of the seven respondents learned from their family, some in the Philippines or Vietnam. One learned from his father in Hawaii. One individual remembers his mother teaching him to fish and to make bait for catfish out of rice with banana flavoring (#507), a recipe which she still uses. Anglos in our sample also learned from family members (75%) citing mostly their fathers; three Anglos learned by themselves or “a buddy.” Among the Native American respondents (5), all but one learned from their family, and all had fished, hunted, and raised food at home during their childhood. They learned the harvesting side of fish, shellfish, and mollusks from their fathers and uncles, and the preparation and cooking side from their grandmothers or mothers with a clear demarcation of gender roles.

Almost everyone had taught their own children or nephews to fish, and most had already taught their grandchildren and great-grandchildren, if they had them. We received comments about being able to

SECTION 6.3.2: FINDINGS. Subsistence Fishing

spend time with children away from laptops and cellphones, and the bonding that they imagined was happening. Even though they knew that when they became teenagers, got married, and had families and jobs that created other demands on their time, the older generation evinced hope that they would return to fishing and getting outdoors. Among Potomac-Anacostia fishers, we found a strong familial and intergenerational component in the teaching of fishing to a younger generation. Having taught their children and grandchildren how to fish, they were often out with them when we were interviewing—continuing the tradition of enjoyment of fishing.

By analyzing the transcripts of conversations (MAXQDA) about how anglers learned to fish, we collected kin terms for those who were instrumental in learning to and preparing fish (see Table 6.3.2.5 below). During the course of interviewing, virtually every kin term in American kinship was brought up, indicating extensive involvement of family. While the prominence of fathers was expected, it was surprising how often grandparents figured into these accounts, even great-grandparents, and how females—such as grandmothers, obviously—had played an important role in their learning and enjoyment of fishing.

Table 6.3.2.5
Learning to Fish Via Family and Relatives
Multiple responses coded, by ethnicity

Ethnicity	Father/ Step-father/ Mother's boyfriend	Mother	Brother	+Grandfather/Great- grandfather ++Grandmother/Great- grandmother	+Uncle ++Aunt	Cousin
Anglo	8	1	3	+1 ++1		
African American	30	14	10	+8 ++10	+8 ++5	1
Asian American	1	1	2	+1	+2	1
Hispanic	6				+2	
Other	1	1	1	+2 ++2	+2	1
Total	46	17	16	24 (13 grandmothers; 12 grandfathers)	19 (5 Aunts; 14 Uncles)	3

In the African American and “other” sample, often the “whole family” fished and often over multiple generations. African Americans often mentioned how they came from rural backgrounds or spent summers with grandparents in Georgia, South Carolina, or North Carolina. The grandparents, both grandmothers (and great-grandmothers) and grandfathers, often had an additional role in teaching anglers how to prepare the fish they caught. One fisherman said they sent their children off to the grandparents during the summer (non-school months) so they stay out of trouble in the high-crime neighborhood where they were living.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Subsistence and rural heritage

What surprised us was the strength of what seemed to be a “southern rural subsistence tradition,” especially among African American and Native American/Piscataway fishermen and fisherwomen. It kept occurring in the interviews and has been described elsewhere in the literature (thanks to Regis and Walton) as a the only coherent explanation for the dedication to fishing, traditional food ways, and provisioning over generations. It makes sense that having family experience living in the south (southern roots) would create the fishing familiarity and preference for catfish, particularly among the older generation, that we found among African Americans in particular.

The rural south has deep roots in traditional subsistence systems as a way of life, including most recognizably Cajun (Louisiana), Gullah (Georgia sea islands), and rural African American (throughout Mississippi, South Carolina, Georgia, and Alabama). One fisherman from South Carolina told us he grew up “Geechee” (Gullah). In his childhood, he used to ride his bicycle to go fishing, with a shotgun along with a fishing rod. “Whatever I killed, I bring (brought) back. Rabbits or squirrels.” (#134)

Some fishermen were very articulate about coming from a subsistence legacy in the South that was once a way of life. We inquired about whether one fisherman’s fathers’ parents fished (in South Carolina), as part of the oral history, and it led to the following description of living in the South:

“I don't know (whether his grandparents taught his parents), but I suspect that they did. I suspect that most of the people from the South and most of the people who were living on the edge of poverty knew how to fish, because fish, fishing, was a source of food. Nobody fished for fun. I hadn't had heard of catch and release until I got to be a grown man. Nobody caught and released at that particular time that I know of. Now, there was a lot of sharing. People would catch fish and give some to the man next door. In fact, my friend who comes down here to fish, he fishes, he catches 130 perch and he gives some to the barber and some to the lady next door and so forth and so on and so on. At that time, people fished for food. There was no fishing for fun or catching and releasing. This was serious business most of the time. It was a way of life at the time.” (#133)

Quite a few interviewees described childhood memories of summers with grandparents in the Carolinas or Georgia where they learned how to fish and hunt for deer, squirrel, catfish, and turtles when they were growing up, as a part of everyday life. Sometimes they stayed with their grandmothers during the summer in South or North Carolina, or Georgia; other times their recollections came from living with their parents before their parents came north to the District. Although hunting and fishing are more difficult to do in contemporary metropolitan areas, the opportunity to continue fishing is still possible in a highly urban area on the Park shorelines of the Potomac and Anacostia, and is widely practiced. With respect to subsistence harvesting in urban parks and peri-urban areas, foraging has been found to be quite extensive, and generally an overlooked phenomenon in the literature (Poe et al. 2013; McLain et al. 2014). We will return to this in the Discussion section.

“My family has been coming here [the Anacostia River] ever since I was a baby. Yeah, that's what I'm saying...it's a part of your, it's a part of what we come from. A part of our food history. Fishing is really...this is a life. When you can't pay for food, this is how you get your food. They hunt; we fish.” (Fisherman in Anacostia Park. He has been fishing the river for 40 years. #604)

A Native American echoed a similar broad connection with the land and river, describing growing-up years as “southern country-type,” living in southern Maryland where their family fished, farmed, and ate what they grew or harvested.

“Everything we brought in we ate. My dad also had a farm and I guess back in the earlier days it was tobacco, so we had a tobacco barn, but there was also like gardens and corn and things. Everything we ate, you know. Fish roe for breakfast, fried fish roe for breakfast. To me, I just saw it as a way of life and it's just, you know, it's how we ate. There was always catfish, always fried catfish. Rockfish, you know, I mean, everything...turtle, and we dug for clams.” (#226)

A similar sentiment about Native heritage of fishing comes from a Native American interviewee in the Rhode Island study of subsistence fishing: “When you're an Indian, you're supposed to fish... (in response to a question of whether they considered themselves recreational or subsistence). It's both—really there's no difference at all between recreation and tradition. For both, it's about peace of mind” (Macinko and Schumann 2007:596).

As noted previously, Southern subsistence heritage and Native cultural values were most frequent among African Americans in our sample and Native Americans individual, but it also occurred within the Hispanic and Asian sample. Fishermen described learning to fish in El Salvador, Vietnam or the Philippines, and they brought their methods and skills with them and continued here. Most noticeable, for example, is “hand-line fishing,” which according to respondents is the traditional way of catching fish in rural El Salvador: simply tie your bait or lures onto a string or line with or without a hook, and when you feel a fish, pull it in to the shore—a very low-capital way of fishing. Bottle fishing was another adaptation used by Salvadorans that was noted in the Field Notes of the Field Team.

Why do fishermen fish? Motivations for fishing

These anglers as a group are very committed fishers. Virtually all of them (95%) fished at least once a week during the months that they fished; and 66% fished an amazing 2-3 times per week! (see Table 6.1.8) Some might muse, “Wow, they really need to catch fish,” but we found nuanced and multidimensional sets of motivations.

We asked “What does fishing mean to you?” and “Why do you go fishing?” to get at the meaning and significance of angling in their lives. Some gave single-sentence answers like, “For me, it's a hobby, but with a bonus at the end!” but most anglers had multiple, intertwined reasons for why they fished. We coded text/transcriptions in MAXQDA and analyzed for “significance of fishing,” reading the passages carefully for themes that occurred again and again. There were three main themes.

(1) Foremost was enjoyment, relaxation, being outdoors, and clearing one's mind—much as Ebbin (2017) and Steinback et al. (2009) found for subsistence fishermen. We asked, “Why do you like to continuously come out here, spend time, throwing your rod into the water?”

“It's peaceful. It's fun... You know, it's something positive you can have on your mind. You can put positive things in your mind. Keep negative stuff out. Stuff like that. And I love doing it. It keeps me calm, away from the stuff that I've been through. Stuff like that. So why I go get that fishing rod, and throw that line out? All that anger and frustration I have inside, it takes it out into the water.” (#107)

“I just, I mean I just fish just to fish. 'Cus that's what I like doing. I don't do clubs, I don't do parties, might do a cookout every now and then depending on the age, but other than that, this is my party right here, I

SECTION 6.3.2: FINDINGS. Subsistence Fishing

get my little cooler every now and then, I put my little six pack in it, we'll sit here, I bring the rest of the chairs out, we sit here, we fishing, we drink our beer and we cool. I don't like a lot of drama and stuff, I can't stand all that drama. This is my relaxation." (#512)

Many fishermen told us it was an opportunity to get out from where they lived—a good alternative to watching “the soaps” or other television, or just be the way they wanted. “Ah, just for the relaxation of the sport. Like, being by the water, being relaxed, sometimes I even come out here and just fall asleep.” (#105) Another fisherman told us, “For me, to go fishing is more than just a sport. Because I enjoy myself, I relax, I forget about my problems, I forget about paying my rent. I forget about many things. Here, things are very different.” (#219) Fishermen told us they could stretch out, shout, laugh and they felt freedom to do that, freedom from their worries.

(2) Sociability and camaraderie. Related to this, fishermen talked about the sociability and camaraderie, and sense of community among fishermen at the fishing site, or fishing friends and family. While some fishermen like to be left alone, a majority of fishermen at these urban, high intensity fishing sites, like Hains Point, Piscataway, ANAC and Jones Point, seemed to be quite sociable and would share, and help out other fishermen.

Some fishermen even plan their fishing trips strategically for socializing: where and how to meet other persons, especially the ladies. “Yeah, the whole Hains Point [is good for socializing], but I'm saying, these are the prime spots right here (where he was sitting); and like, that one right there, so you can park and be grilling. If you get here early and you get this table and this parking space, and some chicks come, and they ain't got no table, you got prime real estate, you get more chicks. Yeah, all their friends come. A table is a rare commodity, unless you bring your own table. People, there'll be like a thousand people in the park every Sunday.” (#210) Indeed, weekends at Hains Point are crowded with fishermen, joggers, bicyclists, and tourists. Fishermen complain that “there are poles all the way down” to the point, and they can hardly find a place to set up. Others complain humorously that the children who are learning do not look behind them when they cast and are a danger to themselves and others.

“Friends. Make it fun, joy, you know, when you get stressed out, come and fishing, you know, make you feel good when you sitting here. Quick smoke, quick drinking, go fishing.” (#215).

“It's a good social outing. You have conversations with other adults and kids that you wouldn't ordinarily have in another environment. It's not like they can get up and they can't go and turn a TV on. They're stuck!” (#227)

By sense of community, we mean sometimes temporal and sometimes longer lasting friendships or buddy-ships that were observed and recorded among fishermen at fishing sites. They help each other out with bait, line, advice, and tips; they give each other rides; they share fish and fish stories.

“So I had a rod, but it just had a line on it. So I walked up to him [gesturing to the fisherman on his left]—I was gonna buy a hook from him, and a sinker. He said “Man, I got you, man.” He hooked everything up. So... we been having fun ever since. And I met him yesterday! And he brought the children. Yeah, we been laughing since yesterday!” (#210)

“I mean, there's a lot of people when I go fishing. I met a young guy here one time before, and he didn't know me, I didn't know him, and we got to start talking, he's a good guy. And two other people were out here too. Yeah. He helps me and I help him. We help each other and we sit back and laugh and joke.” (#107)

SECTION 6.3.2: FINDINGS. Subsistence Fishing

“Fishermen is good dudes, and good dudes stick together.” (#210)

(3) Self-reliance. An implicit value, woven in to the relaxation and a sense of community built on the shoreline and on the piers, was a sense of satisfaction in catching fish and providing something to eat or to share. Catfish is a well-appreciated fish in the D.C. area, and we were reminded that “D.C. is a southern city” and catfish is considered a “southern food.” Catfish nuggets are spotted on some of the highest tier restaurants in the District as well as at The Wharf, the very popular public marina with seafood take-out stands where you can get a catfish sandwich on the Washington Channel inlet (near the confluence). Catfish is also offered for sale at high-end Whole Foods Grocery stores and D.C.’s Union Market. This is notwithstanding the perceptions by some of catfish as an “off-taste” bottom feeder that is a “trash fish.” The fact is that some folks prefer it, there is a market for it, and it is evocative of home-cooking, Southern-style.

Subsistence fishermen are committed fishers. Virtually all (95%) fish once a week during their fishing season; and two-thirds fish two to three days a week.

Fishermen were very knowledgeable about tackle, bait, and habits of fish, and although no one ever boasted about their skills in fishing, they knew (and told us) they could be counted on to consistently bring home some valued fish to share with family or neighbors, or to fill up their freezer—tangible indicators of success. One fisherman consistently supplied fish to his apartment building neighbors. Another gentleman told us that his fiancé’s family was coming from out of town (Michigan) and the out-of-towners wanted to have a fish fry to celebrate their wedding. They were planning to go out and buy all the fish. He boasted that he was going out to his favorite spots and could catch all the fish they needed, and save them the money. And he was starting that day to fill his freezer.



Catfish sandwich from The Wharf, 2015. Photo credit: A. Cohen

subsistence fishing that emerge as distinctive and unique in this sample of fishers along the Potomac and Anacostia rivers. In review, they tend to share their catch much more extensively *outside* of family networks than other subsistence fishermen documented, on a species-specific basis. They are more

We found fishermen enthusiastic about catfish. It is a part of their traditional foodways.

In general, most anglers interviewed in this project have been fishing a significant proportion of their lives, across all ethnicities. A majority of older anglers (over age 51) have fished *all their lives*. In addition to this long-term use, the majority of anglers learned to fish from within their family—from fathers, grandfathers, uncles, and grandmothers and mothers who also fished. This additional insight suggests a long-term, consistent pattern of fishing and use of resources in a subsistence manner.

In sum, there are some dimensions of

committed fishers who get out to fish more frequently than other marine subsistence fishermen (95% fish once a week, and two-thirds of our sample fish two to three days per week; Table 6.1.16: “How often do you go fishing?”). They enjoy their time fishing as a relaxing, peaceful outdoors activity; they also appreciate fishing as a social activity with other fishermen, with family, or in general. However, even with all this enjoyment, they do not fit the model of “recreational fishermen” who fish *primarily* for enjoyment. These fishermen and fisherwomen are “consume and share” fishermen, who take some fish home to consume and share the rest broadly among neighbors and friends. Eighty-two percent of all the anglers in this research consume at least part of their catch (across all species); 20% fish to share their fish only, and not to consume (see Table 6.1.32, “Consumption and Sharing of Fish”). The intergenerational learning component is strong: the majority of the fishers learned to fish from other family members, particularly their fathers and grandparents. Especially among African Americans and Native Americans, they are the most recent in a long line of family members who fished for food. There is strong evidence of subsistence heritage from the South, southern rural living, and the mid-Atlantic region, bringing elements of an earlier heritage of subsistence lifeways to the Potomac and Anacostia.

6.3.2.6 Discussion: Rethinking subsistence fishing

There are a number of well-contested issues surrounding the idea of “subsistence fishing,” starting with the continued ambiguity of the term, which has morphed to fit various needs and contexts over time. There are at least four clusters of meaning to the term, as mentioned earlier in Schumann and Macinko’s summary review of the literature in “What’s in a Word?” (2007:593). They revolve around economic systems for livelihood, social and cultural institutions, and culturally significant food producing and distributing systems (2007:593). However, in their follow-on field research, “Searching for Subsistence,” using an inductive, empirical approach, the authors admit that they did not really find fishermen who would quite fit the four definitions they gleaned from their earlier literature review (Macinko and Schumann 2007). They conclude that an inductive approach to subsistence fishing is necessary; a point with which we would agree at this time.

The classic definition of subsistence fishing is from Berkes’ work with Canadian Native subsistence harvests, defined as “local, non-commercial fisheries, oriented not primarily for recreation but for the procurement of fish for consumption of the fishers, their families and community” (Berkes 1988). However, all the studies of subsistence fishing in less traditional areas of the United States demonstrate a more composited and nuanced meaning. Empirically, as found in the coastal Northeast and in the U.S. Caribbean, subsistence includes selling part of a harvest for cash (e.g., to restaurants, fish houses, or seafood vendors). It is not *all for personal consumption*.

It is worth a slight side tour here to include the substantial body of scholarship that focuses on fishing—artisanal, subsistence, recreational, and commercial—in Puerto Rico and the U.S. Virgin Islands. The fishermen, fishing communities, fisherman’s cooperatives, and way of life in Puerto Rico and the U.S. Virgin Islands have been well studied over time, and provide another “take” on subsistence fishing and subsistence livelihoods. In Puerto Rico, as in Louisiana, the idea of “subsistence fishing” includes combinations of subsistence (portions for personal consumption), recreation, and sales for cash or trade. Here, Griffith and colleagues describe fisheries-dependent communities on the Puerto Rican coast, where commercial, recreational, and subsistence fishermen share the same piers, and are often members of the same “*Villa Pesquera*” or fishing cooperative. An example is Punta Las Cucharas, an area of wooden houses on stilts near a lagoon, where a dozen families rely on fishing. They fish primarily for subsistence and barter, and some market, “only a few miles from Ponce’s bustling center” (Griffith, et al. 2007:274).

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Subsistence fishers generally do not market their catch, but in fact any one individual fishing may be sometimes subsistence, sometimes recreation, and some marketing to get cash when needed. The coast of Puerto Rico is a wealth of resources, with land crabs, oysters, shrimp, lobster, shark, conch, snapper, octopus, and parrotfish, to mention but a few of the coastal and marine resources available. Fishing for one's own food is but one of the activities for food-producing strategies that is part of a way of life that relies on "coastal resource foraging" (Garcia-Quijano, et al. 2015) and occupational multiplicity. In these widely shared lifeways on the islands, residents find serial and sometimes multiple wage jobs for income; this includes local construction work, the sale of small-scale agricultural products like papayas or pineapple, and the harvesting of oysters or finfish for restaurants or roadside stands for cash. Some fish for local reef fish, such as snapper or parrotfish, or deeper-water fish, such as dorado or shark, for sale to restaurants in Puerto Rico's many tourist destinations (Garcia-Quijano, et al. 2015).

In their study of wage labor and subsistence fishing, Griffith and Valdez-Pizzini (2002) find that the majority of their sample of 102 fishing families have some family member working for wage labor, while other members still maintain elements of a subsistence lifestyle. The authors show that families use all sources of labor, and all gender and age roles in a family to generate their livelihood. They investigate how these independent producers (who may do a little farming and/or some fishing or foraging) also juggle wage labor jobs and enter commodity markets. They make the argument that juggling these sources of production can bring changes to families' and sense of well-being and identity, belonging and self-worth (Griffith and Valdes-Pizzini 2002). They show that part subsistence, part labor, part selling for cash it is the norm, combining the sale of seafood with subsistence fishing for one's family consumption, and that these activities are a source of self-worth and identity for the family.⁹⁵

In addition to the expanding domain of what it means to do subsistence fishing, there is the universal observation across virtually all the research on subsistence fishers that "subsistence" is not a term that anglers themselves use to describe their activities. In Connecticut, less than half of respondents had heard of the term subsistence fishing. "Harvesters of Connecticut's marine and coastal resources appear to lack familiarity with the concept of subsistence, and few consider their activities to be subsistence-based" (Ebbin 2017:6). When Regis and Walton asked about it, respondents expressed disbelief that they were living a "subsistence" lifestyle—they did not see themselves as doing subsistence activities, and responded with, "What, like those 'swamp people?'" Fishermen consistently thought the term pertained to *other people*, but not themselves—"It's the Asians, Blacks, ethnic groups, Portuguese" (Macinko & Schumann 2007:598). Many of the key informants in the same study disagreed that subsistence fishing even existed in the state of Rhode Island.

⁹⁵ This characterization of subsistence as part of a lifeway that includes sale of some harvests is strongly reminiscent of the way of life of Louisiana coastal residents in Regis and Walton's research (2015).

SECTION 6.3.2: FINDINGS. Subsistence Fishing

In the Potomac-Anacostia study, none of the anglers referred to themselves as subsistence fishermen, even though 90% harvested to consume and/or share their catch (Table 6.1.31: Consumption and Sharing of Fish). Several individuals described their activities as “fishing for food,” clearly labeling themselves as harvesters and consumers. They said if they were fishing for food, they tended to target certain fish, such as blue catfish, striped bass, or perch. They made the contradistinction that they sometimes “fish for fun/enjoyment,” in which case it does not matter what species they catch.

With all of these issues hovering around the subsistence concept, how did this term get to be so widely used with such variable meanings? One idea is that “subsistence” is implicitly framed by *how it will be used and who will use it*. Anthropologists, economists, and sociologists originally described subsistence in juxtaposition to formal or market-based economies. Currently, the State of Alaska uses it to provide access rights to harvest of wild species under ANILCA. The Oil Pollution Act includes compensation for lost access to commercial and subsistence resources, so it is used after oil spill disasters. The court-appointed trustee of the Gulf Coast Claims Facility, created to adjudicate the billions of dollars in compensation after the BP DWH oil spill, had difficulty figuring out how to determine what constitutes subsistence damage and loss. In the end, subsistence losses were defined in the primarily context of losses to commercial fishermen, and did not include any compensation value for cultural traditions or subsistence way of life. The National Marine Fisheries Service recognizes artisanal, small-scale, and subsistence fishing, but the latter is not well identified or codified in the United States and there are very few management plans for subsistence fishermen. The core definition used by NOAA is much after Berkes, but in practice they are usually

Qualitative Portrait: “A bad day’s fishing is still better than a good day’s work.”

A 56-year-old fisherman who had his poles in the water near the Pirate Ship (a recreation area at Anacostia Park) was fishing with a friend he called a brother. He told us he is retired and disabled—and he likes ANAC because he can drive to it easily and park there. He came to the D.C. area from South Carolina in 1980 and started fishing on the Anacostia about 1984, so he has about 34 years fishing on the river. He says he is out there fishing “every day.” We asked whether he “catches and releases,” “catch and consumes,” or “catch and shares.” He replied definitively “No, I catch and keep and eat!” but he also says he shares “...a whole lot.”

“As a matter of fact, I live in a senior citizen building and all those old folks love these fish.” They especially like the perch: “That’s what they like. They say the fish are sweet.” He continued, “I give these big ones to my—sometimes I will ask for \$5 for the big catfish—just to buy some more worms and stuff.” (#134)

He catches and consumes perch, catfish (blue, channel, white), but does not eat every fish every day—more like once a month. He “hard fries” the perch, the whole fish—“they taste really good”—and eats them bones and all. He makes catfish stew from the whole catfish, puts a little hot sauce on it. He gives more of his catch away to residents in his building than he eats, and to “Friends, friends, you know, if my freezer’s too full, I take ‘em to friends of mine and give ‘em to ‘em.” He fishes all year ‘round; the minute he gets his D.C. fishing license for the next year, he is “out here.”

He is aware that some say that it is not good to eat the fish, but he has had no bad experiences eating them. “Yeah, I eat them. I’ve been eating them, like I say, since 1980. I had no problem with ‘em or nothing yet since I’ve been up here.” Further, he has not heard of anyone getting sick from “eating fish out of here.” He says fishing is relaxing and it “Clears your mind.” We asked whether he had memories of his best day fishing: “Every day is the best day of fishing! If you don’t catch nothing, nothing...it’s still—a bad day of fishing is—let me tell you how this thing goes—a bad day of fishing is still better than a good day’s work.” (#134)

SECTION 6.3.2: FINDINGS. Subsistence Fishing

lumped in with recreational fishing into the “non-commercial sector.” Fisheries managers want to be able to estimate “marine resource mortality” for the non-commercial sector.⁹⁶

Since the subsistence concept addresses various needs in the real world, but is not common parlance among subsistence fishers themselves, Regis and Walton appropriately question the framing of the term “subsistence” in Volume 1 of their report. They present a table identifying what the term signifies or “indexes” in the minds of local residents in Louisiana (2015: 28-29). They ask, “When people are engaging in hunting deer, squirrel, duck, fishing, occasional shrimping trips, growing a garden year-round, swapping food with their neighbors, are they engaged in *subsistence*?” And they ask why would they reject that term for themselves?

For Louisiana coastal dwellers, “subsistence” indexed a time of necessity, backwardness, and poverty (“those swamp people”). They saw themselves engaged in a wholly different kind of activity, where they had a bounty of food options that were much tastier and fresher than store-bought food; in fact, they saw themselves as “wealthy,” not poverty-stricken, with numerous food choices linked to family bonds and recreation; furthermore, their activities were not those of preliterate hunters and gatherers, they were dependent on a highly-honed of skills for hunting and fishing. They saw their activities as part of regional cultural traditions (Cajun) or as group heritage (Native American), not ethnically nor racially linked. (2015:27-29).

In sum, the challenges of subsistence fishing include semantic expansion—to include selling part of the catch for cash, and enjoyment/relaxation, but not as the primary reasons for fishing; this still remains consumption/sharing. Would other terms be more appropriate, and with semantic expansion could the terms still be used reasonably consistently in the world of regulation and resource management? Perhaps a more emic term is appropriate, one based on the framing how fishermen think of their activities. The term already has a variable meaning in different socio-political contexts, such as in Alaska, Louisiana, and Puerto Rico; it varies in regional and geographical contexts. Sometimes it contains threads of heritage, tradition, and identity over generations, although this it may not be visible by interviewing marine recreation fishermen solely at their fishing sites in Alaska, as is the norm in the “lower 48.” On many occasions, it includes selling a portion of the seafood for cash sale or profit. Most of the time it includes enjoyment, relaxation, or fun, through which it shares the standard definition of “recreational fishing” (where fishermen fish *primarily* for pleasure). So, at its core, is it only “fishing for personal consumption or sharing”? or is it much more than that?

Garcia-Quijano et al. have used the idea of “coastal resources foragers” in Puerto Rico to describe families who harvest and sell local coastal resources (fish and shellfish, primarily) as a way of making a living (García-Quijano et al. 2015), combining it with wage jobs as needed. Compare this with urban parklands foraging described by Poe et al. (2013). And compare this with Native American (Ojibwe) subsistence living (which the author describes as “living off the land”) in Minnesota. Native writer David Treuer (2014) intimately describes how subsistence has become a lifeway for many members of the Leech Lake Reservation; any resource that can be hunted, trapped, sawed off, or gathered and sold profitably and with a minimum of effort, will be—from cedar and balsam boughs, pinecones, cranberry bark, firewood, wild rice, and most lucratively, trapping leeches. The description compares favorably with a similar strategy of “subsistence fishers who fish for seafood as well as supplemental household

⁹⁶ Connecticut, for example, has initiated a new shore fishing program with lower minimum size limits for summer flounder and scup, aimed at subsistence fishermen. (Ebbin 2017)

income” as identified in Puerto Rico (Griffith, Valdes-Pizzini, and Garcia-Quijano 2007). In the last 15 years, a growing number of studies have shown the extensiveness of harvesting and sharing in public parklands, shorelines, and other spaces. Poe et al. investigated “urban subsistence” in parklands in metropolitan areas: “We show that gathering wild plants and fungi in urban forests is a persistent subsistence and livelihood practice that provides sociocultural and material benefits to city residents, and creates opportunities for connecting with nature and enhancing social ties” (2013).

**Alternative terms for “subsistence fishing”
used in recent literature**

- “fishing for food”
- “self-reliant fishing”
- “self-caught fish”
- “reliance on self-caught marine resources”
- “coastal resource foraging”
- “catch and keep”
- “catch and consume”
- “vernacular harvesting behavior”
- “self-provisioning”
- “self-caught fish”
- “reliance on self-caught marine resources”

This paper argues that “subsistence fishing” is more than that—consonant with the values and behavior of fishermen and fisherwomen we interviewed. In a nutshell, we found extensive networks of sharing among family but also among non-kin friends, neighbors, and co-workers. We also found aspects of traditional culture and heritage around subsistence skills, their value, and use. The great extent of inter-generational and cross-family teaching of skills, techniques, and values is clearly evident from this study. The motivations and reasons for fishing are primarily for enjoyment, relaxation, and pleasure, but often are imbedded in a traditional cultural component

that we believe stems from rural heritage: “southern country living” as one of our interviewees put it (#216). It could also reflect rural living in persons’ countries of origin, such as Vietnam, the Philippines, or El Salvador. We found fishers who enjoyed the enjoyment and relaxation of fishing and being outdoors, as well as the satisfaction in provisioning and the pleasure of eating a flavorful food (like catfish, striped bass, or perch) one has caught and prepared.

Ebbin characterizes subsistence fishing as “filling a provisioning role within the overarching cash-based economy and also affording individuals the opportunity to engage in a pleasurable and relaxing activity that reinforces familial relationships” (2017:9). Regis and Walton sum up the intertwined-ness of subsistence living and social networks and cultural meaning:

“...the food represents much more than the calories and the nutritional content... It creates and strengthens social ties to family and neighbors and coworkers. It underwrites extended family gatherings and community feasts. It provides harvesters an opportunity to be on the water (or in another natural setting), to teach children and grandchildren skills and values, and to enjoy and transmit meaningful connections to subsistence heritage. This heritage is often understood as linked to family, place, ethnicity, and region” (Regis and Walton 2015:25).

This paper argues for a more robust recognition of the various attributes of subsistence fishing, to include the components discussed above, which better reflect the realities of peoples’ livelihoods outside of the Arctic and northern latitudes. The data in this study support a somewhat expansive, rather than narrow, definition of subsistence fishing and the additional data helps reset our expectations for subsistence fishing and breaks stereotypes of subsistence fishers. This study illuminates subsistence fishing as connected with tradition, with family, with memories, with consumption and sharing of aquatic resources, and is infused with enjoyment and relaxation in a (healthy) outdoor activity shared with family and friends. We argue it is important to recognize those aspects and also recognize that subsistence fishermen and fisherwomen are a vulnerable population, as

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Macinko and Schumann, Ebbin, and others point out. These fishers might benefit from formal recognition, at least to protect their rights to fish at public sites in the face of residential displacement, economic development, and gentrification.

The debate illustrates the challenges faced by fisheries professionals, resource managers, urban planners, and state legislators. The challenges are to find more robust terms to reflect subsistence fishing practices and those who undertake them. It is hoped that once we realize that “fishing for food” is an important social-ecological activity on the river shorelines and Park-managed areas, and that anglers have fished the rivers for generations and intend to continue to fish, consume, and share their catches, that a stronger effort should be made to maintain access to fishing sites and greater pressure placed to clean up the water column and sediments that impair the health of the fish and consumers.

References

- Basso, Keith H. 1996. “Wisdom Sits in Places: Landscape and Language among the Western Apache.” Albuquerque, NM: University of New Mexico Press.
- Berkes, Fikret. 1988. “Subsistence fishing in Canada: A note on terminology.” *Arctic* 41:319-320.
- Berkes, Fikret. 1990. “Native subsistence fisheries: a synthesis of harvest studies in Canada.” *Arctic* 43(1):35-42.
- Ebbin, Syma Alexi. 2017. “Fishing for Food: Piloting an Exploration of the Invisible Subsistence Harvest of Coastal Resources in Connecticut.” *Agriculture & Food Security* 6 (12):1-10. DOI: 10.1186/s40066-016-0087-z.
- García-Quijano, Carlos G., John J. Poggie, Ana Pitchon, and Miguel H. Del Pozo. 2015. “Coastal Resource Foraging, Life Satisfaction, and Well-Being in Southeastern Puerto Rico.” *Journal of Anthropological Research* 71(2): 145–167.
- Griffith, David, Manuel Valdes-Pizzini, and C. Garcia-Quijano. 2007. “Entangled Communities: Socioeconomic Profiles of Fishers, their Communities and their Responses to Marine Protective Measures in Puerto Rico.” NOAA Technical Memorandum, NMFS-SEFSC-556. NOAA Series on US Caribbean Fishing Communities, Miami: SEFSC. <http://www.sefsc.noaa.gov/>.
- Jorgenson, Joseph G. 1995. “Ethnicity, Not Culture? Obfuscating Social Science in the Exxon Valdez Oil Spill Case.” *American Indian Culture and Research Journal* 19(4):1-124. University of California, Los Angeles.
- Macinko, Seth, and Sarah Schumann. 2007. “Searching for Subsistence: In the Field in Pursuit of an Elusive Concept in Small-scale Fisheries.” *Fisheries* 32(12): 592-600. American Fishery Society.
- McLain, Rebecca J., Patrick T. Hurley, Marla R. Emery, and Melissa R. Poe. 2014. “Gathering “Wild” Food in the City: Rethinking the Role of Foraging in Urban Ecosystem Planning and Management.” *Local Environment* 19(2): 220–240.
- Poe, Melissa R., Rebecca J. McLain, Marla Emery, and Patrick T. Hurley. 2013. “Urban Forest Justice and the Rights to Wild Foods, Medicines, and Materials in the City.” *Human Ecology* 41(3): 409–422.
- Regis, Helen and Shana Walton. 2015. “Subsistence in Coastal Louisiana. Volume I: An Exploratory Study.” 187 pp. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study, BOEM.

SECTION 6.3.2: FINDINGS. Subsistence Fishing

Sahlins, Marshall D. 1972. "Stone Age Economics." Chicago: Aldine Publishers.

Sahlins, Marshall D. 1978. "Culture as Protein and Profit." *New York Review of Books* 25(18):45-53.

Schumann, Sarah and Seth Macinko. 2007. "Subsistence in coastal fisheries policy: what's in a word?" *Marine Policy* 31:706–18.

Steinback, Scott, Kristy Wallmo, and Patricia Clay. 2009. "Saltwater Sportfishing for Food or Income in the Northeastern US: Statistical Estimates and Policy Implications." *Marine Policy* 33: 43–57.

Treuer, David. 2014. "Off the land. What subsistence really looks like." *Harpers Magazine*. November 2014. From Harpers Archive, accessed 1/15/2019. <https://harpers.org/>

Westphal, Lynne M., Mario Longoni, Cherie L. LeBlanc, and Alaka Wali. 2008. "Anglers' Appraisals of the Risks of Eating Sport-Caught Fish from Industrial Areas: Lessons from Chicago's Calumet Region." *Human Ecology Review* 15(1). JSTOR: 46–62.

6.3.3 Food Sharing, Preparation, and Safety

This section discusses the major findings about sharing and distribution based on the quantitative data presented in [Section 6.1.15](#), interpreted with the help of qualitative data in MAXQDA. The section starts with a discussion of the extensiveness of sharing, and then compares two different species, blue catfish and striped bass, and the sharing of each. In particular, the analysis focuses on with whom anglers share their catches as first and second priorities. We then discuss sharing fish at community events (such as cookouts or fish fries) and family-oriented events, including family reunions and 4th of July picnics.

Almost everyone, 97% of the fishers, share their harvest, and 18% are “share only,” meaning that they do not personally consume the fish, but share or give away what they catch.

These gatherings and social events are an important part of consuming and sharing networks, especially among families of fishers who have been fishing for generations, whether long-time residents or immigrants. We also review how fishing families prepare their food, particularly catfish, striped bass, and perch; and the beliefs and methods that they use to ensure food safety. These belief systems about risk reduction are important to understand because they underpin continued fishing and eating. We conclude with a discussion of widespread sharing beyond immediate and extended family members, with co-workers, neighbors, acquaintances, other fishermen at the fishing site, and walk-bys. Underlying the extensive sharing of the bounty, there appears to be a widely held belief about the value in sharing—“taking care of others.”

6.3.3.1 Blue cats are shared extensively

One of the most salient findings in this study is the frequency and extensiveness of sharing by fishermen and women, with immediate family and extended family, and even more extensively within and among networks of neighbors, co-workers, other fishermen, and those who need food. Almost everyone, 97% of fishers, share their harvests and 18% are “share only,” meaning that they do not personally consume the fish, but share or give away what they catch (see Table 6.1.31: Consumption and Sharing of Fish.) Sharing appears to be a widespread pattern across all anglers: the proportion who shared is very consistent across all age and gender groups of anglers (see Table 6.1.38, “Sharing Patterns for fish harvested” by Age and Gender).

Our findings corroborate similar findings in the 2012 “Addressing the Risk” study, that sharing practices “percolate” into the community widely. That study estimated that the sharing of the Anacostia fish harvest alone could be reaching as many as 17,000 persons in the D.C.-Maryland metro area (reported in Lutz 2013).

In general, we found that the specifics of sharing and distribution depended on the fish species and angler ethnicity. Using blue catfish as the example of the most frequently harvested fish in the rivers, our analysis shows about 15,000 blue catfish representing 200,000 lbs. (dressed weight) are removed from the Anacostia and Potomac annually. Nearly every fisherman, regardless of ethnicity, shares a substantial portion of their blue catfish catch. The surprise is that they share *most of it*. About two-thirds of all anglers *eat none or at most some of their harvest of blue cats*. We see a pattern wherein the bulk of the blue catfish harvest is shared or given to others. This pattern of giving away most of the catch holds constant regardless of ethnicity, age, or the amount of blue catfish harvested. (Table 6.1.51, “Total Number of Blue Catfish Harvested Per Week (recoded) By Ethnicity of Angler, Amount Consumed and Shared”).

SECTION 6.3.3: FINDINGS. Food Sharing

The “high-harvesters” of blue cats are African Americans. Eighty percent of the African American fishermen we talked with are “mid” or “high-harvesters,” in contrast to Anglos, Hispanics, and Asians. All African Americans share their harvested blue catfish; most (60%) consume “none” or only “some” of

Nearly every fisherman, regardless of their ethnicity, share a substantial portion of their blue catfish catch. The surprise is that they share most of it—that is 200,000 pounds removed and shared from the Anacostia and Potomac rivers each year.

their catch, regardless of whether they are “low,” “medium,” or “high” harvesters.

Across all ethnicities, we found that fishermen do not take most of their blue catfish home for personal or immediate family consumption (immediate family includes wife, husband, children, brother, sister), but share them through a broad and diffuse network of extended family (that is, family not living in the same household), neighbors, friends, and/or acquaintances. In fact, about 50% of anglers who harvest blue cats share them *first* with non-family friends and acquaintances, and secondly with extended and immediate family. One fisherman told us that he provides catfish to older people in his neighborhood: “Oh yeah, they like to eat the catfish, they grew up eating it, they said they been eating catfish since they were small and they haven't died yet. So, when they say you can't eat the catfish out this water, they still eat 'em. They tell me to bring 'em a catfish I bring 'em.” (#115)

The Field Team often saw fishermen sharing blue cats with other fishermen at the fishing site, or putting them in coolers to be taken and distributed. The extensive sharing of blue cats may be due to their sheer numbers in the rivers, the ease of catching them, or to cultural preference as a food. We do not have definitive data on the reasons behind such extensive sharing. We speculate that reasons for extensive sharing might be the high rates of food insecurity in the community at large, and signage that encourages harvesting of these fish since they are invasive. This harvesting, when linked to values of not wasting food and knowing some people are struggling, may contribute to the extensive sharing.

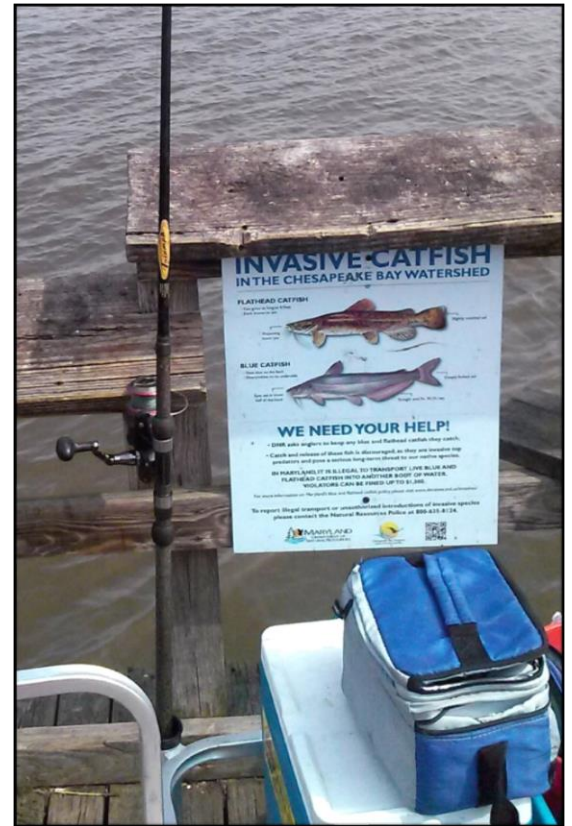


Big catfish in a cooler. *Photo credit: J. Trombley*

What other species are shared? Across the entire sample, 93 of fishermen said they shared blue catfish, while channel cats were at 74%. Striped bass, on the other hand, were shared by a smaller proportion of fishermen, at 66% (See Table 6.1.39, “Sharing Patterns for Fish Harvested, Top Species.” (all respondents)). There were some fish that anglers rarely shared, such as brown bullhead catfish, eel, and carp.

We compared sharing and consumption of striped bass with blue catfish. Stripers are known by the general public and fishermen to be a preferred fish for consumption. Many fewer stripers are caught in the rivers, in part because they appear most frequently during the spring, and the catch is regulated by season, size, and catch limits.⁹⁷ Stripers also prefer the faster current, and cooler and clearer waters of the Potomac, rather than the sluggish and sediment-laden Anacostia, and consequently are less likely to be harvested the latter. In contrast with blue cats, which less than half of the sample consume and share them, a substantial majority (70%) consume and share stripers; a similar percentage consume and share yellow perch. (Tables 6.1.41 and 6.1.42: “Do You Personally Eat the Species That You Harvest?” by “Do you Share This Species?”).

In addition, stripers are personally consumed much more frequently than are blue catfish—overall, about 70% said “they personally eat” some or all of the stripers they harvest (Table 6.1.35. “Do you personally eat the species that you harvest?” by Ethnicity). In general, then, fishermen and fisherwomen personally consume more striped bass *and yellow perch than blue cats that they catch*.



“Catch and release is discouraged” for blue and flathead catfish. Photo credit: L. Walker

*Across all ethnicities we found that when fishermen catch blue cats they do **not** take most of them home for personal or immediate family consumption, but share them through a broad and diffuse network of neighbors, friends, acquaintances, or extended family.*

6.3.3.2 Who do you share with first? Comparing blue cats with striped bass

We wanted to understand sharing networks in some depth, since that was a request from a number of different stakeholders. As mentioned earlier, all fishermen share blue catfish, but one’s ethnic background seems to make a difference in “who you share blue cats with” as a first choice. As mentioned earlier, “immediate family” includes parent, children, wife or husband, and brother or sister, the idea being that they all live in the same household (under one roof). “Extended family” includes uncles or aunts, cousins, nephews and nieces, presumably living in different households. However, housing patterns of many immigrant groups and urban African American families are likely to be

⁹⁷ Striped bass season is generally mid-May through December 31. Anglers may keep either two fish between 20 and 28 inches, OR one fish between 20 and 28 inches AND one fish greater than 28 inches (D.C. Department of Energy and Environment).

SECTION 6.3.3: FINDINGS. Food Sharing

multigenerational and may include a grandparent or aunt/uncle or other extended family. Consequently, based on these assumptions, we combine the categories into “Kin” (“Immediate family” and “Extended family”) and “Non-kin” (including neighbors, co-workers, persons met while fishing, and other fishermen at the site).

The specifics of sharing and distribution depend on the fish species and angler ethnicity. Compared to blue cats, a sizeable majority (70%) of fishers consume and share striped bass and yellow perch.

Looked at this way, it appears that African Americans and Hispanics are slightly more likely to share blue cats with “kin” first (if it includes extended and immediate family members) and “non-kin” as a second choice; whereas Anglo and Asian ethnicities are more likely to share with non-kin friends and neighbors as a first choice rather than immediate family (Table 6.3.3.1 below). One can see the slight preference overall for sharing with kin versus non-kin: 63% share first with kin, versus 37% who share with non-kin/family.

Table 6.3.3.1
Blue Catfish Sharing Choices: “Kin” and “Non-family” (Who share with #1?), by Ethnicity (n=65)

	Anglo Number (%)	African American Number (%)	Asian Number (%)	Hispanic Number (%)	Other Number (%)	Total Number (%)
Kin: Immediate family & Extended family	4 (11.4%)	22 (62.8%)	2 (6%)	6 (17%)	0 (0%)	35 (54%)
Non-Family: Friend/Neighbor/ Acquaintance	4 (13.3%)	15 (50%)	4 (13%)	4 (13%)	3 (10%)	30 (46%)

Source: Data are from Section 6.1, Table 6.1.54: “Blue Catfish with Whom You Share #1” by Ethnicity

One fisherman from Piscataway Park told us that fishing allowed him to stockpile his fish, and that meant that his family would be independent during hard times.

“My family always gonna have something to eat. Even my old lady family, they’ll always have something to eat. [Cause] I...I do a lot of fishing, if I got to give them food out of my freezer, you know, I’ll do that. You know, [because] I know I’ll be okay.” (#113)

Another fisherman at Hains Point told us he released some fish due to size limits, but considered himself a “catch and consume” and a “catch and give away” fisherman.



Fishing the Potomac at Little Hunting Creek, VA, GWMP-South. Photo credit: S.J. Fiske

“When I first come out, I already know what fish I decide to catch. So, imma catch two fish for myself. Then I might have my wife and my son. So I might keep four fish. If I catch any more than four fish, then I have friends and neighbors that always ask me before I go, before I come down here. If you catch some, bring me some back. That's what I normally do. I normally bring them a couple of fishes back. I don't try to take more than I can eat.” (#604)

Although not a surprise, striped bass makes a larger difference in general sharing patterns across ethnic groups than other species. (See Table 6.3.3.2, below, which uses the same analysis as the prior table.) That is, the preference for sharing with kin first is much stronger with striped bass than with blue cats. Hispanics were slightly more likely to share with non-kin, with their second choice being with kin in both the extended and immediate family. Both Anglos and African Americans were more likely to share stripers than blue catfish with their immediate families. Note that, because it is harder to find and harvest striped bass that are big enough to keep,⁹⁸ the number of cases reported for them is fewer that with blue cats (n=35), and findings must be treated as preliminary.

Although not a surprise, striped bass makes a larger difference in general sharing patterns across ethnic groups than other species. (See Table 6.3.3.2, below,

Table 6.3.3.2
Striped Bass Sharing Choices: “Kin” and “Non-family” (Who share with #1?), by Ethnicity (n=35)

	Anglo Number (%)	African American Number (%)	Asian Number (%)	Hispanic Number (%)	Other Number (%)	Total Number (%)
Kin: Immediate family & Extended family	3 (14%)	12 (55%)	2 (9%)	4 (18%)	1 (5%)	22 (63%)
Non-Family: Friend/Neighbor/ Acquaintance	1 (8%)	5 (38%)	1 (8%)	5 (38%)	1 (8%)	13 (37%)
Total	4	17	3	9	2	35 (100%)

Source: Section 6.1, Table 6.1.58, Striped Bass Sharing Choices, “Kin” and “Non-Family” (Who share with #1?), by Ethnicity

6.3.3.4 Sharing at community and family events

We wanted to know whether fishermen shared their catch at *community events*, meaning formally organized events such as church dinners, VFW cookouts, or smoking and grilling for block parties. One

⁹⁸ Fishermen told us that catfish were attracted by “smelly” bait, and they provided lists of favorite and easily available household staples, like cornmeal mush, hot dogs, smelly meat, and peanut butter to catch catfish of all varieties. It appears that stripers are more attracted by live bait (e.g., herring, menhaden, nightcrawlers, and bloodworms) and top lures that mimic their motion. Both cost more than Cheetos or hot dogs.

SECTION 6.3.3: FINDINGS. Food Sharing

expectation of the researchers was that contributing to social events like cookouts, where fish are grilled or fried, and consumed along with steamed crabs and corn on the cob—a common occurrence in rural, tidal Maryland and Virginia—would be a common occurrence or a motivation for fishing. One fisherman talked about a cookout that he regularly participated in: “We... usually do, some of the guys when we go fishing, a church thing. We have a band at church and they'll do like a cookout and fry fish and things like that.” (#225). In general, however, we found that 73% said they *did not* attend such community events and bring fish. Only about a quarter of the anglers were able to identify such community events to which they brought fish.

This was perhaps the wrong question for spontaneous events in a neighborhood or block. For example, one fisherman said he did none of the above things, and then proceeded to tell us later about cookouts, like on Labor Day, where they have a fish fry at “the building.”

We also asked about sharing at *family-oriented events*. By this we meant gatherings that are more loosely organized around kinship lines, often on a holiday such as the 4th of July, or marking a special occasion like a family reunion. The proportion of fishermen participating in *family* events (versus community events) jumped considerably: nearly half (47%) of our sample of fishers went to multiple

Community events were not a big vector for sharing fish; but family-oriented cookouts and fish fries were important for the majority of fishermen, with the exception of Anglos.

family events where they shared fish one or more times per year.

Looking at family events by ethnicity, Anglo fishermen were at the lower extreme in attending very

few community events *or* family events where they brought their fish. Over 80% went to no family or community events (see Tables 6.1.41 and 6.1.42).

Other ethnic groups were more much more likely to attend family events than Anglos, however. Fifty-three percent of African Americans, 50% of Asian, and 60% of Hispanic interviewees reported attending family events during the year at which they brought fish to cook (see Table 6.1.45, “Sharing of Fish at Community and Family Events by Ethnicity.”). The kinds of events mentioned most often were 4th of July gatherings, family reunions, anniversaries, and weekend family fish fries or cookouts, mostly during the summer. One fisherman described his upcoming wedding engagement plans: With relatives coming into town from the north (around the Great Lakes), he was stocking his freezer with blue cats and striped. Another fisherman described large family reunions, which usually occurred in South Carolina, to which he brought fish that he had caught.

One high-harvest fisherman near Bellehaven Park (GWMP-S), caught 62 catfish the day we talked with him. “I don't even eat this fish [catfish]. I fish,” he told us, “I give ‘em. I got a lot of seniors I give fish to. You know, everybody wants ‘em.” He also caught turtles, and made soup out of all seven of them, with assistance from his cousins. His grandparents were from Cobb Island and Wicomico area, home to many Piscataway tribal members. He offered, “I can catch dinner for you! I know I make somebody say they ain't gotta go home hungry!”

"I give it to my family, I don't let 'em choose. It don't matter to me. But they prefer perch, croaker, spot, Papa Jones [?], rockfish. I caught one the other day off the pier. Everybody's gonna prefer a scaled fish. Even in the Bible, scaled fish is clean fish." (#217)

6.3.3.5 Cleaning, preparation, and cooking

We had a number of inquiries about how fishers prepared their catch for eating—since one way to decrease risk of exposure to toxins and pathogens is the proper cleaning and preparing of fish. As a reminder, on the D.C. fishing license, three fish are indicated as "Do Not Eat:" striped bass (listed since 2016), eel, and carp. The monthly recommended servings are: for blue catfish and white perch, three; two of largemouth bass; three of sunfish; and one serving of brown bullhead or channel catfish. There are also suggestions on trimming and cooking fish to minimize chemical contaminants, metals, and bacteria.



Too small to keep. Photo credit: J.Trombley

At the start of the decision-making process about keeping or throwing back, fishermen make judgements about which fish they will keep, regardless of whether they say they keep them all. Ninety-three percent of all fishermen said they do throw some fish back. The most frequent reason most fishermen threw fish back was if the fish was too small (78%), especially for striped bass, which have to be 20 inches long. Although there is no size limit on catfish, many fishermen explicitly mentioned throwing them back if they were too small so that they could grow up.

Virtually all fishermen throw some fish back in the water (93%). The top reason fishermen returned fish to the water was that they were too small (78%). The second reason was if they looked unhealthy to eat.

The second most frequent reason was if the fish had "looked unhealthy" or sick, for example, if it had lesions on it (12%).⁹⁹ The range of descriptions for unhealthy or sick fish are multiple and almost all are based on visual cues and inspection:

"You can tell by their gills being real pale, white, their gills don't look real healthy or they have like a sludge on 'em, like a black sludge on 'em. And you're starting to see that a lot in this water. Yeah, it's like a sludge

⁹⁹ Such reasons, although offered infrequently, were based on sustainable fishing principles of reproductive potential. "You take it from the water, you take from your fish. So it all really comes down to, I guess, on just visualizing, just making that decision when you do it [catch the fish]. Some of 'em are pregnant so you wanna put those back. And then if you have a healthy male that you know is gonna go back there and produce, you don't wanna take it from the water." (#501)

SECTION 6.3.3: FINDINGS. Food Sharing

and it builds up in their lungs and that's why people are like, 'Man that fish don't look like it was beat or bitten, but it's up on the shore, what happened to it?' Well it suffocated. It lost oxygen, you know." (#501)

Most fishermen would “eyeball” a fish to see if it “looked OK,” meaning that it did not look sick, and that it did not have open sores or lesions, or “three eyes,” as one fisherman put it.

When you catch a fish, you really have to look—it's just like going into a store and checking your produce, or looking at meats or anything, you've really gotta look. There's always that chance of course, that it would have food poisoning, but you kinda just try to pay attention as best as possible. (#501).

We had similar conclusions about visual inspection to those found in the OpinionWorks survey. “Overwhelmingly, these anglers said they rely on visual or tactile inspection” (2012: 8).

“I mean, it's general. If it doesn't look right, if it doesn't smell right, that's the first thing. Only thing after that is if it don't taste right.” He continued about the kinds of things that make it not look right: “Spots, distorted skin, fins missing, missing eyes, you know, just weird shit.” (#125)

The descriptions for why the fish might be unsafe to eat centered on looking at the fish's skin, eyes, and gills, and examining it for infections, tumors, lesions, or worms. One set of friends, young students in high school, mentioned, “I've heard there are PCBs in there,” but they did not know what causes it or what to do about it. No long-term fishermen mentioned concentrations of organic toxins such as cancer-causing PCBs and PAHs in fish. Some mentioned metals, accumulation of toxins (but not specifically), and chemical contaminants in the Potomac. Very few mentioned the word “bacteria” or metals when talking about fish consumption and human health risks. See also this report's Findings section 6.1.1 on Throwing Fish Back for more detail.

Everyone who caught and consumed catfish skinned them with pliers. Although special catfish skinning tools are available, most anglers used regular pliers. They did not particularly like the task because it is hard work and time-consuming, but everyone agreed it is necessary to get the objectionable skin and slime off. Some fisherwomen said that they froze the fish first since it was easier to cut off the head and skin when they were frozen. For larger catches, some fishermen took them to a fish house, such as Virgo's Fish House at the Wharf, to get the fish skinned and cleaned. One fisherman gave us a graphic description of his technique:

“I clean the catfish [myself], you gotta cut em by the top of their neck. Then you gotta peel their skin back, sometimes if you've got two big ones, you gotta nail em to the tree, big ol' nail, so you gotta kill him; and then cut him on the top of his neck and peel his skin back. And once you got all the skin back, take him up from the tooter to the rooter, know what I'm saying, and gut him, but you can't bust the bag that's inside of him. If you bust it, you might as well just throw the whole fish away, it's over.” (#504)

The methods of preparation for cooking depended on the fish species and the size. If they were small, such as small perch or sunfish, some tended to pan-fry the whole fish—head, fins, tail, everything. One fisher mentioned that his father, “likes to crunch on them—the whole fish.”

Some catfish are or tossed back because they are not the “right kind,” namely mudcats (brown bullhead catfish), which “taste like mud.” One discerning fisherman told us that any fish caught above the 301 bridge (U.S. Highway 301) will have a muddy taste, because the bottom is all muddy. But below the 301 bridge, the bottom is gravel, so the taste will be clean. (#602)

Blue catfish, however, received raved reviews from those who like them. “Well, I love catfish. Once you clean em, you ain't got no lot of bones, you know, you just clean it, take the skin off of it, and you good to go” (#111).

“Beautiful. Beautiful. I'm serious. Filet, like I said I skin 'em, I filet em... some of 'em I make steaks, like fish steaks, some of 'em I cut into nuggets. You fry it right, shww. Meat is white and flaky, ...lean, good meat.” (#403)

“Some of 'em don't even know they're eating cat, they say they don't like cats, and I go fry em on the grill, you know, it's like they think they eating chicken but they're eating catfish! I mean' it was a big one, and what I did, I pull the skin, fillet it, then chopped the head off and all that' and I had a big piece and my company came over and they were eating it, that chicken looks so crispy!' And I had a pot on the grill, so I was deep frying it on the grill.” (#512)

Frying seemed to be the most frequently-mentioned method of cooking catfish of all kinds, which were cut up into catfish nuggets (battered and fried chunks) or catfish fillets. However, baking fish was also popular as in the quotes below. Some prepared fish by soaking it in vinegar, salt, or milk, to get the “muddy” or “wild” taste out of it. Some put Zatarin or Old Bay Seasoning on it, and one person mentioned soaking in tamarind sauce (which he learned from a Jamaican fisherman). One fisherman mentioned Lefty's seasoning, which he swore by for frying and baking.¹⁰⁰

“Yeah I use this seasoning, that Lefty's. A guy called Lefty. [It's] pretty good with that one. Sometimes cornbread or something. There's a lot of different ways, you know, you can go online and see a lot of stuff online, so. That's where, catfish, 'cause a lot of people don't like that wild taste. So you can like marinate it overnight.” (#111).



One of the recommended seasonings.

Source: www.leftyspices.com

“I get a nice size catfish or something like that, something I can filet, I'll filet the catfish, then I just put some season salt and then...y'all know about the chicken shake and bake? Yeah put that on the catfish to get the little muddy taste out of it, let it sit overnight in that.” (#115)

Another catfish fisherman, “...put 'em in salt and vinegar overnight, depending on how big he is, let 'em soak,” which he claims changes the taste. “Get all the oil and grease out of em.” (#123). Then he either fries or bakes them.

“Oh yes, I soak mine overnight. I soak it in lemon juice and a season salt and pepper. Then I put onions on it. Then I do it again. That way it takes that taste out.” (#512)

“...these you want to take 'em and skin 'em, you know, cut your fillets out, but get the skin off of it, and then you wanna lemon pepper and butter on aluminum foil and roll it up and put it in the oven, that's about it. Or you can do nuggets, where people do Old Bay and funnel cake batter. So it's sweet and salty, and then they deep fry em in that” (#602).

¹⁰⁰ Lefty's Spicy Fish N' Chicken Mix for Oven, Pan or Deep Fry.

Catfish stew is mentioned often, or catfish in soup. “I bake it, fry it, or make catfish stew.” For the catfish stew, a fisherman at ANAC soaks it in lemon water, then... “I drop it in the pot and boil it and boil all the meat off the bone. I keep the head on it. It makes the whole thing, you know.” Any special ingredients? “Nah, I just put hot sauce on mine.” This is a fisherman who typified his fishing style as “catch and keep and eat.” (#134) Another fisherman uses the heads (“I’ve got three in my freezer”) to make catfish stew. He uses heads exclusively, preferring to add “like your little carrots and vegetables and everything you wanna put in there, put your little catfish in there and let it boil, and you have your catfish soup.” (#107)

A young Salvadoran fisherman (age 25) told us about *sopa de bagre*, catfish soup, which he says is a favorite in his country. He also said that his mother does the preparation and cooking. “My mom is the one that prepares it, she filets it, sometimes they use the fish to cook it in the soup, which a lot of our people in our country do. They use catfish.” He says catfish soup is famous because it is, “You know, the soup is good for you, you know, relaxing. It's almost like, you know, crabs and lobsters and all that type of soup, yeah, our people really love catfish soup. Especially if you're in the Spanish population, they love catching catfish.” As we were talking with him, he caught another catfish.

“I mean, what they do is, first they cut the head off. ‘Cause, you know, in the head sometimes, well, my parents say in El Salvador, they don't waste the head. The head is like the most important part. Which I'm still trying to figure out. But what they do is the rest of the body, they cut it up, they take the scales off, they cut the skin off, they use the filet, and they just put it in boiling water, and then they start adding the vegetables in it.” (#106)

They add cilantro, some jalapeno, and plantains, “And it's a very good soup...”

A 46-year-old fisherman at NAMA/Hains Point takes home, “Rocks and bass, that's it,” since those are their preferred fish to eat. To prepare them, “I normally steam or smoke it because I have a smoker. I try not to fry those type of fishes. They more good than bacon in the oven!”

Preparing and cooking fish is particularly sensitive to cultural traditions, as described above in the *Sopa de Bagre* quote. We received another perspective from Vietnamese fishermen taken from fieldnotes of July 2015, as the Field Team interviewed an older Vietnamese gentleman at NAMA, fishing with family. All names are pseudonyms.

“Noel asked him who cooks the fish? I cook, he answered. What do you make? Noel followed up: Soup: clean it (cut and peel the skin), put it in hot water so the skin falls off, cut the fish into pieces. He did not know how to say the name in English, but restaurants in the Eden Center (a well-known bastion of delicious Vietnamese food) sold it. After some research, I think the soup is *Canh Chua Ca* or sweet and sour soup, where they mix catfish pieces into a lemongrass broth infused with tamarind and chili powder. He likes to share the fish because people are always happy to receive it.”

From the same fieldnotes, two Filipino men, one younger and one older:

“When Pedro ate catfish, he cooked *adobong hito* or catfish adobo. There are two variations of adobo: coconut milk, garlic, “Kikkoman” (soy, interesting that he used the brand name) sauce, ginger root versus “Kikkoman” sauce with the vinegar, garlic, ginger root, hot pepper. Adobo is a popular cooking style in the Philippines. Mostly, he said, they deep fry the fish.”

Another Vietnamese gentleman told us he makes soup and “All kind of Vietnamese, you know, Vietnamese food.” All fish are good “If you know how to cook it, you know.” “All kind of vegetables, they make a soup. All the Vietnamese restaurant, they use the catfish for soup.” He also catches and cooks rockfish and snakehead, but he bakes them rather than using them for soup. (#215)

A smaller proportion of fishers steam their fish. An angler feeding five in his family liked to steam them, “Pretty much soak ‘em in lemon juice and water and cook ‘em. I bake, sometimes steam, depends. [I steam them with] vegetables and stuff. Like almost Joe's Crab Shack would do it, something like that, put it in like a pot, steam it.” (#105)

There are fishermen who get more ambitious in their cooking preparations with catfish and striped bass. One woman, fishing at Farmington Landing, told us that it depends on what size it is. “...if it's medium sized I usually bake it and stuff it with crab meat” without soaking it overnight or putting seasoning on it. She was fishing for catfish and liked blue cats the best. (#117)

Another fisherman, born in Fredericksburg, VA, but raised in the D.C.-MD area, talked about stuffing rockfish. He described it: “...if you get a nice size one, you split it open, take all the stuff out, and put different types of seafood in it. Mhmm. Put it on the grill.” He makes nuggets and fillets out of catfish he catches. He is African American, works in “security” and is part of a large, close-knit family. His son, now grown with a family of his own, moved to North Carolina and that is where they now have family reunions. He fishes in the ocean for red snapper to help provision the cookouts in North Carolina.

“My family you know, they pretty close, so we have a lot of stuff going on. I mean, sometimes, they be like ‘Kevin, you need to catch some fish,’ and I'll be like, ‘Ah, I'll go catch fish.’ Me and my brother. But then maybe other people bringing stuff, so you know. Like this, she [his sister] be bringing some jerk chicken. It'll be pretty nice.” (#111)

The family has get-togethers three or four times a year, including Thanksgiving, Christmas, Labor Day, and family reunions. He had three good-sized fish in his cooler the day of the interview, which were destined for a fish fry his sister was having that weekend in the D.C. area.

Rockfish, as another preferred fish to eat, has an abundance of preparations, in particular serving it with shellfish like shrimp or crab as a stuffing.

“A lot of, believe it or not, a lot of Jamaicans down in Fredericksburg, taught me how to cook a fish like the rockfish. The best way to do it, they say, is you take all the guts out, after you scale, you leave a whole fish, and pack crab meat inside and sew it back shut. Then you roll it up and you bake it; and the last 20 minute, you take skewers and skewer shrimp to it and put it right back in again. So it's shrimp, crabs and rockfish.” (#602)

Most fishermen had not caught a snakehead fish, although quite a few told us they had heard that it is good eating. One Virginia fisherman who caught snakehead prepares it for his wife. He claims it looks like chicken breast, not fish, when you cut it open. “It's actual meat, it's muscle, so you cook it like a steak. You don't fillet that, you cut ‘em out in steaks like you do with tuna, you cut ‘em down the back in two-inch sections, and you just put it on like a steak, flip it over once.” (#602)

An Anglo fisherman was a snakehead fan, who “...cooked it all different ways. I've cooked in on the grill, I've cooked it fried, I've cooked it in a soup, we've had it all different ways.” He caught 8 or 10 per year. He claimed they do not bite (“That’s a myth.”), and that they do not taste fishy or muddy. His family also eats them. He cooked for a living before he retired. (#137)



Virgo's Fish House on the Wharf, with the “Rules for the Fish House.” Photo credit: A. Cohen

6.3.3.6 Food safety and risk reduction

We received a number of comments from advocacy groups and the Park Service asking us to find out how fisherfolk prepared, skinned, filleted or otherwise prepared and ate fish. In our second year of fieldwork (2016), we added a question on food safety to find out how anglers handle the risk of eating fish from contaminated waters. Although we do not have responses consistently for all 81 fishermen, we do have responses on this question for at the respondents we interviewed in Year 2 (2016). The data were analyzed qualitatively from MAXQDA.

Much like the Opinionworks study (2012), we found that one of the most frequent responses and beliefs of fishermen is that they have been eating fish all their lives, and never gotten sick, and neither has anyone they know, so they assume that it is OK to continue to eat them. This was common reasoning, but in addition, we found a great number of other strategies and rationales that allow people to continue to fish and consume. In fact, there was *no single shared cultural model* on whether the fish from the Potomac and Anacostia Rivers were safe to eat, or even what the causes were, and how to mitigate the risks when cleaning and eating the fish. We present examples of the range of rationales below.

Most fishermen knew there were problems with the water, the fish, and eating the fish, and some simply told us the solution is to not eat the fish. Although only a few fishermen actually said this, as a reminder, we found that two-thirds of fishermen do not eat the fish they catch, or at most only some of

what they catch, especially with blue cats; most give away or share almost all of them. “I don't know what you can do 'cause there is bad fish, I mean bad water out there and the fish is in it. *I don't know what you can do to it except not eat it.*”

“Don't eat the catfish... They are bottom feeders and they have a lot of toxins in them. The bigger they are, the more toxins.” This fisherman learned this on the internet, and then added that it is “on all the signs all up and down here.” (#137) He was fishing in GWMP-S.

Other fishers believed they were mitigating the risk of eating fish by choosing a different place to catch fish, e.g., farther down the Anacostia or Potomac. “I would definitely try to fish where the water's cleaner.”

Others rationalized consumption, downplayed the risk of eating fish compared to other environmental risks that abound in residents' urban lives. “I think in small quantities it's probably not detrimental to your health and I think that's where people are like, ‘oh my gosh, I can't believe you would eat them.’ Well, we're seriously talking about maybe a couple pounds of fish or something like that. Sure, in anything you can really think about in large quantities as detrimental to your health. You shouldn't be drinking soda but it doesn't stop people from doing it. There's a Burger King on every corner. That's probably worse for your health than eating the fish out of the river is.” (#202)

Probably most accurately, one fisherman argued that there is nothing you can really do, except accept the risk if you want to eat the fish. “Once you've convinced yourself to eat it, there is not much else you can do unless you farm raise them out for 6 to 7 weeks without them eating any other debris.” He was suggesting that public officials have a responsibility to educate anglers more, because many do not know *why* they are not supposed to eat catfish. “People who are in authority have a responsibility to educate people as to the dangers of eating it. I've had a number of people coming in who say they don't care. Catfish is catfish and they will eat them no matter where they came from. They'll eat 'em if they want to eat 'em.”

He agreed that most fishermen had heard about the problems:

“Yes, they've heard. Most of them have heard that you should not eat fish out of here (Anacostia River). Now, the guy that I give fish to, when I give them to him, I set him down, or the guy who comes down here from New Jersey, he is an educated, well read, intelligent person. I said, ‘Al, you're not supposed to eat fish out of the Anacostia. The reason is because 1, 2, 3, 4.’ [inaudible]. He says, ‘yeah, I heard.’” (#133)

Why does he eat the fish, then?

“Because, two things. One, he doesn't believe it. He is not thoroughly convinced that the catfish from here are any different from the catfish they sell in the Safeway. He thinks catfish are catfish no matter where they are. And the other thing is, of course, the fact that he is basically a ‘country boy.’ His prior culture doesn't put any restrictions or limitations on what you eat. He eats opossum, raccoons, anything.” (#133)

Respondents were not united on what constituted a risk; that is, the way they determined whether a fish was all right to eat. Most fishermen generally relied on visual cues of an unhealthy fish, like lesions, color of the flesh, or seeing parasites on or in the fish. “You know, so... That's my main thing, just examine your food.”

SECTION 6.3.3: FINDINGS. Food Sharing

- “Well you know the ones, the ones that look sick, I kinda figure that if you know about fishing and you're looking at a fish and you see a bad looking spot or something on this fish, why wanna take it home? 'Cuz you can end up hurting yourself, your spouse or anybody else that you give it to, so I just release 'em back. I don't beat 'em or nothing, throw 'em on the side, take the hook out of him. Throw him back in there, man.” (#506)
- “The other thing, too, is fish carry parasites. Lot of people don't know. But if you ever find a fish that has the, mucous-looking eyeballs, that's a parasite. It almost is like, it almost look like a crab. You know, like the body lice or something like that. But they're very, very, uh, clear looking and what they do, they feed off the fish.” (Looking at the fish's eyes was mentioned a few times.) (#512)
- “I mean, you will definitely, if you catch the fish and you see that it doesn't look normal, you definitely just see that. If the color is yellow, if it's too yellowish, and it's supposed to be a white meat, especially the inside, too. So there's a few ways that you can determine, but it depends on the circumstances. Maybe you see that the head looks a little bit too weird. Or just the way when you cut it, you'll definitely see that, maybe just look a little not really productive, not healthy.” (#119)

As far as reducing risk, we asked one fisherman, who feeds his neighbors and says that fishing helps him put food on the table, what he does to help mitigate health risks of eating the fish. He was fishing underneath the Pennsylvania Street Bridge on the Anacostia. He told us, as did many others, that they soak them.

- “That's why I soak them in vinegar and salt. Depending on how big the fish is, you can soak them for up to overnight. “For catfish, any fish that come out of here, I can clean 'em. Soak 'em overnight. (Gets rid of) ...trash, the oil, and all the pollution, whatever's in there.” (#123)

Other ways of reducing risk centered on the cooking process, particularly cooking it in hot grease or fat, by deep frying, or regular frying.

- “...make sure you clean the scales, clean the inside good, wash it off real good, and then fry it, you know. Not to the point where the meat inside has to be hard, but you wanna make sure the outside is completely cooked through and the inside should be nice and flaky, like a whiting fish or a catfish should be, it should be nice and firm.” (#512)
- “That's probably why we fry everything, so that, if there is something, some type of impurity, you know that hot grease and oil, you know, is gonna zap, you know, as much as possible. So, even when my son's mother, she was pregnant with him, there weren't any fears of eating the fish.” (#129)
- “As far as food safety for fish? Best thing I could tell you to do is clean it good and make sure it's fried good. If you caught fish, and once that grease is hot and you clean that fish good, you put that fish in that hot grease, it kills everything.” (#512)
- “My only advice is to be careful, and food preparation, make sure you prepare your food before you eat it, before cooking. Cleanliness! [laugh] Your preparation area, make sure it's sanitized and whatever, you know. And, you know, be aware of contamination, your knives and forks and all that, make sure they're sanitized. That adds to your safety.” (#126)
- “Get it on ice as soon as possible. I leave it in the water until I leave and then get it on ice. Either freeze it... don't leave it out. I've seen people leave it in coolers overnight. I'm not going to touch that.” (#132) (These fishermen [father and son] at Great Falls had not seen any fish with tumors or lesions in the last two years.)

- “That’s the only thing, and keep your hands clean when you’re doing it. Me, I’m a hands, [inaudible] why you keep washing your hands? It’s just a habit. If I do chicken, my hands are washed. Even after I pull it out the water, I still have to go wash my hands. I mean, safety is the key word to anything. (#130)

A few fishermen and fisherwomen mentioned worms. It seemed they were talking about fish from saline waters, offshore in California and in the Chesapeake, but it was not clear that they found them in fish from the Potomac or Anacostia. In any case, one fisherman told us an interesting antidote to the problem of worms, that he’d learned from a fisherman in Louisiana:

“...every single black crappie¹⁰¹ you pull out of this river will have worms in it. Every single one. So a lot of people won’t eat ‘em ‘cuz they have worms in ‘em. But the trick is, you soak em in milk and the worms come right to the surface, come right out of the meat, so makes the meat edible. Yeah, milk—if you can soak it anywhere from two hours to overnight, milk’ll do it. And you’ll come out in the morning and you’ll look down and they’ll be floating on the surface and your meat will be clean.” (#602)

Some of the younger fishermen (teenagers) we encountered at Jones Point were unsure about food safety. They had heard that there are parasites and PCBs in the water, but were not sure about what to do about the fish. One of them told us about a friend kayaking on the Potomac who got ringworm from contact with the water. The friend concluded, “Yeah, so I’m like, maybe eating anything out of here is a bad idea. I’m glad I actually just remembered that before I thought to eat this fish.” (#509)

This wide-ranging set of rationalizations for consuming the fish, and ways of mitigating the health risks, are indicative of what fishers believe about consumption, contamination of river waters and sediments, health risks, and vectors of disease. The view of the researchers is that belief systems are keys for opening communication with fishermen about consuming, cleaning, and preparing fish for consumption.



Fish sandwich of the day, Union Market, Northeast Washington, D.C. Photo credit: S.J. Fiske

6.3.3.7 Looking out for others

Most sharing occurred through informal networks of kin, families and relatives, neighbors, and friends. We suspect that even more sharing goes on at fishing sites, such as handing fish to a needy person on a pier or to fishermen who did not catch any fish, or by having a weekly fish cookout at the fishing site

¹⁰¹ Black crappie, *Pomoxis nigromaculatus* are a freshwater fish, but can be found in the tidal Potomac and its tributaries, such as the Occoquan River.

(some parks have picnic tables, such as Hains Point), where people bring their grills and cook during the afternoon, sharing their catch.¹⁰²

“These anglers, even the ones who know some of the health risks, find the urge to share the fish irresistible. In fact, they feel good to be helping someone in need, and that motivation overcomes concerns they may have about possible contamination.” (“Addressing the Risk” 2012 study, p.12)

Many fishermen and women gave fish to those who asked for them on site. Reasons included if anglers noticed others who were not catching any fish, or if passersby were clearly hungry and/or wanted the fish. While we do not have concrete numbers on the volume or number, nearly everyone had given fish away at some point, and were sympathetic to doing so. One fisherman said, “you know, we’re the type of persons that like to share.” When asked to explain, he continued, “...Sometimes when my neighbors..., we know how their economic issues are, sometimes when we have plenty to eat, we always like to hand them over some catfish.” This level of sharing from empathy about others’ situations extends to fishermen they do not know. Many said they would give fish to whoever was on the pier, particularly if they caught more than they did. One interviewee told me, “I’ll always ask before I throw them back,” because he noticed others came to fish for food.

As one Asian fisherman told us, “I just want to give everybody to eat, because I got a lot. I cannot eat the whole thing, that’s why I give away, make them happy.” Another fisherman, nicknamed “Catfish Man,” who told us he fished “every day” at Piscataway, gave fish away because he did not like to waste food. “If you won’t eat them,” he said, “somebody else will; and I know a lot of people!” While he does not eat the catfish, he brings them to his friends and family, thus his nickname. “Looking out for others” characterizes these sharing patterns. As one said, “I’ll do it [clean the fish] for a person at my job because she’s got a lot of kids; she like catfish so I just give ‘em to her, trying to look out for her, the ones that need ‘em.”

“Well actually, say like, I’m out here fishing and I catch one; and I see someone been out here before me, I don’t see them catching none. I might say, ‘do you want this fish right here?’ And they might say, ‘thank you, thank you.’ But I know I’m gonna be out here a little longer.” (#604)

Friends and neighbors comprise social networks with whom fishermen have personal ties and share fish. One fisherman caught fish for himself, his wife, and his son, and then if he caught more, he would bring the extras back for his friends and neighbors. Another fisherman at Hains Point mentioned that he kept his neighbors in mind when he went out fishing.

“As a matter of fact, I live in a senior citizen building and all those old folks love these fish. They especially like the perch, that’s what they like. They say the fish are sweet.” (#134)

Some talked about their responsibility to feed those in need rather than toss back extra fish—in contrast to recreational fishermen who practice catch and release. The fishermen in this study practice “catch and share,” since they know that blue catfish are bountiful and there are folks who will eat them. From

¹⁰² One of the fishing sites, Fletcher’s Boathouse, holds an annual cookout of grilled snakehead (an invasive species also offered for sale at local retail fish markets), inviting fishermen and the public to contribute their snakehead and consume them on the boathouse grounds, on the shores of the Potomac.

another study on subsistence fishing, the author described a similar attitude. “Fishermen also feel good knowing that they provide fish for people who truly need the meal” (Lutz 2013). The data in general support the idea of sharing, since fishermen *do not eat most of the fish they catch*—they share them. While it depends on the species, in most cases, they personally consume only about half of what they catch.

Fishing provides a sense of self-reliance and independence; sharing the bounty, especially of blue catfish among family members, is part of a rural way of living, extended into urban parkland areas. In a southern, rural historical context, one lived in a world where counting on steady employment or income was risky; but being able to raise food off the land, and fish from the rivers, brings confidence in provisioning over the long term.

Other studies of subsistence fishermen on the East Coast have noted they may sell a small portion of their catch for cash to local seafood establishments or restaurants. There was evidence in this study that a few fishermen (three) may sell or trade part of their catch, but it was not frequent. One mentioned he accepted money for his fish from co-workers at his work site, and he used the money for bait and other fishing equipment to catch more fish for them. Three fishermen mentioned the Wharf, a popular public seafood market on the Washington Channel near Hains Point, where they took their fish to get cleaned at the fish cleaning station. One suggested that he had heard that the vendors will buy fish or trade fish for crabs. “You go to one vendor down there and you say look, ‘I have 10 catfish, you interested?’ And he may say, ‘no I’m not interested.’ So you go to the next guy and you say, ‘look, I have 10 catfish.’ He’s gonna say, ‘I’ll take five of them,’ and then go to the next guy. You just shop around—from what I understand.”

As the Field Team visited fishing sites, they noticed that fishermen create temporal communities on the banks and shorelines of the river, sharing lines, bait, stories, and fish. Though these communities disappear once the fishermen leave, they often regroup the next time a group of fishermen return to the same spot, and sometimes continue to exist off-site if they are regulars. The act of fishing, waiting, setting out your rods, and being seen and available in a public space connects individuals in the same location and draws them together; this is one of the things that interviewees told us they liked about fishing. Not all fishermen like to fish around others, but most anglers at high-intensity fishing sites seemed to enjoy it (see Subsistence section 6.3.2).

Sharing appears to be an assumed value in subsistence fishing, especially with blue catfish. It occurs in part because the fish (blue cats, but other catfish as well) are very easy to catch from the Potomac and Anacostia rivers, are a valued species to eat, and there is a good feeling helping out and not wasting good food. Fishing and sharing do something else besides simply put food on the table when one does not have any; as Regis and Walton point out (2015), it is a way of building relationships, invoking a belief system rooted in history, heritage, and the activity itself. Fishermen share, learn, and teach their children and grandchildren to fish in extended family networks. Many of the African American and Asian anglers in the sample had rural upbringings within at least three generations.

This study supports the idea that fish harvested from the Potomac and Anacostia are shared widely by subsistence fishers, particularly certain species. Beyond fishermen’s first and second choices to share, we were not able to get good network data on which species were shared with whom. The scope of the study did not include finding out more detailed data on how fish “percolates” through the community outside the initial sharing. Since this question was raised by resource managers who advised the study,

SECTION 6.3.3: FINDINGS. Food Sharing

we recommend a more focused social network study of selected fishermen and their social ties (see Recommendations section).

References

OpinionWorks. 2012. "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia River Fish." 20 pp. www.anacostiaws.org/userfiles/file/AWS_angling_FINAL, accessed October 2014.

Lutz, Lara. 2013. "Anglers Continue to Ply the Anacostia Despite Pollution, Contaminated Fish Advisories." *Bay Journal*, January 1, 2013. https://www.bayjournal.com/article/even_if_a_person_knows_about_the_risk_they_are_still_hungry_today, accessed 13 March 2018.

Regis, Helen, and Shana Walton. 2015. "Subsistence in Coastal Louisiana. Volume I: An Exploratory Study." New Orleans, Louisiana: U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, p.187.

6.3.4 Food Insecurity among Subsistence Anglers in the Washington, D.C. Area

Issues of food security and environmental justice have evolved as the issue's analysis has progressed. This section on food security comprises three parts. The first, "Food Security—Analysis of Study Respondents," is composed of SPSS data analysis derived from the 81¹⁰³ oral history interviews that are this report's foundation. Part two reviews food security for the Washington, D.C., metropolitan area and is derived from secondary literature, including but not limited to the U.S. Department of Agriculture (USDA) reports on this topic. The third and final part of this analysis contains a re-coding of the original SPSS variables from our study to more closely mirror the USDA data. This allows for a detailed comparison with our findings and the USDA analysis/data. Concluding this comparison will be a small section on the implications of this topic for issues of environmental justice.

Our analysis reveals that a substantial portion, about 40% of the anglers from this study, have some form of food security issues. Most striking is that, within our sample, about 20% suffer from *very low food security* (i.e., food insecurity), a proportion that is *four times* the national average. Our research parallels findings from other areas of the country that identify ethnicity (African American or Hispanic), low levels of income (high levels of poverty), and age—specifically, being over age 50—are associated, either singularly or in combination, with food insecurity.

The authors wish to emphasize that our use of availability sampling limits the generalization of results to all anglers fishing on the Anacostia and Potomac rivers. This is especially true of Hispanic anglers, wherein a small sample size (n=~11) limits our ability to generalize to a wider population. In addition, only two respondents did not have access to a car to take them to fishing sites. Other research seems to indicate about 40% of households living in poverty in the D.C. area do not own cars.

Finally, at the end of this section on food insecurity, we provide a Qualitative Portrait of an individual that embodies many of the risk factors associated with food insecurity—African American, poor, over 55 years, and lacking access to a car (for the most part). Nevertheless, we anticipate that the reader will also perceive, as we do, his exuberance for life and fishing.

It should also be noted that this general overview of the issue is complemented by more detailed analysis at a park-by-park level (contained in each park profile), concluding with a comparative analysis across all five parks in section 10 of the comparative park profile analysis.

6.3.4.1 Analysis of study respondents

The open-ended topics on food security used in this research were derived from extensive research among small Alaska Native communities. The research compared actual amounts eaten by locals with food insecurity measures. The report¹⁰⁴ that summarized the Alaska research contains a detailed statistical analysis, based on Cronbach's alpha, that reduced several variables on food insecurity into two major items. We used the Alaska analysis as the basis of the thematic protocol rather than the USDA series of questions.

¹⁰³ Due to missing data on food security from two respondents, the sample size for this analysis is 79.

¹⁰⁴ Callaway, Donald and Janell Smith, 2008. "The Social, Economic and Dietary Components of Food Security for the Communities of Kiana and Buckland." A joint project by The Institute for Circumpolar Health Studies, Alaska Department of Fish & Game, Division of Subsistence, Kotzebue Office, The National Park Service, and the Traditional Tribal Councils of Kiana and Buckland. Funded by The National Science Foundation, NSP-OPP-0611871.

SECTION 6.3.4: FINDINGS. Food Insecurity

Using the Alaska findings, we asked two questions on food security to determine (a) levels of concern or worry about having enough food, and (b) whether respondents in our research had actually experienced episodes where their family had not eaten because they did not have any food. Table 6.3.4.1, below, indicates about 10% of anglers have serious concern (“worry a lot”) about their food security. In addition, fully a third of all anglers experienced worrying “a little” about being able to put food on the table.

Table 6.3.4.1
Respondent Worry About Food on Table

Level of Concern	Frequency	Percent	Valid Percent	Cumulative Percent
Worry a lot	8	9.9%	10.1%	10.1%
Worry a little	19	23.5%	24.1%	34.2%
Do not worry	52	64.2%	65.8%	100%
Total	79	97.5%	100%	
Not Applicable	1	1.2%		
Missing Information	1	1.2%		
Total	2	2.5%		
Total	81	100%		

Although fishers were not asked their income, we used educational attainment as a reasonable proxy for income, and looked at concern by ethnicity. Only two Anglo anglers (24%), both high school graduates, expressed that they “worry a little” about putting food on the table. No Anglo worried “a lot.” In contrast, half (4/8) of all anglers who worried a lot had not finished high school. Two-thirds (18/26) of all anglers who expressed any concern (worry a lot/little) had not finished high school or were high school graduates. Thus, it appears that modest levels of educational attainment (perhaps reflecting low income) are contributing factors to food insecurity (see Table 6.3.4.2).

SECTION 6.3.4: FINDINGS. Food Insecurity

Table 6.3.4.2
Respondent Worry About Food on Table
 (by Educational Attainment and Ethnicity)

Last Grade Completed	Worry Level	Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		Count	Count	Count	Count	Count	Count
< High school	Worry a lot	0	3	0	1	0	4
	Worry a little	0	1	0	2	0	3
	Do not worry	1	2	2	0	0	5
12 th grade or GED	Worry a lot	0	1	1	0	0	2
	Worry a little	2	6	1	0	0	9
	Do not worry	0	12	0	1	1	14
Some college	Worry a lot	0	1	0	0	0	1
	Worry a little	0	3	1	0	1	5
	Do not worry	1	2	2	2	2	9
Bachelor's	Worry a lot	0	0	0	1	0	1
	Worry a little	0	0	0	0	0	0
	Do not worry	4	7	0	0	1	12
Some graduate school	Worry a lot	0	0	0	0	0	0
	Worry a little	0	0	0	0	0	0
	Do not worry	0	1	0	0	0	1
Total		8	39	7	7	5	66

Table 6.3.4.3
"Last Year, Were There Times Your Household Did Not Have Enough to Eat?"

Response	Frequency	Percent	Valid Percent
Yes	14	17.3%	17.9%
No	64	79%	82.1%
Total	78	96.3%	100%
Not applicable	1	1.2%	
Missing	2	2.5%	
Total	3	3.7%	
Total		100%	

Table 6.3.4.3 above asks the empirical question about an experience of hunger during the preceding year, rather than trying to measure a level of anxiety (i.e., "worry a little/lot"). Interestingly, more anglers experienced hunger than actually "worried a lot" about it, which means, in a few cases, one can have very low food security but not worry about it. By far, most anglers (82%) responded that there were no times last year when they could not put food on the table. In addition, 66% in the previous table responded that they "do not worry about" putting food on the table. Note, however, that these two responses do not perfectly overlap, and that about 40% of all anglers indicated some form of food insecurity.

SECTION 6.3.4: FINDINGS. Food Insecurity

As Table 6.3.4.4 below indicates, only two-thirds (9/14) of anglers who had actually experienced a food shortage worried about it (yellow highlight). However, the crucial finding is that three-fourths (6/8) of those who worried a lot actually had experienced periods where they missed meals for lack of food. Note this correlation provides the justification for later analysis, in which we aggregate both those that “worry a lot” and those that have “gone without meals” as being equivalent to the USDA measure of “very low food security.” Those that only “worry a little” will equal the USDA measure of “low food security”.

Table 6.3.4.4
Cross-tabulation: “Last Year, Were There Times Your Household Did Not Have Enough to Eat?”
 (by “Worry About Food on Table?”)

Last year, were there times your household did not have enough to eat?	Worry About Food on Table			
	Worry a lot	Worry a little	Do not worry	Total
	Count	Count	Count	Count
Yes	6	3	5	14
No	2	15	47	64
Total	8	18	52	78

Table 6.3.4.5
“Last Year Were There Times Your Household Did Not Have Enough to Eat”
 (by Education and Ethnicity)

Last year, were there times your household did not have enough to eat?		Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		Count	Count	Count	Count	Count	Count
Yes	< High school	0	3	0	3	0	6
	12 th grade or GED	0	3	1	0	0	4
	Some college	0	1	0	0	1	2
	Bachelor’s	0	0	0	1	0	1
	Some graduate school	0	0	0	0	0	0
	Total	0	7	1	4	1	13
No	< High school	1	4	1	0	0	6
	12 th grade or GED	2	15	1	2	1	21
	Some college	1	4	3	2	2	12
	Bachelor’s	4	7	0	0	1	12
	Some graduate school	0	1	0	0	0	1
	Total	8	31	5	4	4	52
Total Yes/No Responses		8	38	6	8	5	
Percentage Replying “Yes”		0%	18%	17%	50%	20%	20%

Table 6.3.4.5 above clearly indicates that education and ethnicity have a strong influence on whether an angler’s household has experienced times when they did not have enough to eat. Three-quarters (77%, or 10 of 13) of anglers who did not have enough to eat had a high school education or less. In addition, the same number of those anglers (77% or 10 of 13), regardless of educational attainment, who

SECTION 6.3.4: FINDINGS. Food Insecurity

indicated they had experienced periods without eating were either African American or Hispanic. Proportionally, Hispanics are the group with the highest risk of food insecurity.

Looking at those fishermen who did not have enough to eat, all but one of the anglers consumed (at least in part) the fish that they harvested (Table 6.3.4.6, below).

Table 6.3.4.6
“Last Year, were there Times Your Household Did Not Have Enough to Eat?”
 (by Consumption Pattern and Ethnicity)

Last year, were there times your household did not have enough to eat?			Ethnicity					
			Anglo	African American	Asian	Hispanic	Other	Total
			Count	Count	Count	Count	Count	Count
Yes	Consumption Pattern	Share Only	0	1	0	0	0	1
		Some share/return/some consume	0	6	1	5	0	12
		Consume only	0	0	0	0	1	1
No	Consumption Pattern	Share Only	3	5	2	2	1	13
		Some share/return/some consume	8	26	3	4	1	42
		Consume only	0	5	0	0	1	6
Total			11	43	6	11	4	75

As indicated in Table 6.3.4.7 below, age is also an additional risk factor for food insecurity. Half (7 of 14) of the anglers experiencing periods without meals were older than 51 years (yellow highlight). Younger and middle-aged anglers were less likely to experience hunger, and did so at about equal proportions. In addition, 86% (12 of 14) of respondents who indicated periods of hunger were African American or Hispanic.

Table 6.3.4.7
“Last Year Were There Times Your Household Did Not Have Enough to Eat?”
 (by Age and Ethnicity)

Age (recoded into three intervals)		Ethnicity					
		Anglo	African American	Asian	Hispanic	Other	Total
		Count	Count	Count	Count	Count	Count
Yes	18-34 yrs.	0	2	1	1	0	4
	35-50 yrs.	0	2	0	0	1	3
	51+	0	3	0	4	0	7
No	18-34 yrs.	4	7	3	4	0	18
	35-50 yrs.	3	12	1	2	3	21
	51+	5	17	2	0	1	25
Total		12	43	7	11	5	78

6.3.4.2 Existing research on food insecurity for the Washington, D.C. Area

To compare our research findings from “Subsistence Fishing on Potomac and Anacostia Rivers,” we investigated available secondary literature on “food insecurity” for the United States, especially for the Washington, D.C. area. A major source of information was the USDA Economic Research Service (ERS).¹⁰⁵

In 2016, the USDA/ERS surveyed 41,186 households, comprising a representative sample of the U.S. civilian population of 126 million households. The food security survey, composed of 18 items, asked one adult respondent per household questions about experiences and behaviors that indicate food insecurity, such as being unable to afford balanced meals, cutting the size of meals, or being hungry because of too little money for food.¹⁰⁶

Households were classified by USDA as *food secure* if they reported no food-insecure conditions or only one or two food-insecure conditions. They were classified as *food insecure* if they reported three or more food-insecure conditions. Food-insecure households are further classified as having either *low food security* or *very low food security*.

Low and very low food security differ in the extent and character of the adjustments the household makes to its eating patterns and food intake. Households classified as having *low food security* have reported ...food acquisition problems and reduced diet quality, but typically have reported few, if any, indications of reduced food intake. Those classified as having *very low food security* have reported ...disrupted eating patterns due to inadequate resources for food. In most, but not all, households with *very low food security*, the survey respondent reported that he or she was hungry at some time during the year but did not eat because there was not enough money for food (Coleman-Jensen et al 2017:4).

As mentioned earlier in this section, the measures used in this study were derived from an earlier research project conducted in Alaska.¹⁰⁷ That research endeavor, like the USDA research, employed an extensive questionnaire that contained 11 questions, which after intensive statistical analysis were reduced to two key components: concern or anxiety about obtaining sufficient food, and the actual experience of missing meals due to a lack of “subsistence” foods and/or a lack of money. The “Subsistence Fishing on the Potomac and Anacostia Rivers” project, due to OMB restrictions and other factors, did not employ a forced choice survey questionnaire. It did, however, include two open-ended topical themes related to food insecurity during the overall process of collecting oral histories. These two themes have been discussed and analyzed in the previous section.

There is considerable overlap between how the USDA (and other research initiatives) condensed their results, and the outcomes of this project. The basic aggregation of food insecure households into “low food secure” and “very low food secure” is mirrored in the recoding of our results discussed in some detail below. To understand the analytical outcome of our results, this section provides a national, state, and district context for food insecurity.

¹⁰⁵ Coleman-Jensen, Alisha, Christian A. Gregory, and Matthew P. Rabbitt. 2017. “Food Security in the U.S.” U.S. Department of Agriculture, Economic Research Service, Washington, D.C.

¹⁰⁶ Coleman-Jensen et al., 2017:4

¹⁰⁷ Callaway, Donald and Janell Smith. 2008. “The Social, Economic and Dietary Components of Food Security for the Communities of Kiana and Buckland.” A joint project by The Institute for Circumpolar Health Studies Alaska Department of Fish & Game, Division of Subsistence, Kotzebue Office, The National Park Service, and the Traditional Tribal Councils of Kiana and Buckland. Funded by The National Science Foundation, NSP-OPP-0611871.

SECTION 6.3.4: FINDINGS. Food Insecurity

First, the USDA website provides some key statistics and graphics related to food insecurity in the United States.¹⁰⁸ The key findings from their survey include:

- 87.7% (110.8 million) of U.S. households were food secure throughout 2016, essentially unchanged since 2015.
- Food-insecure households accounted for 12.3% of all households. The proportion of households with “low food security” equaled 7.4%, and the proportion of households with “very low food security” equaled 4.9%.
- The distribution of food-insecure households varied by ethnicity and income levels:
 - Black, non-Hispanic households (22.5%)
 - Hispanic households (18.5%)
 - Low-income households (incomes below 185% of poverty threshold) (31.6%)
 - Households with incomes below 185% of the poverty line (13.3%)

There were a number of other characteristics, including households with children (16.5%), and households headed by single women (31.6%). Unfortunately, our research did not detail household composition (i.e., marital status, presence and age of children, etc.), which is thus not included in this summary.

Numerous other graphs and charts are included in this summary; however, the final key generalization (derived from a map updated as of October 4, 2017) concerns the “State-level Prevalence of Food Insecurity.”

Coleman-Jensen et al. (2017) note that the average of food insecure households for Washington, D.C., (as a whole) was 11.4%; the percentage for Maryland was 10.1%, and for Virginia was 9.9%. These statistics form the basis of the generalization noted above, that D.C., Maryland, and Virginia have food insecure proportions lower than the national average of 12.3%. Maryland, Virginia and D.C. all have food insecurity below the U.S. average.¹⁰⁹

These three jurisdictions include some of the richest areas in the country; however, these averages mask considerable pockets of poverty and food insecurity within them. As seen in Table 6.3.4.8 below, by analyzing specific low income wards within the District, it becomes clear that Washington, D.C., if considered a “state,” would have the sixth-highest food insecurity rate in the nation.¹¹⁰ In addition, Washington, D.C., and the six counties that surround it in Virginia and Maryland have 700,000 individuals at risk of hunger.¹¹¹

¹⁰⁸ USDA/ERS, 2017, “Food Security in the U.S., Key Statistics and Graphs.” <http://www.ers.usda.gov>.

¹⁰⁹ USDA/ERS, 2017, “Key Statistics and Graphics, State-Level Prevalence of Food Insecurity” (map).

¹¹⁰ “Feeding America,” Map the Meal Gap, 2012.

¹¹¹ “Hunger in American 2014: Capital Area Food Bank Local Report.”

Table 6.3.4.8
Percentage of Children and Individuals Food Insecure:
Washington, D.C., Maryland, and Northern Virginia, 2014¹¹²

Food Insecurity Rates	D.C.	Maryland (two counties)	Northern Virginia* (four counties)
Child Food Insecurity Rate (Children under 18)	27.9%	19.3%	14.4%
Population Food Insecurity Rate	14.5%	13.1%	11.9%

*Highest percentage of various service areas

As Table 6.3.4.8 above clearly indicates, nearly 30% of children under 18 live in food insecure households in the Washington, D.C., area. In comparison, bordering and nearby parts of Maryland¹¹³ and Northern Virginia¹¹⁴ have lower proportions of children living in food insecure households. In MD and VA counties, the proportion of food insecure households relative to the total number of households is much closer to national averages.

Not emphasized in the Coleman-Jensen et al. (2017) report is the status of elderly living with food insecurity. Nation-wide, households that include an elderly resident (65+) have a food insecurity percentage rate of 7.8%; households with elderly residents living alone have a rate of 8.9%. Ziliak et al. (2013)¹¹⁵ estimate that about 8% of the elderly (60+ in this case) were food insecure. However, the impacts from food insecurity to this population were considerable. The National Foundation to End Senior Hunger found that seniors in food insecure households were at increased risk or chronic health conditions, even when controlling for other factors such as income:

- 60% more likely to experience depression.
- 53% more likely to report a heart attack.
- 52% more likely to develop asthma.
- 40% more likely to report an experience of congestive heart failure.¹¹⁶

6.3.4.3 District of Columbia

Narrowing the focus to just the District of Columbia, the impacts of food insecurity take on more stark consequences. First, some background context. Washington, D.C., has the highest per capita income in the United States at \$71,648, followed by Connecticut at \$70,048.

D.C. income inequality

Hand in hand with the highest per capita income in the United States is D.C.’s status as leading the nation in income inequality. Washington, D.C., has a Gini coefficient of .542, and income inequality increased in the District between 2015 and 2016. Households in the top 20% have 29 times more

¹¹² Capital Area Food Bank (CAFB) Fact Sheet. January 2015.

¹¹³ Montgomery County and Prince George’s County.

¹¹⁴ Fairfax County, Prince William County, Arlington County, and City of Alexandria.

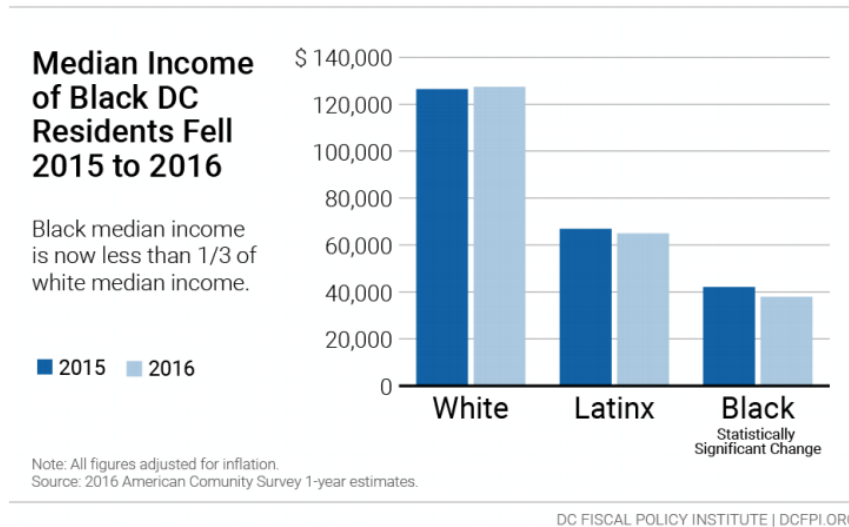
¹¹⁵ Ziliak, J.P. & Gundersen, C. 2012. “Spotlight on Food Insecurity Among Senior Americans: 2011.” National Foundation to End Senior Hunger.

¹¹⁶ Data are from “Spotlight on Senior Hunger, May 2013.” The National Foundation to End Senior Hunger.

SECTION 6.3.4: FINDINGS. Food Insecurity

income than the bottom 20%. The bottom fifth of D.C. households had just 2% of total District income in 2016, while the top fifth had a staggering 56%.¹¹⁷

Figure 6.3.3
Median Income by Ethnicity, 2015 to 2016¹¹⁸



District poverty

D.C. has one of the highest poverty rates (18.6%) in the US, with only Mississippi, Louisiana, and New Mexico having higher proportions. In D.C., 7.9% of Anglo residents fall below the poverty line, while the proportion of African American residents is 27.9%. About 17.9% of Latinx residents fall below the poverty threshold, while the national average is 12.7%. Key to all this is the fact that African American families earn less than a third of their white congeners. As Figure 6.3.3 above indicates, African American residents of D.C. are the only ethnic group to experience an increase in poverty rates since before the 2008 recession.

Table 6.3.4.9
D.C. Poverty Proportions by Ethnicity

Poverty Proportion	2016*	2017**
National Average	12.3%	12.7%
Entire Washington, D.C., Population	17.3%	18.6%
Anglo	7.1%	7.9%
African American	26.6%	27.9%
Hispanic	11.6%	17.9%

*2015 data (Talk Poverty 2016)

**2015 and 2016 data (D.C. Fiscal Policy Institute)

¹¹⁷ D.C. Fiscal Policy Institute December 12, 2017.

¹¹⁸ Ibid.

SECTION 6.3.4: FINDINGS. Food Insecurity

The latest timepoint for hunger and food insecurity measures is 2015. The overall proportions for D.C. were somewhat smaller, and even taking into consideration measurement error, poverty seems to be increasing (see Table 6.3.4.9, above). It is important to emphasize that this discussion of poverty is intimately connected to food insecurity. The Capital Area Food Bank Fact Sheet notes that:

Based on annual income, 72% of all Feeding America client households live at or below 100% of the federal poverty line.¹¹⁹

Food deserts

A food desert is a geographic area in which residents have limited access to healthy food. These areas tend to have concentrations of low-income and minority residents.

This is especially true in Washington, D.C., a city with an extended history of racial and economic divisions and disparities, which in turn contribute to the development of food deserts.¹²⁰ Randy Smith, 2017.

Randy Smith, a GIS specialist at the D.C. Policy Center, has also found that the District has about 6.5 square miles of food deserts overall, or about 11% of its total area. Smith notes that these areas include Historic Anacostia, Barry Farms, Mayfair, and Ivy City. In addition, most city neighborhoods with the highest poverty rates are east of the Anacostia River. These are all areas where many of our fishing respondents live or are connected through sharing networks.

Smith has defined a food desert as an area where the following three attributes overlap:

- The walking distance to a supermarket or grocery store is more than 0.5 miles.
- Over 40% of households have no vehicle available.
- The median household income is less than 185% of the federal poverty level for a family of four.

Smith also describes how three-fourths of the food deserts in D.C. are located in Wards 7 and 8, which are predominantly African American neighborhoods east of the Anacostia River. Of the 49 full-service grocery stores in D.C., only three are located in Wards 7 and 8, an area containing 149,750 persons.¹²¹ In addition to being home to the city's largest food deserts, Wards 7 and 8 have the District's highest poverty rates and highest obesity rates.¹²²

USDA national food insecurity measures

Earlier in this section we provided general information on food insecurity in the United States, with some attributes of food insecure individuals. We also provided percentages of population and child food insecurity proportions for the District and environs. We now break down national food insecurity measures ("Total Food Insecurity") into the USDA categories of "low food security" and "very low food security" for the nation. Unfortunately, the USDA does not provide the finer grade categories of "low"

¹¹⁹ Capital Area Food Bank Fact Sheet. January 2015.

¹²⁰ Randy Smith. 2017. "Food access in D.C. is deeply connected to poverty and transportation." <https://www.dcpolicycenter.org/people/Randy-Smith/>, March 13, 2017.

¹²¹ Sturdivant, C. 2017b, June 6. http://dcist.com/2017/03/food_deserts_latest.php; <http://www.dchunger.org/about/facts.html>.

¹²² Morgan, Kelly V. 2018. "Food Insecurity and its Effects in Washington, D.C." <https://www.roots-for-life.org/resources/2018/11/11/food-insecurity-and-its-effects-in-washington-dc>.

SECTION 6.3.4: FINDINGS. Food Insecurity

and “very low” percentages by ethnicity for D.C. It does state that for all District residents, the combined measures of food insecurity are lower than national averages for “Metropolitan Areas.”

The intent of Table 6.3.4.10 below is to provide the best available data, albeit at a national scale, for subsequent comparison (Part Three) with the results of this research study.

Table 6.3.4.10
USDA National Measures of Food Insecurity

Ethnicity/Area	Total Food Insecurity	Low Food Security	Very Low Food Security
African American	22.6%	12.8%	9.7%
Hispanic	18.5%	12.7%	5.8%
Metropolitan Areas	11.8%	7.2%	5.8%
Rural Areas	15%	8.4%	6.6%

6.3.4.4 Comparison of project food insecurity results with national parameters

To this point in the subsistence study, we have discussed two variables. The first variable measures an individual’s anxiety about having enough food to eat. Each individual is coded as to whether he or she worries “a lot,” “a little,” or “not at all.” The second variable measures an objective behavioral outcome: “Last year, were there times your household did not have enough to eat?” To better understand the relationship between these two variables, and to code them in a way most comparable to USDA measures of low and very low food security, we recoded both variables for each individual interview into one variable with six attributes. Did respondents on both variables respond by saying that they:

1. Worry a lot *only* (i.e., *but did not* also say they did not have enough to eat).
2. Worried a little *only* (i.e., *but did not* also say they did not have enough to eat).
3. Said there were times they did not have enough to eat only (i.e., but also did not worry “a little” or “a lot)
4. Worried a little and stated they had times with not enough to eat.
5. Worried a lot and stated they had times with not enough to eat.
6. Neither worried about food security nor had they missed any meals because they did not have enough to eat.

Table 6.3.4.11 describes the percentages of the attributes, which constitute the new variable “Combined Food Insecurity Measures.”

SECTION 6.3.4: FINDINGS. Food Insecurity

Table 6.3.4.11
Combined Food Insecurity Measures (n=79)

Attributes for “Combined Food Insecurity Measures”	Frequency	Percent	Valid Percent	Cumulative Percent
1. Worry a lot only	2	2.5%	2.5%	2.5%
2. Worry a little only	16	19.8%	20.3%	22.8%
3. Not enough to eat only	5	6.2%	6.3%	29.1%
4. Worry a little + not enough to eat	3	3.7%	3.8%	32.9%
5. Worry a lot + not enough to eat	6	7.4%	7.6%	40.5%
6. Not food insecure	47	58%	59.5%	100%
Total	79	97.5%	100%	
Missing information	2	2.4%		
Total	81	100%		

The table above shows that out of this valid sample, about 40% (n=32) of our respondents indicated some form of food insecurity (yellow and red rows). Of this 40%, about half (n=16), are low food security (the 16 individuals who stated they ‘worry a little’ only about food, the row highlighted in orange). The other half (n=16) of the 40% experience “very low food security” and comprises those who said they did not have enough to eat or “worried a lot” (highlighted in the yellow rows). The sample size has decreased to 79 of 81 respondents because of missing information.

Thus, we have made our measures more comparable to the USDA aggregations of “low food security” and “very low food security” by designating “worry a little only” as “low food security” (n=16 or 20% of the entire sample) and combine attributes 1, 3, 4, and 5 as “very low food security” (n=16, another 20% of the entire sample). (See Table 6.3.4.12 below.) That is, any individual who “worried a lot” and/or said that there were times they did not have enough to eat were regarded as having the highest risk of food insecurity. In sum, we have a sample of 32 individuals (40.5% of total responding sample) who may be regarded as being some form of food insecure, with half that number (16) qualifying as *really* insecure (i.e., *very low* food security).

Please note that sample sizes may vary in the following tables due to missing information in the independent variables (e.g., education) that are used to explain food insecurity.

Table 6.3.4.12
Combined Food Insecurity Measures Equivalent with USDA Measures

Combined Food Insecurity Measures	Equivalent: Collapsed Measure to Equate with USDA Measures
Worry a little only	Low food security
Worry a lot only Not enough to eat only Worry a little plus not enough to eat Worry a lot plus not enough to eat	Very low food security

Table 6.3.4.13 below is an example of how this process works. We begin by trying to understand the impact of ethnicity on food insecurity. To accomplish this, we use a statistical procedure called cross-

SECTION 6.3.4: FINDINGS. Food Insecurity

tabulations. The table shows the association between the ethnicity variable with the “combined food insecure” variable.

The next step is to reduce the complexity by collapsing the “combined food insecure” variable into three categories: “low food security,” “very low food security” and “no food insecurity.” This re-coding procedure is graphically illustrated where the yellow highlighted rows are combined into one measure of “very low food security,” while the orange highlighted column represents “low food security.” The column with no highlight is “not food insecure.”

Table 6.3.4.13
Combined Food Insecurity Measures, by Ethnicity

Ethnicity	Combined Food Insecurity Measures						Total
	Worry a lot only	Worry a little only	Not enough to eat only	Worry a little plus not enough to eat	Worry a lot plus not enough to eat	Not food insecure	
Anglo	0	2	0	0	0	10	12
African American	2	10	3	1	3	25	44
Asian	0	2	0	0	1	4	7
Hispanic	0	1	1	2	2	5	11
Other	0	1	1	0	0	3	5
Total	2	16	5	3	6	47	79

Table 6.3.4.14 below reduces Table 6.3.4.13 to be compatible for comparing USDA parameters. Please note that the USDA identifies “low food security” (Column I), and “very low food security” (Column II), and then combines both of these attributes into “food insecure” individuals (Column III).

This table follows the USDA categories and typology and reflects their process. In addition, collapsing the categories simplifies our own analysis in understanding the relationship between ethnicity and food insecurity. Thus, Column III tells us that of the 32 individuals who exhibit some form of food insecurity, 59% are African American, 19% are Hispanic, and 9% are Asian. Column IV notes the percentage of individuals who are *not* food insecure for all fisherman of that ethnicity. As an example, 10 out of 12 (83%) Anglo fishermen are not food insecure, i.e., on these measures they are “food secure”.

The ethnic group with the largest numbers of “low” and “very low” food insecurity clearly is African American anglers. Hispanic fishermen have the second highest proportion of “very low” food security; and in addition, at 45% (in column IV), represent the lowest proportion of food secure individuals; all other ethnicities have half or more respondents being “food secure.”

SECTION 6.3.4: FINDINGS. Food Insecurity

Table 6.3.4.14
Impact of Ethnicity on Food Security

Impact of Ethnicity on Food Security	I. Low food security (n=16)	II. Very low food security (n=16)	III. Proportion of all food insecure individuals	IV. Percentage of individuals <i>not</i> food insecure (n=47)
Anglo	13%	0%	6%	83%
African American	63%	56%	59%	57%
Asian	13%	6%	9%	57%
Hispanic	6%	31%	19%	45%
Other (American Indian)	6%	6%	6%	60%
Total	100%*	100%*	100%*	

* After eliminating rounding errors.

Age seems to have some influence on food insecurity (Table 6.3.4.15). The youngest age cohort (18-34) has the lowest proportion of food insecure individuals, with about one in four (27%) being food insecure. In contrast, about half the anglers over age 35 are food insecure, and among those over 55, food insecurity increases to 58%.

Table 6.3.4.15
Impact of Age on Food Security

Age	I. Low food security (n=16)	II. Very Low Food Security (n=16)	III. Proportion of all food insecure individuals	IV. Percentage of Individuals <i>not</i> food insecure (n=47)
18-34 yrs.	13%	25%	19%	73%
35-50 yrs.	56%	19%	38%	50%
51+ yrs.	31%	56%	44%	58%
Total	100%*	100%*	100%*	

* After eliminating rounding errors.

Level of education (Table 6.3.4.16 below), which we are using as a rough proxy for income, clearly indicates that individual educational/economic status has a strong influence on food insecurity. Some 80% (red highlight) of those in the “very low food security” column have a high school education or less. In addition, nearly three-fourths (light green highlight) of all food insecure individuals have a high school diploma or less. Embedded in these findings is the very clear relationship between educational level and level of food security: half of the “very low food secure” individuals have only a grade school education, whereas more than half (blue highlight) of the less extreme “low food secure” individuals have at least a high school diploma.

Finally, the last column (yellow highlight) indicates a clear decrease in food security, as indicators move from a college education, where nearly everyone is food secure, to a grade school education, where only a third of individuals are food secure.

SECTION 6.3.4: FINDINGS. Food Insecurity

Table 6.3.4.16
The Impact of Education on Food Security

Education Level	I. Low food security (n=14)	II. Very Low Food Security (n=15)	III. Proportion of all food insecure individuals (n=29)	IV. Percentage of individuals <i>not</i> food insecure (n=37)
Less than high school	7%	47%	28%	33%
12 th grade or GED	57%	33%	45%	48%
Some college	35%	13%	24%	53%
Bachelor's	0%	7%	3%	92%
Some graduate school	0%	0%	0%	100%
Total	100%*	100%*	100%*	

* After eliminating rounding errors

There are many other possible correlates with food insecurity. With respect to gender 3 of 10 female anglers (30%) note some level of food insecurity, whereas 33 out of 76 male anglers (43%) state some level of food insecurity. It appears the female anglers experience slightly less food insecurity. The interpretation of this finding could be explored in future research and may be due to a number of reasons. In addition, the low numbers of female anglers expand the error term, and these differences may disappear with overlapping error terms.

It also appears that food insecure anglers are much less likely to fish in the winter (24%) when compared to their food-secure congeners (45%). This seems counter-intuitive, as one would think that anglers concerned about food would fish all the time, despite cold winter conditions.

In Table 6.3.4.17 below, we focus of the harvest of blue catfish as an indicator of the amount of fish harvested by food secure and food insecure individuals. Blue catfish are selected as a proxy for all fish species, given that they provide the largest amount, by far, of fish biomass harvested and consumed by anglers. In general, the proportion of food insecure households that harvest the most blue catfish are fairly comparable to the percentage of food secure households (red highlight). However, this generalization hides an interesting contrast. The most food insecure households (“very low food security”) actually harvest far less blue catfish than all the remaining anglers (yellow highlights). It appears that “very low food security” anglers fish the least (i.e., only a small proportion go fishing in the winter) and harvest the least number of catfish. It maybe that lack of logistical resources, whether it is available time, transportation costs, or other labor commitments curtail their ability to fish often and to harvest higher amounts.

SECTION 6.3.4: FINDINGS. Food Insecurity

Table 6.3.4.17
Impact of Food Insecurity on the Harvest of Blue Catfish

Number of Blue Catfish Harvested Weekly	I. Low food security (n=16)	II. Very Low Food Security (n=16)	III. Proportion of all food insecure individuals (n=32)	IV. Percentage of individuals not food insecure (n=44)
1-4 per week	13%	44%	28%	34%
5-10 per week	38%	31%	34%	25%
11+ per week	49%	25%	38%	41%
Total	100%*	100%*	100%*	

* After eliminating rounding errors

Finally, *regardless of their food security status*, nearly every angler shares his or her catch with others (but especially blue catfish). In other words, it does not matter whether an individual is food insecure or not—they share the same proportion of their catch with others. Among those who harvest blue catfish, this is the bulk of their catch. This seems unexpected, given the findings of higher-than-usual food insecurity among our group; one might expect that they would share fewer fish than the food secure sub-group.

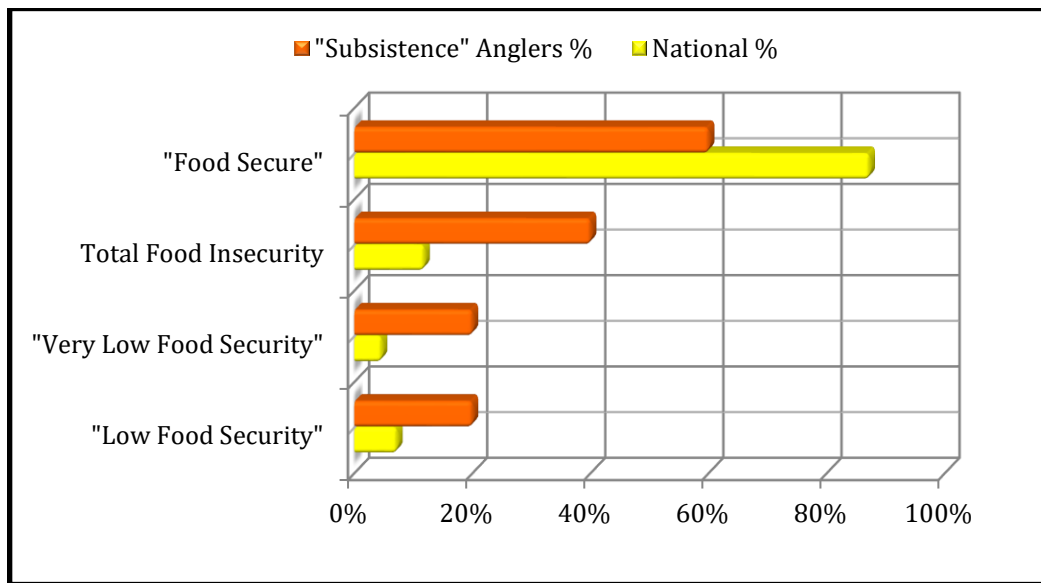
In summary, (see Table 6.3.4.18, below) anglers who provided oral histories for the research project “Subsistence Fishing on the Potomac and Anacostia Rivers” experienced about three times the “low food security” and about four times the “very low food security” existing among the U.S. national population.

Table 6.3.4.18
A Comparison, Using USDA Criteria, of the Proportions of Food Insecure Individuals: National Percentages versus Percentages of “Subsistence Fishing” Anglers

Proportion of Food Insecure Individuals	National Percentage	Subsistence Anglers Percentage
Low Food Security	7.2%	20%
Very Low Food Security	4.6%	20%
Total Food Insecurity	11.8%	40%
Food Secure	87.2%	60%

This is not an insignificant finding. These results, when combined with the detailed ethnographic histories of minority populations, the demonstrated impact of poverty and income inequality, and the presence of food deserts, all require the consideration of social and environmental justice. This topic will be addressed in the final section.

Figure 6.3.4
Subsistence Anglers versus the U.S. National Proportions of Food Insecurity



6.3.4.5 Very low food security; irrepressible fisherman. Tony Brown

Around noon on a warm June day, we encountered Tony Brown (pseudonym), a 55-year old African American with three fishing poles in the water, fishing south of the Pennsylvania Avenue Bridge (Sousa Bridge) off Water Street, SE, on the D.C. side of the Anacostia River. For his rods, he said he has three spinners with 10-lb. test line, and "two weights, two sinkers size 2." For bait, he is using shrimp. Asked whether he is targeting anything in particular, he responded "Ah, no, anything that bites." He told us he is a mixture of catch and share, catch and consume, and release; as he put it, "a little of all of them." He says he takes home *all* of the fish he catches. "All of `em. I give some away, and most of `em I eat."

He told us he "doesn't work"—no explanation followed—and he completed 8th grade. He goes out about every day and catches catfish: blue, channel, and white. He fishes all the time, including "all winter." His neighbors know that he fishes daily, and they ask him to bring them back catfish if he catches any. He prefers rockfish, but "they're not out here. Everybody be hot about rockfish, but rockfish season over with." He fishes both sides of the Anacostia River, also near the 11th Street Bridge. He has been fishing on the river for at least 35 years, since he was 17.

SECTION 6.3.4: FINDINGS. Food Insecurity

He likes this particular fishing spot, which is his current favorite. "Well I go [fishing] where I live at, I mean, this bridge is right here on the bus line." "...there's several fishing spots down here, [near the bridge] but I found this about six months ago. You know, it's easy for me to get off and get on the bus, so I been coming down here." He is one of the few fishermen we interviewed who gets to his fishing spots by public transportation rather than driving a car or pickup. He gets on the 1A bus with his cart, has his rods, his boombox, and a bucket. "It's so peaceful down here, peace of mind you know. They ain't even got to bite, I just sit down here all day long 'cuz I have me a beer, something to drink, I just sit right here and throw my rods in the water."



Fishing under the Pennsylvania Street Bridge, November. *Photo credit: S.J. Fiske*

Even though he takes the bus down to the bridge every day, he has fished all over the District and the Potomac, from Hains Point and Fletcher's Boathouse to Fort Washington and Piscataway, and also on the Virginia side. The conversation had a pattern when we asked him the places he goes fishing—his refrain was "whenever I get a ride, I'll go... I mean like, you come down here, you meet good people, and man said, 'come on man, let's go somewhere else,' and you go somewhere else. Whenever I get a ride, I go to different places. Like Chesapeake Bay, if I get a ride." He said just last Sunday, he met another fisherman and they went to the Chesapeake Bay.

We asked him who taught him to fish, and that is when we learned he was homeless earlier in his life. He said, "Ah, nobody, just lived down here. Lived down here when I was homeless," when he was about 25 years old. But as the conversation continued, it turns out his grandfather and grandmother on his father's side both fished, as well as his maternal grandmother. They taught his parents how to fish; although he maintained that his parents did not teach him, he clearly had a predilection for fishing. In addition, he has taught his children, ages 17 and 24, how to fish, and brings them down to fish near the Pennsylvania Street Bridge several times a week. Reportedly, "They love it. They love it." He usually fishes with others, "I have partners, they come down here with me, I'm just fishing today by myself."

Tony says, "They have picnics and stuff over there in the park [pointing to ANAC]" that he brings fish to in the summertime. Connected to his family, they do things together around fish: "Ah, like family reunions, cookouts, things like that. Picnics. we do it in the summertime, just when it's hot outside."

Tony was one of the 20% in the "very low food security" group of fishermen. "Ahh, it's hard out here. You know, I mean, people survive, whatever, yeah. Like I said, I eat the fish out of here, I don't eat it every day, but you know, it helps." He stated that he has used fishing to fill the gap for his family and to feed his neighbors. We asked whether there were "times last year when members of your household did not have enough to eat?" and he stated "yes" to that fixed-choice question (yes/no)—he did not expand on the situation—but agreed that fishing helped with that. His preference is for rockfish and "...ah, flounders, you know, but we know there ain't none them out here, though."

We had an extended conversation about bait and the types of fish he catches. He catches blue catfish, white catfish, channel catfish, yellow perch, and white perch "if they bite," but he knows where you can get them. "You catch 'em down at the wharf, but not out here." He throws back the eels, and does not like them. He caught one last Saturday. "I throw 'em back in the water, they mess your line up." He

SECTION 6.3.4: FINDINGS. Food Insecurity

catches carp once in a while, using corn or a flour dough with corn. While he was using shrimp the day we talked to him, he also uses raw chicken and cut bait.

He was aware of the fish advisories and concerned about safety. He told us he cleaned/skinned all the catfish and soaked them in vinegar and salt overnight, to get rid of all the "trash, the oil, and all the pollution, whatever's in there." He wanted "them" to clean up the river and said that he chose his spots judiciously where he was going to fish. "You pick different spots where you can fish at." He was upset that "there's a lot of trash in this water. Just clean the joint up!"

Tony was an irrepressible fisherman. We asked about fishing sites where he had really good memories catching fish, and his response was, "Right here! You can catch turtles, fish—everything, right here!" If that was not enough, we asked, "Can you tell us about your best day fishing ever?" "Today, today. Right now!" It was about 1 p.m., and he did not have anything in his bucket. We protested, "You didn't catch anything yet!" He countered with "Right, I just started! I just, I'll be down here all day, I'll be down here till I rush out about 6:30, 7:00 o' clock, I'll be right here. Morning to night, I'll be here in this spot. [he started reeling in a fish] False alarm! Aw, man!"

6.3.5 Park-associated Communities and Ethnographic Resources

This Ethnographic Resource Study is an investigation of the subsistence fishing community—or perhaps more accurately in this case, multiple communities—and their historical and contemporary relationship to the landscapes of the Potomac and Anacostia rivers, and their use of the rivers. Are subsistence fishermen a community of fishers, and do they and their families have traditional cultural practices, values, histories, and identities associated with park resources? (NPS Cultural Resource Management Guideline 1997:160)

The SOW for this study asked whether we found “information and understanding about the meanings and importance of park resources to these people and groups,” and whether the study helped “fulfill requirements of the 1966 National Historic Preservation Act, as amended, and the National Park Service Director's Orders #28: Cultural Resource Management for the identification and management of ethnographic resources.” That is, are there ethnographic resources here?

This section presents our findings relative to these questions, namely, the idea of subsistence fishing communities and the meanings and importance that fishermen ascribe to the parks. The section also discusses findings relevant to traditionally associated peoples and ethnographic resources.

6.3.5.1 Traditionally associated peoples: Piscataway tribal bands

From our study of subsistence fishermen who use the national parks along the Potomac and Anacostia rivers to “fish for food,” there appear to be two communities of fishermen who have long-term associations with parks and park resources, and significant cultural ties to fishing on the rivers—Piscataway tribal groups and African American subsistence fishers. Our small sample of Asian/Pacific Islanders and Latinx fishers appear to have much more recent ties to the rivers since all are first- or second-generation immigrants to the country.

The first group is Native Americans, in this case the Piscataway, who have pre-European and centuries-long historical association with the Potomac River, its tributaries, and its resources. The Piscataway were not the only tribal group that settled along the wide rivers or used the waters of the Potomac in pre-European contact period,¹²³ but they are most closely associated with the area around Piscataway Park and the Accokeek area of southern Maryland and the Park units close by. The Park is located on parts of their ancestral homelands and the location of one of their main villages in the confederacy, Moyaone.¹²⁴

Piscataway lifeways have been documented by early European colonists and artists, but Piscataway identity was actively suppressed in colonial and subsequent eras through formal and informal means. It

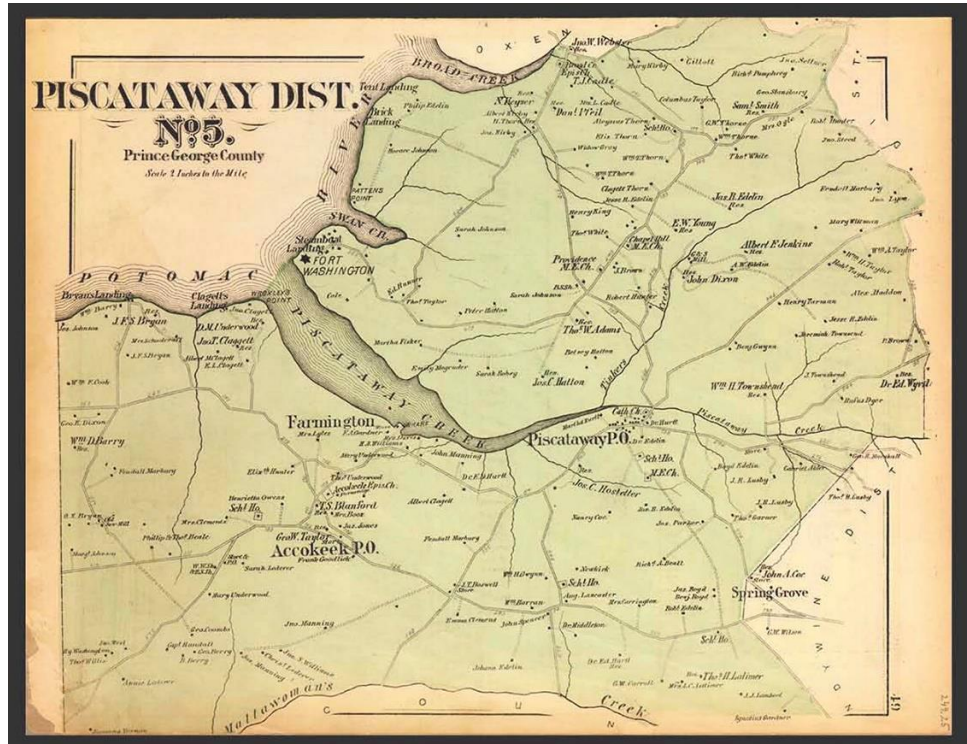
¹²³ For example, the Powhatan Confederacy used the area of the northern Potomac toward the Fall Line and Great Falls.

¹²⁴ Although much of their history has been lost as the Piscataway Confederacy started disbanding and moving away under pressure from European settlers, most historians agree that the Piscataway were at the height of their power shortly before Europeans arrived in the early 1600s, and that their territory stretched between the Chesapeake Bay and the Potomac. Their confederacy has been described as a representative alliance for defense and trade: “As with other tribes, smaller Piscataway bands—including the Chaptico, Moyaone, Nanjemoy and Potapoco—allied themselves under the rule of a *werowance* for the purposes of defense and trade. The *werowance* appointed leaders to the various villages and settlements within the tribe.” The website history also states that, “At the peak of their power in the 16th century, the title of *werowance* was replaced by a *tayac*, which was the equivalent to an ancestral king.” See <https://news.maryland.gov/dnr/2018/10/01/piscataway-conoy/>.

SECTION 6.3.5: FINDINGS. Park-Associated Communities

has been only in the last 70 years that Piscataway activists and elders have re-emerged to reclaim their rights and identity, and to energize their cultural values and ceremonial cycles. The State of Maryland formally recognized three bands of Piscataway tribes in 2012. The work of a number of scholars, non-profits, and educational institutions has led to a more robust understanding of the coastal and riverine tribal groups' history and use of resources. Their story is gradually being told. Our interpretation is influenced by these efforts, interviews, and publications, as well as the oral histories we conducted with Piscataway leaders and fishermen; it also relies on NPS oral histories with Piscataway leaders conducted as part of a separate NPS oral history project. Please see the [Ethnohistory of the Piscataway](#) in this report, section 4.2.

What we relate here with respect to the contemporary, annual ceremonial cycle and its relationship to Park resources is the composite story of the resuscitation of tribal culture and values and subsistence. We recognize that Piscataway descendants' identities range widely from close tribal affiliation and active participation in tribal bands' activities and ceremonial cycles to simple attentiveness and interest in the history of the tribe. We also recognize that interpretations of historical events, sacred sites, and rights to tribal leadership vary across bands and individuals.



Early map of the Potomac regional area. Image source: Library of Congress. <https://news.maryland.gov/dnr/2018/10/01/piscataway-conoy/>

However, there seems to be general acceptance of the annual cycle of celebrations. As was described to us and to the Accokeek Foundation project on cultural history, Piscataway practice their annual cycle of ceremonial activities with spring, summer (Green Corn Celebration), and winter celebrations and gatherings. The Feast of the Waters celebration in the spring coincides with the return of the shad, herring, and striped bass to the rivers. It involves harvesting, preparing, and feasting on a variety of finfish, of course, but also shellfish and mollusks (in the Piscataway area, fresh water clams), and oysters and crabs in the more southern (saline) parts of the Potomac and its tributaries.

The Accokeek Foundation, with support from Piscataway band members and the NPS, has initiated a public festival, "Celebrate the Potomac," that coincides seasonally with about the time of the Festival of the Waters. It has been held annually for the past three years (as of 2015).

SECTION 6.3.5: FINDINGS. Park-Associated Communities

“Celebrate the Potomac” is described as a family festival day that celebrates fishing for all ethnic groups, contemporary or traditional, children’s activities, and cultural demonstrations. It generally promotes the wise use of resources from the river and the historical presence and practices of a number of colonial farms that are located within the park boundaries. Local residents and supporters of the Park showcase their favorite fishing gear—and conduct rod and reel casting contests for visitors to practice their fishing skills.

Piscataway members that we interviewed grew up in the southern Maryland and D.C. (Southeast and Anacostia areas) among clusters of relatives, with lifeways that included broadly based harvesting of riverine and estuarine resources, and raising of crops such as corn and squash for their own extended family use or limited commercial sale. Families hunted, fished, and

supplemented their crops with the bounty from rivers and creeks. Being in and on the water was an everyday occurrence in their lives, whether for resource harvesting or for recreation in the cool waters



Traditional fish hooks, shown on a clamshell. *Photo credit: S.J. Fiske*

during the summers. It was clear that their cultural identity and their traditions were connected to living in the Potomac-Piscataway-southern Maryland landscape and ecosystems; their customary lifeways are connected to what are now Park management areas along the shorelines of the Potomac and Piscataway Creek areas. Their social groupings of residences and extended family fit the classic definition of a place-based community, although it is not just one community or cluster of families, but several geographic areas in southern Maryland.

There are fairly clear ethnographic resources associated with Piscataway bands, although each is a slightly different network of families and individuals. Ethnographic resources include burial sites inside the Park, both recent and pre-European, plants, and animals that are used in traditional dress and ceremonies. Further determinations about ethnographic resources can be made through more in-depth research, perhaps in the proposed Piscataway cultural landscape study. From our research into the history, secondary sources, oral histories and background of Piscataway, there are clear grounds for understanding that these are “traditionally associated” people and continue to be so. The Accokeek Foundation has undertaken a major initiative to include native history, livelihoods, and values in their public education programs, and



Members of the Conoy Band of Piscataway demonstrating traditional fishing implements and dress at the 2015 Celebrate the Potomac festival. Piscataway National Park. *Photo credit: S.J. Fiske*

SECTION 6.3.5: FINDINGS. Park-Associated Communities

to value knowledge of Piscataway elders and descendants. There are three bands of Piscataway that have been recognized by the State of Maryland, with their contact points, that are available on the internet and who may be contacted for consultations.



Traditional Piscataway fishing spear made of antler and sinew, at the 2015 Celebrate the Potomac festival. *Photo credit: S.J. Fiske*

6.3.5.2 African American subsistence fishers in the Anacostia area

A case can be made that the African American community in Anacostia and the SE and SW quadrants of the D.C. waterfront areas have had centuries-long associations with the Anacostia River, and that contemporary subsistence fishermen *do* assign cultural significance to fishing locations (Hains Point, and the Anacostia River and its tributaries) that are linked with their sense of themselves as ethnically distinct people. They derive value and identity from the river, their history with it, and sense of themselves as living in a distinct community within D.C.: “East of the River.” But this is a very different argument for the Park association than with tribal bands of Piscataway, in part because there is no coherent, place-based community that is specific to fishermen or fishing families.

African American fishermen and fisherwomen may not be a traditionally defined, place-based community, but it could be argued that they fit other definitions of community, for example ‘intentional’ communities or ‘communities of choice.’¹²⁵ In this sense, they may be seen as part of a community whose structural components are a “dispersed friendship network” of subsistence fishermen with similar values who choose to fish, consume, and share the bounty from the rivers. We will return to a discussion of community at the end of this section, but first would like to describe the historical and contemporary threads of value and meaning attendant to fishing in the Anacostia and its surrounding

¹²⁵ We are indebted to Michael J. Evans, Ph.D. (Chief, Cultural Anthropology Program and Senior Cultural Anthropologist, Midwest Region, NPS), who provided helpful conversation and journal articles that stimulated the Research Team to think about new ways to frame ideas of community with respect to urban communities. These were instrumental in seeing the type of community as a “dispersed friendship network.” Interview date: July 10, 2019

SECTION 6.3.5: FINDINGS. Park-Associated Communities

area, providing some evidence of the existence of distinctive and long-standing communities with relationship to the Anacostia in particular.

The very first freedmen’s neighborhoods were located in Anacostia, symbolically and physically distant and distinct—across the river from white populations—for individuals and families who came to the District prior to, during, and after the Civil War (e.g., Barry Farms, which still exists as a neighborhood in Anacostia today). Although emancipation was granted in 1862 (in the District) to formerly enslaved peoples, Jim Crow attitudes by the majority population meant that African Americans had to develop their own, parallel neighborhood and community organizations and businesses—distinct from the Anglo businesses, churches, and entertainment venues. The uses of the Anacostia River as a source of food, income and employment, a place of refuge, for ceremonies, and as a destination for recreation have been extensively documented. In her chapter, “Rollin’ Down the River,” the author describes the Seventh Street Wharf on the Anacostia River (in Southwest) as a bustling set of piers that occasionally allowed black excursion steamboats to dock and embark. In the early 1900s, there were profitable steamboat excursions taking African American patrons down the Potomac and back for bathing, fishing, crabbing, and socializing. Because of de facto segregation of the Jim Crow era, both the steamboats and the destinations were segregated. In order to ensure continued access to steamboats, and undertake profitable business, at least five black-owned steamboat lines developed, and docked at the Sixth and Seventh Street wharfs (Fletcher 2015: 55-86) on the Anacostia River.

Some river-oriented organizations such as the Seafarer’s Yacht Club have been in existence since the time of Franklin Delano Roosevelt, when segregation was the norm, as was denial of rights to buy property by non-whites. Originally founded as Green’s Boat Club by Lewis Green, who persevered in buying shoreline for docks through personal friendship networks that provided access to power in the White House, it was the earliest African American seafaring yacht and motorboat owners’ club in the United States, and still exists today. As Fletcher describes, “Black people now had a place to moor their boats, relax waterside and begin their tradition of the Friday night fish fry” (Fletcher 2015:172). In 1965, a second club, D.C. Mariners, were absorbed into the Seafarers Yacht Club, and an amicable merger and transfer of leadership occurred to the younger generation. Captain Bob Martin remains at the helm today (Fletcher 2015:172-173; Fenston and Turner 2018; Wennersten 2008).

We did not find organizations dedicated exclusively to fishing, such as fishing clubs, social groups that fish together over time, or neighborhoods that constitute de facto fishing groups. But that does not mean they do not exist, as our scope of work was limited. The problematic nature and promise of urban rivers is an area that has been recognized by the Anacostia Community Museum in its exhibit “Reclaiming the Edge: Urban Waterways and Civic Engagement,” that looked at the Anacostia as “both barrier and economic resource” for the community.¹²⁶ Further investigation through the education program or other outreach capability at the Anacostia Community Museum, or through interviewing the Seafarers Yacht Club members and Bob Martin or the support groups for historic park units, such as the Frederick Douglass National Historic Site may uncover fishing-related family networks or informal organizations of fishermen in Anacostia.

¹²⁶ The Anacostia Community Museum is supported by the Smithsonian Institution. The Urban Waterways exhibit was available from October 2012 to November 2013. <https://anacostia.si.edu/Exhibitions/Search/Past>.

SECTION 6.3.5: FINDINGS. Park-Associated Communities

It is clear that the Anacostia watershed and river have deep meaning to those who live there. Brett Williams articulates the “social construction of the Anacostia,” in her landmark article, “Gentrifying Water and Selling Jim Crow.” By this phrase she means that the Anacostia takes on meaning by those who are defining it—residents of Anacostia see the river as a place of refuge and subsistence. Quoting a resident, “...(it’s) the only thing that gives the community an escape from the hustle and bustle” (quoted in Williams 2002:98). Some persons “remember swimming there [the river] when the city’s swimming pool was closed to blacks, or fishing off the bridge and selling catfish. Some remember the unspoiled vistas and access they enjoyed before urban renewal, and others remember being displaced and crossing back over the river after they had been removed east of the river. Many people remember sleeping on the shore. One woman recalled ‘we found a natural cooling ground in Anacostia Park. Everyone was trying to get a breeze off the river’” (Williams 2001: 97).

We interviewed African American fishermen and fisherwomen who considered fishing, sharing, and consuming the fish they catch as part of their family *heritage* and their *legacy*—both words that fishermen used in describing why fishing is important to them. Many fishermen described their family involvement in fishing as “*everybody* in the family fishes,” stemming from as far back as they can remember with great-grandparents and grandparents from the South, from Georgia to North Carolina, with aunts and uncles, cousins and grandchildren who also fish. Catfish are a traditional and valued commodity to them here, as in the South, as are perch and other panfish. What their families caught in the backwater creeks, estuaries, and rivers was fair game for dinner, whether crabs, finfish, turtle, or shellfish. In our analysis of who taught fishermen and fisherwomen to fish, nearly every African American in our sample learned from their family, and the generational “depth” of teaching and learning goes way back, almost to times of enslavement. Grandmothers and great-grandmothers played a prominent role in teaching about subsistence and fishing (see section on Handing Down Knowledge in Subsistence Fishing, 6.3.2).

The meaningful connection with the river was reflected in the conversations with fishermen and fisherwomen in ANAC, Hains Point, Fort Washington, and other places that were high-intensity fishing sites. African American fishers tended to fish at Hains Point, ANAC, and fishing sites south on the Potomac in Maryland. In Virginia, only Jones Point consistently had numbers of African American fishers, but they were not the majority.

“No matter what, we gon’ eat fish. Fishes is part of our heritage....part of our food history...way of life. When you can’t pay for food, this is how you get your food.” (Fisherman at NAMA, Hains Point)

Hains Point was significant not only because of its riverside beauty, amenities, and convenience (parking nearby), but more importantly, it held special historical and symbolic significance because it was one of the few places African American fishermen could go in the 1950s and 1960s that was not segregated. In this sense we believe it contributed to fishermen’s memories and self-awareness of ethnic and “racial” distinctiveness. More than a few fishers told us that Hains Point was special in that way. “...Hains Point was always “wide open” in the 1950s and 60s). That was its own thing, Hains Point. Hains Point was the spot, yeah.”

SECTION 6.3.5: FINDINGS. Park-Associated Communities

Some fishermen told us they could meet girls there when they were younger (presumably high school or teenagers) and watch “the submarine races.” Another feature that arrived later but was symbolically important was the “man in the ground” statue, “The Awakening,” because it made their Park feel special; meaning that it was valued enough by others that they would install a grand—and publicly accessible—art piece on Hains Point.

One man said simply, “It’s home.” Another described how Hains Point has been an integral part of his family history. They came to Hains Point “A lot, when I was a child...like a lot of family reunions, cookouts, things like that we would come here. Especially when the ‘dead man,’ (The Awakening) yeah, he was over there [pointing] before they took him over there to the Harbor. So, we used to come here a lot when I was a child.” (#105) He continues to bring his own family to Hains Point mainly to fish (“We’re not coming to fish, we ain’t coming.”), but sometimes just to picnic.

Hains Point has special meaning for African American Washingtonians. One man said that Hains Point was where he first learned to fish, and that it is a special spot for him: “All the time. Hains Point especially, anybody who was born and raised in Washington, this is a special spot.” (#209) For more details, see section 8.5 the NAMA Park Profile.

Anacostia National Park also is a significant locale for fishermen; in fact, it is not only the Park that people remember, but the entire watershed of the Anacostia.

Many fishermen talked about growing up exploring the tributaries of the Anacostia (e.g., Beaverdam Creek, Watts Branch, and others), and fishing the special places that they found with their fathers or young friends where they could catch gar, turtles, carp, sunfish and catfish. One fisherman at



East Potomac Park/Hains Point, Washington Channel side, on a busy summer weekend. *Photo credit: J. Trombley*

ANAC and who grew up in Anacostia told us that they used to fish all along the river on the side where RFK Stadium is today, and, “We used to make rafts out of barrels and stuff. Tie some boards and stay together. That water was a special memory to me” (#135). The water was not very deep and if the raft broke up, they could swim or wade to the edge of the river.

One gentleman fishing at ANAC told us that when he was growing up, the Anacostia River was an irresistible draw: “I’m 65 and [I’ve been fishing for] I would say 53 years. We used to come down here. I used to live at 4th and East Capitol (Capitol Hill). I grew up over there and we used to come over the Anacostia Park to go swimming; and because it was water, you know, we kids were gonna fish.” (#135)

The same fisherman recalled that if they wanted to go swimming, they would normally go “...down towards Benning Road and H Street N.E. to the swimming pools down there. Then, we found out there

SECTION 6.3.5: FINDINGS. Park-Associated Communities

was one (swimming pool) over here (Anacostia Park) so this was something ‘new’ to do. We would come across (the river)—we would *swim across* the river because if you came this way, once you got down here (in Anacostia), they would be waiting for you.”

“We would swim to get about halfway across, and then you could walk and then swim this little area, maybe about 20 yards, and then get back to the mud again, and you was alright. That way, you keep from going all across the bridge to come to the swimming pool down here.” If you went across the bridge “they would chase your ass out of here.”

“It was known if you got caught on this end right here, back in the 60s, you were going to get some.” He recalled the “gangs” “...like the white guys. ...Anacostia was about 99% white on this side of the water (the eastern side)” at that time in the late 50’s and 60’s. Although the swimming pool was open, the golf course was still segregated, and there were, as he called them, “gangs of white guys who would chase you back if you came across the bridge.” But by swimming across, they avoided the potentially inflammatory confrontation. We asked what happened in the long run, and how this got resolved, and he told us they just kept coming back to the pool and kept swimming the river every time, and “pretty soon they just stopped bothering us. It got to be like, ‘eh, OK. They are back to go the pool now.’” (#135) See *The Chocolate City*, which describes the resistance by Anglo residents to the integration of Anacostia (Asch and Musgrove 2017).

“Fishing is great down here. It’s the best spot in Washington to fish.” His words of wisdom to other fishermen and proof of assertion were, “Make sure you got plenty of bait. The fish gonna eat all your stuff up!” (Fisherman at Anacostia Park)

Fishermen were observant about the changes in the parks and noted the new skating rink, the basketball courts, the weightlifting areas, the biking and walking trails, the cleaner shorelines and gradually improving water, the tennis bubble, and the “putt-putt” golfing area on Hains Point, among many other additions. Fishermen generally saw the parks as getting better and better—but of course they gave us an earful on the improvements that need to continue.

The Anacostia Park Profile, Section 8.2, has more interview details on how fishermen who grew up in Washington, D.C., experienced the watershed of the Anacostia—its significance and value as a recreational resource, a resource for tradition (in the sense of family reunions and cookouts), and as a subsistence resource.

“It’s summertime, so it feels right to be in Anacostia Park. It brings back all the atmosphere of when you were growing up. Also, people are going by, driving though, they pass news of the reunion by word of mouth. They call your brother, call your nephew, and more people come.” (quoted in Williams 2002:98)

Numerous families with multi-generational fishing heritage that continue to be broadly shared across cousins, uncles, parents and grandparents appear to be associated with the park. Although it is hard to argue that the same family has fished the river since the 1860s and still fish there today, it is possible to identify families that have fished on the Anacostia for three or four generations. Our oral histories and genealogies help document those families’ longstanding reliance on and enjoyment of the river.

SECTION 6.3.5: FINDINGS. Park-Associated Communities

The “bar” for qualifying as a traditionally associated people is high (NPS Management Policies 2006, Section 5.3.5.3). Traditionally associated groups have long associations with places, over generations, beginning in most cases prior to the park’s establishment. But, in addition, a traditionally associated group is culturally distinct as a people—other groups see them as different, and *they* see themselves as culturally distinct. They derive part of their identity from the place and its resources, and the resource is key to continuing cultural identity. An “ethnographic resource” is something that the traditionally associated people themselves identify as culturally meaningful, whether it is an object, a landscape, a location, or a building that has cultural meaning and values to traditionally associated peoples.

Are the heritage fishing families of the Anacostia waterfront and other fishing sites traditionally associated people or parks-associated people? They definitely derive meaning and identity from both the Anacostia landscape and being able to fish there; they have been doing it for many generations, prior to Park authorization. So they would qualify as traditionally associated on the grounds of length of time. They also have a distinct cultural systems that depends on fishing in the Anacostia and associated sites like Hains Point, but more research would be needed to ascertain if sustainable fishing families have an identity and culture that is different from the general set of African Americans who live in Anacostia and who all presumably identify with the river to one degree to another. It is not clear if there is a cultural difference between the fishing families and the rest of the African American community in Anacostia or other urban fishing locations, such as Chicago, that is perceived by both groups as distinctive. Although we suspect that, given the extensive friendship networks detailed in this research, that African American fisherman interviewed and observed in this study form a sodality that differentiates them from other African Americans in the area. This question deserves further research, first, because there is a lot we do not know about the heritage of legacy fishing families. Are they independent or each other, or do they know each other and do things together, like plan head boat trips, fishing excursions, or cookouts? Do they go to the same church and see each other there? We do know that they have a relationship with the resource, the Anacostia River and watershed, which is meaningful, long term, and place-based.

Do subsistence families constitute a “community”? The question is relevant to this inquiry, since various types of groups can be traditionally associated—tribal, community, neighborhood, rural town, and so on. The point could be argued that African American subsistence fishermen do constitute a type of community, at least in a sociological and perhaps anthropological sense. In the last 20 years, there has been a great deal of conceptual and theoretical deconstruction and rethinking of the concept of community, with anthropologists critical of the early assumptions of homogeneity (within members of a community) and with geographic constraints on the existence of community; and sociologists who are discontent with the lack of utility of community as originally defined. Steven Brint has “reconstructed” the idea of community based on structurally distinct subtypes of community, derived from a limited number of variables (Brint 2001: 3), and posits that there are communities of place and there are “elective communities” or communities of choice. Clearly, subsistence fishing is an elective community.

Following the line of thinking that cascades through Brint’s typology of communities, one can think of communities as “activity-based” versus “belief-based;” community may be based on the location of members (whether dispersed or concentrated in space), and the amount of face-to-face interaction (some or none, the latter typical of social media) in each type of community. Subsistence fishermen in the African American community have an intuitive fit with the type of community that Brint calls “dispersed friendship networks” that are primarily activity-based (i.e., fishing) (2001:9-11). In dispersed friendship networks, there is high agreement on the shared values attendant to fishing (such as sharing

SECTION 6.3.5: FINDINGS. Park-Associated Communities

unwanted catch, helping other fishermen by sharing line and bait, comparing fishing notes and stories, exhibiting patience, and other values expressed at fishing sites). Elective communities can generate high levels of mutual support, as seen in subcultural groups, and fishing certainly seems to fit that profile. In dispersed friendship networks, face-to-face relations need not be frequent. Brint also argues that activity-based communities do not necessarily develop self-conscious identity as a community (2001:15).

We did not extend a similar community analysis with the Hispanic subsistence fishing community, nor the Asian American/Pacific Islander subsistence fishermen, since we have relatively few numbers of oral histories of both groups, and lack the ethnohistorical context in which to view their comments. All of the fishermen we talked with were recent immigrants or second generation (although some were 20+ years) sons and daughters of foreign-born individuals. Within post-1980 Hispanic immigrants, there has been a tendency to settle in specific close-in suburbs in Maryland and Virginia, where high concentrations of Salvadorans and others from Central America live. The suburban neighborhoods could potentially constitute place-based communities of Hispanic fishermen and families because of the density of families living in certain neighborhoods; but that is a question for empirical research. At Fletcher's Boathouse, one experienced fisherman observed several Hispanic families who came together to fish and picnic, and then were joined by a few individuals (without families), leading to the hypothesis that they may be a friendship group, a group of neighbors, related family groups, or a group whose members knows each other from church. What constitutes a fishing group among Hispanic subsistence fishermen still needs to be examined.

With respect to Asian Americans/Pacific Islanders, immigrants have likewise settled in suburban neighborhoods. The numbers of residents in particular communities are quite high (see Section 4.4) and potentially there may be place-based communities of Filipinos and Vietnamese in Virginia. But it is hard to translate the demographic concentration of residences to a place-based group of subsistence fishermen who are Vietnamese or Filipino; we do not have the data on this. If subsistence-fishing communities exist, it is likely to be along country-of-origin affiliation rather than pan-Asian fishing communities. As a cautionary note to making quick generalizations, a sociologist who studied community formation among Vietnamese migrants to the Milwaukee area (reported by Beck, 2001:456), found that the Vietnamese had not developed a sense of community nor an actual community itself, and attributes this to a number of formidable forces, including family isolation due to differing ethnicities and language, refugee experiences in their own country and with the relocation and refugee services in the United States, and individualistic adaptation processes of families. It is hard to know whether those conclusions are replicated elsewhere in U.S. metropolitan areas, but it is worth noting.

The objective of the ethnography program is to facilitate collaborative relationships between NPS and people whose "customary ways of life" are affected by park resource management. (SOW)

Are there ethnographic or cultural resources that were uncovered by this study?¹²⁷ Keith Basso talks about how "wisdom sits in places" (1996) and how cultural landscapes are sites of important information to traditional peoples about core values, social relations, and about peoples' relationship to the spiritual and the environmental world. In terms of geographic places, particularly special fishing sites, Hains Point and the Anacostia watershed areas contain special memories and special meaning to

¹²⁷ We would like to note that Fletcher's Boathouse, and the families associated with it, may meet criteria of both traditionally associated people and an ethnographic resource. We recommend looking into this.

SECTION 6.3.5: FINDINGS. Park-Associated Communities

the fishermen who grew up in Washington, D.C. and swam, boated, and fished in the rivers and creeks (NPS Cultural Resource Management Guideline 1997:160): memories of exploring near the railroad tracks (the CSX bridge across the Anacostia) and digging for worms with your Dad, and knowing what you can catch with them, for example, or where monster-size catfish live in the sluggish waters upstream—the spot you discovered with your young friends. Experiences in the Anacostia contributed to children’s sense of who they are, as an ethnically segregated and marginalized community. It is not clear that these sites meet the criteria for ethnographic resources, because first, one has to have a traditionally associated community, and second, the sites have to be nominated by the communities themselves. On one hand, the fishing places were clearly identified by the subsistence fishing groups; but on the other criteria, the groups may not have all the elements of a traditionally associated community. Nonetheless, the subsistence fishermen and families are participating in a distinct sub-cultural group that is very different from tourists who visit the parks during the spring and summer seasons.

In closing, we would like to draw attention to a refrain we heard consistently from fishers, signaling continual change—the disappearance of, or lack of access to, favorite places where they used to like to fish—whether sites of youthful fishing forays or in reference to contemporary fishing locations. Buzzards Point (now closed) came up several times, particularly in reference to growing up and fishing in Southwest D.C. Many sites along the D.C. Southeast/Southwest waterfront areas that are undergoing changes in economic development and gentrification have changed such that they are not recognizable or do not allow access to the water. Other sites have heavy equipment stored there, or fenced-in areas that prevent access. In general, fishermen were fatalistic, if not cynical, saying “It doesn’t look the same,” but accepting that change is inevitable in less economically developed areas of the District (Wards 6, 7, and 8) as the Anacostia Waterfront Initiative Plan continues. Their laments are a reminder that there is a subsistence fishing user group on park shorelines and that continued access to fishing sites is important to the group for the multiple reasons outlined in this report.

References

Asch, Chris Myers and George Derek Musgrove. 2017. “Chocolate City: A History of Race and Democracy in the Nation’s Capital.” Chapel Hill, NC: UNC Press Books.

Basso, Keith H. 1996. “Wisdom Sits in Places: Landscape and Language among the Western Apache.” UNM Press.

Brint, Steven. 2001. “Gemeinschaft Revisited: A Critique and Reconstruction of the Community Concept.” *Sociological Theory* 19(1): 1–23.

Fenston, Jacob and Tyrone Turner. 2018. “Anacostia Rising. What’s next for Washington’s ‘forgotten river’?” WAMU (American University Radio, 88.5) NPR affiliate in Washington, D.C. Published March 26, 2018.

Fletcher, Patsy Mose. 2015. “Historically African American Leisure Destinations around Washington, D.C.” Charleston, SC: The History Press.

Wennersten, John R. 2008. “Anacostia: The Death and Life of an American River.” 1st edition. Baltimore, MD: Chesapeake Book Company.

7.0 ENVIRONMENTAL JUSTICE AND SUBSISTENCE FISHING

It is not a startling observation to note that people of color, the poor, and under-represented groups such as indigenous peoples are facing a disproportionate amount of environmental burdens, including hazardous materials, toxic wastes, pollution, and depletion of local natural resources that form the foundation for traditional practices (Figueroa and Mills: 427). A growing body of literature calls attention to the environmental justice context of the Anacostia River, where we interviewed subsistence fishermen and fisherwomen. We are indebted to Brett Williams (2001, 2002) and John R. Wennersten, *Death and Life of an American River* (2008), for seminal and thorough work elucidating the forces of environmental injustice as they played out in the District over the centuries in affecting the Anacostia River and neighborhoods. In the first half of the 20th century, African Americans were restricted from buying in Anglo neighborhoods through restrictive covenants, and after WWII they were removed from neighborhoods that were considered blighted, particularly in the Southwest quadrant (Asch and Musgrove 2017:244-248). They were encouraged to find new housing elsewhere, or were provided new housing in housing projects in Anacostia and next to the Anacostia River in nearby in Southeast and Southwest. (See Anacostia Ethnohistory section 4.1.).

“Race, above and beyond other factors (including class, region, politics, and religion) has proven to be the most significant explanation for social, economic, and political divisions in the city,” write Asch and Musgrove in *Chocolate City* (2017:3). The river takes on meaning as a symbolic dividing line between Black D.C. and White D.C. The social and economic injustices of two centuries of abuse of the river and neglect of the infrastructure of Anacostia are not unnoticed by the residents.

This section does two things: 1) it re-asserts evidence that African American fishermen, fisherwomen, and families, as a whole, have been disproportionately subjected to environmental degradation and have thus become the recipients of environmental injustice over multiple generations in Washington, D.C. 2) it argues that high rates of sharing fish from the Anacostia provides much-needed protein to the diets of food insecure families in the District, while at the same time potentially being a public health problem, because of toxins in the consumed fish. We suggest that growing up along and fishing in the Anacostia is a case of environmental injustice for fishermen and fisherwomen, since they depend on the harvest of fish from sites and waters they have been forced to use by segregation and the pollution of waters by outside agents over which they have no control. The river that runs through their neighborhoods and community has been more polluted, historically, than the segments of the Potomac that run through

“So that'll tell you. So, I consume fish and I consume rockfish out here. I consume bass out here. Even perches. I make catfish soup... If you're out here fishing, then you know how it look. How it supposed to look. We need to clean this up. We need to have people out here fishing. I mean, that's what we grew up on. This is what our fathers grew up on, fishing out here.” (46-year-old African American male, fishing at NAMA. #604)

Anglo neighborhoods. A second point is that Anacostia anglers have been fishing here for generations as part of their heritage of fishing, and are likely to continue to fish, share, and consume despite the fish carrying toxic and carcinogenic chemicals, metals, and perhaps viruses and *E coli* bacteria. In the view of this study's researchers, this evidence is sufficient to call upon the District and its partners to show greater urgency to clean up the sediments in the Anacostia River, and enhance epidemiological research

into the possible risks of consuming fish from the river. The Anacostia Watershed Society's goal is "swimmable, fishable rivers in 2025," and while we are cautiously optimistic, we strongly support this goal.

7.1 Principles of Environmental Justice

This subsection briefly re-acquaints the reader with the basic principles and implementation of environmental justice (EJ). The core principles of EJ developed alongside but sequentially after the civil rights movement, when it became apparent to much of the American public and Congress that polluting industries, refineries, hazardous waste facilities, chemical plants, and landfills were being sited disproportionately in minority and poor communities. Residents of the hosting communities suffered poor air quality, toxic waters leaching into public water supplies, polluted rivers, and exposure to other toxins that affected their health. In the 1980s and 1990s communities organized, demonstrated, protested and demanded justice.

The First National People of Color Environmental Leadership Summit was held in 1991 in Washington, D.C. The 17 broadly based statements of justice for minority and indigenous peoples ("[Principles of Environmental Justice](#)") were derived from this meeting and make the following demands:

- "That public policy be based on mutual respect and justice for all peoples free from any form of discrimination or bias."
- "The right to participate as equal partners at every level of decision-making."
- Affirm "the need for urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and provided fair access for all to the full range of resources."

As Brett Williams puts it, "Environmental justice adds to mainstream environmentalism a deep concern for who pays the price for development enjoyed by others" (Williams 2001: 410). Fifteen of the 17 principles emphasize participatory justice, which insists on participation in all the processes that lead to environmental degradation that affect their lives. Participatory justice concerns rights against discrimination, individual and group self-determination, and respect for diverse cultural perspectives (Hofrichter 1993: 237-9). These principles are in contrast to the two principles that were demands for distributive justice (compensation for damages to property as well as health care).

From this declaration of 17 statements, a working definition of EJ has evolved, led by visionaries such as Robert Bullard, the godfather of the EJ movement.

"(I)ssues of environmental racism and environmental justice don't just deal with people of color. We are just as much concerned with inequities in Appalachia, for example, where the whites are basically dumped on because of lack of economic and political clout and lack of having a voice to say 'no' and that's environmental injustice."¹²⁸

¹²⁸ Quote is from an interview of Robert Bullard by *Earth First Journal*, July 1999. <http://www.ejnet.org/ej/bullard.html>, accessed February 10, 2019. Note that Robert Bullard later contributed the concept of "environmental racism" to the dialogue on environmental justice. He defines the concept as any policy, practice, or directive that differentially affects or disadvantages groups or communities based on race (Bullard, R.D. 1993).

The current EPA definition is, “Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys: the same degree of protection from environmental and health hazards; and equal access to the decision-making process to have a healthy environment in which to live, learn, and work” (<https://www.epa.gov/environmentaljustice>).¹²⁹

Any history of environmental justice demonstrates that people of color and the poor usually have little representation in the processes that make decisions about environmental impacts. The ethnohistory of African Americans in this report details the forced migrations (e.g., through “urban renewal”) of Black communities to the polluted margins of the District of Columbia (Section 4.1). Environmental justice, at its essence, is about everyone having access to the basic human rights of a clean environment and healthy place to live and work, and having roles in decision-making about their environment and control over their quality of life.

Experienced fishermen we talked with are well aware that the Anacostia River is a polluted river, do not personally eat the fish from the river, and told us many stories of trash accumulation, dead animals, and even human bodies floating in the river. They joked about the days when some would run stolen or otherwise unwanted cars into the river to get them off the street and out of sight. The fishermen we interviewed thought they had seen a positive change in the Anacostia recently because they saw less visible trash in the river and noted the cleaning efforts of park volunteer groups.

What fishermen do not see are the accumulation of heavy metals and carcinogenic toxins in the bottom sediments of the Anacostia. The identification of these toxins is in the second major phase in the District, and with its partners, to clean up the water column and the sediments leading to a fishable, swimmable river. The sampling area for the sediment cores is shown below in a graphic, covering dozens of popular fishing sites, including the Washington Channel side of East Potomac Park/Hains Point (Zauzmer 2015). We would be remiss not to mention that the first major phase of Anacostia River cleanup was to re-engineer a vastly improved Combined Sewer Overflow (CSO) system leading to a reduction of nutrients, bacteria, and visible trash in the Anacostia. After 10 years of construction and digging, the first tunnel opened in the spring of 2018.¹³⁰ The AWS State of the River report for 2019 showed that, despite 2018 being the wettest year in their records, trash reduction, one of the qualitative measures on the report, received a passing grade *for the first time* (<https://www.anacostiaws.org/>). As of November, 2018, the first year the Anacostia tunnel was open, DC Water estimates the tunnel prevented 2.4 gallons of combined sewage, and 146 tons of trash from entering the river (Reut 2018).

¹²⁹ U.S. President Bill Clinton signed an Executive Order (EO) in 1994 requiring federal agencies to consider environmental justice in all of their policies, with particular attention to low-income and minority communities. The Office of Environmental Justice was established to carry out the provisions of this EO. It also required agencies to consider the health and environmental impacts that their policies had on minority and low-income communities. Under President George W. Bush, the focus shifted to ensuring protections for “all people,” a contentious shift away from the intent of the principles of EJ and the conceptual basis of the advocates for justice in their communities (Buford 2017).

¹³⁰ https://www.bayjournal.com/article/first_sewage_storing_tunnel_comes_online_in_dc. Called the [Clean Rivers Project](#), this is a \$2.6 billion effort by DC Water to curtail the sewage and trash-laden runoff that has routinely poured into the Anacostia and Potomac rivers for more than a century.



Source: Washington Post, J. Zauzmer, 2015

7.2 Food Insecurity and Subsistence Fishing

It is an astounding fact, as mentioned in Section 6.3.4, that the Washington, D.C. area has the greatest income inequality in the United States, and the highest rate of child food insecurity in the 50 states and the District.

“Food insecurity is a serious public health problem as well as a human rights issue. The U.S. Government spends over \$50 billion a year on nutrition assistance programs yet there has been little change in overall food insecurity rates since the annual measurement of household food insecurity began in 1995” (Chilton and Rose 2009: 1203-1211).

As Morgan (2018) describes succinctly: “The high percentage of D.C.’s population living in food insecure households ... is near the crisis level. The persistence of food insecurity rates puts adults, children, and seniors at risk for major and minor health issues, poor performance at work and in school and continued poverty. The long-term outcome of a population suffering from these effects is diminished productivity, a damages economy, an increasing burden on the emergency food systems and rising health care costs” (Morgan 2018).

These circumstances produce great stresses on families. Parents will not eat in order to feed their children. This makes children anxious as they see their parents not eating. Teenagers will not eat, so that their younger siblings can. These stresses ramify as the work productivity of parents drops, the school performance of teenagers and children decreases, and also “Senior citizens will go hungry and suffer in silence” (Milloy 2017). As many as 31,000 children in the D.C. area are unsure where or when they will get their next meal. Although many are provided

subsidized breakfast and lunch at school, it is on weekends and during school breaks that these problems are at their most severe (Schlanger 2013).

Given the widespread sharing of fish in extended social networks, we infer that fishing activities from the shores of public lands (including state and national parks) may be a key nutrient food source for a wide number of households living in poverty and suffering from food insecurity. These findings are

especially pertinent to Wards 7 and 8 in Washington, D.C. The OpinionWorks study also found widespread sharing that “percolated” through the community (2012).

We recognize, however, that the environmental justice aspects of this research are difficult to resolve; that is, demanding that poor and largely African American and immigrant families have access to healthy fish living in clean waters and sediments. The short-term nutritional contribution in protein and calories of fish to food insecure families is evident. What is not evident are any long-term health consequences, even with strict and informed food preparation, of possible heavy metal or other toxins found in fish harvested from the Potomac and Anacostia rivers.

In addition to African American families, this study indicates that Hispanic immigrant fishermen and their families may also be vulnerable to food insecurity. The immigration data in the Ethnohistory section underscores how immigration trends in the D.C. regional area are changing the population base in the metro area, and, ultimately, the user groups in state and national parks who use resources there. The data show rapid and unprecedented changes in D.C. metro region’s ethnic and economic profile, which governments, non-profits, community-based organizations, and regional planners and developers need to consider in decisions on the region’s future. Please see Recommendations, Section 9.2, for suggested research.

“That’s what I’m saying. Here. My family has been coming here ever since I was a baby. Yeah, that’s what I’m saying...it’s a part of your, it’s a part of what we come from. A part of our food history. Fishing is really...this is a life. When you can’t pay for food, this is how you get your food. They hunt, we fish.”

Interviewer: “Who would “they” be?”

“Other people. You know what I’m saying? Don’t get me wrong, you have African Americans that like hunting. But we more love fishing. If it was a problem with the deers, the hogs, all that, they will straighten it out. They will get it fixed.” (Fisherman in Anacostia Park. He has been fishing the river for 40 years).

References

Asch, Chris Myers and George Derek Musgrove. 2017. “Chocolate City. A History of Race and Democracy in the Nation’s Capital.” Chapel Hill: University of North Carolina.

Buford, Talia. 2017. “Has the Moment for Environmental Justice Been Lost?” *ProPublica*, July 24, 2017 <https://www.propublica.org/article/has-the-moment-for-environmental-justice-been-lost>, accessed March 10, 2019.

Bullard, Robert D. (ed.) 1993. “Confronting Environmental Racism: Voices from the Grassroots.” Boston: South End Press.

Chilton, M. and D. Rose. 2009. “A rights-based approach to food insecurity in the United States.” *American Journal of Public Health*, 99(7):1203-1211.

Figueroa, Robert and Claudia Mills. 2001. “Environmental Justice,” in Dale Jamieson (editor), “A Companion to Environmental Philosophy.” Malden, MA: Blackwell Publishers Inc.

SECTION 7: ENVIRONMENTAL JUSTICE

- Hofrichter, R. (editor). 1993. *Toxic Struggles: The Theory and Practice of Environmental Justice*. Philadelphia: New Society Publishers.
- Milloy, C. 2017. "Even in a prosperous city like D.C., many still go hungry, report finds." *Washington Post*. Retrieved from https://www.washingtonpost.com/local/even-in-a-prosperous-city-like-dc-many-still-go-hungry-report-finds/2017/09/19/6601d938-9d55-11e7-9083-fbdfdf6804c2_story.html?utm_term=.0b60b2e2e646.
- Morgan, Kelly V. 2018. "Food Insecurity and its Effects in Washington, D.C." <https://www.roots-for-life.org/resources/2018/11/11/food-insecurity-and-its-effects-in-washington-dc>.
- OpinionWorks. 2012. "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia Fish." 20 pp. http://www.anacostiaws.org/userfiles/file/AWS_angling_FINAL_web.pdf, accessed October 2014.
- Pipkin, Whitney. 2018. "First sewage-storing tunnel comes online in D.C." *Bay Journal*, March 22, 2018. <https://www.bayjournal.com/article/first-sewage-storing-tunnel-comes-online-in-dc>, accessed August 15, 2019.
- Reut, Jennifer. 2018. "The river beneath the river. The Anacostia flows into a better future." *Landscape Architecture Magazine*. 108 (11): 80-105.
- Schlanger, D. 2013. "DC has nation's highest rate of food insecurity for children: Report." *Huffington Post*. Retrieved from https://www.huffingtonpost.com/2013/07/01/dc-food-insecurity_n_3528446.html.
- Wennersten, John R. 2008. *Anacostia: The Death and Life of an American River*. First edition, Baltimore, MD: Chesapeake Book Company.
- Williams, Brett. 2001. "A River Runs Through Us." *American Anthropologist*, 103(2): 409–431.
- Williams, Brett. 2002. "Gentrifying Water and Selling Jim Crow." *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 31(1): 93–121.
- Williams, Robert W. 1999. "Environmental injustice in America and its politics of scale." *Political Geography*, 18(1): 49-73.
- Williams, Robert W. 1999. "The contested terrain of environmental justice research: community as unit of analysis." *The Social Science Journal*, 36(2): 313-328.
- Zauzmer, Julie. 2015. "Taking stock of the Anacostia River's pollution." *The Washington Post*, May 19.

8.0 PARK PROFILES

Section 8.0 provides individual profiles for the five major park units at which we interviewed fishermen and fisherwomen, to indicate differences and similarities within and among parks. The section starts with a summary and comparison of all parks, “8.1 Park Profiles Comparison.” Please see the note regarding Rock Creek Park (ROCR) below.

8.1 Park Profiles Comparison

This section summarizes and compares the five parks at which the most fishermen and fisherwomen were interviewed:

- The numerous locations in ANAC;
- The park units in PISC (primarily Piscataway Park, Fort Washington and Farmington Landing);
- The park units in CHOH (mainly along the C & O Canal and Fletcher’s Boathouse);
- NAMA (Hains Point/East Potomac Park); and
- GWMP-South, from Gravelly Point and Roaches Run down to Little Hunting Creek, VA.

Since there are numerous distinctions among the park units, this section assembles them for easier comparisons. Analysis is provided on demographic aspects of those who fish in the parks, the types of fish caught and harvested, sharing behaviors, and food insecurity. While generalizations should be made with caution, we provide the following takeaway messages about differences among parks.

- The five park profiles provide pictures of variability—the parks are not all the same. Anglers who fish at different parks vary, as do their preferred fish and the consumption and sharing of different fish species.
- At ANAC, nearly two-thirds of the anglers we spoke with were African American, while at CHOH, nearly 50% were Anglos. Hispanics were interviewed most frequently at GWMP-S fishing sites and at Fletcher’s (CHOH). Native American/Piscataway were interviewed most frequently in or near PISC.
- Age and education: ANAC, PISC and NAMA tended to have middle-aged or older fishers, with the majority being high school graduates or individuals with some college. Younger Anglo fishers, who fished less often and had some college education, typified those who fished at CHOH sites.
- PISC and ANAC were the only two parks where a majority of anglers fished through the winter, indicating a dedicated set of year-round fishermen and fisherwomen.
- In general, and with the exception of CHOH, two-thirds of the anglers at the other four parks fished multiple days during the week, and have been doing so for at least several decades.
- Ninety percent of the anglers at ANAC fish a minimum of three times per week, and have been doing so for over two and a half decades.
- Parks differ in which species are harvested and consumed, and how much are shared through networks of family and friends.
- The primary fish harvested are blue catfish, but this is primarily due to the amount of biomass and not highest preference.

SECTION 8.1: PARK PROFILES. Comparisons

- In only two parks, NAMA and PISC, do a majority of anglers actually consume some portion of the blue catfish they harvest. In the other three parks, around three-quarters of anglers that consume blue catfish only consume a small proportion of any fish they harvest, and share the rest. Most fishermen in all parks averred eating fish from the Anacostia River.
- Across all parks, nearly every angler who harvested blue catfish shared their catch broadly (93%).
- A majority of all anglers personally consume striped bass, and at three parks—NAMA, PISC, and CHOH—9 out of 10 anglers personally consume striped bass.
- Only at PISC do we see a preference for yellow perch, with two-thirds of the anglers preferring and consuming at least some proportion of any perch they harvest.
- NAMA, specifically Hains Point, stood out as the park for which anglers make the greatest effort to reach in order to fish. NAMA draws the broadest group of visitors in the region geographically. The other parks tend to draw visitors/anglers from nearby communities.

Three maps are presented on the following pages. Map 8.1.1 shows the locations of the interviews across all park units, indicated by orange diamonds, for Year 1 (2015). Map 8.1.2 shows the areas of residence for the research interviewees for 2015. Map 8.1.3 shows the areas of residence for interviewees for both 2015 and 2016. Please note that for all the small-scale GIS maps, individual interviews may appear lumped together at similar locations, and/or interviewees may live in tight clusters in the same zip code area on residential maps.

Rock Creek Park (ROCR)

At the beginning of this project (fall 2014), the Field Team visited ROCR accompanied by the ROCR's Bill Yeaman, NPS natural resources specialist at the time, and visited the main fishing holes, including the fish ladder on Rock Creek. The Field Team later established contact with rangers and park staff, visiting Peirce Mill to introduce themselves. The team asked that staff contact them if they saw people fishing, or, in the spring, when they first saw shad. Although Rock Creek Park was visited several times throughout the fishing season, including points north of Porter Street where fishing was not allowed, no anglers were observed. Particular focus was given to the sandy outcroppings near the National Zoo and the pedestrian bridges south of Porter Street NW, ending at the Virginia Avenue bridge over the creek.

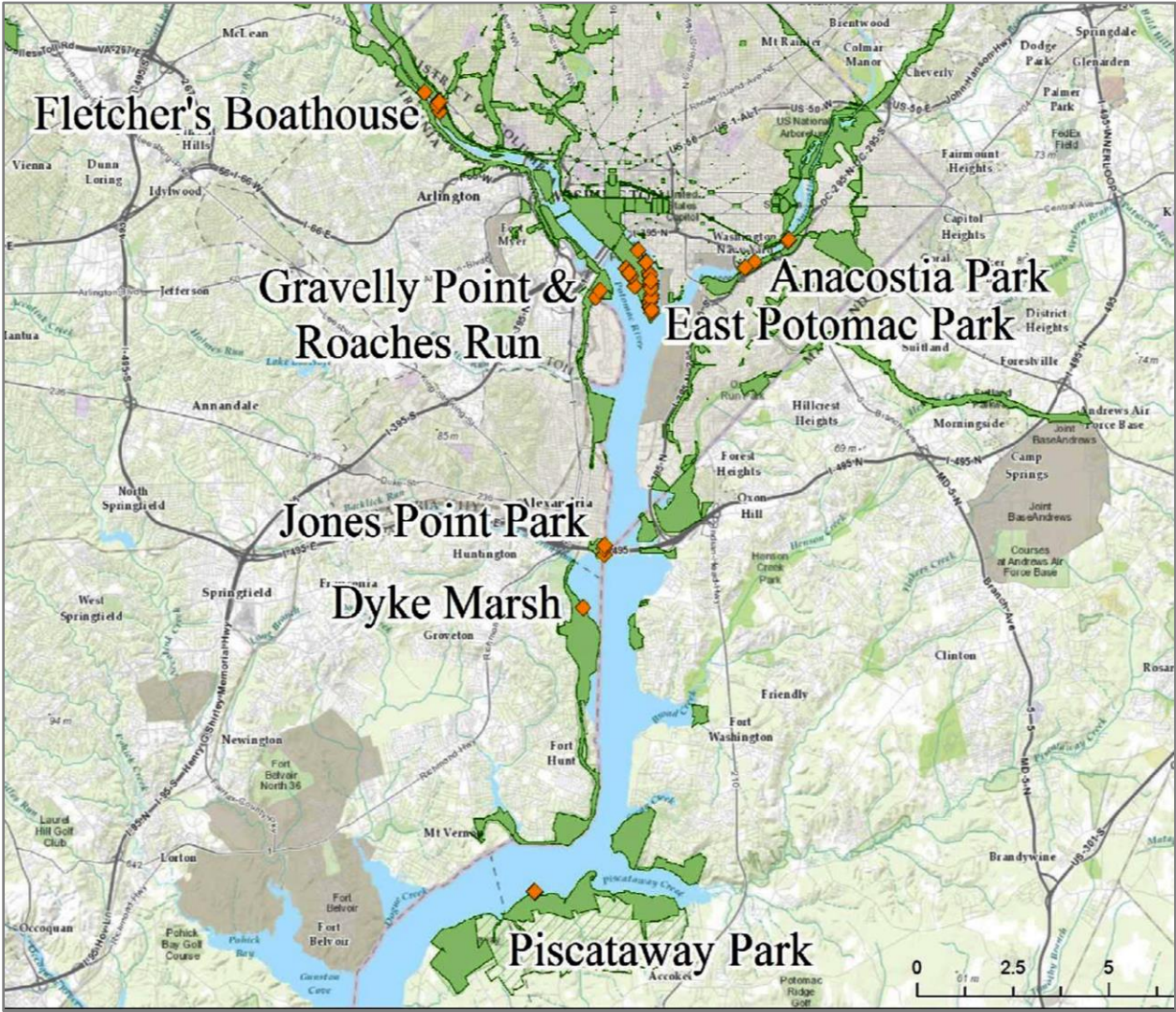
The Field Team found some evidence of fishing in the form of material culture (e.g., monofilament line) along the creek. However, no remnants were found that indicated subsistence fishing (fire pits, fish scales, etc.). We realized that although there was fishing, it lacked the intensity of other locations.

During interviews, some fishermen over 60 provided recollections of specific fishing spots on Rock Creek; they fondly remembered the freedom of being kids/youth, enjoying the natural beauty of the watershed, and catching shad. (This was before the shad moratorium.) One individual recalled going over to ROCR from the east side of the District (Anacostia or Capitol Hill East area) and filling his pockets with shad, and getting on the bus and going home (to the consternation of the other bus riders).

Since the report focuses on the five park units where the most persons were observed and interviewed, a profile and recommendations were not developed for ROCR. Nonetheless, given comments of reviewers, we make recommendations for further study, perhaps an addendum to this report, of ROCR fishermen and fisherwomen (Section 9.2.7).

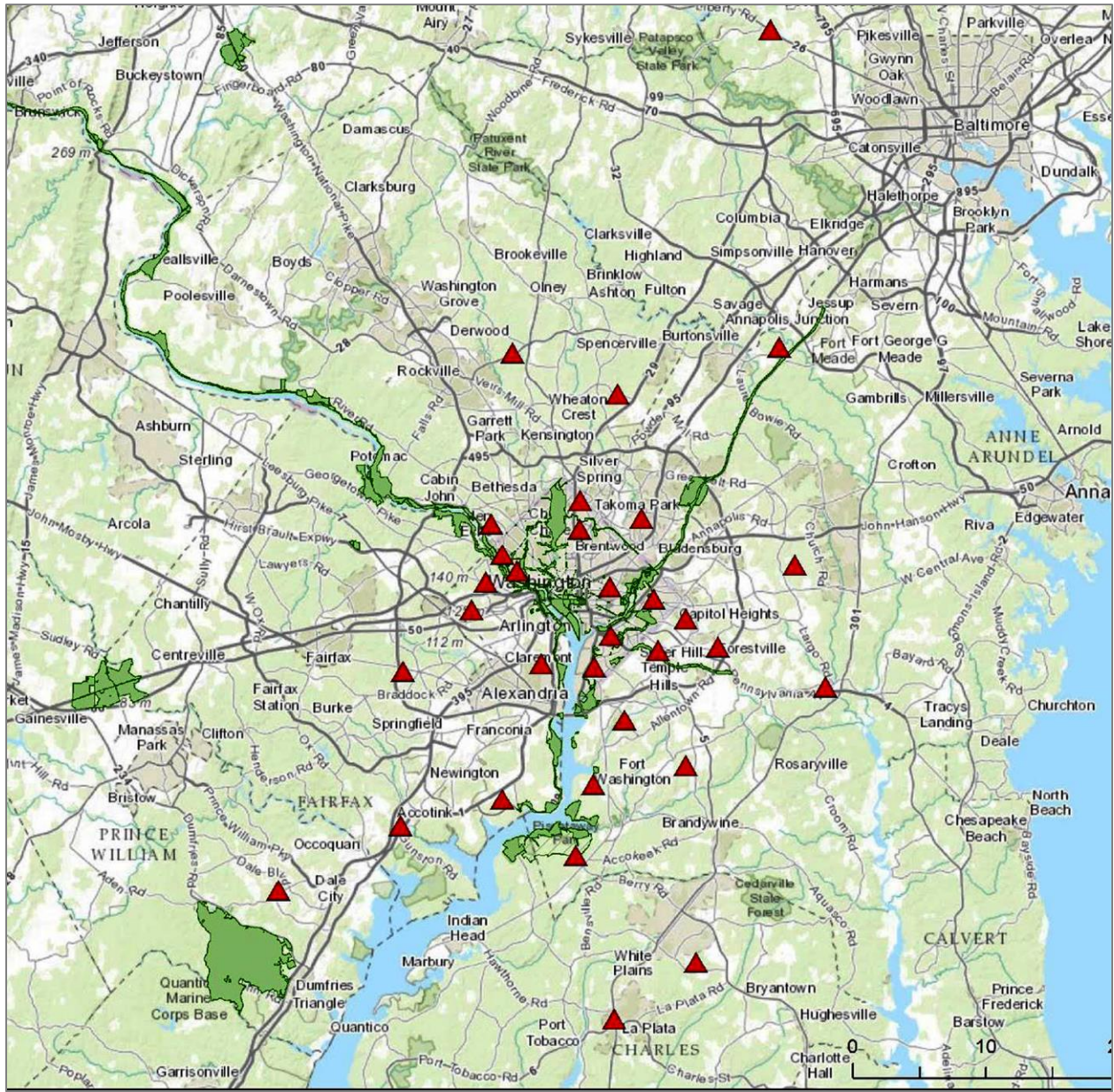
SECTION 8.1: PARK PROFILES. Comparisons

Map 8.1.1 Locations of Interviews for all Park Units
Year 1 (2015 only, n=37)



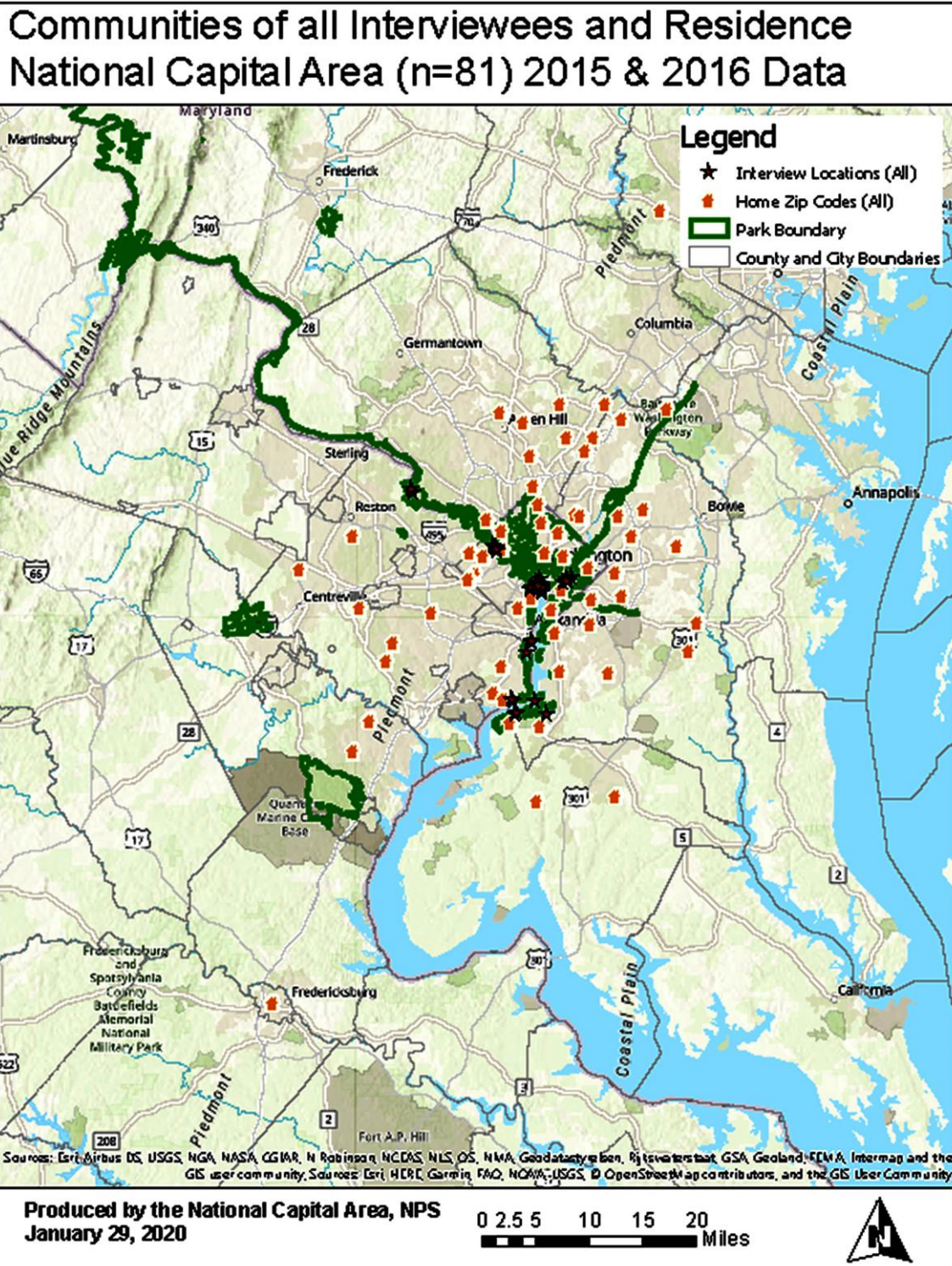
SECTION 8.1: PARK PROFILES. Comparisons

Map 8.1.2 Residential Locations of Interviewees' Communities and Neighborhoods, all Park Units Year 1 (2015 only, n=37)



SECTION 8.1: PARK PROFILES. Comparisons

Map 8.1.3: Residential Locations of All Interviewees, 2015 and 2016, National Capital Area (n=81)



8.1.1 Demographics

As indicated in Table 8.1.1 below, in three of the parks—NAMA, PISC, and ANAC—African Americans comprised two-thirds or more of the anglers. Meanwhile, at CHOH, nearly half of the anglers were Anglo. CHOH was also one of two parks, the other being GWMP-South, where Hispanic anglers were most likely to be found. In contrast, a majority of Asian anglers fished at NAMA, with GWMP-S sites also being preferred. A majority of American Indian anglers were found at PISC.

Regarding gender, female anglers were found in small numbers but equal proportions within their ethnic groups in all parks; the exception was ANAC, where no females were interviewed. In looking at whether women with different ethnicities fish more than others, we found that the proportion of women fishing in each ethnic group was about the same, around 13 or 14%. In other words, there was no correlation between gender and ethnicity among fisherwomen.

About two-thirds of anglers in three parks (NAMA, PISC, and ANAC) were high school graduates or had some high school experience. In contrast, about two-thirds of the anglers fishing at CHOH and GWMP had attended some college.

In general, fishers at NAMA, PISC, and ANAC were predominately middle-aged or older African Americans with high school educations. Younger Anglo anglers with some college education, who fish less often, characterize CHOH. GWMP has a heterogeneous mixture of middle-aged (two-thirds were over 35) anglers of all ethnicities.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.1
Profile Comparison of Five Parks: Demographics
 by Age, Gender, Ethnicity, and Education

Demographic Characteristic		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Gender	Male	23	85.2%	12	85.7%	12	100%	11	84.6%	13	86.7%
	Female	4	14.8%	2	14.3%	0	0%	2	15.4%	2	13.3%
	Total	27	100%	14	100%	12	100%	13	100%	15	100%
Ethnicity	Anglo	1	3.7%	2	14.3%	0	0%	6	46.2%	3	20%
	African American	19	70.4%	9	64.3%	12	100%	1	7.7%	5	33.3%
	Asian	4	14.8%	0	0%	0	0%	1	7.7%	2	13.3%
	Hispanic	2	7.4%	0	0%	0	0%	5	38.5%	4	26.7%
	Other	1	3.7%	3	21.4%	0	0%	0	0%	1	6.7%
	Total	27	100%	14	100%	12	100%	13	100%	15	100%
Last grade completed	< High school	6	26.1%	0	0%	2	20%	1	8.3%	3	27.3%
	12 th grade/GED	9	39.1%	7	58.3%	5	50%	3	25%	3	27.3%
	Some college	5	21.7%	3	25%	0	0%	4	33.3%	3	27.3%
	Bachelor's	3	13%	2	16.7%	2	20%	4	33.3%	2	18.2%
	Graduate school	0	0%	0	0%	1	10%	0	0%	0	0%
	Total	23	100%	12	100%	10	100%	12	100%	11	100%
Average age of angler		48		46		48		32		39	

8.1.2 Fishing characteristics

PISC and ANAC are the only two parks where a majority of anglers fish through the winter. In addition, a remarkable 90% of anglers at ANAC fish a minimum of three times per week and have been doing so for over two and a half decades. In general, and with the exception of CHOH, two-thirds of the anglers in this study fish for multiple days during the week and have been doing so for at least a couple of decades (see Table 8.1.2 below).

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.2
Profile Comparison of Five Parks: Fishing Characteristics

Fishing Characteristics		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Do you fish in the winter?	Yes	6	25%	8	61.5%	6	50%	1	10%	4	28.6%
	No	18	75%	5	38.5%	6	50%	9	90%	10	71.4%
	Total	24	100%	13	100%	12	100%	10	100%	14	100%
Frequency of fishing	4+ days/wk.	4	14.8%	3	23.1%	4	40%	1	9.1%	3	20%
	2-3 days/wk.	15	55.6%	5	38.5%	5	50%	4	36.4%	6	40%
	Once weekly	7	25.9%	4	30.8%	1	10%	6	54.5%	4	26.7%
	1-2 times month	1	3.7%	1	7.7%	0	0%	0	0%	2	13.3%
	< Monthly	0	0%	0	0%	0	0%	0	0%	0	0%
	Total	27	100%	13	100%	10	100%	11	100%	15	100%
Average number of years fishing		22		22		26		18		22	

8.1.3 Major species of fish harvested and consumed

8.1.3.1 Blue catfish

Two extremely anomalous anglers at GWMP-S catch more than 75 blue catfish per week each, most of which they share or give away. In fact, nearly two-thirds of the anglers harvesting blue catfish at GWMP-S do not eat what they catch. In direct contrast, two-thirds of the anglers at NAMA not only harvest a substantial amount of blue catfish, they also consume what they harvest.

In only two parks—NAMA and PISC—do a majority of anglers actually consume some portion of the blue catfish they harvest. About two-thirds of fishermen target this species, and slightly over a third consume most or all of the fish they take home. In the other three parks, the majority of anglers (around three-fourths) only consume a small proportion of their blue catfish harvest.

Half to three-fourths of the anglers in other parks explicitly state a lack of affinity for harvesting blue catfish. Interestingly, at CHOH, 9 out of 10 of the younger Anglo anglers prefer striped bass.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.3
Profile Comparison of Five Parks: Harvest and Consumption of Blue Catfish

Blue Catfish Harvest		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Personally eat?	Yes	16	64%	7	53.8%	4	36.4%	5	45.5%	5	38.5%
	No	9	36%	6	46.2%	7	63.6%	6	54.5%	8	61.5%
	Total	25	100%	13	100%	11	100%	11	100%	13	100%
Do You Prefer to eat this fish?	All the time	10	40%	6	46.2%	4	36.4%	2	18.2%	1	7.7%
	Sometime	5	20%	3	23.1%	0	0%	4	36.4%	2	15.4%
	Never	10	40%	4	30.8%	7	63.6%	5	45.5%	10	76.9%
	Total	25	100%	13	100%	11	100%	11	100%	13	100%
Proportion eaten?	None	8	32%	5	38.5%	6	54.5%	6	54.5%	8	61.5%
	Some	8	32%	3	23.1%	2	18.2%	4	36.4%	3	23.1%
	Most	7	28%	3	23.1%	2	18.2%	1	9.1%	1	7.7%
	All	2	8%	2	15.4%	1	9.1%	0	0%	1	7.7%
	Total	25	100%	13	100%	11	100%	11	100%	13	100%
Average Number Caught Per Week		9		9		6		4		26	

8.1.3.2 Channel catfish

NAMA and PISC anglers are the major consumers of channel catfish, as they are with blue cats; a majority personally eat some or most of the channel cats they take home. However, anglers in these two parks are clearly less enthusiastic about channel cats; a higher proportion prefer and eat blue catfish. This is also reflected in the average number of channel catfish harvested, which is about half of the blue catfish average.

As with the analysis of blue catfish, the vast majority (about 75%) of anglers in the other parks do not personally eat channel catfish; only a small proportion eat any fish they catch. A slight exception to this is CHOH, where two-thirds of the anglers who actually harvest channel catfish personally eat them, although once again, consumption is only of a small proportion of any fish harvested.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.4
Profile Comparison of Five Parks: Harvest and Consumption of Channel Catfish

Channel Catfish Harvest		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Personally eat?	Yes	8	57.1%	4	50%	3	30%	4	66.7%	2	22.2%
	No	6	42.9%	4	50%	7	70%	2	33.3%	7	77.8%
	Total	14	100%	8	100%	10	100%	6	100%	9	100%
Do you prefer to eat this fish?	All the time	8	53.3%	3	37.5%	3	30%	2	33.3%	2	22.2%
	Sometime	0	0%	1	12.5%	0	0%	1	16.7%	0	0%
	Never	7	46.7%	4	50%	7	70%	3	50%	7	77.8%
	Total	15	100%	8	100%	10	100%	6	100%	9	100%
Proportion eaten?	None	7	46.7%	4	50%	6	60%	2	33.3%	7	77.8%
	Some	3	20%	2	25%	2	20%	4	66.7%	0	0%
	Most	5	33.3%	2	25%	2	20%	0	0%	2	22.2%
	All	0	0%	0	0%	0	0%	0	0%	0	0%
	Total	15	100%	8	100%	10	100%	6	100%	9	100%
Average Number Caught Per Week		5		5		3		1		12	

8.1.3.3 Yellow perch

Only at PISC do we see a preference for yellow perch, with two-thirds of the anglers personally preferring and consuming at least some proportion of the perch they harvest. In all the other parks, from half to three-quarters of the anglers do not prefer them, and personally do not eat much of any perch they might catch. However, over a typical fishing season at PISC, an average angler might harvest 30 yellow or white perch.



Late afternoon fishing in the Anacostia River. Boat ramp in Southeast Washington, November 2018. Photo credit: S.J. Fiske

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.5
Profile Comparison of Five Parks: Harvest and Consumption of Yellow Perch

Yellow Perch Harvest		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Personally eat?	Yes	4	26.7%	4	66.7%	2	25%	2	50%	2	40%
	No	11	73.3%	2	33.3%	6	75%	2	50%	3	60%
	Total	15	100%	6	100%	8	100%	4	100%	5	100%
Do You Prefer to eat this fish?	All the time	3	18.8%	3	50%	2	25%	2	40%	1	20%
	Sometime	1	6.3%	1	16.7%	1	12.5%	0	0%	1	20%
	Never	12	75%	2	33.3%	5	62.5%	3	60%	3	60%
	Total	16	100%	6	100%	8	100%	5	100%	5	100%
Proportion eaten?	None	11	73.3%	2	33.3%	6	75%	3	60%	3	60%
	Some	1	6.7%	3	50%	0	0%	1	20%	2	40%
	Most	3	20%	0	0%	1	12.5%	1	20%	0	0%
	All	0	0%	1	16.7%	1	12.5%	0	0%	0	0%
	Total	15	100%	6	100%	8	100%	5	100%	5	100%
Average Number Caught per Week		2		4		2		3		1	

8.1.3.4 Striped bass

A majority of all anglers personally consume striped bass, and at three parks, there was an extreme preference for stripers. At NAMA, PISC, and CHOH, 9 out of 10 anglers personally consume striped bass. In these three parks this is a highly preferred species, with a significant proportion of anglers eating most of the fish when prepared for consumption.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.6
Profile Comparison of Five Parks: Harvest and Consumption of Striped Bass

Striped Bass Harvest		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Personally eat?	Yes	18	81.8%	9	90%	4	50%	6	85.7%	3	25%
	No	4	18.2%	1	10%	4	50%	1	14.3%	9	75%
	Total	22	100%	10	100%	8	100%	7	100%	12	100%
Do You Prefer to eat this fish?	All the time	14	66.7%	8	80%	3	37.5%	6	85.7%	3	25%
	Sometime	2	9.5%	0	0%	0	0%	0	0%	1	8.3%
	Never	5	23.8%	2	20%	5	62.5%	1	14.3%	8	66.7%
	Total	21	100%	10	100%	8	100%	7	100%	12	100%
Proportion eaten?	None	6	28.6%	2	20%	4	50%	1	14.3%	9	75%
	Some	8	38.1%	4	40%	2	25%	2	28.6%	3	25%
	Most	5	23.8%	4	40%	1	12.5%	4	57.1%	0	0%
	All	2	9.5%	0	0%	1	12.5%	0	0%	0	0%
	Total	21	100%	10	100%	8	100%	7	100%	12	100%
Average Number Caught per Week		3		1		2		4		6	

8.1.3.5 Shad

Only 22% (18 of 81) of anglers in this survey said they harvested shad. Of these 18 individuals, only one personally consumed the fish, and then only a small portion (most likely the roe) of the fish. No angler asserted that shad was a preferentially harvested species.¹³¹ However, many interviewees recalled the ease and the fun they had catching shad as children, including specifically Rock Creek and other Potomac tributaries. One person made the point that this was before shad regulations took effect in 1982; another noted that his grandmother really enjoyed shad roe back in the day. Planked shad and shad roasts, in which the fish is cooked over an open fire, are a historic and cultural tradition in Virginia coastal cuisine. Commercially harvested shad—generally the roe—are often available in D.C. restaurants and fish markets in springtime, when the shad are running.

¹³¹ This finding is consistent with District fishing restrictions, which state that the possession of shad and river herring is prohibited in accordance with the Atlantic States Marine Fisheries Commission's (ASMFC) Fishery Management Plan (FMP) for shad and river herring.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.7
Profile Comparison of Five Parks: Harvest and Consumption of Shad

Shad Harvest		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Personally eat?	Yes	0	0%	0	0%	0	0%	0	0%	1	25%
	No	4	100%	4	100%	3	100%	3	100%	3	75%
	Total	4	100%	4	100%	3	100%	3	100%	4	100%
Do you prefer to eat this fish?	All the time	0	0%	0	0%	0	0%	0	0%	0	0%
	Sometime	0	0%	0	0%	0	0%	0	0%	0	0%
	Never	4	100%	4	100%	3	100%	3	100%	4	100%
	Total	4	100%	4	100%	3	100%	3	100%	4	100%
Proportion eaten?	None	4	100%	4	100%	3	100%	3	100%	3	75%
	Some	0	0%	0	0%	0	0%	0	0%	1	25%
	Most	0	0%	0	0%	0	0%	0	0%	0	0%
	All	0	0%	0	0%	0	0%	0	0%	0	0%
	Total	4	100%	4	100%	3	100%	3	100%	4	100%
Average Number Harvested per Week		<1		<1		2		4		13	

8.1.4 Overall consumption and sharing patterns

Anglers form a complex spectrum of harvesting, consuming, and sharing fish. This complexity is amplified by varying preferences for different fish species. Table 8.1.8 below attempts to present and consolidate that complexity.

About 18% (14 of 78) of anglers harvest fish *to share only* and do not personally consume any fish they harvest. These anglers *do not* have a “catch and release” philosophy or a sports orientation of fishing just for its pure enjoyment.

Certainly, all the anglers in this study go fishing, in part, for the enjoyment of the activity. Most refer to it as “relaxation.” They enjoy being outdoors, socializing with friends and fellow fishermen, and practicing the skills necessary to successfully catch fish. However, in addition, most of these anglers also enjoy eating fish, sharing with friends and co-workers, and a sense of self-sufficiency for themselves and family members. This small group that *only* shares but does not consume fish does so mostly because they do not like the taste of fish, or prefer saltwater fish, and/or do not look forward to the cleaning, processing, and preparing fish for cooking. They do, however, enjoy the appreciation they receive from others with whom they share their harvest. In this case, basic generosity and the feeling of helping others in need becomes its own reward. Interestingly, most “share only” anglers are concentrated in two parks—Anacostia and GWMP-S (primarily Jones Point).

“*Some return/some consumption*” refers to anglers who harvest fish for consumption but for one reason or another throw back some of their catch. By far the major reason for returning fish to the river is because the fish is “too small” to consume and they believe there is value in leaving smaller fish to grow into larger ones. Some fish are returned because they exhibit lesions or they just look bad/sick. In addition, as described earlier, some anglers prefer some species to others, the prime example being the

SECTION 8.1: PARK PROFILES. Comparisons

preference of CHOH anglers for striped bass, in which case the less-desirable catfish may be returned. The vast majority, nearly three-fourths of anglers, fall into this category of “some return/some consumption.”

Finally, the smallest category is “consume only.” About 10% of the anglers harvest fish for their personal or natal family consumption, and rarely share their harvest with others. As might be expected, the two parks with the highest proportion of “consume only” also have the lowest proportion of “share only”—NAMA and PISC. Further analysis to identify the attributes and reasons for “consume only” parks (NAMA/PISC) versus “share only” parks (ANAC/GWMP-S) has not been attempted because of the small samples involved.

Table 8.1.8
Profile Comparison of Five Parks: Consumption Pattern

Consumption Pattern	Park									
	National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
	Count	%	Count	%	Count	%	Count	%	Count	%
Share only	2	7.7%	1	7.7%	5	41.7%	2	16.7%	4	26.7%
Some return/some consume	20	76.9%	9	69.2%	7	58.3%	10	83.3%	10	66.7%
Consume only	4	15.4%	3	23.1%	0	0%	0	0%	1	6.7%
Total	26	100%	13	100%	12	100%	12	100%	15	100%

8.1.5 Sharing and the contexts of sharing fish

In the following analysis, the total number of interviewees sharing fish varies between species. For example, 65 respondents report sharing blue catfish, while we found only five cases where they do not. Thus, 93% (or 65 of 75) of anglers harvesting blue catfish shared it. This leaves 11 cases (out of the total sample of 81) for which we do not have information. In this case, the most likely reason for the 11 missing cases is that they do not harvest blue catfish, or this topic was not covered in the interview and is missing information. Project sample sizes vary for a number of reasons; either the topic was not asked or the respondent refused to answer (missing information), or the topic was not applicable (the angler did not harvest blue catfish). In general, nearly every angler from any park who harvests blue catfish shares the catch (with the slight exception of GWMP-S).

In contrast, slightly more than half (46 of 81) of anglers in this sample harvest channel catfish. Of these 46 anglers, about three-quarters (34 of 46) share their catch. Thus, 9 out of 10 anglers from every park harvest blue catfish, with nearly all sharing, but only about 5 in 10 harvest channel catfish, with slightly more than three-fourths of the anglers in NAMA, PISC, and ANAC sharing their catch, while only two-thirds in CHOH and GWMP-S share.

About half the sample catch yellow perch, but only about a fourth of them (10 of 40) share; this is not consistent across parks. Two parks, PISC and CHOH, see about half their anglers sharing yellow perch while the rest of the parks share at low rates, usually less than 20%.

About two-thirds of our sample (55 of 81) harvest striped bass, with about two-thirds of those who harvest (36 of the 55) sharing their catch. Once again, however, the distribution of sharing between

SECTION 8.1: PARK PROFILES. Comparisons

parks is quite uneven, with two parks, PISC and ANAC, having half or less of anglers sharing their catch while the remaining parks, NAMA, CHOH, and GWMP-S, most (from 66-100%) anglers share their catch.

Only about 22% (18 of 81) of the entire sample harvests shad, and only one angler shares his catch.

Table 8.1.9
Profile Comparison of Five Parks: Sharing of Specific Species
by Park

Do you share?		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Blue catfish	Yes	24	100%	11	91.7%	9	90%	11	100%	10	76.9%
	No	0	0%	1	8.3%	1	10%	0	0%	3	23.1%
Channel catfish	Yes	11	78.6%	6	75%	7	77.8%	4	66.7%	6	66.7%
	No	3	21.4%	2	25%	2	22.2%	2	33.3%	3	33.3%
Yellow perch	Yes	3	21.4%	3	42.9%	0	0%	3	50%	1	20%
	No	11	78.6%	4	57.1%	8	100%	3	50%	4	80%
Striped bass	Yes	15	75%	4	50%	2	25%	7	100%	8	66.7%
	No	5	25%	4	50%	6	75%	0	0%	4	33.3%
Shad	Yes	1	25%	0	0%	0	0%	0	0%	0	0%
	No	3	75%	4	100%	3	100%	3	100%	4	100%

Only three species, blue catfish, channel catfish, and striped bass, are harvested by a majority of the anglers in our sample. And while there was little difference among parks with respect to the sharing of blue catfish, there was considerable variation among parks in the sharing channel catfish and striped bass. For three parks, NAMA, CHOH, and GWMP-S, at least two-thirds of anglers who harvested all three species shared their catch. In contrast, in two parks, PISC and ANAC, sharing was less pronounced, especially when it came to striped bass.

To explore sharing practices at greater depth, we took the three most harvested and shared species—blue and channel catfish and striped bass—and analyzed whether ethnicity was an additional influence, while controlling for park location. Table 8.1.10 below illustrates the results of this inquiry.

In fact, ethnicity or park fishing location made no difference in the sharing of blue catfish. Almost any angler who harvested blue catfish, regardless of ethnicity or location, shared it. With the small exception of Hispanic anglers in CHOH and GWMP-S, almost everyone else who harvested channel catfish, regardless of ethnicity, shared it. The only appreciable proportion of non-sharing occurred with African American anglers, who were less likely to share striped bass across all parks (except CHOH, where they rarely fished).

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.10
Profile Comparison of Five Parks: Sharing of Specific Species
 by Park and Ethnicity

Ethnicity, by Sharing of Harvested Species			Park									
			National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
			Count	%	Count	%	Count	%	Count	%	Count	%
Anglo	Blue catfish	Yes	0	0%	2	100%	0	0%	5	100%	2	66.7%
		No	0	0%	0	0%	0	0%	0	0%	1	33.3%
	Channel catfish	Yes	0	0%	1	100%	0	0%	3	100%	1	50%
		No	0	0%	0	0%	0	0%	0	0%	1	50%
	Striped bass	Yes	0	0%	1	50%	0	0%	3	100%	1	33.3%
		No	0	0%	1	50%	0	0%	0	0%	2	66.7%
African American	Blue catfish	Yes	17	100%	8	100%	9	90%	0	0%	3	100%
		No	0	0%	0	0%	1	10%	0	0%	0	0%
	Channel catfish	Yes	9	75%	4	80%	7	77.8%	0	0%	2	100%
		No	3	25%	1	20%	2	22.2%	0	0%	0	0%
	Striped bass	Yes	11	73.3%	2	40%	2	25%	0	0%	2	66.7%
		No	4	26.7%	3	60%	6	75%	0	0%	1	33.3%
Asian	Blue catfish	Yes	4	100%	0	0%	0	0%	1	100%	2	100%
		No	0	0%	0	0%	0	0%	0	0%	0	0%
	Channel catfish	Yes	1	100%	0	0%	0	0%	0	0%	0	0%
		No	0	0%	0	0%	0	0%	0	0%	1	100%
	Striped bass	Yes	2	100%	0	0%	0	0%	0	0%	1	50%
		No	0	0%	0	0%	0	0%	0	0%	1	50%
Hispanic	Blue catfish	Yes	2	100%	0	0%	0	0%	5	100%	2	50%
		No	0	0%	0	0%	0	0%	0	0%	2	50%
	Channel catfish	Yes	0	0%	0	0%	0	0%	1	33.3%	2	66.7%
		No	0	0%	0	0%	0	0%	2	66.7%	1	33.3%
	Striped bass	Yes	2	100%	0	0%	0	0%	4	100%	3	100%
		No	0	0%	0	0%	0	0%	0	0%	0	0%
Other	Blue catfish	Yes	1	100%	1	50%	0	0%	0	0%	1	100%
		No	0	0%	1	50%	0	0%	0	0%	0	0%
	Channel catfish	Yes	1	100%	1	50%	0	0%	0	0%	1	100%
		No	0	0%	1	50%	0	0%	0	0%	0	0%
	Striped bass	Yes	0	0%	1	100%	0	0%	0	0%	1	100%
		No	1	100%	0	0%	0	0%	0	0%	0	0%

We also inquired about sharing fish through organized events (some formal, such as church suppers, and other, more informal, neighborhood events). Generalizations about sharing at community or extended family events are difficult because the sample sizes for some ethnicities (i.e., Asian=5 and "Other"=5) are very low. There are 11 Anglo and 10 Hispanic respondents. Only African Americans, with 42 anglers, provides a reasonable sample. Nevertheless, several generalizations can be made, most of them highlighted in yellow in Table 8.1.12: Park Profile Comparison of Five Parks: Sharing of Fish at Community and Family Events by Ethnicity and Park (see next two tables below).

SECTION 8.1: PARK PROFILES. Comparisons

Only two of the 11 Anglo fishermen (18%) share fish at community or family events and both these anglers fish at CHOH. At no other park location do Anglo anglers share fish in community or family events. Overall, Anglos have the lowest rate of sharing at events such as fish fries, cookouts, or church dinners (as examples), and at family occasions such as 4th of July.

In contrast, one-third (14 of 42) of African American anglers, a sizable contingent, share fish at community events. In terms of absolute numbers, this sharing behavior is fairly evenly distributed among four parks. Only CHOH, which has very few African American anglers, had no sharing. For family gatherings, nearly half (20 of 42) of African American anglers share at extended family events; a significant proportion (40%) of them share multiple times during the year. Many anglers described cook outs, 4th of July picnics, or family excursions to places where they could fish and cook outdoors (like Hains Point).

Only one Asian angler shares (multiple times per year) at community events, while two individuals share (again multiple times) at extended family events. While these absolute numbers are small, they represent about 40% of the Asian sample, proportionally somewhat less than African Americans.

Only two (20%) of the Hispanic anglers share at community events; however, half (5 of 10) share at extended family events, a proportion equal to the more numerous African American anglers. Hispanic anglers who share are concentrated in three parks: NAMA, CHOH, and GWMP-S. The “Other” ethnicity, primarily American Indian, share at remarkably similar proportions, 40% (2 of 5) at community events and 60% (3 of 5) at extended family events.

In summary, African American and “Other” (primarily American Indian) ethnicities seem to share at community events in very similar proportions (about 40%), while in all the other ethnicities—Anglo, Asian and Hispanic—only one in five anglers share. For family gatherings, as a substantial contrast, about half of all anglers, with the substantial exception of Anglos, share fish with extended family members at events where food is served, particularly in the summer.

Table 8.1.11
Profile Comparison of Five Parks: Sharing at Community and Extended Family Events
by Ethnicity, in percentages

Sharing, by Ethnicity	Community	Family
Anglo	18%	18%
African American	33%	50%
Asian	20%	40%
Hispanic	20%	50%
Other	40%	60%

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.12
Profile Comparison of Five Parks: Sharing of Fish at Community and Family Events
 by Ethnicity and Park

Attend Community and Family Events to Share Fish, by Ethnicity			Park									
			National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
			Count	%	Count	%	Count	%	Count	%	Count	%
Anglo	Community events	Attend no events	0	0%	2	100%	0	0%	4	66.7%	3	100%
		Attend one event	0	0%	0	0%	0	0%	2	33.3%	0	0%
		Attend 2+	0	0%	0	0%	0	0%	0	0%	0	0%
	Family events	Attend no events	0	0%	2	100%	0	0%	3	60%	3	100%
		Attend one event	0	0%	0	0%	0	0%	0	0%	0	0%
		Attend 2-6 events	0	0%	0	0%	0	0%	2	40%	0	0%
African American	Community events	Attend no events	12	70.6%	4	50%	9	81.8%	1	100%	2	40%
		Attend one event	5	29.4%	2	25%	2	18.2%	0	0%	2	40%
		Attend 2+	0	0%	2	25%	0	0%	0	0%	1	20%
	Family events	Attend no events	7	38.9%	1	16.7%	8	72.7%	1	100%	3	75%
		Attend one event	8	44.4%	1	16.7%	2	18.2%	0	0%	1	25%
		Attend 2-6 events	3	16.7%	4	66.7%	1	9.1%	0	0%	0	0%
Asian	Community events	Attend no events	1	50%	0	0%	0	0%	1	100%	2	100%
		Attend one event	0	0%	0	0%	0	0%	0	0%	0	0%
		Attend 2+	1	50%	0	0%	0	0%	0	0%	0	0%
	Family events	Attend no events	0	0%	0	0%	0	0%	0	0%	2	100%
		Attend one event	0	0%	0	0%	0	0%	0	0%	0	0%
		Attend 2-6 events	2	100%	0	0%	0	0%	1	100%	0	0%
Hispanic	Community events	Attend no events	1	50%	0	0%	0	0%	4	80%	4	100%
		Attend one event	1	50%	0	0%	0	0%	1	20%	0	0%
		Attend 2+	0	0%	0	0%	0	0%	0	0%	0	0%
	Family events	Attend no events	1	50%	0	0%	0	0%	2	50%	2	50%
		Attend one event	1	50%	0	0%	0	0%	2	50%	1	20%
		Attend 2-6 events	0	0%	0	0%	0	0%	0	0%	1	25%
Other	Community events	Attend no events	1	100%	2	66.7%	0	0%	0	0%	0	0%
		Attend one event	0	0%	0	0%	0	0%	0	0%	1	100%
		Attend 2+	0	0%	1	33.3%	0	0%	0	0%	0	0%
	Family events	Attend no events	0	0%	2	66.7%	0	0%	0	0%	0	0%
		Attend one event	1	100%	0	0%	0	0%	0	0%	1	100%
		Attend 2-6 events	0	0%	1	33.3%	0	0%	0	0%	0	0%

8.1.6 Food insecurity

This sub-section will concentrate on a comparative analysis of food insecurity between the five parks included in the comparison section.

SECTION 8.1: PARK PROFILES. Comparisons

The Economic Research Division of the USDA publishes analyses of food security in the United States.¹³² Although their measures are somewhat different than those in this research,¹³³ in general the research approach of both studies identifies households whose food intake was reduced at times during the year because they had insufficient money or other resources for food. The USDA data indicate that about 12% of U.S. households, on average, were food insecure (that is, “low” and “very low” food security) in 2016 (USDA 2017: 2). Their research also identifies specific attributes of households with a prevalence of food insecurity, including low income, Black, Hispanic, and older households.¹³⁴ These research findings are similar to those discussed earlier in this report. Results found in Section 6.3.4 indicates that modest levels of educational attainment (reflecting low income), being African American or Hispanic, and being older were all key attributes associated with levels of food insecurity.

As indicated in the yellow highlights in Table 8.1.13 below, three parks—NAMA, ANAC, and GWMP-South—have the highest proportions of anglers who expressed that they “worry a lot” or “worry a little about putting food on the table.” In the other two parks, PISC and CHOH, no participants reported they “worry a lot.” Our findings are consistent with the USDA findings of key attributes of food insecurity, since NAMA and ANAC have the highest proportion of African Americans among all five parks, while GWMP-S has the highest population of Hispanic anglers with education levels of high school or less (a proxy for income).

If one considers anglers with any level of concern (either “worry a lot” or “worry a little”), then nearly 38% (20 of 52) of anglers in these three parks have some worry about putting food on the table. This is a very high proportion when compared to other individuals living in the D.C. area. Focusing our comparison not on all D.C. individuals but specifically on individuals living below the poverty level, we find that our sample has three times the proportion of individuals that face food insecurity (39% versus 13.2%).¹³⁵

“Not having enough to eat” is a behavioral measure, in contrast to a feeling of worry, and is probably more indicative of actual food insecurity (comparable to the “very low food security” measure used by the USDA). Two parks clearly stand out as locales of anglers who reported they experience hunger for themselves or their families during the year. NAMA, frequented in large part by African American anglers, and GWMP-S, frequented by Hispanic anglers, have 7 of 26 fishermen and 4 of 15 anglers, respectively, who face substantial food insecurity.

¹³³ For example, USDA discriminates between “low” and “very low” food security, while this research uses one behavioral measure and one measure of concern to distinguish between food insecurity and very high food insecurity.

¹³⁴ This research projects in order to balance sample size in an ordinal measure of age, defining “older” as 51+. However, much of the literature, e.g., Ziliak, J.P. and C. Gunderson 2013, “Spotlight on Food Insecurity Among Senior Americans: 2011,” National Foundation to End Senior Hunger (NFESH), sets the threshold at 60+.

¹³⁵ District of Columbia Report. 2016. “Talk Poverty.” A project of Center for American Progress. Washington, D.C. <https://talkpoverty.org/state-year-report/district-of-columbia-2016-report/>.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.13
Profile Comparison of Five Parks: Sharing of Fish at Community and Family Events
 by Ethnicity and Park

Food Insecurity		Park									
		National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
		Count	%	Count	%	Count	%	Count	%	Count	%
Worry about food on table?	Worry a lot	3	11.5%	0	0%	2	18.2%	0	0%	3	20%
	Worry a little	7	26.9%	4	28.6%	2	18.2%	3	23.1%	3	20%
	Do not worry	16	61.5%	10	71.4%	7	63.6%	10	76.9%	9	60%
	Total	26	100%	14	100%	11	100%	13	100%	15	100%
Last year, were there times you did not have enough to eat?	Yes	7	26.9%	0	0%	1	9.1%	2	15.4%	4	26.7%
	No	19	73.1%	13	100%	10	90.9%	11	84.6%	11	73.3%
	Total	26	100%	13	100%	11	100%	13	100%	15	100%

As Table 8.1.14 below emphasizes (yellow highlights), NAMA and GWMP-South are the two parks that both had 27% of food insecure respondents (“not enough to eat”), which is considerably above national averages for food insecurity. This is not surprising, since both parks have high proportions of older African American and/or Hispanic anglers (NAMA=75% and GWMP-S=60%). This fits with key factors that correlate with high food insecurity.

Table 8.1.14
Profile Comparison of Five Parks:
“Were there times last year when your household did not have enough to eat?”

Park	Last year, were there times your household did not have enough to eat?					
	Yes		No		Total	
	Count	Row %	Count	Row %	Count	Row %
National Mall (NAMA)	7	26.9%	19	73.1%	26	100%
Piscataway (PISC)	0	0%	13	100%	13	100%
Anacostia Park (ANAC)	1	9.1%	10	90.9%	11	100%
C&O Canal NHP (CHOH)	2	15.4%	11	84.6%	13	100%
GWMP-South	4	26.7%	11	73.3%	15	100%

At this point a caveat about sampling discussed in the Methodology Section must be reiterated. The 81 respondents involved in this project were not drawn at random from the population of all anglers fishing at park sites. The interviewees constitute an “availability” sample of individuals who agreed to talk to researchers on the day the fishing sites were visited. Fiscal restrictions made it impossible for the research staff to spend considerable time at each fishing site and enumerate all the anglers who visited the site during the year. Had such an enumeration been possible, it could have been randomly sampled, leading to a high confidence of the representativeness of the findings. This “external validity” (the representativeness of our findings) does not necessarily invalidate this project’s “internal validity”—that is, the reasonableness of our claims to cause and effect. However, it is a positive that many conclusions

about the attributes of food insecure anglers (ethnicity, age, income status) that were prominent from our research reflect similar findings in the survey research designs of the studies we cite for comparison.

8.1.7 Residences of park anglers

Each of the park sites for this research has a varied profile of the community or neighborhood where its visitors reside. We analyzed whether fishermen and fisherwomen were fishing in the park closest to their homes, or whether they made other choices of fishing sites. As Table 8.1.15 below indicates, NAMA is perhaps the most unique among all the parks in that most of the anglers who fish there are drawn from a wide geographical range, not just the nearest District precincts. Only 8% of NAMA anglers have NAMA as the park closest to their residence. Ninety percent of NAMA anglers actually live closer to the other four parks in this region. It appears that anglers make a special effort to fish at NAMA, although slightly more than half live in the vicinity of ROCR and ANAC.

For PISC, three out of four anglers are drawn from nearby environs. Both NAMA and PISC exhibit a visitor population with long-term commitments to the parks, but in the case of NAMA it appears to depend on historical networks of friends, relatives, and fellow like-minded anglers. Such networks may also exist for PISC, although these networks appear to be more localized or geographically circumscribed.

ANAC has two-thirds of its anglers drawn from the nearby community of Anacostia and Southeast D.C. As we point out in the ethnohistorical component of this report, African Americans have a long history of displacement and forced migration to historically marginal areas. Eighty percent of anglers interviewed at ANAC were African American.

CHOH draws about a third of its fishing population from a neighborhood closest to CHOH and 40% from nearby communities that have populations with mostly Anglo majorities (see Table 8.1.16: Ethnic Profile of Angler's Residential Community, below).

Finally, more than half of the anglers that fish at GWMP-South have this park as the one closest to their residence.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.15
Profile Comparison of Five Parks: Nearest Park to Angler's Residence

Park Nearest to Residence	Park									
	National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
	Count	%	Count	%	Count	%	Count	%	Count	%
NAMA (Hains Point)	2	8%	0	0%	0	0%	0	0%	0	0%
ANAC	0	0%	0	0%	0	0%	0	0%	0	0%
CHOH	2	8%	0	0%	0	0%	4	30.8%	0	0%
ROCR	6	24%	1	7.7%	0	0%	2	15.4%	0	0%
PISC	1	4%	7	53.8%	1	8.3%	1	7.7%	1	6.7%
Outside NCR	0	0%	3	23.1%	1	8.3%	1	7.7%	1	6.7%
BAWA	3	12%	1	7.7%	2	16.7%	0	0%	2	13.3%
ANAC	9	36%	1	7.7%	8	66.7%	0	0%	0	0%
PRWI	1	4%	0	0%	0	0%	0	0%	3	20%
GWMP-S	1	4%	0	0%	0	0%	5	38.5%	8	53.3%
Total	25	100%	13	100%	12	100%	13	100%	15	100%

The ethnic composition of an angler's residential community to some extent mirrors the historical influences that account for the region's current residential patterns. NAMA draws its visitors from a broad mixture of different communities. PISC anglers reside in mixed ethnic communities while CHOH and GWMP draw from communities with substantial white majorities.

Table 8.1.16
Profile Comparison of Five Parks: Ethnic Profile of Angler's Residential Community

Ethnic Profile, Angler's Residential Community	Park									
	National Mall & Memorial (NAMA)		Piscataway (PISC)		Anacostia Park (ANAC)		C&O Canal NHP (CHOH)		GW Parkway S. of 14th St. Bridge	
	Count	%	Count	%	Count	%	Count	%	Count	%
African American majority	5	18.5%	0	0%	5	41.7%	0	0%	0	0%
Anglo majority	0	0%	0	0%	1	8.3%	0	0%	0	0%
Hispanic majority	0	0%	0	0%	0	0%	0	0%	0	0%
African American, sizable Hispanic	0	0%	1	7.7%	0	0%	0	0%	0	0%
Mixed	4	14.8%	1	7.7%	2	16.7%	1	8.3%	0	0%
Mixed, no majority	11	40.7%	9	69.2%	4	33.3%	3	25%	4	26.7%
Anglo, sizable Hispanic	1	3.7%	0	0%	0	0%	1	8.3%	0	0%
Mixed, Anglo majority	6	22.2%	2	15.4%	0	0%	7	58.3%	11	73.3%
Total	27	100%	13	100%	12	100%	12	100%	15	100%

8.1.8 Summary of recommendations and concerns

The matrix below summarizes recommendations provided by fishermen to improve their NPS experience. These specific comments, and more general ones about fishing in the region, were collected at the park-specific site where the interview was conducted.

Some caveats about the matrix below (Table 8.1.17):

- We realize that fishermen are speaking about their understanding of what they would like and what they are hoping to see. The researchers realize that in the current budgetary and political context, additional Congressional appropriations for maintenance, backlog, and operations are hard to come by. Nevertheless, we offer their suggestions as a sense of their priorities and as a justification for future budgetary requests.
- In interpreting the “Xs” in the matrix, please keep in mind that the absence of an “X” does not mean that anglers would oppose other recommendations had they occurred to them, or if they had been suggested by the interviewers.

One of the important findings in this matrix is that five of the recommendations appeared across a *majority* of fishing sites (in three of five NPS fishing sites). We highlight these in bullets below as the most frequent recommendations that would improve their experience.

- Improve the placement of trash cans.
- Conduct more outreach by NPS personnel.
- More picnic tables and benches, and renovate existing tables.
- Increased community engagement.
- More encouragement/enforcement to have visitors pick up their own trash; more partnerships and volunteer efforts to pick up trash.

SECTION 8.1: PARK PROFILES. Comparisons

Table 8.1.17
Profile Comparison for Five Parks: Respondent Recommendations

Recommendations	ANAC	CHOH	GWMP-S	NAMA	PISC
Construction/renovation of piers			X		X
NPS more proactive about issues of displacement from fishing sites due to development					X
NPS should help reduce impact of commercial fishing on subsistence anglers			X		X
Increase number of trash cans	X	X			
Improve placement of trash cans	X	X			X
More outreach by NPS personnel	X	X		X	
Netting as protective barrier/safer access			X	X	
Relocate sidewalk and/or repave				X	
More picnic tables and benches, and renovate existing tables	X		X	X	
More bathrooms, better maintenance, add more port-a-potties	X			X	
More water fountains	X			X	
Increase number of events, children’s activities, tournaments, talks on food safety	X			X	
Maintenance on trees and grass (trim, cut, and mow)	X			X	
Increase community engagement	X	X			X
Coordinate with other actors to clean up the river	X				
Enforcement and partnerships to have visitors/volunteers pick up trash	X	X	X		
One fishing license across jurisdictions; consistent regulations across jurisdictions			X		
Encourage commercial take of blue catfish and snakehead			X		
Revenue from parking meters strictly for park improvements and maintenance			X		
Increased enforcement of poaching, snagging, use of nets, curfew		X			

References

Coleman-Jensen, Alisha, Christian A. Gregory, and Matthew P. Rabbitt. 2017. “Food Security in the United States.” United States Department of Agriculture, Economic Research Service, Washington, D.C.

Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. 2018. “Household Food Security in the United States in 2017.” USDA Economic Research Report No. ERR-256, 44 pp., <https://www.ers.usda.gov/publications/pub-details/?pubid=90022>.

Ziliak, J. P and C. Gunderson. 2013. “Spotlight on Food Insecurity among Senior Americans: 2011.” National Foundation to End Senior Hunger (NFESH). Alexandria, VA, <http://nfesh.org/research/>.

8.2 Anacostia Park

The Anacostia River is the neighborhood river for African Americans in the District, and Anacostia Park (ANAC) bills itself as “your neighborhood national park in the heart of Washington, D.C.”¹³⁶ In our sample of subsistence fishermen, most African American fishermen grew up in the District near the Anacostia (Wards 6, 7, and 8) and many continue to live in proximity to the river today. Most learned to fish when they were growing up, in nearby rivers and streams, and explored up and down the Anacostia and its short tributaries.

The following excerpt is from the 2018 special report, “Anacostia Rising,” by WAMU (88.5 FM):

“For Dennis Chestnut, growing up in Northeast Washington in the 1950s and 1960s, there weren’t a lot of places to cool off in the summer. Getting to the nearest public pool meant going through an all-white neighborhood, where the kids were not friendly.”

“‘Those kids would just throw rocks, bottles, I mean, whatever. We were just not welcome,’ Chestnut remembered.”

“So Chestnut and his friends found their own spot to swim: the Anacostia River. It was less than a mile from his house, following along Watts Branch.”

“‘This is our beach,’ Dennis Chestnut said. He learned to swim at this spot in Kenilworth Park where Watts Branch meets the Anacostia River. He later founded Groundwork DC to help with the river’s cleanup.”

“He recalls it fondly — lounging by the water, jumping off trees into the river. ‘There’s one in particular we’d swing off and drop in,’ Chestnut said. ‘That was my test swim, to determine whether I could be over here with the bigger kids.’”¹³⁷

As noted in the report, Chestnut went on to establish Groundwork Anacostia River DC (GWARDC), a community-based organization launched in Ward 7 that uses “environmental restoration goals as a vehicle for community development.” Early on, they established an innovative set of “trash traps” that float on the water to trap litter in a particularly intransigent tributary of the Anacostia, Watts Branch (<https://groundworkdc.org/>). Despite its historic and contemporary conditions, including sedimentation and well-known, persistent pollution, the Anacostia is a community resource for African Americans who live here.

Brett Williams’ article on the gentrification of the Anacostia watershed captures the feeling about the Anacostia from a different perspective:

Still, the Anacostia River is precious to people who live along its shores. Some people weave the river through their own life stories. They remember swimming there when the city’s swimming pool was closed to blacks, or fishing off the bridge and selling catfish. Some remember the unspoiled vistas and access they enjoyed before urban renewal, and others remember being displaced and crossing back over the river after they had been removed east of the river. Many people remember sleeping on the shore. One

¹³⁶ National Park Service, “Anacostia Park.” <https://www.nps.gov/anac/index.htm>, accessed May 2, 2019.

¹³⁷ Fenston, Jacob and Tyrone Turner, 2018. “Anacostia Rising. What’s next for Washington’s ‘forgotten river?’” WAMU (American University Radio, 88.5), NPR affiliate in Washington, D.C. Published March 26, 2018. https://wamu.atavist.com/anacostia-rising_a accessed April 18, 2019.

woman recalled that "we found a natural cooling ground in Anacostia Park. Everyone was trying to get a breeze off the river." (Williams 2002: 97)

We interviewed 12 fishermen at ANAC, all African American men, who were typically fishing with friends, both men and women, and/or family members. As Williams suggests, almost all told us examples of how the river wove through their life stories. Quite a few fishermen told us that the ANAC was the best spot to fish: "Fishing is great down here. It's the best spot in Washington to fish." (#135, fishing at ANAC)



Relaxing and fishing at ANAC, fall 2014. Photo Credit: J. Trombley

Fishermen ranged in age from 19 years to more seasoned fishermen (65 and above), and from high school graduates to an individual with some coursework towards his doctoral degree. Their employment varied from retired individuals to individuals working in the public and private sectors. One simply told us, "I don't work," and one stated that he had been homeless in the recent past. Most interviewees grew up in the District (S.E., S.W., or N.E. quadrants) or across

the river in Anacostia, now called "East of the River." A few of the older gentlemen had long family memories of Washington, D.C., Anacostia, and the Anacostia River—going back prior to the 1968 H Street riots, before integration and before urban renewal and gentrification in the SW and SE. Most of the over-65 fishermen had fond memories of learning to fish on the Anacostia with their fathers or "the whole family," more likely. Fathers and grandfathers today are now teaching their children and grandchildren on the Anacostia.

"Anacostia park was the first place I ever fished—across the river on the other side under the bridge. 'Bout to say, I remember the first time my uncle got me and my other cousin, we had our little fishing rods, we went digging for worms under the side of the drain, we just went fishing right there [pointing across river]. At that time I was about, I'd say about 10, 11, yeah." (#504)

Fishermen like the amenities at ANAC and its convenience for them. One fisherman told us that he likes to fish at ANAC "because it's walking distance from my house. I don't drive.... I tend to fish from here [near Sousa Bridge] down to the pier, down by the skating rink, because it's close to the restrooms over there, in case she [his daughter, who was with him] wants to go." Also, his wife comes out with him if "it's not too hot." "When it's real nice day like today, she'll come out with me and just sit and watch, relax." (#126)

Compared to other fishing sites, fishermen walked, bicycled, or took public transportation (bus) to ANAC to fish more often. Some fishermen said they were disappointed to find their favorite spots on the river closed off for construction (near the Navy Yard) or Buzzards Point (now closed).

The experiences and feelings of being on the Anacostia River have been documented by professional photographer Becky Harlan, who has done several portrait and documentary projects on “D.C.’s Anacostia River” and also the “Seafarer’s Yacht Club,” the first African American power boat club in the



District (see Ethnohistory section 4.1). Her projects on the Anacostia River, the fishermen, and the legendary Seafarer’s

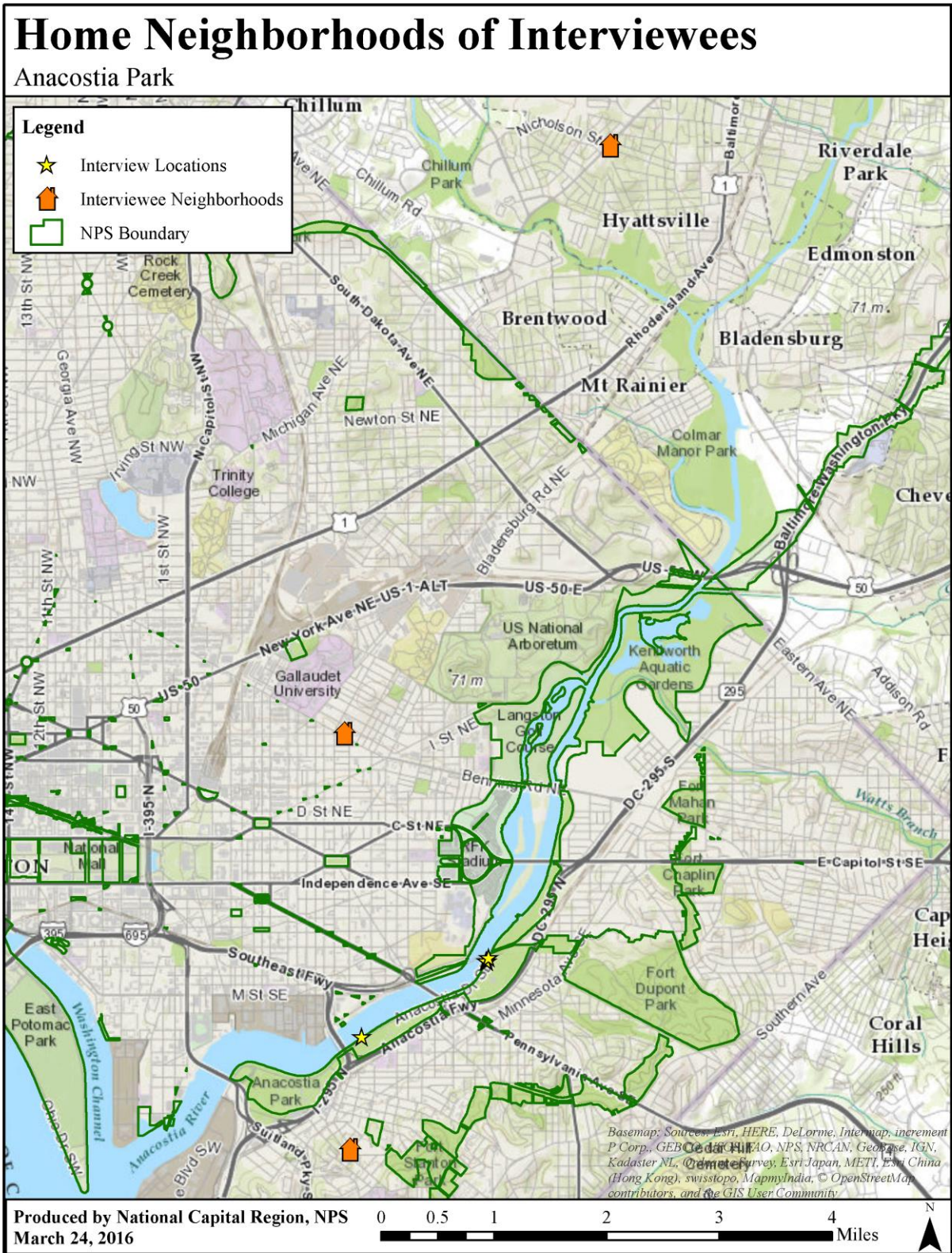
Yacht Club can be found at <http://www.beckyharlan.com/>. The documentary photos show the pride and enjoyment of people relating to the River. We are indebted to Becky Harlan for the use of one of her photos, which became our flyer and business card for the research project: a giant carp proudly displayed by an Anacostia fisherman.¹³⁸

8.2.1 GIS maps

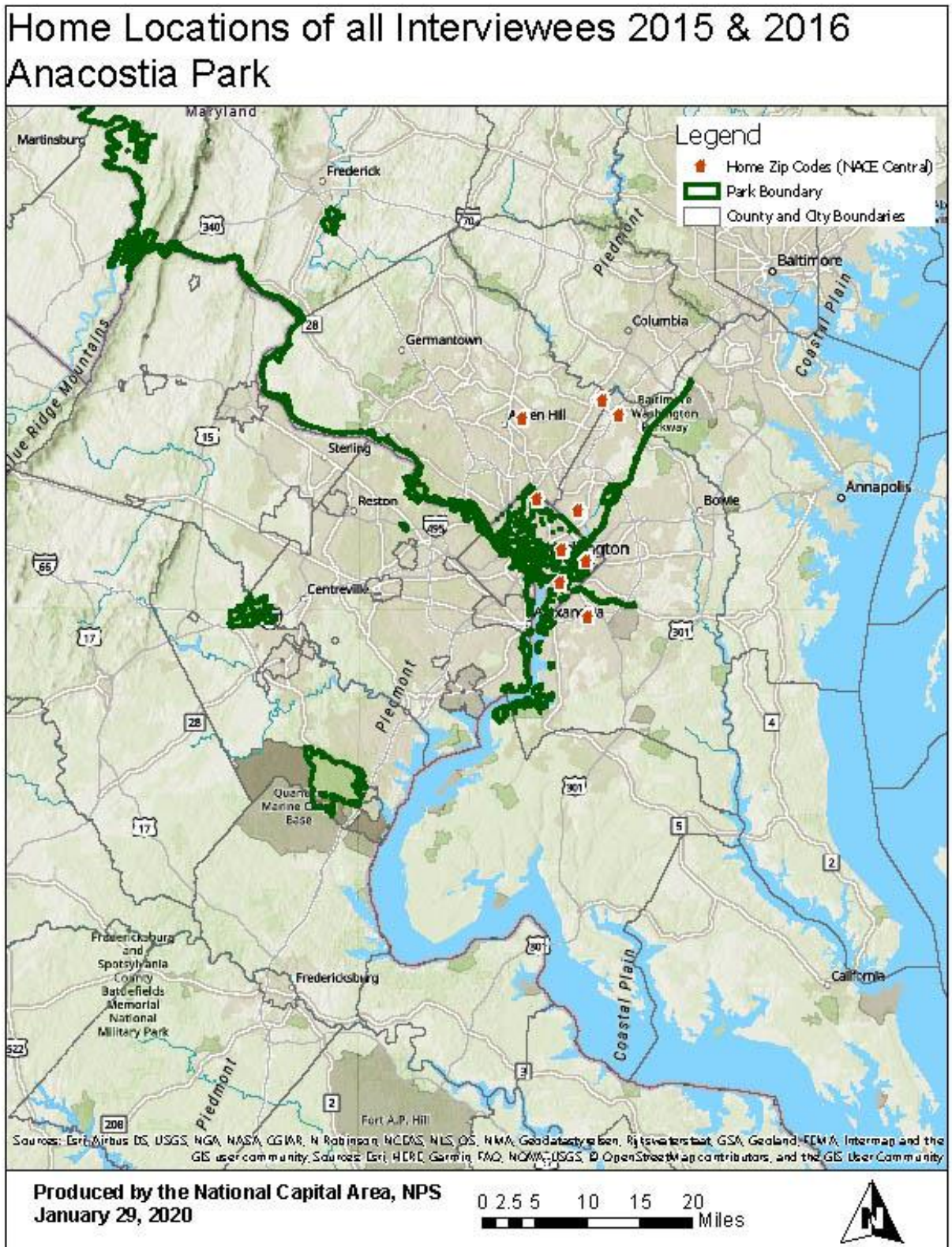
Following are two GIS maps. The first, 8.2.1, shows the home residence and interview locations of 2015 interviewees. This map is in large scale, and shows neighborhoods and Park boundaries. The second map, 8.2.2, shows residential locations of all 12 respondents in ANAC. This map is a smaller scale map because of the geographic dispersion of fishermen’s home residences during the 2016 data collection season. The map shows fewer than 12 locations due to multiple residences within the same zip code.

¹³⁸ Fishermen at ANAC do not eat carp (nor at other fishing sites), but release them. Most are aware that carp are on the “do not eat” list of fish advisories.

Map 8.2.1: Interview Location and Communities and Neighborhoods of Residence, ANAC (2015 only)



Map 8.2.2: Residential Locations of Interviewees, 2015 and 2016, ANAC (n=12)



8.2.2 Brief administrative history

From 1867 to 1925, the U.S. Army Corps of Engineers managed the land that was to become Anacostia Park. The McMillan Plan of 1902 conceived of a “water park” along the Anacostia River, which was designed by Frederick Law Olmstead. The enabling legislation for this passed Congress in 1918,¹³⁹ and in 1933, the National Park Service took over governance. Until 2015, all parks in and across the river from D.C. and parts of southern Maryland were called the “National Capital Parks-East” or NACE.¹⁴⁰

In 2015, the National Capital Regional Office split NACE into several separate administrative units, each



Fishing and boating at ANAC, 2018. Photo credit: S.J. Fiske

with its own superintendent: parks and historic homes remaining in ANAC include Anacostia Park, Frederick Douglass National Historic Site, Greenbelt and Baltimore Parkway, Kenilworth Aquatic Gardens, and the Mary McLeod Bethune Council House National Historic Site.

Fishing in ANAC follows District and Maryland state laws, except at Kenilworth Aquatic Gardens, where it is prohibited off of the Marsh River Trail, the Marsh Interpretive Boardwalk, and Kingman Lake.

8.2.3 Demographics and harvest patterns

8.2.3.1 Demographic characteristics of ANAC anglers

Twelve anglers were interviewed at ANAC. The mean age is 48 years, but the median age is 54. Thus, about half of our sample is over the age of 54, although the youngest angler was 19. One-fifth of the anglers had not finished high school; 50% were high school graduates, while about a third had some college experience.

¹³⁹ ANAC celebrated its 100th anniversary at the 2018 Anacostia River Festival.

¹⁴⁰ Anacostia Waterfront Trust. <https://www.anacostiustrust.org/anacostia-trust/2015/10/15/the-anacostia-in-history>.

**Table 8.2.1
ANAC Angler Demographics**

DEMOGRAPHICS	Percent
Angler Gender	
Male	100%
Female	
Angler Ethnicity	
Anglo	
African American	100%
Asian	
Hispanic	
Other	
Average Age	48
Education	
< High School	20%
12th/GED	50%
Some College	20%
Bachelors	10%

8.2.3.2 Length of season, frequency of fishing, and years fished

Half of the ANAC anglers fish during the winter months, with 9 out of 10 anglers fishing *at least* twice a week. Most of the anglers at ANAC have been fishing most of their lives, with an average of 26 years fishing experience.

**Table 8.2.2
Fishing Characteristics at ANAC**

FISHING CHARACTERISTICS	Percent
Fish in Winter?	
Yes	50%
No	50%
Frequency of Fishing	
4+ days/week	40%
2-3 days/week	50%
Once per week	10%
1-2 times per month	
Average Years Fished	26

8.2.3.3 Major types of fish harvested and consumed

At ANAC, about half the anglers who harvested striped bass considered it the preferred species, and was the species most likely to be eaten all the time. Slightly less than a third of ANAC anglers eat and prefer yellow perch, although no anglers share this fish with others. Shad are not preferred and are never eaten. Blue catfish, consistent with NAMA anglers, are widely shared, with 90% of fishermen sharing their catch.

About two-thirds of ANAC anglers prefer not to eat any of the top five harvested species, and about three-quarters of the anglers personally eat none of these species! The exception is striped bass; the majority of fishermen actually ate most of the fish.



Favorite spot on the Anacostia; RFK Stadium and CSX rail bridge in background. Photo credit: J. Trombley

**Table 8.2.3
Major Species Harvested and Disposition of Harvest at ANAC**

Harvest	Blue Catfish	Channel Catfish	Yellow Perch	Striped Bass	Shad
Average number caught per week	6	3	2	2	2
Personally Eat					
Yes	36%	25%	25%	50%	
No	64%	75%	75%	50%	100%
Prefer to Eat?					
All the time	36%	30%	25%	38%	
Sometimes			13%		
Never	64%	70%	62%	62%	100%
Proportion Eaten?					
None	55%	60%	75%	50%	100%
Some	18%	20%		25%	
Most	18%	20%	12%	13%	
All	9%		13%	12%	
Share this Species?					
Yes	90%	78%		25%	
No	10%	22%	100%	75%	100%

In a startling contrast to nearly every other park, many more of ANAC anglers (42%) harvest to share only. This overall rate is double or triple the rate of other parks for share only (see Park Profiles Comparison, Sec. 8.1 above).

**Table 8.2.4
ANAC Consumption Patterns**

Overall Consumption Pattern	Percent
Share only	42%
Some Return/Some Consume	58%
Consume only	0%

8.2.3.4 Sharing and contexts of sharing fish

Ninety percent of ANAC anglers share blue catfish, while about three-quarters sharing channel catfish. Interestingly, only a quarter of the anglers share striped bass, the preferred species for consumption. This is probably not surprising given the strong preference but modest harvest amounts. No ANAC anglers share yellow perch or shad, although all three of the other species are shared by a majority of anglers.

Despite nearly half of ANAC anglers harvesting solely to share only, one-fifth of ANAC anglers share at community events, while about a quarter share their catch with friends and family at family gatherings. The most frequently mentioned were 4th of July or Labor Day cookouts, picnics, family events, or “fish fry at the building.” This discrepancy—the high rate of sharing in informal networks in an ad hoc way, but less sharing at community or family events—requires further investigation.

**Table 8.2.5
ANAC Contexts for Sharing of Harvest**

Setting of Sharing with Others	Percent
Number of community events attended	
0	82%
1	18%
2+	
Number of extended family events	
0	73%
1	18%
2+	9%

Following is an ANAC vignette from the Field Team’s fieldnotes. The names have been changed to protect anonymity.

DeShawn, his fiancé Corinne, and his niece were fishing off the boat ramp at ANAC—the three were chatting, joking around with each other, eating KFC chicken, and fishing with two rods in the

water. DeShawn is African American male, early 30s, and Corinne is in her late 20s and African American. Their niece—who appeared to be in her late teens—was laying down on a blanket observing and talking. Only DeShawn and Corinne were fishing, using hotdogs as bait. DeShawn stated that he also used bloodworms that he buys from the Wharf. The couple said that they regularly fish in the spring, summer, and fall, usually about three times a week.

DeShawn’s entire family fishes and he credited his father, grandfather, and cousin as teaching him. When asked where else they fish, Corinne shared that the couple will go “anywhere that along the river,” but specifically identified ANAC where they were, Buzzards Point, and Hains Point, down where “they used to have a hand [a reference to *The Awakening*’ statue]” as their preferred spots. DeShawn claimed he can determine a great spot along the river to catch fish by looking for loose tackle and bait. “If you see bait on the ground and broken tackles, that’s a good spot. I fish all around this joint [laughing]. I know all the little fishing holes.”

We asked about keeping and sharing their catch. DeShawn said he makes bait out of the small ones, but he does not really eat catfish; he gives the catfish away to neighbors: “That’s what they ask for.” If no one asks him to bring them back, he throws them back. He added that he had no idea why they asked for catfish—“because they hell to clean man...” explaining that they don’t have “scales, they got skin—and you gotta strip that s--t off with pliers and that s--t ain’t easy.” He was adamant that he did not eat catfish and did not clean it. (FN #101)

8.2.3.5 Food insecurity

About a third of ANAC anglers showed some concern about putting food on the table; however, only one household felt that there had been times when their families did not have enough to eat.

**Table 8.2.6
Food Insecurity Among ANAC Anglers**

Food Insecurity	Percent
Food on the table (n=79)	
Worry a lot	18%
Worry a little	18%
Do not worry	64%
Did not have enough to eat last year (n=81)	
Not enough to eat	9%
Enough to eat	91%

8.2.3.6 Residence of ANAC Anglers

A sizeable proportion (42%) of ANAC anglers live in communities with black majorities. This is not surprising, since two-thirds of ANAC anglers live near the park where they were fishing. The ethno-historic component of this report details the forced movement, both historically and contemporary, of African American households to the east side of the District and the white flight that occurred in ensuing years.

Table 8.2.7
Residences of ANAC Anglers

Residence	Percent
Ethnic demographic	
African American majority	42%
Anglo majority	8%
African American, sizable Hispanic	
Mixed	17%
Mixed; no majority	33%
Anglo, sizable Hispanic	
Mixed; Anglo majority	
Neighboring NPS park closest to angler residence	
NAMA	
CHOH	
ROCR	
PISC	8%
Outside NCR	8%
BAWA	17%
ANAC	67%
GWMP	

8.2.4 ANAC fishermen—three Qualitative Portraits

Following are three qualitative portraits of fishermen in different age cohorts and with different backgrounds, but all in the D.C. area. The portraits are drawn from their responses and statements in the semi-structured interviews and from the interviewer fieldnotes. Personal names are fictitious to protect anonymity of the respondents.

8.2.4.1 Young fishermen under Pennsylvania Ave. bridge

A 19-year-old ANAC fisherman was fishing with a male friend under the Pennsylvania Avenue (Sousa) Bridge on the D.C. side of the Anacostia, off M Street SE. He walked there from his house near the McDonald's on Pennsylvania Avenue SE (a few blocks from the Anacostia River), and his friend walked from Fairfax Village, about 3 miles east of the river near Pennsylvania Avenue SE and Alabama Avenue SE. He works locally at a national chain grocery store in SE, and comes out two-three days per week to fish. He learned to fish from his grandmother, uncle, and mother. "...when I was little, my grandmother used to buy these little fishing rod kits, right, so I used to get a little Easter basket every year and have a fishing rod about that big [shows with hands]. Every year she would get 'em bigger and bigger." He has doubts about consuming catfish in particular, and ends up throwing most of them back, "...unless I catch like a smallmouth bass or a widemouth bass, or sometimes me and my uncle get lucky and we'll catch a rockfish [he admits they keep rockfish], but the reason we throw 'em back is because the water's so dirty, we don't know if something's wrong with the fish." (#504)



Anacostia Riverwalk Trail boat dock, near Nationals Stadium, 2019. *Photo credit: S.J. Fiske*

8.2.4.2 Generational fishing on the Anacostia

A 70-year-old fisherman, plying the space between the Pirate Ship and the Community Center in ANAC, is retired from a career in public education. He was a high school principal and administrator in the District, with a Master's degree and some hours towards a doctorate. He lives in NE quarter of the District. He learned to fish from his father, a second-generation Washingtonian, when he was about 11 years old, on the "Eastern Branch of the river," near Benning Road, where they used to fish frequently when he was growing up. He recalls that they used hand lines exclusively, since they could not afford to buy a rod and reel. "Don't ask me how I made the transition from a handline over to a rod and reel. I don't know." He remembers that they did not buy bait, but that his job was to dig worms from the yard, which was fine during the moist months. During the dry months his father made "a cornmeal 'dough' that he sweetened with sugar and the secret ingredient, vanilla. The scent of the vanilla drew the fish to him." (#133).

He recalls even back then the family never ate fish from the river. "My dad used to bring home fish, he used to bring home plenty but we never ate any of it. We always gave it away to the man next door. My father was beholden to him; the man used to say when we leave, 'whatever you catch, be sure to bring it here. If I'm not here, keep 'em till I see you tonight.' And my father used to be very upset if we went fishing and we were not able to catch anything because he had already promised the man next door he was going to bring him some fish. And not only had he promised him, [but] the man next door had built that into his menu for the week and for the night; and for you to come home and say, I don't have no fish, he said, 'I had planned to have those fish for dinner, you know.' He always felt an obligation and a responsibility." (#133)

8.2.4.3 50 years of fishing and sharing

A 65-year old African American male, a retired mail carrier with 4 years of college, and living close-by in Maryland just south and east of Anacostia, has been fishing on the river for 50 years. "I used to live at

4th and East Capitol, near the Supreme Court. I grew up over there and we used to come over to the Anacostia Park to go swimming and because it was water, you know, we kids were gonna fish.”
“...everybody in my family fished... I got, you know, I got two, three brothers that fish all the time. And then I got other brothers that you may get them to the fishing hole if you set their house on fire.” He still fishes with some of his brothers, and in fact, “They’re on their way down here now.” He has also taught his grandchildren to fish.

His fishing companions that day were “My son—and the old lady at the other end is my bestest of all friends in the world—Sonia.” He volunteered that they usually go fishing together. Sonia had already caught three small perch that day (“little ones”). They were using nightcrawlers, because “they didn’t like the chicken gizzards.” They generally catch catfish or perch and go fishing maybe once or twice a week. He was fishing with his favorite rod, a “whipping stick,” and he claimed that “the fishing rod is a pride thing with the fishermen. “The yellow one is called a ‘deep water.’ The one she got down there is called ‘Rhino.’ The ‘ugly stick’ is like, you know, the best, supposedly, the best fishing rod but because my brothers use them I never buy one”—presumably because of the pride thing. They usually go ANAC to fish or Hains Point, or the Washington Channel side. “Here [ANAC], and Hains Point are where all the fish at.” The spot near the pirate ship in Anacostia Park was their favorite spot, because of the bathrooms. “Bathroom, that’s what you need at your fishing hole.”

Being a more senior fisherman and being from the area (Southeast D.C. and Anacostia), he was well-acquainted with issues of water quality in the Anacostia and the Potomac. Neither he nor his family ate any fish that they caught from “these waters.” He did, however, give them to friends who wanted them and to other fishermen who wanted them. He opened his cooler to show a three-pound catfish that was still gulping for air, destined to be taken home and given to a friend. “Well now, I just call and say I caught some fish, you want some? He usually wants you to deliver them but, you know.” But they also share with other fishermen hanging out in the Park: “...as a matter of fact, we gave some fish to him [pointing] down there. He like the little tiny ones so we gave him some.” (#135)

8.2.5 Recommendations

The recommendations section, in all the Park Profiles, starts with the positive things that fishermen commented on, followed by suggestions for improvement. These two subsections report on comments made by fishermen on the park and its immediate environment. The third subsection 8.2.5.3, at the end of the recommendations section, is a synthesis of research team observations and fishermen comments presented in bullet form as research team recommendations.

8.2.5.1 Appreciation for improvements

Fishermen were appreciative of the park and had a number of positive observations on ANAC park changes over the years. We heard comments about the following aspects of ANAC:

Fishermen really appreciated park improvements over the years and mentioned bike trails, workout areas, swimming pool, tables, greater cleanliness, and especially the availability of bathrooms. One fisherman who has been fishing on the Anacostia for over 30 years, said, “Oh yeah, the park has come a long way!” He noted that they did not have the bike trail or the “workout thing over there. All this was bushes and stuff over here. But now, you know, it’s a whole lot cleaner and a whole lot better.” (#134).

A number of fishermen commented on their appreciation for the opportunity to fish and to teach children/grandchildren about fishing, which helps keep them occupied and “out of trouble.” One fisherman, a grandparent, said that having the park available for fishing for his grandchildren and great-grandchildren is important to him. “I have some grandkids that usually start calling me around January,

saying 'Papaw, we got our reels together, when are we going fishing?' So, I got them into fishing. Anything to keep them out of trouble, that's why I started that; you know, give 'em something to do besides get into mischief. They spend a day on the river instead of hanging out with the video games, and the rec centers, arcades and all of that. Give 'em something else to do." (#126)

It was noted that park police patrols are low key, and fishermen appreciate that they are on bikes. One fisherman said: "the park police has got more intelligent now, they 'blending in' by riding bicycles."

Quite a few fishers commented on the overall "cleanup" of the park, saying that the park looks a lot better than it did in the past, including less debris in the water. "...that's a change I noticed here. I noticed the river is a little cleaner than it was, let's say, 3 or 4 years ago. You don't see as much debris in here as consistently as you did. Five years ago, the river will be dirty every day. You see floating debris all day long every day. Now you may see it after a big rain or a storm or something, you may see debris here. I noticed it really appears to be cleaner but I know it's not cleaner, yeah." (#133)

While the river is cleaner than it has been in decades, there is still much work to be done, as the fisherman above suggested.



Young fisherman in the making, Anacostia River Festival, 2017. Photo credit: S.J. Fiske

8.2.5.2 Actions to improve the ANAC experience

Most of the comments for improvements focused on trash and the need for more trash cans, maintenance of the grounds of the park, debris in the water, water quality, and lesions on the fish, which are discussed below. Fishermen know that the Park Service cannot control most of the trash in the water, but we report these since they were the most frequent topics brought up by interviewees.

A frequent comment was that more trash cans are needed, especially in heavy use areas and close to the water where people set their chairs and blankets as they are fishing. Fishermen complained about the debris and trash in the water, not surprisingly. They reported seeing cars, dead fish, trees, food wrappers, cigarette butts, and even dead bodies in the Anacostia River. "I catch 5-6 [plastic] bags a day. No trash cans in sight." (#122) (He said he puts debris in trash cans when he catches it on his fishing line.)

The following sentiment about trash littering the park and having respect for the park was offered by a long-time fisherman, who wanted to encourage fishermen to be more responsible:

"I'd like to see the park much cleaner you know, not only the water, but if you notice you got cans and bottles, soda bottles and stuff laying all over the grounds, and all sorts of plastic and trash you know, it's all over the place. But I really can't blame the park association for that, it goes to the residents also being more, you know, in tune to keeping things clean... So I mean, be more respectful of your entertainment areas, I mean you gotta think, if this wasn't here for you, you know, come entertain yourself, relax and

what, it'd be a different thing, but you got this nice area, so let's try and preserve it! That's, that's why I like what you're doing [the research project], bringing awareness to this park. I mean, there are a lot of parks, but this park is the largest park I've been to in the area. And like I say, I've seen a lot more people over the years coming back to Anacostia, and that's a good thing.” (#126)

8.2.5.3 Fishing Project Team Suggestions and Recommendations

The following recommendations and suggestions are offered by the research team in the areas of trash and cleanup, outreach and education, documentation of cultural histories and personal stories of senior fishermen and their families, and a final comment on partnering with organizations in the managing of Anacostia Park.

Trash and cleanup

The Fishing Project team recognizes that there are multiple volunteer efforts that deal with trash cleanup on the Anacostia as a watershed and in the park itself on a regular basis. These partnerships and coordination include trash traps along the river, community groups like Ward 8 Woods, and cleanups at River Terrace and



District campaign to reduce trash in the Anacostia River. Bus stop in Southeast D.C., Anacostia River street drainage. Photo credit: S.J. Fiske

at ANAC itself, in conjunction with the Anacostia River Festival. Support is provided by DoEE, and through regulations of the District government that include plastic bag fees and the elimination of Styrofoam for fast food containers. The “DCist” blog reported over 300 locations where trash cleanups were occurring in April 2019

[\(https://dcist.com/story/19/04/12/thousands-of-people-will-clean-up-rivers-and-parks-this-weekend/\)](https://dcist.com/story/19/04/12/thousands-of-people-will-clean-up-rivers-and-parks-this-weekend/).

The WPI trash management study for East Potomac Park recommended trash cans spaced optimally and added particularly where trash accumulates. They also recommended better designed fishing line containers, and improvements for trash signage (WPI 2018).

Specifically, the research project team suggests:

- Move the picnic tables and anchor trash cans closer to shorelines, which will hopefully reduce litter.
- Encourage anglers to be more respectful and pick up after themselves.
- Increase maintenance in the park including more frequent mowing of lawns and cutback of brush.

Respondents pointed to uncut grass and overgrown bushes around the riverbank, and the places that trash accumulates in the eddies of the river.

Outreach and education

- Fishermen suggested more Park rangers to engage and have greater interaction with anglers, and we agree that increased presence can be done strategically and usefully. See Section 9.0 on outreach recommendations.

While fisherman had seen Park Police often, they rarely saw a Park ranger. Fishermen tended to view the Park Service through Park Police actions, thus being careful about license regulations and fines. Similarly, the fishing team only encountered a Park ranger once, one who came up to chat about the project during one of our interviews. Besides that, rangers were rarely seen by the research team on the Anacostia.

- Increase community engagement to move the NPS's profile to be more about stewardship and less of enforcement. Educate the general public through outreach efforts to change old stereotypes of the park to it now being safe and cleaner, while still acknowledging caution in consuming fish and noting the fish advisories posted on the shoreline.

One older fisherman considered it “a real shame” and a missed opportunity for the Park Service. He would like to see some sort of class, workshop, or festival that would introduce young children to fishing. This fisherman claimed, “I don’t think we do enough to spread the whole theory of fishing and the benefits of fishing and pleasures that I’ve found in fishing...”

- Increase outreach and education related to fishing, such as pop-up events, classes, or workshops at ANAC on the water, related to fishing, food safety, and preparation.

It was noted by the research team that fish advisories were posted on popular fishing areas, in Spanish and in English. Perhaps an additional mode of outreach regarding consumption advisories could be used, such as passing out flyers on weekends, and talking with fishermen, or offering a diagnostics workshop for high harvesters as a way to engage on water quality and toxins.



Fish consumption advisories in English and Spanish on the Anacostia River. *Photo credit: A. Cohen*

It should be noted, however, that **the perception that the waters in the Anacostia are polluted and not safe seems to be widespread across respondents, particularly among fishermen born and raised here.** In fact, there is a very low rate of consumption of catfish among ANAC fishermen. A majority of ANAC fisherman said that they do not personally eat the fish they catch; but they do share it widely with neighbors or sometimes with family if

it looks safe to eat.¹⁴¹ They also give it away to people who ask for it on site and to other fishermen. Nearly everyone had views about fish safety, and most had heard of the advisories on eating certain fish.¹⁴²

“Most of the family that grew up—like we all grew up in Washington. Nobody eats the fish out of Anacostia River. I mean that's just standard operating procedure because one time the water was so nasty that nobody ever fished, so you know it's just like a habit now.” (#135)

The historical and cultural connection that Anacostia Park has with Anacostia and Southeast D.C. residents offers a venue and opportunity for enhanced community engagement and recreation. One suggestion by fishermen was to expand the programs for fishing over the course of the year. As one fisherman said, he would like to see more people experience the pleasure of fishing that brings him and his family out to the park. He thought the Park Service could play a role in expanding that circle.



Anacostia River Festival, 2017. Photo credit: S.J. Fiske

- The Park Service could engage the senior fishermen in the community as leaders in scheduled fishing workshops for families, or a special event.
- Fisheries-knowledgeable Park rangers can do “walkarounds” on Friday afternoons and weekends to “talk fishing” or do fish cleaning demonstrations—during periods of high-intensity use of the park.

These actions might help to improve the image of the park staff as enforcers—which we heard from fishermen in most parks, not just ANAC—and more as enablers. Providing user-friendly outreach on high visitorship days could bring more visitors to the park and draw attention to the necessity of further park and river cleanup.

¹⁴¹ At least two fishermen told us they do eat the fish from the Anacostia, but assured us, “not every day all the time.”

¹⁴² Everyone, across all parks, had their favorite ways of preparing the fish, such as soaking in milk or vinegar, or marinating in spices overnight, predominantly to get rid of the “fishy” or “muddy” taste. Most of the preparation was not linked to removing the parts of fish where toxins tend to accumulate, such as the belly fat or skin. Once prepared to cooked, one preferred method was frying, either breaded or plain, a traditional Southern-style preparation for catfish nuggets, for example.

The research team was struck by the cultural histories and personal stories of fishermen, especially the fishermen who had been fishing on the river for over 50 years, and who knew the conditions and histories of the river and District fishing sites and their use prior to the 1950s and 1960s. The oral histories, memories, successes, and meanings that they draw from their fishing could be documented in a “Life along the River” celebration, augmenting the work that the Anacostia Community Museum has done in the past; perhaps partnering with Becky Harlan and the individuals with whom she has made portraits, with AWS, and the producers of the WAMU special report mentioned earlier.

Partnering

The research team noted the extensive partnering between ANAC and community groups, advocacy groups, and federal and district agencies. Given the complex federal and metropolitan location and that the watershed that runs through Maryland, the District, and Virginia, this is as expected. At the risk of not listing some of the many partners, we note those that emerged during our informal interviews and research: The Anacostia Watershed Society (AWS), Anacostia Riverkeepers, the Anacostia Community Museum, D.C. Department of Energy and Environment, AREC (youth and family fishing activities and education), which is located within the Park, the 11th Street Bridge Project, THEARC (Town Hall Arts Recreation Campus), and probably many more partners among federal, community, and private sector groups. A highlight of the year is the Anacostia River Festival, a public celebration of the Anacostia, hosted by NPS and many partnering organizations that features canoeing, fishing lessons, boating, lawn games, a community bike parade, special live performances, storytelling, and family friendly arts and crafts (<https://www.nps.gov/anac/learn/news/2018-anacostia-river-festival.htm>). The year 2018 was the fourth annual river festival, the 100th year celebration of Anacostia Park, and the “Year of the Anacostia.”

References

- Fenston, Jacob, and Tyrone Turner. 2018. “Anacostia Rising. What’s next for Washington’s ‘forgotten river’?” WAMU (American University Radio, 88.5 FM), NPR affiliate in Washington, D.C. Published March 26, 2018. <https://wamu.atavist.com/anacostia-rising>, accessed April 18, 2019.
- Williams, Brett. 2002. “Gentrifying Water and Selling Jim Crow.” *Urban Anthropology* 31(1): 93-121.
- Worcester Polytechnic Institute (WPI). 2018. “Cleaning up East Potomac Park.” Report for National Park Service/NAMA. In partial requirements for a B.S. degree at WPI. December 13, 2018. Team Members: Kirsten Doyle, Zhentian Ren, Jarod Thompson, Yuan Wang. Advisors: Professor Dominic Golding, Professor Lorraine Higgins. Sponsored by NPS, 22 pp. https://web.wpi.edu/Pubs/E-project/Available/E-project-121218-150936/unrestricted/Cleaning_Up_East_Potomac_Park_Final.pdf, accessed May 5, 2019.

8.3 Chesapeake & Ohio Canal National Historic Park

The Chesapeake & Ohio Canal National Historic Park (CHOH) includes the C&O Canal and its towpath. The towpath provides 184.5 miles of scenic bike and walkways alongside the tree-lined woods on either side of the canal. From a fisherman's perspective, the C&O Canal is a peaceful and tranquil fishing location filled with perch, crappie, snakehead, and other fish.

The Potomac River north near Old Anglers Inn and Great Falls Tavern (both in Maryland) is a landscape of falls, rapids, swift waters, and rocky promontories. There are fishing sites along the northern Potomac near Billy Goat Trail on both the Maryland and Virginia sides of the Potomac—including at Great Falls, Difficult Run, and Turkey Run. Catfish Hole is one of the bountiful and favorite fishing holes along this shoreline (Maryland side).



C&O Canal and towpath. *Photo credit: S.J. Fiske*



Catfish Hole on the Potomac River, Kate Birmingham demonstrating. *Photo credit: J. Trombley*

the Watergate—but Thompson's doesn't cater to fishermen...although they're part of a same parent company." (#206)

The highest intensity fishing attraction in CHOH, however, is Fletcher's Cove and Boathouse, within the District in Georgetown. At Fletcher's, anglers can purchase fish bait, and snacks and sodas for themselves, as well as rent canoes, kayaks, rowboats, and paddle boards.¹⁴³ Along with the bait and tackle shop, Fletcher's provides restrooms and nearby parking. The Potomac River runs deeply, broadly, and swiftly at Fletcher's, past Theodore Roosevelt Island on the Virginia side. It is a favorite spot for fishermen and boaters, both young and old.¹⁴⁴ "Fletcher's is really the only boathouse that has anything at all to do with fishing. Thompson's is a sister boathouse to us, and people fish there—there's a real popular fishing spot there along the seawall right opposite

¹⁴³ Fletcher's Cove is home to Fletcher's Boathouse, which was owned by the Fletcher Family from 1850 until 2004, when the National Park Service acquired the property. It is now operated by an authorized concessioner. It has been one of the most popular fishing destinations in the D.C. area since the 1850s.

¹⁴⁴ There are two other boathouses in CHOH: Thompson's's Boathouse (where Georgetown University keeps their crew boats), and the Washington Canoe Club boathouse, just above Key Bridge, with the latter having promoted canoeing and kayaking since 1904.

Of all the high-intensity fishing spots, Fletcher’s Cove has the highest proportion of Hispanics who fish. In our sample of 13 fishermen in both the canal portion and Fletcher’s, there were almost equal proportions of Anglos and Hispanics. We encountered predominantly Anglos fishing along the Canal, while around the boathouse and upriver from Fletcher’s, a mix of Anglos, Hispanics, African Americans, and Asians fished. Compared with other park units, there were more college students, and the average age of anglers was younger. The number of college students may be due to the concentration of universities in the immediate area, including George Washington, Georgetown, Howard, and American; Marymount University is just across the River in Arlington, VA, and two students from there were interviewed.

8.3.1 Brief administrative history

The Chesapeake & Ohio Canal ended operations after the devastating 1924 flood, causing the government to become interested in purchasing the property in order to make a federal highway to Cumberland, MD. However, the Baltimore & Ohio Railroad Company bought the property and subsequently sold the land to the National Park and Planning Commission (NPPC) after discussions with the agency.¹⁴⁵ The NPPC’s authority fell under the newly created (1916) National Park Service, which took charge of developing and managing the canal. The NPPC, the Park Service, and the Bureau of Public Roads created a plan for the canal that would go up to Point of Rocks, MD (although the current canal park goes up to Cumberland, MD as originally planned) (Mackintosh 1991:11). Even after the Park Service took control of the land in 1938, the agency still had to deal with canal occupants, water users, land records, and the C&O Company—negotiations that occurred over several years (Macintosh 1991:21). By 1971, the Chesapeake and Ohio Canal Development Act passed the U.S. Congress, creating the Chesapeake and Ohio Canal National Historic Park as it exists today.

8.3.2 GIS maps

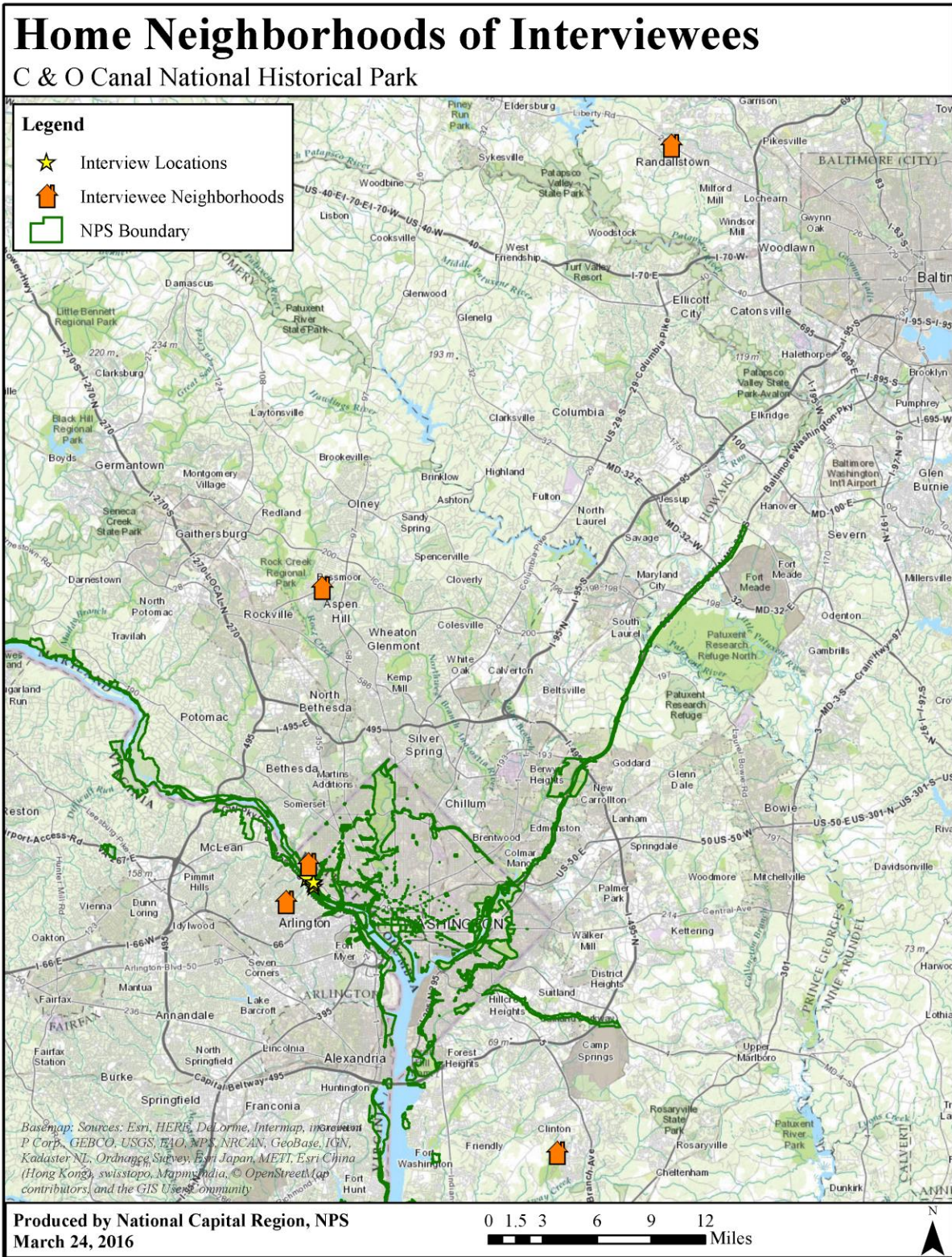
The GIS map that immediately follows (Map 8.3.1) shows CHOH park boundaries and points indicating the locations of interviews and residence of individuals who were interviewed in CHOH in the 2015 field season. The second map (Map 8.3.2) shows communities of residence for both field seasons, 2015 and 2016.



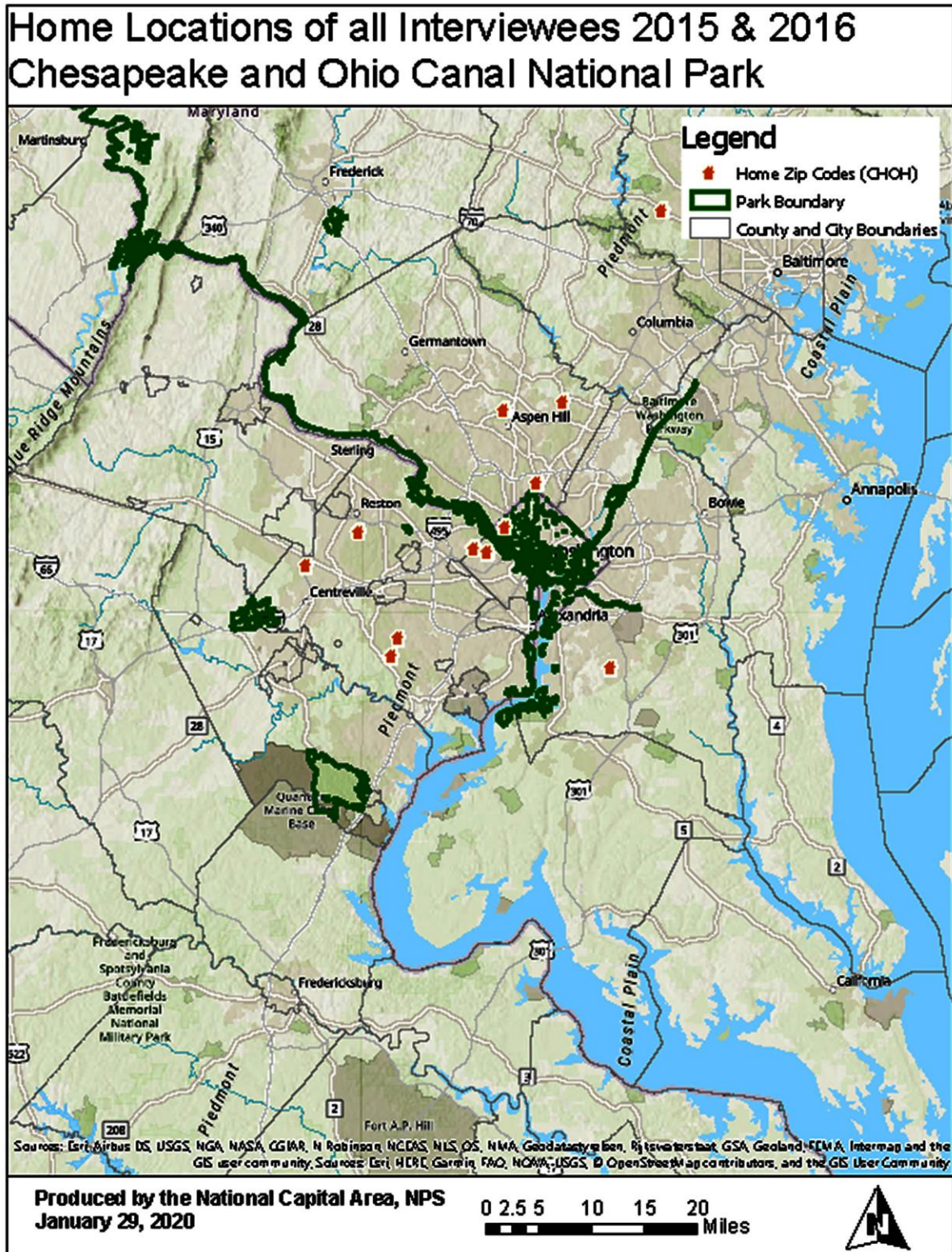
On break between classes, along the C&O Canal.
Photo credit: J. Trombley

¹⁴⁵ Mackintosh, Barry. 1991. “National Park Service, C&O Canal: Making of a Park,” p.3, https://www.nps.gov/parkhistory/online_books/choh/making_a_park.pdf.

Map 8.3.1: Interview Locations and Communities and Neighborhoods of Residence, CHOH (2015 only)



Map 8.3.2: Residential Locations of Interviewees, 2015 and 2016, CHOH (n=13)



8.3.3 Demographic characteristics of CHOH anglers

Thirteen anglers were interviewed at CHOH. The mean age was 32 years, and 82% were under the age of 35. The oldest angler was 51. This distribution makes CHOH respondents, by far, the youngest population of anglers in our sample. CHOH also exhibits marked contrast to all other parks, with almost all of the anglers being either Anglo or Hispanic. CHOH anglers also exhibit the highest level of education, with two-thirds of the anglers having some college experience.

Table 8.3.1
Demographic Profile of CHOH Anglers

Demographics	Percent
Gender	
Male	85%
Female	15%
Ethnicity	
Anglo	46%
African American	8%
Asian	8%
Hispanic	39%
Other	0%
Average Age	32 years
Education	
< High School	8%
12th/GED	25%
Some College	33%
Bachelor's	33%

The study data provide a snapshot of ethnicities at a particular point in time (2015-2017), but the observations of a long-term angler at Fletcher's gives longitudinal insight into the waves of migration into the D.C. area, and how migrants influence the groups of people fishing at Fletcher's. Dan Ward, who has worked at Fletcher's for most of his life, and through the change in ownership from a private owner (Fletcher) to a public owner (National Park Service), is a font of knowledge about fishing, the history of the Potomac, and the substantial social life of Fletcher's Cove. He said one thing that he loves about Fletcher's is the broad diversity of types and socioeconomic levels of people who fish there, from U.S. Presidents and Supreme Court Justices, to graduate students, to Hispanic families on a Friday afternoon. Dan gave the following historical account of waves of migration in his lifetime:

"...back in my earliest times remembering here...it's always been a real cross section of people, you know, all socioeconomic—all type of trades and professions and all types of ethnicities.... But there were distinct periods, like after the end of the Vietnam War, there was a great migration of Southeast Asians, you know Vietnamese and Thai, Laotians, Cambodians, and they seem to definitely be in a fishing culture and they would come here, you know, a big increase, for maybe 10 to 15 years."

"And then, and then the other noticeable wave of an ethnic group were Latinos, you know, coming and there seemed to be a cultural thing where the guys would go off fishing and the women a lot of times—

especially on a weekend—there would be like a little family camp set up here with a hammock so the, so the women and the kids could hang out and have a good picnic or something while the groups of four or five guys would go off and it was social fishing, but they also often, you know, kept the fish because it was probably a good way to provide sustenance. But that’s still true, maybe not quite as much as it was for a while [because of the increased cost of lures and gear].”

The following brief vignette is from Dan Ward’s *BoatinginDC* blog report and provides insight into the attraction of Fletcher’s among a group one might not expect to find at Fletcher’s Cove:

“Catfish bite year-round and can be counted on to provide some excitement, even during seasonal extremes. Fletcher’s Cove seems to have quite a reputation among the anglers of southeast Pennsylvania who come in search of large catfish. *One morning last month a van arrived at the cove carrying the entire Amish crew of a sawmill in the Keystone State. They spent the whole day out on the water in five rowboats seeking catfish and snakeheads. The outing was a reward from the mill supervisor for his skilled craftsmen.*” (italics are study authors’) (<https://boatingindc.com/report-from-Fletcher’s-cove-august-15-2017/>)

8.3.4 Length of season, frequency of fishing, and years fished

Almost none of the CHOH anglers fished during the winter. The majority fished once a week, and they were by far the least intensive harvesters of the five parks profiled. The average years fished was only 18, which probably reflects the younger age distribution of these anglers.

Table 8.3.2
Fishing Characteristics of CHOH Anglers

Fishing Characteristics	Percent
Fish in winter?	
Yes	10%
No	90%
Frequency of fishing	
4+ days per week	9%
2-3 days per week	36%
Once per week	55%
1-2 times per month	0%
Average Years Fished	18 years

8.3.5 Major types of fish harvested and consumption

Almost all of the CHOH anglers prefer and consume striped bass, and most consume some or most of the fish caught. Surprisingly, CHOH anglers seem to prefer channel to blue catfish. Two-thirds eat and consume some of the channel catfish they harvest, and nearly half prefer it, perhaps because channel catfish are native and blues are not. In contrast, slightly less than half the anglers consume blue catfish, with a majority of anglers consuming none of it. Caution must be taken with some of these observations, as some species are harvested by a small number of anglers. None of the fishermen prefer, share, or even eat any of the shad they harvest (of course, it is illegal to do so). Compared to most parks, it seems that a higher proportion, around 40 to 50% of C&O anglers, prefer, eat, and share yellow perch. Although yellow perch are a small fish, about 40% of the anglers who harvest it eat some or most of the fish.



Boat fishing near Fletcher's Cove, 2019. Photo credit: S.J. Fiske

Table 8.3.3
Harvest Characteristics of CHOH Anglers

Harvest	Blue Catfish	Channel Catfish	Yellow Perch	Striped Bass	Shad
Average number caught per week	4	1	3	4	4
Personally Eat					
Yes	46%	67%	50%	86%	0%
No	54%	33%	50%	14%	100%
Prefer to Eat?					
All the time	18%	33%	40%	86%	0%
Sometimes	36%	17%	0%	0%	0%
Never	46%	50%	60%	14%	100%
Proportion Eaten?					
None	55%	33%	60%	14%	100%
Some	36%	67%	20%	29%	0%
Most	9%	0%	20%	57%	0%
All	0%	0%	0%	0%	0%
Share this Species?					
Yes	100%	67%	50%	100%	0%
No	0%	33%	50%	0%	100%

Consistent with their preference and consumption patterns, one in five CHOH fishermen harvest to share only; most consume some of the fish they harvest.

Table 8.3.4
Consumption Patterns of CHOH Anglers

Overall Consumption Pattern	Percent
Share only	17%
Some Return/Some Consume	83%
Consume only	0%

8.3.6 Sharing and contexts of sharing fish

In general, the findings indicate much sharing by CHOH anglers. All share blue catfish and striped bass, some two-thirds share channel catfish, and about half share yellow perch. While a fair number of shad are caught, no one reported eating or sharing them, which is consistent with prohibitions on taking

shad. Only a quarter of CHOH anglers share at community events, while slightly less than half share their catch with extended family or friends at family gatherings.

Fletcher’s Boathouse hosts an annual “Snakehead Fry,” which has supplanted the annual white perch fry. As dockmaster and self-described “the Senior,” Dan Ward wrote in a 2017 posting on *BoatinginDC*:



Ace angler, with a beautiful walleye from the Potomac. Photo credit: Dan Ward. Source: <https://boatingindc.com/report-from-Fletcher’s-cove-june-12th-2017/>, accessed January 2019

“For many years the boathouse held an annual white perch fry every spring. The event became quite a big deal, with friends, family members and even a few celebrities joining the staff for a good time and some of the tastiest fish fillets anywhere. With fewer perch available in recent years, a new species offered itself up for a switcheroo, and thus was born an early summer snakehead fry! This year’s event featured snakehead fillets caught by Alex Binsted and Rob (the snakehead king). Thrown into the mix were walleye fillets generously provided by veteran ace angler Mike Alper. An informal poll showed mixed results as to which fish was favored; both were excellent!” (<https://boatingindc.com/report-from-Fletcher’s-cove-august-15-2017/>)

Table 8.3.5
Contexts of Sharing Practices of CHOH Anglers

Setting of Sharing with Others	Percent
Number of community events attended	
0	77%
1	23%
2+	0%
Number of extended family events	
0	55%
1	18%
2+	27%

8.3.7 Food insecurity

About a quarter of CHOH anglers indicated that they worried about *putting food on the table* (a measure of concern), responding that they “worry a little.” This is fairly consistent with other anglers in the overall research project (24%, n=81). However, in general, CHOH fishermen were about half as likely to have experienced *times when they did not have enough to eat* (empirical measure) as at other fishing sites in the study.

Those at CHOH who said that “there were times last year when their household did not have enough to eat” were all Hispanic. CHOH seems to attract a bi-modal distribution of anglers: one mode is well-educated Anglo fishermen, while the other comprises minority groups, mostly Hispanic, who seem to have fewer resources to put food on the table compared to their Anglo counterparts. Two Hispanic anglers (15%) indicated there were times they did not have enough to eat, which is a strong indicator of “high food insecurity.” The 15% figure is similar to the proportion of the most food insecure households in D.C.; among D.C. households below the poverty level, 13.2% have high food insecurity¹⁴⁶.

Table 8.3.6
Food Security for CHOH Anglers

Food Insecurity	Percent
Food on the table (n=13)	
Worry a lot	0%
Worry a little	23%
Do not worry	77%
Did not have enough to eat (n=13)	
Yes	15%
No	85%

8.3.8 Residences of CHOH anglers

Consistent with the ethnic distribution of CHOH anglers, most reside in mixed communities with White majorities. Most CHOH anglers live near where they fish: 70% live near CHOH or GWMP.

Table 8.3.7
Ethnic Composition of CHOH Anglers’ Communities of Residence

Residence	Percent
Ethnic demographics	
African American majority	--
White majority	--
African American, sizable Hispanic	--
Mixed	8%
Mixed, no majority	25%
White, sizable Hispanic	8%
Mixed, White majority	58%

¹⁴⁶ “Talk Poverty” website, Center for American Progress. <https://talkpoverty.org/state-year-report/district-of-columbia-2016-report/>, accessed December 2018.

Table 8.3.8
Nearest Park to CHOH Angler

Neighboring NPS Park Closest to Angler Residence	Percent
NAMA	--
CHOH	31%
ROCR	15%
PISC	8%
Outside NCR	8%
ANAC	--
GWMP	39%

8.3.9 CHOH fishermen: Qualitative Portraits

The following qualitative portraits are composite cameos assembled from interviews and fieldnotes. Individual names have not been used in order to protect anonymity, with the exception individuals who gave permission to use their names, namely Dan Ward and Alex Binsted.

8.3.9.1 A Life of fishing and the Potomac River. "Fletcher's is my...spot."

We interviewed a key opinion leader and Potomac fishing expert (Dan Ward) about his life of fishing on the Potomac and his observations on the people who fish at Fletcher's Cove and the Potomac north of the Cove. He has been fishing on the Potomac for over 50 years, starting in junior high school with a friend. Their families lived in Georgetown and the Palisades area, and the boys took advantage of their close proximity to the river. As a teenager, he used to work at Fletcher's back when it was "more informal," and you could put in "a few hours here and there." He now manages the NPS concession boathouse, bait house, and boating rental; he also has decades of continuous knowledge and experience with fishing, as well as with observing fish, fishermen, and boating on the Potomac. He has several able "assistants" who are technically in charge, including Alex Binsted and Alex's father. In addition to running the boating, bait and snack store, Dan wrote a thoughtful blog on boating and fishing (with excellent photos, some of which are reproduced here) and fishing conditions (i.e., what fish were running, or what catch is available in a particular season). In 2019, he told us that he would have to give up the blog because of timeliness issues in getting it up on the web and the rise of social media. Fletcher's and the *BoatinginDC* blog were "information central" for the fishing season and other boathouses and marinas on the Potomac, since it is the only boathouse that focuses on fishing. He, his fishing buddy, and his friend's son (Alex Binsted) form the charismatic core of fishing aficionados and social activities at Fletcher's cove. See "Report from Fletcher's Cove," *BoatinginDC* blog (<https://boatingindc.com/report-from-Fletcher's-cove/>).

Dan told us he used to eat a lot of fish from the Potomac when he was growing up, especially perch. In fact, he recalls that his family fried or baked perch every Friday (“being Catholic”). “...on Friday you had to eat fish, and, you know, she (his mother) liked to bake fish, and my grandmother liked the roe and the milt, the male part of the herring, and, um, so I grew up with that.” “...my mother was not a fisherman, but she loved to eat fish, and my father, he didn’t fish much, but my ...ancestors before them were all very much fish eaters; ...but, um, if you grew up Catholic you definitely ate fish, at least once a week [laughing].”



Rock Creek, showing fish ladder for shad and herring (ROCR). *Photo credit: S.J. Fiske*

He remembers when he was a youngster, going “over to Rock Creek and catching the herring and all in the spring—right at what’s called Montrose Park, right opposite Dumbarton Oaks, there’s a low water dam there, which I’m not sure is still there, but there used to be a ford where you could drive across it, right off of R Street... the creek’s real small there so you just waded out, we could literally, in those days you could literally wade out in the water and catch herring in your bare hands, I mean literally.”

He recalls when he was younger, “...along the Potomac we used to ride our bikes along the C&O Canal, we would hook our fishing rods to the bar of the bicycle and go all the way up to Great Falls and fish wherever we felt like fishing. A lot of carp fishing and bass fishing, so from Georgetown all the way to Great Falls.” He recalls Catfish Hole, Wide Water, and Difficult Run all as “interesting fishing.” He (and his friends) are an encyclopedia of local history and local environmental knowledge (LEK); they know all the named fishing spots, and the unnamed ones. He knows where the good fishing is, such as Dixie Landing, Hen and Chicks, Walkers Point, and Ferguson Rock.

“I mean as you go up the river, there’s Boiling Rock out here, which is a real popular fishing spot. There’s the Mud Bar, we call it the Mud Bar, which is a popular shore fishing spot...There’s, up above Chain Bridge, there’s all kinds of names, there’s Split Rock, there’s Big Eddy, there’s Turkey Foot, there’s, you know, the Turn Water Eddy... I even have a spot named after me. It’s called ‘The Gutter.’”¹⁴⁷

Now that he is older and has three children, he does not have time to fish as much (“When the fishing’s good, I’m too busy.”). “But, yeah, I still like to eat fish [laughing]!” He explained that working at Fletcher’s, ironically, “hinders my fishing ability and my desire because I’m around fishing all day long, talking to people like this [laughing; i.e., the interviewers]. Selling bait, ordering bait, seeing people fish, giving people advice—so I kind of get burned out.” At the snack shop/bait shop they used to sell half-smokes from a rotisserie grill that rivaled those from Ben’s Chili Bowl. “It was a great place to hang out.”

This lifelong fisherman likes fishing for the social interaction as much as for catching fish to put in a cooler or freezer. Fishing “was something I enjoyed, but it was a social—my personal fishing ...impulse

¹⁴⁷ Other great fishing spots include Pumphouse Cove, Lowell Rock, and Warning Rock, which had a sign “Swift water and dangerous rocks.” A friend collaborated with Dan in making a listing of all the spots known to them, their names, and the stories on how they got their names. Reportedly, there are 91 locations on that list. Dan notes that over time there has been attrition in the number of boathouses on the Potomac. Thompson’s Boathouse is still there. Crampton’s no longer exists, and the Key Bridge Boathouse now provides boats only—no fishing. Pretty soon, he warns, “There will be no storytelling about the old days.”

was to be social and ...I've always liked the outdoors—and, you know, it was satisfying and fun and I was satisfied to catch a few fish. I didn't have to load a cooler or anything." He usually fishes with his "close friend, my primary fishing partner was my friend, Mark [inaudible], who actually is Alex's dad."

Dan's favorite spot? "Well, all the river along here is, you know, my old stomping grounds, so it all has special meaning, especially Fletcher's. I mean Fletcher's is my... my spot. Fletcher's is my spiritual center, I mean... like my personal church so to speak." He calls it "almost like a worshipful experience at times [chuckling]."

He acknowledges fondly the up and coming generation of fishermen and the symbolic passing of the baton: "Yeah Alex [Binsted] is the guy you probably talked to last fall. Alex is the, the "gunslinger fisherman" of Fletcher's now, he's got it in his blood from his father and he's just a successful fisherman and really he lives and breathes fishing." Dan calls Alex a "fishing hotshot" of the next generation, and introduced us to other young (under 35) men who were fishing from boats and helping at the snack shop, which includes bicycle renting, selling fishing licenses, fishing poles, and bait. Alex told us he has "been on the river literally since he was born," and that his family has lived in the Palisades since the 1800s. He started working at Fletcher's when he was 14 years old. Despite his young years, Alex is also a well-spring of Fletcher's and Potomac River history. He sees the shad coming back, gradually; and he credits the legendary Jim Cummings with bringing them back. He remembers before the moratorium that Cummings had a "Congressional casting call," a huge social fishing event, when members of Congress and staff would come to Fletcher's for a spring shad planking. The shad planking became the perch fry, and the perch fry has given way to snakehead grilling as focal social events for the season.



Alex Binsted frying snakehead fillets to perfection. *Photo credit: Dan Ward. Source: <https://boatingindc.com/report-from-Fletcher's-cove-august-15-2017/>, accessed February 2019*

8.3.9.2 Military upbringing means moving a lot and fishing all over the country

During an early evening at Fletcher's, the research team encountered a 31-year old self-described "Filipino/Pacific Islander/Asian" who was fishing with a friend. He has fished since he was a child. He lives at Walter Reed Medical Center, where he is a combat medic, in addition to being in nursing school at Walter Reed.

He was born in Hawaii, and his father was in the military, so they "moved around a lot." He went fishing in every state in which he lived (HI, TX, CA, WA). He first learned to fish:

"...back in Hawaii; He [his father] would take me pretty much every weekend. He would wake me up early and we, he would take me to wherever he wants to go fishing, set me up, and I'd pretty much just reel in whatever came on there. And then from there, every time we moved, he'd always ask me if I wanted to go fishing, and stuff like that. So I'd go with him, just because it's something to do and it's bonding time with my dad." (#108)

He has lived in D.C. for about 4 months now, fishes weekly at Fletcher's, usually Saturday mornings but sometimes in the evenings (the interview was at 6:30 p.m.). "Yeah, like we're doing now! We usually wait...the times you wanna fish are basically before the sun comes up, to where the sun comes up, and then before the sun comes down. So we're usually here at those times. Midday, we're usually never here." This evening he is "cat fishing," with two poles in the water.

"Well right now we're cat fishing, so we're using a little bit thicker and stiffer of a pole, um, we're using 18-pound test line. We're using a press, basic reels, uh, spinning reels, and then we're using artificial

bait. Um, it's just comes off a lot harder, so the fish can bite a little bit more before they take the whole thing."

He was enthusiastic about his artificial bait that was specifically for catfish:

"Um, it's an artificial bait—can you grab a bag [speaking to fourth party]... I've used this in California and Texas [demonstrating], and they've worked both there, and they work here. And it stays on your hook pretty well. It's crawfish-flavored for catfish. ...it has a little catfish on there [shows it], a Jamaican catfish, it's called Yeah Mon. Basically, it's crawfish-flavored and it has fiber on there so it stays on your hook really well and just releases the scent in the water. So this is what I use in every state I've been to, and it works, so I've used it here. Some people using worms, and they always have to rebait their stuff, ours have been out there, just waiting." (#108)

He does not eat the fish that he catches here in D.C., because he lives in a barracks at Walter Reed, and there is no place to clean the fish and keep it, and it is also messy. But he says that in every other state in which he has lived, he always ate any fish harvested. "Oh yeah! All the time. All the time." He claims the best state was California, "...like back home in California is where I caught the most fish. They'd be like mackerel from the pier, we'd catch halibut sometimes from the pier, and usually we'd just cut that all up and share it with family and stuff, and friends."

Now, instead of taking it home to the barracks, he looks around and sees if other fishermen want the catfish. We asked him how he could tell if they wanted to take it: "...usually people that have buckets and mostly families and stuff. They usually look like they're gonna keep the fish. Like we're here with just a basic tackle box, 'cause we don't keep it, so..." If they cannot find anyone, they toss the catch back in the river—except for snakehead. He read on his fishing license that "they want to kill them," so he leaves them on the bank, far enough from the river so that they cannot slither back to the water.

Fishing and sharing with family has been a way of life for this individual. Back in California (San Francisco), "...we'd go out at night with my friends, we'd crab all night and the next morning, or for lunch, we'll have crab bakes for all of my friends and family."

We asked if there were any reasons he liked to go fishing, and he credited his father, although clearly his whole extended family enjoys and benefits from fishing. "I think my dad just ingrained it in me. It's fun, the exciting part reeling in the fish and seeing what you got. Um, and just being out here with my friend, and just relaxing."

He usually fishes with his friend, who was with him; but if he is not available, he will go alone. His fiancé is in Fort Bliss, El Paso, TX now, but when he was there with her, they went fishing at least twice a month. She is from Georgia, and she also fishes. Every member of his family fishes or goes fishing—uncles, brothers, aunts, parents, sisters, grandparents. They have family reunions about every five years, and there are about 100 members just in America alone. He likes Fletcher's a lot because it is a place to hang out, with picnic tables and grills:

"...I come here pretty much every weekend, and this is the only place I go to just because I actually catch stuff out here. And I like that it's a park and I can hang out if I want to barbecue with my friends I can invite 'em out here. Um, it's fairly easy to get to minus the U-turn trying to get in, but other than that..."

They have tried upriver but did not fish there because the water was moving faster. They thought they would try the Great Falls area again, but they keep coming back to Fletcher's. (#108)

8.3.9.3 Fishing is about relaxing

We interviewed a 31-year-old, bilingual fisherman from Colombia who works in a bakery, fishing about half a mile upriver from Fletcher's in the late morning (11 a.m.). He usually comes with his girlfriend's father or with a friend, maybe twice a month from the Silver Spring area (about 20 minutes by car), but he often comes by himself if they are not available. He was well-acquainted with the fishing regulations and knowledgeable about gear and types of fishing in the Potomac.

He was about 8 years old when he started fishing: "I liked fishing since I was a little kid; my dad used to take me when it was my birthday or some special occasion, but it was like, I don't know, a couple times a year..."

He catches a range of fish in the Potomac and considers fishing a "hobby." "Here at Fletcher's Cove you can have striped bass, largemouth bass, now like shad [in April], also like catfish if you like catfish." He used to eat the catfish, but now only occasionally eats it and gives the rest away. He explained later that his girlfriend does not like catfish, so that's why he stopped taking it. Striped bass (in season and over 20 inches), on the other hand, he takes home because his girlfriend really likes it. He releases the other fish or gives them to people who want them.

"Yeah like sometimes people just want 'em, I'm like yeah why not, take it. ...for example, if I get a catfish and I don't wanna take it home and there's somebody around might ask me if they want it."

He fishes almost exclusively at Fletcher's, although he has fished Rock Creek once (bluegill and white perch) and has been to Ft. Washington. He has licenses for the District and Maryland, but not Virginia, so he said he does not fish the Virginia side of the Potomac. He also goes to the Chesapeake Bay and Ocean City to fish. As for his favorite gear, when he goes fishing in the Potomac he told us "...usually bass go for these baits, swing baits. They also have like, if you want catfish, they have like this liver, or,



Fall fishing along the Potomac, upriver from Fletcher's. Photo credit: A. Cohen

um, chicken stuff, yeah but, swing baits are good also for striped bass. Right now I have like three rods, like 6 feet, medium, um, medium range, like 20, 20-pound test line..."

He usually cleans the fish and prepares it by baking the striped bass and frying the catfish, which he learned from his father. When he takes the fish home, he shares it with "my roommate...um, my neighbor, too. I also take it

to like to my girlfriend's family if I get anything else..." For this fisherman, the special meaning that fishing has for him is "...it's just about relaxing, being in nature, just silence, it's like quiet you know, yeah, it's a moment to meditate you know." He recalls the special time with his father, fishing, relaxing.

Although he does not worry about putting food on the table, he did talk about the satisfaction that comes with being a "provider." This comment was connected to comments on his conservation ethic of not taking too many fish from the river:

"...Something about fishing is that you can also be a provider, you know. You can take food home and if you have some fish you can... provide your family with some meal. But, I try not to, um, like overfish,

because I don't want to like mess with the environment and the area. I don't take a lot of fish, just a couple, so if I, I think that's enough, I don't like taking a lot of fish home." (#601)

8.3.10 Recommendations

The following subsection provides the perceptions of positive improvements and appreciation, and reviews what some fishermen suggested for actions to improve the visitor experience.

8.3.10.1 Appreciation for improvements

Fletcher's Cove and Boathouse and Great Falls, MD, are two popular spots along the C&O Canal and upper Potomac River. Fishermen who reach these spots enjoy them because the water seems cleaner than other popular fishing sites, and more fish are available. They commented on the perceived improvement of the canal, which has been dredged and cleaned in recent years.

8.3.10.2 Actions to improve CHOH experience

Fishermen did not have any recommendations for Great Falls, MD, but a few had some for Fletcher's Cove area.

Facilities and trash: Many fishermen go into the woods behind the Boathouse to fish. They bring their equipment, chairs, and food with them; sometimes, they leave trash in large piles at fishing sites. While this practice made it easy for the research team to identify high-usage fishing sites, the amount of litter in the Fletcher backwoods was concerning to the research team and to anglers. Furthermore, the research team found evidence that campfires and socializing occur during the weekends and at night (even overnight) in the woods, and campers and party-goers do not take their trash with them. Cans, bottles, as well as fire pit materials, are left behind.

Fletcher's is a "Trash Free Park," and there is clear signage at the boat ramp and near trails in both English and in Spanish, as shown in the photo. But the success of this campaign is not clear to research team. The 2018 WPI report on trash management at NAMA/East Potomac Park also raised this question about the theory of trash free parks, and recommended that more numerous trash cans be placed instead. Although it costs more to maintain them, it works better to reduce waste (WPI 2018).



Trash Free Park signage at Fletcher's. Photo Credit: S.J. Fiske

The research team realizes that trash management is a serious problem at nearly all the park units and fishing sites on the Potomac and Anacostia, and that there are ongoing, volunteer partnering efforts to reduce trash. In fact, the most recent day a member of the team visited, Fletcher's was expecting a volunteer pickup the next day, on Memorial Day (2019), by the C & O Trust. There is also a Friends of Fletcher's group that assists with trash pickup. Notwithstanding the park units' efforts to keep up with the daunting task of keeping the area clean, we pass along the perceptions of the fishermen that we interviewed. One fisherman suggested:

"I think rangers should be more strict about, like, overnight fishing, you know? Not because of the fishing in fact, but it's like people stay here and do parties or I don't know what they do, but you can find like garbage, you know, and stuff like that. So, I think they should, like, have more control about the situation

because you can find, things that are contaminating the area where everybody's fishing. I came over here about 6 a.m. and there was like a fire [inaudible] it went out and had, like, some bottles, you know, bug spray. So, I was like, probably a park ranger should be here to control (the situation)." (#602) (Note: this interview was conducted during the spring when the shad were running.)

A long-time, younger fisherman suggested better enforcement of fishing regulations, although he was quick with the caveat that he knows that neither the Park Police nor the District have the personnel or time to do it. He suggested the use of video surveillance in the easy-to-access, high-usage areas. His concern was based on seeing fishermen use cast nets to harvest fish, with resulting loss of the by-catch, the small fish they did not want. He suggested better "signage at fishing access points" that were written in Mandarin Chinese and Vietnamese, in addition to English and Spanish.

This same fisherman observed that the Vietnamese target snakehead, and that they snag them. Although snagging is prohibited, they can get away with it because everyone wants the snakehead "gone," and there are not enough enforcement personnel anyway. He was not complaining about the practice, but the research team would suggest that if resource managers want to reduce populations of the invasive snakehead, it might be good to increase outreach to the Vietnamese fishermen who already target them.

Another fisherman recommended that more trash cans be added, either in the entrance to the wooded area, or in the woods themselves. If this is untenable, they suggest that park staff remind fishermen and park users to take their trash with them. One fisherman suggested that some sort of volunteer program to clean up the park land be established, which might act as an incentive for other members of nearby communities to visit and use the park as well. There could be some sort of partnership between Fletcher's and fishermen as well to keep the park land cleaner.

The research team observed that many of these suggestions are already being carried out; but the suggestions mean that fishermen themselves are thinking along the same lines. It might be possible to harness their good will and get them to sign up for the volunteer efforts already underway, or to



Eager to try his luck at Fletcher's Cove, May 2019. Photo credit: S.J. Fiske

organize their own efforts to collect lines and trash in the spring and fall.

Related to the issue of trash in the park, some anglers recommended that the park set up some kind of enforceable curfew or some way to monitor night-time fishing or partying, since they felt that most of the trash originates from the campers, as in the comment above. It was the impression of C&O anglers that other park sites in the region see more "policing," but the fishermen at Fletcher's claim that the park is not well patrolled. Fishermen also noticed violations of regulations occurring during

shad season, when fishermen took home shad despite its status as a catch and release species. Fishermen claim that striped bass poaching (out-of-season or under-sized) also used to occur, but has slowed down due to the presence of snakeheads. While the concession staff at Fletcher's Boathouse

interact with fishermen daily, it is the impression of the research interviewers that park rangers do not, and many fishermen are unaware that Fletcher's is part of a national park.

Reference

Worcester Polytechnic Institute (WPI), 2018. "Cleaning up East Potomac Park." Report for National Park Service/NAMA, in partial requirements for a B.S. degree at WPI. Team members: Kirsten Doyle, Zhentian Ren, Jarod Thompson, and Yuan Wang. Advisors: Professors Dominic Golding and Lorraine Higgins. Sponsored by NPS. December 13, 2018, 22 pp. https://web.wpi.edu/Pubs/E-project/Available/E-project-121218-150936/unrestricted/Cleaning_Up_East_Potomac_Park_Final.pdf. Accessed May 5, 2019.

8.4 George Washington Memorial Parkway

The George Washington Memorial Parkway (GWMP) is a scenic roadway (“parkway”) along the Potomac River in Virginia, stretching 38.3 miles from American Legion Bridge in the northwest to Mount Vernon in the southeast, bordered on both sides by lush hardwood forests with occasional views through dense trees and foliage to the river. NPS parkways do not allow residential or commercial development in the corridors, which are designated for public purposes.

Although it is one administrative unit, GWMP has two components, North and South, recognized both popularly and historically/archaeologically. GWMP-South is the earliest portion of the parkway, known then as the “Mount Vernon Memorial Highway,” which connected Mount Vernon in the south to the District of Columbia. The northern portion of the parkway, GWMP-North, continues along the Potomac to Interstate 495 (“the Beltway”) where the American Legion Bridge crosses the Potomac into Maryland. Although not contiguous, NPS acquired the area farther upriver around Great Falls and in 1966 started the operations of Great Falls Park as a unit of the George Washington Memorial Parkway. The Great Falls Timeline notes that from 8000 B.C.E. to 1700 C.E., the area around Great Falls served as a meeting place for Native Americans, especially members of the Powhatan Confederacy and the Iroquois Nation.¹⁴⁸

Today, the GW Parkway is a major transportation artery that protects scenic vistas and historic sites but also provides multiple public uses of the parkway areas, with picnic areas, scenic overlooks, parking lots and pullouts, hiking and exploring trails, fishing, and boating. There are three marinas in GWMP-South—Columbia Island Marina near the Pentagon, Washington Sailing Marina just north of the city of Alexandria, and Belle Haven Marina south of Woodrow Wilson Memorial Bridge and just north of the Dyke Marsh Wildlife Preserve.

There are numerous creeks, or “runs” that enter the Potomac in both north and south portions of GWMP that provide good spots for fishing; these include Turkey Run, Pimmit Run, Difficult Run, and Dead Run in the north, and Roaches Run, Gravelly Point, Daingerfield Island, Jones Point, and Little Hunting Creek in the south. In general, the fishing sites in GWMP-S are more accessible than those in GWMP-N, since most of the northern section of the Parkway is on bluffs overlooking the river and the hike down to the river is steep, rocky, often muddy, and takes time to maneuver, especially when carrying fishing gear.

Both south and north portions have formal trails following the water line along the river’s edge, or are close to it. In the southern portion, the Mount Vernon Trail is a two-lane paved recreational walkway for walking, jogging, dog walking, and biking, which travels from the Arlington cemetery (and perhaps above) south to Mount Vernon. It is extremely popular daily, but especially in the mornings before work hours, during lunch hour, and on weekends. The northern trail of the GWMP, the Potomac Heritage Trail, is narrow and hugs the river shoreline as best it can, providing a tenuous foothold in some places for hikers and fishermen. It winds north at the river’s edge from Theodore Roosevelt Island to the American Legion Bridge. In addition to the formally recognized trails, it is easy to find social trails that lead from the Parkway viewing areas above on the bluffs down to the river and to fishing sites on the Potomac. The social trails have been created informally in the 50-some years since the northern part of the Parkway was finished.

¹⁴⁸ <https://www.nps.gov/grfa/learn/historyculture/chronology.htm>, accessed May 29, 2019.

In addition to GWMP North and South, our study area for the research project included Great Falls Park



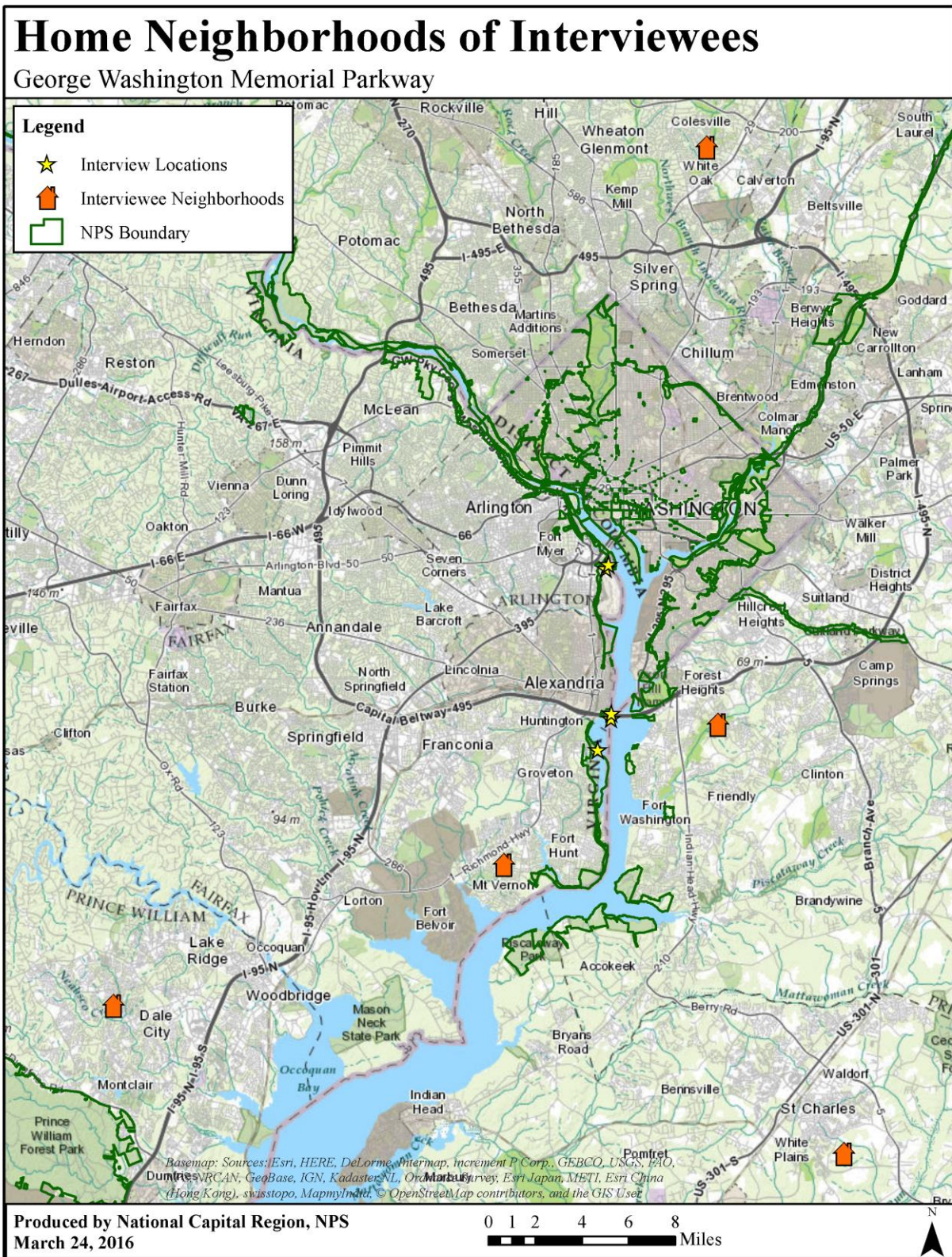
View from the top of Great Falls on the Potomac River, looking downriver and across to the Maryland side. *Photo credit: S.J. Fiske*

(see below), upriver from the GWMP Parkway. Great Falls has a visitors' center, an overlook of the spectacular falls themselves, and many hiking trails, some of which lead to whitewater boating/kayaking ramp locations and fishing sites, such as Difficult Run, or to River Trail—the latter goes along the banks of the Potomac. There are climbing sites at Great Falls and fishing is allowed (line fishing is allowed, but net fishing is prohibited). Fishermen, waders, and swimmers are prohibited from entering the water because of risks of being swept downstream into the rapids and rocks of Potomac Gorge.

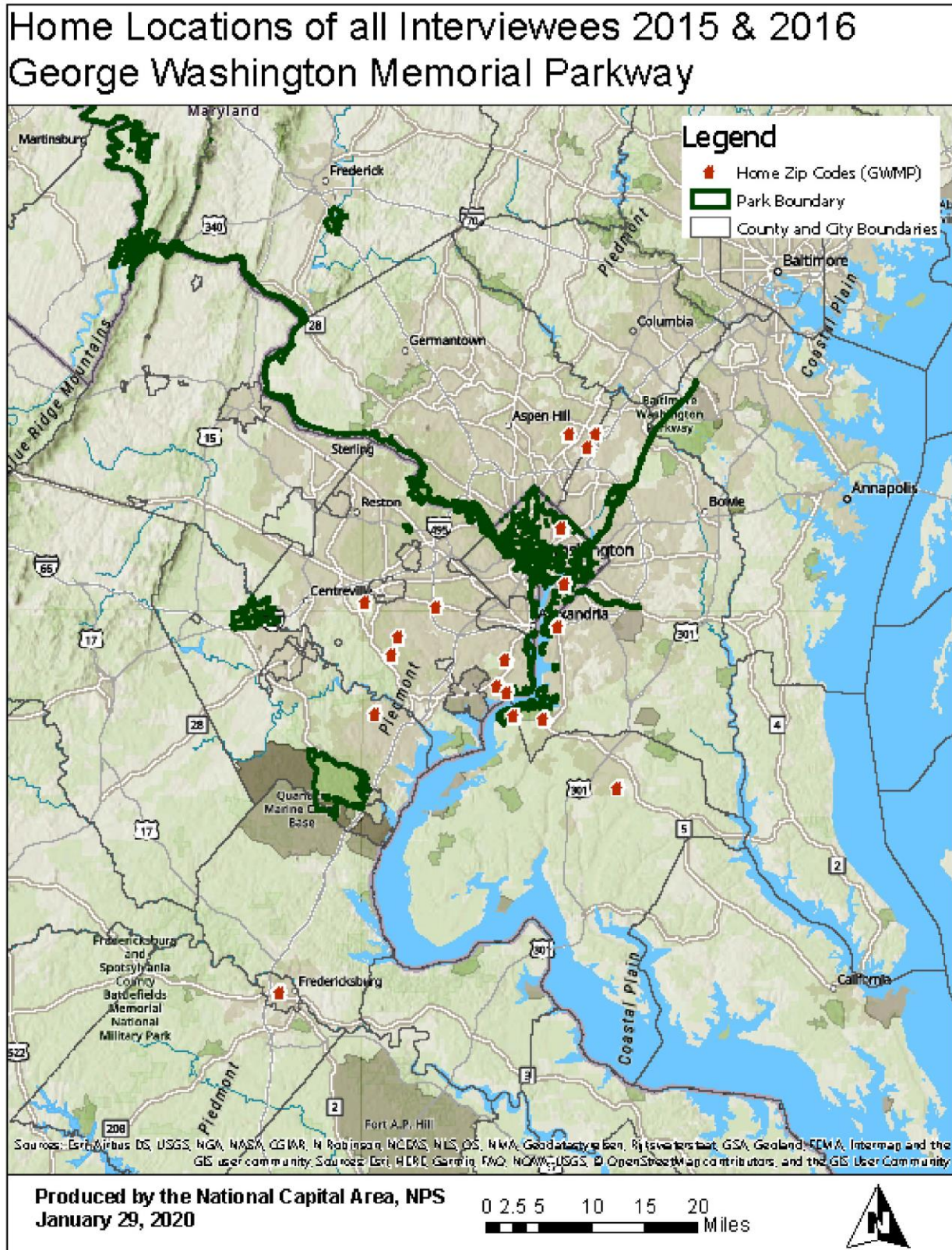
8.4.1 GIS maps

As mentioned previously, we were unable to interview fishermen or fisherwomen in GWMP-N for a variety of reasons. Nonetheless, we interviewed 15 fishermen fishing from the park shorelines of GWMP-S, from Gravelly Point to Little Hunting Creek. Map 8.4.1, immediately following, shows the location of fishing interviews and home residences of respondents in the first field season, 2015. Map 8.4.2 shows the locations of home residences for both field seasons, 2015 and 2016 (n=15).

Map 8.4.1: Interview Locations and Communities and Neighborhoods of Residence, GWMP (2015 only)



Map 8.4.2: Residential Locations of Interviewees, 2015 and 2016, GWMP (n=15)



8.4.2 Brief administrative history

GWMP began as Mount Vernon Memorial Highway, envisioned as an entryway to Washington, D.C., from the south. Highways became popular during the early 1900s, and began to form in the D.C. region due to the McMillan Plan of 1902 (Krakow 1990). The Mount Vernon Memorial Highway began construction in 1928 and was finished in 1932 by the Bureau of Public Roads; it was a model parkway that emphasized “physically integrating the route with its natural environment” (Krakow 1990:5). The National Park Service joined the Bureau of Public Roads to conduct parkway projects around the capital. The authorizing legislation was presented to Congress in 1929, and became law in 1930. The George Washington Memorial Parkway absorbed the Mount Vernon Memorial Highway during its creation in 1936. The parkway not only memorialized George Washington but also stabilized the Potomac shoreline and allowed for scenic and recreational opportunities (Krakow 1990:6). The National Park Service’s mission for the parkway is three-fold: develop, manage, and preserve the parkway; protect and preserve the cultural, national, recreational, and scenic resources; and promote learning opportunities for the public about these resources.

8.4.3 Demographic overview

GWMP-North

Unfortunately, the research team was unable to conduct interviews at fishing sites on the northern half of the George Washington Memorial Parkway. As mentioned before, access to fishing sites in GWMP-N was much more difficult than south of the 14th Street Bridge, and sometimes treacherous. Fishermen were spread out along the Potomac Heritage Trail—sometimes miles away from one another over difficult terrain—making visits to known fishing sites difficult to cover systematically. Through interviews with fishermen at other locations, we found that the Potomac Heritage Trail is used by shad fishermen during the spring shad season. During the spring, many fishermen can be seen on the rocks across from Fletcher’s Cove (below Scenic Overlook #1 on the GWMP).

Furthermore, fishermen who come to this trail generally want to fish alone. Chain Bridge had similar fishermen who wanted to fish by themselves. While hiking the trails looking for fishermen, the research team found evidence of fishing at Chain Bridge, identified from leftover fishing line and bait packets. The team talked to three Asian fishermen who declined to be interviewed underneath Chain Bridge, and also Hispanic fishermen who crossed the bridge to go to the rocky bluffs on the Virginia side. Fishing from the Maryland shore underneath of Chain Bridge is more accessible than the rocky bluffs (on the Virginia side of Chain Bridge), but fishermen have been seen on both sides.

Despite a lack of interviews, the team had the impression that Chain Bridge is an important fishing site in the region, particularly seasonally during shad season and striped bass runs. Fishermen who used to go to Chain Bridge no longer do so due to deep, strong currents that foul their lines. As one said, “I have memories there but you can’t go there anymore.” Others mentioned the dangers of the side with the rocky bluff. But others had fond memories of fishing there, particularly when the shad ran in the 1970s and fishing for them was allowed (before the fishing regulations prohibited harvest). One mentioned that “[you] could throw it in that fast water, you could throw a regular hook out there and they run into it.”

GWMP-South

Fifteen anglers were interviewed along George Washington Parkway south of the 14th Street Bridge (see table below). The most high-intensity fishing sites in GWMP-S are indicated in Table 8.4.1, namely Roaches Run, Jones Point pier and lighthouse, and Little Hunting Creek. These sites are consistently popular and have many fishermen trying their luck. Belle Haven Marina is also high intensity, but less for subsistence fishers and more for sportfishing from power boats and bass boats. Belle Haven Marina is a center for catfish and bass guide boats and river boat exploration rides. There is also a sailing school that rents sailboats, sailboards, and catamarans.



Fishing at Roaches Run, a high-intensity spot on GWMP-S. Photo credit S.J. Fiske

8.4.4 Demographics of GWMP-S anglers

For GWMP-S, the average age of the respondents was 39 years, with a range from 18 to 68. Two-thirds of the anglers were over 36. About a third of interviews (5 of 15) in GWMP-S were with African Americans, with the concentration of three of these interviews occurring at Jones Point park and pier. Slightly over a quarter of interviews (4 of 15) were with Hispanic fishermen. In addition, 20% of fisherman interviewed at various sites in GWMP-S were Anglo. The educational attainment of GWMP-S anglers had a distribution of about half of the anglers with high school diplomas or fewer years in school, and about half with some college or a bachelor’s degree. The percentage of women fishing in GWMP-S was higher than in other park fishing sites (2 of 15, or 13%). See Tables 8.4.1 and 8.4.2 below.

Table 8.4.1
Number of interviews per location, GWMP-S

Park Location	Number
Roaches Run and Roaches Run south culvert	2
Gravelly Point	1
Belle Haven Park	1
Little Hunting Creek	2
Riverside Park south of Collingwood	1
Jones Point pier and lighthouse	8
Total	15

The following is a vignette of one fisherwoman who has lived in north Alexandria all her life. One can sense the close personal connection to fishing along the Alexandria waterfront and the friends she has made through fishing:

Not even the hot June sun nor the intense humidity could prevent Mary (pseudonym) from spending the day on the boating dock at Jones Point. Mary sat in a camping chair next to her friend Patrice and her

grandson. Four rods—three adult and one child-sized—leaned against the wooden fence that provided a slight separation from the platform to the water. The lines bobbed in the water waiting for a catch. In an environment dominated by men, Mary learned how to fish by going down to the Alexandria waterfront and watching the men fish there. They eventually taught her how to tie line and cast. She has been fishing in that location for almost 30 years, so the guys there now know her pretty well. Even the workers at the power plant recognize her. They would see her come to fish “and they be waving at me ‘cause they know me. ‘Cause they know... [laughing] here come the woman that catch all their fish. I guess they be on a break, you know.”

Mary generally gives the fish away either by knocking on the doors of her neighbors or taking the fish home and once or twice a year having a party with neighbors and friends. She likes bass and rockfish (striped bass) and gives away carp and catfish. “A lot of hungry people in the world...and I just walk until I find somebody and ask them do they want, do they want the fish?”¹⁴⁹

For a qualitative portrait of Mary, see section 8.4.10.2 below, A Sense of Place: A Highly Localized Fisherwoman.

Table 8.4.2
Demographic Profile of GWMP-S Anglers (n=15)

Demographics	Percent
Gender	
Male	87%
Female	13%
Ethnicity	
Anglo	20%
African American	33%
Asian	13%
Hispanic	27%
Other	7%
Average age	39
Education	
< High school	27%
12 th grade/GED	27%
Some college	27%
Bachelor’s	18%

¹⁴⁹ Excerpts of this profile have been presented elsewhere by team members. See Cohen et al. 2017:21.



Little Hunting Creek fisherman. Photo credit: S.J. Fiske

8.4.5 Length of season, frequency of fishing, and years fished

Less than a third of the GWMP-S anglers fish during the winter. About 60%, a clear majority, of GWMP-S anglers fish at least 2-3 days per week. Given the age distribution of anglers, with most being over 36, the average years fished (22) indicates a considerable number of anglers came to fishing early in their lives.

Table 8.4.3
Fishing Characteristics of GWMP-S Anglers (n=15)

Fishing Characteristics	Percent
Fish in winter?	
Yes	29%
No	71%
Frequency of fishing	
4+ days per week	20%
2-3 days per week	40%
Once per week	27%
1-2 times per month	13%
Average years fished	22



Fishing on Jones Point pier, with Woodrow Wilson Bridge in background. Photo credit: A. Cohen

8.4.6 Major types of fish harvested and consumption

GWMP-S anglers are the most intensive harvesters of catfish compared to fishermen at other park sites, with a few individuals harvesting an enormous number each week. One quarter of the anglers harvest double-digit numbers of blue catfish weekly. A high proportion (about 40%) of fisherfolk eat blue catfish; however, only a small proportion (23%) prefer it as a species to consume. Nonetheless, and consistent with findings for other parks, the vast majority (60-100%) of GWMP-S anglers neither prefer nor

consume any of the top five species they harvest. Two-thirds or more of GWMP anglers share “the big three:” blue and channel catfish and striped bass.¹⁵⁰

Table 8.4.4
Harvest Characteristics of GWMP-S Anglers

HARVEST	Blue Catfish	Channel Catfish	Yellow Perch	Striped Bass	Shad
Average weekly catch	26	12	1	6	13
Personally Eat					
Yes	39%	22%	40%	25%	25%
No	61%	78%	60%	75%	75%
Prefer to Eat?					
All the time	8%	22%	20%	25%	0%
Sometimes	15%	0%	20%	8%	0%
Never	77%	78%	60%	67%	100%
Proportion Eaten?					
None	62%	78%	60%	75%	75%
Some	23%	0%	40%	25%	25%
Most	8%	22%	0%	0%	0%
All	8%	0%	0%	0%	0%
Share this Species?					
Yes	77%	67%	20%	67%	0%
No	23%	33%	80%	33%	100%

Consistent with their preference and consumption patterns, one-quarter of GWMP-S anglers harvest to share only.

Table 8.4.5
Consumption Patterns of GWMP-S Anglers (n=15)

Overall Consumption Pattern	Percent
Share only	27%
Some release/Some consume	67%
Consume only	7%

¹⁵⁰ From 2016 through 2018, the District of Columbia added striped bass to its “do not eat” list, along with eel and carp. In addition, the advisory states that one may eat four servings per month of sunfish; or three servings per month of blue catfish or white perch; or two servings per month of largemouth bass; or one serving per month of brown bullhead catfish or channel catfish. (<https://doee.dc.gov/service/fishdc>)

8.4.7 Sharing and contexts of sharing fish

Almost no one shares yellow perch or shad in GWMP-S. In contrast, at least two-thirds of the anglers share catfish and striped bass. Over a quarter of anglers share at community events, while slightly less than a third share their catch with friends and family at family gatherings.

Table 8.4.6
Contexts of Sharing Practices of GWMP-S Anglers

Setting of Sharing with Others	Percent
Number of community events attended (n=15)	
0	73%
1	20%
2+	7%
Number of extended family events attended (n=14)	
0	71%
1	22%
2+	7%

8.4.8 Food insecurity

Three parks, NAMA, ANAC, and GWMP-S, stand out in their indicators of food insecurity. In all three parks, about 40% of the anglers indicate *some* worry about putting food on the table (either “worry a lot” or “worry a little”). In addition, slightly over one-fourth of the anglers in NAMA and GWMP-S indicated that at some time within the year they did not have enough to eat. With food insecurity indices for the general Washington, D.C., area averaging less than 12% (Coleman-Jensen et al. 2017), and despite the caveat of low numbers of interviews, these results point to the need for further investigation into food insecurity in the D.C. area.

Table 8.4.7
Food Security for GWMP-S Anglers

Food Insecurity	Percent
Food on the table	
Worry a lot	20%
Worry a little	20%
Do not worry	60%
Did not have enough to eat	
Yes	27%
No	73%

8.4.9 Residence of GWMP-S anglers

Despite a majority (60%) of GWMP-S anglers being either African American or Hispanic their community of residence seems to be composed of mixed communities with Anglo majorities. The majority of GWMP-S anglers live near where they fish.

Table 8.4.8
Ethnic Composition of GWMP-S Anglers’ Communities of Residence

Residence	Percent
Ethnic Demographic	
African American majority	
Anglo majority	
African American, sizable Hispanic	
Mixed	
Mixed, no majority	27%
Anglo, sizable Hispanic	
Mixed, Anglo majority	73%

Table 8.4.9
Nearest Park to GWMP-S Angler

Neighboring NPS Park closest to angler residence	Percent
NAMA	0%
CHOH	0%
ROCR	0%
PISC	7%
Outside NCR (PRWI)	27%
BAWA	13%
ANAC	0%
GWMP	53%

8.4.10 GWMP-S fishermen and women: Qualitative Portraits

The following portrayals of fishermen and a fisherwoman allow us to see persons with different motivations for fishing, different occupational and ethnic backgrounds, and varying degrees of food insecurity—ranging from no food insecurity to high food insecurity. Some of the interviewees worked as baggage handlers at the airport or as ride-share (Uber or Lyft) drivers, some worked in construction, among other occupations, while some were retired. Some were students, and fairly young, working part time in restaurants. As a reminder, names have been changed to maintain privacy. Their portraits are insights into diversity of those who are considered subsistence fishers, and were compiled based on the MAXQDA transcripts of the oral histories the team conducted.

All names have been changed to protect confidentiality.

8.4.10.1 Targeting striped bass in the Fall—Melvin Schorr

We interviewed a fisherman at Little Hunting Creek in November 2016, fishing where the creek comes through the narrow bridge over the GWMP. This creek is a fairly high-intensity fishing spot, with more men wearing waders than at other fishing spots. “Mel” says he fishes “every day” and by way of explanation offered that he is retired. He considers himself pretty much catch and release, although he does target certain fish and his family does consume a selective few of the river’s fish. He returns most

fish, including any undersized fish, and says that people rarely come around to the places where he fishes asking for fish to share (compared to other park units).

Mel is 55, an Anglo, and has 40 years of fishing experience around Virginia, up and down the Potomac, as well as surf fishing in North Carolina. He changes fishing sites seasonally; in the spring he might go south to Occoquan River (a tributary of the Potomac), or north up the Potomac to Great Falls “where the park is.” Sometimes at Great Falls he will go down from the top of the bluffs to Fisherman’s Eddy, which can be dangerous to get down to, but “It’s not bad if you’re careful.” At times he fishes up at Harper’s Ferry, WV. But most of the time he can be found locally around the Mount Vernon area, sometimes going farther south on the Potomac, or north to Belle Haven above Dyke Marsh. At Belle Haven he says he likes to fish right off the dock, even though you are not supposed to—but he knows the dockmaster (‘the guy who works there’).

Mel grew up near Mount Vernon—lived there all his life. His grandfather used to fish, although he taught himself to fish nearby—most of his friends fished when he was younger. He learned how to fish “for fun” and considers it “a hobby. Yeah, it’s a hobby, that’s all.” He does not go to any community or family events where he brings his fish to eat.

On this day he is targeting striped bass, even though it is November, and he has two rods. He is using a light rod with 10-lb. line (braided) and live bait (smelt); his other pole, his lure rod, is set up for jigging. He had already caught one that day. “It’s hard to catch ones that are big enough to keep ‘em. These are a little small.” To entice the rockfish (striped bass, or stripers) he uses live bait and lures. He likes the challenge of catching rockfish, and “they taste pretty good,” as compared with catfish that “taste muddy out of the river.” “Around here is pretty good,” meaning around Little Hunting Creek where it enters the Potomac—it is good for rockfish this time of year (fall) because of the “deep water and the trees.” It is one of his favorite spots in the fall.

Mel categorically states he never targets catfish and does not eat them, because they are bottom feeders and have toxins in them. As a long-time fisherman he has kept up with the advisories that are posted along the river, and also on the internet.

Aside from catfish, he targets a wide range of fish. He fishes for shad down at the Occoquan River, and catches a fair number of them—“they’re easy to catch.” He has also caught walleyes, maybe 10-12 per year, up near Great Falls. He also catches largemouth bass, perch, and carp—all of which he returns to the river. He has surf rods and enjoys fishing in North Carolina at Cape Hatteras, where he catches spot,¹⁵¹ bluefish, and flounder. His family consumes mostly “saltwater fish.”

¹⁵¹ *Leiostomus xanthurus*, “spots,” are generally considered a “panfish” as they rarely reach over a pound in weight and are about 5 inches in length; they have lean, white meat with mild to moderate flavor. Available throughout the mid- Atlantic coast and into the estuaries and rivers, they migrate offshore to spawn. The young swim up the estuaries and rivers to grow into adulthood. There is a seasonal recreational and commercial harvest of spot.

However, Mel caught eight snakehead so far this year, back up the creek (Little Hunting Creek)—“they like the slower water up there.” “they like the slower water up there.” We asked him how he prepares his snakehead and what it tastes like. “I’ve cooked it all different ways. I’ve cooked in on the grill, I’ve cooked it fried, I’ve cooked it in a soup, we’ve had it all different ways.” As far as the taste of snakehead, he reports “...they don’t taste like fish... at all,” and his family eats them, too. He admits that he “cooked for a living before I retired;” so he does the prep and cooking of the fish.



Little Hunting Creek, with GWMP-S bridge in the background.
Photo credit: A. Cohen

Mel and his family do not fit the food insecurity factors. He says his wife is still working and has a well-paying job in the private sector; he is not worried at all about putting food on the table, and they had enough food to eat last year. (#137)

8.4.10.2 A highly localized fisherwoman—Mary Jones

The vignette of “Mary” in the opening section of GWMP-S reveals a highly localized fisherwoman who prefers fishing close to home most of the time. Mary is 62 and African American. She was at Jones Point the day the field research team caught up with her, and she agreed to be interviewed after the other woman talked up her fishing ability. She was fishing with her friend Patrice, who had her grandson along. Mary’s dog, a Chihuahua, sat in her lap, occasionally running to interviewers to be petted. We sat on the ground and Mary sat in her camping chair. She has a kind face, and one could tell through her eyes that she has seen a lot in her lifetime.

When we asked if she was catch and release, she said “It depends...on whether I’m fishing for food, or just fishing.” Mary likes to eat fish. She goes out head boat fishing once or twice a year, and she fishes at home on the Potomac two to three times a week. If she gets a hankering for fish and she does not catch any, she will just go out and buy some. But she does “fish for food” when she wants to have some for dinner.

She generally fishes a few miles more north of Jones Point in Alexandria near the PEPCO substation (just south of Reagan National Airport). It is near where she was born and grew up, and she can easily walk to her fishing locations.¹⁵² Growing up, “...it was convenient to just walk across the railroad, go down and walk across the railroad tracks and go to the river.”

Nowadays, going fishing and “getting out of the house” is an important benefit for Mary. Although fishing regularly, “I just come down to get the exercise and get out the house some.” Her favorite fishing sites are on the Virginia side of the Potomac, including Fort Hunt, “the marina,” Jones Point, and up by the power plant. We asked about farther north, like Chain Bridge. “Chain Bridge, yeah. I’ve been around

¹⁵² PEPCO’s Potomac River Generating Station, a former coal-fired station, permanently shut down in the fall of 2012. The groundwater needs to be decontaminated before any development begins, so plans are still being considered for the area. Currently, the plan is to put in green space and art, and the waterfront public open space will be expanded by two to four acres.

there a few times in my life. I just don't like...that's a little bit too much water for me. It's scary." She gets over to Fort Washington once in a great while, to the Maryland side of the Potomac.

Mary learned how to fish after her parents' death (she was about 13 years old). She went to the waterfront near the power plant in Alexandria and watched the guys fish. They eventually taught her how to tie line and cast. She has been fishing in that location for almost 30 years, so the guys there now know her pretty well. Even the workers at the power plant recognize her. They would see her come to fish "and they be waving at me 'cause they know me. 'Cause they know... [laughing] 'Here come the woman that catch all their fish.' I guess they be on a break, you know."

That was almost 30 years ago; she has been fishing that long. She is a high school graduate; although retired now, she worked in the school system, homeless shelters, and the Kennedy Center, among a number of places. She says she has done a lot of things, "just trying to help people," adding that she is "a people person." She has two children, whom she taught to fish, and now all her five grandchildren fish, too. They come fishing with her when they can—they live nearby in Virginia.

Her philosophy about helping people comes out through her fishing. She catches and releases some, and others she gives away. She will keep the rockfish or bass, but the catfish and the carp "...I usually give them away to people. A lot of hungry people in the world that... I just walk until I find somebody and ask them do they want, do they want the fish?" She also shares her fish with her neighbors and likes to give them "spots and bass and catfish."

Maybe once or twice a year when she catches a lot of fish (when she goes out to the Bay on a head boat) she'll put on a big 15-20-person cookout/dinner with family and friends. "Yeah, but, that's only... only if I catch enough... only if I catch enough and only if I go out to the Bay. I would keep enough fish for a fish fry at the church, at the community."

For Mary, fishing brings "...peace of mind." But it is also about the memories of people in her life and the people she has met. She has fond memories of, "I call it [him] my brother. He was a friend of the family's and he taught me a lot to fish. Um... he died, so... but he taught me a lot and I got memories every time I go down there [near the substation.]" While we were there, they did not catch a fish. But, it really was not about the catch for Mary. She fished because it gave her peace of mind. And, considering how long she was out with her friends, a place to bond with loved ones.

When we asked about food insecurity, Mary said she worried "a little" about putting food on the table, but she said that was back in the 1990s, implying that she does not worry much these days. However, we asked if she did *not* go fishing, would she be worried about protein, and she said, "Yeah." When we asked about whether members of her family did not have enough to eat last year, and she referred to her children and said, "It's a possibility, but they didn't let me know."

She noted the contemporary changes in the area, the new construction, and the re-purposing of older buildings. "It's just not like it used to be. It don't look the same." She thought there was more debris in the water than there used to be.

As much as she is devoted to fishing in Alexandria, she offered her opinion on how easy head boat fishing was, compared to fishing from the shore. "Much easier. You can catch a fish like that. Just drop your line. You ain't [even] gotta cast." She thought they made it too easy and hinted that it did not take much skill. "Yeah, they give you the bait and supply you with a pole. You don't even gotta take a pole! You know, so... it's easier. You don't have to carry all this junk with you [laughing]."

(#104 and 6-25-2015 AC Field Notes)

8.4.10.3 Fishing is about family—Jorge Cepeda

While checking the area near Little Hunting Creek, we encountered a gentleman fishing at Riverside Park, just half a mile upstream from the bridge at Little Hunting Creek. There is a pullout and parking area off the GW Parkway at that point. This fisherman appeared to be about 45 or 50 years old, and Jorge (pseudonym) told us immediately that his family is from Cuba, and that they had an association with Ernest Hemingway in Cuba; it was that connection that inspired him to look to the sea and get interested in fishing. He enjoys fishing from boats in salt water and also fresh water/tidal fishing, but says he prefers being on land. He has been fishing for at least 30 years and lives in Fairfax, VA.

His father taught him to fish in the United States when he was about 10 years old, and he was hooked immediately:

"We went out to Bull Run Marina, down near Fairfax City, [Bull Run Creek runs into Occoquan Reservoir, near Clifton, VA] and um, we were catching small, little ones and I was really thrilled because my rod just did not stop. And it was after that fact that my mom taught me how to clean them; 'cuz she says, well you know, your father doesn't clean fish, so let me teach you how to do this. And it smelled bad, but it was part of the job."

Passing along the family tradition, he has now taught his wife and children to fish: "I've taught my little ones how to put on their worm, the wife doesn't touch the worm, which is always the case, but yes, I've taught them how to cast and feed and put on the worm on the hook, or catch the bait, the fish, and release it."

Much of the meaningfulness of his fishing experience is linked into both immediate and extended family activities. Jorge prepares the fish for his family and reports that the children enjoy eating the fish. In fact, he said that the children enjoy eating so much that "They hate to see (me), when I usually pop in my catch and release, they hate it. 'Cuz they want to keep every little one to eat! And I say 'no, you have to wait until it grows, we'll come back again next year.'" His wife, on the other hand, "she's a salmon lady. She loves salmons, yes."

Special meaning and memories are attached to family gatherings, and particularly the teaching of fishing to family members: "I believe it's when we do the family outings. Definitely. We bring up my niece and nephew and go fishing, I taught them fishing as well, so now he cannot put down his rod. He's 16 now, and when we do that, to me, it's a very enjoyable moment because it's mission accomplished. I'm passing it on to the next generation. They're not just my kids, but also they're members of the family."

In fact, he says he mostly goes fishing with his children. Then, reconsidering, he re-stated, "about half of the time with them, and half of the time alone."

"Who do I go fishing with? Usually just with my kids. 50:50. I like to have my own time, because when I go with my kids, I can't fish. 'Cuz it's like 'Dad, Dad, Dad, my line is tangled. Dad, my line is stuck.' So you have to see where you can actually go fishing and where you can take the kids to go fishing."

He does not provide fish for community or church events, since the community does a crab feast once a year and they go out and buy the crabs. But he does do family events:

"A year ago, we would go down by a, not here of course, but to a lake, and then whatever we catch, we just bring it home and we play bingo or dominos and then whoever loses then goes to fry the fish. So we take turns, we take turns. We probably end up catching 50, last time, 54? 54 spots? So we clean 'em in the river and then we bring 'em home and we play games."

SECTION 8.4: PARK PROFILES. GWMP

He comes out to the Riverside Park/Little Hunting Creek about twice a week, and just now (in late May) started fishing. He usually ends his fishing in October or November when the water starts getting a little colder. He catches catfish, perch, and rockfish. "The rockfish, well you're only allowed to catch two a license. So I would say maybe six in a year, I usually try to catch and release those if they're too tiny, that's something that I was catching them just very under the [size limit]." Size is the basic criteria for keeping fish, staying within the fishing regulations. "And if it looks like it's the size of a pan, that I can drop it in and fry it, sure." He does check the fish to make sure there are no lesions and that the meat looks like a healthy fish.

Jorge is skeptical of water quality and its effects on the fish, and believes in the safety gradient of staying far downstream from D.C.: "Yes, of course, of course. I'm skeptic of, for example, I don't want to catch anything too close to the airport, because for years, for decades, we hear that it's, of course, there could be something in the water..." He feels like the water is a little cleaner farther away, closer to the Mount Vernon area. He avoids going fishing anywhere near D.C., because the water is too contaminated or dirty. "I just try to stay away from Washington. It's just, remember now, it's too close to the airport. To me, it's not really practical. It would be catch and release, yes; but I just, I hate to see anyhow a fish with three eyes. I'm just like, ugh."

Jorge shares his catch with neighbors outside the immediate family, "on occasion, that's when I usually get an abundance of it, when it's a good day. If I catch 6 to 10 [fish] I just find out someone in the neighborhood that I know that they like a good fresh catch of fish."

We asked whether he ever gives fish away to people who come by and ask for it. He reported that no one ever walks by and asks for the fish (at least two fishermen at Little Hunting Creek reported the same thing).

"Ah, no. No, [they] never ask. It's pretty much the usual question, what are you catching? have you had a good day? but no one has ever come to me and ask can I have it, no. I would definitely give it away, no problem, because God knows the necessity of it."

As far as food security, at the outset, this individual did not fit the stereotype of food insecurity, with his college degree (our proxy for income) and a car to drive to his fishing sites. Nonetheless, he stated that he "worries a lot" about putting food on the table; *and* that there were times when his family may not have had enough to eat. Both of these answers indicate a high degree of food insecurity. He explained:

"I worry a lot. It's definitely, I believe that any household way of thinking, that you need to worry about where your food's gonna come in next week. Um, the food prices are pretty expensive, and even if you wanna go get any fish for example, it's still overpriced. I try to, like I say, when I have a good day, I stick around and try to stock my refrigerator for those days. I don't like to eat frozen fish, because they absorb a lot of water, but, you know, it is what it is."

The interviewers asked, "And were there times last year when members of your household did not have enough to eat?"

"Ah, some members of the household? Yes, there were some...and I'm talking about probably my in-laws. They're just, you know, we have to assist them, putting food on their plates. ...it was my decision to bring him home and to have him live with us. Mhmm. So it's a little bit [of help]; we try to—my father always said, if four people can eat, six can eat. So that's part of helping the family."

In concluding, Jorge was appreciative of the parks and attempts to keep it clean, despite the people who leave trash in the area.

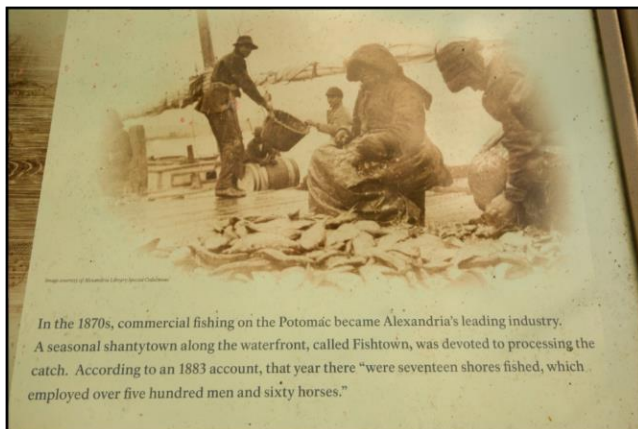
"I really think we live in an area that the parks can maintain it as clean as possible, the ambience and environment, I like it for so many years now, they're trying to provide funds to clean the Bay and clean the river because you do see sometimes fish come up afloat with the vices that the man throw into the water and they grow into them. But that's, all of that eventually is going away. I think the police, it's, maintaining their eyes on the people in the river that they tend to throw things in the river, or just throw, or they desecrate it, and try to do crazy things. But I'm happy. I'm happy where I live and it's a good area to fish." (#119)

8.4.11 Recommendations

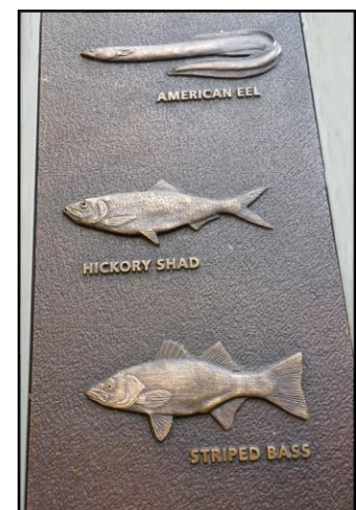
8.4.11.1 *Appreciation for improvements*

In general, most fishermen were appreciative of the Park Service's conservation efforts and attempts to keep the parks clean. One mentioned that, despite the littering and misuse of park sites by other fishermen, the park staff generally helped to keep the area clean.

In our 2015 field reconnaissance visits, on a beautiful fall day, the team was appreciating the beauty of the Jones Point pier and the architecturally stunning Wilson Bridge, and walked the trail leading to the iconic river lighthouse. There were a number of fishermen near the white-painted lighthouse, and we stopped to talk with one fisherman who was targeting catfish, most likely blue cats. He told us he was going to take them home to his wife—who was going to cook them for her mother. He fished there regularly and told us that just last week he had caught a 45-pound catfish. The fisherman was Anglo, about 65 years old, give or take 5 years; this did not make any sense to us since few Anglos take home catfish to cook. He then told us that his wife is from the Philippines, and the prospective catch was dinner for her mother as well. This brief conversation was a good reminder of the varying cultural values surrounding catfish in particular, and how general assumptions about consumption preferences are subject to cultural interpretations.



The research team noted the historic interpretations at Jones Point—the plaques that commemorate World War I-era shipyards and manpower; and identified the site of the much earlier (1870-1880)



herring industry and fish houses. These appeared in good condition and in our view enhanced the sense of history about the area and the park.

8.4.11.2 *Actions to improve GWMP experience*

The research team noted that GWMP is composed of technically contiguous areas along the Virginia Potomac shoreline, although it presents itself as a series of seemingly disconnected areas, linked by the Parkway and the Mount Vernon and Potomac Heritage Trails. This is particularly true with fishing sites such as Pimmit Run, Difficult Run, and other locations in the northern portion of GWMP, which are at the mouths of streams that enter the Potomac. Many sites have no amenities, and are a scramble down

a social trail to the waterfront, while others, such as Theodore Roosevelt Island, have formal trails, parking lots, and toilets. It is difficult to generalize about all sites, but following are some area-specific suggestions.

- At Chain Bridge, the NPS should consider ways of making access to the river much safer.

As mentioned in the early section above on GWMP-N fishermen, Chain Bridge is a popular yet dangerous site for subsistence fishermen. The location's danger comes from the rocky shoreline, fast current, and deep waters. However, fishermen brave the danger because they see it as an excellent location for catch and release fishing for shad, herring, blue catfish, and rockfish. According to fishermen who do this on a regular basis, entering the fishing site involves running across the highly traversed Chain Bridge Road and North Glebe Road, hopping over the guardrail near the Chain Bridge sign, and hiking down a social trail to the riverbank. To enter the rock bluff side, one has to jump over the cement barrier and scramble down and across rocks, sitting on rocks close to the edge of the river. Both ways have their own dangers. Perhaps the Park Service could brainstorm with fishermen and/or engineers about ways to make the entrances to these fishing sites safer, as fishermen will always try to use them. Shad fishermen populate the site during the spring shad run.

- Enhance the presence of park rangers and park police during certain seasons to encourage anglers (and teenagers who frequent the area) to pick up the trash they leave behind.

Trash was noted near Theodore Roosevelt Island along the Potomac Heritage Trail, at Pimmit Run, and Chain Bridge Road. Roaches Run also had trash, occasionally, but that could easily have come from cars, vans, and limos parking in the cell-waiting area for Reagan National Airport, or from the Parkway itself, rather than the fishermen.

- Streamline licensing and regulations.

Within the jurisdiction of the NPS shorelines, consider making possession of a fishing license from any of the bordering jurisdictions (Virginia, Maryland, or District of Columbia) sufficient for fishing off NPS shorelines. Some kind of reciprocity could help fishermen defray the costs of two or three licenses. Additionally, fishermen complained that size limits and number of fish of the same species differed between jurisdictions (the example was perch), and yet within one park you could be either on the Virginia or the D.C. side, and unless you have two licenses, you put yourself at risk if you are over the limit in the more restrictive state. This did not make sense to fishermen since, "it's all the same river."

Because of multiple states sharing the river, and multiple, sequential deadlines for renewal by each state, sometimes regulations and rules become murky. As one angler said, "if you're not on top of your game and keeping up with all the regulations, they'll trip you up and get money from you." A few fishermen argued that there should be a regional license to fish the Potomac River system in general—some kind of regional or river-based license. Another pointed out it was redundant to have a state-based license, since the Potomac winds its way through multiple jurisdictions at any one point on the river.

Although outside the jurisdiction of the Park Service and our study, the point was made about expense and the need to have multiple fishing licenses. An angler listed off at least five different licenses he needed to fish on the Potomac, inland fisheries in Virginia, and crossing over into Maryland. For

example, on the Potomac below the Highway 301 Bridge, if you are fishing on the Virginia side of the river, you have to purchase a saltwater license; and above the bridge where our fishing sites were located, a freshwater license is required.

- Improve the infrastructure and facilities at GWMP-S.

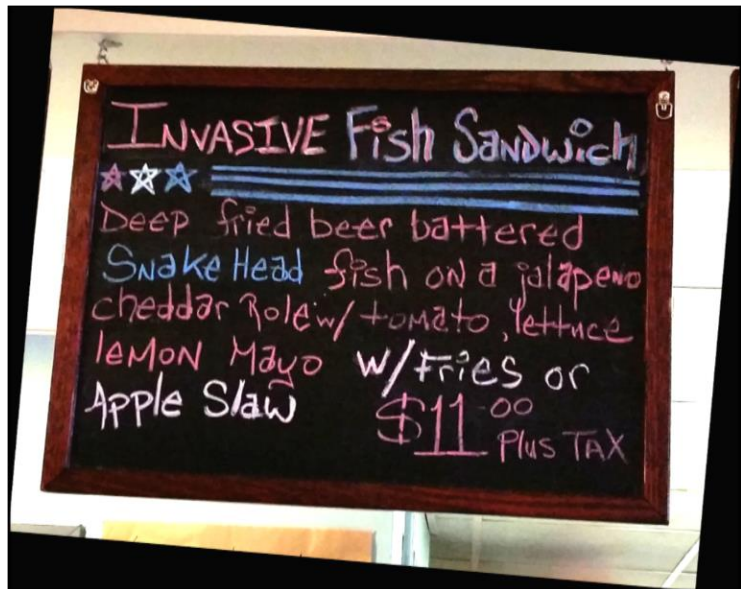
At Jones Point, the piers, which are fishing-friendly and have tables for tackle and fish cleaning, show signs of weathering, with some of the planks and boards becoming loose, and small holes appearing in the wood. This was the only maintenance issue mentioned with respect to this particular fishing spot, however, the research team noted that adequate and accessible trash cans and fishing line disposal containers near fishing sites would be helpful.

- Place parking meters in parking lots but target the revenues from these meters strictly for park maintenance at park fishing sites (e.g., Theodore Roosevelt Island, Hains Point, Jones Point).

Fishermen wanted to see any fees, fines, or meter money going directly back to park maintenance, upkeep, and improvement. Highway construction zones often have explanatory signs about where the money came from and how it is being used. If revenues raised at park sites were to be returned there, it might be useful to have signage to that effect.

- Develop plans in increase the harvest of invasive species.

One suggestion proffered by fishermen regarding invasive species, such as blue catfish and snakehead, was to encourage *more* commercial take of these species, to market them more intensively, and to regulate the harvest through a formal management plan, with clear area and seasonal closures. This is particularly true of snakehead, which most fishermen knew and were concerned about, regarding native population impacts. While this is not in the purview of the NPS, these thoughts are offered as advice for natural resource management agencies in adjacent states, such as Virginia, which are concerned about growing numbers of snakehead in their waters.



Advertising for an “Invasive Fish Sandwich” at Union Market in D.C. Photo credit: S.J. Fiske

- Limit or eliminate gillnetting for catfish on the Potomac.

Subsistence fishermen complained about the setting of nets in the Potomac to catch catfish, because it unfairly depleted the number of stripers and other fish that subsistence fishermen wanted to catch. The fishermen we heard from were fishing in the Piscataway and Fort Washington area, and across the river

at Jones Point. The implication was that commercial fishermen came upriver and targeted catfish using round nets or gill nets: “There’s a group out of Tim’s that goes out an they’ve got 50 gill nets they drop, or correction they’ve got 50 hoop nets they drop. They’re trying to get as many catfish as they can and bring ‘em in. Doesn’t matter what size. They take ‘em and go and process ‘em and get paid 40 cents a pound.”

“They come up right here by Fort Washington right around by Mount Vernon, right around the corner where you go down by Fort Washington and turn—it’s all gill nets. You gotta dodge jugs as you’re coming through there [in a boat]. But when they do that guess what else they’re catching? Everything. Your big-ass rockfish, all that stuff. And then they’re already dead so they can’t release anything.”

Subsistence fishermen argue that it is inequitable to have net fishing on a commercial scale in the waters where they fish, because of the by-catch of good-sized stripers and other fish.¹⁵³

We heard similar complaints from fishermen and fisherwomen at Fort Washington and Piscataway that appear in the Park Profiles for those parks.

References

Cohen, Amber, Noel Lopez, and Katie Geddes. 2017. “Subsistence in Urban Parklands: A Reflection on Ethnography and Policy.” *Practicing Anthropology*, 39(3):21-24.

Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. 2017. *Household Food Security in the United States in 2016*, ERR (Economic Research Report) #237, U.S. Department of Agriculture, Economic Research Service, www.ers.usda.gov.

Krakow, Jere L. 1990. “Historic Resource Study: Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway.” NPS. Accessed through the Internet Archive, <https://archive.org/details/historicresource00krak>.

¹⁵³ The Potomac River Fisheries Commission does not have a management plan for catfish, although it is being considered by some jurisdictions. Commercial fishermen can harvest catfish, although there are area and gear restrictions that apply. The state of Maryland has no limits or closed seasons for any commercial or recreational catfish fishery. In the Commonwealth of Virginia, a gill net license is required, and the gill nets can only be used in Virginia waters. Virginia’s gill-netting season is regulated by the Virginia Marine Resources Commission.

8.5 National Mall and Memorial Parks

Located in the core of the Nation's Capital, National Mall and Memorial Parks (NAMA) is responsible for more than 1,000 acres of parkland containing many significant cultural and natural resources; the sites of NAMA are well-known symbols of the nation, depicted on everything from currency to the nightly news. NAMA administers, interprets, maintains, and preserves the Washington Monument, Thomas Jefferson Memorial, Lincoln Memorial, Franklin Delano Roosevelt Memorial, D.C. War Memorial, World War II Memorial, Korean War Veterans Memorial, Vietnam Veterans Memorial, George Mason Memorial, Pennsylvania Avenue from the Capitol to the White House, the National Mall, East and West Potomac Parks, Constitution Gardens, the Tidal Basin, and Hains Point. Overall, NAMA contains more than 80 historic structures and over 150 major named historic parks, squares, circles, and triangles, and is one of the most-visited capitals in the world.¹⁵⁴



Hains Point in 1935. At right is the Washington Channel, leading to the Tidal Basin. On left is the Potomac River; the Anacostia is in the lower, right-hand corner. Currently, the island has extensive vegetation and trees. *Photo credit: Public domain photograph*

Sites in NAMA important for this study include the Tidal Basin, Hains Point, East and West Potomac Park, and Kutz Bridge (crossing the Tidal Basin at its southern portion), among others along the Potomac riverfront in the District. Hains Point (shown above in 1935) is a crown jewel of fishing sites for local fishermen. It is an island, technically, constructed from dredge material from the Potomac, which was dredged to maintain shipping access in the 1880s and 1890s. Hains Point was built at the confluence of

¹⁵⁴ Information taken from www.nps.gov/nama.

the Potomac River (on left) and Anacostia River (lower right), as part of a plan to drain the marshlands and contain the disease and odors that plagued the District. The waterway curving through the middle-right of the photo is the Washington Channel, leading to the Tidal Basin, with the Washington Monument visible in the rear center.

Hains Point has a special place in the memories of many African American fishermen and fisherwomen we talked with—a number of individuals mentioned that it was one of very few places they could go in the 1950s to recreate on or near the water and to fish, which was not segregated. One man said simply, “It’s home.” Another described how Hains Point has been an integral part of his family history. They came to Hains Point “A lot, when I was a child...like a lot of family reunions, cookouts, things like that, we would come here. Especially when the ‘dead man,’ [the semi-underground sculpture statue, “The Awakening”] yeah, he was over there pointing, before they took him over there to the Harbor. So, we used to come here a lot when I was a child.” (#105) He continues to bring his own family to Hains Point mainly to fish (“We’re not coming to fish, we ain’t coming.”), but sometimes just to picnic. Another man said that Hains Point was where he first learned to fish, and he responded that it is a special spot for him: “All the time. Hains Point especially, anybody who was born and raised in Washington, this is a special spot.” (#209)

Recollecting the good times at Hains Point, back when he was a teenager, one fisherman remembered it was his initial experience with Park Police, probably during the times when he was trying to “see the submarines.” “The Park Police came up, the first ones I ever seen, with the spotlight with the trigger on it to shine in your car to see what you was doing. Anything around water you always had to keep an eye on people. If they see two heads in the car and them heads was missing when they came back, they shine the light.” “Vans never stood a chance. They never let vans rest too long. Hains Point was famous. It’s definitely still the same way, just new generation now.” (#203)



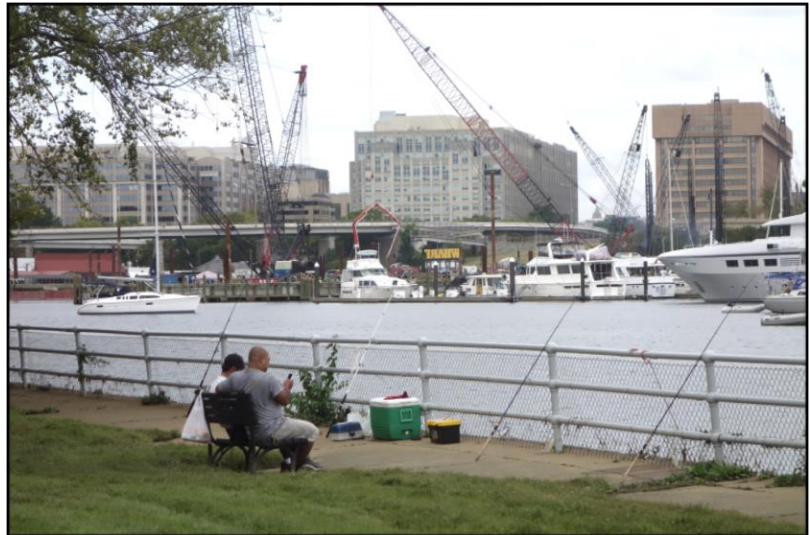
Fishing on Washington Channel, Hains Point. *Photo credit: J. Trombley*

Hains Point is ringed with sidewalks and guardrails for walking, picnicking, and fishing, with large grassy open spaces towards the south. In addition, a two-lane paved road skirts the perimeter of Hains Point, shared by bikers and joggers, cars and tour buses, fishermen and sight-seers. Amenities include a “tennis bubble” (courts inside an inflatable dome), rental bikes, historic park headquarters, administrative buildings for National Capital Region of the NPS, a public golf course, and

snack bar (no bait sold there). It is a gem of an urban park, with river waters flowing on both sides, albeit with constant reminders of metropolitan living—airplanes landing and taking off across the Potomac from Reagan National Airport, power boats and cruise boats on the Potomac, and freeway bridges for cars and rapid transit rail system (Metro) going between the District and Virginia. There are

also rail bridges just upstream from Hains Point for Virginia commuter trains and regular, non-hazardous freight trains coming into the District.

At times the Field Team had to halt the digital taping because of noise in the background, but there is always a fresh breeze off the water, and it often feels like one is on a tranquil island oasis, in the middle of high-rise condos, federal buildings, freeways, and the dense urban streets of the District. On the Washington Channel side, there are yachts in the water, several soaring construction cranes, and noises of development—a waterfront being re-developed once again. On the waterfront across the Washington Channel one can see the Wharf, the popular marina where the diverse ethnic and income groups buy fresh fish and seafood. The Wharf includes Virgo’s Fish House, the local fishermen’s “go-to” place to get their fish cleaned and filleted. The fish house shed at the Marina may not have a long future, a sacrifice to continuing gentrification and development. In the midst of this, Hains Point is a peaceful locale to set fishing poles and share time with a friend or family.

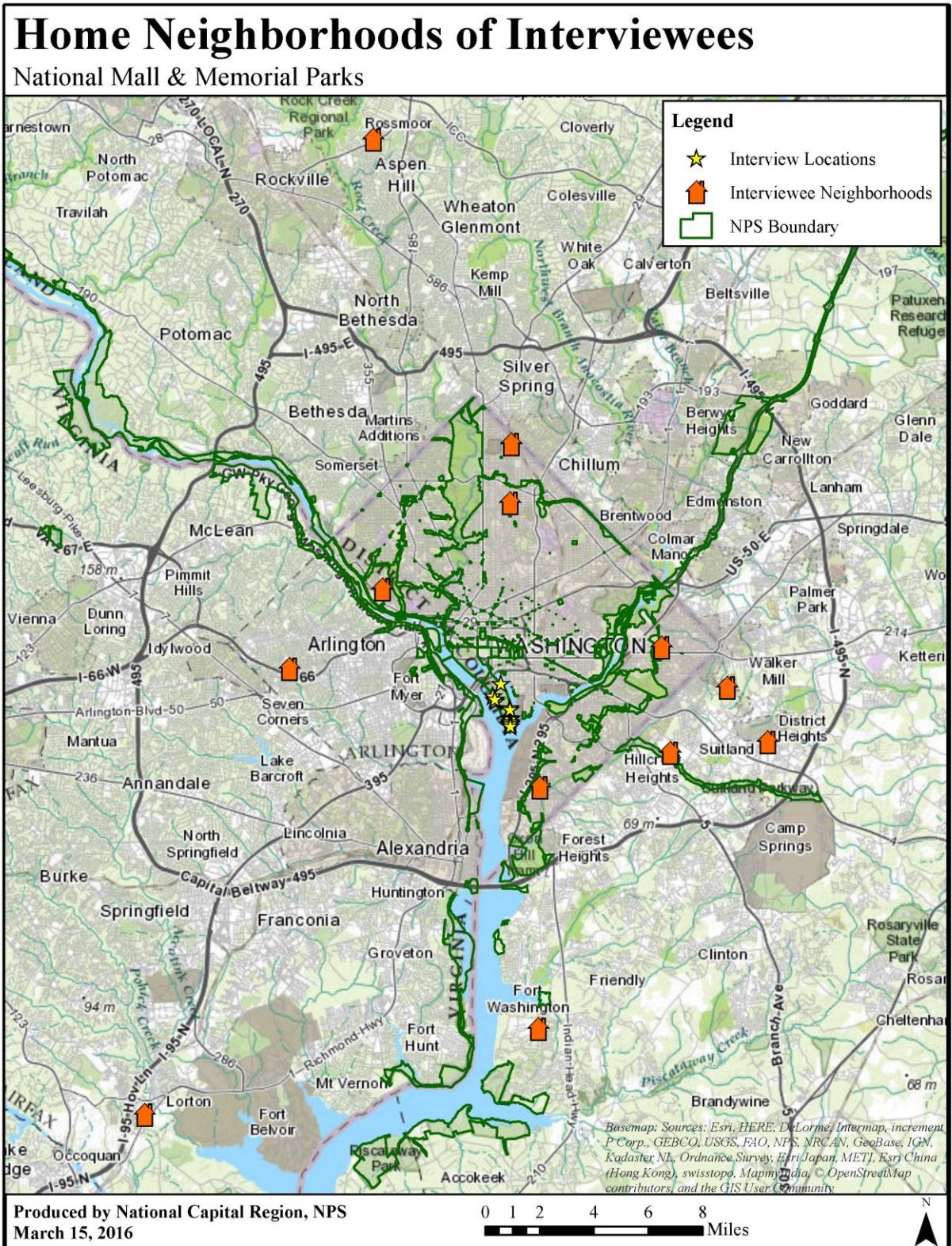


Fishing the Washington Channel in the midst of construction. East Potomac Park. *Photo credit: S.J. Fiske*

8.5.1 GIS maps

Two GIS maps follow, showing first, NAMA park boundaries, interview locations, and home residential locations of NAMA fishermen for 2015 only (Map 8.5.1), and second, the 2015 and 2016 field seasons combined locations of residences from fishermen at NAMA (Map 8.5.2). For Map 8.5.2, there were 27 interviewees, the most recorded at any specific park; almost all were interviewed at East Potomac Park, West Potomac Park, and Hains Point.

Map 8.5.1: Interview Locations and Communities and Neighborhoods of Residence, NAMA (2015 only)



8.5.2 Brief administrative history

NAMA's open spaces and parklands were envisioned by Pierre L'Enfant's plan of 1771, which was commissioned by President George Washington. The design created many of the spaces which would ultimately become the National Capital Parks (NCP). The original lands of the National Capital Parks were acquired pursuant to Congress' authorization with the Residence Act of 1790. Under this authority, between 1790 and 1867, The Mall, Monument Grounds, Capitol Grounds, and approximately 300 reservations, or federal lands, in the original City of Washington were acquired as public properties. Much of this land remains federal property today and is part of the National Park system. East and West Potomac Parks, which include Hains Point and the Tidal Basin, were created in the 1880s and 90s by the U.S. Army Corps of Engineers in an ambitious reclamation project intended to improve both river navigation and the sanitation of the Potomac Flats. In the early years, the lands of the NCP were under management of a number of agencies, formally coming under the authority of the Department of the Interior with the Reorganization Act of 1933. In 1965, NCP was split into its current configuration of several administrative units, including National Capital Parks—Central (NACC). In 2005, NACC was formally changed to National Mall and Memorial Parks.¹⁵⁵

8.5.3 Demographic characteristics of NAMA anglers

Twenty-seven oral histories were conducted at NAMA, about one-third of all the interviews conducted during this research. All of the interviews were conducted at Hains Point, since the density of fishermen is much greater there than at other sites. Hains Point is clearly set up to fish and picnic, with abundant and accessible parking, so anglers stay and fish for long periods (3-4 hours) during the day. Kutz Bridge, another fishing site nearby, is small, crowded, and in the middle of an active tourist pedestrian thoroughfare along a major access street, and is a difficult location to entice fishermen for an interview. The Field Team talked briefly to one young Asian fisherman on Kutz Bridge, who was crouched with a hand line and his bucket at the top of the bridge. His English skill was limited, but he told us he was fishing for bait fish: "...small ones to catch bigger ones".

For Hains Point anglers, the mean age was 48, with the median age at 49. While about half of the NAMA sample was over 50, only 20% were under 40 (the youngest was 25). As seen in Table 8.5.1 below, the vast majority were African American; three-quarters of the anglers had at least a high school diploma (or equivalent) and over a third had some college experience.

The research team did not code for occupation, but our oral histories usually turned up anglers' work history or jobs—where they worked and/or what they did. Out of the 27 NAMA interviews, there were several truck drivers, a heavy equipment operator, a service technician ("I fix cars for a living"), and a person who self-described as a "driver." Other occupations ranged from working "for the county" and the U.S. Postal Service (a "letter carrier"), to working as a nurse in a nursing home. One person was studying to become a network systems administrator, and already had a Master's in culinary arts. Four anglers had been employed for 20 or more years and were on disability; one woman was a housekeeping supervisor, but is now on disability. Three were retired or almost retired, including one retired military; and three told us they did not have jobs, were unemployed, or were "not working." One of the non-employed men was with a lady friend who worked "for the government."

¹⁵⁵ For additional background, see National Park Anniversaries, <https://www.nps.gov/subjects/npscelebrates/park-annivesaries.htm>, and Records of the National Capital Planning Commission, <https://www.archives.gov/research/guide-fed-records/groups/328.html>.

Table 8.5.1
Demographic Profile of NAMA Anglers

Demographics	Percent
Gender	
Male	85%
Female	15%
Ethnicity	
Anglo	4%
African American	70%
Asian	15%
Hispanic	7%
Other	4%
Average Age	48 yrs.
Education	
< High School	26%
12 th grade or GED	39%
Some College	22%
Bachelor's	13%

8.5.4 Length of season, frequency of fishing, and years fished

Only a fourth of NAMA anglers fished during the winter, although in more clement weather about three-fourths fished at least twice a week. These anglers are committed fishermen, with the majority fishing two to three days per week. Most of the fishermen at NAMA have been fishing a good proportion of their lives, with an average of 22 years fishing experience.

Table 8.5.2
Fishing Characteristics of NAMA Anglers

Fishing Characteristics	Percent
Fish in Winter?	
Yes	25%
No	75%
Frequency of Fishing	
4+ days per week	15%
2-3 days per week	56%
Once per week	26%
1-2 times per month	4%
Average years fished	22 years

8.5.5 Major types of fish harvested and consumption

Although blue catfish is certainly the most-harvested species at NAMA, it is clear that striped bass is the most preferred species (77%), and the species most likely to be consumed by anglers (82%). Also, striped bass is the species for which anglers are most likely to consume all or most of the fish, not a small proportion or none. About two-thirds of NAMA anglers personally prefer and consume most of the blue catfish biomass they harvest. However, while nearly everyone shares catfish, only three-fourths share striped bass, presumably keeping a majority of their catch for personal consumption.

**Table 8.5.3
Harvest Characteristics of NAMA Anglers**

Harvest	Blue Catfish	Channel Catfish	Yellow Perch	Striped Bass	Shad
Average number caught weekly	9	5	2	3	<1
Personally eat?					
Yes	64%	57%	27%	82%	25%
No	36%	43%	73%	18%	75%
Prefer to Eat?					
All the time	40%	53%	19%	67%	0%
Sometimes	20%	0%	6%	10%	0%
Never	40%	47%	75%	24%	100%
Proportion Eaten?					
None	32%	47%	73%	29%	75%
Some	32%	20%	7%	38%	0%
Most	28%	33%	20%	24%	25%
All	8%	0%	0%	10%	0%
Share this Species?					
Yes	89%	79%	21%	75%	25%
No	11%	21%	79%	25%	75%

Nearly all anglers at NAMA (in our sample) fish to eat at least part of their harvest. Only a small percentage (8%) give away all the fish they catch.

**Table 8.5.4
Consumption Patterns of NAMA Anglers**

Overall Consumption Pattern	Percent
Share only	8%
Some Return/Some Consume	77%
Consume only	15%

8.5.6 Sharing and contexts of sharing fish

Nine out of 10 NAMA anglers share blue catfish, with slightly lower proportions sharing channel catfish and striped bass. These three species, by a huge margin, are the most likely fish to be shared by anglers at NAMA.

About a third of the NAMA anglers bring fish they have harvested to be consumed at community events, such as block parties or church events. This proportion is reversed for sharing with extended family members, with two-thirds of anglers sharing their catch with friends and extended family. Much of this sharing is conducted at events such as 4th of July cookouts, family reunions, or picnics.

Table 8.5.5
Contexts of Sharing Practices of NAMA Anglers

Setting of Sharing with Others	Percent
Number of community events attended	
0	68%
1	27%
2+	5%
Number of extended family events attended	
0	35%
1	44%
2+	22%

8.5.7 Food insecurity

For a detailed discussion of food insecurity, see Section 6.3.4 of this report, which discusses the measures used by the U.S. Department of Agriculture (USDA) and compares them with the open-ended topics used by this study. Keep in mind that the USDA combines “low” food security (analogous to any level of anxiety about having enough to eat) with “very low” food security (periods where households went without meals) to form the proportion of “food insecure” households. Thus, the USDA combined “low” and “very low” food insecure households in the United States are about 12.3% (Coleman-Jensen et al. 2017:2).

For this park profile, nearly 40% of NAMA anglers indicated *some* concern about putting food on the table, that is, they worry “a lot” (12%) or “a little” (27%) about it. This finding is underscored by responses from over a quarter of NAMA anglers, who asserted that sometime during the previous year they had not had enough to eat (see tables 8.5.6 and 8.5.7 below). These are high proportions when compared with other U.S. urban populations, in which “metropolitan” populations experience about 11.8% food insecurity (i.e., “low” and “very low” food security). (Coleman-Jensen et al. 2017:15)

What makes these data even more concerning is that the aggregated D.C. urban population is indicated to have food insecurity *below* the U.S. average (Coleman-Jensen et al. 2017:17). Formal comparisons can be found in Section 6.3.4.

Our NAMA data indicate food insecure households, on any of our food insecure attributes (“worry a little,” “worry a lot,” or “did not have enough to eat”), total 12 households out of 26. At 46%, this is nearly quadruple the national rate of U.S. food insecure populations. And while the overall urban D.C. area has very low rates of food insecurity, our research (among others) indicates that there are some segments of population within the D.C. area that have a much higher rate of food insecurity than the national average.

Table 8.5.6
Food Security for NAMA Anglers (n=26)

Food Insecurity	Percent
Food on the table	
Worry a lot	12%
Worry a little	27%
Do not worry	61%
Did not have enough to eat	
Yes	27%
No	73%

Table 8.5.7
Food Insecurity Among Different Park Units

Park Unit	Last year were there times your household did not have enough to eat?					
	Yes		No		Total	
	Count	Row %	Count	Row %	Count	Row %
National Mall (NAMA)	7	26.9%	19	73.1%	26	100%
Piscataway (PISC)	0	0%	13	100%	13	100%
Anacostia Park (ANAC)	1	9.1%	10	90.9%	11	100%
C&O Canal NHP (CHOH)	2	15.4%	11	84.6%	13	100%
GWMP-South	4	26.7%	11	73.3%	15	100%

8.5.8 Residences of NAMA anglers

Nearly half of the NAMA anglers live in mixed communities with no clear ethnic majority. A roughly equal proportion of the remainder live in mixed communities with either an African American or Anglo majority.

Sixty percent of the anglers who fish at NAMA actually live closer to Rock Creek (ROCR) or Anacostia (ANAC) parks. Only 8% live near NAMA; this is not an unreasonable finding since there is very little residential housing immediately near NAMA (except in Foggy Bottom and Southwest D.C.).

Table 8.5.8
Ethnic Composition of NAMA Anglers’ Communities of Residence

Residence	Percent
Ethnic Demographic	
African American majority	19%
White majority	
African American, sizable Hispanic	
Mixed	15%
Mixed, no majority	41%
Anglo, sizable Hispanic	4%
Mixed, Anglo majority	22%

Table 8.5.9
Nearest Park to NAMA Angler

Neighboring NPS Park Closest to Angler Residence	Percent
NAMA	8%
CHOH	8%
ROCR	24%
PISC	4%
Outside NCR (PRWI)	4%
BAWA	12%
ANAC	36%
GWMP	4%

8.5.9 NAMA fishermen: Qualitative Portraits

Qualitative portraits are individual composites created from interview transcripts of fishermen and women. They provide holistic glimpses into the lives, values, and perceptions of park users—specifically, the anglers who catch, consume, and share their fish. Any names used in the portraits are fictitious to preserve anonymity. The three individuals below are of similar ages, but with different occupational and ethnic backgrounds. They range from high-intensity, “take home everything I catch” fishermen to a more recent but dedicated “returnee” to fishing. For all of them, family fishing has been a core activity for several generations. They all have similar motivations for and enjoyment of fishing; and they all share the fish they catch.

8.5.9.1 He’s used to really fresh fish—Jaime Padilla

Jamie Padilla, 43, was fishing on the Channel side of Hains Point. He learned to fish about two years ago, saying that he “wasn’t interested in it before,” but one of his uncles took him fishing (at a campground on the Potomac, south in Maryland), and he “got hooked on it.” His uncle and father introduced him to fishing in the United States, but in the Philippines his family was traditionally connected

to fishing—he remembers his grandfather had a fish pond. “I remember that because, he, uh, he has a pond where he kept them growing, you know. Yeah, he farm it.” To the research team, it sounded like he was describing a fish pond or pound or enclosure, “like what you see on the bay, where they put some pins [pens] around the river, yeah.” His uncle, his grandfather, and his cousins all fished or fish—three generations. He was not sure about his great-grandfather.

He fishes mainly at Hains Point because he can get there and fish while he is on breaks from work.

“I have a long break, so instead of sleeping, I just come drive down here and enjoy the scenery and fish. And, yep, so this is the closest place where I can go to while I'm working... Yeah I'm taking care of elderly in the nursing home [he works as a nurse], so during the afternoon, they rest and they want to take a nap. So instead of watching the TV there, I just come down here and come back there in the afternoon.”

He really likes Hains Point because it is “convenient... because in fishing, you know, [it is not guaranteed] that you're going to catch something, and since I'm only doing this for pastime... in this area, I think this is the best place to go.” (#224)

He usually fishes alone, because he has limited time on his work breaks. Sometimes on weekends he takes his young son (who is too little to fish), and sometimes his wife will go with him. “But this place [Hains Point] is good, good for them to relax. You know, like, there is a picnic area, that is fine.”

For Jamie, his favorite fish to eat is rockfish, “the most best tasting meat of all the fishes here you can catch.” After that, he prefers perch, although they are small and bony. “But I can live with that.” He does not like the taste of catfish, and usually has only a bite or two, which is enough.

He fishes maybe two days a week, April to November, usually catching about three blue catfish per trip. He gives the fish he does not want to relatives, and stores the any extra fish in his freezer. He and his cousin also fish on head boats out of Kent Island, in the Chesapeake (MD). Last year there was a bluefish run in Delaware, and he and his cousin booked a charter boat, and caught about 20 large blues.

We asked him about family fish cookouts, and he commented “Yeah, yeah; usually, when there's occasion, we'll have party, we eat them, you know sometimes we smoke them and keep it in the refrigerator.” He also shares fish with friends, and with people who walk by and ask for it, but his family is the priority.

He said as a Filipino, he is used to really fresh fish: “...in the market [in the Philippines], they always sell freshly caught fish. Catch in the morning and then people sell it. When they catch it in the evening, they sell it in the morning.”

He usually cleans and cooks the fish he takes home—although he admits, “I'd rather have my dad do it because he's a cook!” His father usually cleans the fish thoroughly, marinates the catfish in tamarind and salt (“takes up all the slime. Because, you need to neutralize the slime of the catfish, you know.”), then “most of the time [we] deep fry; do *adobo* sometimes.” On food insecurity, he is worried “a little” about putting food on the table, but he stated that last year they always had enough to eat.

Jamie’s comments on what fishing means to him:

“It’s the best outdoor activity to do in the summer for me. ...For me it's enjoyable. It's just like, you know, when you start reeling in and you can feel the sensation of the fish that's pulling against you, yes. Just like that; and uh, I like watching the scenery where you fish...the quiet area, place, you know, something like that.” (#224)

8.5.9.2 Fishing is sharing—William Stedman

William was fishing on the Channel side of Hains Point, about 1:30 pm. He is 46 and lives in Northwest D.C. He stated that he is African American “for the most part, I guess.”

To him, fishing is like a safety valve for your mind:

“Relaxing, peaceful. You can think about whatever you want to think about or don't think about anything at all. When I do bring my son, when I have taken him, that's when he's discovered that, you know, whatever is running through your head, running through your mind, you get to relax and don't have to think about it or you can focus on it. Narrow your thoughts down if you have a whole lot running through your mind.”

He works in information technology (IT), and much of his work is done on a contract basis. There are down times between the conclusion of one contract and the start of the next; he was between contracts when interviewed. He is completed his bachelor's degree and has a number of IT certifications.

Today, William is using bloodworms and nightcrawlers, and has two types of line: “...one is a poly, and that one is a non-filament.” He is testing the two poles because he plans to bring his teenaged son out the following Saturday and wants to be sure the poles worked. He has always shared fishing with his son, starting from when he was very little:



Catfish are biting! Hains Point. *Photo Credit: S.J.Fiske*

“...even when my son was born, you know, we had the little tent for him. We came out and set the little tent in the grass usually down at that end [of Hains Point] and just sit there with him and be out here fishing.”

William figures he has been fishing in the D.C. area for around 22-23 years—mostly at Hains Point. He learned to fish from his father in New Jersey. His father had a boat, and he misses going out on it and going crabbing. His mother “has gone out with us” on the boat, and did not like baiting the hook, but she would reel the fish in. Most of the time he fishes by himself, since his wife does not like it and does not come. A couple of his brothers fish, but they are in New Jersey.

His season starts when the water warms up, “For here (D.C.) it's only basically in the summer or like once the waters warm up enough so you're always like listening to the weather or watching the news.” He goes until at least September and October, until the weather gets colder.

He usually keeps all the fish caught, unless they are under-sized.

“If it's a legal size then (I) usually keep it. If I keep it, it just depends on what it is. If it's catfish I rarely eat the catfish because they are just such a pain to clean. So I'll give them away. Other fish, depending on what it is, I'll give it away also depending on the quantity or what I may already have at home. If I fished on a regular basis and my freezer is full then, you know, the rest of it just goes to someone else who could use it.”

Although he usually gives away the hard-to-clean catfish, when he does take them home, he gave us a step-by-step guide on how he prepares and cooks them: “Usually (I) peel around the head, neck area and usually I take a pair of pliers and skin him. After that, just like any other fish.” He usually leaves the bone in the fish rather than filleting it or making nuggets, and soaks it in vinegar and fries it. As for

SECTION 8.5: PARK PROFILES. NAMA

other species, "The rockfish, there is plenty of those. Like I said, most of the time they are too small to even keep so I don't know where they go once they get bigger."

William shares broadly with family, friends, neighbors... "everyone." He shares with people walking around Hains Point who approach him. "If they are looking for some, yeah sure." And sometimes with other fishermen:

"...if someone's next to you and they're fishing and you have maybe one fish and you're like, 'what am I gonna do, take this one fish home?' You can say, 'hey do you want such and such?' And they'll say, 'Oh yeah, I'll take it!' So we share."



Family fishing at Hains Point. *Photo credit: L. Walker*

We asked whether fishermen trade fish amongst among themselves, and he agreed, "I would say probably, yeah, 'cause some people don't like catfish. So, when they catch one, if they don't like it, you can always tell because they start asking people near. 'Hey! Do you like catfish?' And they'll share the catfish with somebody."

Some people, "want the eels. It's rare but some people want them and you say, 'I got another one!'" He shared the universal complaint about eel: "Too much work when you do catch one because it's going to try to twist your line up and everything else...That's all it's going to do is twist up and keep twisting and twisting and twisting around the line until it's all slimed up and tangled up."

He used to fish at Anacostia: "Years ago I used to stop at Anacostia but that's been years ago." He changed because of "convenience... especially if you're coming from work or stopping before you go to work."

Even though he is currently not working on a contract, he is not worried about putting food on the table, "Especially not [worried] when you can go fishing... If you know how to fish regardless of where you go then you can pretty much have a sustainable source [of food] as long as the source is protected."

He continued with a general self-sufficient ethic:

"So, you know, I have a huge duffle bag that has all the camping gear in it and all the supplies...in case, you know, there is a zombie apocalypse. It's always, hey, the poles are right there. Grab them. I don't have to worry about running to a grocery store. We would survive."

He added that there were no times during the last year when members of his household did not have enough to eat. He said he had heard the fish advisories about not eating too much of certain fish. We asked him about his advice to mitigate the risk of eating the fish, and he explained: "...that's probably why we fry everything. So that if there is something, some type of impurity, you know that hot grease and oil, you know is going to zap it as much as possible."

"So even when my son's mother, she was pregnant with him, there weren't any fears of eating the fish. The fish that are in here are generally coming from out there. It's all gonna be the same somewhere, you know. You're gonna eat the fish that they're selling down there [at the Wharf];

they're catching it at the entry point. So, you know, even sometimes they may be right there off the boats in the dock right there [at the Wharf, in sight from where he was fishing] so you never know. You have to just trust it. Like I said, frying everything was the most that we could do." (#225)

8.5.9.3 A high-intensity fisherman—Wayne Robbins

Wayne is a high-intensity fisherman, a 46-year-old African American who has lived in D.C. all his life and loves fishing. He usually fishes with his brother, who was with him the day of the interview. They usually go three to four times a week starting in May, and are out there from 11 a.m. or noon to 5-6 p.m. He fishes almost exclusively at Hains Point, but qualifies it with "it depends where they're biting".

"[I'm] just a person that ...enjoys fishing. I just love it. I'll never stop doing it until I can't do it no more."

He learned how to fish from his father, at Fletcher's (and his father learned from his father). "We mostly started down, um, Fletcher's Boathouse down in the canal when my father took us out. And we started off with bamboo poles and then eventually got up to regular poles and he just told us the basic things about fishing." He's been fishing since he was about 6 years old.

Wayne and his brother fish all "up and down, down and up" Hains Point and the Potomac, up as far as Chain Bridge and down as far as Indian Head. "See, a lot of people don't know the areas in the world that they can't walk. Me and my brother we basically know every place in there, we know where the snakes are at and we know where they're not." "Yup, ain't no part of that water I don't know." Although both his parents are now deceased, they fished and virtually all his extended family and the cousins now are coming up fish and enjoy eating fish.

He has not "fished in Anacostia probably about, almost about 20 some years," stating the water is too "dirty" and there is "Some of everything in there [laughing]."

The extended family often does cookouts:

"Like if we have a, um, cookout, well it's always fish fry... Like if we have a fish fry or something we go down to Choptank [River, Eastern Shore of Maryland] and catch, um, croakers or whiting, I mean everybody, everybody eat it. Right." (#201)

He eats all the fish he catches from the Potomac—catfish, perch, bass, bluegills... He also gives fish away, to "...one of my neighbors that eats catfish." In his cooler on that day, he had channel cat, a mudcat, and a blue cat. For bait he uses "bluefish, perch, bloodworms, minnows..." He complained that bloodworms are "too expensive now." He gets his bluefish from the Wharf for \$5-10, saying that they are cheaper than bloodworms.

He says it does not matter what kind of fish they are—no preference. He will take them home and fillet them, and if he gets a lot, he will freeze them. We asked him if he eats the fish he catches. "Yeah." "Which ones do you normally eat?" Wayne: "All of them!"

He does share and give away some of his fish, however:

"Well if I get the homeless coming by and they want fish, I give it to them. I've had, um, a couple of them come through every now and then. I see [them] and they blurt out, 'what did you catch?' I'll be like 'I caught this,' and they'll be like, 'Can I have some?' and I give it to them. ...I gave fish to churches too. In the city, uh huh. Mostly with my mother's church [Baptist], we used to give fish away to them."

He said he worries “a little” every day about putting food on the table, but there were never times (in the last year) that family members did not have enough to eat.

Wayne claims he caught a 50-pound catfish the other day, “lots of meat on it,” and he prepares and cooks the catch himself. “Just use regular, um, seasoned salt, season Old, Old Bay.” He claims soaking the fish in vinegar “...takes away a lot of the flavor.” He says “...it’s a meaty fish and if it’s cooked nicely. I mean, you have no complaints, you know?” He prefers to deep fry his catfish, and eats fish about once a week. He remembers that his “aunts and them would make a stew out of it.”

That particular day it was very windy, it was hard to record the conversation clearly, and Wayne and his brother kept losing their fish. The tape was filled with side comments and swearwords: “...broke the line and took off,” “...lost another one.” “...bad day for fishing.” The interviewers joked about bringing bad luck, not being a good day for fishing, and [kidded him] “what are you doing out here today?”

Wayne came back with, “Enjoying the weather [laughing]... getting peace of mind. It’s better than sitting home watching soap operas.”

The interviewers asked if he would talk about whether or not fishing is important to him, or the significance of fishing in his community.

“I mean, it’s important to me because I’m born and raised off of it, you know? It’s, um, it’s peaceful, it give you a lot of time to think about things that really need to be thought about and it’s a great sport.” (#201)

8.5.10 Recommendations

The recommendations section starts with the positive comments by fishermen, and then provides their views on what can be done to improve the visitor experience.

8.5.10.1 Appreciation

While many anglers offered recommendations and suggestions for improvements to park infrastructure and policies, they are also cognizant of personal responsibility failures among some anglers. One fisherman brought up the beauty of Hains Point during the interview. It is a great place to explore, he said, “But that’s our part to take care of what we have. It’s in our part to do our best to keep it clean, to protect it, to not contaminate it, and leave it how it is, how nature formed it. It’s a beautiful place.” Another had similar sentiments: “I mean, there are some anglers there that kind of abuse the system or abuse the park area and leave things, and that’s a shame, but you know, hopefully the more, uh, people know about taking care of it, definitely we’ll take care of the future of our ponds and lakes.”

One fisherman noted that the Park Service did well with cleaning up litter and policing the park but was worried about the condition of the waters.

In addition, in what they recognize as a wistful hope, many fishermen remember fondly the striking statue at the end of Hains Point, and wanted to know if the Park Service could return *The Awakening* to its original home. The public art installation by J. Seward Johnson, Jr., was installed there in 1980 and remained there until 2007.¹⁵⁶ People evinced a sense of pride that “their” park was important enough to have a landmark statue and it was accessible to people—children could play on it and around it, one

¹⁵⁶ The statue, owned by a foundation dedicated to public art, was purchased and installed on a beach at National Harbor, a private development and casino in Maryland.

could fish next to it, and picnics could be held close by. When one of the researchers asked, “You don’t want to go down to the National Harbor to go see it?” the angler replied, “For what? It was here. We need it back here. The one that was here, everybody wanted to come down here just to be on the man with the hand.”

8.5.10.2 Recommendation suggested by anglers to improve the NAMA experience

1. Add netting as a protective barrier to the Potomac River side of Hains Point.

Several anglers noted the broken concrete and holes in the fences. One father no longer fished on the Potomac side because he was afraid his young child would fall in through the holes in the fence and into the Potomac. On the Washington Channel side where he fished, the barrier had a wire netting at least a foot high. This wire netting is used by some Hispanic fisherman to hold hand-made fishing rods (made of water bottles).

Past the golf club towards the point, the concrete sidewalk next to the river is broken and has become jagged; some sections have holes that could cause visitors to fall.

2. Consider relocating the sidewalk on both sides of the point away from the edge and repaving it, taking into consideration the effects of climate change/rising tides.
3. Add more picnic tables and benches.

Similar to recommendations made at other parks, anglers thought that there should be more picnic tables and benches along both the Channel and the Potomac River sides. This is not unexpected, since fishermen and families often use picnic tables and benches to sit on, to socialize, to picnic or grill, and to hold their equipment.

4. Create a mechanism to engage volunteers in site clean-up efforts.

Are there ways for park fishermen to work with the Park Service to help clean up the river and the park itself? One angler explained that cleaning the waterway was important because of tradition. “That’s what we grew up on,” he said about fishing at Hains Point. “This is what our fathers grew up on, fishing out here.” He did not want to keep going to Virginia and Maryland and pay their license fees to fish out on their waters. “We got our own waters; same fishes, basically.” He said the water had to be cleaned because fishermen were always going to eat the fish.

One fisherman explained, “No matter what, we gon’ eat fish,” he said. “Fishes is part of our heritage.” He called it “part of our food history,” and a way of life. “When you can’t pay for food, this is how you get your food.” Fishermen cared deeply about cleaning the park and cleaning the waterways for future generations, but wondered if access to the river and cleaning the water could occur.

5. Evaluate locations and maintenance efforts for park bathrooms.

Several fishermen and women complained about the bathrooms:

- a) Bathrooms were too far away. Perhaps more bathrooms, in the form of port-a-potties, could be added, especially at the southern tip of Hains Point.

SECTION 8.5: PARK PROFILES. NAMA

- b) Some bathrooms need more consistent cleaning.
 - c) More consistent maintenance of bathrooms was requested, including replacement of burnt out light bulbs.
-

We talked to a “catch, consume and share” fisherman at East Potomac Park (NAMA/Hains Point), at 11 a.m. in early July 2016. “I do a combination because sometimes when I do catch ‘em, I give em, I share ‘em with my neighbors. May keep ‘em for myself sometimes, but if they're too small or whatever, I throw ‘em back.”

He appreciates the park very much. “I'm disabled, for real, I had back surgery. And I live in Southeast Washington next to Anacostia where I sometimes fish; and, basically, this is what I do on my spare time. Yeah, deal with my grandson sometimes and then come fishing. May go pick up food with my friends, and you know, we'll come down here and fish and kick it.”

“Me, I don't have a problem with the park. The park is alright with me. You know, you got nice trees, you got a nice breeze, got a nice little open scenery, so it ain't no problem with me. I never had a problem with any of the parks that I went in.” But he does have a recommendation for the dilemma every fisherman and fisherwoman faces when spending several hours at a fishing site in the muggy summer weather in the D.C. area.

“But one thing they can do, yeah [laugh], one thing that they can do, see, you gotta go all the way round there [gestures] for a restroom. There ain't no shortcuts. I think they should put those little [portable restrooms] you know, spot em. ...’Cus, you know, you're sitting out here having fun then you gotta go to the bathroom...you don't wanna be out here in front of all these kids and grown ups around here, but you got to go real bad. So what I'm gonna try to do—go behind a tree. You don't wanna do that. You wanna go to a little bathroom like they have those little box things, yeah. I think that'd be nice.”

His suggestion is to spot them closer to the fishing and picnic areas. “You got the benches, then you need spots like that. If you got that bench, you want to put one just exactly right there, you wanna take it down another notch and put it right there in the middle, then I don't think a person would mind the walk from here to there... I think that's the only problem that they've got. That's the only thing I see—a restroom area.” (#506)

- 6. Add additional water fountains around the point.
- 7. Increase the number of events held at the park, to make it a family destination by:
 - a) adding more activities for children.
 - b) reinstating fishing tournaments.
 - c) upgrading the cosmetic appearance by trimming the trees and cutting the grass.

It should be noted that some fishermen asserted that the East Potomac Park was neglected, with respect to maintenance, when compared with the West Potomac side.

The research team would like to note that since this study started in 2015, there has been a thorough study of the status, the needs, and the literature on theories of trash management: “Cleaning Up East Potomac Park,” by Worcester Polytechnic Institute (WPI) students (WPI 2018). It includes observations on trash, trash bins, monofilament fishing line containers, and signage to reduce trash. The recommendations have wide applicability to all the fishing sites at parks in our study, and it is hoped that some of the recommendations can be implemented.

References

Coleman-Jensen, Alisha, Matthew P. Rabbitt, and Christian A. Gregory. 2017. "Examining an "Experimental" Food-Security-Status Classification Method for Households with Children." USDA, Economic Research Service Technical Bulletin Number 1945, September 2017.

Worcester Polytechnic Institute (WPI). 2018. "Cleaning up East Potomac Park." Report for National Park Service/NAMA, in partial requirements for a B.S. degree at WPI. December 13, 2018. Team Members: Kirsten Doyle, Zhentian Ren, Jarod Thompson, Yuan Wang. Advisors: Professor Dominic Golding, Professor Lorraine Higgins. Sponsored by NPS, 22 pp. https://web.wpi.edu/Pubs/E-project/Available/E-project-121218-150936/unrestricted/Cleaning_Up_East_Potomac_Park_Final.pdf, accessed May 5, 2019.

8.6 Piscataway Park

Piscataway Park (PISC) is administratively part of National Capital Parks-East. In addition to Piscataway Park, the grouping includes the historic sites and properties of Fort Washington, Oxon Cove and Oxon Hill Farm, Harmony House, and Fort Foote. All are under one superintendent and supervisory ranger (PISC). For the purposes of this study, we mention the others briefly, but concentrate on Piscataway Park and Fort Washington, which have between them three of the most intensely fished shoreline sites in our sample.

The Piscataway Park unit is home to National Colonial Farm, Ecosystem Farm, a marshlands educational boardwalk along Accokeek Creek, and Piscataway Trail and other trails to explore the historic landscape. Saylor Grove Pier, a 250-foot long public recreational pier, juts out into the Potomac and is a focal point for avid fishermen and fisherwomen. The pier, an adjoining boat dock for small to large boats, and a floating dock for kayaks provide excellent fishing access.¹⁵⁷ There is another kayak launch site upriver at Mockley Point, and it was reported that anglers enjoy fishing there. There are numerous trails within the park for exploring, but simply walking along the shore from the pier landing is an easy, scenic, and accessible walk for fishing and hanging out. We observed families engaging in these activities, especially on the weekends. Trees, vines, and native vegetation line the shore, giving shade until midday. Fish bait



Saylor Grove Pier, Piscataway Park. Photo source: Accokeekfoundation.org

is sold at the nearby gift and snack shop, which is a short walk from the pier and shoreline. Parking is also close by.

Piscataway Park is part of the ancestral homeland of the Piscataway, who dispersed from the area of their central village, Mayaone, under centuries of colonization pressures. The Accokeek Foundation,¹⁵⁸ one of the three partners that

manage the park, encourages and values engagement with Piscataway tribal members and bands, and with help from elders and younger Piscataway, has dedicated part of its mission to bringing history and cultural traditions into public view. The foundation's website states, "We honor the indigenous people

¹⁵⁷ The pier and docks are provided for the public by The Accokeek Foundation.

¹⁵⁸ The Accokeek Foundation, a legacy of Congresswoman Frances Bolton's purchase of a 500-acre farm in Accokeek, encourages stewardship and sustainability, and "cultivates passion for the natural and cultural heritage of Piscataway Park." She created the Foundation as a land trust in 1957, and donated the land to "to inspire people to care about the environment by connecting people to the landscape of Piscataway Park." The Foundation honors "the indigenous people and values that shaped this land." (www.accokeekfoundation.org)

SECTION 8.6: PARK PROFILES. PISCATAWAY

and values that shaped this land. Our interpretation explores historical and cultural connections to today's trends in agriculture and conservation." Piscataway individuals participate in the annual "Celebrate the Potomac" festival, sponsored by the foundation and the NPS, which features fishing and highlights traditional dress and methods of harvesting fish and shellfish on the Potomac.

Piscataway Park also hosts Farmington Landing, a secluded, woodsy fishing site upriver of the pier at the northern end of Piscataway Park. Easily accessible by automobile at the end of Wharf Road, parking and a boat ramp for a canoe, kayak or small fishing boat are available. There was always a group of fishermen there, hanging out and fishing. There may be one picnic table, and an area for a campfire, but it was not clear that the campfire area was intentional by NPS or not. The burnt-out hulk of a car was still smoking on a day (in 2015) when the research team stopped by.

Fort Washington, a non-contiguous part of the same park unit as Piscataway upriver toward the District, is a picturesque picnic and fishing site near the white-painted lighthouse on the grounds of Fort Washington. Although not as accessible as Saylor Grove Pier, it is an easy walk down from the Fort on the bluffs above the Potomac, via a paved road, to the lighthouse and picnic area. It appeared to be a moderate to high-intensity fishing area, and fishermen mentioned it frequently if they habituated other Maryland sites such as ANAC or Hains Point in the District.

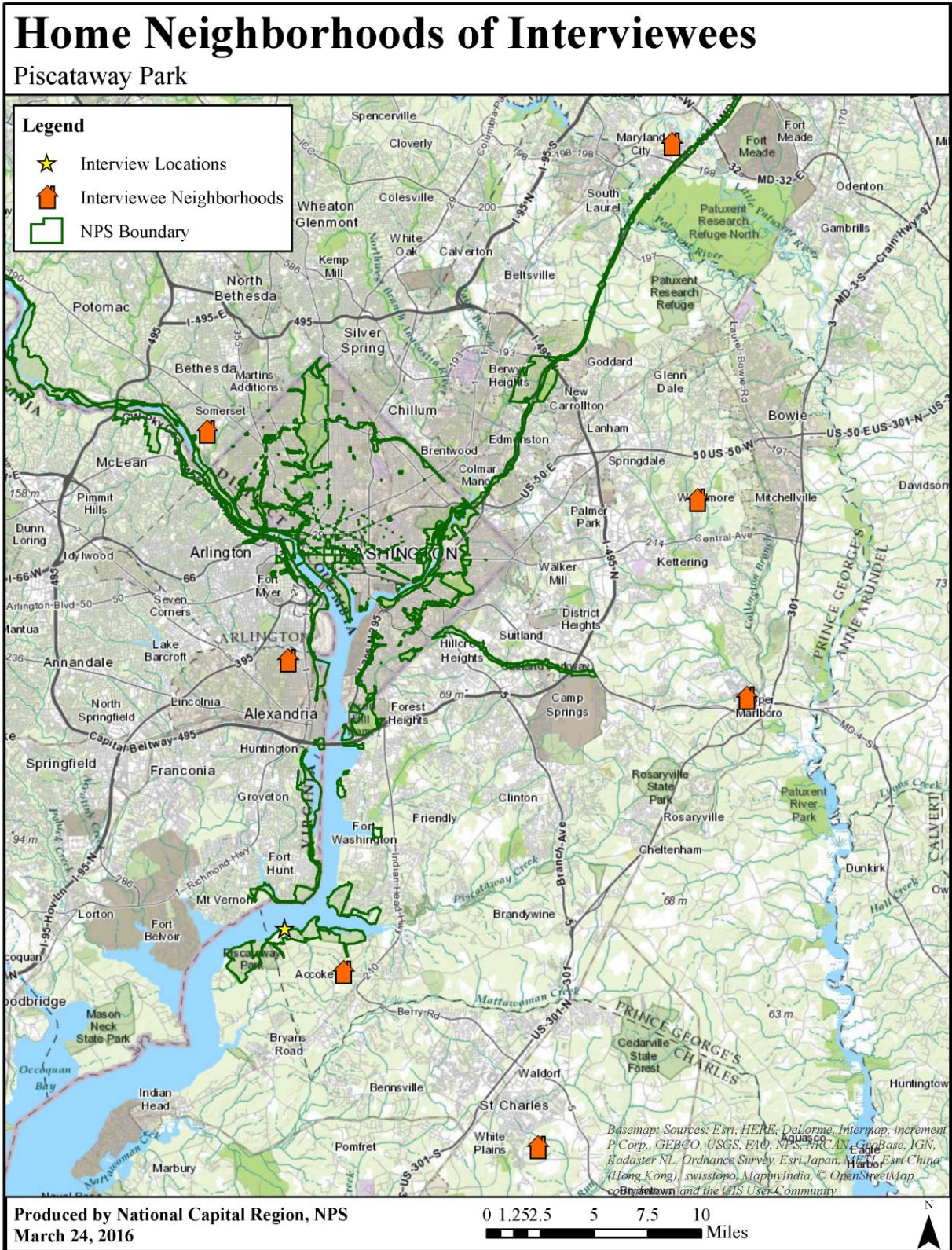


Fort Washington picnic tables and fishing access. Lighthouse is to the left, out of picture. View is across the Potomac River to Fort Hunt, VA.
Photo credit: S.J. Fiske

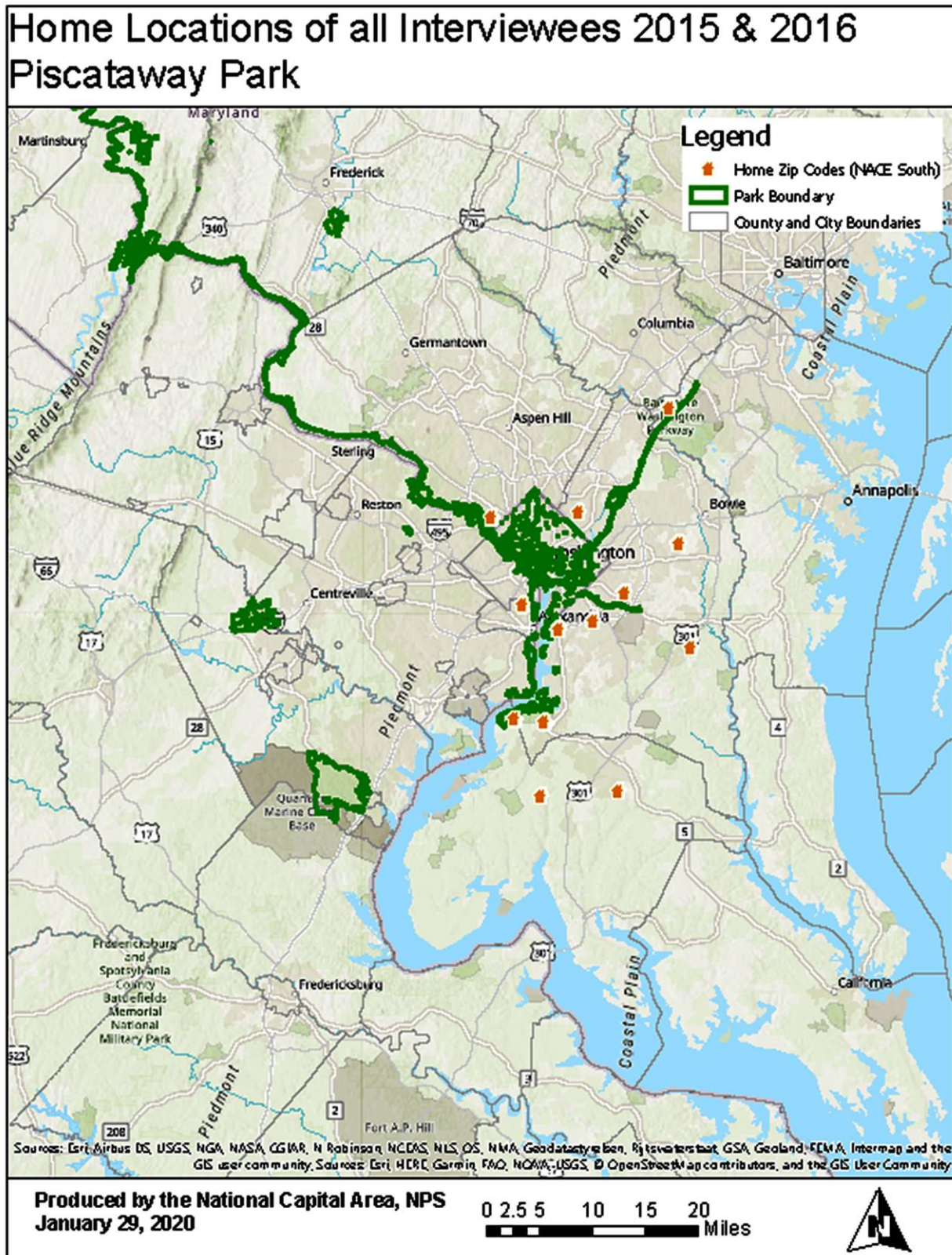
8.6.1 GIS maps

The GIS map following (Map 8.6.1) shows PISC park outline boundaries and points indicating the location of interviews and residences of individuals who were interviewed while fishing within park boundaries for the 2015 season. The second map (Map 8.6.2) similarly shows park boundaries, and the home locations (by zip code) of all interviewees in PISC for both 2015 and 2016 field seasons (n=14).

Map 8.6.1: Communities and Neighborhoods of Residence, PISC (2015)



Map 8.6.2: Residential Locations of Interviewees, 2015 and 2016, PISC (n=14)



8.6.2 Brief administrative history

In 2015 the National Capital Regional Office split NACE into several administrative units, each with its own supervisor. Piscataway Park, Fort Washington, Oxon Cove and Oxon Hill Farm, Fort Foote, and Harmony Hall Parks are the southern-most unit of the newly re-organized National Capital Parks-East (NCP-E). The parks are located in Maryland.

Piscataway Park is jointly managed by the Moyaone Reserve,¹⁵⁹ Piscataway Park (a unit of the National Park Service), and the Accokeek Foundation. Approximately one-third of the land within the legislative boundaries of Piscataway Park is owned by the NPS. The Accokeek Foundation, under a cooperative agreement with the NPS, operates the National Colonial Farm and the Ecosystem Farm. The remaining two-thirds of the land is managed by the Moyaone Reserve and the Alice Ferguson Foundation (the Hard Bargain Farm Complex). Piscataway Park is 11 miles south of the District in Maryland, and is directly across the Potomac River from George Washington's historic home, Mount Vernon. Both the National Park Service office and the Accokeek Foundation office are located off of Bryan's Point Road in Accokeek, MD. Please see section on [Piscataway Ethnohistory](#) for more details on the evolution and creation of Piscataway Park.

Piscataway Park is part of a National Register of Historic Places (NRHP) historic district that encompasses more than 4,500 acres along six miles of the Potomac River. It was “the first national park established to preserve historic vistas,” according to the Accokeek Foundation’s website. The historic district extends from Fort Washington, including the Fort Washington Marina in the northeast, to Marshall Hall¹⁶⁰ in the south.

- Fort Washington was constructed to defend the Potomac River approach to Washington during the War of 1812, and has been used for military operations until World War II; it became part of the Department of the Interior in 1946.
- Oxon Cove Park comes from the Debutts’ Mount Welby Plantation and was given to the National Park Service in 1959 to operate as a living farm museum.¹⁶¹ Oxon Cove, where Oxon Creek enters the Potomac, was mentioned to us as a fishing site during fall 2015, but access to the shore appears difficult; additionally, the cove borders the Potomac side with the bridges of Interstate highway 295, making it a noisy setting for fishing.

¹⁵⁹ Moyaone Reserve is a community of homes dedicated to preserving the landscape contiguous to Piscataway Park (www.Mayaone.org), and is a legacy of the Fergusons.

¹⁶⁰ Marshall Hall, named after the former plantation on the shore of the Potomac, opened in the 1890s as a “pleasure garden”—a destination for Anglos via a steamship ride from D.C. It evolved towards the turn of that century into an amusement park, ultimately with roller coasters, whirling teacups, and other rides. From about 1958 until it closed permanently in 1978, it was open to African Americans, who patronized the destination heavily. The original plantation house burned in 1981 and there is little remaining of the original park buildings (Fletcher 2015: 81-86). However, there is a boat ramp at the end of Marshall Hall Road, and fishing is reported to take place there. Marshall Hall was prominent in the memories of [one of our sample of anglers](#) fishing at Piscataway.

¹⁶¹ National Park Service, Oxon Cove Park and Hill Farm, “History and Culture.” <https://www.nps.gov/oxhi/learn/historyculture/index.htm>.

- Harmony Hall is an historic 18th century estate purchased by the National Park Service in 1966 to preserve southern Maryland cultural heritage and landscape. Harmony Hall has waterfront acreage, but it was never mentioned by our NPS guides as a fishing destination.
- Fort Foote was constructed in 1863 as one of 68 forts constructed around the outskirts of Washington to protect the District in the Civil War. Although the property has shoreline along the Potomac River, it does not have easy access to the waterfront for fishing.

Piscataway Park was shaped over the 20th century by evolving relationships among landscape and historic preservation groups, farmland conservation groups, tribal groups whose homeland is in part encompassed in the park's boundaries, and the National Park Service. The fields, trails, pier, colonial farm, shoreline, historic remnants of recreational areas (e.g., Marshall Hall), and interpretive areas of Piscataway Park were a result of long activism and negotiations—mentioned briefly below¹⁶²—and described more fully in [the Piscataway Ethnohistory](#) section. These relationships culminated in the cooperative management of the lands and cultural resources among the NPS and its partners.

The name for Piscataway Park comes from native groups who inhabited the area prior to and during the period of colonization by Europeans. Very little, if anything, remains of their settlements, as Piscataway and other native groups were dispossessed and gradually dispersed from their lands from the 17th century onward. But in an ironic twist, the Piscataway held one of the last keys to the formation of the Park: Turkey Tayac, one of the leaders of the Piscataway Conoy, waived his pending land ownership request from 1947 in order to enable the park to be authorized.¹⁶³

8.6.3 Demographic and harvest overview

8.6.3.1 Demographic characteristics of PISC anglers

Fourteen anglers were interviewed at Piscataway. For PISC anglers the mean age is 46 years and the median age is 40. Thus, about half of the sample of under 40; the youngest angler was 29 and the eldest was 74. About two-thirds of the anglers were African American while 21% were “other,” primarily Native American. All anglers graduated high school; nearly half had some college experience.

¹⁶² In the early 20th century, Henry and Alice Ferguson bought the Hard Bargain Farm in Accokeek, and later established the Moyaone Reserve, which preserved hundreds of acres of land by selling parcels to like-minded conservationists through the 1940s. In 1955, Frances Bolton, former Ohio Congresswoman and a member of the Mt. Vernon's Ladies Association, bought the neighboring Bliss farm (500 acres) along the Potomac shoreline. Bolton established the Accokeek Foundation and donated the farmland in 1957, becoming the nation's first land trust. The purchase and eventual donation of the farm were critical enabling factors in the creation of the park. At the Congressional level, the enabling legislation for preserving the seven miles of Potomac River shoreline in Maryland began in earnest in 1961, due to several proposals for development around Accokeek that galvanized opposition to the changes in the viewscape of Mount Vernon and land use around Accokeek. The Foundation provided land easements to NPS in 1963, Congress authorized the park in 1966, and it became a reality in 1968.

¹⁶³ In June 1973, Turkey Tayac and others founded the Piscataway Conoy Indians, Inc. which was the first formal Indian organization in Southern Maryland. Tayac had applied for land ownership in 1947, but waived his rights in order to enable the park's authorizing legislation and creation. In return, the Park Service agreed that the Piscataway peoples could visit, and Tayac could be buried in the land (Tayac 2015, Tayac 2008). His gravesite now sits off the Boardwalk Marsh trail near Mockley Point. For more detail on the history of the Piscataway Indians and their relationship with the Park, see the ethnohistory section of this report.

Table 8.6.1
Demographic Profile of PISC Anglers

Demographics (n= 14)	Percent
Gender	
Male	86%
Female	14%
Ethnicity	
Anglo	14%
African American	64%
Asian	
Hispanic	
Other	21%
Average Age	46 years
Education	
< High school	0%
12 th grade/GED	58%
Some college	25%
Bachelor's degree	17%

8.6.3.2 Length of season, frequency of fishing, and years fished

Nearly two-thirds of PISC anglers fish during the winter, a very high proportion compared to other parks forming part of this research, with an equal proportion fishing at least twice a week. Most of the anglers at PISC have been fishing a good proportion of their lives, with an average of 22 years fishing experience. The high proportion of fishermen fishing during the winter could be because the pier provides great access to the river in winter, or it could be that the more rural residents near the park are more likely to take advantage of fishing and hunting all year. For over 50% of our respondents at PISC, the nearest park to them is in fact Piscataway.



“I’m here 365 days a year.” Fisherman on Saylor Grove Pier.
Photo credit: S.J. Fiske

Table 8.6.2
Fishing Characteristics of PISC Anglers

FISHING CHARACTERISTICS	Percent
Fish in Winter?	
Yes	62%
No	38%
Frequency of Fishing	
4+ days/week	23%
2-3 days/week	39%
Once per week	31%
1-2 times per month	8%
Average Years Fished	22

8.6.3.3 Major types of fish harvested and consumption

Among PISC anglers, striped bass are by far the most preferred species, the one most likely to be eaten all the time, and the species for which more fish are likely to be consumed. In contrast to other parks, about two-thirds of PISC anglers prefer to catch yellow perch, and about half of the anglers personally eating them. Shad are not preferred and never eaten. Blue catfish, consistent with NAMA anglers, are widely shared, with 9 out of 10 anglers sharing their catch.

Table 8.6.3
Harvest Characteristics of PISC Anglers

HARVEST	Blue Catfish	Channel Catfish	Yellow Perch	Striped Bass	Shad
Average number caught per week	9	5	4	1	<1
Personally eat?					
Yes	54%	50%	67%	90%	0%
No	46%	50%	33%	10%	100%
Prefer to eat?					
All the time	46%	38%	50%	80%	0%
Sometimes	23%	13%	17%	0%	0%
Never	31%	50%	33%	20%	100%
Proportion eaten?					
None	39%	50%	33%	20%	100%
Some	23%	25%	50%	40%	0%
Most	23%	25%	0%	40%	0%
All	15%	0%	17%	0%	0%
Share this Species?					
Yes	92%	75%	43%	50%	0%
No	8%	25%	57%	50%	100%

Over 90% of Piscataway anglers consume some proportion of their catch.

Table 8.6.4
Consumption Patterns of PISC Anglers

Overall Consumption Pattern	Percent
Share only	8%
Some Release/Some Consume	69%
Consume only	23%

8.6.3.4 Sharing and contexts of sharing fish

As noted, 9 out of 10 PISC anglers share blue catfish, while about three-quarters sharing channel catfish. Only half the anglers share striped bass, the preferred species for consumption. This is probably not surprising, given the strong preference but modest harvest amounts of this species. With the exception of shad, all four of the other species are shared by a majority of anglers.

Only a third of PISC anglers share at community events, while a slight majority share their catch with friends and family at family gatherings.

Table 8.6.5
Contexts of Sharing Practices of PISC Anglers

Setting of Sharing With Others	Percent
Number of community events attended	
0	62%
1	15%
2+	24%
Number of extended family events attended	
0	46%
1	9%
2+	45%

8.6.3.5 Food insecurity

About a third of PISC anglers evinced some concern about putting food on the table; however, no one felt that there had been times when their families did not have enough to eat. In contrast to other parks with high proportions of African American anglers who indicated high food insecurity rates, Piscataway had no anglers who had missed a meal because they did not have anything to eat or the fiscal resources to purchase food. This may have ties to the ability to harvest fish all year and to sharing practices. As one Piscataway fisherman said, “My family always gonna have something to eat. Even my old lady family, they’ll always have something to eat. ‘Cause, I mean if I, like I said, I do a lot of fishing, if I got to give them food out of my freezer, you know, I’ll do that. You know, ‘cause I know I’ll be okay.”

Table 8.6.6
Food Security for PISC Anglers

Food Insecurity	Percent
Food on the table	
Worry a lot	0%
Worry a little	29%
Do not worry	71%
Did not have enough to eat?	
Yes	0%
No	100%

8.6.3.6 Residence of PISC anglers

Almost three-fourths of PISC anglers live in mixed communities, with no ethnicity having a majority population.

In contrast to other parks, more than half (54%) of PISC anglers live near or next to Piscataway Park, no doubt influenced by Native American residents. A good fourth of all anglers interviewed at Piscataway have park units outside of the National Capital Region that are closest to them.

Table 8.6.7
Ethnic Composition of PISC Anglers' Communities of Residence

Ethnic Demographics	Percent
African American majority	0%
Anglo majority	0%
African American, sizable Hispanic	8%
Mixed	8%
Mixed, no majority	69%
Anglo, sizable Hispanic	0%
Mixed, Anglo majority	15%

Table 8.6.8
Nearest Park to PISC Anglers

Neighboring NPS Park Closest to Angler Residence	Percent
NAMA	0%
CHOH	0%
ROCR	8%
PISC	54%
Outside NCR	23%
BAWA	8%
ANAC	8%

8.6.4 PISC fishermen: Qualitative Portraits

We talked with 14 fishermen and fisherwomen at Piscataway. Our sample was heavily African American, with about the same number of women as in other parks: 14% (except for ANAC, where we talked with no women). Also, there were more anglers who fished over the winter months than at other parks, as noted in section 8.3.2. In fact, two-thirds of PISC respondents fished during the winter. Following are three brief profiles: (1) a year-round fisherman, fishing in the dead of winter off the pier; (2) a female fisherwoman; (3) and an individual who has fished and lived in the Piscataway area (and D.C.) all his life who has Piscataway tribal background. All names used are pseudonyms.

8.6.4.1 Year-round fisherman—James Whitley

On January 5th, a cold, windy, mid-winter day, the Field Team walked out on the Saylor Grove Pier at Piscataway and found James Whitley with a full cooler of 11 catfish, and it was barely noon. "I basically fish all year round." He shrugged off the cold. "Oh nah, I dress warm enough for it... You just got to have the 'right gear' to be out here..." exposed to the wind and cold on a pier over the Potomac River. "Like I said, I been doing it for a long time, doesn't even bother me! Like right now, it might feel like it's about, maybe, 78, 79 [degrees] inside of what I got on! ...I got everything on, long johns, everything." In response to repeated questions by our very cold Field Team, he later admitted it was not for

SECTION 8.6: PARK PROFILES. PISCATAWAY

everybody to fish in the dead of winter. But he will come out because "...I just enjoy fishing. I do it for a peace of mind."

James, African American, usually fishes with "my old lady," who often comes with him. She fishes, too—he had her pole with him that wintry day—but he made it clear she does not come out on such cold days. He lives in Temple Hills now, not far from PISC down the state highway to Piscataway and Marshall Hall.

James is from "Washington, D.C., born and raised." Growing up, he learned to fish starting with his uncle, mother, and father around age 7 or 8, "back down Marshall Hall when they had a rise (rollercoaster) and all that down there." He has been fishing ever since. He also remembers catching herring, shad, and carp in Rock Creek Park when he was little, less than 12 years old. His favorite fishing hole in ROCR was somewhere near Pierce Mill: "Okay, you know you got the bike trail? And there's this little waterfall that you walk across, you can walk across the waterfall and get to the other side?" He still remembers it, although he has not been back there since he was a youngster.

He virtually grew up fishing on the Anacostia River. He lived near the Wharf in Southwest D.C., and he used to walk down to the river near the Wharf. "I done fished over there by the Wharf, I fished over there where they cook all that, before, when I was younger..." He also fished at Hains Point once or twice when he was little, "...across from the monument, when they had (The Awakening statue) on it, that was back in the days." In the Anacostia Park area he remembers fishing near the playground, the swimming pool, and skating rink.

James is a high-intensity, devoted, year-round fisherman who also enjoys salt water fishing, and has poles with him that he calls "big boy poles," perhaps expecting something large to bite. Today he has with him "...professional rods, beef sticks, Okuma reels, base spinners," and the one he has in his hands is 12 feet. Says he uses only 12- and 10-footers. He uses the braided lines, "Because it don't pop as easy as—you know, the line popping—you get more bigger fish on without popping your line, losing all your tackles." He uses circle hooks because he feels they give a better catch. For tackle, he says he uses "sinkers, lures, spinner when I do like yellow perch and crappies...."

The Field Team asked him about fishing at Marshall Hall because, as many times as they pulled into the parking lot with the boat ramp, they never spotted anyone out at Marshall Hall. "We've gone there a lot of times and don't see people out there. Is it mostly the weekend?"

James Whitley gave us the scoop: "Most people, nah, most people comes in on the parking lot, and they walk through the little trail in the woods, and they fish down off the sand. Nah, you not gonna see anything but boat launches right there, launching boats. People go into the woods, find a sandy spot and fish from there."

His work schedule determines how often he can fish, which is usually one or two days a week. He works as a floor-tech specialist in a nursing home and only fishes when he is off of work.

He catches mostly blue cats (versus white or channel catfish); on a normal day, he said he might catch 28 or 29. This sounds amazing, but at noon he already had 11 catfish in his cooler. He also catches four or five yellow perch in a day, and an occasional eel. He has seen snakehead, but has never caught one.

James does not eat the catfish himself—he eats most of his fish from saltwater areas. "Because this water's got a different taste than the saltwater. You know, so you can get that taste out this water, you know, different than the saltwater, but I know how to kill this taste here by cleaning `em, all you gotta do is clean `em, put `em in the sink, salt, and vinegar and water and let `em soak for about three hours, two hours, and that'll get the wild taste out of `em."

SECTION 8.6: PARK PROFILES. PISCATAWAY

Whitley said he mostly goes saltwater fishing. He does not fish for bass here; he goes for rockfish in saltwater, mostly in Maryland—Solomons Island, Point Lookout, Eastern Shore, and Virginia Beach. “Well, mostly I do saltwater, so during the winter I’ll be in this type of water, brackish water. But I do a lot of saltwater fishing, so my favorite ones is like rockfish, um, croaker, white perch, spots, basically what I be catching.”

He has a 27-foot boat that was tied to the pier.

He cleans his own fish since he “grew up doing all this,” learning from his father, mother, uncle, and grandmother. He did qualify that he will clean catfish for three or four family members, like his father-in-law, since he eats them. Also, he will clean for one person at work who he brings fish to because she needs them. “I do it for a person at my job ‘cus she’s got a lot of kids, so I just, she like catfish so I just give ‘em to her, when I catch ‘em, trying to look out for her, the one that need ‘em.” For neighbors, he had one neighbor in his building that ate catfish, and he cleaned “about two of them here (at the pier), but you know, not all the time.”

He also gives some of his catch away to folks on the pier, “I mean I gives ‘em away, ‘cus people all know, see people that trying to fish and they didn’t catch nothing,” but he does not clean or prepare the fish for them. “Nah, I just give ‘em the fish, they can take ‘em down to the Wharf or wherever and get ‘em clean!”

“It ain’t that hard, you know, cleaning a catfish, you gotta know what you’re doing, that’s all. You cut ‘em around the neck, around the skin, you get your catfish pliers and pull the skin off. Then you fillet ‘em or however you wanna do it. Nugget, fillet, I mean I done ate it, don’t get me wrong; I ate it, they ain’t no bad fish.” [fish coming in on line]

“Do any fishing site mean a lot to me? This is the place I come most of the time, this here [Saylor Pier]. I don’t do Marshall Hall no more, I might go in like March or something like that. I go behind Eastover, I used to go down there on route 4...that little pier? (near Oxon Hill).”

“I brought my son up trying to do it, but he got out of it. [Interviewer: He was not feeling it?] Nah, you know he gets 17, 18—gets hooked up with the ladies, and that’s it! It’s all over with! Yeah, so I don’t bother him about it. I just love doing it. Now I got my old lady, I started her out, she love doing it.”

He never worries about putting food on the table, and his family always had enough to eat.

“Aw nah, never worry about putting food on the table, I mean like I say, I fish a lot, so I’m gonna put some food on the table! Like I’m getting ready to take a trip in May, there, um, Boston Massachusetts, so I’ll bring back 100 something porgies, so I mean that’ll last almost all the winter... I got a big 100-gallon cooler, yeah, big 100-gallon cooler, and then I take ‘em down to the Wharf and get ‘em clean, and then I just give some to the families, friends, and I just store a lot of ‘em in my deep freezer for the winter.”

James had two main concerns about fishing in Piscataway when we asked if there were other things he wanted to convey about fishing at PISC. The first was a cable of unknown origin or use, that runs across the water; fishermen get hung up a lot on it, and lose a lot of tackle. James said he could cast beyond the cable and did not have a problem with it, but many anglers “can’t throw that far, they get hung up in it.”

The other issue James mentioned was the commercial fishing boats that set nets across the “water and stop the fishes from coming from that way, you know for us to catch!” He reported seeing them from his boat, although not off the pier.

"They mess up the fishing for the people trying to fish off the pier or something like that. Because if they drop a net across there and across there, that means they're blocking all the fish in from coming in, so there ain't nothing coming up in here, you know, so. Commercial fishermen need to be out somewhere else. In the saltwater somewhere."

"I mean they got, like you say, commercial one, they like dropping nets, but ain't got a license and they still do it anyway! Yeah, I mean, there'll be a dude down here, they called 'em, they called DNR (Maryland Department of Natural Resources), you know, they dropping nets and the fish is getting caught up in it, and not coming down, and we see 'em riding along the trail with a boat almost every day! Nah, you know what, a lot of the people who catch fish out here are selling them, a lot of those people who are running those lines are selling those fish."

"Yeah they're selling those fish, they're pulling 'em out, but it's not like they're doing it for the good of their heart, they're making money on that, and that's a problem. 'Cus everyone else wants to catch the fish, too. And this is all public land, so everyone should be able to have access to the water. See you're not supposed to drop a net, but they do it, they do it up there somewhere and they do it down there somewhere." (#113)

8.6.4.2 Fishing for blue cats at Farmington Landing—Sharon Goodland

Sharon, who gave her age as 47, was fishing with a friend at Farmington Landing around noon on a late spring day in May. She is an Anglo female and considers herself a little of everything: "catch and release and catch and eat, and catch and share." She has been fishing "up here"—meaning the D.C./Maryland area—since 1987, so about 31 years on the Potomac and its tributaries. It was not clear when she moved north from North Carolina, but she has been fishing since she was about 8 years old, so she probably would have been a teenager, about 15-16, when she moved north.

Sharon lives in Forestville, MD, in Prince George's County, and is now "semi-retired" from driving a dump truck. "I've been fishing all my life, but since I got more time now and I'm not worried about a full-time job, I have more time to fish and enjoy."

She learned to fish from her stepfather, who taught her when she was a child in North Carolina. "My first fish was a crappie or a blue gill... I can't remember which one. It was one of them two, that was the big thing back down there... So, then I got married and it [fishing] was big between me and my ex-husband, so I've just been fishing pretty much all my life."

We asked her about her bait and tackle, and her rods. "I just use a double leader with steel leadered hooks, um, depending on the weather, right now I'm using shrimp, I like squid, cut bait, blood worms...these little jokers will eat just about anything you throw in here." For rods, Sharon had a regular 10-foot surf rod and a regular, "I guess it's about a 6-foot bait rod," that she bought at Walmart or "one of the bait stores." She is using monofilament on the small rod ("the little one has 10-, maybe 15-pound test. The big one has 30.")

She usually fishes a little farther south on the Potomac; she mentioned Benedict, MD (on the Patuxent River where Hwy 231 crosses the river) and Chapel Point (the State Park is on Port Tobacco River, a tributary to the Potomac, near La Plata, MD). Her favorite spot is Point Lookout, since there is a state park there, and it is peaceful and quiet. She mentioned catching bluefish there, which she likes to eat. This was Sharon's first time at Farmington Landing and the farthest north on the Potomac that she has fished; she heard about Farmington Landing from her fishing partner that day, a male friend.

She prefers catfish—specifically blue catfish—because, "Actually, the blue cats taste the best, I think." She either fries it or bakes it, depending on how big the fish is. If it is medium sized (about 8 lbs.) she

usually bakes it whole and stuffs it with crab meat. We asked whether she did anything special to the fish to prepare it, like soak it in vinegar or milk, but she demurred emphatically, "Nah."

She is also the one who cleans the fish. "Yes! [laugh] my kids (make her do all the work), they like to catch `em, but they don't have anything to do with the rest of it." She skins them with pliers.

She shares her catch of blue cats, but selectively. She shares with her friend and her family, but she does not give fish to those who walk by or approach her. "Well, I have a friend that usually goes with me, so he usually eats most of them. I just take enough for me and he takes the rest. He freezes `em and eats `em throughout the week, so he doesn't come (fishing) as much. If we go out fishing (and) we catch six fish, I usually take two `cuz that's about all I'm gonna eat." She does not share her fish at family gatherings, nor does she do community-based events like church dinners.

For Sharon, fishing is not a family affair. "No, just a hobby. Quiet, peaceful hobby for me to get away from them (her children). When they were little, I never brought `em. I mean, my oldest son, he just started coming because he's old enough, he's 20, he can go away and not bother me. When they were little, like `oh, no,' I came fishing to get away from `em."

She's not worried at all about putting food on the table. And there were no times last year that her family did not have enough to eat.

Her concerns are maintaining public places to fish, which she mentioned in the conversation. "Well, they just need to make more public places to fish. `Cuz, I mean, a lot of people buy up property and then they say you can't go on it, that's not fair! We need more public places to fish, you know."

Her second, and probably primary concern with respect to fishing, is unfair competition from commercial fishing interests on the rivers.

"I'm sorry, the commercial fishermen kill it for those people using a fishing line. Like I'm not allowed to catch a rockfish. I don't think they should be allowed to do it, period. I mean I'm sorry, it just ruins it for the hobbyists."

"Like I said, *they* can go out on a boat and net tens of thousands of rockfish, we catch one on a hook and line, we gotta put it back! Tens of thousands of them, that's not fair! You know, I understand they gotta make a living, but that doesn't mean to penalize the people who are catching `em with a hook and line. I mean, I can see a limit. Three or four, ok, that's fine. But, I mean, I don't care. If I come out here in the middle of January, and I hook this huge rockfish, I shouldn't be made to let it go `cuz, yeah, the fish have really gone down. You used to catch fish all day long. Now it's like, little, little, so I mean the commercial fishermen have just about killed it for everybody." (#117)

8.6.4.3 Shore fishing at Bryans Point—Darrin Smithson

We encountered Darrin Smithson fishing at Bryans Point in PISC, where a creek entered the Potomac. He had just caught a catfish, maybe 5-6 lbs., and was using circle hooks, which he said worked the best, with 2-3-ounce weights in the shallow water, and 30-pound test line. His other rod had 40-pound test line. "This is a surf rod I guess, it's 10 feet I believe. It's a... [reeling in fish] ...Okuma reel. I just looked up `catfish reel' on eBay."

He said he learned to fish mostly by watching a lot of catfish videos on YouTube—that is what helped him decide what kind of gear to get. He said eBay is where he got most of his equipment, and his preferred equipment was "the bass pro reel" that he also got on eBay. His main bait today is "Sunny dip bait... and my other bait is chicken thighs cut up and then put into a chum." And then, on top of that, the Field Team noted that he uses a sponge, a "cowboy hat" sponge, that he dips into this dip bait. So

far, it seemed to be pretty successful. The Field Team watched him reel in his second fish of the morning.

Darrin just started fishing recently; he is 42 years old, so he has not been fishing for very long. Although he learned most of what he knows by looking at YouTube, when he was younger, he went out with his uncle once, somewhere in southern Maryland. He comes out about three days a week to fish, mostly during the week.

His job is a firefighter, so his days fluctuate. He told us he is "Black and Indian," adding "Piscataway." He was not sure what band he was, "...some of my family members are more into it than I am, so they know," and he thought one of them might be a "chieftain."

He takes his fish to the Wharf to get cleaned. For eating, he likes to fry them—fillets if the fish is big enough, or he chops it up into nuggets if it is small. For preparation, he uses tabasco and milk, and lets it soak for about 45 minutes. "I just put hot sauce on it as a marinade, and then let that sit for about 30 minutes, and then fry it up."

He is a fairly localized fisherman. His usual places are Bryans Point, where we found him fishing; "...down here in Indian Head, one at the end of [Highway #] 227, boat ramp down there [Marshall Hall];" Farmington Landing; and Fort Washington. None of the places he mentioned were on the Virginia side of the Potomac.

He usually shares fish with "guys at work," and since his neighbors go fishing, "they catch their own." He told us he would give fish to anybody who wants them, "Long as you eat it and don't throw it away." He does not catch fish for family cookouts or community BBQs, and fishes mostly by himself, although, "I got a couple buddies, we meet up every now and then, guys from work." He does not worry about putting food on the table, and had enough to eat last year. (#216)

8.6.5 Recommendations

8.6.5.1 *Appreciation for the park*

Piscataway Park is a uniquely managed park. Not only does the Accokeek Foundation have their headquarters near Saylor Grove Pier, but the park has its own superintendent, albeit shared with other PISC units. Furthermore, the park has a beautiful location, which many fishermen consider a type of therapy in itself. One fisherman called being able to visit the park "self-care."

Piscataway is one of the most frequently used fishing sites in this study. The research team saw fishermen all year 'round; rain, shine, snow, or sleet, fishermen would be on the pier ready to bring home their catch of catfish, rockfish, or whatever was biting. The setting is scenic, pleasant during good weather, and easily accessible. The current downriver moves freely, so that the water is not enclosed, stagnant, or slow-moving, with no Superfund sites as found in the Anacostia. It is about 20 miles south of the junction of the Potomac and Anacostia. Fishermen can fish directly in the main water column and not from the shore.

8.6.5.2 Actions to improve the PISC experience

- Existing and add additional piers.

While the fishermen generally enjoy fishing at the park, several recommendations were suggested by fishermen and fisherwomen. Saylor Grove Pier used to extend deeper into the Potomac, we were told, but was reduced after a storm. Fishermen would like the pier to go out further, because they believe they can catch larger fish, and to avoid a large cable that runs close to the pier.

Another pier about a half a mile down from Saylor's still stands dilapidated from a storm. One fisherman said they would like more free fishing piers "cause they put signs up tell(ing) that they want us to keep the [invasive] fish and catch them, but they don't give us many locations." The fisherman providing this quote is referring to the Maryland and Virginia initiatives to remove invasive species such as blue catfish and snakehead through fishing. He argues that fishermen would be happy to support the effort, but would like even more places accessible to the riverfront.

- Effects of development projects, displacement, and loss of fishing sites.

While the problem of displacement is largely outside of Park Service jurisdiction (although the NPS sits on the National Capitol Planning Commission), it is a central issue for fishermen in metropolitan areas that are undergoing gentrification and shoreline re-development, such as in Alexandria, Anacostia, and Southeast and Southwest D.C. Fishermen are concerned about increased urban development encroaching on their fishing sites. One explicitly mentioned that they wanted officials to "stop the building and stop taking away fishing spots... 'cause we lost a lot of fishing spots due to the [re-development of the] Washington Marina." He claims, "they won't let you go back there no more, they fenced off all that." So while it is in the District of Columbia and technically Park-managed property, fishermen note there is little public access to what used to be a traditional fishing sites.

- The impact of commercial fishing.

The Park Service does not manage commercial fishing, but when we asked fishermen what could be improved in their fishing experience, quite a few went to the topic of commercial harvesting, or at least boats that were harvesting with nets, presumably in order to sell the fish. In their eyes, the on-shore fishermen face what they see as unfair competition from commercial fishermen. "The commercial fishermen kill it [the chance to fish] for those people using a fishing line," one fisherman told the team, "Like, I'm not allowed to catch a rockfish. *They* can go out in the boat and net tens of thousands of them, that's not fair!" (see Portrait II)

Others claim the commercial fishermen ruin their fishing because of their equipment, because they run nets across the water and prevent fish from getting close enough to the shore fishermen. One remarked, "Commercial fishermen need to be out somewhere else. In the saltwater somewhere. They're selling those fish...but it's not like they're doing it for the good of their heart, they're making money on that." He reminded us that the Potomac is open access to the public. "And this is all public land, so everyone should be able to have access to the water," anglers said. This idea of unfairness about commercial fishermen was echoed by numerous interviewees. "I don't think it's fair. People come down on this pier, they fish just for the enjoyment of it. You know, catching few fish, take 'em home, have something to munch on or whatever, fish fry. These guys are out here with this commercial line,

and all they doing is taking (away from the public fisherman). I mean, that's not the only one. That's just one of 'em. And this stuff is halfway across the river, and then he got two or three more over there. I mean, they catching all the, the nice fish. And, if you wanna commercial fish, go down to the Bay, where they do commercial fishing. Not in the river. That's like my biggest gripe. I don't think that should be allowed.” (#403)

- The presence of litter/trash, and lack of garbage cans.

A major complaint among many parks, including Piscataway, is rampant littering by fishermen and park-goers. One fisherman at Fort Washington saw that someone had come, kicked over both trash cans, and left the trash on the ground. He suggested some sort of security program, or at least more surveillance by park rangers. He got so frustrated that he brought his rake and shovels to clean the mess up. Some of the water-borne trash is not deliberate or local—Piscataway accumulates debris that flows downriver from Washington, D.C., Alexandria, and other metropolitan areas to the north in Virginia, Maryland and the District. “If the tide is going towards us, or going to the right, the tide’s coming in. So you know all the trash is coming from there,” one angler told us.

Respondents provided some simple recommendations to “Washington, D.C.,” including suggesting the addition of more trash cans to park areas, in particular, Saylor Grove Pier, Mockley Point, and Farmington Landing, and having park rangers or maintenance workers check the fishing sites for litter more regularly.

While fishermen are grateful for the park, some find their interactions with the Park Service disappointing. One mentioned that, “I think sometimes people may view some of the fisher folk as, I don’t want to say a nuisance, but it’s like, oh, they are troublemakers, or they’re the ones trashing the river, and that’s not necessarily true.” He continued that some parts of Piscataway, such as Farmington Landing, appear to have no attention from park staff. He advised the Park Service to “maintaining (sic) it, providing, looking like you care about the land because the people who are coming here and enjoying it definitely do care. This is their space, too. It’s public lands.” Another recommended that park staff come down and talk to fishermen to get to know them—but not for too long, because they mostly want to be left to their fishing.

8.6.5.3 Summary recommendations from anglers

1. Fishermen and fisherwomen would like the construction and access to more fishing piers, including the specific recommendation to renovate and extend Saylor Grove Pier, which has been compromised by storm damage.
2. NPS should be more proactive with agencies, NGOs and other river activists in resisting urban development encroaching on existing fishing sites. (see above)
3. Given the number of state and federal agencies responsible for fishing on the Potomac, perhaps the NPS could take the initiative and work with the states (e.g., Maryland DNR) and other state enforcement and regulatory agencies, or the Mid-Atlantic Fishery Management Council as relevant, to investigate the impacts of commercial fishing on anglers’ use of the river.

SECTION 8.6: PARK PROFILES. PISCATAWAY

4. Increase the number of trash cans in park areas and have rangers more closely monitor visitors (and even vandals) who litter and leave garbage in the park (especially Farmington Landing).
5. Anglers suggested an increased presence and outreach by park personnel, especially in less public but highly frequented areas (e.g., Farmington Landing).

Reference

Fletcher, Patsy Mose. 2015. *Historically African American Leisure Destinations around Washington, D.C.* Charleston, SC: The History Press.

9.0 RECOMMENDATIONS

We provide two types of recommendations: Park Management (9.1) and Research (9.2). We start first with Park Management recommendations, which include fishermen’s comments on park infrastructure—facilities, amenities, trash cans and grounds maintenance. Recommendations for management and partners in stewardship also include suggestions for greater outreach and engagement with communities of fishermen and their families.

9.1 Park Management Recommendations

9.1.1 Park facilities, amenities, trash cans, and grounds

The following recommendations are from fishermen and fisherwomen who were using the parks, and we reproduce here a table from section 8.1.8, Table 8.1.17, Park Profile Comparison—Respondent Recommendations. The most frequent recommendations that would improve fishermen’s experience at park fishing sites are:

- Improve placement of trash cans;
- Increased outreach by NPS personnel;
- More picnic tables and benches, and repair of existing tables;
- Increased community engagement;
- Additional encouragement/enforcement to have visitors pick up their trash; more partnerships and volunteer efforts to pick up trash.

SECTION 9: RECOMMENDATIONS

Park Profile Comparison: Respondent Recommendations
(reproduced from Section 8.1.8, Table 8.1.17)

Recommendations	ANAC	CHOH	GWMP-S	NAMA	PISC
Construction/renovation of piers			x		x
NPS more proactive about issues of displacement from fishing sites due to development					x
NPS should help reduce impact of commercial fishing on subsistence anglers			x		x
Increase number of trash cans	x	x			
Improve placement of trash cans	x	x			x
More outreach by NPS personnel	x	x		x	
Netting as protective barrier/safer access			x	x	
Relocate sidewalk and/or repave				x	
More picnic tables and benches, and renovate existing tables	x		x	x	
More bathrooms, better maintenance, add more port-a-potties	x			x	
More water fountains	x			x	
Increase number of events, children’s activities, tournaments, talks on food safety	x			x	
Maintenance on trees and grass (trim, cut, and mow)	x			x	
Increase community engagement	x	x			x
Coordinate with other actors to clean up the river	x				
Enforcement and partnerships to have visitors/volunteers pick up trash	x	x	x		
One fishing license across jurisdictions; consistent regulations across jurisdictions			x		
Encourage commercial take of blue catfish and snakehead			x		
Revenue from parking meters strictly for park improvements and maintenance			x		
Increased enforcement of poaching, snagging, use of nets, curfew		x			

These results are not surprising since trash abatement, park maintenance and grounds upkeep are highly visible to fishers—both in the water and on land. Also frequently mentioned was the addition of restrooms, probably more important for female companions, wives, and fisherwomen; and more attention to the cleaning of existing restrooms.

With respect to trash management, we highly recommend a 2018 study done by students at Worcester Polytechnic Institute (WPI) for trash management at East Potomac Park (NAMA).¹⁶⁴ The research on existing conditions was thorough and recommendations highly specific, including placement and number of additional trash cans, including fishing line containers, and specific wording for advisory signs. By studying the anglers’ use of East Potomac Park, they “found from our informal conversations with fishermen that the places they often fish are well dispersed from the current locations of the fishing line containers;” the report recommended specific locations for 12 additional line containers to

¹⁶⁴ https://web.wpi.edu/Pubs/E-project/Available/E-project-121218-150936/unrestricted/Cleaning_Up_East_Potomac_Park_Final.pdf.

the six existing ones. They also recommended an optimal distancing for trash cans—60 feet apart (see WPI 2018).

Most of the fishermen we interviewed were aware of, and even apologized for, other fishermen's littering behavior and the behavior of other visitors who come to picnic and use the parks. Some of them were aware of the trash pickup partnering at each park through efforts organized by "Friends of the Park" groups or other nonprofit volunteer groups. Fishers also suggested engaging and encouraging fishermen's help in terms of picking up their own trash and putting their lines in containers.

These recommendations acknowledge the constraints of reduced budgets and the impact of recommendations on additional maintenance costs. We realize that this is an increasing challenge for NPS with respect to park maintenance and management, but it is hoped that NPS can make trash pickup as a priority and expand efforts with volunteer groups and fishermen.

Please see each park profile in section 8.0 above for recommendations specific to the five parks.

9.1.2 Recommendations on outreach and fish advisory communications

These recommendations (and those above) are derived primarily from fishermen's comments during interviews. However, the below also incorporate the views of the research team with regards to outreach and communication about fish advisories and are indicated as such.

As a preface, and based on this research, we wish to alert NPS that fishermen and fisherwomen may be resistant to changing their consuming and sharing behavior, for a variety of experiential, generational, cultural, and social values that are integrally entwined with fishing, including such things as fishing heritage in their families and lifeways, the value of "provisioning" their families, and helping others in need. We found that fishermen and fisherwomen have been fishing on the rivers an average of 22 years, that most of them have a family history or legacy of fishing, that most have well-entrenched rationales for why they continue to eat fish from the rivers and for sharing the fish. Changing those attitudes and behavior may be a difficult undertaking. This understanding is consonant with conclusions reached by other research on this topic. The "Addressing the Risk" study also comes to a similar conclusion. They were surprised at "the ingrained culture of sharing fish" and "a complex, interlocking set of factors that must be addressed together to lessen the consumption of contaminated fish" (2012:1).

With regards to communicating risk, considerable research has been done on fish advisories and communication of risk. Research on subsistence fishing on urban rivers has shown that official bureaucratic advisories are often ineffective, that advice-seeking and learning about fish advisories often occurs within ethnic communities rather than through public media, and that culturally relevant language and very direct language are more effective than qualified warnings about eating certain fish (see Westphal 2008). The fishermen we interviewed were generally aware of fish advisories and knew that some of the fish are unhealthy to eat, but most of their decision-making focused on visual inspection for illness and lesions; there was less specific knowledge about toxins (metals, carcinogens) that may be within fish bodies and their possible health outcomes.

Although it may be difficult to change fishermen's consumptive behavior and change their practices to non-consumptive catch and release, it may be possible to encourage more healthy food preparation, that is, trimming of fish and cooking of fish (although traditional foodways are also difficult to change).

The following suggestions on outreach are based on the value of building relationships around fishing, knowledge of the rivers, and the fish in them.

1. Increase *presence* of rangers on site—simple visibility and accessibility.

Outreach and engagement are important ways of building community engagement, starting with simple presence of rangers. Most fishermen rarely saw rangers during their many years fishing; however, rangers are perceived in a positive light and anglers felt their presence would be a useful counterbalance to their experiences with park police/enforcement who are usually encountered checking licenses and fish sizes. The Field Team also verified that they rarely saw rangers during their two years of visiting fishing sites.

2. Increase *engagement* and *interaction* of park rangers with fishermen.

Fishermen, fisherwomen, and families are a major user group at high-intensity fishing parks. The research team suggests providing “Friday afternoon walkarounds” (or on weekends) to talk with groups of fishermen, or families, and generally show an interest in what they are doing. Perhaps once a week at the same location will build relationships among the “regulars.”

- a. Increase activities with children—a suggestion of fishermen. Many in ANAC, Hains Point, and PISC were fishing with family members; almost all had taught their children, to fish and anticipated or were teaching their grandchildren. They looked forward to passing along their legacies and spending time with their grandchildren. They wanted activities on the waterfront where they fished and at times when they fished, such as afternoons on Fridays or weekends when the children were out of school. They were referring to both hands-on fishing activities and water activities, such as fishing techniques and fun fishing things, but also putting in playground-type equipment (“jungle gyms”) like swings and slides (where there are none), that children could play on while their grandfathers were waiting for the fish to bite.¹⁶⁵
- b. Provide “preparation and cooking” demonstrations. This recommendation is a response to the widespread concern voiced by river advocacy and public health representatives about decreasing the consumption of contaminated fish. Preparation “demos” are one way to make fish healthier to eat. NPS might partner with organizations to offer Friday afternoon demonstrations on skinning, cleaning, preparing, and cooking fish in a way that decreases exposure to toxins (trimming fat, not using head and tails, gutting, grilling, etc.).

¹⁶⁵ Anacostia Watershed Society and Riverkeepers regularly have activities that engage children, but the fishermen wanted NPS-led activities as well.

- c. Develop direct and simple fact sheets that speak in simple language with clear graphics. In some states, nonprofits or academically based organizations have produced fact sheets that amplify the messages and are highly targeted to certain species and contaminants. “The



Advisory posting in ANAC. Photo credit: J. Trombley

ABCs of PCBs: Know Your Catch” was put together by Illinois Sea Grant, partnering with public health agencies, and targeted toward urban fishers in the highly polluted Calumet region of Chicago (Westphal 2008). These could be handed around to fishermen, or at festivals such as at the annual Anacostia River Festival, or made available at bait shops or other park venues. For example, only one fisherman was conversant with the less-visible risks of carcinogenic toxins; and simple outreach/fact sheets could be valuable in helping anglers assess the risks and potentially change their behavior. A series of fact sheets could be walked around the shoreline on sequential Fridays, or posted along fishing sites, bait shops, or available at places where fishing licenses are sold.

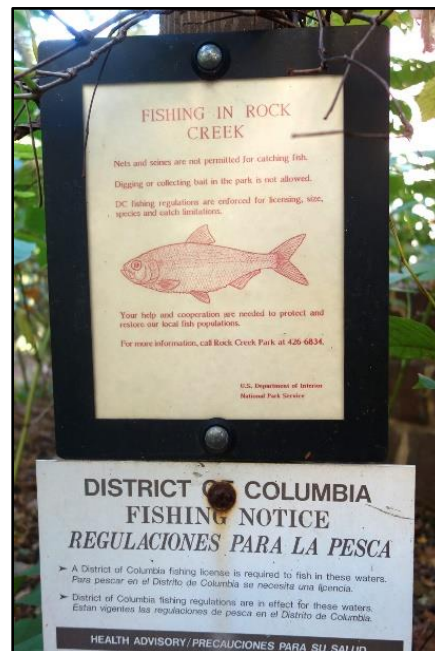
A big question is how best to disseminate fish advisory information—through signage, on the web, through fishing clubs, or directly by personal interaction, relying on social networks. The District, Maryland, and Virginia have advisories that are posted along the shores of the Anacostia in English and Spanish, up Rock Creek Park along the creek, and along the Potomac. It is hard to keep posted metal signs updated, but they are the normal, official way of posting advisories. In most cases these are

issued by the public health agencies of the jurisdiction, with input from the fisheries departments. Virginia posts warnings near CSO outfalls (see photo below). The literature offers many suggestions including re-targeting and simplifying the messages in the signs.

In addition to posting notices, the advisories are posted on the states’ and District’s website (<https://doee.dc.gov/service/fishdc>) and on the back of fishing licenses (at least in the District). Points of distribution could also be bait stores near NPS units and in the parks themselves, e.g., at Saylor Pier (PISC) and Fletcher’s Boathouse (CHOH). The most frequently visited buildings are often the restrooms.

An outreach campaign should take advantage of anglers' natural tendency to socialize, and the apparent tendency for communities of fishermen to build along ethnic lines (Westphal 2008; also this study).

3. Involve fishermen in informal focus groups on site about the best way to communicate health risks of fishing in the Anacostia and surrounding areas. Developing signage that communicates well across ethnic groups is a challenge. Most advisories around D.C., Maryland, and Virginia are posted in Spanish as well as English. The "Addressing the Risk" study found that anglers wanted the health messages to be "stark and arresting" to get through to them, such as showing the word "cancer" in big print. "Future outreach that wants to make an impact on this topic must be willing to assert the *proven or strongly suspected* health consequences in the strongest possible terms" and "measured or equivocal messaging is ineffective." A "warning" is much stronger than an "advisory." (OpinionWorks 2012: 4). Jardine (2003) strongly recommends involving lay people (fishers themselves) in the process of developing fish advisories to include information they think is relevant and ways of presenting it. Given the diverse population in Washington, D.C., one particularly knowledgeable fisherman at Fletcher's boathouse suggested signage in at least six languages, including Amharic and Tagalog.
4. Greater involvement and angler participation in decisions affecting fishers' ability to fish. Given the huge personal, nutritional, and cultural importance of fishing to our respondents, and the long record of environmental injustice for those fishing and living along the Anacostia, we recommend the NPS encourage greater involvement by anglers in decisions affecting their ability to fish. Such decisions may revolve around climate change plans (e.g., maintenance and use of Hains Point, which is increasingly flooded along its shoreline with sea level rise), or closures or construction on NPS-managed lands, the location of picnic tables, trash receptacles, or port-a-potties. The decisions hopefully would incorporate fishers' experience and values.
 - a. Increase participation of fishermen and fisherwomen in community advisory committees on the siting of construction and closure areas that affect fishing sites, and that might affect subsistence fishermen. The Buzzards Point closure was due to hazardous piers and costly reconstruction; but it is a good example that when an issue like that comes up, fishermen are affected, and the closure can be done in ways that maintain access. A positive example



Fishing regulations and advisory notice in ROCR. Photo credit: S.J. Fiske

comes from the father-son fishermen at PISC who reported that PISC always notified them in a timely way about closures or other events that would affect their access to the shoreline and pier.

5. Make sure fishermen's voices are heard when facing development and construction along the Anacostia. Advocate for maintaining public access to the rivers, and caution development that eliminates or makes access difficult for fishermen, including the availability of parking. Fishermen commented and some complained about not being able to get to their favorite spots due to construction and development. This recommendation also reflects the investigators' view that subsistence fishermen need to be able to access public fishing sites for subsistence reasons, yet are relatively powerless in political decisions; the NPS can play a role in providing visibility for their concerns.

Fisherman complained that they could not get to their favored spots anymore because of construction along the Anacostia waterfront, predominantly the southwest and west sides of the river. Many fishermen may not know about websites where construction zone and closures are listed with respect to the CSO project; it is not clear how private contractors interact with fishermen to advise them of fenced-off areas. Closures are due to erecting fences for storage of construction equipment, backhoes, and dump trucks overnight, or a new stadium. While subsistence fishermen do not regularly have much input into the decision-making about those places, at least the plans could be communicated; especially since subsistence fishermen are a more resource-sensitive group than bicycle riders, joggers, or tennis players.

More involvement is also recommended with Piscataway, along with the Mayaone Reserve families.

6. Recognizing the current lack of hiring authority for additional rangers, we suggest prioritizing "outreach" in personnel evaluations or identifying rangers who are retired, seasonal rangers (e.g., during fishing season), or interns who are knowledgeable and who love to fish, tell fish stories, and compare notes, and can do demos and explain the health risks in a non-threatening and non-judgmental way.



Combined sewer overflow (CSO) warning on Potomac River, Virginia shoreline. *Photo credit: A. Cohen*

9.2 Research Recommendations

As background for the discussion below, it should be understood that consuming possibly contaminated fish is a national problem, not just a localized problem, for urban fishermen and their families. Although risks and effects of consuming contaminated fish are outside the study scope of work, we received many inquiries about this topic, so that it makes sense to spend time describing what we know and how research in the future might be useful. The widespread occurrence of this issue has been noted in the OpinionWorks study (2012) and abundant literature on the topic—an extensive literature on fish consumption and fish advisories in the Great Lakes, freshwater lakes, estuaries such as the Chesapeake, and marine recreational fishing. Much research has already gone into the anglers’ decision-making process about consuming the fish and how best to communicate risk to fishers—in order to understand and intervene in their behavior. Section 6.3.3 has detailed descriptions of food preparation and cooking as practiced by fishermen and fisherwomen that are relevant to this discussion. Individuals manage their personal risk assessment and rationalize their behavior in myriad ways. For example, many who are at risk use “optimistic bias” where they take an overly optimistic view, underestimating their chances of harm, and thereby minimize the perception of personal risk (Weinstein 1999). When we asked Potomac-Anacostia fishermen how they responded to risk, quite a few told us they chose fishing spots that were cleaner and less contaminated than others (in their estimation), even though they were downstream, but close-by the contaminated areas—an application of optimistic bias.

Granted, it is a challenge to sort through the often-conflicting messages about possible risks and benefits of eating wild-caught fish—the pros and cons—and fishermen often do not come to the same conclusion that scientists or government agencies do about health risks. It is up to the individual fisherman and his or her congeners to sort through all the messages from assorted media. For example, fishermen are encouraged to harvest blue catfish (and snakehead) because they are invasive species in the Potomac watershed; and contemporary nutritional messages about fish say that fish are an excellent source of protein and low in saturated fat. In addition, many persons are accustomed to eating catfish, and in fact prefer it, because of southern heritage and exposure. However, simultaneously, they are also advised to eat only certain catfish from the Anacostia and Potomac in moderate portions per month because the fish may carry cancer-causing contaminants or be otherwise compromised.

Consequently, fishers make judgements about the relative risks of eating fish from the river given their personal experience, their acquaintances’ and friends’ experience and advice, and what they have heard through official channels. Personal and social histories also influence consumption choices; individuals also weigh many factors in their risk assessments about what will harm them—whether smoking cigarettes or heart disease is worse than eating fish. Knuth et al. (2003) found, interestingly, that “anglers are more likely to weigh the relative risks of eating fish against the risks of eating other foods rather than weighing the risks and benefits of eating fish per se.” (Westphal et al. 2008: 47). In the Potomac-Anacostia study, we found that personal experience weighed heavily in fishermen’s rationales for continuing to eat and share fish, and we were told many times, in so many words, that “I’ve been eating fish out of this river for 22 years and never gotten sick from it—and neither have the people I’ve given fish to.”

Please note that the following research recommendations are not limited to NPS involvement nor funding; most are ambitious research projects that cut across multiple agencies and stakeholders.

9.2.1 Epidemiological study to assess direct effects: We recommend NPS join river health and environmental justice advocates in pushing for a detailed epidemiological study of the possible health outcomes from long-term consumption of potentially contaminated fish from the Anacostia. Essentially, this would involve measuring or assessing the relationship of exposure to contaminants with a disease or an outcome, and being able to control various aspects of the experimental study design to identify causal links between interventions and outcomes of interest. At a minimum it would involve multiple federal, state, and district offices and scientists from the National Institutes of Health, EPA, fisheries experts from the states, and public health agencies. This would focus on individuals and families with long-term fishing and consumption histories from the Anacostia and the Potomac.

A more limited, albeit less conclusive approach, would require measurement and analysis of contaminants of various organs and tissues of fish by species. The results of this effort would then be reviewed by state and District health experts to assess, as best they can without long-term epidemiological studies, the potential risk to anglers and their families across a broader range of species. The outcome of this assessment would not be conclusive as to types of risk that humans might incur, but despite these ambiguities, an outreach effort could be initiated to communicate these findings as honestly as possible across as broad a range of fish as possible.

9.2.2 Expand sample of subsistence fishers: Replicate this study by selectively expanding the sample of subsistence anglers for Asian, Southeast Asians, Pacific Islanders, and Hispanic communities for a more complete picture of their contribution to and motivations for subsistence fishing. The main focus would be on immigrant groups fishing along the shorelines—their fishing patterns, and consumption and preparation of fish, similar to this study, but also their knowledge of fish advisories, relative risk-weighting, and vulnerability to losing high-frequency fishing sites (e.g., Hains Point due to climate change), and consideration of how regional development will enable or discourage fishing for these groups (not only along the Anacostia, but also along the Alexandria waterfront).

9.2.3 Network analysis of sharing: We suggest a network analysis of how fish are shared within the angler's extended family and community. This network analysis would identify genealogical and non-kin ties and key attributes (age, gender, health) of recipients. This network analysis would focus on a sample of selected fishermen and their social ties and sharing networks, following sharing networks of selected fisher families and “regulars,” to see how fish percolate through the community. The scope of the present study did not include investigating sharing behavior outside the initial sharing, but if the health of the greater food-insecure public is of concern, it makes sense to understand more clearly where the fish end up and how often. This question was raised by resource managers who advised the study.

Coupled with this network analysis, we suggest an in-depth study of key participants' beliefs about food safety and food preparation, and an assessment of appropriate materials for culturally specific foodways and how to alter them (e.g., the southern cooking propensity for frying) for optimal consumption outcomes. This research is important in identifying key aspects of food insecurity and the role subsistence fishing plays in the lives of consumers. In addition, the results will be an important input into producing relevant and useful outreach, fact sheets, demonstrations, and communicating to specific cultural groups and the general public. In places where persons are known to be fishing for consumption, onsite fishing demonstrations could focus on the need to remove fat and discard the head, tail, and organs. Onsite displays or live demonstrations could also teach that cooking methods like broiling and grilling are more likely than frying or stewing to remove contaminants. Outreach efforts to

anglers of both genders and all ages could emphasize that pregnant women and young children are some of the more at-risk fish consumers.

9.2.4 Fish advisories and communication: Investigate how active subsistence fishers learn about advisories and make decisions. Some fishermen told us that they check the internet, others pointed out the information is on the back of their D.C. license. Some said they heard about health risks from other fishermen. With younger fishermen, Facebook or other social sites may be an ancillary avenue of information-sharing. There is evidence to support the idea that an angler's ethnicity may influence which sources of information they turn to and trust (Beehler et al. 2001) and that ethnic fishermen, such as Vietnamese, Filipino, and Hispanics tend to utilize their own social networks for this kind of information. Part of this research would be a more in-depth study of how fish advisory information is disseminated and internalized by subsistence fishermen; and how best to communicate fish consumption advisories for differentiated publics, such as Hispanics and Asians, as well as African Americans, building on the significant research that has already been done on fish consumption advisories. This was also a recommendation of the OpinionWorks study (2012).

The related major topic in the literature is how best to communicate risk in official advisories, such as those issued by states and the District. The current research is critical of "advisories written in a dry, bureaucratic style and embedded in a booklet" or pamphlet, whether on the web or in print format. They conclude these advisories "cannot be counted on as an effective outreach mechanism" (Westphal 2008: 47-48; Chess et al., 2005, quoted in Westphal). In addition, another observation has been that a "lack of culturally relevant outreach materials for minority populations in particular may compound environmental injustices that already disproportionately affect these populations." Researchers have found that ethnic groups tend to form their own fishing communities; a study found that African Americans were more likely to ask advice from other African American fishermen than other ethnicities. Hispanic fishermen were reportedly turned off by official government language.

9.2.5 Oral histories: Through conversations with dockmasters and bait shop owners, we became aware of the vast amount of historical and social knowledge held by long-time residents of the District, in particular, but also marinas in Virginia and Maryland. We recommend an historically-focused study of the families that have been fishing the Potomac over time, particularly those that have managed the formerly numerous boathouses in the D.C. area that rented boats and encouraged fishing on the rivers, such as still exist at Fletcher's Boathouse. The era of boathouses and recreation on the rivers is changing rapidly, and we suggest interviewing marina owners, boathouse concessioners, and fishermen associated with them as soon as possible to capture their history and perspectives on the river, fishing, and hunting (where applicable). We recommend documenting the ethnohistory of specific fishing locales like Hains Point, Belle Haven Marina, Fletcher's Boathouse, and others before this generation slips away.

9.2.6 Documenting lives in histories on the Anacostia: Historical use and Ethnographic Resource Study specifically of African Americans and the Anacostia, including Hains Point and Anacostia Park. This would include historical experience and involvement, recollections, and oral histories of the river from the period before Civil Rights movement to present. This could also include a modified cultural landscape study, collaborating with Anacostia Community Museum, with their work on urban rivers, and other organizations with a similar focus. As "Chocolate City" becomes "Latte Land," much of the experience and history of life as it was in the Chocolate City is being lost as earlier generations pass

on.¹⁶⁶ In the arguably small number of fishermen we talked to, there is clearly a rich narrative of stories and experiences about segregated Washington, about growing up exploring the tributaries of the Anacostia, about the changes that integration brought—all of which involve the “river that runs through us” as a symbolic and political boundary.

9.2.7 Rock Creek Park (ROCR) subsistence fishing and fishermen: Although the Fishing Site Sampling Matrix identifies three fishing sites, during multiple visits to ROCR the team did not encounter any subsistence fishermen (or fishers in general) to interview. In order to ascertain the actual extent of subsistence fishing in ROCR, we recommend undertaking an addendum to this study, to focus more intensively on ROCR. Oral histories of subsistence fishermen who grew up in the District indicated that they went to ROCR quite often when they were young, so perhaps contemporary fishermen frequent the area, but the team did not find them. In addition, NPS rangers and staff have observed fishermen fishing in ROCR. Since the shad moratorium, the fishermen are likely to be catch and release; nonetheless, there are other fish species in the Creek that can provide the basis for subsistence fishing.

The recommendations presented here are intended to build understanding and engagement with the communities of subsistence fishermen and fisherwomen who regularly fish along NPS-managed shorelands of the Potomac and Anacostia. Fishermen and fisherwomen want to communicate with the NPS, not as a bureaucracy, but with individuals, around issues that affect their fishing grounds and sites. It is hoped that these recommendations point to some directions to help build trust and engagement and keep local residents and fishermen involved in their “neighborhood park,” Anacostia Park in particular, as the lands and neighborhoods around it are transformed by the Anacostia Watershed Initiative. The present research shows dedicated anglers who consume and share fish on a regular basis despite the advisories of pollution in the rivers and fish, and it is hoped that by understanding their beliefs and values about fishing, its interconnectedness to their heritage and lives, that communication and engagement about catching, preparing, and consuming fish may lead to modifications in their fishing. Fishermen will continue to fish, consume, and share, and whatever can be done to reduce risk at the margins is important.

The research in this study underscores many other reports and studies that document the environmental injustices of centuries of deposition of industrial and agricultural contaminants in the Anacostia, and the fact that African Americans still fish the Anacostia as one of their favored spots. There are impressive water quality and trash improvement in the last 15 years from the District’s massive re-engineering of the CSO system on the Anacostia, plus D.C. regulations on plastic bags and Styrofoam; however, sediment toxics are still in place, and the removal of sediments is likely to be a long process before waters become fishable and swimmable. In the presence of such a long wait, it is hoped that this study and the recommendations will add greater impetus to the importance of removing sediments and cleaning the river for safe habitat for fish and healthy fish for subsistence fishermen.

¹⁶⁶ Petula Dvorak’s column, from which the quote came, highlights the problem of demographic changes in the District and the need to recognize peoples (and their histories) who have been the backbone of the District through decades of change. She notes the work of the D.C. Humanities Council to document and honor these individuals and histories (“Organization creates award for Washingtonians whose stories are key to city,” *The Washington Post*, Metro Section, September 9, 2019).



Waiting for the last bite at Hains Point. *Photo Credit: J. Trombley*

References

Beehler, G.P., B.M. McGuinness, and J.E. Vena. 2001. "Polluted fish, sources of knowledge, and the perception of risk: Contextualizing African American anglers' sport fishing practices." *Human Organization* 60(3):288-297.

Jardine, C.G. 2003. "Development of a public participation and communication protocol for establishing fish consumption advisories." *Risk Analysis* 23(3):461-471.

Knuth, B.A., N.A. Connelly, J. Sheeshka, and J. Patterson. 2003. "Weighing health benefit and health risk information when consuming sportcaught fish." *Risk Analysis* 23(6):1185-1197.

OpinionWorks. 2012. "Addressing the Risk: Understanding and Changing Anglers' Attitudes about the Dangers of Consuming Anacostia Fish." 20 pp., http://www.anacostiaws.org/userfiles/file/AWS_angling_FINAL_web.pdf, Accessed October 2014.

Weinstein, N.D. 1999. "What does it mean to understand a risk?: Evaluating risk comprehension." *Journal of the National Cancer Institute Monographs*, No. 25, 15-20.

Westphal, Lynne M., Mario Longoni, Cherie L. LeBlanc, and Alaka Wali. 2008. "Anglers' Appraisals of the Risks of Eating Sport-Caught Fish from Industrial Areas: Lessons from Chicago's Calumet Region." *Human Ecology Review* 15(1):46-62.

Worcester Polytechnic Institute (WPI). 2018. "Cleaning up East Potomac Park." Report for National Park Service/NAMA. December 13, 2018. Team Members: Kirsten Doyle, Zhentian Ren, Jarod Thompson, Yuan Wang. Advisors: Professor Dominic Golding, Professor Lorraine Higgins. Sponsored by NPS, 22 pp, https://web.wpi.edu/Pubs/E-project/Available/E-project-121218-150936/unrestricted/Cleaning_Up_East_Potomac_Park_Final.pdf, accessed December 13, 2018.