ATLANTIC COAST FISHERIES
DATA COLLECTION STANDARDS

2012 edition

created by the program partners of the
ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM

NOAA Fisheries Service | US Fish and Wildlife Service | Atlantic States Marine Fisheries Commission | New England Fishery Management Council | Mid-Atlantic Fishery Management Council | Potomac River Fisheries Commission | South Atlantic Fishery Management Council | Maine Department of Marine Resources | New Hampshire Fish and Game Department | Massachusetts Division of Marine Fisheries | Rhode Island Division of Fish and Wildlife | Connecticut Department of Energy and Environmental Protection | New York State Department of Environmental Conservation | New Jersey Division of Fish and Wildlife | Delaware Division of Fish and Wildlife | Pennsylvania Fish and Boat Commission | District of Columbia Fisheries and Wildlife | Maryland Department of Natural Resources | Virginia Marine Resources Commission | North Carolina Division of Marine Fisheries | South Carolina Department of Natural Resources | Georgia Department of Natural Resources | Florida Fish and Wildlife Conservation Commission

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EXECUTIVE SUMMARY

Atlantic Coast Fisheries Data Collection Standards: A third edition of the program design for the Atlantic Coastal Cooperative Statistics Program defines policies, data collection and data management standards for the Atlantic Coastal Cooperative Statistics Program (hereinafter, the ACCSP or the Program). This document also provides direction on future improvements for Atlantic coast commercial, recreational, and for-hire fisheries statistics.

In this third edition of the program design, significant updates have been made to recreational catch and effort data collection standards. These standards not only reflect the current data needs identified by the partners (as compiled by the Recreational Technical Committee), but also provide guidance to the Marine Recreational Information Program (MRIP) of NOAA Fisheries Service. These standards support the continued use of innovative technologies and state performance of intercept sampling.

The partners recognize that full implementation of some standards is a long-term goal, and components will be incorporated commensurable with available resources. References to most specific programs have been removed to allow for changes to methodologies over time. The program design is updated to provide long-term guidance for implementing programs and providing accurate and timely fisheries-dependent data in support of state and federal fisheries conservation and management activities.

OVERVIEW

The Atlantic Coast Fisheries Data Collection Standards provides detailed information on standards, policies, reporting requirements, quality control and assurance documentation, and processes necessary for adjustments and modification. This document should be implemented by all partners as fully as possible to ensure effective and consistent implementation of data collection and data management models.

Supporting documentation for all Program details are provided on the web[1]. This includes information on technical, advisory, and public input into all final decisions of the ACCSP as well as a history of discussion and approval actions.

The Program is committed to transparency in all its operations and therefore programmatic documents are always made available through the ACCSP website.

[1] All supporting documentation for ACCSP can be found by visiting *www.accsp.org*.

A. MISSION

The mission of the ACCSP is to be a “cooperative state-federal program to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen.”

B. PROGRAM PARTNERS

The ACCSP is a state-federal partnership composed of 23 entities, including:

Federal Agencies

NOAA Fisheries Service
US Fish and Wildlife Service

Councils and Commissions

Atlantic States Marine Fisheries Commission
New England Fishery Management Council
Mid-Atlantic Fishery Management Council
Potomac River Fisheries Commission
South Atlantic Fishery Management Council

State Agencies

Maine Dept. of Marine Resources
New Hampshire Fish and Game Dept.
Massachusetts Division of Marine Fisheries
Rhode Island Division of Fish and Wildlife
Connecticut Dept. of Energy and Environmental Protection
New York State Dept. of Environmental Conservation
New Jersey Division of Fish and Wildlife
Delaware Division of Fish and Wildlife
Pennsylvania Fish and Boat Commission
District of Columbia Fisheries and Wildlife
Maryland Dept. of Natural Resources
Virginia Marine Resources Commission
North Carolina Division of Marine Fisheries
South Carolina Dept. of Natural Resources
Georgia Dept. of Natural Resources
Florida Fish and Wildlife Conservation Commission

C. BACKGROUND

The Program was established in 1995 through a Memorandum of Understanding (MOU) to address deficiencies in the data that constrained fisheries management along the Atlantic coast. These deficiencies included incompatibilities between state and federal data systems, a lack of standardized trip level catch and effort reporting by partners, the lack of universal permit and vessel registration data, and a general need for more and better data to support new emerging fisheries management initiatives.

The Program established four basic principles to ensure that fisheries-dependent statistics are complete, accurate, consistent, and compatible:

1. Cooperative development and implementation across jurisdictional lines
2. Coastwide data collection standards and a single, integrated data management system
3. Data on all fishing activities (e.g., commercial, recreational, and for-hire fisheries)
4. Modular design for data collection and data management projects

Beginning

In the mid-to-late 1990s, after the Program officially began, funding from partner contributions from the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA) supported the establishment of committees to develop the first edition of the program design. The committees also created minimum standards and operating procedures. In addition, the funds supported salary for one staff member.

The committees included a variety of technical committees, an advisory committee, a steering committee (named the Operations Committee), and a policy level committee (named the Coordinating Council). The minimum standards that the committees were instructed to develop were based on needs for fisheries stock assessments and management. The committees were also instructed to question current practices, not necessarily preserve the status quo, and were asked to give little weight to possible cost implications. New minimum standards included 1) the type and resolution of data that should be collected, 2) minimum data elements with standard codes, 3) timeliness, and 4) quality control and assurance practices.

Partners agreed to meet all minimum standards, given the needed resources, and were free to exceed the standards when needed. For example, partners may require additional data elements or tighter reporting deadlines. Partners may also continue using their own coding systems, as long as data can be mapped directly to the ACCSP standard codes.

Partnerships Established
By 1999, much of the planning was complete and standards were established where enough information existed to support a decision of minimum standards. Staff had been provided by the Atlantic States Marine Fisheries Commission (ASMFC) and the US Fish and Wildlife Service. The Program identified standards that needed additional work, as well as standards that will continue to evolve and be updated as needed.

Throughout its development, planning for the ACCSP was closely coordinated with the Gulf Commercial and Recreational Fisheries Information Networks (Gulf ComFIN and RecFIN respectively, also collectively known as GulfFIN), namely similar initiatives being launched with the Gulf of Mexico. This coordination included dual committee work for ACCSP and GulfFIN staff. The result was adoption of similar standards and the ability to access comprehensive and compatible data for the Atlantic and Gulf coasts.

In May 1999, an addendum to the MOU was approved by the Coordinating Council. This addendum allowed North Carolina, South Carolina, and Georgia to end participation in GulfFIN. Instead, the staff of the ACCSP and GulfFIN communicates routinely to coordinate efforts of the two programs and distribute work across all partners.

Funding
In 1999, established standards and an increase in funding to $1.5 million through partner contributions from ACFCMA and federal appropriations allowed the partners to begin implementation of its standards. The ACCSP hired permanent staff to coordinate data collection programs, create and operate the central fisheries-dependent database (Data Warehouse), and continue the development of standards.

Funding increased to $3.0 million in 2001 with $1.5 million from the appropriations line item for *ASMFC Fish Statistics*. Funding further increased to $3.5 million in 2002 and has remained at that level through 2011. The Program continues to support the implementation of standards though annual partner proposals for data collection and data management projects.

Independence
As the Program continued to grow, and the public became more aware of the existence and purpose of the ACCSP discussions were held concerning the structure and support of the Program. The online Data Warehouse was launched February of 2002 at a Washington, DC reception. Public users were invited to access the Data Warehouse to view non-confidential catch and effort data from partners who had fully implemented the ACCSP standards for commercial fisheries. The Coordinating Council wanted to address public concerns regarding the integrity of data collected by the same entity that was using it for data for management purposes. Separation of the ACCSP from regulatory bodies, to the extent practical, was seen as helpful in addressing this perception issue. The Coordinating Council also required that the

structure be cost effective and meet the administrative obligations of the ACCSP efficiently, within current legal authority, reflect that the ACCSP is a partnership that includes the ASMFC and not another ASMFC program, accommodate the continuing growth and maturity of the ACCSP, and establish clear lines of authority within the Program.

After discussion among partners, the Coordinating Council approved an addendum to the MOU in November 2002, which established the ACCSP as a program separate from ASMFC and provided for hiring a Director to grant executive leadership, while continuing administrative support from the ASMFC.

Plans Developed

In May 2002, the Coordinating Council completed development of a Strategic Plan for 2002-2006 that outlined goals and strategies for implementation of standards for data collection and management for commercial, for-hire, and recreational fisheries trips. Upon approval of the plan, the Council also recognized the need for more specifics to address partner status and more detailed tasks, given that needs are projected to exceed resources. Planning was conducted throughout 2003 and the Coordinating Council approved an implementation plan in March of 2004. The ACCSP 2004-2008 Implementation Plan outlined actions the partners and program staff had to take to implement a coastwide program over the next five years. The Coordinating Council recognized that most, if not all, cooperating partners would require regulatory adjustments, some significant, to fully execute the ACCSP standards and that achieving such adjustments may require considerable time and effort.

In 2002, the ACCSP embarked on a strategic change in program operations. The original program scenario was specifically designed so that raw data were collected by and under the authority of a single partner, or a group of partners in a single jurisdiction. Staff began developing data collection software applications for use by one or more partners. While the data are still collected under the authority of the partners the ACCSP conducts and plans several data collection activities on behalf of its partners in 2002. This provides for cost effective development of centralized systems that can be shared by partners across jurisdictions. It further enables staff to directly assist partners that do not have the ACCSP standard data collection programs, eliminates the burden of duplicative reporting on the industry, allows industry users confidential access to their own data, and allows seamless integration of state and federal data collection programs. The Coordinating Council approved the Standard Atlantic Fisheries Information System (SAFIS) white paper documenting this strategic change in June of 2003.

In 2009, the ACCSP began publishing an annual report that outlines the Program activities being implemented by partners and staff. This report always incorporates the commercial catch and effort data sets the ACCSP

collects from partners for inclusion in the annual publication Fisheries of the United States (FUS) produced by NOAA Fisheries Service. This report also always provides the most up-to-date outlines of the number of records in the SAFIS applications from each partner.

D. PROGRAM SCOPE

The ACCSP is intended to encompass commercial, recreational, and for-hire fisheries-dependent statistics for all living marine resources including: finfish, crustaceans and shellfish; live rock and corals; marine mammal and endangered species release, discard, and protected species interactions; aquaculture; and highly migratory and internationally managed species. All partners have committed to implementing the data collection and data management standards issued forth by the Program within their own jurisdictions. Partners should collect and submit information on marine resources landed in their jurisdictions regardless of where they were harvested.

Historically, fisheries-independent data have not been included in the Program scope, because:

1. The ACCSP has significant challenges in addressing the magnitude and complexity of fisheries-dependent data needs and combining the two programs could dilute resources
2. A separate initiative for fisheries-dependent data is more efficient and logical

However, the ACCSP continues coordination with fisheries-independent data collection initiatives. Fisheries management has become more complex over time. Both, dependent and independent, fisheries data are needed to accurately characterized fish stocks. Limited seasons, moratoriums, quotas, etc. make fisheries-dependent data more difficult to collect. Dependent data may not be providing all the information needed for consideration by fisheries managers. Independent data are needed to fill those data gaps and to remove the bias dependent data provides. The ACCSP will determine if the reasons independent data are excluded from the ACCSP are still valid and, if not, the ACCSP will develop an independent data module.

E. STRUCTURE AND OPERATIONS

The ACCSP functions through committees composed of partner representatives, staff, and administrative support provided by the ASMFC.

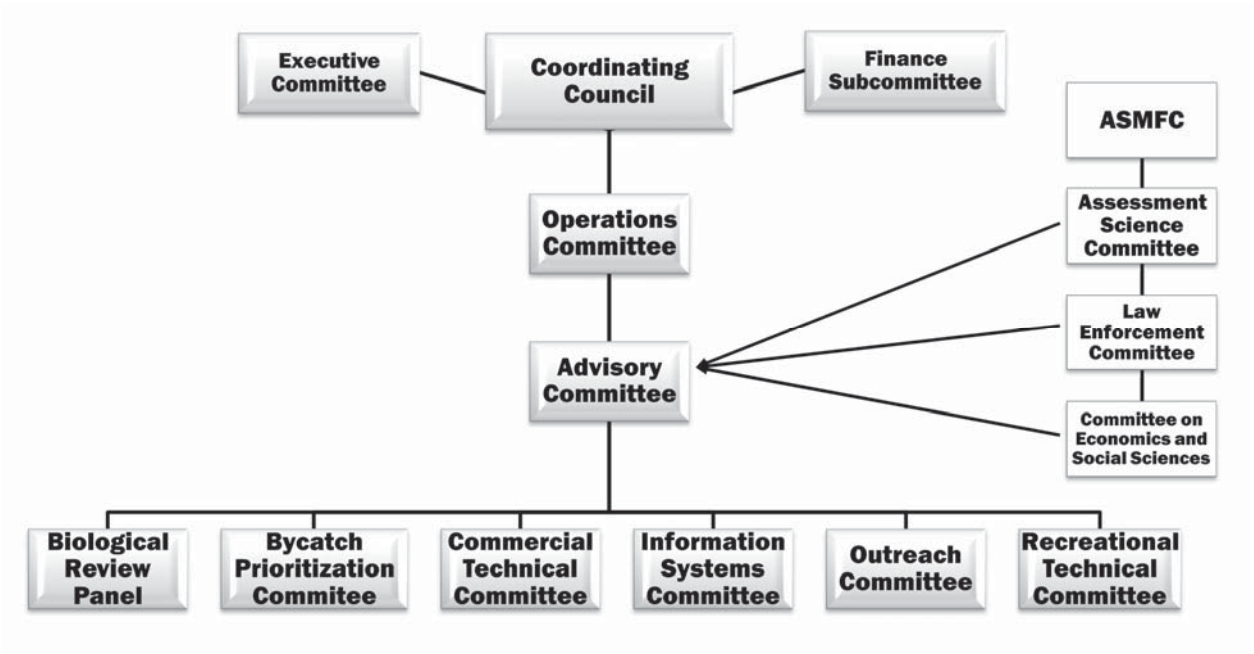
1. Committees

Committees of the ACCSP are responsible for setting program policies and standards, deciding annual funding allocations, overall program planning, and coordination of data collection and data management programs. Historically, committees have operated by consensus, where members all agree. In the few cases when consensus was not possible, an appropriate alternate was found, such as a vote or preparation of a minority opinion for the record.

The Coordinating Council serves as the governing body of the Program. The Operations Committee serves as its steering committee. The Advisory Committee provides input from commercial, for-hire, and recreational fisheries, while technical committees provide recommendations on program standards (Figure 1).

The Operations Committee assigns tasks to technical committees. Then recommendations from technical committees are channeled through the Advisory Committee and the Operations Committee. Then the Advisory Committee and the Operations Committee provides a comprehensive set of recommendations assimilated from all committees to the Coordinating Council for final approval. Issues identified through public comment are addressed specifically and inserted into technical source documents (TSD). The TSDs were developed periodically to document technical committee discussions, recommendations from the Advisory and Operations Committee, public comment, and final Coordinating Council decisions. Appendix A provides some general guidelines for committee member participation.

Figure 1:
COMMITTEE ORGANIZATION OF THE ACCSP AND RELATION WITH THE ASMFC



a. Coordinating Council

The Coordinating Council consists of policy level signatories of the MOU or their designees. The Council provides leadership and direction, establishes policy to guide the program and participation from partners, oversees program design and implementation, and is the final decision making authority.

The Coordinating Council has one voting representative of each signatory partner. Members make all appointments to the Operations Committee, Advisory Committee, and the various technical committees. The Executive Committee, a subset of the Coordinating Council, provides interim policy and program guidance. The Finance Subcommittee is responsible for developing strategies to ensure adequate resources for program development and operation. The ACCSP Director manages the program based on guidance from the Coordinating Council.

b. Operations Committee

The Operations Committee is composed of a manager level staff person from each partner, except NOAA Fisheries Service. NOAA has representatives from the Southeast Fisheries Science Center, the Northeast Regional Office, and the Office of Science and Technology.

The Operations Committee serves as the steering committee to direct development and implementation of program standards and assimilates recommendations from the technical and advisory

committees into cohesive recommendations to the Coordinating Council. While the majority of program standards have been developed, the Committee continues to provide recommendations and advice to the Coordinating Council and staff on a variety of technical and policy issues. This Committee meets as necessary to evaluate and rank submitted proposals, evaluate technical committee recommendations, and recommend priorities for annual funding.

c. Advisory Committee

The Advisory Committee consists of representatives from the fields of commercial, for-hire, and recreational fishing. These representatives provide perspectives from a variety of locals and hands-on fisheries expertise and experience. The Coordinating Council member from each partner state designates one commercial and one recreational or for-hire representative to the Committee. Those members meet approximately twice a year to evaluate technical recommendations, provide advice on development and implementation of ACCSP standards, and recommend priorities for annual funding.

d. Technical Committees

Technical committees provide recommendations on the design and implementation of standards. Committee members include state, federal, and university representatives with technical expertise in fisheries data collection and data management. Standing technical committees include the Commercial Technical Committee, Recreational Technical Committee, Biological Review Panel, Bycatch Prioritization Committee, Information Systems Committee, and Outreach Committee. Subcommittees are formed to address specific ongoing issues, and ad hoc workgroups are formed as needed to address with temporary and transitional issues.

The ASMFC contributes the services of several of its technical committees including the Committee on Economics and Social Sciences and the Assessment Science and Law Enforcement Committees.

2. Staff

The ACCSP staff provide administrative support, routine coordination among partners, programmatic support for committees, outreach and information systems expertise (including support for partner projects), operation of the Data Warehouse, and creation and maintenance of multi-partner data collection applications. The most up-to-date staff positions, descriptions, and organizational staff chart can be found in Appendix B.

The ASMFC provides administrative support. This includes personnel services, meeting logistics, grants management, and office space. The staff is employed by and follows the policies and procedures of the ASMFC and receives the ASMFC employee benefits.

F. PUBLIC INPUT

In order for a fisheries statistics program to be effective it must have the active support and involvement of fishermen, managers, and legislators. This includes:

1. Fishermen at all levels must believe in the need for complete and dependable data on fisheries catch and effort
2. They must believe that data collected through the program is complete and accurate
3. They must have confidence that they will have effective and regular access to information collected

When designing the technical details of the ACCSP and implementing new programs, it has been essential to obtain stakeholder advice prior to making final decisions. The Program will continue to consider stakeholder input for all aspects of program design and implementation. Decisions made on design are based not only on technical merit but also on stakeholder recommendations, ensuring maximum support of this cooperative program.

In addition to establishing an Advisory Committee, the Coordinating Council approved a public meeting process to secure and incorporate this advice into the Program. All committee meetings are open to the public, and comment periods are provided for the public to address any program issue. The attending public is encouraged to participate and comment as committees develop and undertake actions. When new TSDs are developed, they are posted to the website, and notices of a public comment period are distributed.

Stakeholders may include commercial fishermen, recreational anglers, environmental organizations, equipment manufacturers and retailers, state legislators, Congress, and partners. Mechanisms to gather stakeholder input include email, Advisory Committee correspondence, industry and regulatory meetings, and workshops.

G. OUTREACH

The ACCSP outreach efforts are conducted strategically to support the mission “to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen.” All outreach efforts support development and implementation of ACCSP standards or communicate the programs benefits to stakeholders.

The ACCSP relies on the Outreach Committee “to provide guidance to facilitate the understanding of how ACCSP should effectively communicate with stakeholders.” The staff member dedicated to the Outreach Committee conducts awareness surveys to check the pragmatism of its outreach efforts and measure their effectiveness. The Outreach Committee makes recommendations to staff and committees on changes to outreach strategy as information becomes available.

The Program takes advantage of cost-effective media. Those media typically used by the ACCSP include web-based newsletters, electronic publications, training/educational materials for systems, articles contributed to trade publications, press releases, press kits, Advisory Committee correspondence, brochures, and the ACCSP website.

The staff keeps a variety of informational materials at varying levels of detail for partners and interested stakeholders who request them. The ACCSP website is linked to all partner websites. Partners should have their websites linked to the ACCSP website as well.

H. PROGRAM PROCEDURES

The ACCSP has implemented several routine procedures to help partners with planning projects and funding.

1. Operations Plans

Each summer, the Director and Operations Committee develop an annual operations plan for the following year. These plans are based on the implementation schedules in the current implementation plan, with adjustments for past progress, resources available, and new developments. The operations plan details major tasks to be accomplished by staff and committees, lists the responsible parties, and set tentative schedules. The Coordinating Council approves a new operations plan in the fall, along with the funding decisions for the year. The plan is updated by the Director prior to each Operations Committee meeting so members can review and adjust the plan as needed. Final updates are made at the end of each grant year. Plans for previous years and the latest version of the current year are posted to the website.

2. Meeting Schedules

Committee meetings are outlined in the annual Operations Plans. Program staff drafts a meeting schedule for the upcoming year to be reviewed, adjusted, and approved by the Operations Committee at their first meeting of the grant year. Meeting schedules are published on the ACCSP website and in relevant publications.

3. Funding Decisions

Funding is allocated in an annual competitive process similar to those used by other government grant programs. The Program established funding criteria to guide this process, which are fully described in the funding decision document.

A Request for Proposals (RFP) is issued each spring with schedules for proposal submission and review. The administrative grant for staff is developed, reviewed, and resubmitted. The Operations and Advisory Committees and the ACCSP Director review proposals and make funding recommendations to the Coordinating Council for a decision in the fall. Procedures for changes to approved Program grants also have a defined approval process, which is contained in the annual funding decision document posted on the website.

4. Program Evaluation

The ACCSP monitors its performance routinely through outreach, surveys, and other feedback mechanisms. The Program conducts formal reviews at least every ten years to evaluate its success in meeting the needs of fisheries managers, scientists, and fishermen. The Director, along with the Chairs and Vice-chairs of the Coordinating Council, Operations and Advisory Committees, evaluate for this review every five years.

I. LAW ENFORCEMENT SUPPORT

The law enforcement divisions within the partners are charged with protection of the marine resources under their respective jurisdictions. Effective implementation of standards will be contingent on fishing constituents' active participation, and management agency and law enforcement responsiveness. The law enforcement community enforces the implementation of ACCSP reporting requirements through enforcement of marine conservation regulations. Each enforcement entity should consistently enforce regulations to promote compliance with standards. Some legislative and regulatory changes will be required in many jurisdictions for effective enforcement. The ACCSP recognizes the time required to make such changes and will provide support where needed to hasten the implementation of these changes.

Partners should promote compliance with reporting rules through effective design of reporting forms, tracking of compliance with reporting rules, and timely notification when fishermen and dealers are not in compliance. If data providers (e.g., dealers, fishermen) were not notified of their delinquency in a consistent, timely manner, then partners would be contributing to the problem. Two steps are recommended to prevent these problems. First, each partner agency should put in place a system of notification of delinquent status. Second, routine statements should be provided back to reporting constituents. The present recommendation is a report to each reporting constituent, detailing his/her reported catch. The constituent could then verify landings and offer documentation to substantiate any discrepancies. This routine correspondence should occur at least semi-annually, if not quarterly, and would include the industry in the auditing of data.

Conditions of commercial fisheries licensing for those subject to the ACCSP standards should be:

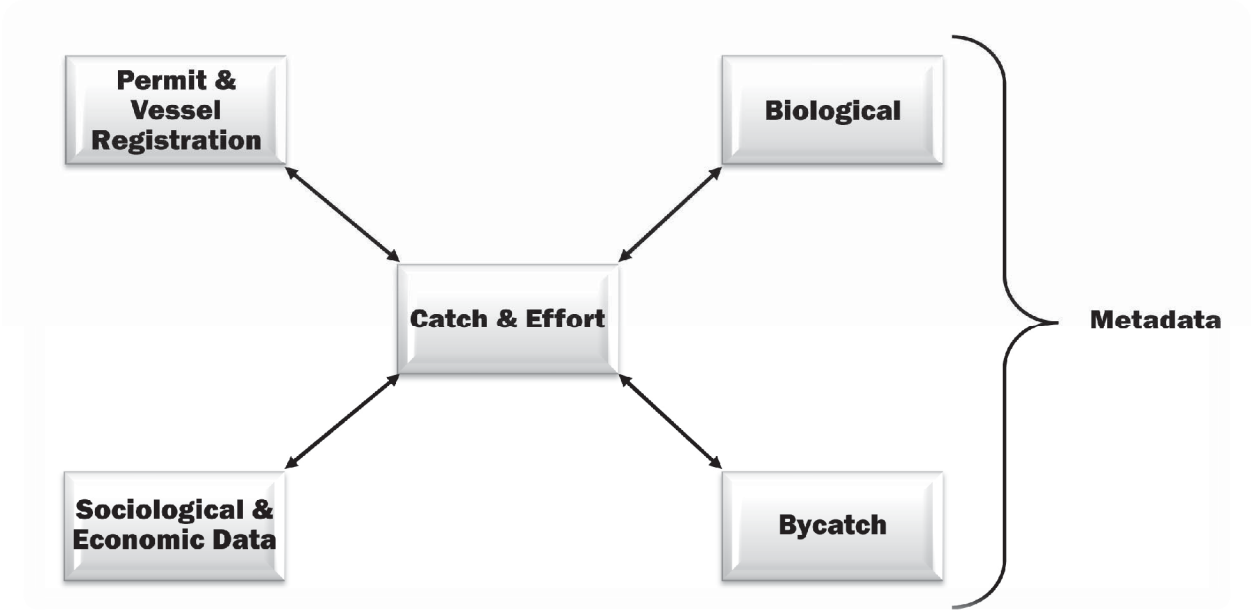
1. Mandatory reporting with potential loss of license for failure to report in a timely manner
2. Submission to random audits and inspections as necessary

Partners are encouraged to implement regulatory or administrative penalties, such as suspension or revocation of permits or licenses, or administrative fines, for failure to report on time. Law enforcement should be notified after licenses are suspended or revoked, so law enforcement can enforce penalties. Some jurisdictions already have this authority, while those that do not may require legislative changes to facilitate possible sanctions.

DATA COLLECTION AND MANAGEMENT STANDARDS

The ACCSP has been designed as a modular system for data collection and data management (Figure 2). This module design allows for 1) the development of clear standards for each type of data and 2) a simpler database design, while also maintaining the ability to link various data for scientific and economic assessments. The current implementation status for each module can be found on the website and in the Strategic Plan. An overview of the expectations of each module is described below.

Figure 2:
COMPONENTS OF THE ACCSP DATA COLLECTION PROCESS



A. DATA MODULES

1. Catch and Effort Module

Implementation of comprehensive catch and effort data, including dealer permits, fishermen permits, and vessel registration data is the highest priority for the ACCSP. Statistics for the commercial fishing sector are collected by most of the partners and only for the fishing activity that occurs in their respective areas of jurisdiction. Due to the larger number of commercial reporting programs on the Atlantic coast, the need for consistency in data collection procedures and coding by the partners is considerably greater for the commercial sector than it is for the recreational sector.

Full implementation of the dealer, fishermen, and vessel permit and registration module is almost as important as catch and effort data. It is essential to managing data used for fisheries assessment, because it allows linking of all the data modules back to the trip information. It also provides comprehensive data on the numbers of participants and vessels in various fisheries.

Statistics for most of the recreational and for-hire sector are collected by coastwide programs including the Marine Recreational Information Program (MRIP), the Southeast For-Hire/Headboat Survey, and the Northeast Large Pelagic Survey. The restructuring of the Marine Recreational Fisheries Statistics Survey (MRFSS) to MRIP has put a new focus on improving the quality of data from the recreational fishing sector. The standards for the recreational and for-hire components are critical to set baseline methodology and sampling levels to meet coastwide, regional, and state specific management needs.

2. Biological Module

Biological data are important components of many stock assessments and in assessing the health of fisheries stocks.

3. Bycatch, Releases, and Protected Species Interaction Module

Bycatch, releases, and protected species interactions data are necessary to manage fisheries in a holistic manner and to measure the impacts of various management strategies on stocks.

4. Social and Economic Module

Federal law mandates the collection and consideration of socioeconomic data related to fisheries. These data are needed to measure the value of fisheries to our nation, regions, and states, and to evaluate the impacts of fisheries regulations on fishermen, fishing communities, and the economy.

5. Metadata Module

Metadata are “corollary or descriptive information, both numeric and non-numeric, which may qualify or explain primary data.” Metadata is an essential component of each module, and is critical for understanding trends in data and how to use the data for analyses. Metadata applications are needed for program documentation, statutory and regulatory histories, fishing technology histories, environmental data, and social and economic data (indices).

B. DATA LOADS

All data collected under the standards will be loaded into the Data Warehouse according to the format and timeline in the appropriate data module standards. Presentation of historical data including the last completed year is available in the Data Warehouse is updated quarterly and as necessary to meet partner data needs. Inclusion in the Data Warehouse and allows access to information by fisheries managers, scientists, fishermen, and other interested parties under the confidentiality guidelines. Preliminary data collected under the SAFIS applications are available real time to select partner personnel.

Any partners receiving program funds to implement data collection and/or management programs are required to submit those data to the Data Warehouse within six months of the completion of the project. Data shall be submitted in a format specified in the Atlantic Coast Fisheries Data Collection Standards.

C. CONFIDENTIALITY

Confidential information is that which is "identifiable with any person or entity and prohibited by law from being disclosed to the public. It is data used as a basis for reasoning, discussion or calculations that a person may submit, either voluntarily or as required by federal or state statute[1]."

Vessel and individual identifiers are masked from non-confidential users in the Data Warehouse. Confidential data can only be disclosed to or accessed by authorized users. Data are only to be released to the public in aggregate form, such that the identity of the submitter(s) cannot be determined either from the Data Warehouse release alone or in combination with other data extractions released elsewhere.

The confidentiality policy of the Program is a strict interpretation of the "Rule of 3", that is three or more dealers, fishermen, and vessels must be included for a summary record to be presented. Other criteria may be necessary to ensure data confidentiality as well. Constituents who agree to release their data to the general public must sign a confidential access agreement to allow release of those data by the Data Warehouse.

The ACCSP standard for granting access to confidential data:
1. Any person employed by or affiliated with a partner who has been designated by the respective partner to require confidential data and
2. A person whose job is related to fisheries management and conservation (i.e., regional fishery management council staff, and contractors/consultants employed by partners)

States currently operating under this scenario will continue to do so without requiring changes to present laws or memoranda of understanding.

However, for all partners to implement this, several benchmarks must be established. Some partners may require legislative changes to accomplish this standard of authorized access, but that may take some time. In the interim, a partner may define an authorized user as any person that has been approved by the partner that collected the confidential information. Approval is determined by the individual need of the person to access the confidential data and can be for one-time use or for a specified period of time, can be granted for designated portions of the confidential data collected by the partner, and can be for specific use of data (i.e., for the preparation of stock assessments, the evaluation of fishery management measures, etc.). Each partner shall maintain a list of authorized users.

Fishermen and dealers may request their own data from the state where the data were submitted. Development of electronic reporting systems should allow password protected access to self-reported data as those systems develop.

[1] See *Glossary* for legal definitions of "person" and "public."

All partners are encouraged to implement actions to obtain the necessary legislative changes as quickly as possible to implement and achieve the following benchmarks. Procedures to ensure that data are accessed by authorized users only include

1. Access to the Data Warehouse is strictly controlled by a user ID and password system. No user shall have access to the entire Data Warehouse. Rather, each user will have access to the appropriate data subset required for his/her job function
2. Access to confidential data by state and federal conservation and management law enforcement personnel is authorized. If an independent investigation is corroborated by these records, the data may be released as evidence. Care should be taken in court cases to prevent the data from becoming public. The NOAA Office of Law Enforcement and the NOAA Office of the General Counsel shall have unrestricted access to all records and data, except for partner states records and data where access is expressly prohibited by law. State law enforcement officer access to state records on the ACCSP data management system shall be determined by each partner
3. The ACCSP has established internal mechanisms to maintain new named and confidential data user requests from partners. Each partner will appoint an ACCSP security focal point, which would request confidential user IDs on behalf of the partner and maintain lists of all authorized users. This individual must notify the ACCSP data management staff of any changes to lists of confidential data users held by the partner. When new confidential accounts are established or user privileges have been revoked or terminated, the ACCSP data management staff will notify all partner agency focal points
4. All subpoenas intended to obtain data from the ACCSP data management system shall be forwarded immediately to the legal counsel of ASMFC (Counsel will make a determination how to handle each subpoena)

Partners should develop and fully enforce appropriate penalties on individuals and/or agencies that disclose confidential data to non-authorized entities. The ACCSP shall cooperate fully by providing whatever information is available to identify the user who released the data and/or which partner supplied the data in question. At the discretion of the supplying partner, the ACCSP may revoke access to the user in question. Partners shall provide rules and penalties to those individuals requesting access to confidential data.

Partners should develop procedures to ensure data are used in accordance with the confidentiality laws, rules and regulations of the partner that collected and submitted the data originally. Questions on release of data must be referred to the partner who originally collected the data, as the confidentiality laws, rules and regulations of that partner shall prevail. All authorized users must consent in writing, to comply with state and federal non-disclosure policies and written statements. Use of a standard non-disclosure form will be evaluated.

Partners shall notify the ACCSP staff upon termination of any personnel with access to confidential data. The Operations Committee shall review annually the list of users with access to confidential data and make changes as necessary. Confidential access requests include a field for ‘Expiration Date’. Partners and users are contacted of upcoming expirations and access may be automatically revoked after expiration to help Partners track confidential access. This is not intended for tracking or enforcement by the ACCSP staff.

Under the current rule of NOAA Fisheries Service bycatch data observed on a mandatory commercial or for-hire trip are not considered confidential since the data are observed by a NOAA Fisheries Service agent and not submitted by a reporting entity. Observed data on voluntary trips are confidential.

D. BENCHMARKING

Benchmarking plans should be developed for both recreational and commercial programs to allow continued use of historical data before moving to a new standard. Benchmarking is necessary to provide links between historical data and those collected under a new system and to ensure that the data will be continuous, compatible, and useful for stock assessment and fisheries management. Research studies should allow current estimation programs to run with and without the changes in the sample frame, thereby, allowing effective benchmarking of historical data.

E. QUALITY ASSURANCE

Data collection programs of the ACCSP should require verification for both self-reported and observer reported data. Field sampling and observer programs should require quality assurance monitoring. Partners conducting commercial, recreational, and for-hire data collection and data management should develop quality control and assurance documentation. Partners should submit all major changes to standard operating procedures to the ACCSP for inclusion as metadata within six months of the start date to the modified data collection programs.

CATCH AND EFFORT STATISTICS STANDARDS

The partners have produced standards for how catch and effort data for Atlantic coast fisheries should be collected. The standards are the result of discussions and consensus of all partners and represent years of planning, testing, and analysis. The standards for commercial fisheries provide a basis for partners to adjust regulations and implement commercial standards coastwide. Recreational and for-hire fisheries standards have been updated in coordination with the revisions to MRIP. The standards for the recreational and for-hire components set baseline methodology and sampling levels to meet coastwide, regional, and state specific management needs.

A. COMMERCIAL FISHERIES

1. Standards

The standards for commercial catch and effort statistics on the Atlantic coast include mandatory, trip level reporting of all commercially harvested marine species, with fishermen and/or dealers required to report standardized data elements for each trip by the tenth of the following month.

2. Data Elements

All partners conducting commercial statistics programs must collect all required data elements (Tables 1 and 2). Partners may collect additional data elements, or collect data more frequently as their needs dictate. All trip level landings and effort data should be recorded separately each time a fisherman changes gear or fishing area during a trip. Codes and formats for all variables are listed in Appendix C.

Table 1:
TRIP LEVEL INFORMATION COLLECTED BY ATLANTIC COAST DEALERS AND/OR COMMERCIAL FISHERMEN

B = Collected from dealer *and* commercial fishermen
D = Collected from dealer
F = Collected from commercial fishermen
P = Preprinted

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA	COLLECTED
Form Type/Version Number	- Version identification number for the ACCSP reporting form - Data management purposes only	P
Reporting Form Series Number	- Individual number for each reporting form (i.e., trip ticket number) - This is to be assigned by the partner collecting the data - This data element may be blank in dual reporting systems - Data management purposes only	P
Trip Start Date *	- Date the trip started	B
Vessel Identifier *	- Unique vessel identifier such as US Coast Guard documentation or state registration number and the HIN	B
Individual Fisherman Identifier *	- Identifier unique to an individual fisherman which - This is traceable through time and space	B
Dealer Identification *	- Identifier for the dealer at the point of each transaction / In the case of multiple dealers, the landings would be recorded separately for each dealer - See Appendix C, Table B-3	B
Unloading Date	- Date of the landing at the dealer - May be more than one unloading date per trip	B
Trip Number *	- Sequential number representing the number of a trip taken in a single day by either a vessel or individual - Trip number will default to “one” (1) when only a single trip is conducted	B
Species *	- Genus and species for each species landed, sold, released, or discarded - Each species should be identified separately - See Appendix C, Table B-8	B
Quantity *	- Amount that is landed, sold, released, or discarded - Represented in whole pounds, numbers, or some other appropriate unit of measurement of each marine species - Quantity of protected species should be measured in numbers - This data element is linked to the units of measurement and disposition code for exact characterization of the quantity - For some species (especially protected species) these data are needed on a set basis	B
Units of Measurement *	- Landed units - See Appendix C, Table B-3	B

Table 1:
TRIP LEVEL INFORMATION COLLECTED BY ATLANTIC COAST DEALERS AND/OR COMMERCIAL FISHERMEN *(continued)*

B = Collected from dealer *and* commercial fishermen
D = Collected from dealer
F = Collected from commercial fishermen
P = Preprinted

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA	COLLECTED
Disposition *	- Fate of the catch - Examples include releases, discards, bait, industrial use, personal consumption, marine mammal interactions, etc. - Disposition codes should be used to categorize bycatch data - Disposition of releases and discards should be recorded as regulatory versus market and dead versus alive - See Appendix C, Table B-5	B
Ex-vessel Value or Price	- Dollar value or price for each species that is landed or sold - Partners must collect one or the other either through the dealer reporting system or through a separate survey	D
County or Port Landed *	- Location within a state where the product was landed - See Appendix C, Table B-9	B
State Landed *	- State where the product was landed or unloaded - See Appendix C, Table B-9	B
Market Size*	- Market categories that affect price - See Appendix C, Table B-6	D
Grade (Landing Condition) *	- Grade categories that affect price - See Appendix C, Table B-7	D
Gear *	- Type(s) of gear used to catch the landed species - See Appendix C, Table B-4	F
Quantity of Gear *	- Amount of gear employed - Quantity of gear should be recorded for each specific gear type - See Table 2	F
Number of Sets *	- Total number of sets or tows of gear during a trip - See Table 2	F
Fishing Time *	- Total amount of time (usually in hours) that the gear is in the water - See Table 2	F
Days/Hours at Sea *	- Time from the start of the trip to the return to the dock	F
Number of Crew *	- Number of crew (including the captain on each trip)	F
Area Fished *	- NOAA Fisheries Service statistical area where fishing occurred - See Appendix D	F
Distance From Shore	- Determination of catch distance from shore - Ranges include unknown, inland, inshore, EEZ, and international	F
Sale Disposition	- Fate of catch (i.e., where the catch was sold) - Examples include sold to dealer, private/dockside sale, and no-sale/retained	B

Table 2: STANDARD MEASUREMENTS OF GEAR QUANTITY, FISHING TIME, & SETS

TYPE OF GEAR	QUANTITY	FISHING TIME	# SETS
Traps and Pots	# of traps and pots pulled	Total soak time for each pot or trap	# of strings hauled
Trawls	# of trawls towed	Total tow time of each trawls	# of tows
Gill Nets Entanglements	Float line length for string	Total soak time	# of strings/hauls
Longlines	# of gangions/hooks	Total soak time	# of hauls or # of strings hauled
Dredges	# pulled	Total tow time	# of tows
Nets	# of pieces of apparatus	Search time	# of hauls/throws
Rod and Reel	# of lines (# of hooks is secondary)	Total soak time	n/a
Purse Seines	Length of floatline	Total search time	# of sets
Hand Gear	# of lines (# of hooks is secondary)	Total soak time	n/a
Harpoons	#	Total search time	# of throws

3. Data Submission

Partners may choose either a two-ticket reporting system (a separate form for fisherman and dealer) or a one-ticket system (one party reports all minimum data elements). Partners should provide reporting forms to dealers and/or fishermen for completion after each trip or transaction. Dealers and/or harvesters landing catches must report to the state of landing. Federally permitted dealers and harvesters must report the state of landing to the NOAA Fisheries Service through the appropriate federal reporting process.

Templates for paper forms for commercial reporting are provided in Appendix E. These templates include required data elements and should be accepted by all partners when used by transient fishermen. To ease reporting burden, partners are encouraged to pre-code as much information as practical on their forms. Some fisheries, such as American lobster and blue crab, are characterized by a large number of short duration trips that target a single species and employ a single gear. For such fisheries, 'multi-trip report form' templates were developed that allow fishermen and dealers to report trip level data from multiple trips on a single form.

SAFIS is comprised of several web based applications. These applications collect real time commercial catch and effort data that are supported by staff. SAFIS applications are available at no charge to all partners. Applications may be modified to meet partner needs. Commercial software applications (i.e., software produced by the BlueFin, LLC) which meet standards are also available to automate reporting.

Dealers and harvesters are required to report all commercial trips regardless of catch. Trips that yield no catch are considered trips. Therefore, all data elements for effort must be reported. Dealers are required to submit monthly negative, or no activity, reports in the states where they are licensed. A single negative report may be submitted in advance to cover multiple negative reporting periods. Harvesters with no reported commercial landings during the previous license period are required to certify that fact at the time of license renewal.

The ACCSP urges all partners to investigate and use innovative technologies for commercial data collection in order to reduce burdens on all parties.

All partners who collect commercial fisheries data should follow the data submission standards to ensure timely availability to fisheries managers and stock assessment scientists. At a minimum, commercial catch and effort data should be submitted by dealers and/or fishermen to the appropriate partner by the tenth of the following month, unless more stringent reporting requirements exist, such as for quota monitoring.

Preliminary data should be available to users from individual partner systems within 45 days (7 weeks) from original receipt of data. Audited data, although still subject to change, should be submitted to the Data Warehouse within 90 days (14 weeks) from original receipt of data. Data collected through SAFIS are moved to the Data Warehouse quarterly. Presentation of historical data in the Data Warehouse through the query system is refreshed quarterly.

4. Validation

Each partner should use an approved process to validate the accuracy of reported data (Table 3). Partners should issue each commercial fisherman and dealer a statement of his or her data of record for review and verification, at least annually. Any discrepancies in landings statements must be reported within 60 days from generation of the statement.

Table 3:
PRIORITIZED LIST OF VALIDATION METHODS TO BE USED BY PARTNERS FOR COMMERCIAL FISHERIES

VALIDATION METHOD	DEFINITION / CRITERIA
Fishery-dependent and Fishery-independent Surveys **(Presence at the docks or on vessels is the best method of validation and should be given highest priority. A four-way approach using the following methods is preferred)**	*Port Sampling Programs* - Provides liaison between fishermen and fisheries managers
	At-sea Observer Programs - Can be used to validate reported catch and effort
	Law Enforcement Presence - Over-flights, boarding and summons reports, vessel tracking system, audits and inspections violations hotlines, customs data consistency in penalties among states - Through direct presence of law enforcement personnel at the docks or through the listed methods
	Distribution of periodic data summaries to fishermen for self-verification - Periodic distribution of standard data summaries to fishermen and dealers provided through the ACCSP data management system
Mandatory Random Fish-House/Fishermen Audits and Inspections	- Audits and inspections of records of purchases and sales of fishery products in comparison to those data actually submitted to and received by the reporting agency - Federal and/or state statutes or other regulations should specify record content, submission frequency, and retention period - Random selection of fishermen and/or dealers involved in a fishery, or a stratum of a fishery, should be used to assess compliance rates with reporting rules and accuracy of reported data - Scope of audits may require additional information to verify accuracy of reported data - Auditors must be granted official access to these additional resources as needed - Should only be used as needed
Other Methods	- Random additional logbooks - Independent reports from fishermen and dealers of certain data elements - Fishermen permit qualification - Quota monitoring activities - Any combination of the above - Disaster relief - Should only be used as needed

5. Quality Assurance and Quality Control

All commercial catch and effort data collection systems should follow relevant procedures contained in the ACCSP quality control and assurance documentation (Appendix E). Depending on the format of the reporting system, quality assurance and quality control procedures may vary. As partners receive reports from harvesters and dealers the partner should check the reports for legibility, logical values and species/gear combinations, and consistency between dealer and fisherman tickets. Partners should notify fishermen and dealers of reporting errors to reduce the likelihood of future errors or omissions. Should the same individuals or companies continually submit erroneous or incomplete data, partners should respond with additional training or legal action such as fines or revocation of operating licenses. Partners should establish protocols for legal action.

a. Handwritten Reports and Data Entry

Data entry protocols should be established to decrease the number of transcription errors from handwritten reports. After the reports are reviewed for clarity, data entry clerks should input the data into the internal database of the partner or SAFIS. To promote accurate data entry, clerks should be properly trained and qualified.

The ACCSP recommends a data entry error rate of less than 0.5%. This is possible using a double entry system, where data are entered the same way twice to be accepted. Other systems may be used if they do not exceed the maximum error rate. At least five to ten percent of annual entries should be spot checked for errors. If the error rate is greater than 0.5%, or if new data entry clerks are hired, the percentage of checks should be increased. Partners should establish protocols on who conducts spot checks and how often.

b. Electronic Checks

After data entry, and before submission of data to the Data Warehouse, data should be checked for accuracy and completeness. Whether data entry is by partner personnel or by the reporting entity, automated computer systems should check for outliers and less obvious errors and flag potentially incorrect information. Some examples of these errors include illogical species ranges, lengths, and weights; uncommon species/gear combinations; incorrect dates, license numbers, and codes; and blank fields which may or may not be valid. It is also possible to incorporate these checks into the data entry system, so potential errors are recognized before reaching the database. Entries that are flagged should always be checked against the original data sheets and possibly with the fisherman or dealer who reported the data before changes are made. If it is necessary to change the database, partners should establish protocols to document how and where the changes occurred.

c. Data Consistency Checks

Partners should evaluate the Data Warehouse periodically (at least annually) to check for consistency in records between source partner data sets and the Data Warehouse. Data consistency must be reviewed to ensure that late reports and updated records are reflected in the Data Warehouse. Those changes may be automatically uploaded to the Data Warehouse with the next data feeds of a partner, or in some cases, a complete reload of that data of a partner for a year may be necessary.

d. Conversion Factors

Commercial landings are reported by dealers and fishermen by species, unit of measure, grade, and market designations. However, the standard for distribution of the data is in live pounds. Conversion factors are used to calculate from reported quantity to live pounds. For example, a reported quantity of 4 bushels of gutted fish could convert to a landed weight of 60 pounds of gutted fish which would then convert to 80 pounds of live fish.

Partners provide conversion factors for inclusion and maintenance in SAFIS to enable the collection of reported quantities and conversion to whole weight. The standards for applying conversion factors include the following:

1. Conversions shall be applied by state of landing first. If a state specific conversion is not possible it shall default to a NOAA Fisheries Service conversions
2. Conversions must have a start and end date to allow for variations over time and the procedures to apply conversion factors will apply these by date of landing
3. Partners will designate staff to maintain conversion factors by participation in the Standard Codes Committee

6. Quota Monitoring

Some partners are required by state, ASMFC, or federal fishery management plans to administer in-season quotas. Partners may authorize other partners to act as agents for quota monitoring in order to reduce duplication and increase efficiency. Partners have examined a variety of methods for reducing reporting intervals for quota managed species.

As cost effective systems for more frequent reporting become available, the partners are adapting to accept more frequent data submissions. Use of Interactive Voice Response (IVR) systems was the original standard, and those systems are still acceptable. However, many partners are shifting to electronic reporting systems such as SAFIS and commercially available software installed on dealers' personal computers.

a. SAFIS and Electronic Reporting Software
SAFIS applications and commercial software applications allow real time reporting of commercial landings data as trips are completed and thus satisfy both commercial reporting and quota monitoring requirements simultaneously. SAFIS applications allow online data entry or automated file uploads from existing business applications. Commercial software allow dealers to transmit data in batches and can also operate on essentially a real time basis.

SAFIS applications allow summarization of quota levels across cooperating partners on a real time basis, which exceeds the reporting standards developed for interactive voice response IVR systems. Partners using commercial electronic reporting software can also exceed timeliness standards as long as data they receive are transmitted quickly to the entity responsible for the quota.

b. Interactive Voice Response (IVR)
IVR technology integrates digital voice processing and storage, touch-tone recognition and storage, and a telephonic control scripting language into a hardware/software package. When using IVR systems partners should request only the minimum data needed for quota monitoring (e.g., dealer identification, species identification, amount of pounds purchased/unloaded, state of landing, week, and date of data receipt). All other detailed data are collected under the normal commercial catch and effort reporting systems.

c. Other Methods
Depending on costs and availability of internet access and touchtone phones, partners may choose to offer operator-assisted voice response systems, voicemail, text messaging or fax reporting options.

Dealers may be required to report weekly (minimum) or daily (maximum). If a dealer does not purchase any quota-managed species during a reporting period, he or she may be required to submit a negative report, also called a no-activity report. Partners should summarize quota monitoring data on a weekly basis at a minimum with:

1. A summary of species by state of landing
2. A list of non-reporting dealers
3. Any other comments on data completeness and quality

Quota reports should be submitted to the partner administering the quota through the most expedient method available. When less than 75% of a quota is reached, reports should be submitted monthly, within 15 days of the end of the month. After 75% of the quota is reached, reports should be submitted weekly, by noon on Thursday of the following week.

B. RECREATIONAL FISHERIES *(Private boat, rental boat, and shore based fisheries)*

These standards provide target levels of data collection. The Recreational Technical Committee understands these standards have cost implications to implement. The Recreational Technical Committee will develop priorities for each region and present for approval to the Coordinating Council.

1. Standards

The ACCSP standards for recreational fishing statistics promote reliable estimates of fishing effort, catch, and participation. Recreational fishing activity has historically been organized by mode of access to fishing opportunities. For example, shore based, private, rental boats, and for-hire vessels (e.g., charter boats and headboats) are all recreational fishing opportunities. The standards for collecting data and generating statistics for each recreational fishing mode maintain a similar structure including stratification by state, year, month, and area. Methodologies vary, however, to provide the most accurate statistics at the most reasonable cost. The Program supports the use of various and diverse methods of surveying recreational fishermen (e.g., phone, snail mail, internet, in-person interview, or combinations) provided the methods are statistically validated and incorporated into the survey design.

Surveys of recreational fishermen should collect detailed data that allows for estimation of catch at a minimum by the following fishing modes: private boats, rental boats, piers, docks, and other man-made shore areas, and natural shore areas. Fishing areas should be estimated by inland, state territorial seas, and exclusive economic zone (EEZ). Catch data shall be collected at a state level and stratified to allow for estimation of catch at sub-state divisions to separate stock units by major natural boundaries (See Table 4).

The ACCSP recommends and supports the use of regional and multi-state programs for finfish and shellfish that combine data from independent surveys to produce estimates of fishing effort, catch, and participation. Programs should incorporate finfish and shellfish fisheries, or develop new surveys where required to collect vital statistics on these recreational fisheries.

a. Effort Data Survey

For private/rental boats and shore fishing effort data should be collected through a survey of saltwater recreational fishermen using a comprehensive license/registry based sampling frame. When a single list is incomplete, a dual-frame method is appropriate for ongoing coverage of those recreational fishermen not covered in a single frame. Recreational effort data for shore and private/rental boat modes shall be collected at least on a monthly basis and available preferably within 30 days but no later than 38 days after the end of month.

Implementation of monthly data collection is prioritized for May through October but may vary regionally to maximize the ability to monitor annual landings within the year. Collection of effort data in January and February shall be performed annually from Maryland to Florida. Collection of effort data from Massachusetts to Delaware shall be performed every 5 years beginning in 2015 and used to evaluate the need for additional effort and catch sampling in January and February.

b. Catch Data Survey

For private/rental boats and shore fishing, catch data should be collected through a survey of recreational fishermen intercepted at fishing sites. The collection of shore and private/rental boat mode recreational catch statistics via access point angler intercept surveys (APAIS) shall be based on a master site registry and statistically rigorous selection procedures. Coverage of site registry should include private and public access sites, day of week, time of day, and seasonality. The upstream boundary for the saltwater intercept survey shall be the freshwater/saltwater legal boundary of the state and integrated with site registry coverage for seasonality. Recreational catch data for shore and private/rental boat modes shall be collected at least on a monthly basis and available preferably within 30 days but no later than 38 days after the end of month. Implementation of monthly data collection is prioritized for May through October but may vary regionally to maximize the ability to monitor annual landings within the year. Collection of catch data in January and February shall be performed annually from Maryland to Florida. Collection of data along the remaining coast (Massachusetts to Delaware) shall be evaluated by the states for need every 5 years based on expected magnitude and recent trends in the effort data.

The ACCSP also supports development of innovative methods for collecting detailed data on catch unavailable to dockside or at-sea interviewers. These innovative methods may include but are not limited to voluntary self-reporting systems (e.g., catch cards, internet surveys, mobile phone applications, or electronic logbooks), alternative platform surveys (i.e., on the water intercepts), or voluntary video monitoring surveys. Such innovative methods can be carried out in-house and/or in partnership with the private sector.

2. Stratification

Recreational data collection methods for catch and effort shall be stratified at no less than the state, year, month, and fishing mode level. Estimates for catch and effort shall be produced at no less than the state, year, month, fishing mode, and area-fished level for inland waters, state territorial seas, and the EEZ. For states which contain major natural boundaries (see Table 4) recreational data collection methods shall be stratified within the state level to generate estimates of catch and effort for in-state areas separated by those natural boundaries. Methods shall be

adequate to generate catch/effort estimates in these four areas. Surveys should collect data that allow for estimation of catch at least by private boats, rental boats, piers, docks, other man-made and natural shore areas.

Table 4:
MAJOR NATURAL BOUNDARIES OF THE ATLANTIC COAST

AREA	JUSTIFICATION
Cape Cod	- Splits several fisheries stocks and stock complexes between Gulf of Maine, Georges Bank, and Southern New England - Separating these areas supports improved stock assessments
Chesapeake Bay	- Fisheries have a different effort and catch since the Chesapeake Bay is a nursery shared by Maryland and Virginia - There are Chesapeake Bay specific quotas for certain species
Cape Hatteras	- Divides many Mid-Atlantic and south Atlantic fish stock units
Florida Keys	- North or south of the Florida Keys defines the boundaries of the Gulf of Mexico and south Atlantic fishery stocks

3. Data Elements

Partners should collect all data elements listed in Table 5 when conducting recreational surveys. Since recreational data collection is conducted through a survey, rather than a census with required reporting, it is not necessary to track individuals. Therefore permit numbers or vessel identifiers are not necessary as a data element. Codes and formats for all variables are listed in Appendix C.

Table 5:
TRIP LEVEL INFORMATION COLLECTED FROM ATLANTIC COAST RECREATIONAL FISHERMEN

B = Collected from intercept *and* effort surveys
I = Collected from on-site interview survey
P = Preprinted
T = Collected from effort survey

DATA ELEMENT	DESCRIPTION / CRITERIA	COLLECTED
Form Type/Version Number	- Version identification number for supplied reporting form	P
Date of Trip	- Date the trip ended - Voyages spanning more than 24 hours are divided into multiple trips	B
Sampler Number	- Unique interviewer identification number - Needed for quality control	B
Interview Identifier	- Unique code for each angler trip within a day	B
Public or Private	- Public or private access site	B
Access Site Type	- Public access sites include launch ramps, boat slips, moored from dock, or other - Private access sites include personal residence/dock, private locked gate marina, private property, unlocked marina, or other	B
Species	- Genus and species for each species (or the most specific taxonomic category possible) of marine resources landed, released, discarded, etc. - Each species is to be identified separately	I
Quantity Observed	- Numeric amount of each marine species observed and recorded by a trained observer - Observed catch is categorized as A-type catch and is the most reliable	I
Quantity Reported	- Numeric amount of each marine species reported by fishermen - Reported catch is categorized as B1-type catch (dead but not directly observed, discarded dead, used for bait, filleted, etc.) and B2-type catch which is released alive	I
Disposition	- Fate of the catch such as released alive, discarded dead, used for bait, industrial use, personal consumption, etc.	I
State Landed	- State where the angler returned from a fishing trip	B
County Landed	- County where the angler returned from a fishing trip	B
Gear	- Primary fishing gear used on the trip	I

Table 5:
TRIP-LEVEL INFORMATION COLLECTED FROM ATLANTIC COAST RECREATIONAL FISHERMEN *(continued)*

B = Collected from intercept *and* effort surveys
I = Collected from on-site interview survey
P = Preprinted
T = Collected from effort survey

DATA ELEMENT	DESCRIPTION / CRITERIA	COLLECTED
Primary Target Species/Species Group	- Primary species or species group that the trip was targeted to catch	B
Mode	- Detailed information on mode of the trip - For the shore mode this distinguishes among pier/dock, jetty/breakway/breachway, bridge/causeway, other man-made, and natural beach or bank - For private/rental boat mode this distinguishes between private or rental boat	B
Primary Area Fished	- Fishing area where the majority of fishing effort occurred - Ranges include unknown, inland, inshore, EEZ, and international	B
Site Landed	- Fishing access point within a state where an angler fished or returned from a fishing trip	I
State of Residence	- Permanent state of residence of the angler	B
County of Residence	- Permanent county of residence of the angler	B
Postal Code of Residence	- ZIP code of residence of the angler	I
Number of Trips	- # trips the angler has taken in the last 2 months and the last 12 months	B, I
Fishing Group Size	- # fishermen in the party who fished from the same boat or same shore structure on the same day	I
Number of Contributors to the Catch	- # fishermen with fish in a mixed catch where fishermen cannot separate their individual catch	I
Trip Duration	- Time (to the nearest half-hour) from shore to shore for boat fishing or total time spent on the shore for the shore mode	I
Fishing Time	- Time (to the nearest half-hour) that gear was in the water fishing	I
Length	- Centerline length in millimeters of each individual fish	I
Weight	- Weight in kilograms of each individual fish	I

A comprehensive list of shore and boat access sites including all data elements (Table 6) shall be used as the sampling frame for intercept interviewing. Access sites can be identified through coastal zone management plans (CZMP), boat registrations, property tax records, marine building permits, chambers of commerce, state geographic information systems (GIS), state resource agency reports, digital orthographic photos, and field surveys.

Table 6:
DATA ELEMENTS FOR INCLUSION IN THE LIST OF RECREATIONAL FISHING ACCESS SITES

DATA ELEMENT	DESCRIPTION / CRITERIA
State	- State where access site is located
County	- County in which access site is located
Site Number	- Sequential site number for access site
Site Description	- Description of the access site
Site Name	- Name of access site
Directions	- Specific detailed directions to access site
Address	- Address of access site
Latitude / Longitude	- Designation of exact location of access site
Contact Person / Phone Number	- Name and phone number of a contact person for the access site
Possible Modes	- Types of fishing that can occur at the site (e.g., shore, private/rental boat, charter boat, headboat)
Estimates of Fishing Pressures	- Estimates of weekend/weekday and day/night fishing pressure (i.e., expected number of anglers) by mode and month of the year
Public / Private	- Designation of whether the site is a public or private site - Including whether access by interviewers is available or not
Commercial Use	- Designation of whether there is a commercial fee for using the site

A comprehensive list of recreational fishermen including all data elements should be used as the sampling frame for effort interviewing. Angler based frames can be identified through state or federal registries or saltwater fishing license information (See Table 7).

Table 7:
DATA ELEMENTS COLLECTED FROM EFFORT SURVEY

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA
Registration Source Name *	- Code assigned by NOAA Fisheries Service - 2 letter state abbreviation or organization acronym
Registration Type Code *	- Code or identification used by the source organization to identify its license or registration types
Registration Type Name *	- Name used by the source organization to identify its license or registration types
Registration Type State *	- FIPS code of issuing state
License Identification *	- Code or identification used by the source organization to identify its licenses or registrations
Customer Identification *	- Code or identification used by the source organization to identify its customers, licensees, or registrants
Registration Issue Date *	- Format: YYYYMMDD
Registration Effective Date	- Format: YYYYMMDD
Registration Expiration Date *	- Format: YYYYMMDD
Registrant Last Name *	- Last name of individual
Registrant First Name *	- First name of individual
Registrant Middle Name	- Middle name or initial of individual
Registrant Name Suffix	- Proper name suffix (e.g., Jr., Sr., or II)
Registrant Birthday	- Format: YYYYMMDD
Registration Email	- Email address of individual
Registrant Driver License State	- Drivers license state of issue
Registrant Driver License Number	- Do not include punctuation (dashes, parentheses, spaces)
Address 1 Line 1	- Street address
Address 1 Line 2	- Unit number

Table 7:
DATA ELEMENTS COLLECTED FROM EFFORT SURVEY *(continued)*

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA
Address 1 State	- FIPS code
Address 1 City	- City
Address 1 Zip Code	- Zip code (5 digit format)
Address 1 County	- County FIPS code
Address 1 Type	- Home, work, other
Address 2 Line 1	- Street address
Address 2 Line 2	- Unit number
Address 2 State	- FIPS code
Address 2 City	- City
Address 2 Zip Code	- Zip code (5 digit format)
Address 2 County	- County FIPS code
Address 2 Type	- Home, work, other
Phone Number	- Do not include punctuation (dashes, parentheses, spaces)
Phone Type	- Home, work, mobile

4. Data Submission

Recreational catch and effort data for shore and private/rental boat modes shall be collected monthly and available preferably within 30 days and no later than 38 days after the end of month. Final wave and annual estimates shall be available by March of the year following data collection. Clean intercept interview data and final estimates should be submitted to the Data Warehouse in March of each year.

5. Validation

At least 10% of interviewed recreational fishermen shall be contacted again by phone to verify the interviewer was working, check that questions were correctly asked, and also confirm that answers were correctly recorded.

6. Quality Assurance and Quality Control

Recreational effort data collection procedures shall include well defined training, supervision, and quality assurance and quality control procedures. A guideline for issues to be addressed by those procedures can be found in Appendix F.

7. Program Research and Improvement

The ACCSP will continue to evaluate ways to improve accuracy and precision of recreational catch and effort estimates. While the ACCSP supports mandatory state licensing/registration system of saltwater recreational fishermen for an efficient sampling frame, the ACCSP should continue evaluating alternatives for collection of effort data according to the prioritized list of research activities. The Program supports collection of catch and effort data that exceeds the standards, recognizing that more detailed area fished, distance from shore, and depth data will benefit fisheries science and management. The Program also supports partners conducting the site intercept survey. The ACCSP is evaluating transition of conduct of the intercept survey for catch from a contractor to a cooperative agreement involving states at varying levels. If state conduct of intercept sampling is not possible, then states shall at least have direct involvement in maintenance of site registry and data review meetings.

a. Precision

Due to improvements in estimation methodology for historical proportional standard error (PSE) calculations, and the need for more rigorous discussions of risk associated with PSE values, the updated standard for precision will be developed in a technical source document to be created in 2012.

C. FOR-HIRE FISHERIES

1. Standards

The collection of for-hire modes of recreational catch statistics shall be accomplished via a combination of effort surveys, validation of effort, catch accounting via intercept surveys, and at-sea observation. Where appropriate, some segments may be evaluated as a census.

When complete catch and effort data from all vessels participating in a fishery are critical for fisheries management or assessment (e.g., monitoring harvest allocations), or when the universe of participants is sufficiently small such that sampling methods are not practical, then a census-style reporting method is an acceptable data collection tool.

Accepted census-style reporting programs must meet the following data standards:

1. A complete list of the universe of vessels operating in the fishery or fisheries must be known and all vessels must be included in the census program, unless they are covered in another existing data collection program
2. Reporting must be mandatory, even when vessels are inactive in the fishery (negative trip reports), and an adequate mechanism for enforcement must be in place
3. There must be complete tracking of missing reports and non-compliance rates must be documented and disclosed to all data users;
4. Methods for imputing data for missing reports must be statistically sound and methods must be documented and disclosed to all data users
5. Methods must be in place to minimize late reporting through timely tracking of missing and late reports with well-defined protocols for timely follow-up with non-respondents
6. Self-reported catch and effort data must be independently validated, and levels of under/over reporting must be documented and disclosed to all data users
7. Catch and effort data must be certified as final and available to data users in a timely manner to support both regional and state level data needs for fisheries management and stock assessments as defined by the affected regions/states
8. Reporting requirements among various state and federal jurisdictions must be coordinated such that a single vessel required to report in multiple census programs reports to one central entity

When complete catch and effort data from all vessels participating in a fishery are not critical for fisheries management or assessment, or participation is sufficiently large enough to support survey methodologies, then a survey method is an acceptable data collection tool. Accepted survey methods must meet the following data standards:

1. Sample and estimation methods are fully documented and available to all data users
2. Sample coverage has been evaluated for optimum levels, and optimum sample coverage levels are being achieved in the survey design
3. The sample universe does not overlap with a universe of vessels required to report in an accepted census-style program (Alternatively, data from acceptable census-style programs must be incorporated into the survey and duplicate reporting by vessel operators in both the census and the survey programs must be completely avoided)
4. Spatial scale and timeliness of catch and effort final estimates are sufficient to meet both regional and state level data needs for fisheries management and stock assessments as defined by the affected regions/states
5. Survey non-response rates are documented and fully disclosed to all data users. Methods must be in place to minimize survey non-response with well-defined protocols for timely follow-up with non-respondents

Independent survey components of the for-hire sector may include:
1. Vessel effort component
2. Effort validation component
3. Access-site intercept survey for catch data
4. At-sea samplers on headboats for catch data

Using the data collected through these components, catch and effort estimates for for-hire fisheries shall be generated.

a. For-hire Effort Data

Recreational effort data of for-hire fisheries shall be collected at least on a monthly basis and available preferably within 30 days but no later than 38 days after the end of month. Implementation of monthly data collection is prioritized for May through October but may vary regionally to maximize the ability to monitor annual landings within the year. The vessel effort data shall be collected using a coastwide directory for for-hire vessels as the sampling frame for for-hire fishing effort. The directory should be continually updated as intercept and telephone interviewers identify changes in the fleet. Collection of for-hire effort data in January and February shall be performed annually from Maryland to Florida. Collection of effort data from Massachusetts to Delaware shall be performed every 5 years beginning in 2015 and used to evaluate the need for additional effort and catch sampling in January and February. The Program supports periodic data reviews to determine and maintain optimal sampling levels.

Until the optimal sampling level is determined, a minimum of 10% of for-hire vessels, or three charter boats and three headboats (whichever is greater), will be randomly sampled each week in each state. A

vessel representative, usually the captain, shall be required to provide information on the fishing effort associated with that vessel during the previous week. Vessel representatives are notified in advance that they have been selected for sampling and an example form is provided. To be included in the sample frame for a particular time period, a vessel record must include:

1. The telephone number from at least one vessel representative
2. The name of the vessel or a vessel registration number, issued by a state or the US Coast Guard
3. The county the boat operates from during the sampling period
4. Designation as either a charter or guide boat (both called “charter”) or headboat

Selection of for-hire participants shall be based on a master vessel frame with a vessel required to have the contact information of the party responsible for reporting. The master vessel frame shall include guideboats and captains utilizing multiple vessels. Selection of landing sites for intercepts shall be based on a master landing site registry and statistically rigorous selection procedures. The site registry shall be integrated with the private/shore catch intercept site registry and include an upstream extent equal to the state boundary of legal freshwater/saltwater boundary for fishing license requirements.

b. Validation Survey for Effort Data

To validate the self reported effort data collected from vessels field samplers shall periodically check access sites used by for-hire vessels to directly observe vessel effort. Interviewers shall record the presence or absence of a for-hire vessel from its dock or slip, and if the vessel is absent, try to ascertain the purpose of the trip. Those observations are compared to vessel effort data for accuracy and to make any necessary corrections.

c. Catch Data

Vessels that meet the ACCSP definition of a charter boat or headboat shall provide data developed from the approved survey or census methodology and shall meet the standard data elements in Table 8B. Data shall include accounting for catch on at least 5% of trips using sea sampling by trained observers or other approved innovative technologies, such as video capture methods.

Some partners collect for-hire catch and effort data using VTRs which are mandatory for some vessels and contain all minimum data elements collected by the For-hire Survey. In areas where the survey runs concurrently with VTR programs, captains selected for the effort survey are permitted to submit a copy of their VTRs to fulfill their reporting requirement.

Self reported recreational catch and effort data from for-hire modes shall be reported on a weekly basis and estimation performed on at least a monthly basis and available no later than 38 days after the end of month. Implementation of monthly data collection is prioritized for May through October but may vary regionally to maximize the ability to monitor annual landings within the year. Collection of for-hire catch and effort data in January and February shall be performed annually from Maryland to Florida. Collection of catch data in January and February along the remaining coast (Massachusetts to Delaware) shall be evaluated by the states for need every 5 years based on expected magnitude and recent trends in the effort data. Effort data shall be reported weekly (electronically where possible), whereas validation of effort data, intercepts of trips for catch data, and at-sea observers for headboat data shall be collected and reported at a monthly level.

The ACCSP also supports development of innovative methods for collecting detailed data on catch unavailable to dockside or at-sea interviewers. These innovative methods may include but are not limited to voluntary self-reporting systems (e.g., catch cards, internet surveys, mobile phone applications, or electronic logbooks), alternative platform surveys (i.e., on the water intercepts), or voluntary video monitoring surveys. Such innovative methods can be carried out in-house and/or in partnership with the private sector.

2. Stratification

Recreational data collection methods of for-hire catch and effort shall be stratified at no less than the state, year, month and fishing mode level. Estimates for catch and effort shall be produced at no less than the state, year, month, fishing mode, and area-fished level for inland waters, state territorial seas, and the EEZ. For states which contain major natural boundaries (See Table 4) recreational data collection methods shall be stratified within the state level to generate estimates of catch and effort for in-state areas separated by those natural boundaries. Surveys should collect data that allows for estimation of catch at least by charter and headboats.

The for-hire data collection shall use two vessel types: charter boats and headboats. Some boats may operate as either a charter boat or a headboat depending on the trip, but for the purpose of the data collection each vessel is designated as one or the other based on typical activity. The vessel type designations shall be coded in the vessel directory.

3. Data Elements

The ACCSP put the following data elements together regarding data collection in the for-hire modes (Table 5). There are also data elements associated with the vessel directory (Table 8A). The directory shall be

updated and maintained at minimum every two months, including all data elements. Codes and formats for all variables are listed in Appendix C.

Table 8a:

DATA ELEMENTS COLLECTED FROM THE FOR-HIRE SURVEY VESSEL DIRECTORY

DATA ELEMENT	DESCRIPTION / CRITERIA
Vessel Name and Number	- Vessel name and identification number
Vessel Type	- Designation whether the vessel is a charter boat (includes guide boats) or a headboat
Owner Name, Phone Number, and Address	- Name, phone number, and address of the for-hire vessel owner
Operator Name, Phone Number, and Address	- Name(s), phone number(s), and address(s) of all operators of the for-hire vessel
Licensed Passenger Capacity	- Total passenger capacity for which the state or the US Coast Guard licenses the vessel
Boat Length	- Total length of the for-hire vessel
State, County, Port, and Principle Launch Site	- Primary location from which the for-hire vessel is launched or docked (marina, towed, etc.)
Inclusion in Other Surveys	- Indication of whether the vessel is included in any for-hire vessel surveys (e.g., Beaufort Head Boat Survey)
Willingness to Cooperate	- Indication of the willingness of the captain to participate in the survey - This data element should be noted in the database but is not asked of the captain
Revision Date	- Last date of revision of the record
Contact Time	- Preferred time of day to contact the captain
Vessel Representative	- Name and position of the person to be interviewed

Table 8b:
DATA ELEMENTS COLLECTED FROM THE FOR-HIRE SURVEY BOAT DIRECTORY TELEPHONE INTERVIEWS

DATA ELEMENT	DESCRIPTION / CRITERIA
Interviewer Identification Code	- Unique code that identifies the individual conducting the interview. - Fisherman identification may be used for self-reported data
Vessel Identification Number	- Unique number assigned to each vessel in the boat directory
Sampling Week	- Code for the week for which effort data are being collected
Sampling Year	- Code for the year for which effort data are being collected
Sampling Wave	- Two month sampling period - For instance, *January and February* (Wave 1) or *March and April* (Wave 2) (used for historical data)
Sampling Month	- Code for the month for which effort data are being collected
Sub-region Code	- Code that indicates whether effort occurred in the New England, Mid-Atlantic, or South Atlantic sub-regions
State Code	- Alpha codes set for states in the FIPS
Number of Vessel Representatives Contacted	- # representatives contacted for the vessel to-date
Interviewed Vessel Representative Number	- # vessel representatives interviewed for the week
Vessel Representative Identification	- Code identifying the representative for the vessel
Interview Date	- Date of the vessel representative interview
Interview Time	- Time of the vessel representative interview
Status	- Status of the vessel representative interview (complete or incomplete)
Boat Trips	- # dock-to-dock vessel trips
Recreational Fishing Trips	- # vessel trips for marine recreational fishing for finfish
Trip Number	- # trips reported by the vessel representative(s)
Trip Day	- Day of the week on which the trip occurred
Trip Date	- Format: YYMMDD
Mode	- Fishing mode of the trip (e.g., charter boat, headboat, etc.)

Table 8b:
DATA ELEMENTS COLLECTED FROM THE FOR-HIRE SURVEY BOAT DIRECTORY TELEPHONE INTERVIEWS *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA
People	- # persons who fished on the trip
Crew	- # crew members on board for the trip
Trip State	- State in which the access site is located
Trip County	- County in which the access site is located
Site	- Site where the trip originated
Method 1	- Primary fishing method (gear) used on the trip
Method 2	- Secondary fishing method (gear) used on the trip
Fishing Area	- Primary fishing area (Statistical area)
Distance	- Distance from shore where most of the fishing occurred
Area X	- Collapsed primary fishing area
Depart Time	- Time the vessel left the dock to start the trip
Return Time	- Time the vessel returned from the trip
Hours Fished	- # hours fishing occurred on the trip
Multi-Day	- Code to indicate whether the trip spanned more than 24 hours
Attempts	- # attempts to contact the vessel representative
Result	- Result of the latest attempt
Target 1	- Primary target species
Target 2	- Secondary target species
Species	- ITIS species code for the species or most specific taxonomic level possible
Disposition	- Fate of the catch (kept for food, kept for bait, released alive, discarded for regulatory reasons, etc). (See Appendices for disposition codes)
Minimum Depth	- Minimum depth fished during the trip
Maximum Depth	- Maximum depth fished during the trip

Table 8c:
DATA ELEMENTS COLLECTED FROM THE FOR-HIRE SURVEY VALIDATION SURVEY

DATA ELEMENT	DESCRIPTION / CRITERIA
Verified	- Code to indicate whether the trip was validated dockside
Errors	- Code to indicate whether dockside validation reported any errors
Interviewer Initials	- Initials of the validation interviewer
Validation Date	- Date of follow-up validation interview

4. Data Submission
Recreational for-hire data shall be collected at minimum monthly and available no later than 38 days after the end of month. The Program supports electronic weekly submission of data. However, until applications necessary to support electronic reporting are implemented which meet standards, validation of effort data, catch data from intercepted trips, and at-sea observers for headboat data shall be collected and reported at a monthly level. Final monthly and annual catch data shall be available by March of the year following data collection. Clean intercept interview data and final estimates should be submitted to the Data Warehouse in March of each year.

5. Validation
Validation of self reported data is required for at least 10% of reported trips by mode. Intercept interviewers conduct dockside validation to check the accuracy of self-reported trip data collected from vessel representatives. Use of onboard observers allows validation of the numbers of fish harvested, released alive or discarded dead for a subset of trips.

Validation for for-hire interviews follows the same protocol as for shore/private boat intercepts. At least 10% of interviewed recreational fishermen shall be contacted again by phone to verify the interviewer was working, check that questions were correctly asked, and also that answers were correctly recorded.

6. Quality Assurance and Quality Control
The ACCSP standards established for for-hire data collection programs are described in Appendix F.

7. Program Research and Improvement
The ACCSP will continue to evaluate ways to improve accuracy and precision of recreational catch and effort estimates. While the ACCSP supports mandatory state licensing of saltwater recreational fishermen for an efficient sampling frame, the ACCSP should continue evaluating

alternatives for collection of effort data according to the prioritized list of research activities. The Program supports collection of catch and effort data that exceeds the standards, recognizing that more detailed area fished, distance from shore, and depth data will benefit fisheries science and management. The Program supports partners conducting the site intercept survey. The ACCSP is evaluating transition of conduct of the intercept survey for catch from a contractor to a cooperative agreement involving states at varying levels. If state conduct of intercept sampling is not possible, then states shall have direct involvement with maintenance of site registry, vessel directory, and data review meetings.

a. Precision

Due to improvements in estimation methodology for historical PSE calculations, and the need for more rigorous discussions of risk associated with PSE values, the updated standard for precision will be developed in a technical source document to be created in 2012.

D. PERMIT AND VESSEL REGISTRATION DATA

The permit and vessel registration data are encompassed as the Registration Tracking module. This module is designed to track commercial vessels and fishermen, and dealers/fisheries corporations through location and time. This should allow for association of specific landings to specific vessels, fishermen, or dealers, regardless of where or when those vessels, fishermen, or dealers participated in the commercial fishery. It should also allow linkage of basic information about fishermen, vessels, and dealers to trip level information on catch and effort, biological data, bycatch data, and socioeconomic data contained in the ACCSP modules. Scientists and fishery managers need these links for biological, social, and economic modeling.

The Registration Tracking module assembles partner files on commercial registrations, licenses, and permits for all vessels, fishermen, and dealers active on the Atlantic coast. The module assigns a unique identifier to each entity and has quality control processes to identify duplicate records. This application includes US Coast Guard vessel documentation files and has been integrated with SAFIS to allow dealer data entry in the Northeast to match catch and effort data to legally permitted participants.

The ACCSP staff is responsible for maintaining the master fishermen/dealers database (which contains the unique identifier) and for matching fishermen/dealers from partner databases with the master database. Matching will be accomplished by comparing fields (e.g., vessel name, vessel number, fisherman name, dealer number, birth date, address, telephone number, etc.) from the partner and master databases. Partners are responsible for providing data feeds in standardized formats.

The ACCSP standards specify vessel hull identification numbers (HIN) be mandatory in all commercial and for-hire vessel documentation and registration databases. Until the HIN are available or all vessels a US Coast Guard documentation number or a state registration number shall be provided for every vessel. Also, partners licensing entities should be capable of separating vessels that participate in the commercial, for-hire, and recreational fisheries (although multiple endorsements are allowed).

The Registration Tracking module should be developed first for commercial vessels and fishermen. For-hire vessels and captains should then be incorporated into the database. Recreational vessel information will be incorporated as partners develop registration systems that allow designation of pleasure craft used for marine recreational fishing.

1. Unique Identifiers

The ACCSP has standards for identifying individual commercial fishing entities.

a. Vessels

For vessels, the unique identifier is the hull identification number, the US Coast Guard document number, or state registration number.

b. Individual Participants

For dealers, commercial fishermen, for-hire captains, and vessel owners the unique identifier will be an alphanumeric code. This code consists of the following data elements:

1. Birth month
2. First letter of last name
3. Last letter of last name
4. First Letter of first name
5. Birth year
6. Birth day
7. Sequential number (creates a unique identifier when other components are identical)

c. Corporations

The unique identifier for a corporation engaged in a fishery will be the federal employer identification number of the corporation.

2. Data Elements

Partners must supply registration data in standard formats on a routine basis. Codes and formats for all variables are listed in Appendix C.

Table 9:
DATA ELEMENTS COLLECTED FROM COMMERCIAL FISHERMEN REGISTRATION TRACKING

DATA ELEMENT	DESCRIPTION / CRITERIA
Supplier Identification	- Local partner commercial fisherman identifier (Particular to each partner to deal with license anomalies)
TIN or SSN	- Tax identification number or social security number
License Number	- Commercial fisherman license number
Issue Date	- Date the license was issued
Expiration Date	- License expiration date
Corporate Name	- Name of corporation
Last Name	- Last name of individual
First Name	- First name of individual
Middle Name	- Middle name of individual
Name Suffix	- Proper name suffix (e.g., Jr., Sr., or II)
Birth Date	- Birth date or date of incorporation
Data Source	- Partner generating data
Data Supplier	- Data supplier
Address Type	- Type of address
Address 1	- First line of street address
Address 2	- Second line of street address if applicable
City of Residence	- Permanent city of residence
County of Residence	- Permanent county of residence
State of Residence	- Permanent state of residence
Zip Code of Residence	- Zip code plus 4 digits
Phone Number	- Telephone number (area code plus seven digit number)
Fax Number	- Fax number
Email	- Email address
Supplier License Type	- Local partner license type (acronym/number describing type of license)
Supplier Action Flag	- Record action flag (addition, update, delete, change of address)

Table 10:
DATA ELEMENTS COLLECTED FROM DEALER REGISTRATION TRACKING

DATA ELEMENT	DESCRIPTION / CRITERIA
Supplier Dealer Identification	- Local partner dealer identifier (Particular to each partner to deal with license anomalies)
Dealer Number	- Dealer license number
Issue Date	- Date the license was issued
Expiration Date	- License expiration date - Format: MMDDYYYY
TIN or SSN	- Tax identification number or social security number
Business Name	- Name of business
Last Name	- Last name of individual
First Name	- First name of Individual
Middle Name	- Middle name of individual
Name Suffix	- Proper name suffix (e.g., Jr., Sr., or II)
Birth Date	- Birth date or date of incorporation
Data Source	- Partner generating data
Supplier License Type	- Dealer license type
Data Supplier	- Partner supplying data
Address Type	- Type of address (e.g., home, business, etc.)
Address 1	- First line of street address
Address 2	- Second line of street address
City of Residence	- Permanent city of residence of dealer
County of Residence	- Permanent county of residence of dealer
State of Residence	- Permanent state of residence of dealer
Postal Code	- Zip plus 4 digits
Phone Number	- Area code plus seven digit number
Fax Number	- Fax number
Email	- Email address
Supplier Action Flag	- Record action flag (addition, update, delete, change of address)

Table 11:
DATA ELEMENTS COLLECTED FROM VESSEL REGISTRATION TRACKING

DATA ELEMENT	DESCRIPTION / CRITERIA
Supplier Vessel Identification	- Local partner vessel identifier - Particular to each partner to deal with license anomalies
Vessel Name	- Name of the vessel
Hull Identification Number	- HIN
US Coast Guard Number	- US Coast Guard number for all documented vessels
Federal License	- Federal license number
State Registration Number	- State registration number for all state registered vessels
Registering State	- State of registration
Data Source	- Partner generating data
Data Supplier	- Partner supplying data
Vessel Owner Information	
TIN or SSN	- Tax identification number or social security number
Business Name	- Name of business
Last Name	- Last name of individual vessel owner
First Name	- First name of individual vessel owner
Middle Name	- Middle name of individual vessel owner
Name Suffix	- Proper name suffix (e.g., Jr., Sr., or II)
Birth Date	- Birth date of individual
Address 1	- First line of street address
Address 2	- Second line of street address
City of Residence	- Permanent city of residence
County of Residence	- Permanent county of residence
State of Residence	- Permanent state of residence
Postal Code	- Zip code plus 4 digits

Table 11:
DATA ELEMENTS COLLECTED FROM VESSEL REGISTRATION TRACKING *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA
Phone Number	- Area code plus seven digit number
Fax Number	- Fax number
Email	- Email address
Vessel Description	
Gross Tonnage	- Vessel gross tons
Net Tonnage	- Vessel net tons
Hold Capacity	- Capacity of the hold in pounds
Gear Type	- Major gear type employed (only the primary gear)
Gear Quantity	- Number of gear employed
Length	- Length of the vessel in feet
Horsepower	- Total horsepower of engines
Hull Material	- Hull construction material
Year Built	- Year vessel was built
Crew Size	- Vessel crew size
Number of Berths	- # of berths on vessel (not a minimum data element, but it is a component in many partner files)
Supplier Action Flag	- Record action flag (addition, update, delete, or change of address)

3. Quality Assurance and Quality Control

The Commercial Technical Committee and SAFIS Committee should develop quality assurance and quality control standards for the Registration Tracking module. Address information shall be formatted according to US Postal Service standards with periodic (at least annual) validation checks. Vessels with registered names are stored in all capital letters. Vessels without names shall be referred to as “not named” instead of “unknown”. Permits shall be provided with issue and expiration dates to allow tracking of permits over time.

4. Data Submission

Registration data should be submitted at least biannually. However, where systems have significant changes occurring throughout the year, data should be updated monthly. Partners using SAFIS may update permit and vessel registration data daily.

E. METADATA

Metadata are supplementary information, which may qualify or explain primary data and are often referred to as data about the data. This information may include, but not be limited to: describing fields of the data set, time frame of the investigation, primary investigators, sampling protocols, weather events, and fishing regulations. This information is important because it may explain fluctuations in the primary data (e.g., landings, effort, value, abundance). It is important to organize and catalogue this information.

Metadata is an umbrella term used to encompass the catch and effort, biological, bycatch, and socio-economic modules. Metadata may provide information about some or all of the other modules and is critical for understanding trends in data and how to use the data for analyses. Metadata applications are needed for program documentation, statutory and regulatory histories, environmental data, and socio-economic data. Modular design allows development of clear standards for each type of data and simpler database design while preserving the ability to link various data for scientific and economic assessments. Not only does the Program maintain its own metadata but the ACCSP also participates in the NOAA Fisheries Service - Fisheries Information System (FIS) Information Portal (InPort) Metadata Catalog. InPort allows NOAA Fisheries Service and their state and regional partners the ability to share essential information about fisheries-dependent data and support fisheries data quality initiatives with the public. The ACCSP has the goal of including Federal Geographic Data Committee (FGDC) compliant data in the future.

BIOLOGICAL DATA

The ACCSP has produced standards for how biological data should be collected and managed for dependent commercial, recreational, and for-hire fisheries (three fishing sectors). Trained field personnel, known as port agents or field samplers, should obtain biological samples according to established protocols of their respective agencies. Information should be collected through direct observation or through interviews with fishermen. Biological samples would normally be collected at docks, unloading sites, and fish houses. On water or at-sea samples that do not meet the minimum standards for the bycatch module (e.g., stratified random at-sea sampling, detailed gear) may also be included in the ACCSP biological module. Biological sampling includes acquiring general fishing location, principle gear, species identification of fish and shellfish, specimen biological characteristics (e.g., length, weight), hard parts (e.g., scales, spines, otoliths) for ageing, and tissue samples (e.g., gonad, stomachs). The ACCSP should strive to collect physical and environmental information related to trips sampled for biological data through at-sea samplers, fishery-independent sampling, or other programs. On water samples should collect exact location (coordinates) and available environmental information.

How best to represent a catch (through sampling) without introducing bias is a concern with biological sampling. No single subsampling protocol would be appropriate in all cases. There are many ways to randomize samples (e.g., measuring every third specimen, blindly reaching into a box, etc). Even presorted animals exhibit variations in size and weight. In cases where field samplers are asked to collect specific size ranges of animals or to collect length and weight from rare event species, these cannot be considered as random samples. To do so would skew catch or population estimates. The ‘Bias Type’ field (default to none when totally random) will be assigned by the port agent that submits the data in order to alert analysts to possible constraints for a particular sample. However, some species do not lend themselves to random sampling. Fecundity studies or determination of age for a specific size of animal may require biased sampling. Species or species specific subsampling protocols may be required.

A. STANDARDS

Procedural standards for biological sampling vary by fishing sector.

1. Commercial Fisheries

Biological data for commercial fisheries should be collected through port sampling as well as market sampling when applicable. There are space limitations in fish houses and/or individual dealer business practices. Dealers and fishermen are familiar with the port agents and their sampling routines and experienced samplers are aware of the need to take precautions not to interrupt daily fish house routines. Dealers should be encouraged to provide port samplers with reasonable space and access to landed catches for biological sampling. As noted previously on water or at sea samples that do not meet the minimum standards for the bycatch module (e.g., stratified random at-sea sampling, detailed gear, etc.) may also be included in the ACCSP biological module. On water samples should be identified as such due to the different nature of the data elements that are likely to be captured (more environmental but lacking market categories).

Existing regional monitoring programs include NOAA Fisheries Service - Northeast Biological Sampling Program and the Southeast Trip Interview Program (TIP). The Southeast Trip Interview Program has been in existence since the mid-1980s. Sampling under the current TIP protocols is accomplished by most of the Gulf and South Atlantic states, under the Southeast Cooperative Statistics Program. The NOAA Fisheries Service Northeast Biological Sampling Program also is a long-term data collection effort, accomplished by federal port agents in states from Virginia to Maine. Sample targets are monitored for completeness on a routine basis, and are reviewed annually for possible adjustment in sampling effort. These existing programs are the primary programs for implementation of the ACCSP biological standards.

The ACCSP standard for strata is calendar quarter, area fished, gear, species, and then market category. However, sampling strata are reflective of assessment processes and strategies used to collect biological data. Catches are not graded in some areas so the normally required market category as a strata component may not be appropriate. The “NA” market category denotes those cases where sample targets are not based on market category. In general, port agents should strive to collect samples from presorted or culled boxes at the fish house.

Subsampling may be required to maximize the number of trips that can be sampled during a particular sampling trip or to adequately sample large catches. Subsampling must be representative of the catch (i.e., each length frequency must be weighted by the magnitude of the trip it represents), especially in cases when samplers must curtail sampling activities due to time constraints or other factors. Total weight (from trip reports) and sample weight will be collected. Individual lengths will be

collected in order to complete calculations necessary to weight collections based on the number sampled or landed. The addition of a total number of individuals in a subsample field is needed.

Currently, the Northeast Biological Sampling Program and TIP sampling protocols are different due to methods used to generate catch-at-age matrices. TIP collects a minimum of 30 lengths and a maximum of 50 per species per sample. The Northeast Biological Sampling Program collects a minimum of 100 lengths per species with no maximum per sample. As input from the assessment process is obtained, the existing Northeast and TIP protocols should evolve towards a single sampling standard.

Port samplers are encouraged to sample species in addition to their targets to provide a more complete picture of landings from a particular trip and provide baseline data for other species. Samplers are also encouraged to report new or unexpected developments in the field to their supervisory chain so sampling schedules may be adjusted to cover those circumstances.

Split-trip sampling occurs when one species or market category is sold to one dealer and the remainder of the catch sold to another. The commercial catch and effort module trip tickets will capture which portions of a catch are sold to particular dealers. The biological samplers should attempt to capture variables that tie back to the appropriate trip tickets. If stock determination is important for a particular species, samples should include 'area-fished' data. Assessment personnel and partners requesting samples should be mindful of area closures or other regulatory constraints which may preclude obtaining samples of certain size classes or specimens from certain areas.

Filleting of fishes at sea is a growing issue that may impact the numbers of specimens available for shore based biological sampling. Partners should consider regulations that require fishes be landed head and tail intact or in a dressed form consistent with fishery management plan requirements (e.g., swordfish).

2. Recreational Fisheries *(Private boat, rental boat, and shore based fisheries)*

Recreational fisheries include shore fishing and private/rental boat fishing. Biological data for recreational and for-hire fisheries are collected through recreational access point angler intercept surveys. All finfish species in a catch should be measured and weighed unless refused by the angler. Shellfish and crustacean data are in need of dedicated sampling programs. Samplers should collect hard parts and biological samples other than lengths and weights independently of intercept sampling information in order to minimize possible procedural corruption of the intercept data. Age data should be collected through periodic add-ons or

dedicated sampling programs and conducted independently from angler catch interviews.

Recreational biological data from tournaments, freezer collections, and scale envelopes offer recreational constituents the chance to participate in the fisheries management process and should be included in the Data Warehouse. These data should be segregated using the 'collection type' field, and the 'bias type' field should be marked appropriately for these collection types. Anglers who choose to participate in freezer data or scale envelope collection programs should provide the following data:

1. Collection date
2. Name (angler and captain)
3. Angler address
4. Angler phone
5. Angler email address
6. Species
7. Gear (fishing method)
8. Number of anglers on trip

Additional elements could include capture length, capture weight, or other partner specific elements.

3. For-hire Fisheries

The for-hire sector includes both charter boats and headboats. Biological sampling standards for charter boats are the same as those of recreational fisheries. Sampling for headboats should use at-sea samplers to collect biological data, which may be supplemented by intercept sampling. Age data should be collected through periodic add-ons or dedicated sampling programs.

B. SAMPLING PRIORITIZATION

Biological sampling for lengths and hard parts should be based on objective coastwide priorities that encompass the needs of federal and state stock assessments and management. The Biological Review Panel will develop the priorities biennially for approval by the Coordinating Council.

Every other fall, the ACCSP Director issues a request for priorities to all partners (including multiple offices within NOAA Fisheries Service), using a standard template that reflects sampling stratification and allowing at least one month for partners to compile and send their responses. Staff compiles the partner responses for use by the Biological Review Panel at their annual winter meeting.

The Panel scores criteria in the Biological Priority Matrix (Appendix G). The scores of the criteria are then added and the totals ranked to determine the highest and lowest priority species. The criteria are:

1. Council priority (0-5[1])
2. ASMFC priority (0-5)
3. State priority (0-5)
4. NOAA Fisheries Service priority (0-5)
5. Fishery managed (0 = No; 1 = Yes)
6. Significant changes in landings within past 24 months (1 = <25%; 3 = 25-75%; 5 = >75%)
7. Significant changes in management within past 24 months (0-5[2])
8. Adequacy of current sampling (0-5[3])
9. Stock resilience (1-5[4])
10. Number of sampling strata (1 = <20%; 3 = 20-75%; 5 = >75%)
11. Seasonality of fishery (1 = >9 months; 3 = 9-1 months; 5 = <1 month)

Fishery status is also a criterion. Where the status of the fishery is known, the matrix includes the NOAA Fisheries Service category[5] (Overfished = A stock size that is below a prescribed biomass threshold; Overfishing = Harvesting at a rate above a prescribed fishing mortality threshold; Approaching an Overfished Condition = Based on trends in harvesting effort, fishery resource size, and other appropriate factors, it is estimated that the fishery will become overfished in two years; Unknown[6] = No recent assessment was conducted or insufficient information about this stock exists to make a determination). Although this criterion does not have an associated score, it provides useful information if there is a question when differentiating between fisheries. This criterion was retained for informational purposes.

[1] For partner priority criteria five (5) represents highest priority
[2] Zero (0) represents no change; Five (5) represents significant changes
[3] Zero (0) represents "over-sampled"; Five (5) represents "None"
[4] One (1) represents "resilient"; Five (5) represents "vulnerable"
[5] For summaries of stock status see the NOAA Fisheries Service website
[6] The Panel uses "U" when the status of a species is not known or the species is not managed by NOAA Fisheries Service

The Biological Priority Matrix is included in the annual RFP. It is to be used by partners to develop their proposals. Coordination and cooperation among partners can increase efficiency of sampling. Proposals should coordinate and/or be submitted as cooperative projects. The matrix is also used by the Advisory and Operations Committees to develop their recommendations for funding. See Appendix G for the most recent summary of the matrix decisions.

C. MEASUREMENT STANDARDS

The ACCSP standards for measurement apply to all fishing sectors.

1. Length Standards

The ACCSP has established length standards for all of the Atlantic coast finfish, shellfish and crustacean species. Lengths should be measured in centimeters with one decimal place implied (allows resolution to millimeters). Partners may obtain any measurements they choose so long as those measurements are converted to standardized lengths for submission to the ACCSP. Partners should mark the 'length conversion' field "Y" for those specimens that have a conversion applied. Conversions should be supplied to the ACCSP for inclusion in metadata.

2. Weight Standards

Weights (e.g., individual, total sample, subsample) should be measured in kilograms and include three decimal places, which allows resolution to the gram. Weight categories vary among commercial, recreational, and for-hire sectors since they all have a wide range of landing practices.

a. Commercial Fisheries

Finfish weight may be collected as landed regardless of market category but should be converted to whole weights (round) for submission to the ACCSP. Partners should supply conversions to the ACCSP as metadata. Individual weights are encouraged, but not required from commercial samples unless weight is the primary measurement of a particular species or the partner chooses to do so.

b. Recreational and For-hire Fisheries

Individual weights should be collected from recreationally landed intact finfish, rays, and skates. Filleted fishes should not be weighed. Appropriate scales should be provided so data may be collected from specimens smaller than one kilogram.

3. Other Biological Standards

Until these documents are completed and the methodologies approved as standard partners are encouraged to submit metadata on any biological data submitted to the ACCSP. These metadata parameters should include the following by species, for each data type (e.g., otoliths, fecundity, etc.):

1. Agency submitting data
2. Name of principle investigator
3. Description of interpretation methodologies used

Figure 3:
FISH AND SKATES – Centerline length

Centerline length (i.e., straight line and not along the body curve) should be measured along the midline of the fish and skates from the tip of the snout to the center of the end of the tail, regardless of tail shape. Lengths should be taken with the specimen parallel to the board or tape. Fishes should not have the tail "squeezed". Frozen samples should be bent to approximate this position. Products that are unable to conform should not be sampled.

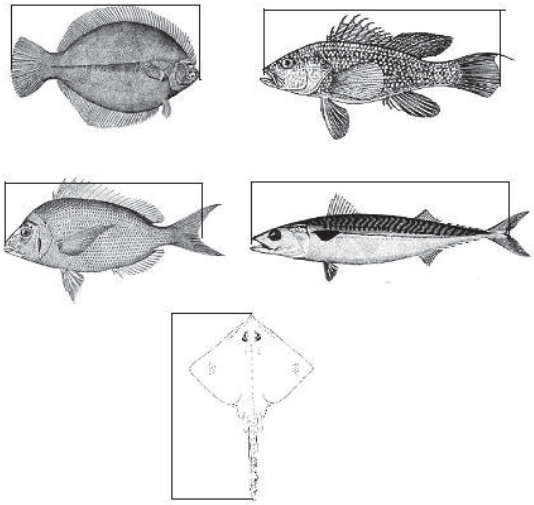


Figure 4:
CURVE-SHAPED FISHES – Centerline length

Curve-shaped fishes (e.g., tunas, sharks, and billfish) should be measured by their centerline length along the midline of the animal from the tip of the snout to the center of the end of the tail, regardless of tail shape. Lengths should be taken with the specimen parallel to the board or tape. Fishes should not have the tail "squeezed". Frozen samples should be bent to approximate this position. Product unable to conform should not be sampled.

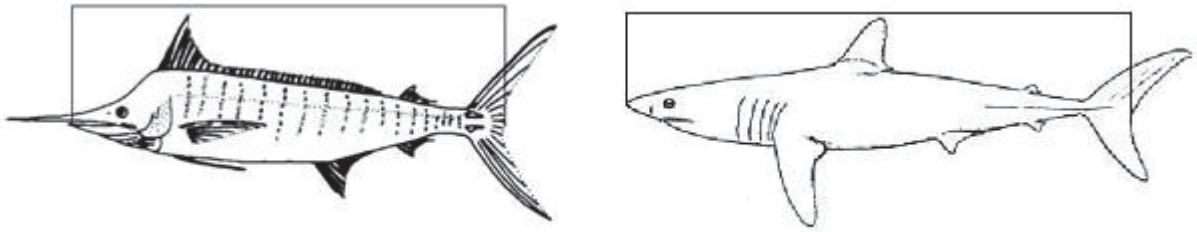


Figure 5:
RAYS – Wing tip to wing tip

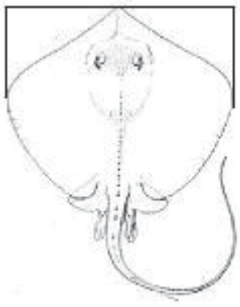


Figure 6:
HORSESHOE CRABS – Carapace width at the widest point

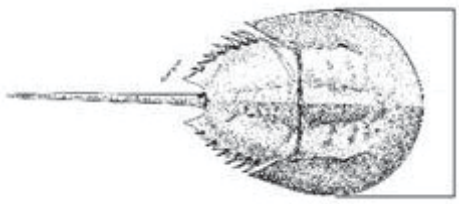
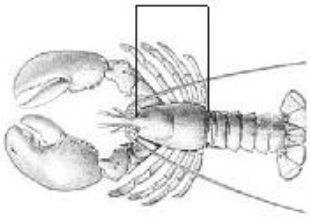
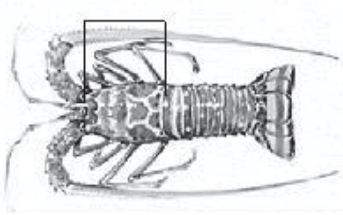


Figure 7:
AMERICAN LOBSTER - Carapace length



American lobster should be measured by carapace length from the rear of the right eye socket to the posterior margin of the carapace, measured parallel to the mid-dorsal line.

Figure 8:
SPINY LOBSTER - Carapace length



Spiny lobster should be by its carapace length from the orbital notch inside the orbital spine (in a line parallel to the lateral rostral sulcus) to the posterior margin of the cephalothorax.

Figure 9:
NORTHERN SHRIMP – Mid-dorsal carapace length

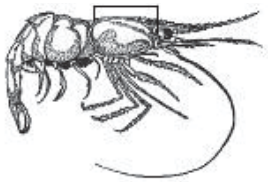


Figure 10:
PENAEID SHRIMP – Tip of rostrum to the tip of telson

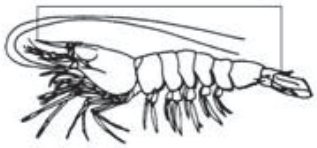


Figure 11:
MOST CRAB SPECIES - Carapace width at widest points

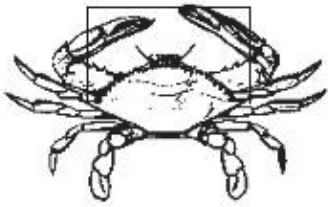
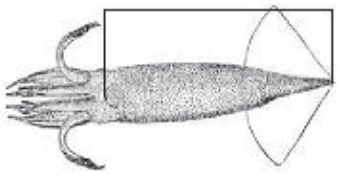


Figure 12:
STONE CRABS - Claw length from tip of lower claw finger to the back of the prodopus (elbow)

Figure 13:
CLAMS - Posterior to anterior

Figure 14:
SCALLOPS AND OYSTERS – Shell height (hinge-to-hinge)

Figure 15:
SQUIDS – Mantle (body) length



a. Sex and Maturity

The Southeast TIP Manual (NOAA Fisheries Service) and Methods of Fish Biology (American Fisheries Society) are references that may be utilized by partners to determine standards for samplers to make a visual determination of sex when taking biological samples.

b. Ageing

Partners should collect the species specific ageing structures listed in Table 12. As partners and/or species technical committees/policy boards adopt changes to a specific ageing structure standard, the ACCSP should adopt the new standard for that species. Species specific ageing techniques and protocol manuals are under development to aid in these efforts (see http://www.nefsc.noaa.gov/fbi/age-man.html for an example).

The ASMFC is developing an ageing manual for its managed species and has completed chapters on: Atlantic croaker, red drum, striped bass, weakfish, bluefish, and winter flounder, as of 2011. Interpretation of otoliths and other hard parts is to be included in ageing protocols currently being developed for additional species.

Table 12:
RECOMMENDED AGEING STRUCTURES BY SPECIES

When two structures are listed for a species, it indicates that scales may be taken for smaller fishes (in most cases). However, otoliths are the preferred structure for larger individuals of that species. For species with more than one structure listed, the preferred structure is indicated by an asterisk (*).

SPECIES	STRUCTURE (S)	SPECIES	STRUCTURE (S)
African pompano	- Otoliths	**Monkfish**	- Vetebrae
Amberjacks	- Otoliths	**Ocean pout**	- Otoliths
Bigeye	- Otoliths	**Pollock**	- Otoliths
Bluefish	- Otoliths* - Scales	**Porgies, all**	- Otoliths
Butterfish	- Otoliths	**Red drum**	- Otoliths
Cod, Atlantic	- Otoliths	**Redfish**	- Otoliths
Croaker, Atlantic	- Otoliths* - Scales historically	**Scallop, sea**	- Shells
Cusk	- Otoliths	**Seabass, black**	- Scales - Otoliths*
Dogfish, smooth	- Otoliths	**Shad, American**	- Scales
Dogfish, spiny	- Dorsal spines	**Shark, Mako Shortfin**	- Vertebrae
Dolphinfish	- Scales - Otoliths*	**Squid, Illex**	- Statoliths
Flounder, American Plaice	- Scales - Otoliths*	**Squid, Loligo**	- Statoliths
Flounder, fourspot	- Scales	**Snapper, all**	- Otoliths
Flounder, winter	- Scales - Otoliths	**Striped bass**	- Scales* - Otoliths
Flounder, witch	- Scales - Otoliths	**Swordfish**	- Anal spines* - Otoliths
Flounder, yellowtail	- Scales	**Tautog**	- Opercles
Grouper, all	- Otoliths	**Tilefish**	- Otoliths
Grunt, white	- Otoliths	**Triggerfish**	- Dorsal spines
Haddock	- Scales - Otoliths	**Weakfish**	- Otoliths* - Scales historically
Hake, red	- Otoliths	**Wolffishes**	- Otoliths
Hake, silver	- Otoliths	**Wreckfish**	- Otoliths
Hake, white	- Otoliths		
Halibut	- Otoliths		
Herring, Atlantic	- Scales - Otoliths*		
Herring, blueback	- Scales		
Hogfish	- Otoliths		
Lobster	- Shells		
Mackerel, Atlantic	- Otoliths		
Mackerel, king	- Otoliths (w/sex)		
Mackerel, Spanish	- Otoliths (w/sex)		

D. DATA ELEMENTS

Partners whose biological data collection is funded by the ACCSP must provide centerline lengths for finfish species. Should the partners collect any other length type than the centerline standard, they must also provide conversion factors to the centerline standard. Partners should report all minimum data elements to the ACCSP for all fishing sectors (Tables 13-15).

Table 13:
BIOLOGICAL DATA TO BE COLLECTED FOR COMMERCIAL, RECREATIONAL, AND FOR-HIRE FISHERIES

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA
Trip Identifier *	- Commercial: dealer report or fishermen trip identifier (may be vessel trip report serial number) - Recreational: sampler number, record number, or interview number - For-hire: sampler number, record number, or interview number
Length Measurements	- Lengths of species taken from randomly selected trips (length frequency data are acceptable)
Weight	- Weights of species taken from randomly selected trips
Length Type	- Indication of the type of length recorded
Hard Parts	- Collection of hard parts (e.g., otoliths, scales, vertebrae, etc.)
Gender	- Gender of the species
Gonads	- Collection of gonad samples to determine the fecundity of the species
Tissue Samples	- Collection of the tissue samples to be used for genetic analysis, stock identification, etc.
Stomachs	- Collection of fish stomachs to be used for ecological studies (e.g., predetor-prey relationships, etc.)

Table 14:
DATA ELEMENTS TO BE COLLECTED FOR COMMERCIAL FISHERIES

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Sampler Identifier *	- Used to monitor activity and to reference specific interviews	4 digit character
Data Source *	- Partner generating data	4 digit character
Data Supplier *	- Partner supplying data	4 digit character
Vessel/ Individual Identifier *	- Unique vessel identifier such as US Coast Guard or state registration number, and/or the HIN - Upon entry of data into the ACCSP information system a unique identifier is assigned to each individual fisherman and information on all licenses for the individual are linked by the unique identifier	11 digit character
Trip Start Date *	- Date the trip started	MM/DD/YYYY
Sample Date *	- Date sampling occurred	MM/DD/YYYY
ACCSP Identification *	- Trip identification number - Generated unique identification number	9 digit character
Trip Ticket or Logbook Number	- Provides a link between trip ticket and biological sample (verification)	12 digit
County Landed	- Location within a state where the product was landed	FIPS 3 digit code
County Sampled	- Location within a state where the product was sampled	FIPS 3 digit code
State Landed *	- State where the product was landed or unloaded	FIPS 2 digit Code
State Sampled *	- State where sampling occurred	FIPS 2 digit code
Port Landed	- Port where the product was landed or unloaded	FIPS 5 digit code
Port Sampled	- Port where sampling occurred	FIPS 5 digit code
Species Sampled *	- Genus and species for each species sampled - Each species should be identified separately	6 digit code
Specimen Number *	- Links the length, tissue, and hard parts back to an individual	4 digit character
Length	- Lengths other than centerline length (which allow submission of historical biological data sets to the Data Warehouse)	5 digit numeric
Length Type	- Length type collected in the length 2 field (FL = fork length; TL = total length; SL = standard length; RL = rostral length)	2 digit character
Frequency	- # or times a particular species/length combination was collected	4 digit numeric

Table 14:
DATA ELEMENTS TO BE COLLECTED FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Sample Type Code	- Denotes the sample type taken may include any number of sample types taken from a particular specimen - See Appendix C	Variable
Individual Weight (kg)	- Specimen weight	8 digit numeric (3 decimals)
Sex (gross observation)	- Sex of the species (M = male; U = unknown; T = trans; F = female; I = immature)	1 digit character
Market Category	- See complete list of market category codes in C	2 digit character
Grade Category	- See complete list of grade codes in Appendix C	2 digit character
Fishing Area *	- Statistical area where fishing occurred	3 digit
Gear *	- Type of gear used - Sampling strata data element - Required for the target tracking system	3 digit code
Bias Type	- Default to 'none' - Alerts analysts to possible sampling issues (1 = none; 2 = size; 3 = effort; 4 = size and effort; 5 = no information; 6 = sex; 7 = sushi grade)	1 digit numeric
Marketed Species	- Link back to the trip ticket - Rectify species actually seen by samplers to reported	6 digit code
Sample Weight (kg)	- Total weight (as landed) of individuals measured	8 digit numeric (3 decimals)

Table 15:
DATA ELEMENTS FOR RECREATIONAL AND FOR-HIRE FISHERIES

* required fields are noted with asterisk (Please note that a required element can be populated with an unknown)

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Sampler Identifier *	- Used to monitor activity and to reference specific interviews	4 digit character
Agency (Partner) Identifier *	- FIPS Code (US Postal Code) - May be used to reference specific interviews	2 digit character
Vessel/ Individual Identifier *	- Unique vessel identifier such as US Coast Guard or state registration number, and/or the HIN - Upon entry of data into the ACCSP information system a unique identifier is assigned to each individual fisherman and information on all licenses for the individual are linked by the unique identifier	11 digit character
Collection Type *	- Segregates different biological collection types	1 digit character
Bias Type	- Default to 'none' - Alerts analysts to possible sampling issues (1 = none; 2 = size; 3 = effort; 4 = size and effort; 5 = no information; 6 = sex; 7 = sushi grade)	1 digit numeric
Fishing Mode *	- Type of recreational fishing (1 = pier/dock; 2 = jetty; breakway/breachway; 3 = bridge/ causeway; 4 = other man-made 5 = beach/bank; 6 = headboat; 7 = charter boat; 8 = guide fishing; 9 = private/rental boat)	1 digit numeric
Trip Start Date *	- Date the trip started	MM/DD/YYYY
Sample Date *	- Date on which the sample was taken	MM/DD/YYYY
ACCSP Unique Identification *	- Trip identification number - Generated unique identification number	9 digit character
State Landed *	- State where the product was landed or unloaded	FIPS 2 digit Code
State Sampled *	- State where sampling occurred	FIPS 2 digit code
County Landed	- Location within a state where the product was landed	FIPS 3 digit code
Species Code *	- ITIS code	6 digit code
Specimen Number *	- Links the length; tissue/hard parts back to an individual	4 digit character
Biological Sample Taken (Y/N)	- References whether a sample was taken from a particular individual	1 digit character
Length	- Allows submission of current biological data sets to the ACCSP data management system	5 digit numeric

Table 15:
DATA ELEMENTS FOR RECREATIONAL AND FOR-HIRE FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that a required element can be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Length Type	- Length type collected in the Length 2 field (FL = fork length; TL = total length; SL = standard length; RL = rostral length)	2 digit character
Frequency	- Number of times a particular species length combination was taken	4 digit numeric
Sample Type Code	Denotes the sample type taken - May include any number of sample types taken from a particular specimen - See Appendix C	Variable
Individual Weight (kg)	- Specimen weight	8 digit numeric (3 decimals)
Sex (gross observation)	- Sex of the species (M = male; U = unknown; T = trans; F = female; I = immature)	1 digit character
Fishing Area *	- Statistical area where fishing occurred	3 digit
Gear *	- Type of gear used sampling strata data element (required for the target tracking system)	3 digit code

E. DATA SUBMISSION

In 2003, the ACCSP staff developed BioTarget, a real time web based application to help Partners coordinate their biological sampling efforts. BioTarget allows partners and staff to enter the sampling targets for each species annually, store data for each species as they are collected, and compare samples collected against sample targets. Port samplers/biologists, supervisory, and assessment personnel should monitor it routinely, so that effort redistributions may be possible within a calendar quarter. The BioTarget application will be expanded in the future to allow entry of all data association with biological samples (from the dock through processing by laboratories).

The more the real time data are submitted to the Data Warehouse the more readily stock assessment biologists can complete stock assessments. The ACCSP is developing reporting and submission schedules, but partners should feed data to the ACCSP within one month of collection.

Partners or the regional centers should provide age data to the Data Warehouse. However, "applied data[1]" should not be included. The partner that aged the specimen should retain annular counts and other age-specific data. DNA, stomach, and fecundity data should be archived by and requested from the partner that processed the specimen (other than gross observation of sex). Metadata should be provided to allow users to know where the samples were processed.

Partners are encouraged to identify biological data sets outside of their agencies (e.g., universities, contractors, etc.). An evaluation form which includes check boxes for biological minimum data elements and space to include specific sampling procedures should be developed so these data sets may be evaluated. The Biological Review Panel will review these data sets and make recommendations for their possible inclusion in the Data Warehouse.

[1]An example of 'applied data' would be assuming all 25 cm red drum are age two because one specimen was aged at two years old. Assessment scientists should make these conclusions

F. QUALITY ASSURANCE AND QUALITY CONTROL

Field samplers should be trained and certified by the partners that employ them. All training should be consistent with the quality control and assurance procedures outlined in Appendices E and F. Periodic refresher trainings should be incorporated in order to address recurring sampling problems, changes in protocols, and other updates. Automated systems should check for lengths and weights that are out of range for a given species, and samplers should compare computer generated reports against their own data collection forms for accuracy. Biosamples (e.g., ageing structures, gonads) should be clearly labeled such that they can be linked to associated data. Biosample labeling should not merely consist of a sample ID number, but also at least two other data fields (date of sample collection and sampler name/ID are suggested) to aid in sample identification in the event of one label element becoming obscured. Labels should be affixed to biosamples in such a way that the labels do not come off during shipping and handling.

G. TARGET MONITORING

Partners should have a means of monitoring biological sampling activities of all Partners and sharing data in real time or near real time. The developing BioTarget system will not only allow partners to see biological sampling data as they are collected and entered but will have a component that allows partners and staff to enter the sampling targets for each species annually and compare samples collected against sample targets.

H. PROGRAM RESEARCH AND IMPROVEMENT

Standards need to be developed for recreational shellfish sampling. Shellfish is not included in current recreational sampling. Technical committees of the ACCSP will be discussing this issue and will develop standards in the future. Technical committees should also investigate new technology that may enhance the collection of biological data, including electronic measuring devices and hand held data entry devices. These technologies should periodically be examined again as the state of the technology is advancing rapidly.

I. REGIONAL PROCESSING CENTERS

To take advantage of available scientific expertise, as well as to maximize funding available for processing biological samples, partners should begin development of regional ageing centers. For example, one partner may be responsible for ageing all grouper otoliths while another may have the expertise and infrastructure to age all red drum.

BYCATCH, RELEASES, AND PROTECTED SPECIES INTERACTIONS DATA

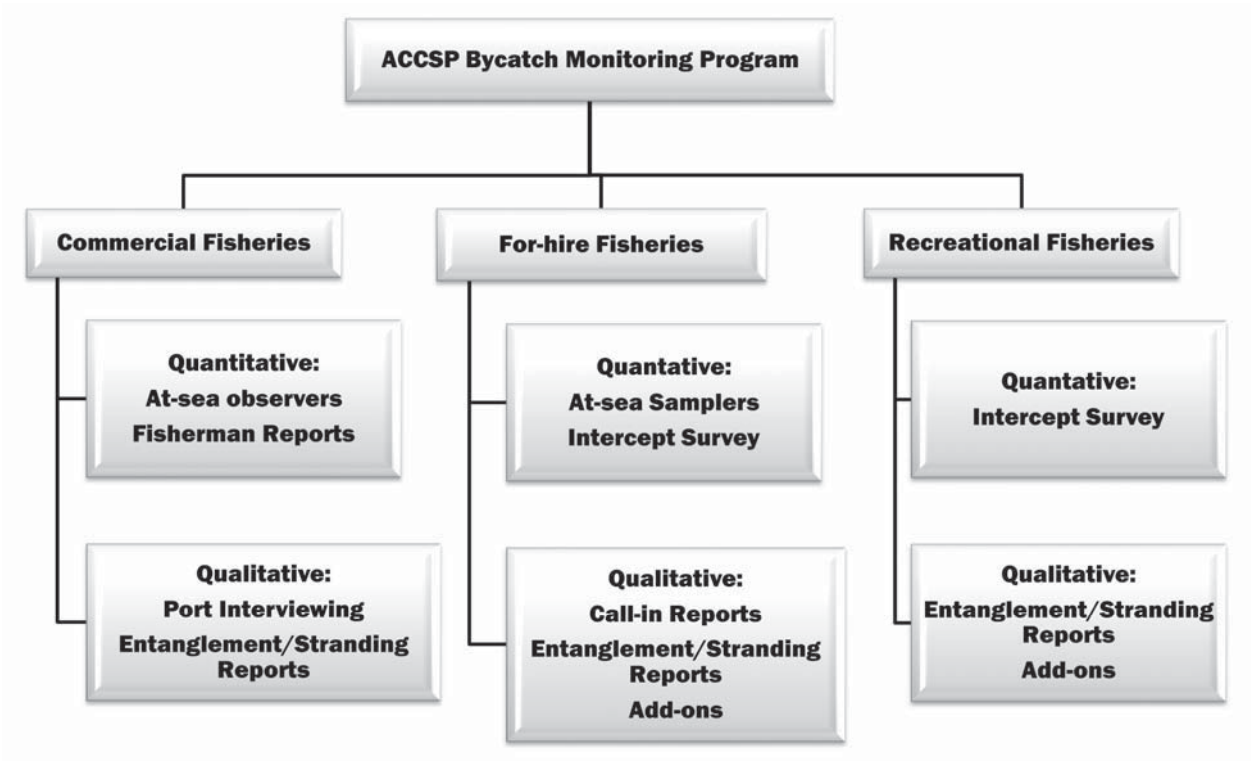
The ACCSP Bycatch, Releases, and Protected Species Interactions (hereafter called “bycatch”) monitoring program includes sampling of all fishing sectors for living marine resources in estuarine, inshore, and offshore waters. Data should be collected on all US fishing vessels leaving from and landing at Atlantic coast ports, as well as from shore based fishing operations. Reporting of protected species interactions and managed species data currently are the highest priorities under the bycatch monitoring program of the ACCSP.

A. STANDARDS

The bycatch standards of the ACCSP include both quantitative and qualitative components. Targeted at-sea sampling programs ("observer") and collection of bycatch data through established fisherman self-reporting systems comprise the primary methods used to quantify bycatch. Sea turtle and marine mammal entanglement[1] and stranding networks, beach bird surveys, and add-ons to existing recreational and for-hire intercept and telephone surveys are the primary sources of qualitative information for bycatch. In addition to providing some additional information on bycatch, qualitative data functions to verify anecdotal accounts and to better direct quantitative methods.

The ACCSP recognizes that new modes of data collection are evolving. Technologies such as electronic monitoring systems are in development or in use for commercial, recreational, and for-hire fisheries on the Atlantic coast. Hence, standards contained herein have the flexibility to expand and incorporate any unique features associated with these technologies.

Figure 16:
THE ACCSP BYCATCH DATA COLLECTION METHODS FOR COMMERCIAL, RECREATIONAL, AND FOR-HIRE FISHERIES



[1] For the purposes of this module, entanglements are defined as interactions between marine species and fishing gear

1. Quantitative Data

The preferred data collection methodology for quantitative bycatch monitoring is vessel-based stratified random sampling with replacement. However, the Program recognizes that the sampling strata of a partner may vary based the characteristics of individual fisheries, available resources, and other factors. The sampling frame should reflect the current operational fleet, when data allow. All sampling programs should indicate within the ACCSP database procedures used to select vessels, including reasons for nonrandom selections. Data should be collected at the haul level for commercial fisheries and at the drop level (each time gear is wet) for for-hire and recreational boat mode fisheries. Pilot surveys are also recommended prior to full implementation in order to determine the appropriate level of sampling coverage for each fishery. Recommended PSE values for both estimates of protected species and total discards at the fishery level are 20 to 30%.

a. Commercial Fisheries

Quantitative data standards for commercial fisheries include NOAA Fisheries Service observer programs, cooperating state programs, and mandatory commercial fisher self-reporting systems. Fisheries observers are the only independent source for bycatch composition. Federal observer programs may be required under the Magnuson-Stevens Fishery Conservation and Management Act for federal fishery management plans under the Marine Mammal Protection Act (MMPA) for Category I and II fisheries occurring in either state or federal waters, and/or under the Endangered Species Act (ESA) for any state, federal, or recreational fishery listed on the Annual Determination list. States may also implement their own separate or complementary observer programs.

Information about bycatch may also be provided through self-reporting programs (i.e., data reported by fishermen or dealers/processors). These self-reporting programs are particularly important sources of supplemental data (e.g., effort and landings data). However, when bycatch information is submitted by the fishing industry concerns regarding data quality must be addressed. These concerns may arise from the lack of training in data collection methods and protocols and potential underreporting by the industry. Concerns may also be linked to the existence of incentives for misreporting.

Regardless of the mechanism the ACCSP strongly encourages that all reporting systems designed to collect catch and effort information also maximize their ability to collect bycatch data.

b. Recreational Fisheries *(Private boat, rental boat, and shore based fisheries)*

Partners should collect quantitative data on the bycatch of finfish species as reported by interviewed fishermen through existing

recreational intercept surveys. The collection of information on protected species bycatch, the implementation of observer programs to monitor catch and bycatch, and the verification of angler reports may also be performed where possible.

c. For-hire Fisheries

The ACCSP standards for quantitative bycatch data for for-hire fisheries include existing charter boat angler intercept surveys and an at-sea sampling program for headboats, which may be supplemented with intercept sampling. Observer programs to monitor catch and bycatch and to verify angler reports are also recommended where possible.

2. Qualitative Data

Data collected from opportunistic data sources and events generally describe the qualitative nature of the following sources:

1. Marine Mammal Authorization Program (MMAP) reports from Category I and II commercial fisheries (www.nmfs.noaa.gov/pr/interactions/mmap)
2. Stranding/entanglement data from commercial, for-hire, and recreational fisheries
3. Port interviews to clarify voluntary data collected in commercial fisheries
4. Call-in reports and some add-on programs from for-hire and/or recreational fisheries (Figure 17)

The use of quantitative data for bycatch estimation is preferred. However, qualitative data may be used to supplement quantitative information or to provide information on fisheries where more reliable sources of data are unavailable (potentially identifying them as areas to focus future data collection efforts).

a. Marine Mammal Authorization Program

Under MMPA (http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa.pdf), commercial fishermen participating in Category I or II fisheries are required to report any injuries or mortalities that occurs incidental to their fishing operations. Under these regulations incidental injury or mortality to a marine mammal during commercial fishing activities (including for-hire fisheries) must be reported within 48 hours of the end of a fishing trip. For shore based fisheries within 48 hours of occurrence.

Underreporting of injuries and mortalities is of considerable concern. This information may be used to suggest a minimum number of marine mammals that are killed or seriously injured incidental to fishing operations. The number is generally considered unreliable and these data are not utilized for bycatch estimation in the context of this report.

Bycatch of endangered and/or threatened species is prohibited by law pursuant to the ESA. However, exemption can be granted to specific fisheries via an incidental take permit. There is no specific reporting requirement in the ESA itself for commercial fishermen but the section 7 consultation process can lead to mandatory reporting requirements for fisheries granted and incidental take permit.

b. Stranding and Entanglement Networks

NOAA Fisheries Service stranding and entanglement networks serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals. Stranding and entanglement data should include:

1. Assessment of human interaction
2. Physical contact between marine species and fishing gear
3. Vessel/boat strikes
4. Other human-related causes, such as ingestion of debris or gunshot

Strandings with evidence of an entanglement will be used to qualify interactions with commercial, for-hire, and recreational fisheries when possible. Gear removed by stranding/entanglement programs should be retained and stored for future analysis.

c. Other Sources

The ACCSP should support partner programs by encouraging partners to include call-in reporting and add-ons to existing telephone surveys for collection of protected species stranding and entanglement data and finfish discard data. These programs would support voluntary qualitative data collection from commercial, recreational, and for-hire fisheries.

B. SAMPLING PRIORITIZATION

Bycatch sampling should be based on objective coastwide priorities that encompass the needs of federal and state stock assessments and management. The Bycatch Prioritization Committee will develop the priorities biennially for approval by the Coordinating Council.

Every other fall the ACCSP Director issues a request for priorities to all partners (including multiple offices within NOAA Fisheries Service), using a standard template, the Bycatch Priority Matrix, that reflects sampling stratification and allowing at least one month for partners to compile and send their responses. Program staff compiles the partner responses for use by the Bycatch Prioritization Committee at the subsequent winter meeting.

The Committee scores each criterion contained in the Bycatch Priority Matrix (See Appendix H). The scores of each criterion are added and the totals ranked to determine the highest and lowest priority fisheries. The criteria are:

1. Fleet managed (0 = No; 1 = Yes)
2. Significant change in management in the past 36 months (0 = None; 3 = Yes)
3. Number of trips (1-5[1])
4. Percent of total landings (1-3[2])
5. Change in landings (0 = <50%; 3 = >50%)
6. Amount of discard of target species (0-3[3] or Unknown)
7. Protected species interactions (0 = None; 3 = Low; 6 = Medium; 8 = Unknown; 9 = High or 'Unknown with Concern')
8. Regulatory species discards (0 = None; 1 = <5%; 2 = 5-20%; 3 = >20%)
9. Impacts of discards of non-target regulated species on other regulated species (0-3)
10. Amount of discards of non-regulated species (0-3)
11. Impacts of discards on non-regulated species stocks (0-3)
12. Adequacy level of sampling (Yes; No; Unknown[4])
13. Estimated number of days-at-sea needed

The Bycatch Priority Matrix is included in the RFP. It is to be used by the partners to develop their proposals. Coordination and cooperation among partners can increase efficiency of sampling. Therefore, proposals must address coordination or be submitted as cooperative projects. The matrix is also used as a tool by the Advisory and Operations Committees to develop their recommendations for funding.

C. DATA ELEMENTS

[1] *One* (1) represents 100 or less trips; *Two* (2) represents 101 to 1,000 trips; *Three* (3) represents 1,001 to 10,000 trips; *Four* (4) represents 10,001 to 50,000 trips; *Five* (5) represents more than 50,001 trips

[2] Meaning the percentage of total landings of the target species that is attributable to that fishery; *One* (1) represents less than 33%; *Two* (2) represents 33% to 66%; *Three* (3) represents more than 66%

[3] *Zero* (0) represents "None"; *One* (1) represents less than 5%; *Two* (2) represents 5 to 20%; *Three* (3) represents more than 20% or unknown

[4] *Yes* represents adequate sampling is occurring based on 2% or 5% observer trip coverage or 20% to 30% PSE (It is recognized that for some fisheries, it is not feasible be able to obtain 2% or 5% trip coverage based on the size of the fishery); *No* represents fisheries not adequately being sampled are those that do not have 2% or 5% observer trip coverage or 20% to 30% PSE; *Unknown* represents level of sampling remains unknown

The ACCSP has drafted data elements for bycatch data collected from commercial and for-hire fisheries as well as stranding and entanglement networks.

1. Commercial Fisheries

Some data elements for commercial fisheries apply to all trips and gear types (Table 16). Others vary by gear type (Appendix I). At-sea observers should use standard gear measures to ensure consistency among programs. Quantifiers must be assigned for each specific gear.

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Vessel Information		
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be traceable through time and space	11 digit character
Vessel Identifier 2	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be traceable through time and space	11 digit character
Vessel Name	- Name of vessel (if applicable)	20 digit character
Vessel Name 2	- Name of vessel (if applicable) - For pair trawl or joint venture trips	20 digit character
Participant Identifier *	- Identifier unique to an individual (e.g., operator license number) - Traceable through time and space	11 digit character
Participant Identifier 2	- Identifier unique to an individual (e.g., operator license number) - Traceable through time and space - For pair trawl or joint venture trips	11 digit character
Home Port	- Port where the vessel is usually tied up when not fishing	6 digit character
Observer Identification Number *	- Unique observer number	30 digit character
Trip Information		
Reporting Form Series Number *	- Individual number for each reporting form to be assigned by the collecting agency (i.e., trip ticket number) - This data element may be blank in the dual reporting system	12 digit alphanumeric
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Form Type/Version	- Version identification number for the reporting form	12 digit alphanumeric
Trip Type	- 1 = single gear; 2 = multi-gear	1 digit character
Trip Start *	- Date and time the trip started - This is unique to each trip and can be used to tie multiple unloadings to a trip record	MM/DD/YYYY HH:MM:SS
Trip End *	- Data and time the trip ended	MM/DD/YYYY HH:MM:SS
Target Species or Species Group 1	- First target species; or species group for that trip	6 digit character
Target species or Species Group 2	- Second target species; or species group for that trip	6 digit character

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Target Species or Species Group 3	- Third target species or species group for that trip	6 digit character
Primary Species Landed *	- Based on weight	6 digit character
State Sailed	- State where the trip originated	2 digit character postal code
State Landed *	- State where the product was landed or unloaded	2 digit character postal code
Port Sailed	- Port within a state where the trip originated	5 digit FIPS code
Port Landed *	- Port within a state where the product was landed or unloaded	5 digit FIPS code
Trip Number *	- Sequential number representing the number of trips taken in a single day by either a vessel or individual - The trip number will default to '1' when only a single trip is conducted	2 digit numeric
Primary Gear *	- Primary gear used to catch the landed species	3 digit numeric
Primary Area Fished *	- Statistical area where most hauls occurred	3 digit numeric, plus 2 decimals
Number of Hauls *	- Total number of hauls of gear during a trip	3 digit numeric
Haul Information		
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Page Number	- Page number of the reporting form	2 digit character
Catch	- 0 = haul held no catch; 1 = haul held catch	1 digit numeric
Incidental Catch	- Record whether a sea bird; marine mammal and/or sea turtle has been incidentally taken on this trip (0 = haul held no incidental take; 1 = haul held incidental take)	1 digit numeric
Gear *	- Type of gear used to catch the landed species	3 digit character
Quantity of Gear	- Amount of gear employed	4 digit numeric
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit numeric
Haul Number *	- Sequential number for unique locations where gear was hauled - Representing the number of hauls taken in a single trip by either a vessel or an individual	3 digit numeric
Haul Observed *	- Indicates whether the haul was actually observed	1 digit character
Target Species or Species Group 1	- First target species or species group for that haul	6 digit character
Target Species or Species Group 2	- Second target species or species group for that haul	6 digit character
Target Species or Species Group 3	- Third target species or species group for that haul	6 digit character

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Latitude Begin	- Latitude at the beginning of the haul	6 digit numeric plus 1 character (2 decimal minutes)
Longitude Begin	- Longitude at the beginning of the haul	7 digit numeric plus 1 character (2 decimal minutes)
Latitude End	- Latitude at the end of the haul	6 digit numeric plus 1 character (2 decimal minutes)
Longitude End	- Longitude at the end of the haul	7 digit numeric plus 1 character (2 decimal minutes)
Time Set	- Time the gear was set - Used with time hauled to derive fishing time	MM/DD/YYY HH:MM:SS
Time Retrieved	- Time the gear was hauled - Used with time set to derive fishing time	MM/DD/YYY HH:MM:SS
Depth Fished	- Depth in fathom at which the gear is fished	4 digit numeric plus 1 decimal
Minimum Bottom Depth	- Minimum depth of bottom in fathoms	4 digit numeric plus 1 decimal
Maximum Bottom Depth	- Maximum depth in bottoms in fathoms	4 digit numeric plus 1 decimal
End Water Temperature	- To the nearest tenth of a degree Fahrenheit - Surface sea water temperature when this haul ended	2 digit numeric plus 1 decimal
Deterrent Devices Operational *	- Indication of whether deterrent devises were operational during the haul (Y/N)	1 digit character
Deterrent Device *	- Indication of whether deterrent devices were used (0 = pinger; 1 = tory lines; 2 = deflectors; 3 = others)	1 digit character
Number of Deterrent Devices *	- # of deterrent devices used	3 digit numeric
Deterrent Device 2	- Indication of whether deterrent devices were used (0 = pinger; 1 = tory lines; 2 = deflectors; 3 = others)	1 digit character
Number of Deterrent Devices 2	- # of deterrent devices 2 used	3 digit numeric
Deterrent Device 3	- Indication of whether deterrent devices were used (0 = pinger; 1 = tory lines; 2 = deflectors; 3 = others)	1 digit character
Number of Deterrent Devices 3	- # of deterrent devices 3 used	3 digit numeric
Sub-sample Log		
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Haul Number *	- Sequential number for unique locations where gear was hauled - Representing the number of hauls taken in a single trip by either a vessel or an individual	3 digit numeric
Sub-sample Amount or Weight *	- The total amount (in whole pounds, numbers, or other appropriate unit of measurement) of each marine species that is landed, sold, released, discarded, etc. - Quantity of protected species should be measured in numbers - This data element is linked to the units of measurement and disposition code for exact characterization of the quantity - For some species (especially protected species) these data are needed on a set basis	8 digit numeric, plus 2 digits
Units of Measurement for Subsample Weight *	- Units of measurement for sub-sample weight (e.g., each, pounds, numbers, etc.)	2 digit character
Species *	- Species for each individual/group of marine resource landed, sold, released, discarded, etc. - Each species is to be identified separately - Use of market or generalized categories is to be avoided within species code fields or variables	ITIS digit code
Disposition *	- Fate of the product (e.g., releases, discard, bait, industrial use, personal consumption, marine mammal interactions, etc.) - Disposition of releases and discards should be recorded (i.e., regulatory versus other releases and discards, dead or alive)	3 digit character
Grade *	- Any grade categories that affect price - Usually size related	2 digit numeric
Subsample Quantity *	- Amount (in whole pounds, numbers, or some other appropriate unit of measurement) of each marine species that is landed; sold; released; discarded, etc. - Quantity of protected species should be measured in numbers - This data element is linked to the units of measurement and disposition code for exact characterization of the quantity - For some species (especially protected species) these data are needed on a set basis	8 digit numeric plus two
Units of Measurement *	- Units of measurement for quantity (e.g., each, pounds, bushels, etc.)	2 digit character
Estimated or Actual *	- How was quantity collected (0 = actual; 1 = estimated)	1 digit character
Biological Sample Weight *	- Weight of sub-sample for biological sampling	8 digit numeric plus two decimals
Minimum Data Required for Observed Entanglements		
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Haul Number *	- Sequential number for unique locations where gear was hauled - Representing the number of hauls taken in a single trip by a vessel or individual	3 digit numeric
Time Observed *	- Date and time entanglement observed	MM/DD/YYY HH:MM:SS
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit numeric
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier; where applicable	1 digit numeric
Protected Species ID *	- A consecutive number given to each animal observed in one haul	2 digit numeric
Tag ID Number *	- Identification number on the tag attached to the incidental take	12 digit character
Active Deterrent Device Condition *	- Indication of whether the deterrent device(s) was operational (Y/N/U)	1 digit character
Animal Brought on Board *	- Indication of whether the animal was brought on board (Y/N/U)	1 digit character
Entanglement Situation Code *	- See Appendix C	2 digit character
Net Number (Gillnet Only) *	- Consecutive number assigned to that net where the animal is entangled	2 digit numeric
Number of Floats (Gillnet Only) *	- Number of floats counted from where the animal is entangled to the nearest endline	3 digit numeric
Meters Below Floatline *	- Indication of where in the gear the animal was captured	3 digit numeric
Taken on Set or Retrieval *	- Indication of when the animal was captured (0 = unknown; 1 = set; 2 = haul)	1 digit character
Condition of Animal *	- Indication of the condition of the animal when released (see Appendix C)	2 digit numeric
Comments	- Include information on where gear is on the animal and what part of the gear entangled the animal	50 digit character
Biological Information		
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Haul Number *	- Sequential number for unique locations where gear was hauled - Representing the number of hauls taken in a single trip by either a vessel or individual	3 digit numeric
Species *	- The species for each species of marine resources landed, sold, released, discarded, etc. - Each species is to be identified separately - Use of market or generalized categories is to be avoided within species code fields or variables	6 digit character

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Disposition *	- Fate of the product (e.g., releases, discards, bait, industrial use, personal consumption, marine mammal interactions, etc.) - Disposition of releases and discards should be recorded (i.e., regulatory versus other releases and discards, dead or alive)	3 digit character
Data for Marine Mammals		
Species *	- Species of each marine mammal observed	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier; where applicable	1 digit numeric
Tag Code(s) *	- Indication of whether the tag is pre-existing or newly applied (0 = unknown; 1 = taken without tag and then tagged; 2 = taken without tag and not tagged; 3 = taken with a tag and retagged; 4 = taken with a tag and not retagged)	1 digit character
Length *	- Straight measurement as per protocols	10 digit numeric
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Indicate whether length was measured or estimated (0 = actual; 1 = estimated)	1 digit character
Gender *	- Gender of the species (1 = male; 2 = female; 3 = unknown)	1 digit character
Biological Samples Taken	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Text Field	- Comments or uncoded data	Text
Tag Identification Number(s) *	- Tag number from pre-existing or newly applied tags	12 digit character
Data for Sea Turtles		
Species *	- Species of each sea turtle observed	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier; where applicable	1 digit character
Tag ID Number(s) *	- All letters and numbers on pre-existing or newly applied tags	12 digit character
Tag Code(s) *	- Indication of whether the tag is pre-existing or newly applied (0 = unknown; 1 = taken without tag and then tagged; 2 = taken without tag and not tagged; 3 = taken with a tag and retagged; 4 = taken with a tag and not re-tagged)	1 digit character
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Indicate whether length was measured or estimated (0 = actual; 1 = estimated)	1 digit numeric
Straight Carapace Length *	- Straight length of carapace from notch to notch (requires use of calipers)	5 digit numeric
Curved Carapace Length	- Curved length of carapace from notch to notch (requires use of flexible measuring tape)	5 digit numeric

Table 16:
DATA ELEMENTS FOR AT-SEA OBSERVER PROGRAMS FOR COMMERCIAL FISHERIES *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Straight Carapace Width *	- Straight width of carapace from notch to notch (requires use of calipers)	5 digit numeric
Curved Carapace Width	- Curved width of carapace from notch to notch (requires use of flexible measuring tape)	5 digit numeric
Width Type	- Indicate whether width was measured or estimated (0 = actual; 1 = estimated)	1 digit numeric
Were biological samples taken?	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit numeric
Text Field	- Comments or un-coded data	Text field
Data for Fish and Crustaceans		
Species *	- Species of fishes and crustaceans observed	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier if applicable	1 digit character
Length *	- Length measurement as per protocols	10 digit numeric
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Type of length measurement (centerline; standard; total, etc.)	2 digit character
Gender *	- Gender of the species (1 = male; 2 = female; 3 = unknown)	1 digit character
Were biological samples taken?	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Data for Birds		
Species *	- Species of observed birds	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier, if applicable	1 digit character
Tag Identification Number(s) *	- All letters and numbers on pre-existing or newly applied tags	12 digit character
Tag Code(s) *	- Indication of whether the tag is pre-existing or newly applied	1 digit character
Gender *	- Gender of the species (1 = male; 2 = female; 3 = unknown)	1 digit character
Age Class *	- Indication of age class (1 = immature; 2 = mature; 3 = unknown)	1 digit character
Were biological samples taken?	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Comments	- Comments or uncoded data	Text
Gear Log	See Appendix I for specific data elements to be collected on each gear type and linked back to the haul log	

2. For-hire Fisheries

Table 17:
DATA ELEMENTS FOR AT-SEA SAMPLING OF FOR-HIRE FISHERIES BYCATCH

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Vessel Information		
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Fishing Party Size *	- Number of fishermen in the party	3 digit numeric
Actual Number of Anglers Fishing *	- Number of anglers actually fishing on the vessel	3 digit numeric
Individual Identifier *	- Identifier unique to an individual (e.g., operator license number) traceable through time and space	11 digit character
Individual Operator	- Name of vessel owner/operator	30 digit character
Trip Information		
Form Type/Version Number *	- Version identification number for the reporting form	12 digit alphanumeric
Trip Start *	- Date the trip started (this is unique to each trip and can be used to tie multiple unloadings into a trip record) - This information should include trips with effort but no catch	MM/DD/YYYY
Trip Number *	- Sequential number representing the number of trips taken in a single day by either a vessel or individual - Trip number will default to “one” when only a single trip is conducted	2 digit character
Time Left Dock *	- Time the vessel left the dock	MO: DD: HH:MM
Time Returned to Dock *	- Time the vessel returned to the dock	MO: DD: HH:MM
Drop Information		
Trip Identifier *	- Trip start, vessel or individual identifier, and trip number (see vessel and trip information)	21 digit character
Drop Number *	- Sequential number for unique location - Gear taken in a single trip	3 digit character
Drop Observed *	- Indication of whether the drop was actually observed (0 = no; 1 = yes)	1 digit character
Latitude Begin *	- Latitude at the beginning of the drop	6 digit numeric plus 1 character (2 decimal minutes)
Longitude Begin *	- Longitude at the beginning of the drop	7 digit numeric plus 1 character (2 decimal minutes)

Table 17:
DATA ELEMENTS FOR AT-SEA SAMPLING OF FOR-HIRE FISHERIES BYCATCH
(continued)

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Latitude End *	- Latitude at the end of the drop	6 digit numeric plus 1 character (2 decimal minutes)
Longitude End *	- Longitude at the end of the drop	7 digit numeric plus 1 character (2 decimal minutes)
Fishing Method *	- Type of fishing method used (e.g., bottom, troll, surface, fly, drift, chumming, midwater, etc.)	3 digit character
Distance from Shore *	- Distance from shore where fishing occurred (inland, nearshore, EEZ, territorial seas)	1 digit character
Start Time *	- Time the captain indicates that fishing can begin - Used with time gear retrieved to derive fishing time	MO:DD:HH:MM
Stop Time *	- Time that the captain indicates to haul in fishing lines - Used with time set to derive fishing time	MO:DD:HH:MM
Depth Fished *	- Depth at which the gear is fished (fathoms) (1 = surface; 2 = mid-water; 3 = bottom)	1 digit character
Minimum Bottom Depth	- Minimum depth of bottom in fathoms	4 digit numeric plus 1 decimal point
Maximum Bottom Depth	- Maximum depth of bottom in fathoms	4 digit numeric plus 1 decimal point
Sub-sample Log		
Trip Identifier *	- Trip start, vessel or individual identifier, and trip number (see vessel and trip information)	21 digit character
Drop Number *	- Sequential number for unique location / gear taken in a single trip	3 digit character
Species *	- Species for each species of marine resources landed, sold, released, discarded, etc. - Each species is to be identified separately - Use of market or generalized categories is to be avoided within species code fields or variables	6 digit character
Disposition *	- Fate of the catch (e.g., releases, discards, bait, industrial use, personal consumption, protected species interactions, etc.) - Disposition of releases and discards should be recorded (i.e., regulatory versus other releases and discards, dead or alive)	3 digit character
Quantity Observed *	- Amount of each marine species recorded by a trained observer	4 digit numeric
Quantity Reported *	- Amount of each marine species reported by fishermen	4 digit numeric

Table 17:
DATA ELEMENTS FOR AT-SEA SAMPLING OF FOR-HIRE FISHERIES BYCATCH
(continued)

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Actual or Estimated *	- How was quantity collected (1 = actual; 2 = estimated)	1 digit character
Biological Data Information		
Trip Identifier *	- Trip start, vessel or individual identifier, and trip number (see vessel and trip information)	21 digit character
Drop Number *	- Sequential number for unique location - Gear taken in a single trip	3 digit character
Species *	- Species for each species of marine resources landed, sold, released, discarded, protected species, etc. - Each species is to be identified separately - Use of market or generalized categories is to be avoided within species code fields or variables	6 digit character
Minimum Data for Marine Mammals		
Species *	- Species of marine mammals observed	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) Photo should include the tag number and trip identifier; where applicable	1 character numeric
Tag ID Number(s) *	- All letters and numbers on pre-existing or newly applied tags	12 digit character
Tag Code(s) *	- Indication of whether the tag is pre-existing or newly applied (0 = unknown; 1 = taken without tag then tagged; 2 = taken without tag; and not tagged; 3 = taken with a tag and retagged; 4 = taken with a tag and not retagged)	1 digit character
Length *	- Straight measurement as per protocols	10 digit numeric
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Indicate whether length was measured or estimated (0 = actual; 1 = estimated)	1 digit character
Gender *	- Gender of the species (1 = male; 2 = female; 3 = unknown)	1 digit character
Were Biological Samples Taken? *	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Comments	- Comments or uncoded data	Text
Minimum Data for Sea Turtles		
Species *	- Species of sea turtles observed	6 digit character
Photo(s) *	- Were photos taken? (0 = no; 1 = yes) Photo should include the tag number and trip identifier; where applicable	1 digit character
Tag ID Number(s) *	- All letters and numbers on pre-existing or newly applied tags	12 digit character
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Indicate whether length was measured or estimated (0 = actual; 1 = estimated)	1 digit character

Table 17:
DATA ELEMENTS FOR AT-SEA SAMPLING OF FOR-HIRE FISHERIES BYCATCH
(continued)

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Width Type *	- Indicate whether width was measured or estimated (0 = actual; 1 = estimated)	1 digit character
Straight Carapace Length *	- Straight length of carapace from notch to notch (requires use of calipers)	5 digit numeric
Curved Carapace Length	- Curved length of carapace from notch to notch (requires use of flexible measuring tape)	5 digit numeric
Straight Carapace Width *	- Straight width of carapace from notch to notch (requires use of calipers)	5 digit numeric
Curved Carapace Width	- Curved width of carapace from notch to notch (requires use of flexible measuring tape)	5 digit numeric
Were Biological Samples Taken? *	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Comments	- Comments or uncoded data	Text
Minimum Data for Fish and Crustaceans		
Species *	- Species of fish/crustaceans observed	6 digit character
Trip Identifier *	- Trip start - Vessel or individual identifier and trip number (see vessel and trip information)	21 digit character
Photo *	- Were photos taken? (0 = no; 1 = yes) - Photo should include the tag number and trip identifier; where applicable	1 digit character
Length *	- Length measurement in millimeters as per protocols	10 digit numeric
Units of Measurement *	- Units of length (e.g., feet, meters, etc.)	2 digit character
Length Type *	- Type of length measurement (standard, total, etc.)	2 digit character
Gender *	- Gender of the species (1 = male; 2 = female; 3 = unknown)	1 digit character
Were Biological Samples Taken? *	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Minimum Data for Birds		
Trip Identifier *	- Trip start, vessel, or individual identifier and trip number (see vessel and trip information)	21 digit character
Species *	- Bird species observed	6 digit character
Photo *	- Were photos taken? (0 = no; 1 = yes) Photo should include the tag number and trip identifier; where applicable	1 digit character
Tag ID Number(s) *	- All letters and numbers on pre-existing or newly applied tags	12 digit character
Tag Code(s) *	- Indication of whether the tag is pre-existing or newly applied	1 digit character
Gender *	- Gender of the species (1= male; 2 = female; 3 = unknown)	1 digit character
Age Class *	- Indication of age class (1 = immature; 2 = mature; 3 = unknown)	1 digit character
Were Biological Samples Taken? *	- Indication of whether biological samples were taken (0=no; 1=yes)	1 digit character
Comments	- Comments or uncoded data	Text

3. Strandings and Entanglement Networks

Stranding and entanglement data collection programs should collect all minimum data elements (Tables 29 and 30) including formats, descriptions, and forms.

Table 18:
DATA ELEMENTS FOR MARINE MAMMAL STRANDINGS

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Field Number *	- Assigned by responding organization - Used to identify individual stranded animals	Character
NOAA Fisheries Service Registration Number *	- Assigned by NOAA Fisheries Service - Used to identify individual stranded animals	Character
National Database Number *	- Assigned by NOAA Fisheries Service - Used to identify individual stranded animals	Character
Common Name *	- Common name of the marine mammal observed	25 digit character
Species *	- Species of the marine mammal observed	ITIS digit character
Examiner Name *	- Initials of the person who handled the marine mammal in the field	3 digit character
Examiner Affiliation *	- Agency/group observer is associated with	50 digit character
Examiner Address	- Address where observer can be reached	50 digit character
Examiner Phone Number *	- Phone number, including area code, where observer can be reached	10 digit numeric
Sighting Only *	- 0 = no; 1 = yes (note if a sighting only)	1 digit character
Location Found *	- 1 = beach; 2 = floating; 3 = swimming; 4 = other	1 digit character
State *	- State in which the marine mammal was observed	2 digit character FIPS (postal code)
County *	- County in which the marine mammal was observed	3 digit character
City *	- City in which the marine mammal was observed	10 digit character
Locality Details *	- Details on the specific locality where the marine mammal was observed	50 digit character
Latitude *	- Specific latitude of the marine mammal observation	6 digit numeric, 2 decimal minutes
Longitude *	- Specific longitude of the marine mammal observation	7 digit numeric, 2 decimal minutes
Location Estimated *	- Indicate whether the latitude and longitude are actual or estimated (1 = actual; 2 = estimated)	1 digit numeric

Table 18:
DATA ELEMENTS FOR MARINE MAMMAL STRANDINGS *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Mass Stranding *	- Indication of whether the observation was a mass stranding of marine mammals (0 = no; 1 = yes)	1 digit numeric
Number of Animals	- Number of animals involved in the stranding event	3 digit numeric
Human Interaction *	- Indication of whether a human interaction are present on animal (0 = no; 1 = yes; 2 = cannot be determined)	1 digit numeric
Type of Human Interaction	- Type of human interaction; if applicable (1 = boat collision; 2 = shot; 3 = fishery interaction; 4 = other)	1 digit numeric
Determination of Human Interaction	- = external exam; 2 = internal exam; 3 = necropsy; 4 = not examined	3 digit character
Other Findings *	- 0 = no; 1 = yes; 2 = cannot be determined	1 digit character
Description of Other Findings	- Circumstances surrounding the stranding other than; or in addition to; findings of human interaction	50 digit character
Date of Initial Observation *	- Initial observation date of the marine mammal	MM:DD:YYYY
Condition at Initial Observation *	- Indication of the general condition of the marine mammal at the initial observation (1 = alive; 2 = fresh dead; 3 = moderately decomposed; 4 = advanced decomposition; 5 = mummified/skeletal; 6 = unknown)	1 digit numeric
Date of Examination *	- Date of examination of the marine mammal	MM:DD:YYYY
Condition at Examination *	- Indication of the general condition of the marine mammal at the time of examination (1 = alive; 2 = fresh dead; 3 = moderately decomposed; 4 = advanced decomposition; 5 = mummified/skeletal; 6 = unknown; 9 = dead)	1 digit numeric
Initial Live Animal Disposition *	- Final disposition of the marine mammal (1 = left at site; 2 = immediate release at site; 3 = relocated; 4 = disentangled; 5 = died at site; 6 = euthanized at site; 7 = transferred to rehabilitation; 8 = died during transport; 9 = euthanized during transport; 10 = other)	1 digit numeric
Transport *	- Information on where the marine mammal was transported	25 digit character
Tag(s) Applied *	- Were tags applied/attached to marine mammal; for identification (0 = no; 1 = yes)	1 digit character
Tag(s) Present *	- Were tags present on the marine mammal upon initial identification (0 = no; 1 = yes)	1 digit character
Tag Number(s) and Description *	- List tag number(s); description of tag type(s); and tag location(s)	50 digit character
Tag Placement	- Location where tag was placed (1 = front; 2 = rear)	1 digit numeric
Carcass Status *	- Status of the carcass (1 = left at site; 2 = buried; 3 = rendered; 4 = towed; 5 = sunk; 6 = frozen for later examination; 7 = landfill; 8 = unknown; 9 = other)	1 digit numeric
Specimen Disposition *	- Disposition of the specimen (1 = scientific collection; 2 = educational collection; 3 = other)	1 digit numeric
Necropsy *	- Indication of whether the marine mammal was necropsied (0 = no; 1 = yes/limited; 2 = yes/complete)	1 digit numeric
Necropsy Carcass	- State of the carcass for necropsy (1 = fresh; 2 = frozen/thawed)	1 digit numeric
Sex *	- Sex of the marine mammal (1 = male; 2 = female; 9 = unknown)	1 digit numeric

Table 18:
DATA ELEMENTS FOR MARINE MAMMAL STRANDINGS *(continued)*

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Age Class *	- Age class of the marine mammal (1 = adult; 2 = subadult; yearling; 4 = pup/calf; 5 = unknown)	1 digit numeric
Carcass State	- Indicate state of carcass at necropsy (1 = whole; 2 = partial)	1 digit numeric
Length *	- Straight length of the marine mammal; per standard protocols	10 digit numeric
Reliability of Length *	- Indication of whether length was measured or estimated (ME = measured; ES = estimate)	2 digit character
Units of Length Measurement *	- Units of length measurement (CM = centimeters; IN = inches)	2 digit character
Weight *	- Weight of marine mammal	10 digit numeric
Reliability of Weight *	- Indication of whether weight was measured or estimated (ME = measured; ES = estimate)	2 digit character
Units of Weight Measurement *	- Units of weight measurement (KG = kilograms; LB = pounds)	2 digit character
Remarks	- General remarks	50 digit character
Tissue/Skeletal Material Taken	- Indication of whether biological samples were taken (0 = no; 1 = yes)	1 digit character
Disposition of Tissue/Skeletal Material	- List of any samples collected and their disposition	50 digit character

Table 19:
DATA ELEMENTS FOR SEA TURTLE STRANDINGS

** required fields are noted with asterisk*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Observer Name *	- Initials of the person who handled the turtle in the field	3 digit character
Stranding Date *	- Date the turtle was first reported or encountered	MM:DD:YYYY
Observer Address/Affiliation *	- Address where observer can be reached	50 digit character
Observer Phone Number *	- Phone number; including area code; where observer can be reached	10 digit numeric
Species *	- Species of sea turtle observed (ITIS Unknown Turtle Species code preferred if applicable)	6 digit character
Turtle Number By Day *	- Sequential number indicating the number of turtles observed during each day This data element will default to one when only one turtle was observed	2 digit numeric
Sex *	- Sex of the sea turtle (1 = male; 2 = female; 9 = undetermined)	1 digit character
Tail Extended *	- Indicates if the tail extends beyone the carapace (0 = no; 1 = yes)	1 digit character
Tail Length	- Length of tail beyond carapace in cm	3 digit character
Sex Determined *	- Indication of how sex was determined (1 = necropsy; 2 = tail length beyond carapace in adults)	1 digit numeric
State *	- State in which the sea turtle was stranded	2 digit character postal alpha abbreviation
County *	- County in which the sea turtle was stranded	3 digit character FIPS code
Latitude *	- Specific latitude of the stranding If latitude cannot be provided specific reference information should be provided on the stranding location in the Notes field	6 digit numeric, 2 decimal minutes
Longitude *	- Specific longitude of the stranding If longitude cannot be provided specific reference information should be provided on the stranding location in the Notes field	7 digit numeric, 2 decimal minutes
Condition *	- Indication of the general condition of the turtle (0 = alive; 1 = fresh dead; 2 = moderately decomposed; 3 = severely decomposed; 4 = dried carcass; 5 = skeletons/bones only)	1 digit numeric
Final Disposition *	- Final disposition in which the observer left the turtle (1 = painted; left on beach; 2 = buried; on beach/off beach; 3 = salvaged specimen; all/part; 4 = pulled up on beach or dune; 5 = unpainted; left on beach; 6 = released alive; 7 = taken alive to holding facility; 8 = left floating; not recovered; painted; 9 = unknown)	1 digit numeric

Table 19:
DATA ELEMENTS FOR SEA TURTLE STRANDINGS *(continued)*

** required fields are noted with asterisk*

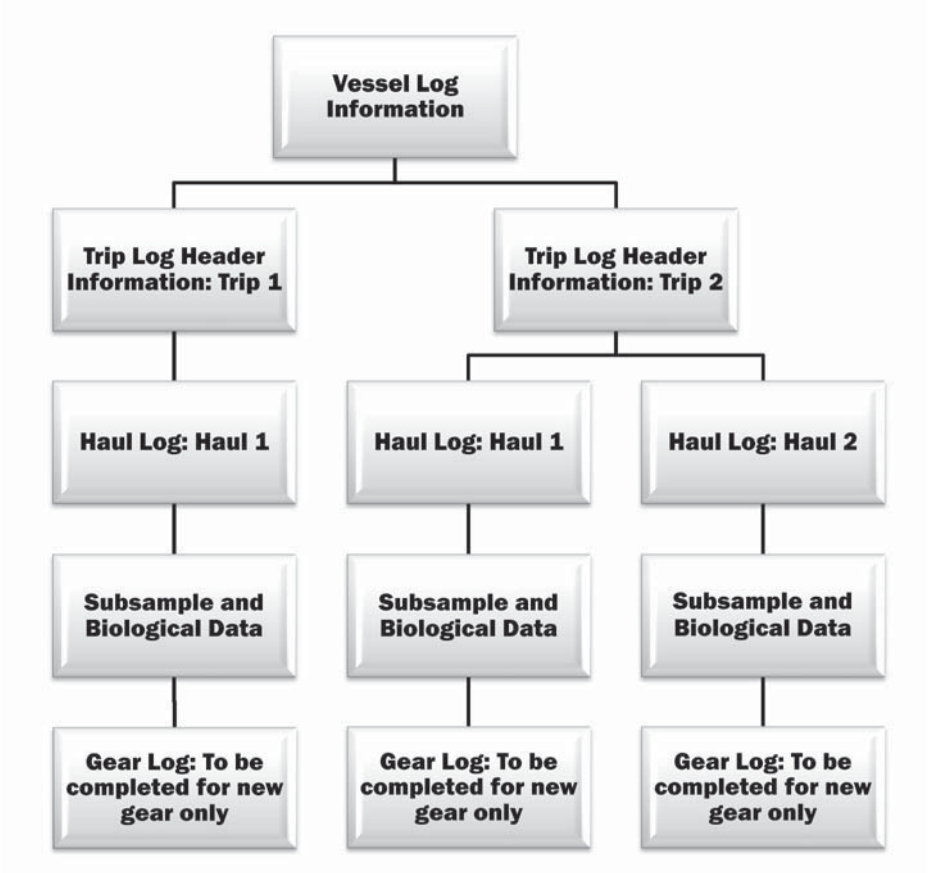
DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Paint Color	- Indicates the color of the paint	12 digit character
Tag Numbers *	- List of tag numbers and indication of location of tag	12 digit character
Carapace Length *	- Length of the carapace over curve	5 digit numeric
Length Type *	- Straight length - SCL Curve length - CLL	3 digit character
Units of Measurement (Carapace Length and Width) *	- Units of length measurement (CM = centimeters; IN = inches)	2 digit character
Carapace Width *	- Width of the carapace over curve (curved length)	5 digit numeric
Width Method *	- Straight width - SCW Curve width - CLW	3 digit character
Weight *	- Weight of turtle	5 digit numeric
Units of Measurement (Weight) *	- Units of weight measurement (KG = kilograms; LB = pounds)	2 digit character
Notes *	- General remarks of the observer (e.g., whether turtle was involved with tar or oil, gear or debris entanglement, wounds or mutilations, propeller damage, papillomas, epizoa, etc.)	

D. DATA SUBMISSION

As stranding and entanglement network forms are modified, the Bycatch Prioritization Committee should review them for inclusion in Atlantic Coast Fisheries Data Collection Standards. See Appendices J and K respectively for current marine mammal and sea turtle forms.

NOAA Fisheries Service - National Observer Program and cooperating state programs should incorporate all of the minimum data elements of the ACCSP into their bycatch reporting forms.

Figure 17:
FLOW OF DATA COLLECTION FORMS FOR AT-SEA BYCATCH SAMPLING PROGRAMS



Preliminary data for each trip should be made available for data entry 1-7 days after the trip return date. Final data should be provided 90 days after the last day of the month for which data were collected. However, the ACCSP recognizes that certain circumstances may require greater timeliness.

Bycatch data from commercial fisheries should be linked to data collected through the commercial fishermen reporting system by the unique identifier.

Given that longitude and latitude are collected at the haul level, it is not possible to provide this information at the trip level. Therefore, the observer should determine primary area fished after the completion of the trip.

E. VALIDATION

The ACCSP has established limited validation procedures for quantitative bycatch data. The standard for headboats is the direct contact of supervisors and vessel operators to validate bycatch data. Likewise, supervisors should validate intercept bycatch data through routine callbacks of respondents.

Qualitative bycatch data (i.e., call-in reporting and anecdotal information) for commercial fisheries should be verified through port interviewing programs, catch and effort logbook reports, US Coast Guard boarding records, and at-sea sampling programs.

F. QUALITY ASSUARANCE AND QUALITY CONTROL

Partners should evaluate the quality of the data of their voluntary, mandatory, and at-sea sampling programs at least annually. See Appendix E for details on commercial fisheries quality control and assurance. See Appendix F for details on recreational fisheries quality control and assurance. Partners should conduct approved training programs for all new at-sea samplers and provide certification.

G. SUBSAMPLING

Fisheries specific subsampling procedures should be developed and documented by each collecting partner. Subsampling priorities are:

1. Collect complete data on every haul
2. Collect partial data on every haul
3. Collect partial data as often as possible

Basic data elements to be collected on all non-sampled hauls include vessel/trip header information, haul number, time set, time retrieved, estimated kept catch, and beginning and end and latitude and longitudinal coordinates.

H. TARGET MONITORING

The ACCSP standards for commercial fisheries observer coverage is 5% of total trips (or achieving a 20 to 30% PSE) for high priority fisheries. The standard is 2% of total trips for all other fisheries. These target sampling levels should be evaluated biennially for each fishery to determine where the variance stabilizes.

The ACCSP will utilize a target tracking system to track the number of observed trips so that observer effort may be reallocated as targets are met. Partners should upload minimum data elements to the tracking system before the tenth of the month following data collection. The submission timeline will allow two effort reallocations per calendar quarter. Partners are encouraged to monitor the tracking system as required to complete targets.

I. PROGRAM RESEARCH AND IMPROVEMENT

Partners should evaluate the quality of the data and voluntary and mandatory data collection programs routinely (Table 20). Pilot surveys should be conducted for each fishery to determine the appropriate level of observer coverage required to meet relevant management objectives for commercial fisheries. Recreational and for-hire bycatch sampling and associated priorities and validation methods should be evaluated. Partners should develop outreach and training programs to improve reporting accuracy by fishermen when needed.

Table 20:
ACCSP BYCATCH PRIORITIZATION PROCESS FOR IDENTIFYING COMMERCIAL, RECREATIONAL, AND FOR-HIRE FISHERIES RESOLUTION

ACTIVITY	SPECIFIC TASK
Characterize Atlantic Coast Fisheries	- Compile information on commercial, recreational, and for-hire fisheries (including release/discard activities) - Biennially update information
Biennial Review Documentation	*Fisheries characterization information*: - Qualitative and quantitative data obtained through at-sea sampling - Strandings; entanglements; fishermen reporting; and port interviewing programs - Target sampling levels for biological sampling based on recommendations from the Biological Review Panel
Identify Problem Areas and Make Recommendations	*Based on biennial data review recommendations and modifications will be developed which may include:* - Increase sampling levels - Collection of more detailed gear configuration information - Collection of data at a more detailed level of resolution (set/tow) - Collection of intensive biological samples
Implementation	- Implement recommended modifications to existing at-sea sampling programs and other quantitative release/discard monitoring programs

SOCIOLOGICAL AND ECONOMIC DATA

The ACCSP should continue establishing standards for collecting sociological and economic data in all fishing sectors. These data are routinely collected in recreational and for-hire fisheries through MRIP and the For-hire Survey. All data should be kept confidential in keeping with confidentiality protocols. The ACCSP should strive to collect these datasets and work with the partners as they work towards implementation of data collection. With the very sensitive and personal nature of socio-economic data it should be noted that ACCSP ensure the highest level of confidentiality now and in the future of collecting and transferring datasets.

A. COMMERCIAL FISHERIES

The ACCSP has tested its sociological and economic data collection standards for commercial harvesters. Standards for these kinds of data for dealers and fishing communities are still in development with the Committee on Economics and Social Sciences (CESS).

1. Standards

The ACCSP collects baseline social and economic data on commercial harvesters using the following voluntary surveys:

1. Annual fixed cost[1] survey directed at the owner/operator
2. Trip cost survey to evaluate variable costs associated with a particular vessel's most recent commercial fishing trip to be directed at the vessel captain
3. Annual owner/captain/crew/survey to gather sociological information

Surveys may also be conducted using permit and registration data and vessel trip reports or sampling frames. It should be noted that the terms "permits" and "licenses" vary between being attached to the individual and/or the vessel depending on the federal or state partner issuing the permit or license.

2. Data Elements

The ACCSP has established data elements (Tables 21-23) for surveys of commercial harvesters.

[1] Fixed costs are those expenses that remain constant throughout the year.

Table 21:
DATA ELEMENTS FOR THE ANNUAL FIXED COST SURVEY

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Fixed Costs		
Vessel Identification	- Unique vessel identifier (e.g., US Coast Guard, state registration number, etc.) - These identifiers must be trackable through time and space.	11 character
Annual Insurance Costs	- Hull, health, protection and indemnity, mortgage, etc.	6 digit numeric plus 2 decimal places
Annual Haulout/Overhaul	- Total cost for haulout/overhaul for the vessel	6 digit numeric plus 2 decimal places
Dockage	- Total cost for vessel dockage, home port and transient dockage	6 digit numeric plus 2 decimal places
Professional Fees	- Accounting, legal, bookkeeping, tax filing, etc.	6 digit numeric plus 2 decimal places
Loan Payments	- Principal and interest	6 digit numeric plus 2 decimal places
New Gear Acquired List, Cost	- Total cost of new gear acquired (total cost of replacement gear and total cost of additional gear)	6 digit numeric plus 2 decimal places
Repairs	- Total cost of repairs that were conducted in the previous year	6 digit numeric plus 2 decimal places
Maintenance	- Total cost of maintenance that was conducted in the previous year	6 digit numeric plus 2 decimal places
Crew Salary	- Total crew cost for those crew not paid on a trip basis	6 digit numeric plus 2 decimal places
Crew Benefits	- Total cost for crew benefits	6 digit numeric plus 2 decimal places
Taxes	- Income, property, etc.	6 digit numeric plus 2 decimal places
Vessel Improvement Cost	- Total cost of vessel	6 digit numeric plus 2 decimal places
Vessel Permit Fees	- Total cost of all permits held by the vessel	6 digit numeric plus 2 decimal places
Auto/Trailer	- Total payments on autos and trailers used by the vessel	6 digit numeric plus 2 decimal places
Office	- Total cost of office space used by the vessel crew and support staff	6 digit numeric plus 2 decimal places
Association(s) Fees	- Total fees and dues paid to commercial fishing associations	6 digit numeric plus 2 decimal places
Onshore Permits/Export/ Import /License/etc. Fees	- Total fees import/export permits/licenses	6 digit numeric plus 2 decimal places
Cold Storage Rental	- Total cost for cold storage rental	6 digit numeric plus 2 decimal places
Onshore (non-owned) Processing/Holding Costs, Leases	- Total cost for leases of rental of onshore processing /holding facilities	6 digit numeric plus 2 decimal places
Advertising	- Total cost for advertising of for-hire vessels and supporting activities	6 digit numeric plus 2 decimal places

Table 21:
DATA ELEMENTS FOR THE ANNUAL FIXED COST SURVEY *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Lease or Mortgage of Onshore Facilities	- Total cost for lease or mortgage payments for onshore facilities	6 digit numeric plus 2 decimal places
Onshore Employee Salaries and Benefits	- Total cost for onshore employees salaries and benefits	6 digit numeric plus 2 decimal places
Sources of Financing	-List the sources of financing for the vessel and onshore facilities	25 characters
Additional Annual Information		
Value of Catch in Storage	- Total value of catch that is in storage	6 digit numeric plus 2 decimal places
Ownership Type	- Sole proprietor, partnership, owner-operator, etc.	20 characters
Relationship to Partner(s)	- Household member, relative, friend, neighbor, etc.	20 characters
Engine Brand(s) (Propulsion Equipment)	- Engine manufacturer	20 characters
Engine Age(s)	- Age of engine in years	4 digit numeric
Engine Fuel Types(s)	- Type of fuel used to run engine	15 characters
Harvest Gear	- # and description of gear that are used in the harvest of marine resources from the vessel	3 digit numeric code
Deck Gear	- # and description of gear that is permanently affixed to the vessel	3 digit numeric code
Wheelhouse Electronics	- # and description of all electronics that are located in the wheelhouse of the vessel	25 digit alpha numeric
Gear-mounted Electronics	- # and description of all electronics that are mounted to the harvest gear	25 digit alpha numeric
On-board Processing/Refrigeration	- Equipment list, descriptions, and capacities of all equipment on board that are used for processing/refrigeration	25 digit alpha numeric
Vessel Purchase Year	- Purchase or acquisition year	4 digit numeric
Vessel Price	- Price of vessel at time of purchase or acquisition	8 digit numeric plus 2 decimal places
Estimated Market Value of Vessel	- Estimated market value of the vessel excluding all harvest gear	8 digit numeric plus 2 decimal places
Estimated Market Value of Gear	- Estimated market value of all harvest gear that is used by the vessel	6 digit numeric plus 2 decimal places
Onshore Facilities (List, Descriptors, Capacities)	- List the onshore facilities that are leased/rented/owned by the vessel	25 alpha numeric
Number of Other Vessels that also Use the Same Onshore Facilities	- Other vessels that use the same onshore facilities	3 digit numeric

Table 22:
SOCIAL AND ECONOMIC DATA TO BE COLLECTED THROUGH MONTHLY TRIP REPORTS

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Variable Costs (trip costs)		
Vessel Identification	- Unique vessel identifier (e.g., US Coast Guard, state registration number, etc.) - These identifiers must be trackable through time and space.	11 character
Trip Identification	- Trip identification that is derived from the vessel/dealer trip report including trip location (including NOAA Fisheries Service code) where applicable	Reference trip identification description
Replacement or Repair Cost of Gear and Equipment Lost or Damaged	- Total replacement or repair cost of equipment lost or damaged on this trip	6 digits numerical plus 2 decimal places
Cost of Leased Quota	- Applicable under fisheries with individual quotas	4 digit numeric
Revenue of Leased Quota	- Applicable under fisheries with individual quotas	4 digit numeric
Fuel Used on the Trip (Quantity)	- Gallons of fuel used on this trip	4 digit numeric
Fuel Used on this Trip (Cost)	- Cost for all fuel on this trip	5 digit numeric plus 2 decimal places
Oil Used on this Trip (Quantity)	- Gallons of oil used on this trip	3 digit numeric plus 2 decimal places
Bait	- Description, quantity, and cost of all bait used on this trip	To be developed
Ice Used on this Trip (Quantity)	- Tons of ice used on this trip	3 digits numeric
Ice Used on this Trip (Cost)	- Cost for all ice used on this trip	5 digit numeric plus 2 decimal places
Water Used on this Trip (Quantity)	- Gallons of water used on this trip	4 digits numeric
Water Used on this Trip (Cost)	- Cost for all water used on this trip	5 digit numeric plus 2 decimal places
Total Food Cost	- Total food cost for this trip	5 digit numeric plus 2 decimal places
Trip Grading/Handling/ Unloading	- Total cost of grading/handling/ unloading of catch for this trip	5 digit numeric plus 2 decimal places
On-board Processing Costs	- Total cost for on-board processing of catch for this trip	5 digit numeric plus 2 decimal places

Table 22:
SOCIAL AND ECONOMIC DATA TO BE COLLECTED THROUGH MONTHLY TRIP REPORTS *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Trip Grading/Handling/ Unloading	- Total cost of grading/handling/ unloading of catch for this trip	5 digit numeric plus 2 decimal places
On-board Processing Costs	- Total cost for on-board processing of catch for this trip	5 digit numeric plus 2 decimal places
Local Transport Costs	- Total cost of local transporting of catch for this trip	5 digit numeric plus 2 decimal places
Supplies	- Total cost of additional supplies not itemized above	5 digit numeric plus 2 decimal places
Labor Costs		
Crew Share Formula	- Description of the formula that is used to determine crew share for this trip	25 alpha numeric
Total Crew Cost	- Total monetary amount that was given to the crew for this trip	6 digit numeric plus 2 decimal places
Total Captain Cost	- Total monetary amount that was given to the crew for this trip	5 digit numeric plus 2 decimal places
Non-monetary Compensation Estimated Value	- Estimated value of all non-monetary compensation that was given to the crew for this trip	5 digit numeric plus 2 decimal places
Non-monetary Compensation Distribution Formula	- Estimated value of all non-monetary compensation that was given to the captain for this trip	5 digit numeric plus 2 decimal places
Captain and Crew Bonuses	- Total of bonuses that was given to the captain and crew for this trip	5 digit numeric plus 2 decimal places

Table 23:
SOCIO-DEMOGRAPHIC DATA ELEMENTS TO BE COLLECTED ON COMMERCIAL HARVESTERS THROUGH THE OWNER/CAPTAIN/CREW SURVEY

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Vessel Identification	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 characters
Trip Identification	- Trip identification that is derived from the vessel/dealer trip report	Reference trip identification description
Classify Yourself	- Owner, captain, crew, or other	15 characters
Household Composition	- # and relationship of individuals in the household	To be developed
Employment Status of Adults	- Current employment status (e.g., employed full-time, part-time, unemployed, retired, etc.)	20 characters
Education	- Highest level of education completed	2 digits
Marital/Cohabitational Status	- Current marital or cohabitational status of respondent	2 digits
Age	- Age of the respondent	3 digits numeric
Gender	- Gender of the respondent	1 character
Ethnicity	- Ethnic background	15 characters
Primary Language Spoken in the Household	- Primary language spoken by household members	15 characters
English-language Skills	- English language proficiency	2 characters
Religious Affiliation	- Religion of respondent	15 characters
General Health	- Current health status	2 characters
Percent of Annual Household Income from Commercial Fishing	- Net and gross percent of household income that is generated through commercial fishing or support activities	3 digits numeric
Alternative Occupational Opportunities that are Available to You	- How many years of experience for each additional opportunity	25 characters
Total Annual Income from Commercial Fishing	- Total household income that is generated through commercial fishing	6 digits numeric plus 2 decimal places
Primary Source of Income for the Previous Spring	- List the activity that generated the majority of your income during the previous Spring	25 characters
Primary Source of Income for the Previous Summer	- List the activity that generated the majority of your income during the previous Summer	25 characters
Primary Source of Income for the Previous Fall	- List the activity that generated the majority of your income during the previous Fall	25 characters
Primary Source of Income for the Previous Winter	- List the activity that generated the majority of your income during the previous Winter	25 characters
Memberships of Fisheries Issues-related Organizations	- Names of fishery organizations of which respondent is a member	25 characters

3. Data Submission
Survey instruments for commercial harvesters are available in development (see Appendix L for more information on the current status of data collection instruments). Socioeconomic data collected by partners should be fed to the Data Warehouse and linked to associated trip data collected through other modules.

4. Validation
Validation methods for socioeconomic data collection are still in development.

5. Quality Assurance and Quality Control
Quality control and assurance practices for socioeconomic data should be consistent with the protocols established in Appendices E and F.

6. Program Research and Improvement
The ACCSP has funded pilot studies to test its standards. As funds become available to continue sociological and economic research for commercial harvesters, pilot studies should continue. Data collection standards for dealers and fishing communities should also be developed. CESS is developing a survey of ASMFC Commissioners to identify state socioeconomic needs. CESS will be working to revise and simplify the standards based on current demands for social science data (Appendix L).

B. RECREATIONAL AND FOR-HIRE FISHERIES

The sociological and economic data for recreational and for-hire fisheries should come from periodic add-ons to existing telephone and intercept surveys.

1. Standards

ACCSP has established standards for sociological and economic data collection in recreational and for-hire finfish fisheries. The standard is voluntary surveys of finfish fisheries conducted at least every three years.

2. Data Elements

All data elements (Table 25) should be included in MRIP and For-hire Survey add-ons.

Table 24:
OVERVIEW OF THE ACCSP CATEGORIES FOR SOCIAL AND ECONOMIC DATA FOR RECREATIONAL AND FOR-HIRE FISHERIES

SURVEY INSTRUMENT	DESCRIPTION / CRITERIA
Finfish Recreational Survey	- Addition of social and economic data elements for marine recreational and subsistence anglers to the existing standard telephone and intercept surveys - Data elements should be added every three years, with more extensive elements added every six years
Non-Consumptive Survey	- Survey to collect social and economic data on non-consumptive marine resource users - Survey to be conducted every three years, with additional data elements added every other third year not to coincide with the finfish recreational survey
For-Hire Social/Economic Survey	- Survey to collect social and economic data on the for-hire fisheries - Methodology to be developed after the for-hire evaluation
Special Studies	- Requests for special studies to collect more in-depth social and economic data should be referred to CESS for review and assistance in developing appropriate survey vehicles to conduct these special studies
Shellfish/Crustacean Social/Economic Survey	- Survey to collect social and economic data on shellfish and crustacean fisheries - Survey methodology to be developed after evaluation of methods

Table 25:
SOCIAL AND ECONOMIC DATA ELEMENTS TO BE COLLECTED THROUGH RECREATIONAL AND FOR-HIRE FINFISH SURVEYS

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Data elements to be added every three years (Year 3, 6, 9, etc.)		
Trip-related Expenditures	- Lodging, food, transportation, fees, equipment rental, private/rental boat operating expenses, bait	4 digit numeric plus 2 decimal places
Other Purchases Primarily for Marine Recreational and For-hire Fishing	- Fishing tackle, boats, other fishing related equipment, other items	6 digit numeric plus 2 decimal places
Origin of Purchases	- Location where purchases were made, by expenditure category	3 digit numeric (if county)
Hourly Wage/Income	- Hourly wage if known (if not, annual gross income)	wage- 3 digit numeric plus 2 decimal places income- 6 digit numeric plus 2 decimal places
Employment Status	- Current employment status (e.g., employed full-time, part-time, unemployed, retired, etc.)	1 digit numeric
Age	- Age of respondent	2 digit numeric
Boat Ownership	- Ascertain boat ownership and primary use (e.g., fishing)	1 digit numeric
Primary Trip Purpose	- Primary purpose of trip (e.g., fishing, vacation, business trip, etc.)	1 digit numeric
Additional data elements (to be added every other third year: year 6, 12, etc.)		
Education	- Highest level of formal education that was completed	2 digit numeric
Ethnicity	- Ethnic background	1 digit numeric
Gender	- Gender of the respondent	1 digit numeric
Occupation	- Job description	3 digit numeric
Household Composition	- Number and relationship of individuals in the household	2 digit numeric
Motivations for Fishing	- Reasons for salt water fishing	2 digit numeric
Substitute Activities	- Alternative use of time	2 digit numeric
Attitudes Toward Management	- Attitudes about management regulations	2 digit numeric
Attitudes Toward and Knowledge of Marine Contamination	- Attitudes toward and knowledge of contaminated fishing sites	2 digit numeric
Self-Definition as Subsistence/Recreational/ For-hire	- Whether anglers see themselves as recreational, for-hire, subsistence, or a mixture	1 digit numeric

Table 25:
SOCIAL AND ECONOMIC DATA ELEMENTS TO BE COLLECTED THROUGH RECREATIONAL AND FOR-HIRE FINFISH SURVEYS *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Involvement in Commercial Fishing	- Extent, if any, of angler household involvement in commercial fishing	3 digit numeric
Other Recreational/For-hire/Subsistence Activities Involving Collection of Natural Resources	- Types and use of non-finfish marine organisms (e.g., shellfish, crustaceans, kelp) and other natural resources (e.g., berries, fruit, other wild plants, wood for fuel)	type - 2 digit numeric use - 2 digit numeric
Catch Distribution Networks	- Categories of people with whom the above are shared (e.g., household, other family, neighbors, local charities)	2 digit numeric
Satisfaction Level	- Give your overall satisfaction level with this fishing trip	2 digit numeric
Motivations for Viewing	- Reasons for viewing	2 digit numeric
Attitudes Toward Management	- Attitudes about management regulations	2 digit numeric
Attitudes Toward and Knowledge of Marine Contamination	- Attitudes toward and knowledge of contaminated viewing sites	2 digit numeric

Table 26:
SOCIAL AND ECONOMIC DATA TO BE COLLECTED ON NON-CONSUMPTIVE USE

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Data Elements (to be added every three years: year 3, 6, 9, etc.)		
Trip-related Expenditures	- Lodging, food, transportation, fees, equipment rental, private/rental boat operating expenses	4 digit numeric plus 2 decimal places
Other Purchases Primarily for Non-consumptive Activity	- List the additional expenses that are directly related to non-consumptive activities	6 digit numeric plus 2 decimal places
Origin of Purchases	- Location where purchases were made, by expenditure category	3 digit numeric (if county)
Hourly Wage/Income	- Hourly wage if known - if not, annual gross income	wage- 3 digit numeric plus 2 decimal places income- 6 digit numeric plus 2 decimal places
Employment Status	- Current employment status (e.g., employed full-time, part-time, unemployed, retired, etc.)	1 digit numeric
Age	- Age of respondent	2 digit numeric
Boat Ownership	- Ascertain boat ownership and primary use (e.g., sightseeing, diving, fishing, etc.)	1 digit numeric
Primary Trip Purpose	- Primary purpose of trip (e.g., viewing species, vacation, business trip, etc.)	1 digit numeric
Trip Length	- Length of trip (i.e., day trip or overnight trip) and number of days fished on trip	2 digit numeric
Date	- Date of trip	6 digit numeric
Viewing Site	- State/county/zip and latitude/longitude of viewing site or boat return site	state - 2 digit numeric city – 3 digit numeric zip – 5 digit numeric latitude – 3 digit numeric longitude – 3 digit numeric
Target Species Sought or Species Groups	- Species that the trip was targeted to view	ITIS 11 character code
Viewing Mode	- Viewing access mode	1 digit numeric

Table 26:
SOCIAL AND ECONOMIC DATA TO BE COLLECTED ON NON-CONSUMPTIVE USE *(continued)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Residence	- State/county/zip of permanent residence of marine ecotourist in all modes	state- 2 digit numeric city – 3 digit numeric zip – 5 digit numeric
Additional Data Elements (to be added every other third year: year 6, 12, etc.)		
Number or Trips	- # of trips by mode/state during specified time frame	3 digit numeric
Trip Duration	- Time the trip took, from shore to shore (boat) or time spent viewing	hours- 2 digit numeric minutes- 2 digit numeric
Education	- Highest level of formal education that was completed	2 digit numeric
Ethnicity	- Ethnic background	1 digit numeric
Gender	- Gender of the respondent	1 digit numeric
Occupation	- Job description	3 digit numeric
Household Composition	- # and relationship of individuals in the household	number- 2 digit numeric relationship - 2 digit numeric
Satisfaction Level	- Level of satisfaction with trip	2 digit numeric
Motivations for Viewing	- Reasons for viewing	2 digit numeric
Attitudes Toward Management	- Attitudes about management regulations	2 digit numeric
Attitudes Toward and Knowledge of Marine Contamination	- Attitudes toward and knowledge of contaminated viewing sites	2 digit numeric

3. Data Submission

Interviewers for the MRIP and For-hire Survey sociological and economic add-ons should use standard questionnaires. Telephone interviewers should use CATI and record responses electronically. Data collected according to ACCSP standards should be fed to the Data Warehouse annually.

4. Validation

As part of MRIP and For-hire Survey validation protocols, supervisors should call back a percentage of respondents to verify answers given on surveys.

5. Quality Assurance and Quality Control

The MRIP and For-hire Survey have protocols to ensure quality in catch and effort data that should be incorporated into sociological and economic data collection. Interviewers should be trained in how to conduct

interviews on sensitive sociological and economic data, and automated checks on survey data should be used to detect illogical responses.

6. Program Research and Improvement

The ACCSP should continually monitor its survey standards and make adjustments as needed. Standards for collecting sociological and economic data in recreational shellfish fisheries should continue to develop. As the For-hire Survey is evaluated, it will be necessary to develop alternative standards for sociological and economic data collection in the for-hire sector. CESS is developing a survey of ASMFC Commissioners to identify state socioeconomic needs. CESS will be working to revise and simplify the standards based on current demands for social science data (Appendix L).

ACRONYMS

ACFCMA: Atlantic Coastal Fisheries Cooperative Management Act

ACCSP: Atlantic Coastal Cooperative Statistics Program

ACL: Annual catch limit

AFS: American Fisheries Society

APAIS: Access point angler intercept survey

ASMFC: Atlantic States Marine Fisheries Commission

CATI: Computer assisted telephone interview

CZMP: Coastal zone management plans

EEZ: Exclusive economic zone

FIN: Fisheries Information Network

FIPS: Federal Information Processing Standards

FIS: Fisheries Information System

FMP: Fishery Management Plan

FUS: Fisheries of the United States

FGDC: Federal Geographic Data Committee

GulfFIN: Gulf states commercial and recreation fisheries information networks

HMS: Highly migratory species

HIN: Hull identification number

IVR: Interactive voice response

ITIS: Integrated Taxonomic Information System

MMAP: Marine Mammal Authorization Program

MMPA: Marine Mammal Protection Act

MRFSS: Marine Recreational Fisheries Statistics Survey

MRIP: Marine Recreational Information Program

NEAMAP: Northeast Monitoring and Assessment Program

NOAA: National Oceanic and Atmospheric Administration

NODC: National Oceanographic Data Center

PSE: Proportional standard error

RFP: Request for proposals

SAFIS: Standard Atlantic Fisheries Information System

SEAMAP: Southeast Monitoring and Assessment Program

SEDAR: Southeast Data Assessment and Review

STSSN: Sea Turtle Stranding and Salvage Network

TED: Turtle excluder device

TIP: Trip interview program

TSD: Technical source document

VHERF: Vessel for-hire engaged in recreational fishing

VTR: Vessel trip report

Access sites: Areas where fishermen fish from shore. Or access sites can be defined as the place fishermen board or leave a boat to go fishing.

Bank: A stretch of rising land at the edge of a body of water not washed by high water, which could be rocks or an overhanging cliff.

Beach: A level stretch of pebbles, bedrock shore, or sand beside a body of water (often washed by high water).

Breachway: Shore along a connecting channel.

Breakwaters: An offshore structure used to protect a harbor or beach from the forces of waves.

Bridge: A structure carrying a pathway or roadway over a body of water.

Bulkhead (as known as seawall): A retaining wall along a waterfront.

Bycatch (2 accepted definitions):
a. Fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program. *From Magnuson-Stevens Fishery Conservation and Management Act*

b. Discarded catch of any living marine resource plus retained incidental catch and unobserved mortality due to a direct encounter with fishing gear. *From NOAA Fisheries Service (used for its National Bycatch Strategy and bycatch reduction efforts)*

Catch: The total number, weight, or other measure of marine resources (fish, invertebrates, or others) which are captured and retained, released, or discarded.
Advisory Committee: Finfish, shellfish, and protected species that are captured, whether retained, released, or discarded.

> **Discarded or released catch**: The portions of the catch that is not retained, (i.e., discarded or released at sea dead or alive) and includes incidental take of protected species.
> Advisory Committee: Recommends deleting the definition above and replacing it with:
> Economic, social, and cultural discard: Finfish and shellfish that are the target of a fishery, but which are not retained because they are undesirable size, sex, or quality, or for other economic, social, or cultural reasons.
> Regulatory discard: Finfish, shellfish, and protected species harvested in a fishery which fishermen are required by regulation to discard.

Immediate use catch: Use of the retained catch for food or bait before the end of the trip.

Landed catch: The total number, weight, or other measure of all marine resources (fish, invertebrates, others) captured, brought to shore and retained at the end of a trip. This includes catch that is discarded or not sold after being landed. This type of catch is indicated by disposition codes.
Advisory Committee:
Landed Catch: Finfish, shellfish, and protected that are captured, brought to shore and retained at the end of a trip.

Causeway: An elevated or raised way across wet ground or water.

Charterboat: *Trip Definition* - Any trip of a vessel-for hire engaged in recreational fishing (VHERF) that is hired on a per trip basis. For survey purposes, and possible alternative definitions, information should be gathered on: a) number of anglers (refers to all marine recreational resource users); b) size of boat; and c) where fishing occurred. *Boat Definition* - A charterboat is any VHERF that typically is hired on a per trip basis.

Commercial and recreational fisherman: For statistical purposes only, anyone who sells or barters any portion of the catch from a trip is a commercial fisherman for that trip, and any marine resources that are sold or bartered are considered a commercial product. All other fishermen and catches are considered recreational. Commercial trips with effort but no catch are still commercial trips and should be reported.

Commercial dealer: A seafood dealer is defined as any person or entity other than the final consumer, who purchases, ships, consigns, transfers, transports, barters, accepts (maintains) or packs any marine fishery products received from marine resource harvesters or marine aquaculturists. Any marine fishery products landed in any state must be reported by a dealer or a marine resource harvester acting as dealer in that state. Any marine resource harvester or aquaculturist who sells, consigns, transfers, or barters marine fishery products to anyone other than a dealer would himself be acting as a dealer and would therefore be responsible for reporting as a dealer. This definition is provided for purposes of statistical gathering only.

Docks: Structure built out over water and supported by pillars/anchors with long-term docking facilities for boats.

Exclusive Economic Zone (EEZ): Offshore waters 3-200 miles on Atlantic coast. For the Gulf coast it is 9-200 miles from the shoreline.

Effort: Estimated number of fishing trips taken by an individual (recreationally).

Entanglements: A condition in which any part of a protected species is tangled, wrapped and snared, hooked, or otherwise attached to fishing gear.

Fisheries-dependent: Information collected directly from the commercial, for-hire, and recreational fisheries.

Fisheries-independent: Information gathered independent of the fisheries through direct or indirect sampling of the stocks.

Fishing guide: A person hired by a recreational fisherman to aid in fishing activities.

Fishing trip: A period of time over which fishing occurs. The time spent fishing includes configuring, deploying, and retrieving gear, clearing animals from the gear, and storing, releasing or discarding catch. When watercraft are used, a fishing trip also includes the time spent traveling to and from fishing areas or locales and ends when the vessel offloads product at sea or returns to the shore. When fishing from shore or man-made structures, a fishing trip may include travel between different fishing sites within a 24-hour period.

Commercial Trip: Any trip where the retained catch is or would be sold or bartered. This includes trips with effort but no catch.

For-hire Trip: Any shore or vessel trip whose participants are engaged in a marine resources recreational activity that is contracted for a fee.

Recreational Trip: Any trip for the purpose of recreation from which none of the catch is sold or bartered. This includes trips with effort but no catch.

Split Trip: A split trip is any angler trip in which a portion of the landings are sold commercially and a portion of the landings are retained for personal use.

Gear: Anything used to catch marine resources.

Gear configuration: Materials, construction, measure (e.g., mesh size, length of gear), and deployment of gear.

Guided beach trip: Any shore-based trip where a guide is hired or provided.

Guided fishing trip: A fishing trip on which a fishing guide is hired to provide services directly related to fishing activities.

Headboat: *Trip* - Any trip of a VHERF that is hired on a per person basis. For survey purposes, and possible alternative definitions information should be gathered on: a) number of anglers (refers to all marine recreational resource

users); b) size of boat; and c) where fishing occurred. *Boat* - A headboat is any VHERF that typically is hired on a per person basis.

Inland: Waterbodies less than zero miles from the shoreline. Also, includes waterbodies found inside the boundaries for territorial waters.

Intercept survey: On-site interviews which gather data from fishermen during or upon completion of their fishing trip at access sites.

International: Offshore waters greater than 200 miles from the shore line

Integrated Taxonomic Information System (ITIS): A taxonomic database for terrestrial and aquatic plants and animals. The product of a partnership of federal agencies collaborating with systemists in the federal, state and private sectors to provide scientifically credible taxonomic information.

Jetties: A kind of wall, usually made of rocks, built into the water to restrain currents or protect a harbor.

Metadata: Metadata are corollary or descriptive information, both numeric and non-numeric, which may qualify or explain primary data.

Mode of fishing: The method by which a recreational fishing trip is taken, e.g. private/rental boat, shore, or for-hire.

Multi-trip fisheries: Multiple trip fisheries are characterized by a large number of relatively short duration trips employing the same type of gear, (e.g. lobster pots), and resulting in catch of the same species (e.g. lobster), or relatively few species

Non-consumptive use: Any activity related to marine resources where no take of marine resources is attempted. Examples include photographing wildlife in natural or managed areas, SCUBA diving to view jewfish, whale watching, etc.

Observer: A trained agent (employee, contractor, grantee, etc.) of any ACCSP partner acting as an unbiased data collector observing fishing operations on fishing vessels at sea.

Other fishing modes: Any other non-boat fishing.

Piers: Structure built out over water and supported by pillars without long-term docking facilities for boats.

Person: Any individual, corporation, partnership, association or other entity, or any federal, state, local, or foreign government or any entity of such governments, including regional fishery management councils.

Port agent/sampler: A trained agent (e.g., employee, contractor, grantee, etc.) of any partner acting as an unbiased data collector, collecting data after the completion of a fishing trip.

Post stratification: Summarization of data into strata different from strata design used during data collection.

Price: The dollar amount per landed unit (e.g. pounds, bushels) of a given species (or species landing condition and market category).

Private access sites: Privately owned riparian land with dock/shoreline, waterfront residential developments, or marinas inaccessible to intercept sampling.

Private boat: *Trip* - Any boat trip for which no fee is paid for use of the boat. *Boat* - Any boat for which no fee is paid for use of the boat.

Protected species: Any organism listed under the MMPA, ESA, or the Migratory Bird Treaty or any state protected species legislation. The term protected species can include protected finfish species (e.g., Atlantic salmon, shortnose sturgeon), invertebrates (e.g., Queen conch), sea birds, and plants (e.g., sea oats).

Protected species interactions: Any interaction with a fishery, which results in the harassment, harm, or death of individuals of a species.

Public: Any user of non-confidential information.

Rental boat: *Trip* - A trip on a boat that is rented or leased. No captain or crew is hired. *Boat* - A boat that is rented or leased. No captain or crew is hired.

Retained catch: The number or weight of marine resources caught and kept for immediate use (e.g., bait, food) or for landing.

State territorial seas: Inshore 0-3 miles on Atlantic coast. Gulf coast is 0-9 miles from the shoreline.

Strandings: A marine mammal or sea turtle where: 1) the specimen is dead and/or moribund on the beach or shore or in a coastal waterway or EEZ, or 2) the specimen is alive and is on the beach or shore and is unable to return to the water under its own power, or 3) the specimen is in the EEZ or a coastal waterway where the water is so shallow and/or inhospitable that the specimen is unable to return to its natural habitat under its own power.

Stratification: The process of dividing a population into two or more non-overlapping comprehensive subpopulations, called strata, for the purpose of conducting independent surveys of these subpopulations.

Stratum: An identifiable sub-population of a population that is being sampled.

Team Fish: The cooperative harvesting of the resource by a group of fishermen. These fishermen may be formally organized in a sector or coop. Cooperation may take many forms (information-sharing on the location of the stocks, rationalization of the group's fleet, coordinate access to fishing grounds to avoid congestion and gear conflicts, search for lost gear, etc.), but in most cases the main objective is to increase the profits of the whole group.

Trip (see **fishing trip**): A trip is shore to shore by gear/area combination, or in the case of transfers at sea, an offloading at sea is a trip.

Trip duration: *Recreational Trip Duration:* A day of fishing measured in hours fished for the shore mode and dock-to-dock duration for the private/rental boat mode. *For-hire Trip Duration:* Dock-to-dock duration measured in hours fished

Unique Identifier for commercial fisheries: The unique identifier for commercial fisheries trip data is the trip start, the vessel identifier, and trip number when a vessel is involved; the trip start, the individual identifier, and the tip number when a vessel is not involved. Reporting of the unique identifier is required of both commercial fishermen and dealer on all submitted reports.

Unique identifier for recreational fisheries: The unique identifier for recreational trip data is the date of return, the sampler number, the record number, and the individual.

Value: The total landed dollar amount of a given species (or species landing condition and market category). Example: 100 pounds of lobster at a price of $3.50 per pound will have a value of $350.

Vessel directory frame: A list of known vessels operating in a particular fishery, which can be used to sample that fishery.

Waterbodies: Bodies of waters used for defining areas fished and identified by standard codes.

The following guidelines are recommended to promote accountability and continuity in the committee process for both ACCSP support staff and member organizations.

These guidelines have been established as suggested protocol for effective forward momentum and long-term committee projects.

The following is a list of expectations of the members of all the ACCSP committees:

1. Participation would be defined as ‘adequate’ based upon guidelines defined by the committee chair(s). This is done on a year-to-year basis since some years may have more conference calls, in-person meetings, etc.
2. Attendance by alternates would count towards participation (with no limit on how many meetings the alternate may attend in place of the primary member)
3. Committee members may choose to designate an ‘official’ alternate with ACCSP. Designating an official ‘alternate’ will enable that individual to remain on committee email lists so they are aware of current activities
4. Participation records will be reviewed annually and sent to the Operations Committee member for review upon request from the Operations Committee members
5. The ACCSP committee staffer will contact individuals that have not participated in at least one call or meeting during the previous year without an alternate or to the level deemed ‘adequate’ for that year

The following is a list of the expectations of the ACCSP staff:

1. The ACCSP committee staffer overseeing all work for the committee will work with new members and old members that would like to reorient themselves on specific topics
2. The ACCSP Committee staff will upload the new members information in the committee database and send out a welcome email to the committee acknowledging the new individual
3. Upon the request of the ACCSP committee staffer, the ACCSP Outreach Coordinator will send a ‘welcome packet’ with pertinent materials to all interested members
4. The ACCSP committee staffer will provide “topic documents” that provide a brief history and explanation on a major committee project as deemed necessary by the entire committee. These documents will also be available online

The staff positions and descriptions are updated annually and approved by the Operations Committee in the annual Operations Plan.

The **Director** has executive authority to manage the continuing development and operation of the ACCSP, including executive leadership for the program, overall programmatic management and guidance, committee staff support, and responsibility for the day-to-day operations. The Director is responsible for long range planning and budget requirements. The Director supports partners in continued development and implementation of program standards. The Director also provides policy level input on development of a national fisheries information system, including coordinating with the Gulf and Pacific coast fisheries statistics initiatives. The Director serves as the spokesperson for the ACCSP before Congress, commissions, national organizations, stakeholders, and other interested parties. The ACCSP Director receives policy direction from and is accountable to the Coordinating Council, its Executive Committee, and Finance Subcommittee.

The Director provides staff for partners as needed to implement funded projects. These personnel are hired jointly in cooperation with partners and placed in partner offices. The supervisor from the partner agency and the Director cooperatively develop annual performance reviews for these personnel. Officially, they are ASMFC personnel, subject to ASMFC policies and guidelines, and the ASMFC provides the administrative support to them.

Hiring and firing of ACCSP staff will be the direct responsibility of the Director, after consultation with the Executive Committee of the Coordinating Council. The Chair of the Coordinating Council conducts the annual performance review of the Director, with oversight by the Executive Committee. Hiring and firing of the Director is the responsibility of the Executive Committee.

The **Network Administrator** manages the technical infrastructure that supports the ACCSP systems.

The **Data Team Leader** provides guidance for all data-related activities. This includes the development and operation of the Data Warehouse, database development, data collection prototype development, data communications, operation of all information systems, and contracting for information technology work.

Other members of the data team include the **Data Analyst** and two **Data Coordinators**. They provide programming capabilities and system support required to develop and fine tune the data management system and assist users as they access the system. The Data Coordinators also directly participate in customer-related data intensive activities (e.g., stock assessment data workshop). The Data Analyst is responsible for development and maintenance of

partner data feeds and verification, website development and maintenance, and assisting in partner data collection activities as needed.

The **Software Team Leader** coordinates the development and management of the ACCSP data management systems. Responsibilities include the production, development, testing, and documenting the software supporting the ACCSP fisheries information systems as well as any custom software required for internal operations. This person also assists partners with software development issues or requirements.

The **Fisheries Programmer** provides expert consultations to partners as they implement new reporting and licensing/permitting systems, as well, as, continues to support the development of SAFIS. The Fisheries Programmer assists the Software Team Leader and the Data Team Leader in the development and operation of the ACCSP data management systems and programming, establishing quality control and assurance protocols, and documenting information systems.

The **Outreach Coordinator** is responsible for all outreach-related activities, including promotion of the ACCSP mission, implementation of strategic plans, development of outreach and public relations materials, and assistance to partners implementing the ACCSP standards. The Outreach Coordinator is responsible for the content and design of the ACCSP website, quarterly newsletter, annual reports and news releases.

Figure 1B:
ORGANIZATIONAL CHART OF THE ACCSP STAFF

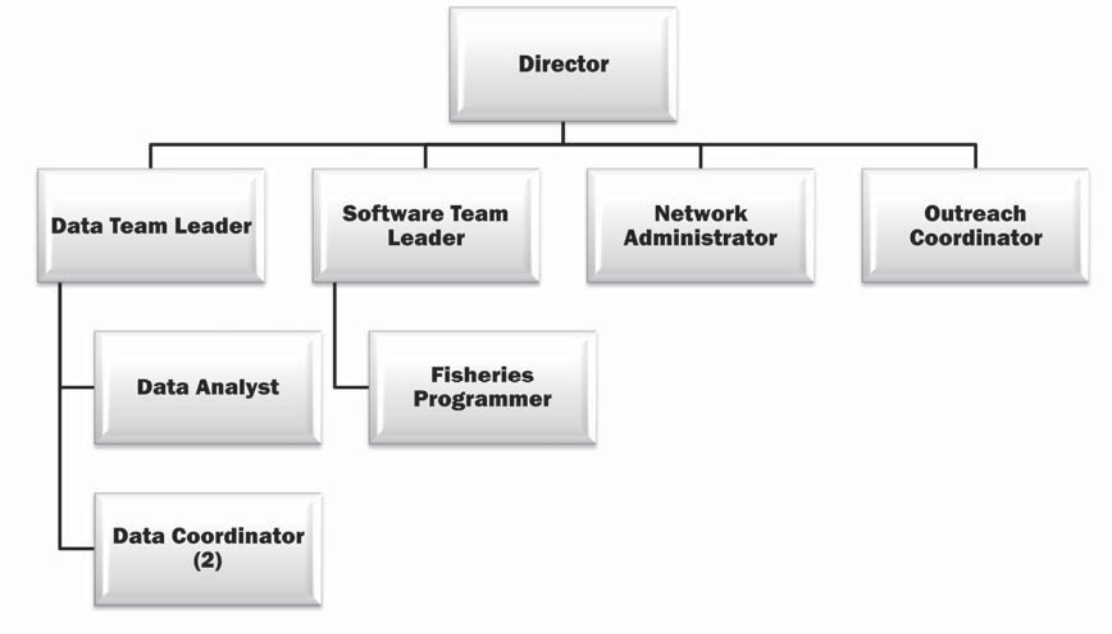


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Table C-3: STANDARD CODES AND FORMATS FOR UNITS OF MEASUREMENT, LENGTH TYPE, DEALER IDENTIFICATION, GENERAL FISHING AREA, AND ACCESS SITE TYPE

Table C-4: STANDARD ACCSP GEAR CODES[a]

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Creating a consolidated information system requires standardized data collection. In order to consolidate data, it must be collected using the same coding standards or

[a] Partners shall collect or convert gear-type data into the coarsest gear category level (the gear code ending in zero).
[b] Only fishermen and dealers will use general utilization codes and protected species codes. All other codes will be used in the At-sea Observer Program.
[c] Port codes are consistent with the Federal Information Processing Standards location codes. Please contact the ACCSP Information Systems staff for assistance.

converted to common standard codes prior to submission to the Data Warehouse. These standard codes may be used in designing new data collection systems or conversion mechanisms for existing systems.

Coding is consistent across all ACCSP modules. This eases the effort needed to analyze data across modules. Thus, gear types are coded consistently whether data are collected from commercial, recreational, or for-hire fisheries. All other standard codes follow this model.

Tables 1 and 4 describe the minimum data elements required for commercial, for-hire and recreational catch and effort data collection programs. The formats for these data elements may be found in Tables B-1 and B-2. Tables 14 through 28 present minimum data elements required for the Bycatch, Releases, and Protected Species Interactions module.

These standard codes may be modified as necessary. The Standard Codes Sub-committee of the Commercial Technical Committee is tasked with maintaining the current coding scheme and adding additional codes when needed.

Table C-1: STANDARD CODE FORMATS FOR REQUIRED INFORMATION TO BE PROVIDED ON A TRIP BASIS BY ATLANTIC COAST DEALERS AND FISHERMEN UNDER THE ACCSP STANDARDS FOR COMMERCIAL DATA

DATA ELEMENT	FORMAT	DATA ELEMENT	FORMAT
Form Type/Version Number	12 digit alphanumeric	**State Landed**	2 character postal alpha abbreviation. (See Table B-9)
Reporting Form Series Number	12 digit alphanumeric	**Dealer Identification**	2 digit character postal alpha abbreviation plus 8 character code (See Table B-3)
Trip Start Date	MM/DD/YYYY Date Format 8 character	**Unloading Date**	8 character date format: MM/DD/YYYY
Vessel Identifier	11 digit character	**Market Size**	2 digit alpha-numeric code (See Table B-6)
Individual Identifier	11 digit character	**Grade (Landing condition)**	2 digit numeric code (See Table B-7)
Trip Number	2 digit numeric	**Gear(s)**	3 digit numeric code (See Table B-4)
Species	ITIS 11 digit character code (See Table B-8)	**Quantity of Gear**	6 digit numeric (See Table 2)
Quantity	8 digit numeric plus two decimal points	**Days/Hours At-sea**	DD/HH
Units of Measurement	2 digit character code (See Table B-3)	**Number of Crew (Including captain)**	3 digit numeric
Disposition of Catch	3 digit character code (See Table B-5)	**Fishing time**	Hours: DD/HH/MM
Ex-vessel Value or Price	5 digit numeric plus three decimal points	**Area Fished**	3 digit numeric plus 2 decimal places (See Table B-3)
County or Port Landed	Federal Information Processing Standards 3 digit character: county 5 digit character: port (See Table B-9)	**Number of Sets**	3 digit numeric

Table C-2: STANDARD CODE FORMATS FOR REQUIRED INFORMATION TO BE COLLECTED ON A TRIP BASIS FROM ALL ATLANTIC COAST RECREATIONAL FISHERMEN UNDER THE ACCSP RECREATIONAL AND FOR-HIRE DATA COLLECTION PROGRAMS

DATA ELEMENT	FORMAT	DATA ELEMENT	FORMAT
Form Type/Version Number	2 digit character plus 6 digit numeric (Region plus form number plus year)	**Fishing Time**	DD:HH:MM
Date of Return	MM/DD/YYYY Date Format (8 character)	**State Landed**	2 digit character postal alpha abbreviation (See Table B-9)
Sampler Number (Formerly an element needed for ongoing studies)	5 digit numeric	**County Landed**	FIPS 3 digit character code: county (See Table B-9)
Record Number	2 digit numeric	**Gear**	3 digit numeric code (See Table B-4)
Interview (Private/Rental or Shore) or Vessel (For-Hire) Identifier	11 digit character	**Target Species or Species Group (Primary)**	ITIS 11 digit character code (See Table B-8)
Access Site type	1 digit character	**Fishing Mode**	1 digit numeric code (See Table B-10)
Public or Private	1 digit character	**Primary Area of Catch by Species**	3 digit numeric plus 2 decimal places (See Table B-3)
Species	ITIS 11 digit character code (See Table B-8)	**Primary Area Fished**	3 digit numeric plus 3 decimal places (See Table B-3)
Quantity Observed	4 digit alphanumeric	**Site Landed**	4 digit MRFSS/state site list code
Quantity Reported	4 digit alphanumeric	**State of Residence**	2 character postal alpha abbreviation (See Table B-9)
Number of Trips (Avidity)	3 digit character	**County of Residence**	FIPS code 3 character: county (See Table B-9)
Fishing Group Size	3 digit character	**Time of Return**	HH:MM
Number of Contributors to the Catch	2 digits numeric	**Length**	
Trip Duration	DD:HH:MM	**Weight**	

Table C-3: STANDARD CODES AND FORMATS FOR UNITS OF MEASUREMENT, LENGTH TYPE, DEALER IDENTIFICATION, GENERAL FISHING AREA, AND ACCESS SITE TYPE

CODE	UNIT DESCRIPTION
UNITS OF MEASURE	
BR	Barrels
BU	Bushels or baskets
BG	Bags or sacks
BX	Boxes
CM	Centimeters
DZ	Dozens
GL	Gallons
GM	Grams
HH	Hogsheads (1225 pounds, sardines)
KG	Kilograms
LB	Pounds
LT	Liter
MM	Millimeters
MP	Meat pounds
MT	Metric tons
NO	Numbers
OZ	Ounces
PS	Pounds in shell
QT	Quarts
TH	Thousands of standard fish (670 lbs, menhaden)
TN	Short tons
UK	Unknown unit
TR	Tray
CT	Cart
TT	Totes
TY	Trays
CN	Count
LENGTH TYPE	
SL	Standard length
FL	Fork length
TL	Total length
CF	Curved fork length
CW	Carapace width
CL	Carapace length
SD	Shell diameter
CO	Core length
DEALER IDENTIFICATION *(Example: ST12345AWD)*	
ST	State
12345	Dealer identification number
A	Code for multiple sites for one dealer (A-Z)
WD	Wholesaler or retailer (WD or RD)

AREA FISHED – COMMERCIAL *(Federal statistical area codes from Appendix C. Format should include two fields: one for the large statistical area and a second code indicating a subdivision of the larger area. Partners should contact the ACCSP IS staff for current subdivision codes)*	
001-997	Statistical areas from Appendix C
998	EEZ
999	International waters
Distance from Shore or Primary Area Fished – Recreational *(Generated values for the database)*	
1	Inland
2	Inshore
3	EEZ
4	International
ACCESS SITE TYPE	
0	NA
1	Launch ramp
2	Boat slip
3	Moored from dock
4	Other private access
5	Personal residence/dock
6	Private locked gated marina
7	Private property unlocked marina
8	Other

Table C-4: STANDARD ACCSP GEAR CODES[d]

CODE	GEARTYPE
000	Not coded
HAUL SEINES 010-029	
010	Haul seines
020	Other seines
021	Stop seine
022	Common seine
023	Swipe net
PURSE SEINES 030-049	
030	Purse seine
031	Purse seine, tarp
040	Lampara/ring nets
FIXED NETS 050-079	
050	Pound nets
060	Fyke nets
070	Other fixed nets
071	Weirs
072	Trap nets
073	Floating traps (shallow)
074	Bag nets
075	Channel nets
076	Stop net
077	Hoop net
078	Bank trap, channel pound
TRAWLS 080-129	
080	Beam trawls
081	Beam trawls, fish
082	Beam trawls, other - shrimp, chopsticks
090	Otter trawls
091	Otter trawl bottom, crab
092	Otter trawl bottom, fish
093	Otter trawl bottom, lobster
094	Otter trawl bottom, scallop
095	Otter trawl bottom, shrimp
096	Otter trawl bottom, other
097	Otter trawl midwater
098	Otter trawl, haddock separator
099	Otter trawl, ruhle
110	Other trawls
111	Trawl, clam kicking

[d] Partners shall collect or convert gear-type data into the coarsest gear category level (the gear code ending in zero).

CODE	GEARTYPE
TRAWLS 080-129 ***(continued)***	
112	Otter trawl midwater, paired
113	Otter trawl bottom, paired
114	Trawl, roller
115	Trawl, roller frame
116	Trawl, skimmer
117	Scottish seine
118	Butterfly nets
119	Danish seine
120	Fly net
121	Otter trawl, peeler
	POTS AND TRAPS 130-199
130	Pots and traps
131	Pots and traps, conch
132	Pots and traps, blue crab
136	Pots and traps, crab, peeler
137	Pots and traps, crayfish
138	Pots and traps, eel
139	Pots and traps, fish
140	Pots and traps, spiny lobster
141	Pots and traps, octopus
142	Pots and traps, periwinkle or conkle
143	Pots and traps, shrimp
144	Pots and traps, turtle
145	Pots and traps, stone crab
146	Pots and traps, scup
147	Pots and traps, black sea bass
148	Pots and traps, reef fish
149	Pots and traps, hagfish
150	Pots and traps, golden crab
151	Pots and traps, puffer
160	Pots and traps, lobster
161	Pots and traps, lobster inshore
162	Pots and traps, lobster offshore
163	Pots and traps, lobster double parlor
164	Pots and traps, collapsible crab
180	Pots and traps, other
181	Pots, unclassified
182	Box traps
183	Wire baskets
184	Slat traps (Virginia)
GILL NETS 200-299	
200	Gill nets
201	Gill nets, floating drift

CODE	GEARTYPE
GILL NETS 200-299 ***(continued)***	
202	Gill nets, sink drift
203	Gill nets, floating anchor
204	Gill nets, sink anchor
205	Gill nets, runaround
206	Gill nets, stake
207	Gill nets, other
208	Gill nets, small mesh
209	Gill nets, large mesh
210	Trammel nets
211	Trammel nets, floating drift
212	Trammel nets, sink drift
213	Trammel nets, floating anchor
214	Trammel nets, sink anchor
215	Trammel nets, runaround
216	Trammel nets, other
HOOK AND LINE 300-399	
300	Hook and line
301	Hook and line, manual
302	Hook and line, electric
303	Electric/hydraulic, bandit reels
304	Hook and line, chum
305	Hook and line, jig
306	Hook and line, troll
307	Hook and line, cast
308	Hook and line, drifting eel
309	Hook and line, fly
310	Hook and line, bottom
320	Troll lines
321	Troll line, manual
322	Troll line, electric
323	Troll line, hydraulic
324	Troll line, green-stick
	Hand line 330-340
330	Hand line
331	Troll & hand line cmb
340	Auto jig
LONG LINES 400-499	
400	Long lines
401	Long lines, vertical
402	Long lines, surface
403	Long lines, bottom
404	Long lines, surface, midwater
405	Long lines, trot

CODE	GEARTYPE
LONG LINES 400-499 *(continued)*	
406	Long lines, turtle hooks
407	Long lines, drift w/hooks
DREDGES 500-549	
500	Dredge
501	Dredge, hydraulic, clam
502	Dredge, hydraulic escalator, clam
503	Dredge, clam
511	Dredge, new bedford
512	Dredge, digby
513	Dredge, oyster
DIP NETS AND CAST NETS 550-599	
550	Dip nets
551	Cast nets
552	Bully nets
RAKES, HOES AND TONGS 600-649	
600	Tongs
601	Hand tongs
602	Patent tongs
620	Rakes
621	Rakes, bull
622	Rakes, oyster
623	Rakes, hand
630	Hoes
631	Rakes/shovels/pitchforks
632	Picks
633	Scrapes
SPEARS AND GIGS 650-699	
650	Harpoons
660	Spears
661	Spears, diving
662	Gigs
663	Powerheads
670	Handheld hooks
671	Sponge hooks
BY HAND 750-799	
700	Hand line
701	Troll and hand lines
702	Hand lines, auto jig
750	By hand, diving gear
760	By hand, no diving gear
761	Knife, seaweed
762	Weedwacker, seaweed

CODES	GEAR TYPES
OTHER GEARS 800-849	
800	Other gears
801	Unspecified gear
802	Combined gears
803	Aquaculture
804	Chemical, other
805	Bush net
806	Bow and arrow
810	Suction pump
811	Suction pump, diving

Table C-5: STANDARD DISPOSITION CODES[e]

CODES	DISPOSTION TYPE
000	No catch
001	Food
002	Personal use
003	Placed in car
004	Removed for sale
005	Aquaculture
006	Canned pet food
007	Animal food
008	Bait
000	No catch
009	Reduction / meal
010	Aquarium
011	Kept, disposition unknown
012	Biomedical use
013	Packing only
014	Fertilizer
015	Research
100	Market reason not specified
101	No market
102	Too small
103	Too large
104	Upgraded
105	Will not keep to end of trip
106	Retained by vessel alternate program
107	Retained by observer for science
200	Regulation reason not specified
201	Too small
202	Too large
203	Quota filled
204	No quota in area
205	Closed season
225	V-notched (new)
226	V-notched (previous)
227	Soft-shelled
228	With eggs
229	No retention
300	Quality reason not specified
301	Sandflea damage
302	Seal damage
303	Shark damage
502	Alive, injured

[e] Only fishermen and dealers will use general utilization codes and protected species codes. All other codes will be used in the At-sea Observer Program.

CODES	DISPOSTION TYPE
503	Alive, gear in or around mouth
504	Alive, gear in or around flipper
505	Alive, gear in or around another single body part
506	Alive, gear in or around several body parts
507	Alive, seen by captain or crew only
550	Dead, condition unknown
551	Dead, fresh
552	Dead, moderately decomposed
553	Dead, severely decomposed
554	Dead, seen by captain or crew only
600	Reason unknown
601	Vessel retain size for best price due to quota
602	Seized by law enforcement
603	Tagged and released
604	Debris, incidental take
605	Debris
606	Empty shells
777	Refused to give reason
888	Other reasons

Table C-6: STANDARD ACCSP CODES FOR MARKET CATEGORIES (BASED ON MARKET SIZE)

CODE	MARKET DESCRIPTION
01	15 and under count
13	12-13 inches
14	14-16 inches
16	16-20 count
17	17+ inches
18	18-24 inches
21	21-25 count
22	20 + inches
24	24-36 inches
26	26-30 count
31	31-35 count
36	36-40 count
37	36+ inches
41	41-45 count
46	46-50 count
51	51-55 count
56	56-60 count
61	61-70 count
71	71-80 count
81	81-90 count
91	Count of greater than 90
BT	Bait (unclassified fish and shrimp)
CN	Count
ES	Extra small
FE	Female
FG	Factory grade
GI	Giants, colassals, or lobster jumbo
JB	Jumbo
JU	Juvenile
KN	King
KT	Kittens
LB	Pounds
LG	Large
LI	Lights
LM	Large / mix
LS	Lemonsole
MA	Male
CODE	MARKET DESCRIPTION

MD	Medium or select
MK	Market
MM	Millimeter
MX	Mixed or unsized
N1	Number 1
N2	Number 2
N3	Number 3
NG	No grade
PN	Pins
PR	Private
PU	Public
PW	Pee wee (rats)
S0	10 and under count
S1	11-20 count
S2	21-30 count
S3	31-40 count
S4	41-50 count
S5	51-60 count
S6	61+ count
SH	Short / undersized
SK	Scrod
SM	Small (schoolies)
SQ	Small
SR	Snapper
ST	Steaker
SU	Ungraded
SV	Super super small
TY	Tiny (young school)
UN	Unclassified
WH	Whale
XG	Extra large
XL	Extra large (double mark)
XX	Extra extra large (triple mark)
BLUEFIN TUNA	
GJ	Giants (310+ lb)
MB	Medium (135 - 309 lb)
SN	Schoolies (14 - 134 lb)
YS	Young school (<13 lb)

CODE	MARKET DESCRIPTION
CRABS	
M1	Male number one crab
M2	Male number two crab
M3	Male number three crab
PE	Peelers
SS	Softshell
SP	Sponge
CLAMS	
CC	Cherry / chowder mix
CH	Chowder
CR	Cherry / chowder mix
CS	Chow, stuff, hogs
CT	Cherry and tops
LN	Little neck
LT	Little neck / top neck mix
MN	Middle neck
PA	Clams (less than 7/8inch)
SC	Seed clams
SE	7/8 inch clams
PS	Private, chow, stuff, hogs
PV	Private, little necks
CT	Cherry and tops
LN	Little neck
EELS	
EL	Silver eels
GL	Glass juvenile eels
SJ	Silver juvenile
SL	Silver adult
YL	Yellow adult
LOBSTER	
CX	Chix (1.00 - 1.45lb)
HA	Halves (1.45 – 1.95lb)
RT	Shell rot
QT	Quarters (1.25lb)
OYSTERS	
OC	Oyster, cluster
OE	Oyster, select
OS	Oyster, single
SWORDFISH	
LH	Large (100 - 199lb)
MS	Medium (50 - 99lb)
RA	Rats (0 - 25lb)
SA	Small (25-49lb)
T3	Triple mark (300+lb)
XD	Double mark (200 - 299lb)

Table C-7: STANDARD ACCSP CODES FOR GRADE CATEGORIES (LANDING CONDITION)

CODE	GRADE DESCRIPTION
01	Round
02	Live (molluscs shell on)
03	Wings
04	Heads
05	Pectoral girdles
06	Tongues / chins
07	Cheeks
08	Belly flaps
09	Tails
10	Fins
11	Fins fresh
12	Fins dried
13	Livers
14	Gizzards
15	Stomach / guts
16	Bones
17	With roe
18	Only roe
19	Milt (white roe)
20	Scales
21	Racks
22	Bled
23	Gutted, head on, tail on
00	Ungraded
24	Gutted, heads off, tail on
25	Gutted, heads off, tail off (cores)
30	Fillets
31	Fillets, skin and ribs
32	Fillets, skin on, no ribs
33	Fillets, with ribs, no skin
34	Fillets, skinless / boneless
35	Fillets, deep skin
36	Fillets, blocks
40	Loins
41	Steaks
42	Chunks
43	Surimi
44	Minced
45	Sushi grade
46	Salted and split
47	Buck
48	Drawn

CODE	GRADE DESCRIPTION
49	Dressed (historical only)
50	Egger (discard)
52	Fall
53	Fins frozen
55	Gutted (historical only)
56	Hard (crab)
59	Industrial
60	Heads on (shrimp)
61	Heads off (shrimp)
62	Culls
63	New shells (lobster)
64	Hard (old) shells (lobster)
65	Claws
66	Peeler (crab)
67	Soft (crab)
68	Sponge (crab)
70	Meats (bivalve)
71	Tubes / mantles
72	Tentacles
73	Notched (discard)
74	Roe
75	Seed
76	Spawn (roe)
77	Sperm
78	Spring
79	Tube
80	Meal
81	Oil
82	Shells
87	Tails/claws
83	Butchered
86	Soft
84	Partially processed
26	Mixed roe
27	With red roe
28	With white roe
69	Pieces

Table C-8: COMMONLY USED SPECIES AND CODES

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
A'awa	*Bodianus bilunulatus*	170485		8839010303	
Acanthurus dussumieri	*Acanthurus dussumieri*	172260		8849010108	
Acanthurus nigroris	*Acanthurus nigroris*	172267		8849010115	
Acanthurus xanthopterus	*Acanthurus xanthopterus*	172259		8849010107	
Agarum cribrosum	*Agarum cribrosum*	011247		1508020401	
Agujon	*Tylosurus acus*	165571		8803020301	Agujon
Aholehole, Hawaiian	*Kuhlia sandvicensis*	168085		8835140101	
Alaria esculenta	*Alaria esculenta*	011300		1508040110	
Albacore	*Thunnus alalunga*	172419	4651	8850030401	Albacore
Albacores	*Scombridae*	172398		885003	
Alewife	*Alosa pseudoharengus*	161706	0011	8747010105	Alewife
Alfonsino	*Beryx splendens*	166156		8810050102	
Alligator	*Alligator mississipiensis*	174367		9009020101	
Alligatorfish	*Aspidophoroides monopterygius*	167439		8831080304	Alligatorfish
Altantic chub mackerel	*Scomber colias*	172413			
Amberjack	*Seriola*	168688	0030	88352808	
Amberjack, greater	*Seriola dumerili*	168689	1812	8835280801	Greater amberjack
Amberjack, lesser	*Seriola fasciata*	168690	1815	8835280802	Lesser amberjack
Amphibians	*Amphibia*	173420		89	
Anampses chrysocephalus	*Anampses chrysocephalus*	170602		8839011302	
Anchovies	*Engraulidae*	161826		874702	
Anchovy, bay	*Anchoa mitchelli*	161839	0062	8747020202	
Anchovy, bigeye	*Anchoa lamprotaenia*	161841		8747020204	Bigeye anchovy
Anchovy, dusky	*Anchoa lyolepis*	161842		8747020205	Dusky anchovy
Anchovy, key	*Anchoa cayorum*	161846		8747020209	Key anchovy
Anchovy, silver	*Engraulis eurystole*	161830		8747020103	Silver anchovy
Anchovy, striped	*Anchoa hepsetus*	161838		8747020201	Striped anchovy
Anemone, other	*Actiniidae*	052541		376001	
Anemone, ringed	*Bartholomea annulata*	052774		3760120201	
Anemone, speckled	*Epicystes crucifera*	052792		3760180101	
Anemone, sun	*Stichodactyla helianthus*	052830		3760340101	
Anemone, sun zoanthid	*Palythoa*	052433		37560101	
Anenone, giant caribbean	*Condylactis gigantea*	052627		3760012201	
Angelfish	*Pomacanthidae*	553237		8835550200	
Angelfish, blue	*Holacanthus bermudensis*	169626		8835550304	Blue angelfish
Angelfish, french	*Pomacanthus paru*	169633		8835550402	French angelfish
Angelfish, gray	*Pomacanthus arcuatus*	169632		8835550401	Gray angelfish
Angelfish, queen	*Holacanthus ciliaris*	169623		8835550301	Queen angelfish
Angelfishes	*Chaetodontidae*	169554		883555	
Angelwing	*Cyrtopleura costata*	081796		5518010301	
Animals, hydralike	*Hydrozoa*	048739		3701	
Aphrodita hastata	*Aphrodita hastata*	064365		5001010104	
Ark, blood	*Anadara ovalis*	079342		5506010202	
Asterias vulgaris	*Asterias vulgaris*	157219		8117030204	
Atherinomorus insularum	*Atherinomorus insularum*	166007		8805020502	

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
Balanus	*Balanus*	089600		61340201	
Balao	*Hemiramphus balao*	165461		8803010202	Balao
Balloonfish	*Diodon holocanthus*	173392		8861030202	Balloonfish
Ballyhoo	*Hemiramphus brasiliensis*	165460	0150	8803010201	Ballyhoo
Ballyhoo	*Hemiramphus*	165459		8803010200	
Barbfish	*Scorpaena brasiliensis*	166816		8826010605	Barbfish
Barbier, red	*Hemanthias vivanus*	167801	3373	8835021202	Red barbier
Barbu	*Polydactylus virginicus*	170448		8838010102	Barbu
Barbudos	*Polydactylus*	170446		88380101	
Barndoor skate	*Dipturus laevis*	564139			
Barracuda, great	*Sphyraena barracuda*	170429		8837010104	Great barracuda
Barracudas	*Sphyraenidae*	170424		8837010000	
Barracudas	*Sphyraena*	170425	0180	88370101	
Barrelfish	*Hyperoglyphe perciformis*	172512	0193	8851010201	Barrelfish
Bass, bank sea	*Centropristis ocyurus*	167690	3375	8835020304	Bank sea bass
Bass, black sea	*Centropristis striata*	167687	3360	8835020301	Black sea bass
Bass, blackear	*Serranus atrobranchus*	167851		8835022302	Blackear bass
Bass, chalk	*Serranus tortugarum*	167861		8835022312	Chalk bass
Bass, harlequin	*Serranus tigrinus*	167860		8835022311	Harlequin bass
Bass, kelp	*Paralabrax clathratus*	167832		8835021602	Kelp bass
Bass, lantern	*Serranus baldwini*	167852		8835022303	Lantern bass
Bass, largemouth	*Micropterus salmoides*	168160		8835160602	Largemouth bass
Bass, longtail	*Hemanthias leptus*	167800	3374	8835021201	Longtail bass
Bass, peppermint	*Liopropoma rubre*	167820		8835021404	Peppermint bass
Bass, reef	*Pseudogramma gregoryi*	168001		8835030502	Reef bass
Bass, rock	*Ambloplites rupestris*	168097		8835160201	Rock bass
Bass, rock sea	*Centropristis philadelphica*	167691	3362	8835020305	Rock sea bass
Bass, roughtongue	*Holanthias martinicensis*	643155		8835023401	Roughtongue bass
Bass, saddle	*Serranus notospilus*	167856		8835022307	Saddle bass
Bass, school	*Schultzea beta*	167846		8835022101	School bass
Bass, smallmouth	*Micropterus dolomieui*	168159		8835160601	
Bass, spotted	*Micropterus punctulatus*	168161		8835160603	Spotted bass
Bass, striped	*Morone saxatilis*	167680	4180	8835750202	Striped bass
Bass, threadnose	*Anthias tenuis*	167772		8835020703	Threadnose bass
Bass, white	*Morone chrysops*	167682	5000	8835750204	White bass
Bass, wrasse	*Liopropoma eukrines*	167818		8835021402	Wrasse bass
Bass, yellow	*Morone mississippiensis*	167683	5150	8835750205	Yellow bass
Bass, yellowtail	*Bathyanthias mexicanus*	167868		8835022402	Yellowtail bass
Basses, black	*Micropterus*	168158		88351606	
Basses, striped	*Morone*	167676		88357502	
Basslet, threeline	*Lipogramma trilineata*	168014		8835060101	
Batfish, other	*Halieutichthys*	164593		87870403	
Batfish, polka-dot	*Ogcocephalus radiatus*	164579		8787040106	Polka-dot batfish
Batfish, tricorn	*Zalieutes mcgintyi*	164597		8787040401	Tricorn batfish
Batfishes	*Ogcocephalidae*	164573		878704	
Beaugregory	*Pomacentrus leucostictus*	170180		8835621230	Beaugregory
Beaugregory	*Pomacentrus leucostictus*	615345			
Beauty, rock	*Holacanthus tricolor*	169625		8835550303	Rock beauty
Big roughy	*Gephyroberyx darwinii*	615855			
Bigeye	*Priacanthus arenatus*	168178	0140	8835170101	Bigeye
Bigeye	*Priacanthidae*	168176		883517	
Bigeye, short	*Pristigenys alta*	168190	0145	8835170201	Short bigeye
Birdfish	*Gomphosus varius*	170652		8839012001	

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Blenny, banded	*Paraclinus fasciatus*	171430		8842090503	Banded blenny
Blenny, barred	*Hypleurochilus bermudensis*	171200		8842010503	Barred blenny
Blenny, crested	*Hypleurochilus geminatus*	171198		8842010501	Crested blenny
Blenny, downy	*Labrisomus kalisherae*	171416		8842090308	Downy blenny
Blenny, eelgrass	*Stathmonotus stahli*	171447		8842090702	Eelgrass blenny
Blenny, feather	*Hypsoblennius hentzi*	171156		8842010201	
Blenny, florida	*Chasmodes saburrae*	171165		8842010302	Florida blenny
Blenny, glass	*Coralliozetus diaphanus*	171548		8842093102	Glass blenny
Blenny, goldline	*Malacoctenus aurolineatus*	171420		8842090401	Goldline blenny
Blenny, hairy	*Labrisomus nuchipinnis*	171415		8842090307	Hairy blenny
Blenny, marbled	*Paraclinus marmoratus*	171433		8842090506	Marbled blenny
Blenny, mimic	*Labrisomus guppyi*	171412		8842090304	Mimic blenny
Blenny, other	*Blenniidae*	171124		884201	
Blenny, oyster	*Hypleurochilus aequipinnis*	171199		8842010502	Oyster blenny
Blenny, redlip	*Ophioblennius atlanticus*	171203		8842010601	Redlip blenny
Blenny, saddled	*Malacoctenus triangulatus*	171423		8842090404	Saddled blenny
Blenny, sailfin	*Emblemaria pandionis*	171405		8842090202	Sailfin blenny
Blenny, striped	*Chasmodes bosquianus*	171164		8842010301	Striped blenny
Blenny, wrasse	*Hemiemblemaria simulus*	171474		8842091201	Wrasse blenny
Bloodworms	*Glycera dibranchiata*	066107		5001270105	
Bluefish	*Pomatomus saltatrix*	168559	0230	8835250101	Bluefish
Bluefish	*Kyphosus cinerascens*	169507		8835510103	
Bluegill	*Lepomis macrochirus*	168141		8835160504	Bluegill
Bluehead	*Thalassoma bifasciatum*	170568		8839011001	Bluehead
Boarfishes	*Zeiformes*	166271		8811	
Bonefish	*Albula vulpes*	161121	0300	8739010101	Bonefish
Bonito, Atlantic	*Sarda sarda*	172409	0330	8850030202	Atlantic bonito
Bonito, Pacific	*Sarda chiliensis*	172408		8850030201	Pacific bonito
Bonito, striped	*Sarda orientalis*	172410		8850030203	
Bonitos	*Sarda*	172407		8850030200	
Bonnetmouth	*Emmelichthyops atlanticus*	168830		8835350101	Bonnetmouth
Bowfin	*Amia calva*	161104	0360	8734010101	Bowfin
Boxfish	*Ostraciidae*	173235		886003	
Bream, red	*Beryx decadactylus*	166155		8810050101	Red bream
Bream, roundtoothed large-eyed	*Monotaxis grandoculis*	169170		8835420301	
Bream, sea	*Archosargus rhomboidalis*	169190		8835430302	Sea bream
Brittle star, other	*Ophiuroidea*	157325		8120	
Brittle star, serpent	*Ophioderma brevispinum*	157520		8127050114	
Brotula, bearded	*Brotula barbata*	164818	1144	8792010401	Bearded brotula
Brotula, black	*Stygnobrotula latebricola*	164988		8792012801	Black brotula
Brotula, key	*Ogilbia cayorum*	164966		8792012401	Key brotula
Bryopsidales	*Bryopsidales*	009309		0816	
Bryozoa	*Bryozoa*	155469		78	
Bulleye	*Cookeolus japonicus*	168195		8835170302	Bulleye
Bullhead, black	*Ameiurus melas*	164039		8777020603	Black bullhead
Bullhead, brown	*Ameiurus nebulosus*	164043	0665	8777020605	Brown bullhead
Bullhead, yellow	*Ameiurus natalis*	164041		8777020604	Yellow bullhead
Bumper, atlantic	*Chloroscombrus chrysurus*	168670		8835280401	Atlantic bumper
Burrfish, bridled	*Chilomycterus antennatus*	173385		8861030102	Bridled burrfish

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Burrfish, spotted	*Chilomycterus atinga*	615845			
Burrfish, spotted	*Chilomycterus atinga*	173387		8861030104	Spotted burrfish
Burrfish, striped	*Chilomycterus schoepfi*	173384		8861030101	Striped burrfish
Burrfish, striped	*Chilomycterus schoepfi*	615846			
Burrfish, web	*Chilomycterus antillarum*	173386		8861030103	Web burrfish
Burrfishes	*Chilomycterus*	173383		88610301	
Burrfishes	*Diodontidae*	173382		886103	
Busycon	*Busycon*	074070		51050701	
Butterfish	*Peprilus triacanthus*	172567		8851030103	Butterfish
Butterfish, gulf	*Peprilus burti*	172568		8851030104	Gulf butterfish
Butterfishes	*Stromateidae*	172563		885103	
Butterflyfish, banded	*Chaetodon striatus*	169563		8835550108	Banded butterflyfish
Butterflyfish, bank	*Chaetodon aya*	169557		8835550102	Bank butterflyfish
Butterflyfish, foureye	*Chaetodon capistratus*	169558		8835550103	Foureye butterflyfish
Butterflyfish, french	*Prognathodes guyanensis*	646778			Guyana butterflyfish
Butterflyfish, longsnout	*Chaetodon aculeatus*	169592		8835550135	Longsnout butterflyfish
Butterflyfish, reef	*Chaetodon sedentarius*	169562		8835550107	Reef butterflyfish
Butterflyfish, spotfin	*Chaetodon ocellatus*	169556		8835550101	Spotfin butterflyfish
Butterflyfishes	*Chaetodon*	169555		88355501	
Calamus	*Calamus*	169195		8835430500	
Calamus pennatula	*Calamus pennatula*	169202		8835430507	
Capelin	*Mallotus villosus*	162035	3610	8755030201	Capelin
Cardinalfish, spinyhead	*Apogon kallopterus*	168222		8835180123	
Cardinalfish, twospot	*Apogon pseudomaculatus*	168207		8835180110	Twospot cardinalfish
Cardinalfishes	*Apogonidae*	168196		883518	
Caridea	*Caridea*	096106		6179	
Carp, common	*Cyprinus carpio*	163344	0630	8776010101	Common carp
Cassiopea, jamaican	*Cassiopea xanthochana*	051774		3736010110	
Catfish, blue	*Ictalurus furcatus*	163997	0662	8777020102	Blue catfish
Catfish, channel	*Ictalurus punctatus*	163998	0663	8777020105	Channel catfish
Catfish, flathead	*Pylodictis olivaris*	164029	0664	8777020301	Flathead catfish
Catfish, gafftopsail	*Bagre marinus*	164159		8777180101	Gafftopsail catfish
Catfish, hardhead	*Arius felis*	164165		8777180202	Hardhead catfish
Catfish, white	*Ameiurus catus*	164037		8777020602	White catfish
Catfishes	*Siluriformes*	163992		8777	
Catfishes, bullhead	*Ictaluridae*	163995		877702	
Catfishes, forktail	*Ictalurus*	163996	0450	87770201	
Catfishes, freshwater	*Siluridae*	164066		877705	
Catfishes, sea	*Ariidae*	164157	3380	877718	
Cavallas	*Caranx*	168605		88352803	
Cerithidea	*Cerithidea*	071935		51034402	
Cero	*Scomberomorus regalis*	172437	1938	8850030503	Cero
Chaetodon guyanensis	*Chaetodon guyanensis*	169560		8835550105	
Channa argus	*Channa argus*	166680		8821010109	
Cheilodipterus	*Cheilodipterus*	168288		88351803	
Cherubfish	*Centropyge argi*	169611		8835550201	Cherubfish
Chiton	*Polyplacophora*	078807		53	
Choice, sailors	*Haemulon parra*	169074	1452	8835400117	Sailors choice
Chromis, blue	*Chromis cyanea*	170080		8835620301	Blue chromis
Chromis, brown	*Chromis multilineata*	170084		8835620305	Brown chromis
Chrysops, Morone saxatilis x	*Morone saxatilis x chrysops*	167681		8835750203	
Chub, bermuda	*Kyphosus sectatrix*	169506		8835510102	Bermuda chub

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Chub, yellow	*Kyphosus incisor*	169505		8835510101	Yellow chub
Cigarfish, bigeye	*Cubiceps pauciradiatus*	172546		8851020202	Bigeye cigarfish
Ciona intestinalis	*Ciona intestinalis*	159113		8404010101	
Clam	*Bivalvia*	079118		55	
Clam Atlantic razor	*Ensis directus*	081022		5515290301	
Clam, button	*Mercenaria*	081495		55154711	
Clam, jewel box	*Chamidae*	081649		551551	
Clam, soft	*Mya arenaria*	081692		5517010201	
Clava leptostyla	*Clava leptostyla*	048890		3703020102	
Clingfishes	*Gobiesocidae*	164457		878401	
Clinids	*Clinidae*	171396		884209	
Cobia	*Rachycentron canadum*	168566	0570	8835260101	Cobia
Cod, Arctic	*Boreogadus saida*	164706		8791030201	Arctic cod
Cod, Atlantic	*Gadus morhua*	164712	0820	8791030402	Atlantic cod
Cod, toothed	*Arctogadus borisovi*	164703		8791030101	Toothed cod
Codfishes	*Gadidae*	164701		879103	
Codlings	*Urophycis*	164729	1550	87910310	
Codonellopsidae	*Codonellopsidae*	046681		354003	
Conch	*Strombidae*	072554		510358	
Conch, crown	*Melongena corona*	074101		5105070301	
Conch, florida fighting	*Strombus alatus*	072556		5103580101	
Conch, hawkwing	*Strombus raninus*	072561		5103580106	
Conch, horse	*Pleuroploca gigantea*	074187		5105090301	
Conch, milk	*Strombus costatus*	072557		5103580102	
Conch, other	*Mesogastropoda*	070298		5103	
Conch, queen	*Strombus gigas*	072558		5103580103	
Coney	*Epinephelus fulvus*	167739	1429	8835020438	Coney
Conger cinereus	*Conger cinereus*	161328		8741120103	
Conger, yellow	*Hildebrandia flava*	161388		8741121001	Yellow conger
Convictfish	*Acanthurus triostegus*	172270		8849010118	
Coral, deepwater	*Swiftia exserta*	052150		3751030802	
Coralfish, onespot	*Chaetodon unimaculatus*	169578		8835550122	
Corallimorph, discosoma	*Discosoma Rüppell and Leuckart,*	719026			
Corallimorpharia	*Corallimorpharia*	052460		3757	
Corallimorphidae	*Corallimorphidae*	052461		375701	
Corallinaceae	*Corallinaceae*	012303		160907	
Corals	*Anthozoa*	051938		3740	
Coris flavovittata	*Coris flavovittata*	170668		8839012302	
Coris gaimardi	*Coris gaimardi*	170671		8839012303	
Cornetfish, bluespotted	*Fistularia tabacaria*	166416		8819020101	Bluespotted cornetfish
Cornetfish, red	*Fistularia petimba*	166417		8819020102	Red cornetfish
Cottonwick	*Haemulon melanurum*	169067	1447	8835400111	Cottonwick
Cowfish, honeycomb	*Lactophrys polygonia*	173241		8860030105	Honeycomb cowfish
Cowfish, scrawled	*Lactophrys quadricornis*	173240		8860030104	Scrawled cowfish
Cowrie, Atlantic deer	*Cypraea cervus*	072743		5103710101	
Cowrie, Atlantic gray	*Cypraea cinerea*	072745		5103710102	
Cowrie, measled	*Cypraea zebra*	072767		5103710114	
Crab	*Decapoda*	095599		6175	
Crab	*Cancer*	098671		61880301	
Crab, Atlantic rock	*Cancer irroratus*	098679		6188030108	

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Crab, blue	*Callinectes sapidus*	098696		6189010301	
Crab, blue land	*Cardisoma guanhumi*	099128		6189140101	
Crab, calico box	*Hepatus epheliticus*	098348		6186020201	
Crab, coral spider	*Mithrax*	098519		61870125	
Crab, false arrow	*Metoporhaphis calcarata*	098485		6187011801	
Crab, fiddler	*Uca*	099084		61890902	
Crab, Florida stone	*Menippe mercenaria*	098811		6189021301	
Crab, furcate spider	*Stenocionops furcatus*	098514		6187012401	
Crab, golden deepsea	*Geryon fenneri*	098909		6189040104	
Crab, green	*Carcinus maenas*	098734		6189010701	
Crab, green clinging	*Mithraculus sculptus*	098612		6187015804	
Crab, hermit	*Pagurus*	097775		61830602	
Crab, horseshoe	*Limulus polyphemus*	082703		5802010101	
Crab, jonah	*Cancer borealis*	098678		6188030107	
Crab, lady	*Ovalipes ocellatus*	098714		6189010502	
Crab, nimble spray	*Percnon gibbesi*	099074		6189071601	
Crab, portly spider	*Libinia emarginata*	098455		6187010902	
Crab, red at	*Chaceon quinquedens*	620992			
Crab, red deepsea	*Geryon quinquedens*	098906		6189040101	
Crab, redfinger rubble	*Eriphia gonagra*	098888		6189023601	
Crab, red-ridged clinging	*Mithraculus forceps*	098610		6187015803	
Crab, spotted porcelain	*Porcellana sayana*	098088		6183120502	
Crab, stone	*Menippe*	098810		61890213	
Crab, yellowline arrow	*Stenorhynchus seticornis*	098483		6187011701	
Crabs, box	*Calappidae*	098340		618602	
Crabs, brachyura		098276		6184	
Crabs, horseshoe	*Limulus*	082702		58020101	
Crabs, land hermit	*Coenobitidae*	097916		618307	
Crabs, porcelain	*Porcellanidae*	098058		618312	
Crabs, sand	*Hippidae*	098131		618314	
Crabs, spider	*Majidae*	098417		618701	
Crappie, black	*Pomoxis nigromaculatus*	168167		8835160702	Black crappie
Crappie, white	*Pomoxis annularis*	168166		8835160701	White crappie
Crappies	*Pomoxis*	168165	0840	88351607	
Crawfish, fw	*Astacoidea*	097306		6181	
Creole-fish	*Paranthias furcifer*	167838	1427	8835021701	Creole-fish
Croaker, Atlantic	*Micropogonias undulatus*	169283	0925	8835440701	Atlantic croaker
Croaker, blue	*Bairdiella batabana*	169262		8835440304	Blue croaker
Croaker, reef	*Odontoscion dentex*	169325		8835441301	Reef croaker
Croaker, striped	*Bairdiella sanctaeluciae*	169263		8835440305	Striped croaker
Cubbyu	*Equetus umbrosus*	169318		8835441206	Cubbyu
Cucumber, Florida sea	*Holothuria floridana*	158323		8175010108	
Cucumbers, sea	*Holothuroidea*	158140		8170	
Cunner	*Tautogolabrus adspersus*	170481	0930	8839010201	Cunner
Cusk	*Brosme brosme*	164740	0960	8791031101	Cusk
Cusk-eel, bank	*Ophidion holbrooki*	164842		8792010603	Bank cusk-eel
Cusk-eel, blotched	*Ophidion grayi*	164841		8792010602	Blotched cusk-eel
Cusk-eel, fawn	*Lepophidium profundorum*	164831		8792010509	Fawn cusk-eel
Cusk-eel, striped	*Ophidion marginatum*	164852		8792010613	Striped cusk-eel
Cutlassfish	*Trichiurus*	172384		88500202	
Cutlassfish, Atlantic	*Trichiurus lepturus*	172385	0990	8850020201	Atlantic cutlassfish
Daggertooth	*Anotopterus pharao*	162534		8762100101	Daggertooth

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Damselfish, banded	*Abudefduf abdominalis*	170048		8835620103	
Damselfish, bicolor	*Pomacentrus partitus*	170188		8835621234	Bicolor damselfish
Damselfish, cocoa	*Pomacentrus variabilis*	170186		8835621233	Cocoa damselfish
Damselfish, dusky	*Pomacentrus fuscus*	170178		8835621229	Dusky damselfish
Damselfish, longfin	*Pomacentrus diencaeus*	170152		8835621202	Longfin damselfish
Damselfish, threespot	*Pomacentrus planifrons*	170184		8835621232	Threespot damselfish
Damselfish, yellowtail	*Microspathodon chrysurus*	170116		8835620401	Yellowtail damselfish
Damselfishes	*Pomacentridae*	170044		883562	
Dealfish	*Trachipterus arcticus*	166342	0985	8815020102	Dealfish
Demospongiae	*Demospongiae*	047528		3660	
Dick, slippery	*Halichoeres bivittatus*	170503		8839010702	Slippery dick
Diver, sand	*Synodus intermedius*	162377		8762020102	Sand diver
Doctorfish	*Acanthurus chirurgus*	172253		8849010102	Doctorfish
Doctorfishes	*Acanthurus*	172251		88490101	
Dogfish, black	*Centroscyllium fabricii*	160703		8710010901	Black dogfish
Dogfish, chain	*Scyliorhinus retifer*	160060		8708010304	Chain dogfish
Dogfish, smooth	*Mustelus canis*	160230	3511	8708020401	Smooth dogfish
Dogfish, smooth	*Mustelus*	160226		87080204	
Dogfish, spiny	*Squalus acanthias*	160617	3521	8710010201	Spiny dogfish
Dollar, sand	*Clypeaster subdepressus*	157989		8153010102	
Dollars, sand	*Clypeasteroida*	157984		8152	
Dolphin	*Coryphaena hippurus*	168791		8835290101	Dolphin
Dolphin, pompano	*Coryphaena equisetis*	168792		8835290102	Pompano dolphin
Dolphinfish	*Coryphaena*	168790	1050	88352901	
Dorada, mojarra	*Gnathanodon speciosus*	168753		8835281901	
Doris, florida regal	*Hypselodoris edenticulata*	078255		5130031202	
Dory, american john	*Zenopsis ocellata*	166283		8811030201	
Dragonets	*Callionymidae*	171691		884601	
Driftfishes	*Nomeidae*	172535		8851020000	
Drum, banded	*Larimus fasciatus*	169269		8835440501	Banded drum
Drum, black	*Pogonias cromis*	169288	1081	8835440801	Black drum
Drum, blackbar	*Equetus iwamotoi*	169322		8835441208	Blackbar drum
Drum, freshwater	*Aplodinotus grunniens*	169364	3530	8835442601	Freshwater drum
Drum, red	*Sciaenops ocellatus*	169290	1082	8835440901	Red drum
Drum, sand	*Umbrina coroides*	169298		8835441101	Sand drum
Drum, spotted	*Equetus punctatus*	169317		8835441205	Spotted drum
Drum, star	*Stellifer lanceolatus*	169292		8835441001	Star drum
Drummer, lowfinned	*Kyphosus vaigiensis*	169509		8835510105	
Drummer, striped	*Kyphosus bigibbus*	169508		8835510104	
Drummer, whitemouth	*Micropogonias furnieri*	169285		8835440702	
Drums	*Sciaenidae*	169237	0931	883544	
Durgon, black	*Melichthys niger*	173174		8860020601	Black durgon
Echinarachnius parma	*Echinarachnius parma*	158016		8155020101	
Eel, academy	*Apterichthus ansp*	161534		8741132602	
Eel, american	*Anguilla rostrata*	161127	1141	8741010101	American eel
Eel, blotched snake	*Callechelys muraena*	161427		8741130301	Blotched snake eel
Eel, conger	*Conger oceanicus*	161326	1142	8741120101	Conger eel
Eel, goldspotted	*Myrichthys ocellatus*	161450		8741130708	Goldspotted eel
Eel, morays	*Muraenidae*	161160	1143	874105	
Eel, palespotted	*Ophichthus puncticeps*	161481		8741131015	Palespotted eel
Eel, ridged	*Neoconger mucronatus*	161143		8741020201	Ridged eel

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Eel, seagrass	*Chilorhinus suensoni*	161149		8741040101	Seagrass eel
Eel, sharptail	*Myrichthys breviceps*	161449		8741130707	Sharptail eel
Eel, shorttail snake	*Callechelys guiniensis*	161435		8741130307	Shorttail snake eel
Eel, shrimp	*Ophichthus gomesi*	161462		8741131001	Shrimp eel
Eel, speckled worm	*Myrophis punctatus*	161453		8741130802	Speckled worm eel
Eel, spiny	*Notacanthus chemnitzii*	161690		8743030301	
Eel, spotted snake	*Ophichthus ophis*	161465		8741131004	Spotted snake eel
Eel, spotted spoon-nose	*Echiophis intertinctus*	161551		8741133101	Spotted spoon-nose eel
Eel, surf	*Ichthyapus ophioneus*	161529		8741132502	Surf eel
Eel, thread	*Gordiichthys springeri*	161432		8741130502	
Eel, whip	*Bascanichthys scuticaris*	161423		8741130201	Whip eel
Eelpouts	*Zoarcidae*	165215		879301	
Eels	*Anguilliformes*	161123	1140	8740	
Eels, conger	*Congridae*	161324	1136	874112	
Eels, cusk	*Ophidiidae*	164807	1138	879201	
Eels, snake	*Ophichthidae*	161419	1137	874113	
Engraulidae		553173			
Enteromorpha intestinalis	*Enteromorpha intestinalis*	006535		0805030317	
Escolar	*Lepidocybium flavobrunneum*	172362	2501	8850010301	Escolar
Eye, shark	*Neverita duplicata*	072961		5103760704	
Fileclam, rough	*Loxorhynchus*	098477		61870115	
Fileclam, spiny	*Lima lima*	079820		5509100109	
Filefish, dotterel	*Aluterus heudeloti*	173132		8860020102	Dotterel filefish
Filefish, fringed	*Monacanthus ciliatus*	173179		8860020701	Fringed filefish
Filefish, orange	*Aluterus schoepfi*	173131		8860020101	Orange filefish
Filefish, orangespotted	*Cantherhines pullus*	173158		8860020402	Orangespotted filefish
Filefish, planehead	*Monacanthus hispidus*	173182		8860020703	Planehead filefish
Filefish, planehead	*Monacanthus hispidus*	646454			
Filefish, scrawled	*Aluterus scriptus*	173134		8860020104	Scrawled filefish
Filefish, slender	*Monacanthus tuckeri*	173180		8860020702	Slender filefish
Filefish, unicorn	*Aluterus monoceros*	173133		8860020103	Unicorn filefish
Filefish, whitespotted	*Cantherhines macrocerus*	173157		8860020401	Whitespotted filefish
Fishes, bony	*Osteichthyes*	161030		8717	
Fishes, buffalo	*Ictiobus*	163954		87760407	
Fishes, goat	*Mullidae*	169406	1350	883545	
Fishes, lizard	*Synodus*	162375		87620201	
Fishes, perch-like	*Perciformes*	167640		8834	
Fistularia	*Fistularia*	166415		88190201	
Fistularia commersoni	*Fistularia commersoni*	166419		8819020104	
Flag, spanish	*Gonioplectrus hispanus*	167798	3371	8835021101	Spanish flag
Flamefish	*Apogon maculatus*	168204		8835180107	Flamefish
Flatfish	*Pleuronectiformes*	172702	1190	8855	
Flounder	*Paralichthys*	172734	1209	88570303	
Flounder, broad	*Paralichthys squamilentus*	172740		8857030306	Broad flounder
Flounder, deepwater	*Monolene sessilicauda*	172789		8857031204	Deepwater flounder
Flounder, dusky	*Syacium papillosum*	172793		8857031303	Dusky flounder
Flounder, fourspot	*Paralichthys oblongus*	172739	1234	8857030305	Fourspot flounder
Flounder, fringed	*Etropus crossotus*	172729		8857030201	Fringed flounder
Flounder, gray	*Etropus rimosus*	172732		8857030204	Gray flounder
Flounder, Gulf	*Paralichthys albigutta*	172736		8857030302	Gulf flounder
Flounder, Gulf stream	*Citharichthys arctifrons*	172719		8857030104	Gulf stream flounder

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Flounder, Mexican	*Cyclopsetta chittendeni*	172776		8857030801	Mexican flounder
Flounder, ocellated	*Ancylopsetta quadrocellata*	172757		8857030506	Ocellated flounder
Flounder, peacock	*Bothus lunatus*	172759		8857030601	Peacock flounder
Flounder, pelican	*Chascanopsetta lugubris*	172773		8857030701	Pelican flounder
Flounder, shoal	*Syacium gunteri*	172791		8857031301	Shoal flounder
Flounder, smallmouth	*Etropus microstomus*	172730		8857030202	Smallmouth flounder
Flounder, smooth	*Pleuronectes putnami*	172914		8857041509	Smooth flounder
Flounder, southern	*Paralichthys lethostigma*	172738		8857030304	Southern flounder
Flounder, spotfin	*Cyclopsetta fimbriata*	172777		8857030802	Spotfin flounder
Flounder, summer	*Paralichthys dentatus*	172735	1211	8857030301	Summer flounder
Flounder, three-eye	*Ancylopsetta dilecta*	172754		8857030503	Three-eye flounder
Flounder, tropical	*Bothus mancus*	172763		8857030605	
Flounder, winter	*Pseudopleuronectes americanus*	172905			
Flounder, winter	*Pleuronectes americanus*	172904	1199	8857041504	Winter flounder
Flounder, witch	*Glyptocephalus cynoglossus*	172873	1215	8857040502	Witch flounder
Flounder, yellowtail	*Pleuronectes ferrugineus*	172908	1230	8857041506	Yellowtail flounder
Flounder, yellowtail	*Limanda ferruginea*	172909			
Flounders, eelback	*Liopsetta*	172883		8857041000	
Flounders, lefteyed	*Bothidae*	172714		885703	
Flyingfish, Atlantic	*Cypselurus melanurus*	165447		8803010114	Atlantic flyingfish
Flyingfish, clearwing	*Cypselurus comatus*	165435		8803010102	Clearwing flyingfish
Flyingfishes	*Exocoetidae*	165431	1310	880301	
Frogfish, ocellated	*Antennarius ocellatus*	164524		8787020202	Ocellated frogfish
Frogfishes	*Antennarius*	164522		87870202	
Frogfishes	*Antennariidae*	164518		878702	
Frogs	*Ranidae*	173433		890302	
Frond-aeolis	*Dendronotus frondosus*	078509		5134060103	
Frostfish	*Benthodesmus elongatus*	172382		8850020103	Frostfish
Fucus vesiculosus	*Fucus vesiculosus*	011335		1510010201	
Gambusia, mangrove	*Gambusia rhizophorae*	165882		8804080102	Mangrove gambusia
Gammarus oceanicus	*Gammarus oceanicus*	093786		6169210711	
Gar, alligator	*Atractosteus spatula*	201897		8732010201	
Gar, florida	*Lepisosteus platyrhincus*	161098		8732010105	Florida gar
Gar, longnose	*Lepisosteus osseus*	161094		8732010101	Longnose gar
Gar, shortnose	*Lepisosteus platostomus*	161096		8732010103	Shortnose gar
Gar, spotted	*Lepisosteus oculatus*	161095		8732010102	Spotted gar
Garfishes	*Lepisosteidae*	161092		873201	
Gars, slender	*Lepisosteus*	161093		87320101	
Goatfish, red	*Mullus auratus*	169417		8835450201	Red goatfish
Goatfish, spotted	*Pseudupeneus maculatus*	169421		8835450301	Spotted goatfish
Goatfish, vanikolo	*Mulloidichthys vanicolensis*	169411		8835450103	
Goatfish, yellow	*Mulloidichthys martinicus*	169408		8835450101	Yellow goatfish
Goatfish, yellowstripe	*Mulloidichthys flavolineatus*	169409		8835450102	
Goby, clown	*Microgobius gulosus*	171808		8847010701	Clown goby
Goby, code	*Gobiosoma robustum*	171791		8847010603	Code goby
Goby, frillfin	*Bathygobius soporator*	171820		8847010903	
Goby, lyre	*Evorthodus lyricus*	171764		8847010401	Lyre goby
Goby, naked	*Gobiosoma bosc*	171789		8847010601	Naked goby
Goby, neon	*Gobiosoma oceanops*	171796		8847010608	Neon goby

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Goby, other	*Gobiidae*	171746		884701	
Goby, sponge	*Evermannichthys spongicola*	171826		8847011002	Sponge goby
Goby, tiger	*Gobiosoma macrodon*	636783		8847010607	Tiger goby
Goby, violet	*Gobioides broussoneti*	171832		8847011201	Violet goby
Goby, yellowline	*Gobiosoma horsti*	171793		8847010605	Yellowline goby
Goldfish	*Carassius auratus*	163350		8776010301	Goldfish
Goliath grouper	*Epinephelus itajara*	167695	1850	8835020401	Jewfish
Goosefish	*Lophius americanus*	164499	0120	8786010101	Goosefish
Goosefish, blackfin	*Lophius gastrophysus*	164500		8786010102	Blackfin goosefish
Gorgonian, sea blades	*Pterogorgia guadalupensis*	052266		3751050401	
Graysby	*Cephalopholis cruentata*	181220		8835024611	
Graysby	*Epinephelus cruentatus*	167741	1428	8835020439	Graysby
Grenadiers	*Macrouridae*	165332		879401	
Grouper, black	*Mycteroperca bonaci*	167760	1422	8835020502	Black grouper
Grouper, comb	*Mycteroperca rubra*	167768		8835020510	Comb grouper
Grouper, gag	*Mycteroperca microlepis*	167759	1423	8835020501	Gag
Grouper, marbled	*Epinephelus inermis*	167743	1417	8835020440	Marbled grouper
Grouper, misty	*Epinephelus mystacinus*	167703	1420	8835020409	Misty grouper
Grouper, Nassau	*Epinephelus striatus*	167706	1430	8835020412	Nassau grouper
Grouper, red	*Epinephelus morio*	167702	1416	8835020408	Red grouper
Grouper, snowy	*Epinephelus niveatus*	167705	1414	8835020411	Snowy grouper
Grouper, tiger	*Mycteroperca tigris*	167767	1419	8835020509	Tiger grouper
Grouper, warsaw	*Epinephelus nigritus*	167704	4740	8835020410	Warsaw grouper
Grouper, yellowedge	*Epinephelus flavolimbatus*	167699	1415	8835020405	Yellowedge grouper
Grouper, yellowfin	*Mycteroperca venenosa*	167764	1426	8835020506	Yellowfin grouper
Grouper, yellowmouth	*Mycteroperca interstitialis*	167762	1425	8835020504	Yellowmouth grouper
Groupers	*Mycteroperca*	167758		88350205	
Groupers	*Epinephelus*	167694		88350204	
Groupers	*Serranidae*	167674	1410	883502	
Grubby	*Myoxocephalus aenaeus*	167321		8831022210	Grubby
Grunt, barred	*Conodon nobilis*	169090		8835400401	Barred grunt
Grunt, bluestriped	*Haemulon sciurus*	169069	1444	8835400113	Bluestriped grunt
Grunt, burro	*Pomadasys crocro*	169093		8835400502	Burro grunt
Grunt, caesar	*Haemulon carbonarium*	169063		8835400106	Caesar grunt
Grunt, french	*Haemulon flavolineatum*	169065	1445	8835400108	French grunt
Grunt, smallmouth	*Haemulon chrysargyreum*	169064	1449	8835400107	Smallmouth grunt
Grunt, spanish	*Haemulon macrostomum*	169066	1448	8835400110	Spanish grunt
Grunt, striped	*Haemulon striatum*	169073		8835400116	Striped grunt
Grunt, white	*Haemulon plumieri*	169059	1441	8835400102	White grunt
Grunt, white	*Haemulon plumieri*	613026			
Grunts	*Haemulon*	169057		88354001	
Grunts	*Haemulidae*	169055	1440	883540	
Guaguanche	*Sphyraena guachancho*	170428		8837010103	Guaguanche
Guitarfish, atlantic	*Rhinobatos lentiginosus*	160815		8713020101	Atlantic guitarfish
Gurnard, flying	*Dactylopterus volitans*	167624		8832010101	Flying gurnard
Gymnachirus	*Gymnachirus*	172990		88580303	
Gymnothorax eurostus	*Gymnothorax eurostus*	161197		8741050412	
Haddock	*Melanogrammus aeglefinus*	164744	1480	8791031301	Haddock
Hagfish	*Myxinidae*	159753		860601	
Hagfish, Atlantic	*Myxine glutinosa*	159772		8606010201	Atlantic hagfish
Hake, Carolina	*Urophycis earlli*	164736		8791031006	Carolina hake
Hake, Gulf	*Urophycis cirrata*	164735		8791031005	Gulf hake

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Hake, longfin	*Urophycis chesteri*	164733		8791031004	Longfin hake
Hake, luminous	*Steindachneria argentea*	164802		8791040201	Luminous hake
Hake, offshore	*Merluccius albidus*	164793		8791040103	Offshore hake
Hake, red	*Urophycis chuss*	164730	1520	8791031001	Red hake
Hake, silver	*Merluccius bilinearis*	164791	5090	8791040101	Silver hake
Hake, southern	*Urophycis floridana*	164737		8791031007	Southern hake
Hake, spotted	*Urophycis regia*	164731		8791031002	Spotted hake
Hake, white	*Urophycis tenuis*	164732	1540	8791031003	White hake
Hakes	*Merluccius*	164790		87910401	
Hakes	*Merlucciidae*	164789		879104	
Halfbeak, silverstripe	*Hyporhamphus unifasciatus*	165474		8803010301	Silverstripe halfbeak
Halibut, Atlantic	*Hippoglossus hippoglossus*	172933	1588	8857041902	Atlantic halibut
Halibut, Greenland	*Reinhardtius hippoglossoides*	172930	4679	8857041801	Greenland halibut
Halichoeres ornatissimus	*Halichoeres ornatissimus*	170512		8839010711	
Haliclona	*Haliclona*	047771		36630201	
Haliclona oculata	*Haliclona oculata*	047779		3663020108	
Hamlet, butter	*Hypoplectrus unicolor*	167806		8835021301	Butter hamlet
Hamlet, mutton	*Epinephelus afer*	167745		8835020441	Mutton hamlet
Hamlet, mutton	*Epinephelus afer*	167746			
Hare, sea	*Aplysiidae*	078022		512402	
Harvestfish	*Peprilus alepidotus*	172570	1656	8851030106	Harvestfish
Harvestfishes	*Peprilus*	172564		88510301	
Hawkfish, redspotted	*Amblycirrhitus pinos*	170224		8835640101	Redspotted hawkfish
Headfishes	*Molidae*	173412		886104	
Hemipteronotus baldwini	*Hemipteronotus baldwini*	170559		8839010812	
Hemipteronotus pavoninus	*Hemipteronotus pavoninus*	170542		8839010806	
Hemipteronotus umbrilatus	*Hemipteronotus umbrilatus*	170548		8839010808	
Hermit, giant	*Petrochirus diogenes*	098200		6183160501	
Hermit, orangeclaw	*Calcinus tibicen*	098205		6183160701	
Hermit, polkadotted	*Phimochirus operculatus*	097863		6183061503	
Hermit, stareye	*Dardanus venosus*	098194		6183160302	
Hermit, thinstripe	*Clibanarius vittatus*	098188		6183160201	
Hermit, tricolor	*Clibanarius tricolor*	098191		6183160204	
Herring, Atlantic	*Clupea harengus*	161722	1670	8747010201	Atlantic herring
Herring, Atlantic	*Clupea harengus harengus*	161724		874701020102	
Herring, Atlantic thread	*Opisthonema oglinum*	161748	1687	8747010701	Atlantic thread herring
Herring, blueback	*Alosa aestivalis*	161703	0012	8747010102	Blueback herring
Herring, delicate round	*Spratelloides delicatulus*	161785		8747011601	
Herring, goldspot	*Herklotsichthys quadrimaculatus*	161825		8747013301	
Herring, great	*Elops hawaiiensis*	161113		8738010103	
Herring, round	*Etrumeus teres*	161743	1683	8747010601	Round herring
Herring, sea	*Clupea*	161721		87470102	
Herring, skipjack	*Alosa chrysochloris*	161707		8747010106	Skipjack herring
Herrings	*Clupeidae*	161700	1689	874701	
Herrings, bigeyed	*Elopidae*	161109		873801	
Herrings, river	*Alosa*	161701	0010	87470101	

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High-hat	*Equetus acuminatus*	169313		8835441201	High-hat
Hind, red	*Epinephelus guttatus*	167700	1413	8835020406	Red hind
Hind, rock	*Epinephelus adscensionis*	167696	1412	8835020402	Rock hind
Hind, speckled	*Epinephelus drummondhayi*	167698	1411	8835020404	Speckled hind
Hogchoker	*Trinectes maculatus*	172982	1760	8858030101	Hogchoker
Hogfish	*Lachnolaimus maximus*	170566	1790	8839010901	Hogfish
Hogfish, red	*Decodon puellaris*	170498		8839010501	Red hogfish
Hogfish, Spanish	*Bodianus rufus*	170484		8839010302	Spanish hogfish
Hogfish, spotfin	*Bodianus pulchellus*	170483		8839010301	Spotfin hogfish
Houndfish	*Tylosurus crocodilus*	165577		8803020302	Houndfish
Ischnochiton ruber	*Ischnochiton ruber*	078858		5303020308	
Iso hawaiiensis	*Iso hawaiiensis*	166067		8805030101	
Isopod, giant	*Bathyonus*	165036		87920145	
Jack, almaco	*Seriola rivoliana*	168691	1810	8835280803	Almaco jack
Jack, bar	*Caranx ruber*	168614	1811	8835280308	Bar jack
Jack, black	*Caranx lugubris*	168613	1805	8835280307	Black jack
Jack, bluntnose	*Hemicaranx amblyrhynchus*	168740		8835281401	Bluntnose jack
Jack, cottonmouth	*Uraspis secunda*	168746		8835281701	Cottonmouth jack
Jack, crevalle	*Caranx hippos*	168609	0870	8835280303	Crevalle jack
Jack, horse-eye	*Caranx latus*	168610	1800	8835280304	Horse-eye jack
Jack, island	*Carangoides orthogrammus*	168759		8835282004	
Jack, yellow	*Caranx bartholomaei*	168606	1803	8835280301	Yellow jack
Jackknife-fish	*Equetus lanceolatus*	169314	1830	8835441202	Jackknife-fish
Jacks	*Carangidae*	168584	1799	883528	
Jawfish, banded	*Opistognathus macrognathus*	170931		8840020206	Banded jawfish
Jawfish, dusky	*Opistognathus whitehursti*	170932		8840020207	Dusky jawfish
Jawfish, mottled	*Opistognathus maxillosus*	170927		8840020202	Mottled jawfish
Jawfish, other	*Opistognathidae*	170920		884002	
Jawfish, yellowhead	*Opistognathus aurifrons*	170928		8840020203	Yellowhead jawfish
Jawfishes, spotfin	*Opistognathus*	170925		88400202	
Jelly, cannonball	*Stomolophus meleagris*	051926		3737040301	
Jellyfish	*Stomolophus*	051925		37370403	
Jellyfish	*Scyphozoa*	051483		3730	
Jenny, silver	*Eucinostomus gula*	169016		8835390102	Silver jenny
Jobfish, lavender	*Pristipomoides seiboldii*	168918		8835360706	
Kawakawa	*Euthynnus affinis*	172403		8850030103	Kawakawa
Killifish, diamond	*Adinia xenica*	165682		8804040401	Diamond killifish
Killifish, goldspotted	*Floridichthys carpio*	165685		8804040501	Goldspotted killifish
Killifish, gulf	*Fundulus grandis*	165651		8804040207	Gulf killifish
Killifish, marsh	*Fundulus confluentus*	165645		8804040201	Marsh killifish
Killifish, rainwater	*Lucania parva*	165679		8804040301	Rainwater killifish
Killifish, spotfin	*Fundulus luciae*	165648		8804040204	Spotfin killifish
Killifish, striped	*Fundulus majalis*	165649		8804040205	Striped killifish
Killifishes	*Cyprinodontidae*	165629		880404	
Kingfish, Gulf	*Menticirrhus littoralis*	169275		8835440602	Gulf kingfish
Kingfish, northern	*Menticirrhus saxatilis*	169276		8835440603	Northern kingfish
Kingfish, southern	*Menticirrhus americanus*	169274		8835440601	Southern kingfish
Kupipi	*Abudefduf sordidus*	170049		8835620104	
Ladyfish	*Elops saurus*	161111	4410	8738010101	Ladyfish
Laminaria	*Laminaria*	011217		15080201	
Laminaria digitata	*Laminaria digitata*	011228		1508020110	

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Laminaria saccharina	*Laminaria saccharina*	011222		1508020104	
Lamprey, sea	*Petromyzon marinus*	159722	2030	8603010301	Sea lamprey
Lance, American sand	*Ammodytes americanus*	171673		8845010102	American sand lance
Lance, northern sand	*Ammodytes dubius*	171674		8845010103	Northern sand lance
Lances, sand	*Ammodytes*	171671	2060	88450101	
Leatherjack	*Oligoplites saurus*	168673		8835280501	Leatherjack
Leatherskin, slender	*Chorinemus sancti-petri*	168777		8835282802	
Lepidonotus squamatus	*Lepidonotus squamatus*	064604		5001021103	
Libinia	*Libinia*	098453		61870109	
Limpet	*Acmaea testudinalis*	069668			
Lingcod	*Ophiodon elongatus*	167116		8827010201	Lingcod
Lionfish	*Pterois sphex*	166885		8826011402	
Lithothamnium	*Lithothamnium*	012375		16090707	
Little skate	*Leucoraja erinacea*	564130			
Livebearers	*Poeciliidae*	165876		880408	
Liza	*Mugil liza*	170338		8836010104	Liza
Lizardfish, inshore	*Synodus foetens*	162376		8762020101	Inshore lizardfish
Lizardfish, largescale	*Saurida brasiliensis*	162408		8762020301	Largescale lizardfish
Lizardfish, offshore	*Synodus poeyi*	162379		8762020104	Offshore lizardfish
Lizardfish, red	*Synodus synodus*	162382		8762020106	Red lizardfish
Lizardfishes	*Synodontidae*	162374		876202	
Lobster, American	*Homarus americanus*	097314		6181010201	
Lobster, Caribbean spiny	*Panulirus argus*	097648		6182010101	
Lobster, Spanish	*Scyllarides*	097671		61820202	
Lobster, spotted spiny	*Panulirus guttatus*	097651		6182010104	
Lobsters, slipper	*Scyllaridae*	097660		618202	
Lookdown	*Selene vomer*	168680	2095	8835280701	Lookdown
Lumpfish	*Cyclopterus lumpus*	167612	2100	8831091501	Lumpfish
Lumpfishes	*Cyclopteridae*	167483		883109	
Mackerel, Atlantic	*Scomber scombrus*	172414	2120	8850030302	Atlantic mackerel
Mackerel, black snake	*Nealotus tripes*	172368		8850010601	Black snake mackerel
Mackerel, bullet	*Auxis rochei*	172455	2151	8850030701	Bullet mackerel
Mackerel, chub	*Scomber japonicus*	172412	2150	8850030301	Chub mackerel
Mackerel, frigate	*Auxis thazard*	172456	1320	8850030702	Frigate mackerel
Mackerel, king	*Scomberomorus cavalla*	172435	1939	8850030501	King mackerel
Mackerel, king and cero	*Scomberomorus*	172434	1940	88500305	
Mackerel, snake	*Gempylus serpens*	172360	2504	8850010201	Snake mackerel
Mackerel, Spanish	*Scomberomorus maculatus*	172436	3840	8850030502	Spanish mackerel
Mackerels	*Scomber*	172411		8850030300	
Major, sergeant	*Abudefduf saxatilis*	170046		8835620101	Sergeant major
Manta	*Manta birostris*	160992		8713080101	Manta
Margate	*Haemulon album*	169060	1442	8835400103	Margate
Margate, black	*Anisotremus surinamensis*	169084	1443	8835400304	Black margate
Marlin	*Istiophoridae*	172486	2180	885006	
Marlin, blue	*Makaira nigricans*	172491	2179	8850060201	Blue marlin
Marlin, striped	*Tetrapturus audax*	172504		8850060306	Striped marlin
Marlin, white	*Tetrapturus albidus*	172499	2177	8850060301	White marlin
Marlinsucker	*Remora osteochir*	168570		8835270102	Marlinsucker
Mat, green sea	*Zoanthus sociatus*	052440		3756010201	
Mellita	*Mellita*	158019		81550401	

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Menhaden, Atlantic	*Brevoortia tyrannus*	161732		8747010401	Atlantic menhaden
Menhaden, finescale	*Brevoortia gunteri*	161733		8747010402	Finescale menhaden
Menhaden, Gulf	*Brevoortia patronus*	161734		8747010403	Gulf menhaden
Menhaden, yellowfin	*Brevoortia smithi*	161735		8747010404	Yellowfin menhaden
Menhadens	*Brevoortia*	161731	2210	87470104	
Metridium dianthus	*Metridium dianthus*	052738		3760060102	
Midshipman, Atlantic	*Porichthys plectrodon*	164421		8783010108	Atlantic midshipman
Milkfish	*Chanos chanos*	162838		8771010101	Milkfish
Minnow, sheepshead	*Cyprinodon variegatus*	165631		8804040101	Sheepshead minnow
Minnows	*Cyprinidae*	163342		8776010000	
Miter, Florida	*Mitra florida*	074544		5106010320	
Mithraculus	*Mithraculus*	098605		61870158	
Mithraculus ruber	*Mithraculus ruber*	098614		6187015805	
Mojarra, bigeye	*Eucinostomus havana*	169022		8835390108	Bigeye mojarra
Mojarra, flagfin	*Eucinostomus melanopterus*	169019		8835390105	Flagfin mojarra
Mojarra, mottled	*Eucinostomus lefroyi*	169018		8835390104	Mottled mojarra
Mojarra, slender	*Eucinostomus jonesi*	169023		8835390109	Slender mojarra
Mojarra, spotfin	*Eucinostomus argenteus*	169015		8835390101	Spotfin mojarra
Mojarra, striped	*Diapterus plumieri*	169028		8835390203	Striped mojarra
Mojarra, yellowfin	*Gerres cinereus*	169032		8835390301	Yellowfin mojarra
Mojarras	*Gerreidae*	169013	2250	883539	
Mollusks	*Mollusca*	069458		5085	
Molly, sailfin	*Poecilia latipinna*	165898		8804080201	Sailfin molly
Moonfish, atlantic	*Selene setapinnis*	168684	2310	8835280705	Atlantic moonfish
Moray, banded	*Echidna polyzona*	161177		8741050205	
Moray, blackedge	*Gymnothorax nigromarginatus*	161189		8741050404	Blackedge moray
Moray, chain	*Echidna catenata*	161171		8741050201	Chain moray
Moray, false	*Kaupichthys hyoproroides*	161152		8741040201	False moray
Moray, goldentail	*Gymnothorax miliaris*	161237		8741050448	Goldentail moray
Moray, green	*Gymnothorax funebris*	161186		8741050401	Green moray
Moray, honeycomb	*Gymnothorax saxicola*	161192		8741050407	Honeycomb moray
Moray, purplemouth	*Gymnothorax vicinus*	161193		8741050408	Purplemouth moray
Moray, pygmy	*Anarchias similis*	161169		8741050107	Pygmy moray
Moray, reticulate	*Muraena retifera*	161240		8741050502	Reticulate moray
Moray, Ruppell's	*Gymnothorax ruppelliae*	161222		8741050434	
Moray, spotted	*Gymnothorax moringa*	161188		8741050403	Spotted moray
Moray, yellowedged	*Gymnothorax flavimarginatus*	161195		8741050410	
Moray, zebra	*Echidna zebra*	161172		8741050202	
Morays, false	*Xenocongridae*	161147		874104	
Mosquitofish, eastern	*Gambusia holbrooki*	165896		8804080116	Eastern mosquitofish
Mosquitofish, western	*Gambusia affinis*	165878		8804080101	Western mosquitofish
Mouth, painted flute	*Aulostomus chinensis*	166412		8819010102	
Mudsnail, eastern	*Nassarius obsoletus*	074111		5105080104	
Mullet, brown	*Neomyxus leuciscus*	170361		8836010601	
Mullet, fantail	*Mugil gyrans*	170351		8836010117	Fantail mullet
Mullet, mountain	*Agonostomus monticola*	170355		8836010401	Mountain mullet
Mullet, redeye	*Mugil gaimardianus*	170337		8836010103	Redeye mullet
Mullet, striped	*Mugil cephalus*	170335	2341	8836010101	Striped mullet
Mullet, white	*Mugil curema*	170336	2346	8836010102	White mullet
Mullets	*Mugilidae*	170333	2347	883601	
Mullets, gray	*Mugil*	170334		88360101	

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Mulloidichthys pflugeri	*Mulloidichthys pflugeri*	169412		8835450104	
Mummichog	*Fundulus heteroclitus*	165647	2370	8804040203	Mummichog
Mussel, California	*Mytilus californianus*	079455		5507010102	
Mussel, ribbed	*Geukensia demissa*	079555		5507011501	
Mussel, sea	*Mytilus edulis*	079454		5507010101	
Myripristis chryseres	*Myripristis chryseres*	166220		8810080205	
Myripristis vittatus	*Myripristis vittatus*	166227		8810080212	
Mystriophis	*Mystriophis*	161455		8741130900	
Naso lituratus	*Naso lituratus*	172297		8849010205	
Nassa, bruised	*Nassarius vibex*	074107		5105080102	
Nassarius	*Nassarius*	074103		51050801	
Needlefish, Atlantic	*Strongylura marina*	165551	0190	8803020201	Atlantic needlefish
Needlefish, flat	*Ablennes hians*	165548		8803020101	Flat needlefish
Needlefish, keeltail	*Platybelone argalus*	165585		8803020401	Keeltail needlefish
Needlefish, redfin	*Strongylura notata*	165553		8803020202	Redfin needlefish
Needlefishes	*Belonidae*	165546		880302	
Nudibranchs	*Nudibranchia*	078156		5127	
Oarfish	*Regalecus glesne*	166356		8815030101	Oarfish
Ocean perch, Atlantic	*Sebastes marinus*	166745		8826010139	
Octopus	*Octopodidae*	082590		570801	
Octopus, Atlantic pygmy	*Octopus joubini*	082607		5708010204	
Octopus, Atlantic white-spotted	*Octopus macropus*	082611		5708010206	
Octopus, Caribbean reef	*Octopus briareus*	082610		5708010205	
Octopus, common	*Octopus vulgaris*	082603		5708010202	
Oilfish	*Ruvettus pretiosus*	172364	2502	8850010401	Oilfish
Ola'i, pu'u	*Canthigaster amboinensis*	173321		8861010402	
'Omakaha, hohu	*Scorpaenopsis cacopsis*	166872		8826011301	
Oopukai	*Cirrhitus pinnulatus*	170235		8835640401	
Opah	*Lampris guttatus*	166326	2503	8813010102	Opah
Ophidiiformes		553139			
Oyster, Atlantic thorny	*Spondylus americanus*	079779		5509070101	
Oyster, eastern	*Crassostrea virginica*	079872		5510020102	
Oyster, edible	*Ostrea edulis*	079885		5510020205	
Paguristes erythrops	*Paguristes erythrops*	098170		6183160115	
Paguristes puncticeps	*Paguristes puncticeps*	098168		6183160113	
Paguroidea	*Paguroidea*	206947		618319	
Pagurus acadianus	*Pagurus acadianus*	097803		6183060226	
Palmaria palmata	*Palmaria palmata*	012842		1610020702	
Palometa	*Trachinotus goodei*	168710		8835280903	Palometa
Parrotfish, blue	*Scarus coeruleus*	170811		8839030101	Blue parrotfish
Parrotfish, bluelip	*Cryptotomus roseus*	170857		8839030201	Bluelip parrotfish
Parrotfish, bucktooth	*Sparisoma radians*	170865		8839030404	Bucktooth parrotfish
Parrotfish, emerald	*Nicholsina usta*	170860		8839030301	Emerald parrotfish
Parrotfish, greenblotch	*Sparisoma atomarium*	170862		8839030401	Greenblotch parrotfish
Parrotfish, midnight	*Scarus coelestinus*	170812		8839030102	Midnight parrotfish
Parrotfish, palenose	*Scarus psittacus*	170855		8839030146	
Parrotfish, princess	*Scarus taeniopterus*	170815		8839030105	Princess parrotfish
Parrotfish, queen	*Scarus vetula*	170816		8839030106	Queen parrotfish
Parrotfish, rainbow	*Scarus guacamaia*	170814		8839030104	Rainbow parrotfish

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Parrotfish, redband	*Sparisoma aurofrenatum*	170863		8839030402	Redband parrotfish
Parrotfish, redfin	*Sparisoma rubripinne*	170866		8839030405	Redfin parrotfish
Parrotfish, redtail	*Sparisoma chrysopterum*	170864		8839030403	Redtail parrotfish
Parrotfish, stareyed	*Calotomus carolinus*	170875		8839030603	
Parrotfish, stoplight	*Sparisoma viride*	170867		8839030406	Stoplight parrotfish
Parrotfish, striped	*Scarus croicensis*	170813		8839030103	Striped parrotfish
Parrotfish, whitelined	*Scarus dubius*	170818		8839030108	
Parrotfishes	*Scaridae*	170809	2520	883903	
Parupeneus bifasciatus	*Parupeneus bifasciatus*	169450		8835450502	
Parupeneus cyclostomus	*Parupeneus cyclostomus*	169456		8835450507	
Parupeneus multifasciatus	*Parupeneus multifasciatus*	169453		8835450505	
Parupeneus pleurostigma	*Parupeneus pleurostigma*	169451		8835450503	
Parupeneus porphyreus	*Parupeneus porphyreus*	169452		8835450504	
Pearlfish	*Carapus bermudensis*	165096		8792020101	Pearlfish
Penshell	*Pinnidae*	079578		550702	
Perch, bluebanded sea	*Lutjanus kasmira*	168862		8835360114	
Perch, dwarf sand	*Diplectrum bivittatum*	167796	3111	8835021005	Dwarf sand perch
Perch, sand	*Diplectrum formosum*	167793	3110	8835021002	Sand perch
Perch, sand	*Diplectrum*	167791		88350210	
Perch, silver	*Bairdiella chrysoura*	169259		8835440301	Silver perch
Perch, white	*Morone americana*	167678	5060	8835750201	White perch
Perch, yellow	*Perca flavescens*	168469	5170	8835200201	Yellow perch
Perches, true	*Percidae*	168356		8835200000	
Periwinkle, common	*Littorina littorea*	070419		5103100108	
Periwinkles, Atlantic	*Littorinidae*	070394		510310	
Permit	*Trachinotus falcatus*	168709	2550	8835280902	Permit
Pickerel, chain	*Esox niger*	162143		8758010103	Chain pickerel
Pickerel/pike family	*Esocidae*	162137		875801	
Pigfish	*Orthopristis chrysoptera*	169077	2580	8835400201	Pigfish
Pike-conger, freckled	*Hoplunnis macrurus*	161291		8741080102	Freckled pike-conger
Pilchard, false	*Harengula clupeola*	161753		8747010801	False pilchard
Pilotfish	*Naucrates ductor*	168742	2640	8835281501	Pilotfish
Pinfish	*Lagodon rhomboides*	169187	2670	8835430201	Pinfish
Pinfish, spottail	*Diplodus holbrooki*	169192	3314	8835430401	Spottail pinfish
Pipefish, banded	*Micrognathus crinitus*	166524		8820020501	Banded pipefish
Pipefish, dusky	*Syngnathus floridae*	166446		8820020102	Dusky pipefish
Pipefish, sargassum	*Syngnathus pelagicus*	166454		8820020108	Sargassum pipefish
Pipefishes	*Syngnathidae*	166443		882002	
Plaice, American	*Hippoglossoides platessoides*	172877	1205	8857040603	American plaice
Plant, caulerpa	*Caulerpaceae*	006962		080905	
Plant, halimeda	*Halimeda*	006922		08090303	
Plant, mermaid's shaving brush	*Penicillus*	006949		08090307	
Plantae	*Plantae*	202422		0399	
Polinices duplicatus	*Polinices duplicatus*	072918		5103760407	
Polinices heros	*Polinices heros*	072923		5103760410	
Pollock	*Pollachius virens*	164727	2690	8791030901	Pollock
Polychaete, fanworm	*Serpulidae*	068232		500173	
Polychaete, feather-duster	*Sabellidae*	068076		500170	
Polychaete, fireworm	*Amphinomidae*	065164		500110	

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Polychaete, horned christmas-t	*Spirobranchus gigantea*	068304		5001731301	
Polydactylus sexfilis	*Polydactylus sexfilis*	170453		8838010106	
Pomfret, bigscale	*Taractichthys longipinnis*	170311		8835710701	
Pomfrets	*Bramidae*	170287	2710	883571	
Pompano, African	*Alectis ciliaris*	168602	1807	8835280202	African pompano
Pompano, Florida	*Trachinotus carolinus*	168708	2720	8835280901	Florida pompano
Pompano, Irish	*Diapterus auratus*	169029		8835390204	Irish pompano
Pompanos	*Trachinotus*	168707		88352809	
Porcupinefish	*Diodon hystrix*	173391		8861030201	Porcupinefish
Porgies	*Sparidae*	169180	3295	883543	
Porgy, grass	*Calamus arctifrons*	169196	3305	8835430501	Grass porgy
Porgy, jolthead	*Calamus bajonado*	169197	3312	8835430502	Jolthead porgy
Porgy, knobbed	*Calamus nodosus*	169201	3308	8835430506	Knobbed porgy
Porgy, littlehead	*Calamus proridens*	169203	3310	8835430508	Littlehead porgy
Porgy, longspine	*Stenotomus caprinus*	169183	3299	8835430102	Longspine porgy
Porgy, red	*Pagrus pagrus*	169207	3302	8835430601	Red porgy
Porgy, saucereye	*Calamus calamus*	169198	3304	8835430503	Saucereye porgy
Porgy, sheepshead	*Calamus penna*	169205		8835430510	Sheepshead porgy
Porgy, silver	*Diplodus argenteus*	169193		8835430402	Silver porgy
Porgy, whitebone	*Calamus leucosteus*	169200	3306	8835430505	Whitebone porgy
Porkfish	*Anisotremus virginicus*	169086	2750	8835400306	Porkfish
Portunus floridanus	*Portunus floridanus*	098726		6189010609	
Pout, ocean	*Macrozoarces americanus*	165318	2500	8793011601	Ocean pout
Pout, ocean	*Macrozoarces americanus*	630979	2500	8793011601	Ocean pout
Praunus flexuosus	*Praunus flexuosus*	090181		6153012201	
Priacanthus meeki	*Priacanthus meeki*	168184		8835170104	
Puddingwife	*Halichoeres radiatus*	170510	2765	8839010709	Puddingwife
Puffer, bandtail	*Sphoeroides spengleri*	173300		8861010211	Bandtail puffer
Puffer, blunthead	*Sphoeroides pachygaster*	173298		8861010209	Blunthead puffer
Puffer, checkered	*Sphoeroides testudineus*	173291		8861010202	Checkered puffer
Puffer, least	*Sphoeroides parvus*	173299		8861010210	Least puffer
Puffer, marbled	*Sphoeroides dorsalis*	173294		8861010205	Marbled puffer
Puffer, northern	*Sphoeroides maculatus*	173290		8861010201	Northern puffer
Puffer, oceanic	*Lagocephalus lagocephalus*	173286		8861010102	Oceanic puffer
Puffer, sharpnose	*Canthigaster rostrata*	173320		8861010401	Sharpnose puffer
Puffer, smooth	*Lagocephalus laevigatus*	173285		8861010101	Smooth puffer
Puffer, southern	*Sphoeroides nephelus*	173297		8861010208	Southern puffer
Puffers	*Tetraodontidae*	173283	2760	886101	
Puffers	*Sphoeroides*	173289	4290	88610102	
Pumpkinseed	*Lepomis gibbosus*	168144		8835160505	Pumpkinseed
Pygmy filefish	*Stephanolepis setifer*	173149		8860020303	
Quahog, northern	*Mercenaria mercenaria*	081496		5515471101	
Quahog, ocean	*Arctica islandica*	081343		5515390101	
Quahog, southern	*Mercenaria campechiensis*	081499		5515471102	
Rabbitfishes	*Lagocephalus*	173284		88610101	
Rangia, Atlantic	*Rangia cuneata*	080962		5515250401	
Raven, sea	*Hemitripterus americanus*	167289	3270	8831021503	Sea raven
Ray, bullnose	*Myliobatis freminvillei*	160980		8713070201	Bullnose ray
Ray, cownose	*Rhinoptera bonasus*	160985		8713070301	Cownose ray

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Ray, devil	*Mobula hypostoma*	160997		8713080202	Devil ray
Ray, lesser electric	*Narcine brasiliensis*	160844		8713120101	Lesser electric ray
Ray, smooth butterfly	*Gymnura micrura*	160962		8713050202	Smooth butterfly ray
Ray, southern eagle	*Myliobatis goodei*	160982		8713070203	Southern eagle ray
Ray, spiny butterfly	*Gymnura altavela*	160961		8713050201	Spiny butterfly ray
Ray, spotted eagle	*Aetobatus narinari*	160978		8713070101	
Rays	*Rajiformes*	160806	2860	8713	
Rays, eagle	*Myliobatidae*	160976		871307	
Rays, electric	*Torpedinidae*	160829		871303	
Rays, manta	*Mobulidae*	160990		871308	
Razorfish, green	*Hemipteronotus splendens*	170539		8839010804	Green razorfish
Razorfish, pearly	*Hemipteronotus novacula*	170537		8839010802	Pearly razorfish
Razorfish, rosy	*Hemipteronotus martinicensis*	170536		8839010801	Rosy razorfish
Razorfishes	*Hemipteronotus*	170535		88390108	
Razorfishes	*Centriscidae*	166433		881904	
Red lionfish	*Pterois volitans*	166883		8826011401	Red firefish
Redfish, acadian	*Sebastes fasciatus*	166774		8826010169	Acadian redfish
Redfish, deepwater	*Sebastes mentella*	166756		8826010151	Deepwater redfish
Redfish, golden	*Sebastes norvegicus*	166781		8826010177	Golden redfish
Reeffish, purple	*Chromis scotti*	170086		8835620307	Purple reeffish
Reeffish, yellowtail	*Chromis enchrysurus*	170081		8835620302	Yellowtail reeffish
Remora	*Remora remora*	168571		8835270103	Remora
Remora	*Remora*	168568	2865	88352701	
Remora, other	*Echeneidae*	168567		883527	
Remora, spearfish	*Remora brachyptera*	168572		8835270104	Spearfish remora
Remoras, slender	*Echeneis*	168574		88352702	
Rhinecanthus rectangulus	*Rhinecanthus rectangulus*	173206		8860021102	
Ribbonfish, polka-dot	*Desmodema polystictum*	166350		8815020201	Polka-dot ribbonfish
Ribbonfish, tapertail	*Trachipterus fukuzakii*	166343		8815020103	Tapertail ribbonfish
Ribbonfishes	*Trachipteridae*	166339		881502	
Ricordea Florida	*Ricordea florida*	052484		3757010401	
Robalos	*Centropomus*	167643		88350101	
Robins, sea	*Triglidae*	166972	3410	882602	
Rosefish, blackbelly	*Helicolenus dactylopterus*	166787	2420	8826010301	Blackbelly rosefish
Rudderfish	*Kyphosidae*	169503		883551	
Rudderfish, banded	*Seriola zonata*	168693	1817	8835280804	Banded rudderfish
Rudderfishes	*Centrolophidae*	172508		8851010000	
Rudderfishes	*Kyphosus*	169504		88355101	
Runner, blue	*Caranx crysos*	168612	0270	8835280306	Blue runner
Runner, rainbow	*Elagatis bipinnulata*	168738	1814	8835281301	Rainbow runner
Sailfish	*Istiophorus platypterus*	172488	3026	8850060101	Sailfish
Salmon	*Salmonidae*	161931		875501	
Salmon, Atlantic	*Salmo salar*	161996	3050	8755010305	Atlantic salmon
Sand dollar, 6-holed keyhole	*Leodia*	158031		81550403	
Sand dollar, notched	*Encope emarginata*	158028		8155040203	
Sand dollar, other	*Mellitidae*	158018		815504	
Sanddabs	*Citharichthys*	172715	1260	88570301	
Sandfish, belted	*Serranus subligarius*	167858		8835022309	Belted sandfish
Sandworms	*Nereis*	065902		50012404	
Sardine, orangespot	*Sardinella brasiliensis*	161764		8747011002	Orangespot sardine
Sardine, redear	*Harengula humeralis*	161754		8747010802	Redear sardine

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Sardine, scaled	*Harengula jaguana*	161755		8747010803	Scaled sardine
Sardine, spanish	*Sardinella aurita*	161763	3870	8747011001	Spanish sardine
Sargassumfish	*Histrio histrio*	164520		8787020101	Sargassumfish
Saury, Atlantic	*Scomberesox saurus*	165612	3196	8803030201	Atlantic saury
Sawfish, largetooth	*Pristis pristis*	160810		8713010103	Largetooth sawfish
Sawfish, smalltooth	*Pristis pectinata*	160809	3230	8713010101	Smalltooth sawfish
Sawfishes	*Pristis*	160808		87130101	
Sawfishes	*Pristidae*	160807		8713010000	
Scad, bigeye	*Selar crumenophthalmus*	168677	0130	8835280601	Bigeye scad
Scad, mackerel	*Decapterus macarellus*	168724	2160	8835281201	Mackerel scad
Scad, redtail	*Decapterus tabl*	168726		8835281203	Redtail scad
Scad, rough	*Trachurus lathami*	168587	3237	8835280102	Rough scad
Scad, round	*Decapterus punctatus*	168725		8835281202	Round scad
Scads	*Decapterus*	168723		88352812	
Scallop	*Pectinidae*	079611		550905	
Scallop, Atlantic calico	*Argopecten gibbus*	079734		5509051201	
Scallop, bay	*Argopecten irradians*	079737		5509051202	
Scallop, iceland	*Chlamys islandica*	079619		5509050103	
Scallop, lions-paw	*Nodipecten nodosus*	079771		5509052101	
Scallop, sea	*Placopecten magellanicus*	079718		5509050901	
Scamp	*Mycteroperca phenax*	167763	1424	8835020505	Scamp
Scarus perspicillatus	*Scarus perspicillatus*	170817		8839030107	
Scarus taeniurus	*Scarus taeniurus*	170824		8839030114	
Schoolmaster	*Lutjanus apodus*	168850	3771	8835360104	Schoolmaster
Scorpionfish, goosehead	*Scorpaena bergi*	166814		8826010603	Goosehead scorpionfish
Scorpionfish, longfin	*Scorpaena agassizi*	166812		8826010601	Longfin scorpionfish
Scorpionfish, reef	*Scorpaenodes caribbaeus*	166862		8826011201	Reef scorpionfish
Scorpionfish, spinycheek	*Neomerinthe hemingwayi*	166794	3263	8826010402	Spinycheek scorpionfish
Scorpionfish, spotted	*Scorpaena plumieri*	166825	3265	8826010614	Spotted scorpionfish
Scorpionfishes	*Scorpaenidae*	166704	3261	882601	
Sculpin, Atlantic hookear	*Artediellus atlanticus*	167208		8831020307	Atlantic hookear sculpin
Sculpin, longhorn	*Myoxocephalus octodecemspinosus*	167320		8831022209	Longhorn sculpin
Sculpin, shorthorn	*Myoxocephalus scorpius*	167318		8831022207	Shorthorn sculpin
Sculpin, twohorn	*Icelus bicornis*	167188		8831010101	Twohorn sculpin
Sculpins	*Cottidae*	167196	3260	883102	
Scup	*Stenotomus chrysops*	169182	3298	8835430101	Scup
Sea bass, mixed	*Centropristis*	167686		88350203	
Sea biscuit, inflated	*Clypeaster prostratus*	157988		8153010101	
Sea biscuit, other	*Clypeaster*	157987		81530101	
Sea cucumber	*Cucumaria frondosa*	158195		8172060104	
Sea cucumber, other	*Holothuriidae*	158309		817501	
Sea star, other	*Asteroidea*	156862		8104	
Seabass, white	*Atractoscion nobilis*	169387		8835442901	White seabass
Seahorse, dwarf	*Hippocampus zosterae*	166493		8820020205	Dwarf seahorse
Seahorse, lined	*Hippocampus erectus*	166488		8820020201	Lined seahorse
Seahorses	*Hippocampus*	166487		88200202	
Searobin, armored	*Peristedion miniatum*	167010		8826020307	Armored searobin
Searobin, bandtail	*Prionotus ophryas*	166986		8826020113	Bandtail searobin

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Searobin, barred	*Prionotus martis*	166984		8826020111	Barred searobin
Searobin, bigeye	*Prionotus longispinosus*	166996		8826020123	Bigeye searobin
Searobin, bighead	*Prionotus tribulus*	166977		8826020104	Bighead searobin
Searobin, blackwing	*Prionotus rubio*	166991		8826020118	Blackwing searobin
Searobin, bluespotted	*Prionotus roseus*	166990		8826020117	Bluespotted searobin
Searobin, horned	*Bellator militaris*	167000		8826020203	Horned searobin
Searobin, leopard	*Prionotus scitulus*	166976		8826020103	Leopard searobin
Searobin, Mexican	*Prionotus paralatus*	166987		8826020114	Mexican searobin
Searobin, northern	*Prionotus carolinus*	166974		8826020101	Northern searobin
Searobin, shortfin	*Bellator brachychir*	166998		8826020201	Shortfin searobin
Searobin, spiny	*Prionotus alatus*	166978		8826020105	Spiny searobin
Searobin, streamer	*Bellator egretta*	166999		8826020202	Streamer searobin
Searobin, striped	*Prionotus evolans*	166975		8826020102	Striped searobin
Searobins, north american	*Prionotus*	166973		88260201	
Seatrout, sand	*Cynoscion arenarius*	169243	3455	8835440106	Sand seatrout
Seatrout, silver	*Cynoscion nothus*	169240		8835440103	Silver seatrout
Seatrout, spotted	*Cynoscion nebulosus*	169239	3447	8835440102	Spotted seatrout
Seaweed	*Phaeophycophyta*	010685		15	
Seaweed, Irish moss	*Chondrus crispus*	012092		1608100101	
Seaweed, rockweed	*Ascophyllum nodosum*	011331		1510010101	
Seaweed, rockweed family	*Fucaceae*	011329		151001	
Seaweed, wormweed	*Ascophyllum nodosum scorpioides*	011332		151001010101	
Sennet, northern	*Sphyraena borealis*	170427		8837010102	Northern sennet
Sennet, southern	*Sphyraena picudilla*	170430		8837010105	Southern sennet
Sergeant, night	*Abudefduf taurus*	170047		8835620102	Night sergeant
Serranus scriba	*Serranus scriba*	167862		8835022313	
Shad, Alabama	*Alosa alabamae*	161705		8747010104	Alabama shad
Shad, American	*Alosa sapidissima*	161702	3474	8747010101	American shad
Shad, gizzard	*Dorosoma cepedianum*	161737	1340	8747010501	Gizzard shad
Shad, hickory	*Alosa mediocris*	161704	1730	8747010103	Hickory shad
Shad, threadfin	*Dorosoma petenense*	161738	3470	8747010502	Threadfin shad
Shark	*Chondrichthyes*	159785		8701	
Shark	*Squaliformes*	160602		8709	
Shark, Atlantic angel	*Squatina dumeril*	160787	3582	8711010102	Atlantic angel shark
Shark, Atlantic sharpnose	*Rhizoprionodon terraenovae*	160200	3518	8708020301	Atlantic sharpnose shark
Shark, basking	*Cetorhinus maximus*	159907	3484	8707120101	Basking shark
Shark, bignose	*Carcharhinus altimus*	160307	3491	8708020505	Bignose shark
Shark, blacknose	*Carcharhinus acronotus*	160304	3485	8708020504	Blacknose shark
Shark, blacktip	*Carcharhinus limbatus*	160318	3495	8708020507	Blacktip shark
Shark, blue	*Prionace glauca*	160424	3504	8708020601	Blue shark
Shark, bonnethead	*Sphyrna tiburo*	160502	3483	8708030101	Bonnethead
Shark, bull	*Carcharhinus leucas*	160275	3497	8708020502	Bull shark
Shark, carcharhin	*Carcharhinus*	160267		87080205	
Shark, dusky	*Carcharhinus obscurus*	160268	3514	8708020501	Dusky shark
Shark, finetooth	*Carcharhinus isodon*	160409	3481	8708020531	Finetooth shark
Shark, hammerhead	*Sphyrnidae*	160497		8708030000	
Shark, hammerhead, great	*Sphyrna mokarran*	160515	3524	8708030104	Great hammerhead
Shark, hammerhead, scalloped	*Sphyrna lewini*	160508	3523	8708030103	Scalloped hammerhead
Shark, hammerhead, smooth	*Sphyrna zygaena*	160505	3522	8708030102	Smooth hammerhead

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Shark, kitefin	*Dalatias licha*	160651		8710010401	Kitefin shark
Shark, large pelagic species	*Selachimorpha*	159787		8703	
Shark, lemon	*Negaprion brevirostris*	160433	3517	8708020801	Lemon shark
Shark, mako, longfin	*Isurus paucus*	159926		8707040502	Longfin mako
Shark, mako, shortfin	*Isurus oxyrinchus*	159924	3505	8707040501	Shortfin mako
Shark, mako, shortfin	*Isurus*	159923		87070405	
Shark, night	*Carcharhinus signatus*	160413	3494	8708020532	Night shark
Shark, nurse	*Ginglymostoma cirratum*	159977	3480	8707100101	Nurse shark
Shark, oceanic whitetip	*Carcharhinus longimanus*	160330	3498	8708020508	Oceanic whitetip shark
Shark, porbeagle	*Lamna nasus*	159911	3501	8707040302	Porbeagle
Shark, reef	*Carcharhinus perezi*	160336	3490	8708020511	Reef shark
Shark, sand tiger	*Carcharias taurus*	159888			
Shark, sandbar	*Carcharhinus plumbeus*	160289	3513	8708020503	Sandbar shark
Shark, silky	*Carcharhinus falciformis*	160310	3493	8708020506	Silky shark
Shark, sixgill	*Hexanchus griseus*	159819	3528	8705020101	Sixgill shark
Shark, small coastal species	*Elasmobranchii*	159786		8702	
Shark, smalltail	*Carcharhinus porosus*	160340	3479	8708020512	Smalltail shark
Shark, smoothhound, florida	*Mustelus norrisi*	160234		8708020403	Florida smoothhound
Shark, spinner	*Carcharhinus brevipinna*	160401	3496	8708020530	Spinner shark
Shark, thresher	*Alopias vulpinus*	159916	3509	8707040401	Thresher shark
Shark, thresher	*Alopias*	159915	3500	87070404	
Shark, thresher, bigeye	*Alopias superciliosus*	159921	3510	8707040402	Bigeye thresher
Shark, tiger	*Galeocerdo cuvier*	160189	3515	8708020201	Tiger shark
Shark, white	*Carcharodon carcharias*	159903	3512	8707040101	White shark
Shark, whitelip reef	*Triaenodon obesus*	160453		8708021101	
Sharks, dogfish	*Squalidae*	160604	3503	871001	
Sharks, hammerhead	*Sphyrna*	160499		87080301	
Sharks, hammerhead	*Sphyma tudes*	160519		8708030105	
Sharks, mackerel	*Lamnidae*	159901		870704	
Sharks, pelagic, unc	*Lamniformes*	159851		8706	
Sharks, requiem	*Carcharhinidae*	160178		870802	
Sharks, whale	*Rhincodontidae*	159854		870701	
Sharksucker	*Echeneis naucrates*	168575		8835270201	Sharksucker
Sharksucker, whitefin	*Echeneis neucratoides*	168576		8835270202	Whitefin sharksucker
Sheepshead	*Archosargus probatocephalus*	169189	3560	8835430301	Sheepshead
Shellfish, other	*Crustacea*	083677		61	
Shiner, golden	*Notemigonus crysoleucas*	163368		8776010601	Golden shiner
Shrimp, Atlanic seabob	*Xiphopenaeus kroyeri*	095750	7338	6177010701	
Shrimp, bait	*Penaeus*	095603		61770101	
Shrimp, banded coral	*Stenopus hispidus*	097298		6180010102	
Shrimp, cleaner	*Lysmata grabhami*	096896		6179161104	
Shrimp, golden coral	*Stenopus scutellatus*	097297		6180010101	
Shrimp, mantis	*Stomatopoda*	099140		6191	
Shrimp, marine	*Dendrobranchiata*	095600		6176	
Shrimp, northern	*Pandalus borealis*	096967		6179180101	
Shrimp, northern brown	*Farfantepenaeus aztecus*	551570			
Shrimp, northern pink	*Farfantepenaeus duorarum*	551574			
Shrimp, northern white	*Litopenaeus setiferus*	551680			

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Shrimp, ocean	*Pandalus jordani*	096970		6179180103	
Shrimp, Pederson cleaner	*Periclimenes pedersoni*	096421		6179110407	
Shrimp, peppermint	*Lysmata wurdemanni*	096893		6179161101	
Shrimp, pistol or snapping	*Alpheus*	096601		61791401	
Shrimp, rock	*Sicyonia*	096027	7325	61770401	
Shrimp, rock	*Sicyonia brevirostris*	096028	7325	6177040101	
Shrimp, royal red	*Pleoticus robustus*	095966	7330	6177030301	
Shrimp, spotted cleaner	*Periclimenes yucatanicus*	096424		6179110410	
Shrimps, penaeid	*Penaeidae*	095602	9560	617701	
Shrimps, penaeoid	*Penaeoidea*	095601	9560	6177	
Silver-rag	*Ariomma bondi*	172537		8851020101	Silver-rag
Silverside, Atlantic	*Menidia menidia*	165994		8805020302	Atlantic silverside
Silverside, hardhead	*Atherinomorus stipes*	166006		8805020501	Hardhead silverside
Silverside, inland	*Menidia beryllina*	165993		8805020301	Inland silverside
Silverside, rough	*Membras martinica*	165989		8805020201	Rough silverside
Silversides	*Atherinidae*	165984	3620	880502	
Silversides, atlantic	*Menidia*	165992		88050203	
Skate, barndoor	*Raja laevis*	160857	3655	8713040115	Barndoor skate
Skate, big	*Raja binoculata*	160848		8713040103	Big skate
Skate, clearnose	*Raja eglanteria*	160855		8713040113	Clearnose skate
Skate, little	*Raja erinacea*	160856	3654	8713040114	Little skate
Skate, rosette	*Raja garmani*	160866		8713040124	Rosette skate
Skate, rosette	*Raja garmani*	564136		8713040124	Rosette skate
Skate, roundel	*Raja texana*	160875		8713040133	Roundel skate
Skate, smooth	*Malacoraja senta*	564151		8713040131	Smooth skate
Skate, smooth	*Raja senta*	160873		8713040131	Smooth skate
Skate, speckled	*Raja lentiginosa*	160868		8713040126	
Skate, spinytail	*Raja spinicauda*	160877		8713040135	Spinytail skate
Skate, thorny	*Raja radiata*	160876		8713040134	Thorny skate
Skate, thorny	*Raja radiata*	564149		8713040134	Thorny skate
Skate, winter	*Raja ocellata*	160858		8713040116	Winter skate
Skate, winter	*Raja ocellata*	564145		8713040116	Winter skate
Skates	*Rajidae*	160845		871304	
Skates	*Raja*	160846	3650	87130401	
Skilletfish	*Gobiesox strumosus*	164460		8784010102	Skilletfish
Skippers	*Tylosurus*	165570	3680	88030203	
Sleeper, bigmouth	*Gobiomorus dormitor*	171921		8847013401	Bigmouth sleeper
Sleeper, fat	*Dormitator maculatus*	171919		8847013302	Fat sleeper
Sleepers	*Eleotridae*	172171		884707	
Slug, lettuce	*Tridachia crispata*	077953		5123030201	
Smelt, herring	*Argentinidae*	162057	1710	875601	
Smelt, rainbow	*Osmerus mordax*	162041	3710	8755030302	Rainbow smelt
Smelts	*Osmeridae*	162028	3732	875503	
Snail, cone	*Conus*	075281		51060301	
Snail, fig	*Ficus*	019081		32160306	
Snail, frogsnail	*Bursidae*	073106		510379	
Snail, helmet	*Cassis*	073001		51037702	
Snail, marginella	*Marginellidae*	074378		510515	
Snail, melampus	*Melampus*	076456		51140402	
Snail, moon	*Naticidae*	072878		510376	
Snail, murex	*Muricidae*	073236		510501	
Snail, nerites	*Neritidae*	070159		510217	

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Snail, olive	*Olividae*	074222		510510	
Snail, other	*Gastropoda*	069459		51	
Snail, purple sea	*Janthinidae*	072386		510351	
Snail, slipper limpet	*Crepidula fornicata*	072623		5103640204	
Snail, star	*Turbinidae*	070068		510212	
Snail, topsnail	*Trochidae*	069794		510210	
Snail, triton	*Cymatiidae*	073016		510378	
Snail, turbonella	*Turbinellidae*	074474		510517	
Snail, wentletrap	*Epitoniidae*	072232		510350	
Snails (conch)	*Strombus*	072555		51035801	
Snakefish	*Trachinocephalus myops*	162420		8762020401	Snakefish
Snapper, black	*Apsilus dentatus*	168899	3755	8835360201	Black snapper
Snapper, blackfin	*Lutjanus buccanella*	168852	3757	8835360106	Blackfin snapper
Snapper, blacktail	*Lutjanus fulvus*	168863		8835360115	
Snapper, Caribbean red	*Lutjanus purpureus*	168859	3780	8835360111	Caribbean red snapper
Snapper, crimson	*Pristipomoides filamentosus*	168916		8835360704	
Snapper, Cubera	*Lutjanus cyanopterus*	168847	3759	8835360101	Cubera snapper
Snapper, dog	*Lutjanus jocu*	168857	3754	8835360109	Dog snapper
Snapper, glasseye	*Priacanthus cruentatus*	168179	0147	8835170102	Glasseye snapper
Snapper, gray	*Lutjanus griseus*	168848	3760	8835360102	Gray snapper
Snapper, jobfish or uku	*Aprion virescens*	168926		8835360801	
Snapper, lane	*Lutjanus synagris*	168860	3761	8835360112	Lane snapper
Snapper, mahogany	*Lutjanus mahogoni*	168858	3772	8835360110	Mahogany snapper
Snapper, mutton	*Lutjanus analis*	168849	3763	8835360103	Mutton snapper
Snapper, queen	*Etelis oculatus*	168902	3770	8835360301	Queen snapper
Snapper, red	*Lutjanus campechanus*	168853	3764	8835360107	Red snapper
Snapper, ruby	*Etelis carbunculus*	168903		8835360302	
Snapper, ruby	*Etelis coruscan*	168905		8835360304	
Snapper, silk	*Lutjanus vivanus*	168861	3758	8835360113	Silk snapper
Snapper, vermilion	*Rhomboplites aurorubens*	168909	3765	8835360501	Vermilion snapper
Snapper, yellowtail	*Ocyurus chrysurus*	168907	3767	8835360401	Yellowtail snapper
Snappers	*Lutjanus*	168846		88353601	
Snappers	*Lutjanidae*	168845	3768	883536	
Snook, common	*Centropomus undecimalis*	167648	3790	8835010105	Common snook
Snook, fat	*Centropomus parallelus*	167646		8835010103	Fat snook
Snook, swordspine	*Centropomus ensiferus*	167645		8835010102	Swordspine snook
Snook, tarpon	*Centropomus pectinatus*	167647		8835010104	Tarpon snook
Soapfish	*Diploprion*	167972		88350250	
Soapfish, greater	*Rypticus saponaceus*	167990		8835030207	Greater soapfish
Soapfish, spotted	*Rypticus subbifrenatus*	167991		8835030208	Spotted soapfish
Soapfish, whitespotted	*Rypticus maculatus*	167987		8835030204	Whitespotted soapfish
Soapfishes	*Rypticus*	167983		88350302	
Soapfishes	*Grammistidae*	167982		883503	
Soldierfish, bigeye	*Ostichthys trachypoma*	166240		8810080301	Bigeye soldierfish
Soldierfish, blackbar	*Myripristis jacobus*	166211		8810080201	Blackbar soldierfish
Soldierfish, blacktipped	*Myripristis murdjan*	166214		8810080203	
Soldierfishes	*Holocentrus*	166171		88100801	
Sole, fringed	*Gymnachirus texae*	172993		8858030303	Fringed sole
Sole, lined	*Achirus lineatus*	172986		8858030202	Lined sole

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Sole, naked	*Gymnachirus melas*	172991		8858030301	Naked sole
Soles	*Soleidae*	172980	1290	885801	
Soles, tongue	*Cynoglossidae*	173060		885802	
Spadefish	*Ephippididae*	169537		883552	
Spadefish, atlantic	*Chaetodipterus faber*	169539	3810	8835520101	Atlantic spadefish
Spearfish, longbill	*Tetrapturus pfluegeri*	172502	4010	8850060304	Longbill spearfish
Spearfish, shortbill	*Tetrapturus angustirostris*	172503		8850060305	Shortbill spearfish
Sponge, glove	*Spongia cheiris*	196435		3661010107	
Sponge, grass	*Spongia graminea*	196436		3661010108	
Sponge, red ball	*Haliclona compressa*	047782		3663020111	
Sponge, sheepswool	*Hippiospongia laachne*	196440		3661011902	
Sponge, wire	*Spongia sterea*	196437		3661010109	
Sponge, yellow	*Spongia barbara*	196434		3661010106	
Sponges	*Porifera*	046861		36	
Sponges, sheepswool	*Hippiospongia*	196438		36610119	
Spot	*Leiostomus xanthurus*	169267	4060	8835440401	Spot
Squid	*Theuthoidea*	082367		5705	
Squid, longfin inshore	*Loligo pealeii*	082372		5706010102	
Squid, northern shortfin	*Illex illecebrosus*	082521		5707150301	
Squids	*Loliginidae*	082369		570601	
Squilla empusa	*Squilla empusa*	099143		6191010101	
Squirrelfish	*Holocentrus ascensionis*	166172		8810080101	
Squirrelfish, deepwater	*Holocentrus bullisi*	166178		8810080110	Deepwater squirrelfish
Squirrelfish, dusky	*Holocentrus vexillarius*	166184		8810080113	Dusky squirrelfish
Squirrelfish, longjaw	*Holocentrus marianus*	166175		8810080105	Longjaw squirrelfish
Squirrelfish, longspine	*Holocentrus rufus*	166173		8810080103	Longspine squirrelfish
Squirrelfish, reef	*Holocentrus coruscus*	166180		8810080111	Reef squirrelfish
Squirrelfish, striped	*Holocentrus xantherythrus*	166196		8810080119	
Squirrelfishes	*Holocentridae*	166170	4120	881008	
Star, basket	*Astrophyton muricatum*	157366		8125030301	
Star, black brittle	*Ophiocoma echinata*	157486		8127030103	
Star, cushioned	*Oreaster reticulatus*	157043		8111050101	
Star, scaly brittle	*Ophioderma squamosissimum*	157518		8127050112	
Star, spiny sea	*Echinaster sentus*	157187		8114040306	
Stargazer, arrow	*Gillellus greyae*	171038		8840130101	Arrow stargazer
Stargazer, lancer	*Kathetostoma albigutta*	171061		8840140301	Lancer stargazer
Stargazer, northern	*Astroscopus guttatus*	171055		8840140101	Northern stargazer
Stargazer, saddle	*Platygillellus rubrocinctus*	171051		8840130501	Saddle stargazer
Stargazer, sand	*Dactyloscopus tridigitatus*	171042		8840130201	Sand stargazer
Stargazer, southern	*Astroscopus y-graecum*	171056		8840140102	Southern stargazer
Stargazers	*Uranoscopidae*	171053		884014	
Stargazers, sand	*Dactyloscopidae*	171036		884013	
Stars, feather	*Crinoidea*	158541		8186	
Stickleback, fourspine	*Apeltes quadracus*	166397		8818010301	Fourspine stickleback
Stickleback, ninespine	*Pungitius pungitius*	166387		8818010201	Ninespine stickleback
Sticklebacks	*Gasterosteidae*	166363		881801	
Stingray, Atlantic	*Dasyatis sabina*	160953		8713050105	Atlantic stingray
Stingray, bluntnose	*Dasyatis say*	160954		8713050106	Bluntnose stingray
Stingray, roughtail	*Dasyatis centroura*	160952		8713050104	Roughtail stingray
Stingray, southern	*Dasyatis americana*	160951		8713050103	Southern stingray
Stingray, yellow	*Urolophus jamaicensis*	160965		8713050301	Yellow stingray
Stingray, yellow	*Urolophus jamaicensis*	621035			

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
Stingrays	*Dasyatis*	160947		87130501	
Stingrays	*Gymnura*	160960		87130502	
Stingrays	*Dasyatidae*	160946	2862	871305	
Stingrays, round	*Urolophus*	160964		8713050300	
Sturgeon	*Acipenser*	161065		87290101	
Sturgeon, Atlantic	*Acipenser oxyrhynchus*	161070	4216	8729010105	Atlantic sturgeon
Sturgeon, shortnose	*Acipenser brevirostrum*	161069	4215	8729010104	Shortnose sturgeon
Sturgeons	*Acipenseridae*	161064		872901	
Sucker, white	*Catostomus commersoni*	163895		8776040102	White sucker
Suckers	*Catostomidae*	163892		877604	
Sunfish, green	*Lepomis cyanellus*	168132		8835160502	Green sunfish
Sunfish, ocean	*Mola mola*	173414	4263	8861040101	Ocean sunfish
Sunfish, redbreast	*Lepomis auritus*	168131		8835160501	Redbreast sunfish
Sunfish, redear	*Lepomis microlophus*	168154		8835160509	Redear sunfish
Sunfish, spotted	*Lepomis punctatus*	168155		8835160510	Spotted sunfish
Sunfishes	*Centrarchidae*	168093	4260	883516	
Sunfishes, common	*Lepomis*	168130		88351605	
Sunshinefish	*Chromis insolata*	170082		8835620303	Sunshinefish
Surfclam, arctic	*Mactromeris polynyma*	080983		5515251001	
Surfclam, Atlantic	*Spisula solidissima*	080944		5515250102	
Surgeon, ocean	*Acanthurus bahianus*	172252		8849010101	Ocean surgeon
Surgeonfish, bristletoothed	*Ctenochaetus strigosus*	172307		8849010302	
Surgeonfish, gulf	*Acanthurus randalli*	172256		8849010105	Gulf surgeonfish
Surgeonfish, ringtail	*Acanthurus blochii*	172275		8849010122	
Surgeonfishes	*Acanthuridae*	172250		884901	
Sweeper, glassy	*Pempheris schomburgki*	169472		8835470101	Glassy sweeper
Swordfish	*Xiphias gladius*	172482	4320	8850040101	Swordfish
Tang, blue	*Acanthurus coeruleus*	172254		8849010103	Blue tang
Tang, orangespot	*Acanthurus olivaceus*	172268		8849010116	
Tang, redspot	*Acanthurus achilles*	172261		8849010109	
Tarpon	*Megalops atlanticus*	161116	4350	8738020201	Tarpon
Tattler	*Serranus phoebe*	167857		8835022308	Tattler
Tautog	*Tautoga onitis*	170479	4380	8839010101	Tautog
Tegula	*Tegula*	069948		51021005	
Teleostei	*Teleostei*	161105		8735	
Terebratulina septentrionalis	*Terebratulina septentrionalis*	156804		8017050103	
Terrapin, diamondback	*Malaclemys terrapin*	173780		9002030301	
Threadfin, Atlantic	*Polydactylus octonemus*	170447		8838010101	Atlantic threadfin
Threadfin, littlescale	*Polydactylus oligodon*	170450		8838010104	Littlescale threadfin
Tiger, sand	*Odontaspis taurus*	159878	3482	8707030101	Sand tiger
Tilapias	*Tilapia*	169809	4460	88356104	
Tilefish	*Lopholatilus chamaeleonticeps*	168546	4470	8835220201	Tilefish
Tilefish, anchor	*Caulolatilus intermedius*	168542		8835220103	Anchor tilefish
Tilefish, blackline	*Caulolatilus cyanops*	168541	4476	8835220102	Blackline tilefish
Tilefish, blueline	*Caulolatilus microps*	168543	4474	8835220104	Blueline tilefish
Tilefish, goldface	*Caulolatilus chrysops*	168544		8835220105	Goldface tilefish
Tilefish, sand	*Malacanthus plumieri*	168548	4478	8835220301	Sand tilefish
Tilefishes	*Malacanthidae*	168537	4480	883522	
Timucu	*Strongylura timucu*	165554		8803020203	Timucu

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
Toadfish, Gulf	*Opsanus beta*	164424		8783010202	Gulf toadfish
Toadfish, leopard	*Opsanus pardus*	164425		8783010203	Leopard toadfish
Toadfish, oyster	*Opsanus tau*	164423		8783010201	Oyster toadfish
Toadfishes	*Opsanus*	164422		87830102	
Toadfishes	*Batrachoididae*	164412	4500	878301	
Tobaccofish	*Serranus tabacarius*	167859		8835022310	Tobaccofish
Tomcod, Atlantic	*Microgadus tomcod*	164720	4530	8791030602	Atlantic tomcod
Tomtate	*Haemulon aurolineatum*	169058	1446	8835400101	Tomtate
Tongue, flamingo	*Cyphoma gibbosum*	072774		5103720101	
Tonguefish, blackcheek	*Symphurus plagiusa*	173062		8858020101	Blackcheek tonguefish
Topminnow, saltmarsh	*Fundulus jenkinsi*	165653		8804040209	Saltmarsh topminnow
Torpedo, Atlantic	*Torpedo nobiliana*	160834		8713030102	Atlantic torpedo
Trevally, lowly	*Caranx ignobilis*	168618		8835280310	
Triggerfish, gray	*Balistes capriscus*	173138	4561	8860020201	Gray triggerfish
Triggerfish, ocean	*Canthidermis sufflamen*	173170	4562	8860020502	Ocean triggerfish
Triggerfish, queen	*Balistes vetula*	173139	4563	8860020202	Queen triggerfish
Triggerfish, rough	*Canthidermis maculata*	173169		8860020501	Rough triggerfish
Triggerfish, sargassum	*Xanthichthys ringens*	173187		8860020801	Sargassum triggerfish
Triggerfishes	*Balistidae*	173128	4560	886002	
Tripletail	*Lobotes surinamensis*	169007	4590	8835380101	Tripletail
Triton, angular	*Cymatium femorale*	073048		5103780213	
Trout, brook	*Salvelinus fontinalis*	162003		8755010404	Brook trout
Trout, brown	*Salmo trutta*	161997	0390	8755010306	Brown trout
Trout, rainbow	*Oncorhynchus mykiss*	161989	2850	8755010211	Rainbow trout
Trout, sea	*Cynoscion*	169238		88354401	
Trumpetfish	*Aulostomus maculatus*	166411		8819010101	Trumpetfish
Trunkfish	*Lactophrys trigonus*	173237		8860030101	Trunkfish
Trunkfish, smooth	*Lactophrys triqueter*	173239		8860030103	Smooth trunkfish
Trunkfish, spotted	*Lactophrys bicaudalis*	173238		8860030102	Spotted trunkfish
Trunkfishes, three-angled	*Lactophrys*	173236		88600301	
Tulip, true	*Fasciolaria tulipa*	074182		5105090202	
Tuna	*Thunnus*	172418	4656	88500304	
Tuna, bigeye	*Thunnus obesus*	172428	4657	8850030405	Bigeye tuna
Tuna, blackfin	*Thunnus atlanticus*	172427	4658	8850030404	Blackfin tuna
Tuna, bluefin	*Thunnus thynnus*	172421	4652	8850030402	Bluefin tuna
Tuna, skipjack	*Katsuwonus pelamis*	172401			
Tuna, skipjack	*Euthynnus pelamis*	172400	4654	8850030101	
Tuna, yellowfin	*Thunnus albacares*	172423	4655	8850030403	Yellowfin tuna
Tunas, lesser	*Euthynnus*	172399		8850030100	
Tunicates, sea squirts	*Ascidiacea*	158854		8401	
Tunny, little	*Euthynnus alletteratus*	172402	4653	8850030102	Little tunny
Turban, chestnut	*Turbo castanea*	070088		5102120301	
Turbinidae		566920			
Turbots	*Pleuronectidae*	172859	4681	885704	
Turtle, green	*Chelonia mydas*	173833		9002040201	
Turtle, loggerhead	*Caretta caretta*	173830		9002040101	
Turtles	*Anapsida*	173748		9001	
Turtles, painted	*Chrysemys*	173782		90020304	
Turtles, sliders	*Pseudemys*	173803		90020308	
Turtles, snapping	*Chelydra serpentina*	173752		9002010101	
Turtles, soft-shell	*Trionyx*	173846		90020601	
Uhu	*Scarus sordidus*	170823		8839030113	

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
Ulotrichales	*Ulotrichales*	006409		0805	
Ulua, black	*Caranx melampygus*	168619		8835280311	
Ulva lactuca	*Ulva lactuca*	006562		0805030503	
Unicornfish	*Eumecichthys fiski*	166338		8815010201	Unicornfish
Unicornfish, brown	*Naso unicornis*	172289		8849010201	
Unicornfish, short-horned	*Naso annulatus*	172290		8849010202	
Unidentified species	*Unidentified species*	000000			
Upeneus arge	*Upeneus arge*	169442		8835450403	
Urchin, green sea	*Strongylocentrotus droebachiensis*	157969		8149030201	
Urchin, green sea	*Lytechinus variegatus*	157921		8148020101	
Urchin, long-spined sea	*Diadema antillarum*	157877		8142010301	
Urchin, purple-spined sea	*Arbacia punctulata*	157906		8147010101	
Urchin, rock boring	*Echinometra lucunter*	157958		8149020102	
Urchin, slate pencil	*Eucidaris tribuloides*	157826		8138010101	
Urchins, sea	*Strongylocentrotus*	157968		81490302	
Urchins, sea	*Echinoidea*	157821		8136	
Venus, sunray	*Macrocallista nimbosa*	081579		5515471802	
Wahoo	*Acanthocybium solandri*	172451	4710	8850030601	Wahoo
Walleye	*Stizostedion vitreum vitreum*	168508		883520040102	
Warmouth	*Chaenobryttus gulosus*	168139		8835161001	
Weakfish	*Cynoscion regalis*	169241	3446	8835440104	Weakfish
Wenchman	*Pristipomoides aquilonaris*	168913	3756	8835360701	Wenchman
Whalesucker	*Remora australis*	168569		8835270101	Whalesucker
Whelk - family	*Melongenidae*	074069		510507	
Whelk, channeled	*Busycotypus canaliculatus*	074096	7753	5105070201	
Whelk, knobbed	*Busycon carica*	074071		5105070101	
Whelk, lightning	*Busycon sinistrum*	074075		5105070103	
Whelk, waved	*Buccinum undatum*	073795		5105040145	
Whiff, bay	*Citharichthys spilopterus*	172725		8857030110	Bay whiff
Whiff, spotted	*Citharichthys macrops*	172724		8857030109	Spotted whiff
Whitefish, lake	*Coregonus clupeaformis*	161941	5031	8755010106	Lake whitefish
Whitefishes	*Coregonus*	161932		87550101	
Whiting, king	*Menticirrhus*	169273	1970	88354406	
Windowpane	*Scophthalmus aquosus*	172746	1225	8857030401	Windowpane
Wobbegongs	*Orectolobidae*	159859		8707020000	
Wolffish, Atlantic	*Anarhichas lupus*	171341	5120	8842020103	Atlantic wolffish
Wolffish, northern	*Anarhichas denticulatus*	550561		8842020102	
Wolffish, spotted	*Anarhichas minor*	171342		8842020104	Spotted wolffish
Wolffishes, Atlantic	*Anarhichas*	171336		88420201	
Worm, marine	*Polychaeta*	064358		5001	
Wrasse, blackear	*Halichoeres poeyi*	170509		8839010708	Blackear wrasse
Wrasse, Christmas	*Thalassoma trilobatum*	170595		8839011019	
Wrasse, clown	*Halichoeres maculipinna*	170507		8839010706	Clown wrasse
Wrasse, creole	*Clepticus parrae*	170496		8839010401	Creole wrasse
Wrasse, greenband	*Halichoeres bathyphilus*	170502		8839010701	Greenband wrasse
Wrasse, other	*Labridae*	170477		883901	
Wrasse, painted	*Halichoeres caudalis*	170504		8839010703	Painted wrasse
Wrasse, rainbow	*Halichoeres pictus*	170508		8839010707	Rainbow wrasse

COMMON NAME	SCIENTIFIC NAME	ITIS CODE	NOAA FISHERIES SERVICE CODE	NODC CODE	AFS NAME
Wrasse, saddle	*Thalassoma duperreyi*	170571		8839011004	
Wrasse, yellowhead	*Halichoeres garnoti*	170506		8839010705	Yellowhead wrasse
Wreckfish	*Polyprion americanus*	167914	5131	8835022801	Wreckfish
Wrymouth	*Cryptacanthodes maculatus*	171609		8842122001	Wrymouth

Table C-9: STANDARD CODES FOR STATE AND COUNTY OF LANDING (FIPS CODES)[a]

ST	STATE_NAME	COUNTY_NAME	FIPS ST	FIPS COU	NMFS NM	NMFS NMF	R
	UNKNOWN STATE		00	000	00		
CT	CONNECTICUT	FAIRFIELD	09	001	07	01	1
CT	CONNECTICUT	HARTFORD	09	003	07	03	1
CT	CONNECTICUT	LITCHFIELD	09	005	07	05	1
CT	CONNECTICUT	MIDDLESEX	09	007	07	07	1
CT	CONNECTICUT	NEW HAVEN	09	009	07	09	1
CT	CONNECTICUT	NEW LONDON	09	011	07	11	1
CT	CONNECTICUT	TOLLAND	09	013	07	13	1
CT	CONNECTICUT	WINDHAM	09	015	07	15	1
DE	DELAWARE	KENT	10	001	08	01	2
DE	DELAWARE	NEW CASTLE	10	003	08	03	2
DE	DELAWARE	SUSSEX	10	005	08	05	2
DC	DISTRICT OF COLUMBIA	DISTRICT OF COLUMBIA	11	001	09	99	3
FL	FLORIDA	ALACHUA	12	001	12	30	4
FL	FLORIDA	BAKER	12	003	12	35	4
FL	FLORIDA	BAY	12	005	11	01	5
FL	FLORIDA	BRADFORD	12	007	12	25	4
FL	FLORIDA	BREVARD	12	009	10	01	4
FL	FLORIDA	BROWARD	12	011	10	03	4
FL	FLORIDA	CALHOUN	12	013	12	47	4
FL	FLORIDA	CHARLOTTE	12	015	11	03	5
FL	FLORIDA	CITRUS	12	017	11	05	5
FL	FLORIDA	CLAY	12	019	12	02	4
FL	FLORIDA	COLLIER	12	021	11	07	5
FL	FLORIDA	COLUMBIA	12	023	12	29	4
FL	FLORIDA	DADE	12	025	10	07	4
FL	FLORIDA	DE SOTO	12	027	12	19	4
FL	FLORIDA	DIXIE	12	029	11	09	5
FL	FLORIDA	DUVAL	12	031	10	08	4
FL	FLORIDA	ESCAMBIA	12	033	11	11	5
FL	FLORIDA	FLAGLER	12	035	10	09	4
FL	FLORIDA	FRANKLIN	12	037	11	13	5
FL	FLORIDA	GADSDEN	12	039	11	14	5
FL	FLORIDA	GILCHRIST	12	041	12	23	4
FL	FLORIDA	GLADES	12	043	12	01	4
FL	FLORIDA	GULF	12	045	11	15	5
FL	FLORIDA	HAMILTON	12	047	12	37	4
FL	FLORIDA	HARDEE	12	049	12	21	4
FL	FLORIDA	HENDRY	12	051	12	03	4
FL	FLORIDA	HERNANDO	12	053	11	17	5
FL	FLORIDA	HIGHLANDS	12	055	12	15	4
FL	FLORIDA	HILLSBOROUGH	12	057	11	19	5
FL	FLORIDA	HOLMES	12	059	12	53	4
FL	FLORIDA	INDIAN RIVER	12	061	10	15	4
FL	FLORIDA	JACKSON	12	063	12	49	4
FL	FLORIDA	JEFFERSON	12	065	11	21	5
FL	FLORIDA	LAFAYETTE	12	067	12	33	4
FL	FLORIDA	LAKE	12	069	12	05	4
FL	FLORIDA	LEE	12	071	11	23	5
FL	FLORIDA	LEON	12	073	12	43	4

[a] Port codes are consistent with the Federal Information Processing Standards location codes. Please contact the ACCSP Information Systems staff for assistance.

FL	FLORIDA	LEVY	12	075	11	25 5
FL	FLORIDA	LIBERTY	12	077	12	45 4
FL	FLORIDA	MADISON	12	079	12	41 4
FL	FLORIDA	MANATEE	12	081	11	27 5
FL	FLORIDA	MARION	12	083	12	17 4
FL	FLORIDA	MARTIN	12	085	10	19 4
FL	FLORIDA	MONROE	12	087	11	29 5
FL	FLORIDA	NASSAU	12	089	10	21 4
FL	FLORIDA	OKALOOSA	12	091	11	31 5
FL	FLORIDA	OKEECHOBEE	12	093	12	07 4
FL	FLORIDA	ORANGE	12	095	12	08 4
FL	FLORIDA	OSCEOLA	12	097	12	09 4
FL	FLORIDA	PALM BEACH	12	099	10	23 4
FL	FLORIDA	PASCO	12	101	11	33 5
FL	FLORIDA	PINELLAS	12	103	11	35 5
FL	FLORIDA	POLK	12	105	12	13 4
FL	FLORIDA	PUTNAM	12	107	10	25 4
FL	FLORIDA	ST JOHNS	12	109	10	27 4
FL	FLORIDA	ST LUCIE	12	111	10	29 4
FL	FLORIDA	SANTA ROSA	12	113	11	37 5
FL	FLORIDA	SARASOTA	12	115	11	39 5
FL	FLORIDA	SEMINOLE	12	117	12	31 4
FL	FLORIDA	SUMTER	12	119	12	21 4
FL	FLORIDA	SUWANNEE	12	121	12	39 4
FL	FLORIDA	TAYLOR	12	123	11	41 5
FL	FLORIDA	UNION	12	125	12	27 4
FL	FLORIDA	VOLUSIA	12	127	10	33 4
FL	FLORIDA	WAKULLA	12	129	11	43 5
FL	FLORIDA	WALTON	12	131	11	45 5
FL	FLORIDA	WASHINGTON	12	133	12	51 4
GA	GEORGIA	APPLING	13	001	13	4
GA	GEORGIA	ATKINSON	13	003	13	4
GA	GEORGIA	BACON	13	005	13	4
GA	GEORGIA	BAKER	13	007	13	4
GA	GEORGIA	BALDWIN	13	009	13	4
GA	GEORGIA	BANKS	13	011	13	4
GA	GEORGIA	BARROW	13	013	13	4
GA	GEORGIA	BARTOW	13	015	13	4
GA	GEORGIA	BEN HILL	13	017	13	4
GA	GEORGIA	BERRIEN	13	019	13	4
GA	GEORGIA	BIBB	13	021	13	4
GA	GEORGIA	BLECKLEY	13	023	13	4
GA	GEORGIA	BRANTLEY	13	025	13	03 4
GA	GEORGIA	BROOKS	13	027	13	4
GA	GEORGIA	BRYAN	13	029	13	01 4
GA	GEORGIA	BULLOCH	13	031	13	05 4
GA	GEORGIA	BURKE	13	033	13	4
GA	GEORGIA	BUTTS	13	035	13	4
GA	GEORGIA	CALHOUN	13	037	13	4
GA	GEORGIA	CAMDEN	13	039	13	07 4
GA	GEORGIA	CANDLER	13	043	13	4
GA	GEORGIA	CARROLL	13	045	13	4
GA	GEORGIA	CATOOSA	13	047	13	4
GA	GEORGIA	CHARLTON	13	049	13	09 4
GA	GEORGIA	CHATHAM	13	051	13	11 4
GA	GEORGIA	CHATTAHOOCHEE	13	053	13	4
GA	GEORGIA	CHATTOOGA	13	055	13	4
GA	GEORGIA	CHEROKEE	13	057	13	4
GA	GEORGIA	CLARKE	13	059	13	4
GA	GEORGIA	CLAY	13	061	13	4
GA	GEORGIA	CLAYTON	13	063	13	4

GA	GEORGIA	CLINCH	13	065	13	4
GA	GEORGIA	COBB	13	067	13	4
GA	GEORGIA	COFFEE	13	069	13	4
GA	GEORGIA	COLQUITT	13	071	13	4
GA	GEORGIA	COLUMBIA	13	073	13	4
GA	GEORGIA	COOK	13	075	13	4
GA	GEORGIA	COWETA	13	077	13	4
GA	GEORGIA	CRAWFORD	13	079	13	4
GA	GEORGIA	CRISP	13	081	13	4
GA	GEORGIA	DADE	13	083	13	4
GA	GEORGIA	DAWSON	13	085	13	4
GA	GEORGIA	DECATUR	13	087	13	4
GA	GEORGIA	DE KALB	13	089	13	4
GA	GEORGIA	DODGE	13	091	13	4
GA	GEORGIA	DOOLY	13	093	13	4
GA	GEORGIA	DOUGHERTY	13	095	13	4
GA	GEORGIA	DOUGLAS	13	097	13	4
GA	GEORGIA	EARLY	13	099	13	4
GA	GEORGIA	ECHOLS	13	101	13	4
GA	GEORGIA	EFFINGHAM	13	103	13	13 4
GA	GEORGIA	ELBERT	13	105	13	4
GA	GEORGIA	EMANUEL	13	107	13	4
GA	GEORGIA	EVANS	13	109	13	4
GA	GEORGIA	FANNIN	13	111	13	4
GA	GEORGIA	FAYETTE	13	113	13	4
GA	GEORGIA	FLOYD	13	115	13	4
GA	GEORGIA	FORSYTH	13	117	13	4
GA	GEORGIA	FRANKLIN	13	119	13	4
GA	GEORGIA	FULTON	13	121	13	4
GA	GEORGIA	GILMER	13	123	13	4
GA	GEORGIA	GLASCOCK	13	125	13	4
GA	GEORGIA	GLYNN	13	127	13	15 4
GA	GEORGIA	GORDON	13	129	13	4
GA	GEORGIA	GRADY	13	131	13	4
GA	GEORGIA	GREENE	13	133	13	22 4
GA	GEORGIA	GWINNETT	13	135	13	4
GA	GEORGIA	HABERSHAM	13	137	13	4
GA	GEORGIA	HALL	13	139	13	4
GA	GEORGIA	HANCOCK	13	141	13	4
GA	GEORGIA	HARALSON	13	143	13	4
GA	GEORGIA	HARRIS	13	145	13	4
GA	GEORGIA	HART	13	147	13	4
GA	GEORGIA	HEARD	13	149	13	4
GA	GEORGIA	HENRY	13	151	13	4
GA	GEORGIA	HOUSTON	13	153	13	4
GA	GEORGIA	IRWIN	13	155	13	4
GA	GEORGIA	JACKSON	13	157	13	4
GA	GEORGIA	JASPER	13	159	13	4
GA	GEORGIA	JEFF DAVIS	13	161	13	4
GA	GEORGIA	JEFFERSON	13	163	13	4
GA	GEORGIA	JENKINS	13	165	13	4
GA	GEORGIA	JOHNSON	13	167	13	4
GA	GEORGIA	JONES	13	169	13	26 4
GA	GEORGIA	LAMAR	13	171	13	4
GA	GEORGIA	LANIER	13	173	13	4
GA	GEORGIA	LAURENS	13	175	13	4
GA	GEORGIA	LEE	13	177	13	4
GA	GEORGIA	LIBERTY	13	179	13	17 4
GA	GEORGIA	LINCOLN	13	181	13	4
GA	GEORGIA	LONG	13	183	13	19 4
GA	GEORGIA	LOWNDES	13	185	13	4

GA	GEORGIA	LUMPKIN	13	187	13	4
GA	GEORGIA	MC DUFFIE	13	189	13	4
GA	GEORGIA	MC INTOSH	13	191	13	21 4
GA	GEORGIA	MACON	13	193	13	4
GA	GEORGIA	MADISON	13	195	13	4
GA	GEORGIA	MARION	13	197	13	4
GA	GEORGIA	MERIWETHER	13	199	13	4
GA	GEORGIA	MILLER	13	201	13	4
GA	GEORGIA	MITCHELL	13	205	13	4
GA	GEORGIA	MONROE	13	207	13	4
GA	GEORGIA	MONTGOMERY	13	209	13	4
GA	GEORGIA	MORGAN	13	211	13	4
GA	GEORGIA	MURRAY	13	213	13	4
GA	GEORGIA	MUSCOGEE	13	215	13	4
GA	GEORGIA	NEWTON	13	217	13	4
GA	GEORGIA	OCONEE	13	219	13	4
GA	GEORGIA	OGLETHORPE	13	221	13	4
GA	GEORGIA	PAULDING	13	223	13	4
GA	GEORGIA	PEACH	13	225	13	4
GA	GEORGIA	PICKENS	13	227	13	4
GA	GEORGIA	PIERCE	13	229	13	4
GA	GEORGIA	PIKE	13	231	13	4
GA	GEORGIA	POLK	13	233	13	4
GA	GEORGIA	PULASKI	13	235	13	4
GA	GEORGIA	PUTNAM	13	237	13	4
GA	GEORGIA	QUITMAN	13	239	13	4
GA	GEORGIA	RABUN	13	241	13	4
GA	GEORGIA	RANDOLPH	13	243	13	4
GA	GEORGIA	RICHMOND	13	245	13	4
GA	GEORGIA	ROCKDALE	13	247	13	4
GA	GEORGIA	SCHLEY	13	249	13	4
GA	GEORGIA	SCREVEN	13	251	13	23 4
GA	GEORGIA	SEMINOLE	13	253	13	4
GA	GEORGIA	SPALDING	13	255	13	4
GA	GEORGIA	STEPHENS	13	257	13	4
GA	GEORGIA	STEWART	13	259	13	4
GA	GEORGIA	SUMTER	13	261	13	4
GA	GEORGIA	TALBOT	13	263	13	4
GA	GEORGIA	TALIAFERRO	13	265	13	4
GA	GEORGIA	TATTNALL	13	267	13	25 4
GA	GEORGIA	TAYLOR	13	269	13	4
GA	GEORGIA	TELFAIR	13	271	13	4
GA	GEORGIA	TERRELL	13	273	13	4
GA	GEORGIA	THOMAS	13	275	13	4
GA	GEORGIA	TIFT	13	277	13	4
GA	GEORGIA	TOOMBS	13	279	13	4
GA	GEORGIA	TOWNS	13	281	13	4
GA	GEORGIA	TREUTLEN	13	283	13	4
GA	GEORGIA	TROUP	13	285	13	4
GA	GEORGIA	TURNER	13	287	13	4
GA	GEORGIA	TWIGGS	13	289	13	4
GA	GEORGIA	UNION	13	291	13	4
GA	GEORGIA	UPSON	13	293	13	4
GA	GEORGIA	WALKER	13	295	13	4
GA	GEORGIA	WALTON	13	297	13	4
GA	GEORGIA	WARE	13	299	13	4
GA	GEORGIA	WARREN	13	301	13	4
GA	GEORGIA	WASHINGTON	13	303	13	4
GA	GEORGIA	WAYNE	13	305	13	27 4
GA	GEORGIA	WEBSTER	13	307	13	4
GA	GEORGIA	WHEELER	13	309	13	4

GA	GEORGIA	WHITE	13	311	13	4
GA	GEORGIA	WHITFIELD	13	313	13	4
GA	GEORGIA	WILCOX	13	315	13	4
GA	GEORGIA	WILKES	13	317	13	4
GA	GEORGIA	WILKINSON	13	319	13	4
GA	GEORGIA	WORTH	13	321	13	4
ME	MAINE	ANDROSCOGGIN	23	001	22	1
ME	MAINE	AROOSTOOK	23	003	22	1
ME	MAINE	CUMBERLAND	23	005	22	01 1
ME	MAINE	FRANKLIN	23	007	22	1
ME	MAINE	HANCOCK	23	009	22	03 1
ME	MAINE	KENNEBEC	23	011	22	05 1
ME	MAINE	KNOX	23	013	22	07 1
ME	MAINE	LINCOLN	23	015	22	09 1
ME	MAINE	OXFORD	23	017	22	11 1
ME	MAINE	PENOBSCOT	23	019	22	13 1
ME	MAINE	PISCATAQUIS	23	021	22	1
ME	MAINE	SAGADAHOC	23	023	22	15 1
ME	MAINE	SOMERSET	23	025	22	1
ME	MAINE	WALDO	23	027	22	17 1
ME	MAINE	WASHINGTON	23	029	22	19 1
ME	MAINE	YORK	23	031	22	20 1
MD	MARYLAND	ALLEGANY	24	001	23	3
MD	MARYLAND	ANNE ARUNDEL	24	003	23	01 3
MD	MARYLAND	BALTIMORE	24	005	23	03 3
MD	MARYLAND	CALVERT	24	009	23	05 3
MD	MARYLAND	CAROLINE	24	011	23	07 3
MD	MARYLAND	CARROLL	24	013	23	3
MD	MARYLAND	CECIL	24	015	23	09 3
MD	MARYLAND	CHARLES	24	017	23	11 3
MD	MARYLAND	DORCHESTER	24	019	23	13 3
MD	MARYLAND	FREDERICK	24	021	23	3
MD	MARYLAND	GARRETT	24	023	23	3
MD	MARYLAND	HARFORD	24	025	23	15 3
MD	MARYLAND	HOWARD	24	027	23	3
MD	MARYLAND	KENT	24	029	23	17 3
MD	MARYLAND	MONTGOMERY	24	031	23	3
MD	MARYLAND	PRINCE GEORGES	24	033	23	19 3
MD	MARYLAND	QUEEN ANNES	24	035	23	21 3
MD	MARYLAND	ST MARYS	24	037	23	23 3
MD	MARYLAND	SOMERSET	24	039	23	25 3
MD	MARYLAND	TALBOT	24	041	23	27 3
MD	MARYLAND	WASHINGTON	24	043	23	3
MD	MARYLAND	WICOMICO	24	045	23	29 3
MD	MARYLAND	WORCESTER	24	047	23	31 3
MD	MARYLAND	BALTIMORE CITY	24	510	23	3
MA	MASSACHUSETTS	BARNSTABLE	25	001	24	01 1
MA	MASSACHUSETTS	BERKSHIRE	25	003	24	1
MA	MASSACHUSETTS	BRISTOL	25	005	24	03 1
MA	MASSACHUSETTS	DUKES	25	007	24	05 1
MA	MASSACHUSETTS	ESSEX	25	009	24	07 1
MA	MASSACHUSETTS	FRANKLIN	25	011	24	1
MA	MASSACHUSETTS	HAMPDEN	25	013	24	1
MA	MASSACHUSETTS	HAMPSHIRE	25	015	24	1
MA	MASSACHUSETTS	MIDDLESEX	25	017	24	1
MA	MASSACHUSETTS	NANTUCKET	25	019	24	09 1
MA	MASSACHUSETTS	NORFOLK	25	021	24	11 1
MA	MASSACHUSETTS	PLYMOUTH	25	023	24	13 1
MA	MASSACHUSETTS	SUFFOLK	25	025	24	15 1
MA	MASSACHUSETTS	WORCESTER	25	027	24	1
NH	NEW HAMPSHIRE	BELKNAP	33	001	32	1

NH	NEW HAMPSHIRE	CARROLL	33	003	32	1
NH	NEW HAMPSHIRE	CHESHIRE	33	005	32	1
NH	NEW HAMPSHIRE	COOS	33	007	32	1
NH	NEW HAMPSHIRE	GRAFTON	33	009	32	1
NH	NEW HAMPSHIRE	HILLSBOROUGH	33	011	32	1
NH	NEW HAMPSHIRE	MERRIMACK	33	013	32	1
NH	NEW HAMPSHIRE	ROCKINGHAM	33	015	32	01 1
NH	NEW HAMPSHIRE	STRAFFORD	33	017	32	1
NH	NEW HAMPSHIRE	SULLIVAN	33	019	32	1
NJ	NEW JERSEY	ATLANTIC	34	001	33	01 2
NJ	NEW JERSEY	BERGEN	34	003	33	03 2
NJ	NEW JERSEY	BURLINGTON	34	005	33	05 2
NJ	NEW JERSEY	CAMDEN	34	007	33	07 2
NJ	NEW JERSEY	CAPE MAY	34	009	33	09 2
NJ	NEW JERSEY	CUMBERLAND	34	011	33	11 2
NJ	NEW JERSEY	ESSEX	34	013	33	13 2
NJ	NEW JERSEY	GLOUCESTER	34	015	33	15 2
NJ	NEW JERSEY	HUDSON	34	017	33	17 2
NJ	NEW JERSEY	HUNTERDON	34	019	33	19 2
NJ	NEW JERSEY	MERCER	34	021	33	21 2
NJ	NEW JERSEY	MIDDLESEX	34	023	33	23 2
NJ	NEW JERSEY	MONMOUTH	34	025	33	25 2
NJ	NEW JERSEY	MORRIS	34	027	33	2
NJ	NEW JERSEY	OCEAN	34	029	33	27 2
NJ	NEW JERSEY	PASSAIC	34	031	33	29 2
NJ	NEW JERSEY	SALEM	34	033	33	31 2
NJ	NEW JERSEY	SOMERSET	34	035	33	2
NJ	NEW JERSEY	SUSSEX	34	037	33	2
NJ	NEW JERSEY	UNION	34	039	33	33 2
NJ	NEW JERSEY	WARREN	34	041	33	2
NY	NEW YORK	ALBANY	36	001	35	01 2
NY	NEW YORK	ALLEGANY	36	003	35	2
NY	NEW YORK	BRONX	36	005	35	03 2
NY	NEW YORK	BROOME	36	007	35	2
NY	NEW YORK	CATTARAUGUS	36	009	35	2
NY	NEW YORK	CAYUGA	36	011	35	2
NY	NEW YORK	CHAUTAUQUA	36	013	35	2
NY	NEW YORK	CHEMUNG	36	015	35	2
NY	NEW YORK	CHENANGO	36	017	35	2
NY	NEW YORK	CLINTON	36	019	35	2
NY	NEW YORK	COLUMBIA	36	021	35	05 2
NY	NEW YORK	CORTLAND	36	023	35	2
NY	NEW YORK	DELAWARE	36	025	35	2
NY	NEW YORK	DUTCHESS	36	027	35	07 2
NY	NEW YORK	ERIE	36	029	35	2
NY	NEW YORK	ESSEX	36	031	35	2
NY	NEW YORK	FRANKLIN	36	033	35	2
NY	NEW YORK	FULTON	36	035	35	2
NY	NEW YORK	GENESEE	36	037	35	2
NY	NEW YORK	GREENE	36	039	35	09 2
NY	NEW YORK	HAMILTON	36	041	35	2
NY	NEW YORK	HERKIMER	36	043	35	2
NY	NEW YORK	JEFFERSON	36	045	35	2
NY	NEW YORK	KINGS	36	047	35	11 2
NY	NEW YORK	LEWIS	36	049	35	2
NY	NEW YORK	LIVINGSTON	36	051	35	2
NY	NEW YORK	MADISON	36	053	35	2
NY	NEW YORK	MONROE	36	055	35	2
NY	NEW YORK	MONTGOMERY	36	057	35	13 2
NY	NEW YORK	NASSAU	36	059	35	15 2
NY	NEW YORK	NEW YORK	36	061	35	17 2

NY	NEW YORK	NIAGARA	36	063	35	2
NY	NEW YORK	ONEIDA	36	065	35	2
NY	NEW YORK	ONONDAGA	36	067	35	2
NY	NEW YORK	ONTARIO	36	069	35	2
NY	NEW YORK	ORANGE	36	071	35	19 2
NY	NEW YORK	ORLEANS	36	073	35	2
NY	NEW YORK	OSWEGO	36	075	35	2
NY	NEW YORK	OTSEGO	36	077	35	2
NY	NEW YORK	PUTNAM	36	079	35	21 2
NY	NEW YORK	QUEENS	36	081	35	23 2
NY	NEW YORK	RENSSELAER	36	083	35	25 2
NY	NEW YORK	RICHMOND	36	085	35	27 2
NY	NEW YORK	ROCKLAND	36	087	35	29 2
NY	NEW YORK	ST LAWRENCE	36	089	35	2
NY	NEW YORK	SARATOGA	36	091	35	31 2
NY	NEW YORK	SCHENECTADY	36	093	35	2
NY	NEW YORK	SCHOHARIE	36	095	35	2
NY	NEW YORK	SCHUYLER	36	097	35	2
NY	NEW YORK	SENECA	36	099	35	2
NY	NEW YORK	STEUBEN	36	101	35	2
NY	NEW YORK	SUFFOLK	36	103	35	35 2
NY	NEW YORK	SULLIVAN	36	105	35	2
NY	NEW YORK	TIOGA	36	107	35	2
NY	NEW YORK	TOMPKINS	36	109	35	2
NY	NEW YORK	ULSTER	36	111	35	37 2
NY	NEW YORK	WARREN	36	113	35	2
NY	NEW YORK	WASHINGTON	36	115	35	2
NY	NEW YORK	WAYNE	36	117	35	2
NY	NEW YORK	WESTCHESTER	36	119	35	39 2
NY	NEW YORK	WYOMING	36	121	35	2
NY	NEW YORK	YATES	36	123	35	2
NC	NORTH CAROLINA	NOT CODED	37	000	36	000 4
NC	NORTH CAROLINA	ALAMANCE	37	001	36	80 4
NC	NORTH CAROLINA	ALEXANDER	37	003	36	02 4
NC	NORTH CAROLINA	ALLEGHANY	37	005	36	06 4
NC	NORTH CAROLINA	ANSON	37	007	36	08 4
NC	NORTH CAROLINA	ASHE	37	009	36	10 4
NC	NORTH CAROLINA	AVERY	37	011	36	92 4
NC	NORTH CAROLINA	BEAUFORT	37	013	36	01 4
NC	NORTH CAROLINA	BERTIE	37	015	36	03 4
NC	NORTH CAROLINA	BLADEN	37	017	36	04 4
NC	NORTH CAROLINA	BRUNSWICK	37	019	36	05 4
NC	NORTH CAROLINA	BUNCOMBE	37	021	36	16 4
NC	NORTH CAROLINA	BURKE	37	023	36	93 4
NC	NORTH CAROLINA	CABARRUS	37	025	36	94 4
NC	NORTH CAROLINA	CALDWELL	37	027	36	24 4
NC	NORTH CAROLINA	CAMDEN	37	029	36	07 4
NC	NORTH CAROLINA	CARTERET	37	031	36	09 4
NC	NORTH CAROLINA	CASWELL	37	033	36	95 4
NC	NORTH CAROLINA	CATAWBA	37	035	36	96 4
NC	NORTH CAROLINA	CHATHAM	37	037	36	97 4
NC	NORTH CAROLINA	CHEROKEE	37	039	36	32 4
NC	NORTH CAROLINA	CHOWAN	37	041	36	11 4
NC	NORTH CAROLINA	CLAY	37	043	36	34 4
NC	NORTH CAROLINA	CLEVELAND	37	045	36	98 4
NC	NORTH CAROLINA	COLUMBUS	37	047	36	12 4
NC	NORTH CAROLINA	CRAVEN	37	049	36	13 4
NC	NORTH CAROLINA	CUMBERLAND	37	051	36	15 4
NC	NORTH CAROLINA	CURRITUCK	37	053	36	17 4
NC	NORTH CAROLINA	DARE	37	055	36	19 4
NC	NORTH CAROLINA	DAVIDSON	37	057	36	18 4

NC NORTH CAROLINA	DAVIE	37 059 36 38 4
NC NORTH CAROLINA	DUPLIN	37 061 36 20 4
NC NORTH CAROLINA	DURHAM	37 063 36 40 4
NC NORTH CAROLINA	EDGECOMBE	37 065 36 42 4
NC NORTH CAROLINA	FORSYTH	37 067 36 44 4
NC NORTH CAROLINA	FRANKLIN	37 069 36 46 4
NC NORTH CAROLINA	GASTON	37 071 36 14 4
NC NORTH CAROLINA	GATES	37 073 36 21 4
NC NORTH CAROLINA	GRAHAM	37 075 36 99 4
NC NORTH CAROLINA	GRANVILLE	37 077 36 50 4
NC NORTH CAROLINA	GREENE	37 079 36 22 4
NC NORTH CAROLINA	GUILFORD	37 081 36 52 4
NC NORTH CAROLINA	HALIFAX	37 083 36 23 4
NC NORTH CAROLINA	HARNETT	37 085 36 53 4
NC NORTH CAROLINA	HAYWOOD	37 087 36 54 4
NC NORTH CAROLINA	HENDERSON	37 089 36 55 4
NC NORTH CAROLINA	HERTFORD	37 091 36 25 4
NC NORTH CAROLINA	HOKE	37 093 36 56 4
NC NORTH CAROLINA	HYDE	37 095 36 27 4
NC NORTH CAROLINA	IREDELL	37 097 36 57 4
NC NORTH CAROLINA	JACKSON	37 099 36 58 4
NC NORTH CAROLINA	JOHNSTON	37 101 36 28 4
NC NORTH CAROLINA	JONES	37 103 36 26 4
NC NORTH CAROLINA	LEE	37 105 36 30 4
NC NORTH CAROLINA	LENOIR	37 107 36 29 4
NC NORTH CAROLINA	LINCOLN	37 109 36 59 4
NC NORTH CAROLINA	MC DOWELL	37 111 36 62 4
NC NORTH CAROLINA	MACON	37 113 36 60 4
NC NORTH CAROLINA	MADISON	37 115 36 61 4
NC NORTH CAROLINA	MARTIN	37 117 36 31 4
NC NORTH CAROLINA	MECKLENBURG	37 119 36 63 4
NC NORTH CAROLINA	MITCHELL	37 121 36 64 4
NC NORTH CAROLINA	MONTGOMERY	37 123 36 65 4
NC NORTH CAROLINA	MOORE	37 125 36 66 4
NC NORTH CAROLINA	NASH	37 127 36 67 4
NC NORTH CAROLINA	NEW HANOVER	37 129 36 33 4
NC NORTH CAROLINA	NORTHAMPTON	37 131 36 68 4
NC NORTH CAROLINA	ONSLOW	37 133 36 35 4
NC NORTH CAROLINA	ORANGE	37 135 36 36 4
NC NORTH CAROLINA	PAMLICO	37 137 36 37 4
NC NORTH CAROLINA	PASQUOTANK	37 139 36 39 4
NC NORTH CAROLINA	PENDER	37 141 36 41 4
NC NORTH CAROLINA	PERQUIMANS	37 143 36 43 4
NC NORTH CAROLINA	PERSON	37 145 36 69 4
NC NORTH CAROLINA	PITT	37 147 36 45 4
NC NORTH CAROLINA	POLK	37 149 36 70 4
NC NORTH CAROLINA	RANDOLPH	37 151 36 71 4
NC NORTH CAROLINA	RICHMOND	37 153 36 72 4
NC NORTH CAROLINA	ROBESON	37 155 36 73 4
NC NORTH CAROLINA	ROCKINGHAM	37 157 36 74 4
NC NORTH CAROLINA	ROWAN	37 159 36 75 4
NC NORTH CAROLINA	RUTHERFORD	37 161 36 76 4
NC NORTH CAROLINA	SAMPSON	37 163 36 77 4
NC NORTH CAROLINA	SCOTLAND	37 165 36 78 4
NC NORTH CAROLINA	STANLY	37 167 36 79 4
NC NORTH CAROLINA	STOKES	37 169 36 101 4
NC NORTH CAROLINA	SURRY	37 171 36 81 4
NC NORTH CAROLINA	SWAIN	37 173 36 82 4
NC NORTH CAROLINA	TRANSYLVANIA	37 175 36 83 4
NC NORTH CAROLINA	TYRRELL	37 177 36 47 4
NC NORTH CAROLINA	UNION	37 179 36 84 4

NC	NORTH CAROLINA	VANCE	37	181	36	85	4	
NC	NORTH CAROLINA	WAKE	37	183	36	48	4	
NC	NORTH CAROLINA	WARREN	37	185	36	86	4	
NC	NORTH CAROLINA	WASHINGTON	37	187	36	49	4	
NC	NORTH CAROLINA	WATAUGA	37	189	36	87	4	
NC	NORTH CAROLINA	WAYNE	37	191	36	51	4	
NC	NORTH CAROLINA	WILKES	37	193	36	88	4	
NC	NORTH CAROLINA	WILSON	37	195	36	89	4	
NC	NORTH CAROLINA	YADKIN	37	197	36	90	4	
NC	NORTH CAROLINA	YANCEY	37	199	36	91	4	
NC	NORTH CAROLINA	COMBINED	37	999	36	999	4	
PA	PENNSYLVANIA	ADAMS	42	001	41		2	
PA	PENNSYLVANIA	ALLEGHENY	42	003	41	01	2	
PA	PENNSYLVANIA	ARMSTRONG	42	005	41		2	
PA	PENNSYLVANIA	BEAVER	42	007	41		2	
PA	PENNSYLVANIA	BEDFORD	42	009	41		2	
PA	PENNSYLVANIA	BERKS	42	011	41	03	2	
PA	PENNSYLVANIA	BLAIR	42	013	41		2	
PA	PENNSYLVANIA	BRADFORD	42	015	41		2	
PA	PENNSYLVANIA	BUCKS	42	017	41	05	2	
PA	PENNSYLVANIA	BUTLER	42	019	41		2	
PA	PENNSYLVANIA	CAMBRIA	42	021	41		2	
PA	PENNSYLVANIA	CAMERON	42	023	41		2	
PA	PENNSYLVANIA	CARBON	42	025	41		2	
PA	PENNSYLVANIA	CENTRE	42	027	41		2	
PA	PENNSYLVANIA	CHESTER	42	029	41		2	
PA	PENNSYLVANIA	CLARION	42	031	41		2	
PA	PENNSYLVANIA	CLEARFIELD	42	033	41		2	
PA	PENNSYLVANIA	CLINTON	42	035	41		2	
PA	PENNSYLVANIA	COLUMBIA	42	037	41		2	
PA	PENNSYLVANIA	CRAWFORD	42	039	41		2	
PA	PENNSYLVANIA	CUMBERLAND	42	041	41		2	
PA	PENNSYLVANIA	DAUPHIN	42	043	41	09	2	
PA	PENNSYLVANIA	DELAWARE	42	045	41	07	2	
PA	PENNSYLVANIA	ELK	42	047	41		2	
PA	PENNSYLVANIA	ERIE	42	049	41		2	
PA	PENNSYLVANIA	FAYETTE	42	051	41		2	
PA	PENNSYLVANIA	FOREST	42	053	41		2	
PA	PENNSYLVANIA	FRANKLIN	42	055	41	11	2	
PA	PENNSYLVANIA	FULTON	42	057	41		2	
PA	PENNSYLVANIA	GREENE	42	059	41		2	
PA	PENNSYLVANIA	HUNTINGDON	42	061	41		2	
PA	PENNSYLVANIA	INDIANA	42	063	41		2	
PA	PENNSYLVANIA	JEFFERSON	42	065	41		2	
PA	PENNSYLVANIA	JUNIATA	42	067	41		2	
PA	PENNSYLVANIA	LACKAWANNA	42	069	41		2	
PA	PENNSYLVANIA	LANCASTER	42	071	41		2	
PA	PENNSYLVANIA	LAWRENCE	42	073	41		2	
PA	PENNSYLVANIA	LEBANON	42	075	41		2	
PA	PENNSYLVANIA	LEHIGH	42	077	41	13	2	
PA	PENNSYLVANIA	LUZERNE	42	079	41		2	
PA	PENNSYLVANIA	LYCOMING	42	081	41		2	
PA	PENNSYLVANIA	MC KEAN	42	083	41		2	
PA	PENNSYLVANIA	MERCER	42	085	41		2	
PA	PENNSYLVANIA	MIFFLIN	42	087	41		2	
PA	PENNSYLVANIA	MONROE	42	089	41		2	
PA	PENNSYLVANIA	MONTGOMERY	42	091	41	15	2	
PA	PENNSYLVANIA	MONTOUR	42	093	41		2	
PA	PENNSYLVANIA	NORTHAMPTON	42	095	41		2	
PA	PENNSYLVANIA	NORTHUMBERLAND	42	097	41		2	
PA	PENNSYLVANIA	PERRY	42	099	41		2	

PA	PENNSYLVANIA	PHILADELPHIA	42	101	41	17 2
PA	PENNSYLVANIA	PIKE	42	103	41	2
PA	PENNSYLVANIA	POTTER	42	105	41	2
PA	PENNSYLVANIA	SCHUYLKILL	42	107	41	2
PA	PENNSYLVANIA	SNYDER	42	109	41	2
PA	PENNSYLVANIA	SOMERSET	42	111	41	2
PA	PENNSYLVANIA	SULLIVAN	42	113	41	2
PA	PENNSYLVANIA	SUSQUEHANNA	42	115	41	2
PA	PENNSYLVANIA	TIOGA	42	117	41	2
PA	PENNSYLVANIA	UNION	42	119	41	2
PA	PENNSYLVANIA	VENANGO	42	121	41	2
PA	PENNSYLVANIA	WARREN	42	123	41	2
PA	PENNSYLVANIA	WASHINGTON	42	125	41	2
PA	PENNSYLVANIA	WAYNE	42	127	41	2
PA	PENNSYLVANIA	WESTMORELAND	42	129	41	2
PA	PENNSYLVANIA	WYOMING	42	131	41	2
PA	PENNSYLVANIA	YORK	42	133	41	2
RI	RHODE ISLAND	BRISTOL	44	001	42	01 1
RI	RHODE ISLAND	KENT	44	003	42	03 1
RI	RHODE ISLAND	NEWPORT	44	005	42	05 1
RI	RHODE ISLAND	PROVIDENCE	44	007	42	07 1
RI	RHODE ISLAND	WASHINGTON	44	009	42	09 1
SC	SOUTH CAROLINA	ABBEVILLE	45	001	43	4
SC	SOUTH CAROLINA	AIKEN	45	003	43	04 4
SC	SOUTH CAROLINA	ALLENDALE	45	005	43	01 4
SC	SOUTH CAROLINA	ANDERSON	45	007	43	4
SC	SOUTH CAROLINA	BAMBERG	45	009	43	4
SC	SOUTH CAROLINA	BARNWELL	45	011	43	4
SC	SOUTH CAROLINA	BEAUFORT	45	013	43	03 4
SC	SOUTH CAROLINA	BERKELEY	45	015	43	05 4
SC	SOUTH CAROLINA	CALHOUN	45	017	43	4
SC	SOUTH CAROLINA	CHARLESTON	45	019	43	07 4
SC	SOUTH CAROLINA	CHEROKEE	45	021	43	4
SC	SOUTH CAROLINA	CHESTER	45	023	43	4
SC	SOUTH CAROLINA	CHESTERFIELD	45	025	43	4
SC	SOUTH CAROLINA	CLARENDON	45	027	43	4
SC	SOUTH CAROLINA	COLLETON	45	029	43	09 4
SC	SOUTH CAROLINA	DARLINGTON	45	031	43	4
SC	SOUTH CAROLINA	DILLON	45	033	43	4
SC	SOUTH CAROLINA	DORCHESTER	45	035	43	11 4
SC	SOUTH CAROLINA	EDGEFIELD	45	037	43	4
SC	SOUTH CAROLINA	FAIRFIELD	45	039	43	4
SC	SOUTH CAROLINA	FLORENCE	45	041	43	4
SC	SOUTH CAROLINA	GEORGETOWN	45	043	43	13 4
SC	SOUTH CAROLINA	GREENVILLE	45	045	43	4
SC	SOUTH CAROLINA	GREENWOOD	45	047	43	4
SC	SOUTH CAROLINA	HAMPTON	45	049	43	4
SC	SOUTH CAROLINA	HORRY	45	051	43	15 4
SC	SOUTH CAROLINA	JASPER	45	053	43	17 4
SC	SOUTH CAROLINA	KERSHAW	45	055	43	4
SC	SOUTH CAROLINA	LANCASTER	45	057	43	4
SC	SOUTH CAROLINA	LAURENS	45	059	43	4
SC	SOUTH CAROLINA	LEE	45	061	43	4
SC	SOUTH CAROLINA	LEXINGTON	45	063	43	4
SC	SOUTH CAROLINA	MC CORMICK	45	065	43	4
SC	SOUTH CAROLINA	MARION	45	067	43	4
SC	SOUTH CAROLINA	MARLBORO	45	069	43	4
SC	SOUTH CAROLINA	NEWBERRY	45	071	43	4
SC	SOUTH CAROLINA	OCONEE	45	073	43	4
SC	SOUTH CAROLINA	ORANGEBURG	45	075	43	19 4
SC	SOUTH CAROLINA	PICKENS	45	077	43	4

SC SOUTH CAROLINA	RICHLAND	45 079 43		4
SC SOUTH CAROLINA	SALUDA	45 081 43		4
SC SOUTH CAROLINA	SPARTANBURG	45 083 43		4
SC SOUTH CAROLINA	SUMTER	45 085 43		4
SC SOUTH CAROLINA	UNION	45 087 43		4
SC SOUTH CAROLINA	WILLIAMSBURG	45 089 43		4
SC SOUTH CAROLINA	YORK	45 091 43		4
VA VIRGINIA	ACCOMACK	51 001 49	01	3
VA VIRGINIA	ALBEMARLE	51 003 49		3
VA VIRGINIA	ALLEGHANY	51 005 49		3
VA VIRGINIA	AMELIA	51 007 49		3
VA VIRGINIA	AMHERST	51 009 49		3
VA VIRGINIA	APPOMATTOX	51 011 49		3
VA VIRGINIA	ARLINGTON	51 013 49	03	3
VA VIRGINIA	AUGUSTA	51 015 49		3
VA VIRGINIA	BATH	51 017 49		3
VA VIRGINIA	BEDFORD	51 019 49		3
VA VIRGINIA	BLAND	51 021 49		3
VA VIRGINIA	BOTETOURT	51 023 49		3
VA VIRGINIA	BRUNSWICK	51 025 49		3
VA VIRGINIA	BUCHANAN	51 027 49		3
VA VIRGINIA	BUCKINGHAM	51 029 49		3
VA VIRGINIA	CAMPBELL	51 031 49		3
VA VIRGINIA	CAROLINE	51 033 49	05	3
VA VIRGINIA	CARROLL	51 035 49		3
VA VIRGINIA	CHARLES CITY	51 036 49	07	3
VA VIRGINIA	CHARLOTTE	51 037 49		3
VA VIRGINIA	CHESTERFIELD	51 041 49	09	3
VA VIRGINIA	CLARKE	51 043 49		3
VA VIRGINIA	CRAIG	51 045 49		3
VA VIRGINIA	CULPEPER	51 047 49		3
VA VIRGINIA	CUMBERLAND	51 049 49		3
VA VIRGINIA	DICKENSON	51 051 49		3
VA VIRGINIA	DINWIDDIE	51 053 49	11	3
VA VIRGINIA	ESSEX	51 057 49	15	3
VA VIRGINIA	FAIRFAX	51 059 49	17	3
VA VIRGINIA	FAUQUIER	51 061 49		3
VA VIRGINIA	FLOYD	51 063 49		3
VA VIRGINIA	FLUVANNA	51 065 49		3
VA VIRGINIA	FRANKLIN	51 067 49		3
VA VIRGINIA	FREDERICK	51 069 49		3
VA VIRGINIA	GILES	51 071 49		3
VA VIRGINIA	GLOUCESTER	51 073 49	19	3
VA VIRGINIA	GOOCHLAND	51 075 49		3
VA VIRGINIA	GRAYSON	51 077 49		3
VA VIRGINIA	GREENE	51 079 49		3
VA VIRGINIA	GREENSVILLE	51 081 49		3
VA VIRGINIA	HALIFAX	51 083 49		3
VA VIRGINIA	HANOVER	51 085 49	20	3
VA VIRGINIA	HENRICO	51 087 49	21	3
VA VIRGINIA	HENRY	51 089 49		3
VA VIRGINIA	HIGHLAND	51 091 49		3
VA VIRGINIA	ISLE OF WIGHT	51 093 49	23	3
VA VIRGINIA	JAMES CITY	51 095 49	25	3
VA VIRGINIA	KING AND QUEEN	51 097 49	27	3
VA VIRGINIA	KING GEORGE	51 099 49	29	3
VA VIRGINIA	KING WILLIAM	51 101 49	31	3
VA VIRGINIA	LANCASTER	51 103 49	33	3
VA VIRGINIA	LEE	51 105 49		3
VA VIRGINIA	LOUDOUN	51 107 49		3
VA VIRGINIA	LOUISA	51 109 49		3

VA	VIRGINIA	LUNENBERG	51	111	49	3
VA	VIRGINIA	MADISON	51	113	49	3
VA	VIRGINIA	MATHEWS	51	115	49	35 3
VA	VIRGINIA	MECKLENBURG	51	117	49	3
VA	VIRGINIA	MIDDLESEX	51	119	49	37 3
VA	VIRGINIA	MONTGOMERY	51	121	49	3
VA	VIRGINIA	NELSON	51	125	49	3
VA	VIRGINIA	NEW KENT	51	127	49	41 3
VA	VIRGINIA	NORTHAMPTON	51	131	49	45 3
VA	VIRGINIA	NORTHUMBERLAND	51	133	49	47 3
VA	VIRGINIA	NOTTOWAY	51	135	49	3
VA	VIRGINIA	ORANGE	51	137	49	3
VA	VIRGINIA	PAGE	51	139	49	3
VA	VIRGINIA	PATRICK	51	141	49	3
VA	VIRGINIA	PITTSYLVANIA	51	143	49	3
VA	VIRGINIA	POWHATAN	51	145	49	3
VA	VIRGINIA	PRINCE EDWARD	51	147	49	3
VA	VIRGINIA	PRINCE GEORGE	51	149	49	49 3
VA	VIRGINIA	PRINCE WILLIAM	51	153	49	53 3
VA	VIRGINIA	PULASKI	51	155	49	3
VA	VIRGINIA	RAPPAHANNOCK	51	157	49	3
VA	VIRGINIA	RICHMOND	51	159	49	55 3
VA	VIRGINIA	ROANOKE	51	161	49	3
VA	VIRGINIA	ROCKBRIDGE	51	163	49	3
VA	VIRGINIA	ROCKINGHAM	51	165	49	3
VA	VIRGINIA	RUSSELL	51	167	49	3
VA	VIRGINIA	SCOTT	51	169	49	3
VA	VIRGINIA	SHENANDOAH	51	171	49	3
VA	VIRGINIA	SMYTH	51	173	49	3
VA	VIRGINIA	SOUTHAMPTON	51	175	49	57 3
VA	VIRGINIA	SPOTSYLVANIA	51	177	49	59 3
VA	VIRGINIA	STAFFORD	51	179	49	61 3
VA	VIRGINIA	SURRY	51	181	49	63 3
VA	VIRGINIA	SUSSEX	51	183	49	3
VA	VIRGINIA	TAZEWELL	51	185	49	3
VA	VIRGINIA	WARREN	51	187	49	3
VA	VIRGINIA	WASHINGTON	51	191	49	3
VA	VIRGINIA	WESTMORELAND	51	193	49	67 3
VA	VIRGINIA	WISE	51	195	49	3
VA	VIRGINIA	WYTHE	51	197	49	3
VA	VIRGINIA	YORK	51	199	49	69 3
VA	VIRGINIA	ALEXANDRIA CITY	51	510	49	02 3
VA	VIRGINIA	BEDFORD CITY	51	515	49	3
VA	VIRGINIA	BRISTOL CITY	51	520	49	3
VA	VIRGINIA	BUENA VISTA CITY	51	530	49	3
VA	VIRGINIA	CHARLOTTESVILLE CITY	51	540	49	3
VA	VIRGINIA	CHESAPEAKE CITY	51	550	49	16 3
VA	VIRGINIA	CLIFTON FORGE CITY	51	560	49	3
VA	VIRGINIA	COLONIAL HEIGHTS CITY	51	570	49	3
VA	VIRGINIA	COVINGTON CITY	51	580	49	3
VA	VIRGINIA	DANVILLE CITY	51	590	49	3
VA	VIRGINIA	EMPORIA CITY	51	595	49	3
VA	VIRGINIA	FAIRFAX CITY	51	600	49	3
VA	VIRGINIA	FALLS CHURCH CITY	51	610	49	3
VA	VIRGINIA	FRANKLIN CITY	51	620	49	3
VA	VIRGINIA	FREDERICKSBURG CITY	51	630	49	3
VA	VIRGINIA	GALAX CITY	51	640	49	3
VA	VIRGINIA	HAMPTON CITY	51	650	49	18 3
VA	VIRGINIA	HARRISONBURG CITY	51	660	49	3
VA	VIRGINIA	HOPEWELL CITY	51	670	49	3
VA	VIRGINIA	LEXINGTON CITY	51	678	49	3

VA	VIRGINIA	LYNCHBURG CITY	51	680	49		3
VA	VIRGINIA	MANASSAS	51	683	49		3
VA	VIRGINIA	MANASSAS PARK	51	685	49		3
VA	VIRGINIA	MARTINSVILLE CITY	51	690	49		3
VA	VIRGINIA	NEWPORT NEWS CITY	51	700	49	10	3
VA	VIRGINIA	NORFOLK CITY	51	710	49	13	3
VA	VIRGINIA	NORTON CITY	51	720	49		3
VA	VIRGINIA	PETERSBURG CITY	51	730	49		3
VA	VIRGINIA	POQUOSON	51	735	49		3
VA	VIRGINIA	PORTSMOUTH CITY	51	740	49	14	3
VA	VIRGINIA	RADFORD CITY	51	750	49		3
VA	VIRGINIA	RICHMOND CITY	51	760	49	12	3
VA	VIRGINIA	ROANOKE CITY	51	770	49		3
VA	VIRGINIA	SALEM CITY	51	775	49		3
VA	VIRGINIA	SOUTH BOSTON CITY	51	780	49		3
VA	VIRGINIA	STAUNTON CITY	51	790	49		3
VA	VIRGINIA	SUFFOLK CITY	51	800	49	39	3
VA	VIRGINIA	VIRGINIA BEACH CITY	51	810	49	51	3
VA	VIRGINIA	WAYNESBORO CITY	51	820	49		3
VA	VIRGINIA	WILLIAMSBURG CITY	51	830	49		3
VA	VIRGINIA	WINCHESTER CITY	51	840	49		3

Table C-10: STANDARD CODES FOR RECREATIONAL FISHING MODES

CODE	MODE
1	Pier, dock
2	Jetty, breakway, breachway
3	Bridge, causeway
4	Other man-made
5	Beach or bank
6	Headboat
7	Charterboat
8	Guide fishing
9	Private/rental boat

Table C-11: TWINE SIZE CONVERSION CODES FOR SINK AND DRIFT GILLNETS

SINK GILLNET MONOFILAMENT		
Size	**Diameter (mm)**	**Old Size**
3	0.28	69
4	0.33	104
6	0.40	139
7	0.45	---
8	0.47	177 (208)
10	0.52	208 (208L)
12	0.57	277
14	0.62	
16	0.66	
18	0.70	
20	0.74	
24	0.81	
30	0.90	
40	1.05	

DRIFT GILLNET TWISTED NYLON			
Size	**Deniers**	**Breaking Strength (lbs)**	**# Feet / Pound**
9	24	84	2250
12	30	105	1824
15	36	125	1550
18	48	160	1152
21	60	217	860
24	72	242	740
30	84	297	625
36	96	336	520
42	108	365	470
54	144	460	360
60	168	552	305
72	192	601	270
84	228	765	220
96	276	905	177
120	336	1090	135

Table C-12: STANDARD NOTE CODES FOR ENTANGLEMENT SITUATIONS

CODE	DESCRIPTION / CRITERIA
00	Unknown
01	Fell from gear (point unknown)
02	Fell from gear before exiting water
03	Fell from gear once out of water
01	Fell from gear due to force of roller
05	Removal requires cutting gear or animal
06	Removal does not require cutting gear/animal
99	Other
Longline Gear Only	
07	Foul hooked (cut from gear)
08	Foul hooked (removed from gear)
10	Bird caught (gangion attached to line)
11	Bird caught (gangion not attached to line)

Table C-13: STANDARD NOTE CODES FOR CONDITION OF ANIMALS

Code	Description
00	Unknown
01	Alive (condition unknown)
02	Alive (not apparently injured)
03	Alive (injured)
04	Alive (gear in/around mouth)
05	Alive (gear in/around flipper)
06	Alive (gear in/around another single body part)
07	Alive (gear in/around multiple body parts)
08	Alive (seen by captain/crew only)
09	Alive (resuscitated turtles)
10	Dead (condition unknown)
11	Dead (fresh)
12	Dead (moderately decomposed)
13	Dead (severely decomposed)
14	Dead (seen by captain/crew)
99	Other

Table C-14: STANDARD NOTE CODES FOR SAMPLE TYPES

CODE	VALID DATA	ADDITIONAL INFORMATION
01	Otolith	
02	Spines	
03	Scales	
04	Vertebrae	
05	Finrays	
06	Scutes	
07	Shells	
08	Stomach	
09	Histo	
10	Gonad	
11	Dna	
12	Opercles	
13	Statoliths	
14	Chondrophones	
15	Centerline/fork length	
16	Carapace length	
17	Wide dorsal carapace length	
18	Body length	
19	Claw length	
20	Shell hardness	
21	Shell disease	
22	Cull status	
23	V-notch	223 = v-notch (new, natural), 224 = v-notch (previous natural), 225= v-notch (new, manmade), 226 = v-notch (previous)
24	Maturity	Maturity codes - standard lookup table not set (April 2007)
25	Disposition code	See Table B-5
26	Weight	Numeric (in grams)
27	Sex code	M = male, F = female, U = unknown
28	Gut weight	
29	Gut fullness	
30	Year class	Specific year value (e.g., 2001)
31	Age	Number of years
32	Maturity class	1= immature, 2 = mature, 3 = unknown
32	Standard length	
33	Total length	
34	Core length	

Table C-15: STANDARD NOTE CODES FOR SEA TURTLE STRANDING DATA

CODE	DESCRIPTION / CRITERIA
01	Caught on hook and line
02	Found in dredge hopper
03	Abnormally high coverage of barnacles (not associated with emaciation)
04	Died at holding facility or on beach, see original data sheet
05	Final fate unknown
06	Power plant entrainment
07	Reported stranding, investigators unable to locate carcass
08	Cold stun related
09	Observed floating dead in water, carcass not recovered
10	Observed floating dead or live in water, carcass (or live turtle) recovered
11	Entangled in fishing line
12	Turtle found floating live in surf, picked up
13	Entangled in fishing net
14	See original data sheets for more information
15	Found trapped in sunken wreckage
16	Plastics/persistent marine debris found in digestive tract upon necropsy
17	Skull missing
18	Apparent propeller wounds, probable boat strike
19	Paint marks / residue on carcass, not from stssn marking
20	Skull and some combination of flippers missing
21	Turtle has a tag, number is unreadable
22	Caught in shrimp trawl
23	Released at same site
24	Hook in mouth
25	Tagged after stranding
26	Possible mutilation
27	Necropsied, see data sheets for further information
28	Entangled in debris, entangled on reef (or submerged object)
29	Rope tied to flipper(s) and/or neck or body
30	Apparent bullet wounds
31	ESA violation, charges / arrest involved
32	Papilloma-like growths noted
33	Emaciated, covered with tiny barnacles (typical “sick” turtle)
34	Nature of wounds suggest shark bites / attack (unknown ante or post mortem)
35	Carapace crushed completely
36	Emaciated
37	Some flipper combination missing
38	Some flipper combination missing (appears human-induced)
39	Apparent tag scar
40	Galveston Laboratory headstart
41	Nature of wounds suggest gill net, net (type?), trap line (type?), or line (type?) entanglement
42	Carapace missing (vandalized?)
43	Nature of wounds suggest bang stick
44	Skull only
45	Florida DNR headstart
CODE	**DESCRIPTION / CRITERIA**
46	Butchered, see data sheet
47	Carapace only
48	Entangled in a non-fishing gear medium
49	Tar and/or oil on turtle
50	Caught in set net
52	Carapace damage (i.e., what is the cause)
53	Flipper damage (i.e., explain not totally missing)

54	Blow to skull
55	Found flipped on beach (live - adult turtle)
56	Entangled in crab / lobster trap line
57	Released at later date, see original data sheet
58	Caught on trot line
59	Caught in gill net
60	Caught in fish trap
61	Caught in fishing net (type unknown)
62	Miami Seaquarium Headstart
63	Caught in trawl (not targeting shrimp)
64	Caught in cast net
65	Catch method unknown
66	Injury to skull (unknown cause)
67	Offshore observation of injured turtle, not recovered
68	Caught in drift net
69	Throat or neck cut
70	Post-hatchling, young of the year
71	Injuries / wounds described are healed / old
72	Flipper(s) only found
73	Nesting female, apparently butchered for eggs
74	Plastron damage (i.e., explain what is the cause)
75	Plastic ingestion noted
76	Stingray barb imbedded in flesh or carapace
77	Growth abnormality, does not appear to be damaged (extra scutes, weird shape, etc.)
78	Euthanized (animal's condition determined terminal)
79	Carapace damage - marginal only (i.e., explain what is the cause)
80	Nature of wounds suggest crab / lobster trap line entanglement
81	Living tag noted (or apparent living tag)
82	Spear gun wounds
83	Guts or part(s) only, probable butchering (see original data sheet)
84	Apparent natural mortality while female on the nesting beach
85	Carapace already marked with paint, could not match a duplicate record
86	Found in apparent association with red tide occurrence
87	Guts or part(s) only - cause unknown
88	Possible boat collision (this is different from propeller damage)
89	Turtle captured / stranded prior to this stranding - released then with radio / sonic / satellite tag
90	Constriction wounds / marks on flippers or neck
91	Neck region damage (i.e., explain what is the cause)

92	**Tumors (not typical fibropapillomas)**
93	Caught in pound net
94	Plastron only
95	Monofilament or steel line protruding from mouth and/or cloaca
96	Probable dredge kill
97	Inframarginal damage
98	Large portion of body missing (i.e., explain what is the cause)
99	Additional tags applied this capture, see original data sheet
AA	Captured / stranded prior to this capture, see original data sheet
AB	Mud or mud stains on body
AC	Tar and/or oil in digestive tract upon necropsy
AD	Carcass sighted on beach aerial survey - report not duplicated by ground observers
AE	Hook in flipper or other soft body part (not in mouth)
AF	Monofilament line found in digestive tract upon necropsy
AG	Turtle has tag - number was not recovered
AH	Caught in try net
AI	Fishing hook(s) found in digestive tract upon necropsy or x-ray
AJ	Binary coded internal tag verified
AK	Balloons found in digestive tract upon necropsy
AL	Necropsy report filed with STSSN report form
AM	Sex determined by laparoscopic exam
AN	Caught in seine net
AO	Caught in abandoned gear
AP	Entangled in rope (not deliberately tied)
AQ	Plastron missing
AR	Apparent gaff wounds (gaff or hook wounds)
AS	Lower jaw missing
AT	Stranding associated with other dead marine life
AU	Carcass tagged for identification purposes
AV	Caught on longline set
AW	Shrimp and/or fish (bycatch) found in digestive tract upon necropsy
AX	Found trapped in jetty rocks
AY	Male/Plastron soft and/or concave (breeding condition)
AZ	Hatchling found in stomach of predator
BA	Carcass broken into pieces, scattered and/or slightly connected but not intact (other than bones only)
BB	TED test turtle (captive raised)
BC	Skull found separated from carcass on beach
BD	Caught in moat and/or human-made habitat
BE	Nature of injuries hooking (hook/line not present)
BF	Bouyancy problem (turtle unable to dive/submerge properly)
BG	Apparent hybrid-cross between two species
HS	Head-started turtles

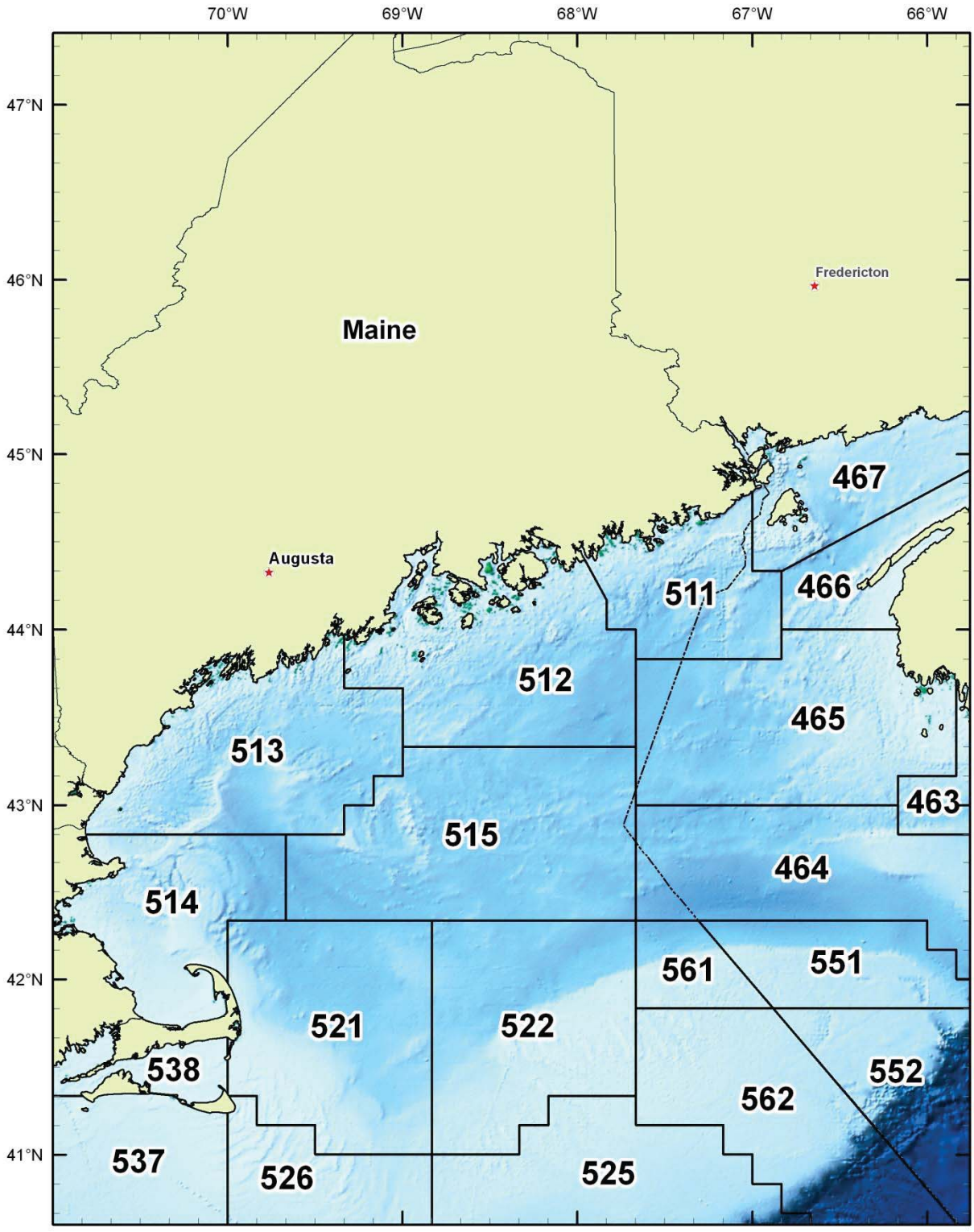

Chart 1. Gulf of Maine

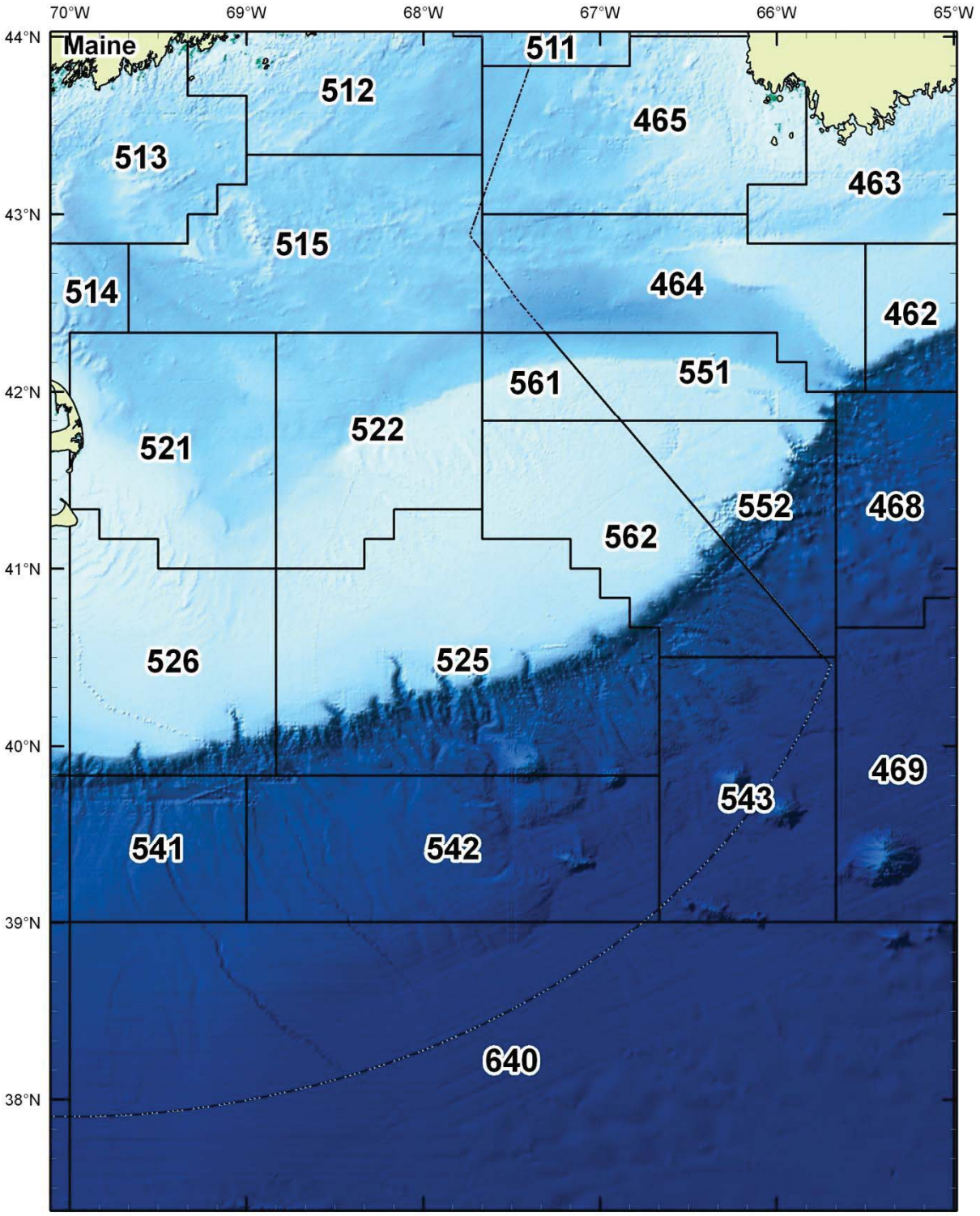

Chart 2. Georges Bank

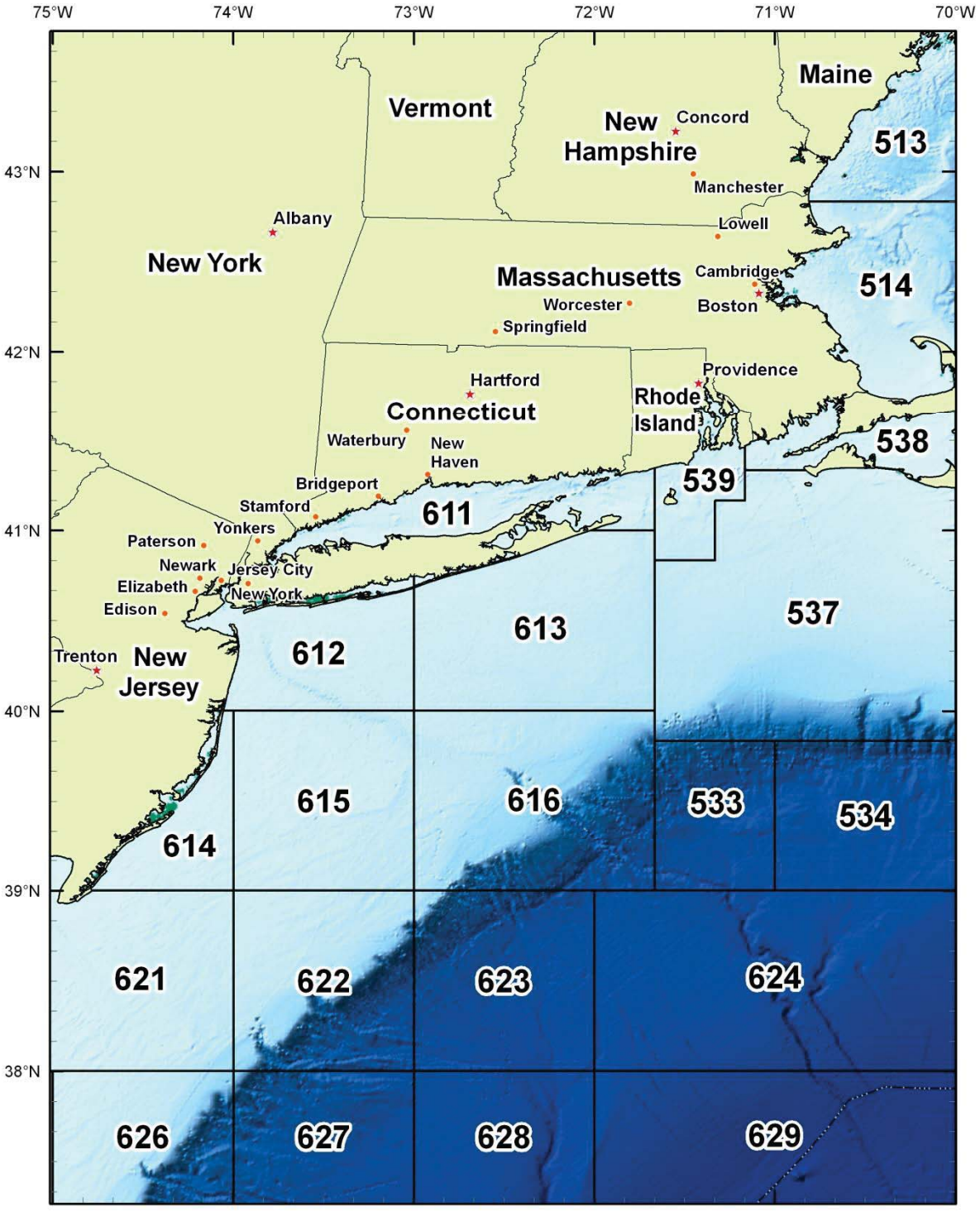

Chart 3. Southern New England

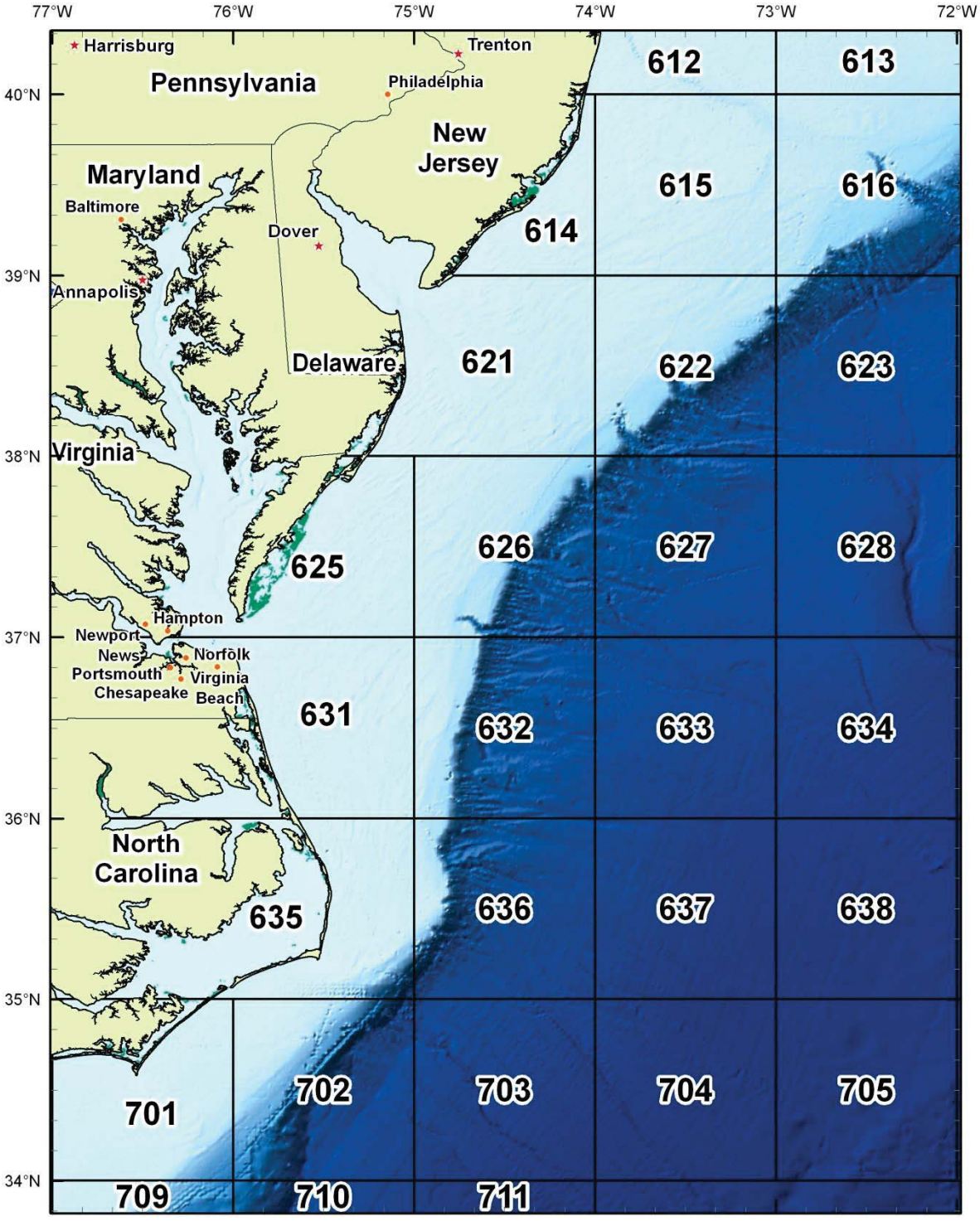

Chart 4. Mid-Atlantic

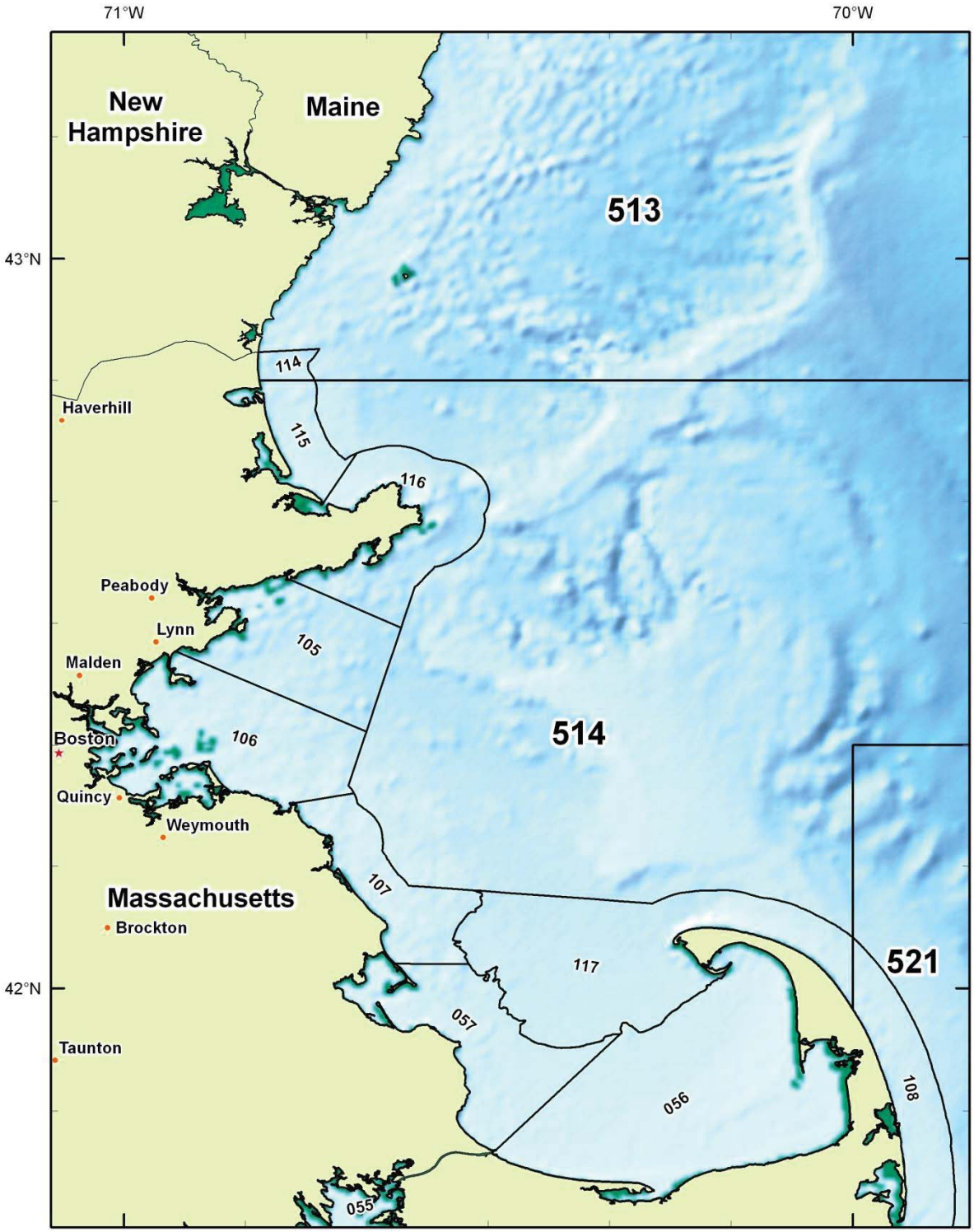

Chart 5. Massachusetts Bay and Cape Cod Bay NEMFIS Area Codes

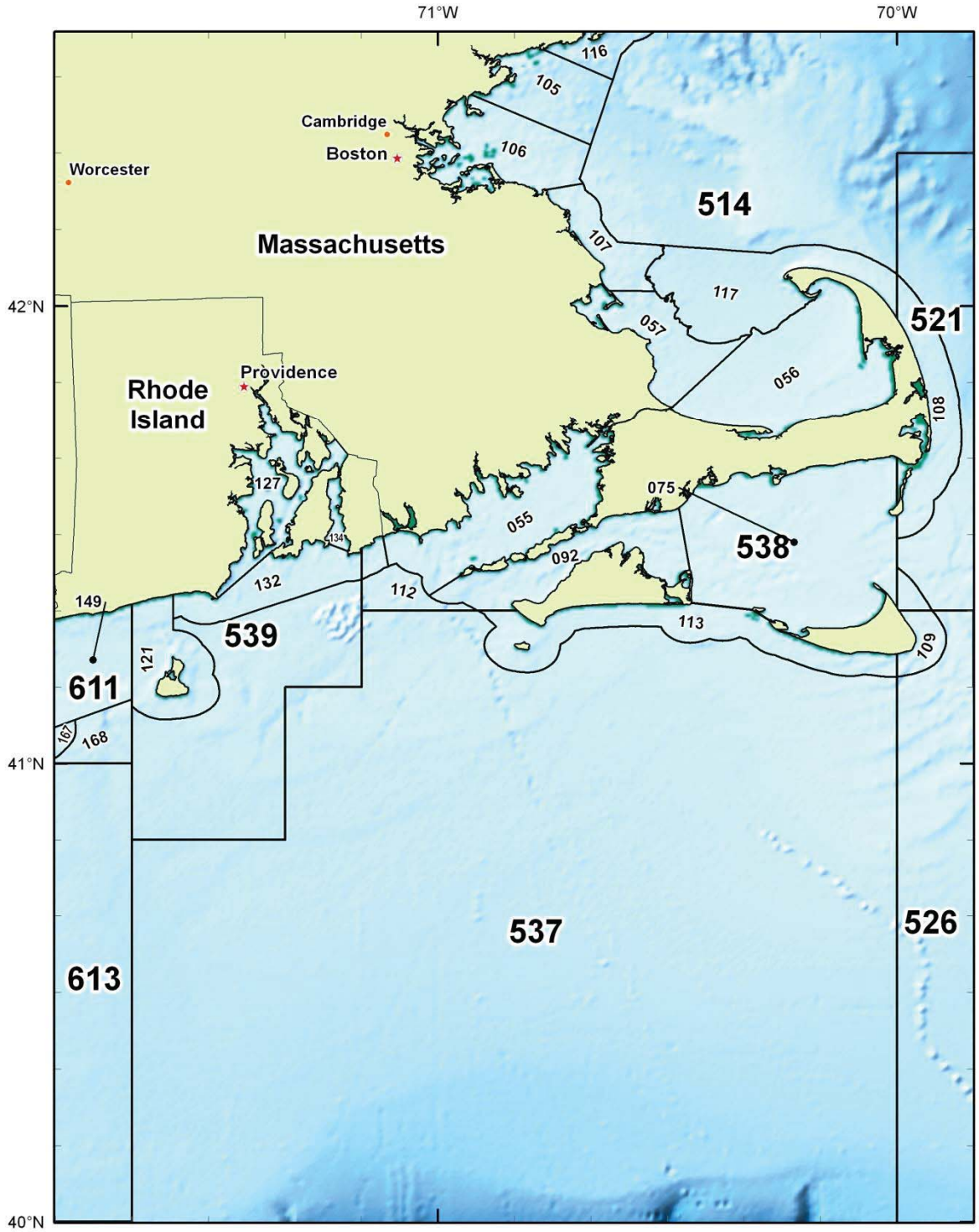

Chart 6. Rhode Island Sound, Cape Cod and Islands NEMFIS Area Codes

Chart 7. Long Island Sound and New York NEMFIS Area Codes

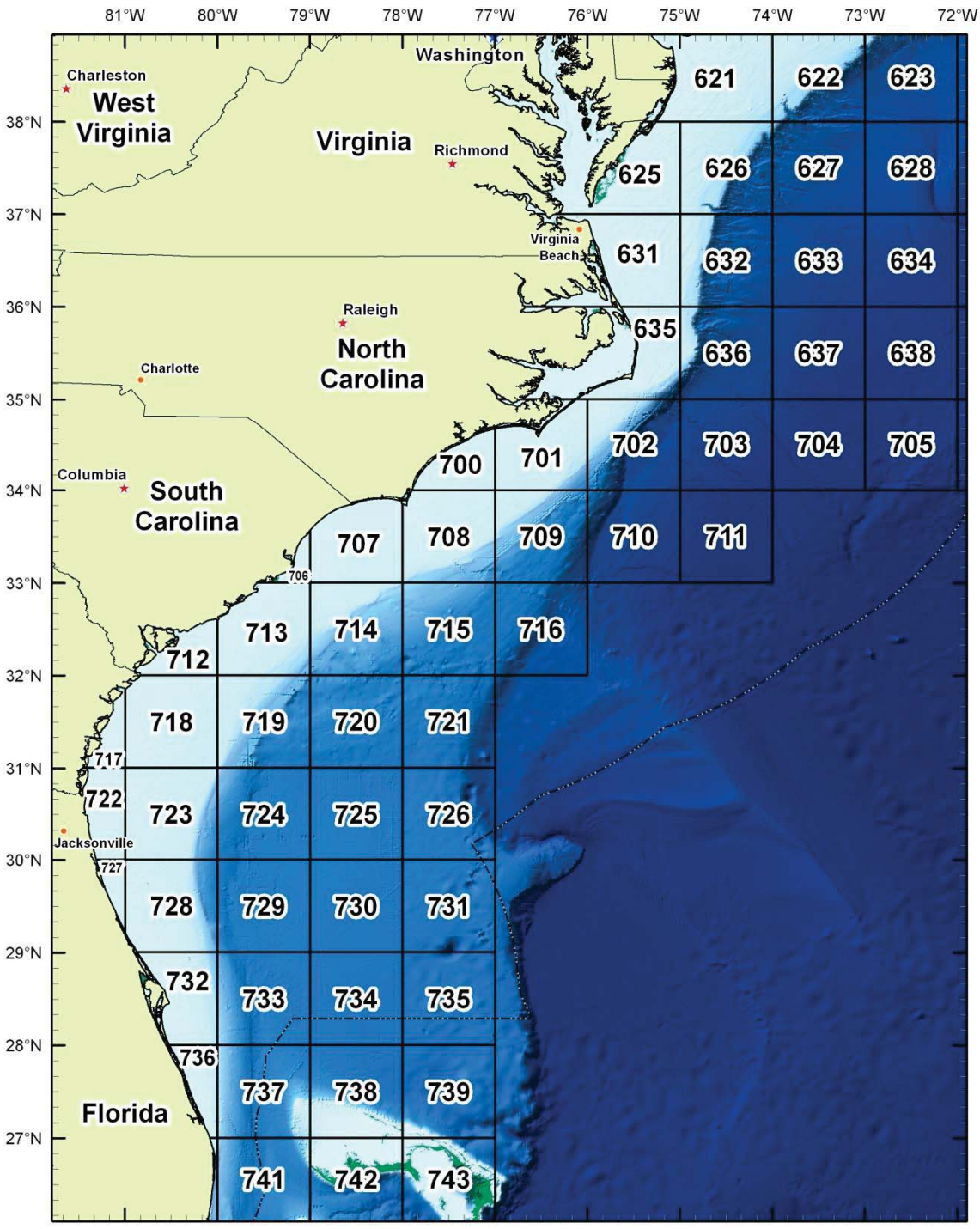

Chart 8. South of Cape Hatteras

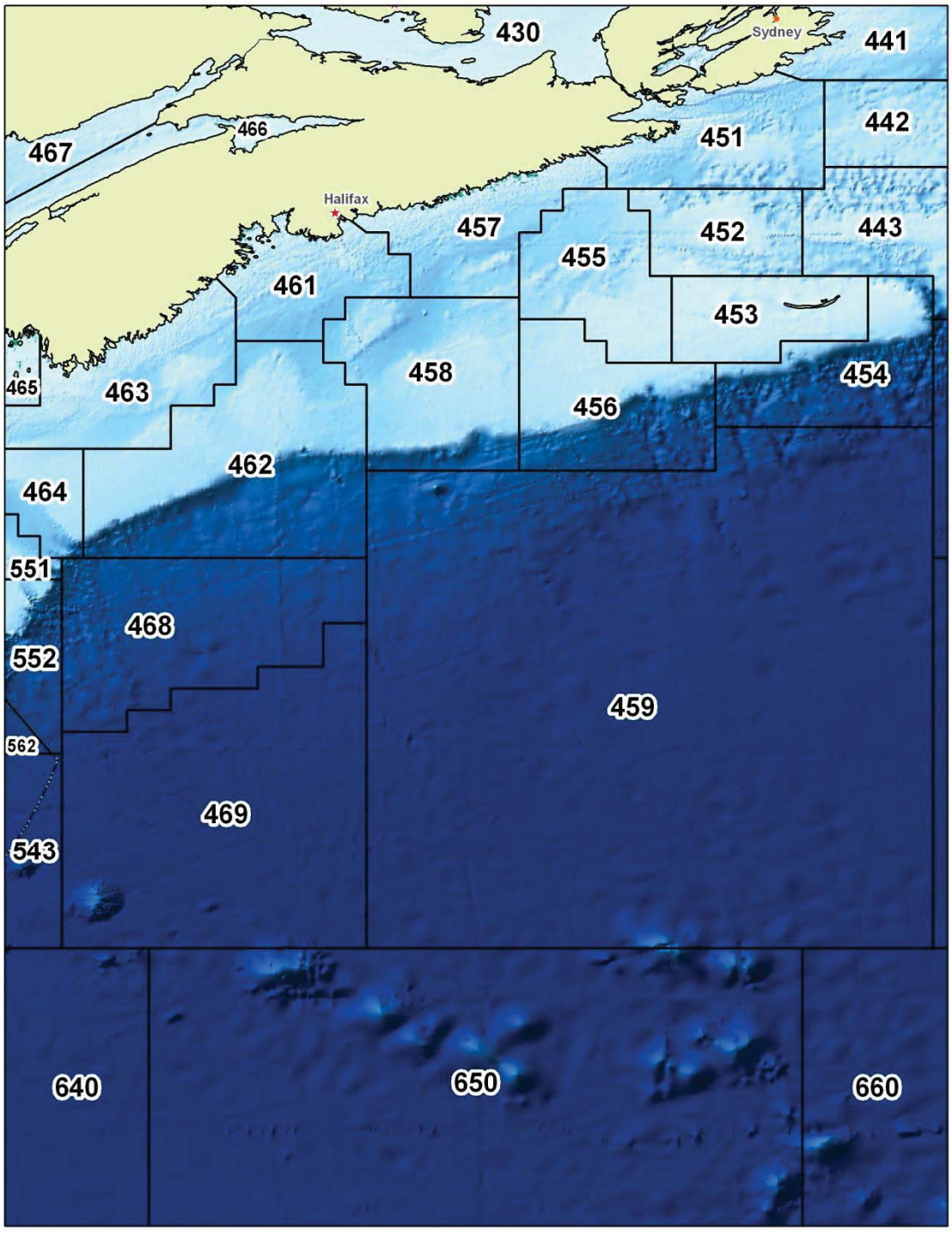

Chart 9. East of Nova Scotia

DATA COLLECTION

A. Reporting System

1. One-ticket vs. Two-ticket Reporting System

The commercial data collection system of the ACCSP requires all fishermen and all dealers to report every commercial trip and commercial fishery transaction they make. Reporting forms will be supplied to all commercial fishermen and dealers and should be filled out at the completion of each trip or transaction. Due to regional differences in how fishermen and dealers interact, the ACCSP will accept forms from these two different reporting systems. An agency complying with the ACCSP standards must determine which data reporting system would best suit its needs. Choosing the appropriate reporting system will result in increased compliance and more accurate data.

The two commercial reporting systems are often referred to as the one-ticket system, where fishermen and dealers fill out separate portions of the same form, and the two-ticket system where fishermen and dealers report on separate forms. These two systems will allow accurate data collection for transactions where the fishermen and dealers have direct contact (one-ticket) or are separated by large distances, often several states (two-ticket). Basic descriptions of the two different reporting systems can be found in the Atlantic Coast Fisheries Data Collection Standards. However, each agency will need to develop the specifics of the data collection programs to best suit their requirements and priorities.

Choosing the ACCSP reporting style that most closely resembles current reporting procedures will decrease the amount of time needed for the fishermen and dealers to learn the new forms, and will consequently increase compliance and reduce the number of reporting errors. However, when choosing a reporting style, an agency should also consider fisherman-dealer interactions, the amount of paperwork that can be handled, timeliness of data submission, and enforcement capabilities. For example, if transactions occur locally, but dealers and fishermen currently report separately, the agency might consider using the one-ticket reporting system to decrease the amount of paperwork that will be sent in.

In some cases, it may be necessary for a reporting agency to allow both reporting systems for different fisheries. Protocol should be established as to when dealers and fishermen should report using each system. The fisheries that should use each reporting system should be explicitly identified to reduce confusion as to which reporting style should be used.

2. Form Design

Once a reporting system has been determined, it will be necessary to design reporting forms for each of the reporting units. Generic reporting forms have been designed for reporting single trips for the one- and two-ticket systems, and for reporting multiple trips for the two-ticket system fisherman. These forms can be used as designed, or can be used as models from which to design forms that are more specific to the needs of a specific agency.

When designing forms agencies may use any design and layout they wish. However, the ACCSP requires that a set of minimum data elements must be included on all reporting forms. These data elements will maintain consistency among the individual programs under the ACCSP, and allow stock assessment biologists to perform direct comparisons of the data.

Agencies should consider several aspects of the form design that will allow for accurate and consistent data collection by all users. Some issues that should be considered when developing reporting forms are listed below.

a .Minimum Data Elements

The data elements that must be included on any commercial reporting form can be found in the Atlantic Coast Fisheries Data Collection Standards document. It is recommended that these minimum data elements be broken into a header region, that will be used to describe and identify the trip, and other data elements that are not necessary for trip identification. The data elements ‘Trip Date’, ‘License Number’, and ‘Trip Number’ will be combined into a ‘Unique Trip Identifier’, and should be included in the header to allow data managers to easily identify and track the data from each specific trip.

b. Other Data Elements

It is unlikely that an agency will be able to collect all the necessary information through just the minimum data elements. Each agency should consider using additional questions to collect information on specific aspects of the local fishing practices, etc. These data elements could be based on program priorities, and be specific for each gear type or fishery.

c. Logical Layout

Although each agency should instruct fishermen and dealers how to properly fill out the reporting forms, properly designed forms will allow the collection of more consistent and reliable data. Data forms should be straightforward and easy to use, and have a logical, a hierarchal layout. The order and positioning of questions should not require

someone to jump all over the form or flip pages. Questions of similar subjects should be grouped together. The questions should have a clear meaning, and be large enough to read. Similarly, there should be sufficient space for recording responses. Forms with too many questions will discourage fishermen and dealers from reporting and the data that is reported will be less accurate

d. Form Type/Version Number
All reporting forms should be identified with a form type and form version number. This will ensure that fishermen and dealers are using the correct form and the most up to date version of that form.

e. Multiple Forms and Precoding
Some programs have benefited from having separate reporting forms for specific gears or fisheries. It would be possible to precode these forms for certain fields, such as gear used, or primary species landed. Precoded forms have been found to be efficient and user friendly. They save time for fishermen and dealers because there are fewer fields to fill in, and they decrease the amount of staff time necessary to review and keypunch each form.

f. Multi-trip Reporting Form
The multi-trip reporting form was developed to decrease the reporting burden of fishermen involved in high frequency fisheries (i.e., fisheries that take many trips in a short period of time). These forms will be allowed for other fisheries so long as using this form does not result in the loss of detail in the data.

The multi-trip reporting form allows fishermen to report trip level information of several trips on the same form, as opposed to using a separate form for each trip. This decreases the amount of work the fishermen are required to do, and the amount of paperwork that is received by the agency. To decrease confusion and increase compliance and accuracy of reporting, specific protocols must be established by the reporting agency as to which fisheries and under what circumstances the multi trip reporting forms may be used.

B. Sampling Frame
ACCSP requires a unique identifier for every commercial fisherman and dealer. Reporting of data is mandatory for all commercial fishermen and dealers. A complete sampling frame would be very beneficial by identifying everyone who is expected to report data. If data were not being received from certain individuals, the licensing frame would provide information on how to contact those individuals.

Each agency should consider developing a registration system that would allow the development of a comprehensive sampling frame. The registration system should allow for timely updates of the sampling frame, and should collect sufficient information on how to contact every commercial fisherman and dealer for data verification. The registration process should be simple so that it is not a burden to the fishermen and dealers. A difficult registration process might discourage industry from registering, thereby greatly reducing the utility of the sampling frame and validity of the data.

C. Training and Outreach

In order to increase compliance and decrease the number of reporting errors when using new reporting forms and procedures, each agency might consider developing a training program to instruct fishermen and dealers of proper reporting procedures, such as which form to use in which circumstances, how to fill out each form, who to report to, how often to report, and who to contact for further assistance.

Information that is covered in the training program could also be developed into a user's manual for fishermen and dealers to use as reference. A 1-800 number would be valuable for the fishermen and dealers to call for assistance with reporting or to give feedback on how the system is working.

DATA VERIFICATION

The ACCSP provides all the fisheries data collection agencies along the Atlantic coast with a consistent and compatible data collection system. This will result in more valid stock assessments and appropriate management decisions. In order for these goals to be realized, the data that is collected must be accurate and reliable. Self-reported data from the fishermen and dealers have the potential of being very biased, fabricated, or just not reported. It is therefore necessary for each reporting agency to develop methods to verify the data that is reported.

Requiring 100% reporting by both fishermen and dealers allows the reporting agencies to compare data from the two groups. If there are discrepancies or inconsistencies between dealer and fishermen reported data for a certain trip, the agency will be able to contact both parties to clarify the problem.

Although comparing dealer and fisherman reported data will be useful for verification, there are several other methods that should also be used. These include, but are not limited to the following methods:

1. Fishery dependent methods such as port sampling and at-sea observer programs
2. Periodic summary forms sent to fishermen and dealers for them to verify their reports
3. Requiring updates on activity before license renewal; and
4. Random audits of dealers and/or fishermen

Fishery dependent methods: Fishery dependent programs such as at-sea observers and port sampling collect more detailed data at the trip and haul level, but are also a powerful verification tool for data reported by fishermen and dealers. If at-sea observer or port sampling programs are used, they should collect unique trip identification information from each trip that is sampled in order to link the fishery dependent program data to the industry reported data from the same trip.

Information on developing an at-sea observer program can be found here in the Atlantic Coast Fisheries Data Collection Standards document.

Information on port sampling procedures can be obtained from manuals for biological data collection programs such as the Southeast Trip Interview Program (SE TIP) and the Northeast Biological Sampling Program.

Periodic summary reports: Periodic summary reports, similar to monthly bank statements, sent to fishermen and dealers would be beneficial for several reasons.

1. It will allow the fishermen and dealers to see the data after it has been entered, and give them confidence that the data is being used, and that reporting is not just a burden to them.

2. It allows them to make any changes to mistakes in the data, giving them more confidence that the data used for management is accurate.
3. It provides them with an official record of what they have caught and how much they have made.

Periodic statements are potentially very useful verification tools, but protocols must be established in order to maintain the integrity of the data. Agencies must develop a schedule for these statements, and follow it exactly. The schedule should include how soon the statements are sent out after the raw data is received, how often they are sent (weekly, monthly, quarterly, etc), and how much time should be allowed for fishermen and dealers to respond with changes or comments.

Since fishermen and dealers will undoubtedly want to make changes after the deadline has passed, protocols should be developed on what to do with changes that are reported after the deadline. The program should also develop protocol on how to verify that the reported changes are accurate, and should limit the number of personnel who are allowed to make changes to the database (see **Data Management** section below). The program must also ensure that the data is sent only to the fisherman or dealer who reported the data to maintain confidentiality of the data.

Audits: Another potential verification tool is auditing dealers= and fishermen=s records. This will allow agencies to determine if the data that is reported is consistent with the information contained in the dealer=s or fisherman=s personal records. When developing an auditing program, agencies should consider all the legal issues to ensure that audits and auditors are fully compliant with the law.

Audits should be random and unannounced to prevent dealers and fishermen from changing their books when they are aware an audit will be performed. Agencies should develop protocol on when audits are done, who will do them, how to select who will be audited, what authority auditors have, and what to do when a violation is found.

DATA MANAGEMENT

Data collected by each agency through the commercial fisherman and dealer reporting system will eventually be incorporated into a coastwide ACCSP database. Before the data is submitted to the database, it needs to be edited and checked for accuracy. This will ensure that all data in the ACCSP database are verified and as accurate as possible. Agencies should perform the following data editing procedures in order to finalize the data before submission.

A. Data Form Review

Before the reported data is entered forms should be checked for accuracy and consistency. Items and records that should be checked include, but are not limited to the following:

1. Legibility
2. All necessary fields are filled in
3. Reasonable dates and times (e.g., date landed should be after date sailed)
4. Accurate species/gear combinations

When an incorrect or inconsistent entry is found, the person who reported the data should be contacted to clarify the data before any changes are made. Protocol should be established for what to do when an entry needs to be changed. For example, it is recommended that any changes should be documented as to why it was changed, the original entry, what it was changed to, and who made the change.

Fishermen and dealers who make mistakes on their forms should be notified of their errors in an attempt to reduce errors in the future. If errors are made consistently by the same person or organization, agencies might consider additional training for these reporters. If errors continue, an agency may want to take legal action (fines, revoke license, etc.). Protocol should be established as to when legal action should be taken, and the extent of the action for violations of these reporting protocols.

B. Data Entry

Once the data forms have been reviewed, they should be entered into a computer database. Data entry clerks should be screened for qualifications and training to ensure accurate data entry. Data entry procedures should have protocols to decrease the number of transcription errors that are made. An error rate of less than 0.5% of all entries is recommended and can be achieved using a double entry system (each entry is entered twice and not accepted unless both entries are identical). Other systems may also be used if they meet or do not exceed the recommended maximum error rate.

It is recommended that 5-10% of all yearly entries undergo a spot check for errors. This review should be performed by someone other than the person

who entered it. The percentage of entries that is spot-checked might be increased if the error rate is found to be greater than 0.5% or when a new contractor is used (if contractors are used for data entry). It is also recommended that a portion of each individuals work be checked for errors when new data entry clerks are used. Protocol must be established on who performs the review, how it is performed, and how often it is performed.

C. Computer Audit

Even after the data have been spot checked, it is necessary to run further data editing programs for errors that are not as obvious, including, but not limited to, the following:

1. Species ranges, lengths, and weights
2. Dates
3. Fishermen and dealer licenses
4. Fishing gear used
5. Invalid codes
6. Outliers
7. Blank fields (blank fields are valid answers in some cases, but not in others)
8. Comparisons with tracking database

These data checks can be conducted with a computer audit. A computer audit is a computer program or series of programs that checks for errors and flag entries that are potentially incorrect. It is possible to incorporate some of these programs into the data entry system, so that they are recognized, checked, and changed if necessary before reaching the database. Entries that are flagged should always be checked against the original data sheets, and possibly with the fisherman or dealer who reported the data to check for accuracy before any changes are made. If it is necessary to make a change to the database, protocol should be established for how and where to document any changes. Authorization to make changes to the database should be restricted to as few employees as possible.

D. Tracking of Timeliness

Commercial fisherman and dealer data will be entered into a local database by each reporting agency (or a contractor). Data entry checks and audits will be performed at the local level, and then the data will be submitted to a regional or centralized ACCSP database to allow access to other users. Each reporting agency must submit data to the main ACCSP database regularly to ensure the timeliness of the data. Data for each trip should be submitted to each agency by the tenth of the month following the reporting month. Data should be edited by the agency and submitted to the ACCSP database in a timely manner (e.g., within one to five weeks of receiving it).

To ensure that the data is submitted on-time a schedule of data processing should be established and followed. Specific dates associated with each trip should be recorded to allow data personnel to recognize instances where

data may be behind schedule and allow them to speed up the processing of that data. Dates that could easily be tracked include the following:

1. Date landed
2. Date data are received by the agency
3. Date data are entered locally
4. Date the computer audit is completed
5. Date of submission to main database

ENFORCEMENT AND COMPLIANCE

In order to collect the most useful and accurate data possible, it is necessary to have a high rate of compliance by industry. Several ways to get a high compliance rate are:

1. Develop a strong working relationship with the industry
2. Have active inspections for violations
3. Reduce the amount of reporting burden on the industry as much as possible
4. Conduct training programs and provide assistance to industry on how to properly fill out the reporting forms
5. Don't sell licenses to individuals with outstanding violations or reports
6. Inform industry members when they are not reporting correctly

However, one of the most important ways to ensure high compliance is to have strong support from law enforcement. Law enforcement personnel must be dedicated to enforcing data reporting requirements and disciplining any offenders. There must be a good working relationship between the reporting agency and the law enforcement division, and consistent communication and feedback will keep both groups informed of the others actions and concerns.

Protocols for enforcement must be established and followed in order to ensure high compliance rates. A penalty system should be developed for offenders. This penalty system could increase in severity as the number of offenses by a single person increase. Protocol must be established on the different types of offenses, the types of penalties, and what offenses receive which penalty.

In order to ensure accurate enforcement, all significant interactions between agency staff and a fisherman or dealer should be documented. This will allow law enforcement personnel to go to the documented interaction to see what took place. Interactions could include first contact with an industry member, informing industry member of reporting procedures and requirements, or problems with reported data.

SAMPLING DESIGN AND CONSIDERATIONS

There are many different strategies to collect recreational fishing data and many things must be considered before choosing the right method. Different surveys have different biases and will have different effects on the precision and accuracy of sampling estimates. Choosing the correct survey type and properly setting up and executing the sampling design will result in more reliable survey results. Things that must be considered include:

1. Defining goals and objectives
2. Information to be gathered
3. Need for direct observation
4. Sampling frame
5. Cost
6. Who will conduct the survey
7. Desired statistical precision

It will be much easier to choose a survey design and sampling strategy to best suit your needs once you have answers to those questions. Two publications contain valuable information on how to set up and conduct fishing surveys and were used extensively in preparing this document. These publications are *Creel and Angler Surveys in Fisheries Management* (Guthrie *et al*., 1990) and *Angler Survey Methods and Their Applications in Fisheries Management* (Pollock *et al*., 1994). The *Special Report # 37 of the Atlantic States Marine Fisheries Commission* (MRFSS User's Manual) was also used extensively to develop this document.

Once a survey design and sampling strategy have been chosen, there are many ways to increase the accuracy and precision of the results. The following sections suggest methods to reduce variance for different types of surveys.

ACCESS POINT ANGLER INTERCEPT SURVEYS

Access point surveys are on-site, intercept surveys, typically consisting of a personal interview with the fishermen at the completion of their fishing trip. The interview should take place at a common egress point from the fishing area. These surveys are used primarily to collect effort, catch, and harvest data, and secondarily to collect economic or social information. Biological information of the animals harvested is also usually collected.

A. SURVEY PERSONNEL PROCEDURES

1. Interviewer Qualifications

The interview typically consists of two separate but equally important parts. There is a personal interview of the fisher to collect personal and fishing activity information and a creel survey to collect biological data on the retained catch. Each part of the interview requires a unique set of skills.

Interviewers should have substantial fish/shellfish identification skills. They should be able to identify, by direct observation, the most frequently occurring species in his/her geographic sampling area. Therefore, initial training might be necessary to verify the ability of the interviewer to identify fish or shellfish species in the area where they will sample. Training with fresh specimens is preferred: however if not available, slides, photos, or other reference guides can be used.

While interviewers are typically selected for their skills in fish or shellfish identification, these are not the only skills required to be a successful interviewer. Interviewers should also have good people skills as they may have a direct impact on the results of the survey. A good interviewer not only identifies fish accurately, but can also approach strangers with little reluctance, can conduct interviews in a professional manner, and can diplomatically handle touchy situations.

Interviewers must also be very organized. Specific tasks often include locating sites in sometimes remote areas, completing site assignments, having all necessary equipment available and in proper working order (e.g. calibration of scales) while interviewing, looking up codes in reference manuals, and completing and submitting all forms accurately and in a timely fashion. In addition, interviewers should wear appropriate attire and present themselves in a professional manner at all times while in the field.

Initial testing may be required to assess interviewer's interpersonal and organizational skills, as well as their ability to follow specific directions. These people skills will have a direct impact on the results of the survey. An interviewer who is friendly and conducts an interview in a professional

and organized manner will generate more respect from the fishermen. This also generates respect for the survey, and the responses fishermen give will be more reliable.

2. Interviewer Training

Interviewers must be trained in proper procedures for conducting surveys. Training programs must be designed to ensure quality and consistency of the overall sampling process. This includes site selection, selection of fishermen to interview, conducting the interview, recording and coding responses, and proper editing procedures. They should have good directional and organizational skills for locating intercept sites in remote areas, maintaining all necessary equipment, referencing codes, and submitting forms on schedule. Subjects addressed in the intercept survey training sessions must include, but are not necessarily limited to:

1. An introduction to the goals and objectives of the survey, operation of the survey, and uses of the data. This will educate interviewers on appropriate responses to general questions from fishermen in the field
2. Procedures for setting up, including information sources on local fishing activity
3. Procedures for selecting primary and alternate interview sites, setting up an interview station, calibrating field equipment, and updating site lists
4. Supplemented by a discussion of sources of local information on fishing activity to aid in these tasks
5. Proper procedures for selecting respondents, conducting the interview and coding the intercept data form. This should include an item-by-item explanation of the data collection instrument and a review of all materials used in the conduct of the interview
6. Identification of the most frequently occurring fish/shellfish species in the interviewer's geographic sampling area without the aid of reference materials
7. The effective use of taxonomic keys and other reference materials, such as Peterson's *Field Guide of Atlantic Coast Fishes of North America* or American Fisheries Society's (AFS) *A List of Common and Scientific Names of Fishes for the United States and Canada*, to identify other less common species in the interviewer's sampling area
8. A review of local names for fishes or shellfishes, identification aids for local species commonly misidentified, and the use of the NODC species list
9. Principles and techniques of random sampling, so that decisions on subsampling fish or shellfish for measurement and on subsampling interviewees at high use sites can be properly determined under a variety of field conditions
10. Correct techniques for length and weight measurements, and biological materials, (e.g., otoliths, gonads, blood, etc.) for each species of fishes or shellfishes

11. General overview of fishery(s) to be encountered and most commonly caught species that might be seen

3. Supervisors and Interview Supervision

In the process of conducting a survey the supervisor plays a very important part in ensuring quality data. Regular feedback from supervisors to interviewers provides one of the most important means of quality control. A supervisor not only provides training and guidance but should also be involved in monitoring interviewer performance, checking for accuracy and consistency of the data, and verifying data.

Field supervisors should have all the skills required of the interviewers, but on a more extensive level. They should be completely familiar with all the survey goals and procedures, common mistakes encountered, and how to overcome such problems. This should include the theory behind the survey design and sampling strategy. Supervisors should have extensive field experience identifying local fish, especially those that are commonly misidentified. They must also have strong teaching and communication skills to allow them to train new interviewers effectively. Supervisors should be highly organized and have strong managerial and motivational skills.

All interviewers should have their performance evaluated on a regular basis. During an evaluation, supervisors should focus on the interviewer's knowledge of the purposes of the survey, their abilities to deal effectively with people, properly and consistently conduct interviews (including selecting interviewees and properly identifying eligible interviewees), accurately code interview forms, and correctly identify, measure, and weigh species. New interviewers should be evaluated more frequently and more extensively, until the supervisor is certain interviews are being conducted properly and consistently. Each new interviewer should be observed in the field during one of his/her initial assignments.

4. Interviewer Evaluations

Routine interviewer evaluations should continue even after an interviewer has met all the field training requirements. Supervisors should conduct at least two site visits with interviewers annually. Supervisors should also randomly check forms filled out by the interviewers. These should be checked for completeness, accuracy, and consistency. Species codes, lengths and weights should be reasonable for the species and area. In addition, supervisors should verify fishermen responses on a portion of the forms using alternative methods. The main purpose of this validation is to independently verify that the interviewer was at work where and when he/she was supposed to be. It also provides project managers with feedback on interviewer conduct in the field.

5. Other Supervisor Duties

Supervisors are expected to routinely verify that the site list for their area is accurate. The sampling frame should include all possible interview sites, even if fishing pressure at some sites is low. Information from intercept interviewers, field supervisors, and other fisheries personnel should be used to continually update the sampling frame.

Field supervisors are expected to communicate frequently with interviewers in their area. Newsletters or meetings with groups of on-board interviewers (focus groups) to review data collection procedures, site-specific sampling problems, species identification and new recreational fishery developments would be highly desirable.

Supervisors should attempt to coordinate sampling with personnel from other management agencies when overlapping surveys exist. Field supervisors will also be expected to take the lead role in verifying that the site list for their area is as accurate as possible.

B. SURVEY PROCEDURES

1. General

Interviewers should gather information on fishing activity to aid in their sampling productivity. Newspaper and weekly magazine fishing reports are useful in monitoring activity and the seasonal opening and closing of fishing piers, marinas, for-hire operations, etc. Other useful information can be derived from for-hire boat captains, pier managers, marina owners, and local fishermen. This sort of information gathering will strengthen the relationship between the interviewers and the fishermen, and will increase the reliability of, and the confidence in, the survey results.

2. Sample Frame Maintenance

A proper sampling frame will include all possible interview sites, even if fishing pressure at certain sites is very low. Since fishing activity is constantly changing, sampling frames usually are not static. Sampling frames must therefore be as up to date as possible. Information from intercept interviewers, field supervisors, and federal/state fisheries personnel should be used to revise the current sampling frame. Types of revisions that could be made include sites being added or deleted, and descriptions of existing sites being changed. These revisions should be made continuously, and the master sampling frame should be updated regularly, such as once per sampling period.

Sampling frames should also contain as much information as possible to help interviewers locate each site and sample it most productively, as well as reduce variability from two interviewers sampling one site differently. For example, information that could be provided includes names and

telephone numbers for for-hire vessel sites, vessel schedules or periods of peak fishing activity, and best location to set up an interviewing station. Interviewers and field supervisors should maintain contacts with local fishermen, residents, state/federal fisheries personnel, law enforcement officers, marina operators, and bait shop owners, etc., in order to update sampling frames.

For programs using a stratified sampling design, sampling pressure should be distributed relative to the fishing pressure at each site. In these instances, a standardized method for estimating fishing pressure should be devised and used over the entire region being sampled. Estimates of fishing pressure will need to be made before each sampling period begins, but these could be revised during the sampling period. Information for these revisions could come from many places. The most reliable would be for interviewers to make estimates of fishing pressure during each visit to each site. In addition, field supervisors should visit all sites, at least once in a specified time period, for the purpose of updating the sampling frame, regardless of whether or not a site was assigned during the survey period.

When determining fishing pressure from estimates submitted by different interviewers, field supervisors must make the final determination of the "best" values to use in updating the sampling frame. More weight should be placed on pressure estimates for sampling periods during which sites were visited and empirical data were gathered, as opposed to pressures estimated well in advance. Field supervisors should also consider the experience of interviewers submitting pressure estimates for the same site. Data from newer interviewers may not be as reliable as that from more experienced interviewers.

3. Sample Assignments

The unit of effort to be sampled is angler trips, so fishing pressure should be based on the number of angler trips, not boat or group trips that are taken at a given site. Similarly, sample size (number of interviews) should be based on the number of anglers, not groups to be interviewed.

If there is little variation in fishing pressure among modes, sites, days, sampling periods, etc. or if there is little information regarding the amount of variation in fishing pressure, it may be most appropriate to designate sampling pressure using a random sampling design. However, if there is sufficient variability in the amount of fishing pressure among sites, modes, days, etc., if used properly, a stratified sampling design may increase the precision of the survey estimates.

If a stratified sampling design is used, sampling pressure should be allocated with respect to fishing pressure. This is important not only within

each sampling period, but also across sampling periods. For example, if sampling takes place quarterly, and one half of the fishing activity is during the third quarter, then one half of the sampling activity should also take place in the third quarter.

Within a given sampling period, for each fishing mode, sampling effort should be distributed between sites relative to fishing pressure within that period. The assignments should also be spread within periods so that there is a representative distribution of intercepts relative to effort, and intercepts are not clustered at the beginning or end of a sampling period. This could be done, for example, by limiting the number of days with multiple assignments or limiting the number of interviews collected at one site.

Once sampling effort has been allocated, a base level of interviews (i.e., a minimum sample size) should be determined for each unique stratification combination, or cell (e.g., region X sampling period X fishing mode X day type, meaning weekday/weekend), to assure that sufficient data are available to produce estimates. Larger sample sizes may be needed for certain boat modes (for-hire) to reduce the clustering effect of group catches. Sampling allocations beyond the base level should be proportional to the fishing effort by cell.

For some surveys it may not be appropriate to set a specified starting time. The time of day selected for sampling should reflect daily fishing activity. A set of criteria should be established to help the interviewer decide on the best time to sample. These criteria might include information from the site register, boat schedules, tide schedules, periods of peak fishing activity, presence of night fishing, and information from pier owners, marina operators, newspapers, etc., Fishermen should be interviewed at the completion of their fishing trips.

The interviewer must start an assignment at the assigned site. When possible the interviewer should do some advance checking with the person in charge at that site before going on an assignment. This is especially true for assignments at private marinas, boat rental locations, head boat docks, and the like, where it is important to know the hours of operation.

On some occasions, it may not be possible for an interviewer to obtain the sampling goal in the assigned mode at the assigned site. This may occur, for example, during bad weather (a small craft warning and no boats going out) or if a tournament is being conducted at the site and tournaments are excluded from the sampling frame. A standardized set of procedures should be established to assist the interviewer in deciding what to do in such instances. If alternate sites are an option, guidelines should also be

established to assist the interviewer in choosing an alternate site. These guidelines should have restrictions, which prevent interviewers from choosing the same alternate site too often. If alternate sites are not an option, guidelines must be established to determine how to make up the lost sample.

4. Conducting Intercept Interviews

It must be remembered that conducting the interview is only a portion of the survey. The overall objective of the survey is to get reliable results. How the interviewer acts in the field, and how he or she conducts the interview, may have a significant impact on the responses he or she gets, and therefore on the results of the survey. While on assignment, an interviewer should always be on his/her best behavior. Friendliness, courtesy, and professionalism (including proper attire), will prove very helpful in getting cooperation from the fishermen. In the interest of professionalism, interviewers should never fish during an intercept survey.

5. Station Setup

Upon arriving at a site, the interviewer should first check in with the person in charge (or the person previously contacted). Many sites, especially public beaches, will have no such person, but privately owned or closely supervised public operations will have a manager in charge. Both for permission and as a courtesy, the interviewer should introduce him/her and give a summary of the purpose of the survey.

Interview setup procedures may differ slightly for different modes and areas. The following subsections describe the typical procedures for each mode. If sampling pressure is not stratified by fishing mode, the next sections will at least describe some of the common problems associated with each mode.

6. All Sites

In general an interviewer should set up the interviewing station so that all fishermen leaving the site can be easily seen and approached. For a survey designed to obtain catch and effort information for finfish, the station should not be near an area that could potentially bias the information being collected. For example, the station should not be near a fish cleaning stand since usually only fishermen with fish will stop at the stand.

To reduce variability between visits to the same site by the same or different interviewers, interviewers should write down a detailed description of how and where they set up an interview station at each site they visit. This information should be included with the site list to give interviewers new to the site an idea on how to best set up their station.

7. Shore

If the survey is being conducted from a pier, jetty or bridge, the interviewer should be stationed at a point of access to the site. If a beach or bank site is being sampled, the interviewer may have to cover a rather extensive stretch of coast fished by scattered clusters of fishermen or solitary fishermen at remote spots. If there is a predominant point of exit from the site (e.g., a central parking facility) the interviewer should be positioned there. If no such point exists, the interviewer should be positioned so that the majority of fishermen are within sight and easily accessible. Close observation of the fishing activity is required since the interviewer must be alert to fishermen leaving the site. If no suitable observation spot can be found and the fishermen' completion times cannot be determined other options (e.g., roving survey) should be considered.

8. Headboat Only Sites

The ability to get an adequate number of interviews depends on how many head boats are located at the same site and the schedules of those head boats. If an interviewer does not think that he/she can get enough interviews by waiting at the access point other survey options should be considered.

If problems such as these arise on a regular basis a set of options should be developed to assist the interviewer on deciding what to do. Possible options include dropping or rescheduling the sample, changing the form of the survey (e.g. changing to a logbook survey), boarding the vessel and conducting interviews onboard, or just doing what is possible under the circumstances. Whatever the decision, sampling protocol must be established beforehand.

9. Charter Boat Only Sites

Interviewers should generally not board a charter boat to conduct interviews during a trip. Intercept procedures for charter boats resemble those for private and rental boats. With charter boat sites it is well worth the effort to call the site or charter boat captains in advance to find out the schedule of the boats. With this information, the interviewer can plan to arrive at the dock just prior to the scheduled returns.

10. Private and Rental Boats

Because there are large differences between one boat landing/docking facility and another the best procedure for a particular site must be determined by the interviewer. Descriptions on how previous interviewers set up interviewing stations can provide useful interview station locations. Often the offer of assistance to the boat operator in handling a boat line or loading the boat onto a trailer is a good way to obtain cooperation for the interview.

11. Canvassing Introduction

At some sites it is possible and advisable to build rapport with the people fishing prior to conducting any interviews. Fishermen who have had the opportunity to meet the interviewer and discuss the survey tend to be more cooperative when asked for an interview at the end of a fishing trip. A key factor in gaining the respondent's initial cooperation and confidence in the study lies in assuring him/her that the interviewer is not part of any enforcement effort and briefly informing the respondent about the basic research nature of the survey. When explicitly given the purpose and scope of the survey very early in the introduction, the initial reluctance and misgivings usually dissolve and the interview will proceed in an atmosphere of confidence and cooperation.

The canvassing introduction is also a useful tool for the interviewer to determine the most productive time and place to conduct interviews. By determining in advance the estimated times that individuals anticipate their fishing trips will be completed, the interviewer can decide whether or when it will be necessary to visit alternate sites. At beach/bank sites especially, a preliminary canvass to determine the number and location of fishermen on-site and a rough approximation of the duration of their trips can be a useful tactic. With this information the interviewer is able to maximize intercept coverage by planning his/her movements around those of the respondents.

The canvassing process should be very informal and as unobtrusive as possible. At all times, the interviewer must avoid any actions or statements which would disrupt the fisherman's normal fishing habits. While canvassing the interviewer might mention that he/she will want to identify, weigh, and measure the fish caught. This alone often provides an incentive for the interview. Also, the interviewer might begin to look at the fish being caught so that identification time is kept to a minimum during the interview. If deemed appropriate, the interviewer might also suggest that each fisherman keep his/her catch separated.

12. Non-biological Portion

For most surveys, final interviewing should begin as soon as the fishermen have completed their fishing trip and return to the dock or leave the fishing area. In some cases it may be appropriate to sample partially completed trips. Policy and procedure on when this is appropriate should be determined before such sampling occurs.

Under optimum circumstances, all fishermen will be interviewed; however, some form of subsampling may be necessary. Under no conditions should the interviewer just approach the more friendly fishermen. The sample must be conducted with an unbiased selection process. For example, if fishermen are leaving a site, or boats are returning to dock, faster than an

interviewer can conduct an interview, a systematic sample (e.g., interviewing every third fisherman or boat) may be appropriate. The interviewer may also just conduct an interview as often as possible while keeping count of how many fishermen are missed.

Interviewers should strive to complete individual interviews and catch records for each member of a group. However, this may be difficult for charter boats, since fishermen often have little control over the handling of their fish, which are often stored together. Captains and mates should be consulted to determine the actual water area fished.

13. Screening for Eligible Respondents

Screening serves to introduce the interviewer and the survey and determine if the respondent is eligible for an interview. While interviewers should be given a list of eligibility requirements, it should not be needed on a routine basis if the survey background and eligibility requirements are fully understood.

All fishermen approached should be told the interviewer's name and the name of the study sponsor, if there is one. If the fisherman is willing to cooperate, the interviewer would then ask the eligibility questions. An important point to determine is, how much fishing should the fisherman have completed before he/she is eligible for an interview. Actual interviewing begins after eligibility is established. It may be necessary or appropriate to read other documents prior to conducting an interview (e.g. the Privacy Act statement is read during a MRFSS interview).

14. Key Items

For each interview, some unique identifying information should be provided by the interviewer and should include sample information such as interviewer code, date, geographic area (e.g., region, state, sub-state area, etc.), site, time (i.e., local military time should be used to prevent confusion), unique interview identification number, and interview status.

Depending on the survey, certain data items are critical to the data expansion routines and are termed key items. If a response to any of the key items is missing, then the interview is not valid. Key items often include mode and area of fishing, distance from shore, state and county of residence, group catch questions, catch disposition, number, length and weight of catch by species, and head information. Other variables may not be critical to the survey. Interviews should be coded as to the status of the interview (e.g., good, incomplete, refused, etc.).

Below are general instructions for conducting interviews for most surveys:

a. Wording
The questions to be put to the fisherman should be written out in full, and the interviewer should always read each item on a questionnaire exactly as it is written. Methodological studies have shown that even slight changes in wording, for example, "should" versus "could", drastically influence item response.

b. Provide Definitions, Not Answers
If the fisherman asks for the interviewer's opinion about an item, the interviewer should provide a definition for the item in question, rather than supply the actual response. For example, if the fisherman is unsure about whether he was fishing from a head boat or a charter boat, the interviewer should explain the difference and let the fisherman decide.

c. Codes for Not Applicable Questions
Items on a questionnaire that are not applicable to a particular fisherman (i.e., items falling out in skip patterns) are coded with a specified number, as indicated on the questionnaire.

d. Codes for Refused Questions
If a fisherman refuses a key (or critical) item, the interviewer should code the item with specified number, as indicated on the questionnaire and terminate the interview. If the fisherman refuses a non-key item, the interviewer should code the item with specified number, as indicated on the questionnaire and continue with the next question.

e. Codes for 'Don't Know'
Items that the fisherman does not know the answer to are coded with a specified number(s), as indicated on the questionnaire.

f. Other (Specify)
For some data items the response codes are not exhaustive. At these items there are codes designated 'Other (Specify)'. If a fisherman gives a response not covered by the pre-coded responses, the interviewer should enter the "other" code and write out the exact response next to the coding boxes.

g. Notes/Footnotes
For some items, footnotes will be required under some conditions. MRFSS examples are: if weight and/or length measurements are missing, if a site code is needed, if a state and/or county code is needed, or if a species code is needed. In such cases the interviewer should place an asterisk (*) by the item and provide a footnote explaining the situation near the bottom of the form.

h. Best Use of Time

There will be times during the day when the interviewer will seemingly have little to do. This time can be used to fill in the identifying information on forms that will be used later at the site. This time can also be spent reviewing and editing completed coding forms.

If an item allows for multiple choices, such as species preference, and the respondent mentions only one species, he/she should not be pressed for two. The first answer mentioned would be coded in the first set of boxes and the second set would be left blank.

For species preference questions the interviewer should note that species are desired. If the fisherman names a family of fish, the interviewer should probe to determine whether he/she preferred a particular species in that family (For example "Any particular kind of drum you're looking to catch?"). If the fisherman has no preference within the family of fish and several species are possible within that family the interviewer should enter the family code. If, however, the interviewer knows that the fisherman could only be going after one species within that family, he/she should enter that species code. For this item, knowledge of how local names translate to exact species is very important. If the fisherman uses a local name, the interviewer should also enter the accepted common name from the species list for the species or family so that field supervisors can check the species code entered.

Interviewers should only record reasonable responses to species preference items. If a fisherman responds that he/she was fishing for a species not found in his/her area, this response should not be coded.

The interviewer may have to work with a fisherman to come up with a specific answer to some questions. Fishermen are likely to say something like "every week", "once a month", or "a few". In these instances the interviewer should translate the response to a number and verify that number with the fisherman.

Coding forms for most intercept surveys should contain information that allows data users to link interviews and catches by head and by sample in order to allow for group catches and cluster analyses.

C. BIOLOGICAL PORTION

1. Fish Identification

Interviewers must strive to identify and verify all available catch to the lowest taxonomic level required using approved field guides. The interviewer should not rely on the fisherman to identify his/her own catch.

Other references may include more local information on the region to be

sampled, such as additional descriptive information on species with common identification concerns in a specific region. Interviewers should also be provided a species list sorted alphabetically by common name Accepted common names are not necessarily those used by local fishermen, and interviewers should know how to translate local names to accepted common names.

A list of those found in the area to be sampled should also be provided to the interviewers.

Guidelines should be set on what to do with fish that cannot be identified. For example, should the interviewer just identify the fish to the lowest level possible, take a picture of the fish, or ask for the fish to bring back to the lab.

Species code lists may not be exhaustive. Interviewers may occasionally identify a species that does not appear on the list, particularly species that occur primarily in freshwater. When this situation occurs the interviewer should write out the scientific and accepted common name of the species and leave the coding boxes blank. A field supervisor will then find the species code and fill it in the blank.

2. Weight and Length Measurements

Ideally, all fish species in a fisherman's catch will be measured and weighed unless refused by the fisherman. Under some circumstances, however, it may be necessary to subsample. Protocol must be established on when to subsample, how to subsample (random, systematic, etc.), and a minimum number of fish to sample if it is necessary to subsample.

Weights versus lengths priority may vary from survey to survey. There may be occasions when length and/or weight measurements are missing. As a general rule, when weights and/or lengths are missing, the interviewer should code the appropriate coding boxes with a missing code and provide a footnote explaining why the data are missing.

a. Weight Measurements

Depending on the survey target interviewers should be provided with appropriate scales (i.e., a large scale for 20 kg and/or a small scale for 1 - 5 kg scale). The scale capacity should be selected based on the average sizes and range of sizes of fish in a region. The appropriate capacity scale will be used for differently sized fish to ensure accuracy. Fish weights should all be recorded in the same metric units and to the same level of accuracy.

Occasionally an interviewer may come across a fish that weighs less than the level of accuracy measured. Depending on the survey, protocol must be set on how to handle this situation. If individual

weights are not required, it might be appropriate to weigh a counted number of the fish. If individual weights are necessary, the interviewer could weigh a counted number of fish of the species, and distribute the weight among the fish in increments of the lowest level of accuracy measured. For example, if fish are weighed to the nearest 0.1 kg and fifteen fish weigh a total of 0.6 kg, six fish would be recorded as weighing 0.1 kg, and nine fish would be recorded as weighing 0.0 kg. The fish of longer length should be given the 0.1 kg, while fish of shorter length should be given the 0.0 kg.

b. Length Measurements

Fish lengths must be taken with standard measuring boards and recorded in the same metric units and to the same level of accuracy. Interviewers should also carry a tape measure for fish longer than the measuring board.

c. Tournaments

Fishing tournaments are often a good source of length and weight information for a single or a few species. It is suggested that tournaments are sampled as a supplement to the length and weight data collected by the other modes of fishing. However, sampling tournaments for catch and effort information is not recommended since they are not representative of typical fishing activity. Including tournaments in the estimates of catch and effort would require a substantial increase in the sample size to offset the effects of clustering that tournaments introduce.

D. INTERVIEWING IN OTHER MODES

For surveys that stratify by fishing mode, it is often possible to conduct interviews in modes other than the assigned mode. Guidelines should be established to determine when to sample other modes than those assigned. For example, interviews in other modes could be conducted during nonproductive time spent while waiting to interview in the assigned mode, after an interviewer obtains their quota of interviews, or if the interviewer determines that the assigned mode is not active in the interviewer's sampling area on the assigned day.

E. SUMMARY

In general, surveys should be as standardized as possible. Protocol and guidelines should be established for as many aspects of the survey as possible. This includes the overall activities conducted on a regular basis (e.g., what questions to ask, how to ask them, and how to weigh and measure the fish) as well as the less frequently encountered tasks such as subsampling, what to do if there is no fishing activity, or what to do with hard to identify fish.

Successful surveys also require extensive feedback and general communication between the interviewers and the supervisors. Interviewers

should be encouraged to ask questions and bring problems to their supervisor. Supervisors should make an effort to visit all interviewers in the field, or at least contact all interviewers, on a regular basis to assist with any problems and point out and try to rectify any deficiencies the interviewer has.

There must also be strong communication among the interviewers. Discussions could include identification of certain fish, where to set up a station at a particular site, or other common problems that interviewers might have. These sorts of discussions will reduce the variability of results between different interviewers.

Finally, it must be reiterated that friendly and professional interviewers will generate more respect from the fishermen, and they will get more reliable results. All interviewers must be on their best behavior at all times when in the field.

TELEPHONE SURVEYS

Telephone surveys are off-site surveys consisting of a telephone interview after fishing has been completed. These are typically much cheaper than on-site surveys, and can produce results very quickly. Telephone surveys are used to collect a variety of data such as effort data and economic information, but are not always reliable for collecting information on catch.

A. INTERVIEWERS

Phone interviewing survey methodology often requires that sampling occur during discrete dialing periods throughout the duration of a survey. This approach may require a large pool of part-time interviewers because of the non-continuous nature of the work.

B. INTERVIEWER QUALIFICATIONS

Interviewers must have strong communications skills and be able to interact with people in a friendly and professional manner. Experience in telephone interviewing is desirable to effectively deal with a variety of situations while conducting the interview. An interviewer who is friendly and conducts the interview in a professional and organized manner will generate more respect from the fishermen. This also generates respect for the survey, and the responses given will be more reliable. It is often necessary to have at least one interviewer per shift who is bilingual who would be used as necessary.

C. INTERVIEWER TRAINING

Extensive training sessions must be held for all personnel who have not previously worked on a phone survey. These sessions should be designed to ensure quality and consistency of the overall sampling process. This training must cover general telephone interviewing procedures as well as procedures specific to the survey. Subjects addressed in the telephone survey training sessions must include, but are not necessarily limited to:

1. Overcoming respondent resistance and discouraging refusals
2. Recording call attempts and completions
3. Screening respondents for eligibility
4. Setting appointments and making call backs
5. Assuring confidentiality of responses
6. Reading the questionnaire verbatim
7. Recording answers
8. Obtaining complete answers
9. Proper probing and clarifying imprecise or confusing responses
10. The sampling frame used
11. Generation of a random list of households (if applicable)
12. Awareness of sampling quota systems
13. Call backs to verify unusual responses

Training sessions must include a general overview of the background, purpose and design of the sampling survey. Questions and discussion

should be encouraged to ensure that all interviewers understand the importance and overall purpose of the study. This overview must be followed by an item-by-item explanation of the data collection instruments and a review of all materials used in conduct of the interview.

Each training session should contain periods of role playing to result in good interviewing technique. All trainees must conduct practice interviews with supervisors to allow first-hand criticism of their interviewing technique.

All interviewers, including those employed during previous sampling periods, must receive a final briefing before the start of each sampling period's dialing period. This briefing will refresh techniques established in previous sampling periods, review the basic details of the study, explain the exclusions in questionnaires that are applicable to that sampling period and point out any changes in forms. Questions would be strongly encouraged during these final briefings.

D. SUPERVISORS AND INTERVIEW SUPERVISION

In the process of conducting a survey, the supervisor plays a very important part in ensuring quality data. Regular feedback from supervisors to interviewers provides one of the most important means of quality control. A supervisor not only provides training and guidance, but should also be involved in monitoring interviewer performance, checking for accuracy and consistency of the data, and verifying data.

Telephone supervisors should have all the skills required of the interviewers, but on a more extensive level. They should be completely familiar with all the survey goals and procedures, common mistakes encountered and how to overcome such problems. This should include the theory behind the survey design and sampling strategy. Supervisors must also have strong teaching and communication skills to allow them to train new interviewers effectively. Supervisors should be highly organized and have strong managerial and motivational skills.

Supervisors should brief all interviewers before the start of a new dialing period to review basic details of the study and explain any changes in forms. Supervisors should silently monitor ten percent of the interviews as they occur and provide guidance. Any apparent mistakes or inconsistencies should be checked with interviewers and, if necessary, respondents should be contacted again for clarification. Supervisors should routinely evaluate interviewers. During evaluations, supervisors should focus on the interviewers' understanding of the survey, their ability to consistently conduct useful interviews and their accuracy in coding interview forms. New interviewers should be evaluated more frequently.

All interviewers should have their performance evaluated on a regular basis. During an evaluation, supervisors should focus on the interviewer's knowledge of the purposes of the survey, their abilities to deal effectively with people, properly and consistently conduct interviews (including identifying eligible interviewees), and accurately code interview forms. New interviewers should be evaluated more frequently and more extensively than more experienced interviewers, until the supervisor is certain interviews are being conducted properly and consistently.

Upon successful completion of the initial training, additional training of interviewers should be conducted by the supervisor until he or she is certain that interviews are being conducted properly. It is important that response forms be checked and interviews be monitored and tracked for the first few days of a new interviewer's assignment.

Interview monitoring requires the supervisor to listen to an interview in progress and record the responses on a separate response form. The supervisor must never interrupt the interview, at any time, for any reason. Following the interview, the two response forms (one from the interviewer and one from the supervisor) are compared, and any discrepancies are resolved. Supervisors should also give suggestions to improve interviewing technique. Interviews conducted by new interviewers should be monitored extensively until the supervisor is certain that interview procedures are being carried out properly.

Tracking of interviews by re-contacting the respondent allows the supervisor to verify that an interview actually took place, that responses were coded correctly, and that the interview was conducted professionally and courteously. A minimum set of data elements and interview quality checks should be determined prior to conducting the survey, and these should be used for each re-contact. Additional questions may be asked but the minimum elements should be asked of every point of contacting again. Extensive tracking of interviews should be employed until the supervisor is sure that interviewers are conducting complete, accurate, and professional interviews.

Routine interviewer evaluations should continue even after the supervisor has determined all interviews are being conducted properly. This will ensure better quality data. A minimum number or percentage of interviews to be evaluated should be established prior to conducting the survey, and this amount of interviews should be tracked and/or monitored on a regular basis (e.g., daily, weekly). This will allow supervisors to determine problems with the questionnaire or the interviewers and make suggestions to the interviewers on how to overcome these problems.

Supervisors should review all completed questionnaires on a daily basis during the dialing period. They must check to see that coding forms are

completed fully and accurately. Any apparent mistakes or inconsistencies must be checked with interviewers and, if necessary, the respondent would be re-contacted to clarify an answer. Respondents who report an abnormally high number of trips should be re-contacted for verification.

E. SURVEY PROCEDURES

1. Sample Frame

The type of sampling frame chosen for a telephone interview survey will determine how the survey is conducted. Three commonly used methods to structure a telephone survey sampling frame include random digit dialing, directory frames, and special registration lists. Each type has certain advantages and disadvantages, and should be chosen carefully to meet the needs and fit the goals of the survey.

Random digit dialing (RDD) frames contain all possible telephone numbers, but are usually restricted to residential numbers in certain area codes and prefixes. One benefit of RDD is that it allows you to contact all possible telephone numbers, including unlisted numbers. A drawback is that positive response rate can be very low.

Directory frames provide more information about each of the subscribers, and are specific to geographic areas, but do not include unlisted numbers. Positive hit rate can also be very low.

Special frames include club membership lists, license holders, or boat registration lists. The positive response rate for these frames is typically much higher than for the other frames, but can be biased, for example, if only the more avid fishermen join an angling club. Both directory and special frames can become outdated very quickly and should be used as soon after being published as possible since many people change addresses and phone numbers between updates of a given directory.

The type of sampling frame used for a given survey should depend on the goals and objectives of the study, as well as cost and timing of the survey, sample size, and population size of the area to be sampled.

2. Sample Allocation

To ensure that sufficient data are available to produce estimates and achieve the precision and accuracy of the survey, a base level of interviews (i.e., a minimum sample size) should be determined and allocated to each sampling block (e.g., each county X month combination). Allocation of effort within each block can then be determined. If fishing activity is uniform throughout the entire sampling block, or if there is insufficient evidence to determine variations in effort, it may be most appropriate to designate sampling pressure using a random sampling

design. However, if there is sufficient variability in fishing activity between sub-areas or sampling periods, and if used properly, a stratified random sample may increase precision of the survey estimates.

Sample allocation may be stratified based on variables such as effort, actual population size, relative population size (e.g., the number of angling club members per county, or the number of households with a certain telephone exchange, which may not be indicative of true population distribution), or a combination of any of these.

Protocol must be set prior to conducting the survey to account for phone numbers that have been disconnected or reassigned. In many instances, procedures will be dictated by the survey design. Using RDD, the sampling unit is not the actual resident or household, but the random phone number and the results that are generated when that number is used. In this case, the new number should not be dialed as a replacement. However, if using a subscription list, the random unit may be a certain fisherman, and if possible, the new number should be used to reach the fisherman. In instances where no new number is given, procedures should be determined if and how to replace the lost sample.

Similar problems arise when there are multiple fishermen at a given telephone number, and procedures should be determined how to handle such cases. Again, survey design may determine proper procedures. Using RDD, the sampling unit is the phone number, and all fishermen at that phone number should be interviewed if possible. Using a subscription list, the unit may be a certain fisherman, though there may be multiple fishermen at the same number. These fishermen may be interviewed as extras beyond the minimum sample size. However, these interviews may introduce bias into the results through clustering of trips if they always fished together, or whether their effort was significantly higher than the mean (especially if sample size is low).

When using random sampling of any kind, it is possible to contact the same household more than once, especially in areas with low population. Within a given sampling block, it must be made certain that no household is included in the survey more than once. In addition, a maximum acceptable level of attempting contacts again should be determined for a given time period and should not be exceeded.

F. CONDUCTING PHONE INTERVIEWS

1. Sampling Periods and Dialing Period

Sampling periods should be determined for each survey based on the goals of the survey and the acceptable level of bias. One of the major forms of bias in telephone surveys is recall bias. Longer sampling periods

increase recall bias because information about less recent trips is often forgotten or confused with other trips.

Once the sampling periods have been determined, the dialing periods should be determined. All households to be sampled for that period must be contacted within this dialing period. Telephone calls must be made during the time of day that maximizes the potential to contact individuals. When each number is dialed, the telephone should be allowed to ring a previously determined number of times before the interviewer classifies it as a "no answer." Acceptable levels of "no answer" or "busy" results should be determined and not exceeded.

A minimum number of attempts to contact a household should be established. At least this number of attempts must be made on each household. Another minimum number of attempts should be established to reach additional fishermen in the household who are not present during the initial interview. This number might be attempts per household, or per eligible fisherman in the household. The interviewer should attempt to set up appointment times for call backs. The pattern of dialing to reach a household may be stratified by day/evening or weekday/weekend.

2. Screening for Eligible Respondents

Screening serves to introduce the interviewer and the survey and determine if the respondent is eligible for an interview. All contacts should be told the interviewer's name and the name of the study sponsor. The interviewer should then determine if there are any fishermen in the household before the more specific screening are asked. If fishermen do reside there and are willing to cooperate, the interviewer would then ask the eligibility questions. Actual interviewing begins after eligibility is established. The screening introduction must be repeated for each fisherman interviewed. The survey design should include the types of households eligible for an interview.

3. Conducting the Interview

Some general instructions for conducting the interview are:

a. Wording

The questions to be put to the fisherman are written out in full for a purpose. Methodological studies have shown that even slight changes in wording, for example, "should" versus "could", drastically influence item response. The interviewer should always read each item on the ‘Telephone Household Questionnaire’ exactly as it is written. Instructions to interviewers that are not to be read during the interview should be written in capital letters on the telephone questionnaire. The questions should also be very simple and straightforward. If the

questions are obscure and hard to follow, the fisherman may get confused or frustrated and give inaccurate responses.

b. Provide Definitions, Not Answers
If the fisherman asks for the interviewer's opinion about an item, the interviewer should provide a definition for the item in question, rather than supply an opinion or the actual response. For example, if a fisherman is unsure about whether he was fishing from a head boat or a charter boat, the interviewer should explain the difference and let the fisherman decide.

c. Codes for Not Applicable Questions
Items on the questionnaire that are not applicable to a particular fisherman (i.e., items falling out in skip patterns) are coded with a specified number, as indicated on the questionnaire.

d. Codes for Refused Questions
Items on the questionnaire that are refused are coded with a specified number, as indicated on the questionnaire.

e. Codes for 'Don't Know'
Items on the questionnaire that the fisherman does not know the answer to are coded with a specified number(s), as indicated on the questionnaire.

f. Other (Specify)
The response codes for some data items are not exhaustive and include codes designated Other (Specify). If a fisherman gives a response not covered by the precoded responses, the interviewer should enter the "other" code and write out the fisherman's exact response next to the coding boxes.

g. Notes/Footnotes
Unusual responses require explanation through the use of footnotes on the coding form. For example, more than two or three head/charter trips by a single fisherman during a sampling period would not be common and would require a note. In such cases the interviewer should place an asterisk (*) by the item and provide a footnote explaining the situation near the bottom of the coding form.

h. Terminate
Some responses are followed by the instruction to "Terminate." When the respondent answers with a response which has the "Terminate" instruction following it, the interviewer must thank the respondent pleasantly and say goodbye.

4. Maps

Maps for the state being dialed must be available to help interviewers determine the county in which cities are located and to help locate areas of fishing. Saltwater cut-off points for rivers are particularly useful to help determine if the respondent was fishing in fresh or saltwater.

In some cases, all fishermen in the household must be interviewed separately about their fishing trips for a particular time period. There are exceptions to this rule. If the initial respondent indicates that all household trips were made as a group then their responses can be applied to the remaining household fishermen without separate interviews (i.e., If the desired sampling unit is the individual fisherman, then it must be made certain he or she is not speaking about a group catch.). Also, an adult can speak for a small child if he/she is knowledgeable of the child's fishing trips. Other occasions that would require responses from an individual about another household member's trips would include language barriers, extended travel away from the household, hospitalization, or even death. If more than the minimum number of callback attempts fail to reach a particular member of the household, it may be necessary to ultimately gather the best information available on that person's trips from another household member. However, a maximum acceptable level of these indirect interviews should be established and not exceeded.

All fishermen are asked to recall their trips made in the specified time period starting with the most recent trips and working backwards in time. Interviewers must have a calendar available to help respondents with dates, particularly with weekend dates.

If a fisherman cannot recall all the trips within the sampling period, the interviewer must note the date they stopped counting. The fisherman must then be asked to estimate the number of trips and mode of fishing during the period between their last reported trip date and the beginning of the sampling period.

5. Callback Procedures

If the initial contact indicates that any members of the household are marine recreational fishermen, every effort must be made to complete interviews with all possible eligible fishermen in the household, if appropriate. Follow-up calls should be made to the household to interview fishermen who were not available when the initial contact was made. The most efficient approach is to schedule times for these call backs that are convenient for fishermen in the household.

G. SUMMARY

Proper survey design is essential in getting the best results out of a survey. There are many possible sampling methods for telephone surveys, and much

research should be done to determine the most appropriate one for the goals to be achieved and the questions to be answered. Without the proper survey design, results from the survey may not be reliable and accuracy and precision may be very low.

In general, a survey should be as standardized as possible. Protocol and guidelines should be established for as many aspects of the survey as possible. This includes the overall activities conducted on a regular basis (e.g., what questions to ask, how to ask them) as well as the less frequently encountered tasks such as replacement of lost samples (i.e., disconnected numbers).

Successful surveys also require extensive feedback and general communication between the interviewers and the supervisors. Interviewers should be encouraged to ask questions and bring problems to their supervisor. Supervisors should make an effort to contact all interviewers on a regular basis to assist with any problems and point out and try to rectify any deficiencies the interviewer has.

Finally, it must be reiterated that friendly and professional interviewers will generate more respect from the fishermen, and they will get more reliable results. All interviewers must be on their best behavior at all times when conducting the survey.

POST INTERVIEW PROCEDURES

Once the interviews have been conducted and the data collected, it must be edited and analyzed to get the estimates and survey results. The survey should also be critiqued to locate and attempt to fix any possible deficiencies in the sample design.

In addition to manual checks of interview forms, Partners should incorporate automated checks to catch remaining mistakes for each data element. A double-entry system or other quality assurance techniques should be employed. For telephone interviewing, Computer Assisted Telephone Interviewing systems (CATI) should be employed to ensure the highest quality data collection and entry. Outlier adjustments should not be made to raw data files, but during estimation. Estimation programs should provide results both with and without outlier adjustment for evaluation purposes.

A. DATA PROCESSING

1. Editing

Interviewers and supervisors must follow strict guidelines while editing coding forms before submission for data entry. Coding problems should be resolved at the field level. Interviewers should be required to review forms during their down time between interviews, or have established review times when they can edit check their own work. These guidelines are meant to ensure that all items on the coding form are completed with valid entries and that the data are consistent and accurate.

All forms from the same assignment should have the same and accurate assignment number, interviewer code, date, interview number, geographical area, site and interview status, and other pertinent information. Refused items and items with responses of "don't know" must be coded with unique codes signifying refusal or lack of knowledge.

2. Intercept Interview Field Edits

All species codes must be checked against written names. Unusual species must be verified. Lengths and weights must be checked for reasonableness and ensure they are in the appropriate metric units. Maximum sizes should be compared to published values.

3. Phone Interview Field Edits

Upon completion of interviewing for the day, interviewers must review their questionnaires for completeness and accuracy. Supervisors must review all questionnaires daily. Any apparent mistakes or inconsistencies must be checked with interviewers and, if necessary, the respondent should be contacted to clarify an answer.

4. Data Entry Edit Checks

Protocol should be set to determine a maximum acceptable error level for data entry, and data entry procedures must be designed to achieve this level of accuracy. Dual data entry or other error checking data entry techniques should be employed.

Error checking must be accomplished through the use of table lookups during data entry or editing routines on the complete data set after data entry is completed for a sampling period. All checks described in the field editing guidelines must be incorporated into machine edits. Every data element must be checked for data entry errors, reasonableness in falling within an acceptable range, and logic in relation to other data elements. Duplicate identification numbers must also be identified and corrected.

B. DATA STORAGE

All data should be stored on magnetic or optical storage media, with complete documentation (current and historical) of record formats and variable codes. All files should have creation dates imbedded in the files so users can be sure of using the most current files. Back-up procedures should be in place to protect the database. Original and/or duplicate data sheets should be archived.

C. ESTIMATION PROCEDURES

1. Outlier Analyses

One method of outlier adjustment involves an examination of frequency distributions of pooled data from a specified number of the most recent years (and excluding the current year) for a particular cell combination.

Outlier adjustment should never cause changes to the raw data files, but occurs during the estimation procedure. Estimation programs should provide results both with and without outlier adjustment to allow for evaluation.

2. Intercept Interview Outliers

In some surveys the number of intercepted fishermen with catches of a particular species can be relatively small in certain estimation cell combinations. If sample sizes are small, unusually large reported numbers of fish caught can result in unrealistic expanded estimates of the catch of a species. Other intercept data elements that should be checked for outliers include hours fishing, number of fishing trips in the previous sampling period.

3. Phone Interview Outliers

The number of fishermen contacted in a telephone household survey can be relatively small in several states and sampling periods. Unusually large

reported numbers of trips (given small sample sizes) can result in unrealistic expanded estimates of trips, and then catch.

D. ESTIMATION PROCEDURE DOCUMENTATION

All estimation procedures and programs should be well documented to allow for replication of results. Documentation should include all steps involved in preparing raw data for estimation procedures, steps to adjust outliers and to substitute values in cells where data are missing, and estimation and variance equations.

E. DOCUMENTATION OF PERFORMANCE

Periodic data reports concerning survey operations are needed by survey personnel on a regular basis to effectively monitor the conduct of surveys. Included are such items as completion of quotas, interviewer productivity, and sampling frame updates. Timely submission of these performance data is necessary to maintain data collection quality through identification of problem areas and adjustment of procedures as necessary.

F. INTERCEPT PERFORMANCE

In addition to quota completion results of all supervisory activities should be fully documented. These include initial field observations of newly hired interviewers, follow-up field observations and species identification training, focus group sessions, and agency sampling coordination. Other reporting categories include a complete accounting of all assignments drawn for each subregion, state, mode and sampling period, and for each interviewer, including:

1. Numbers and percentages of ineligible people intercepted as determined by screening questionnaire results
2. Numbers and percentages of eligible fishermen not interviewed by reason for exclusion
3. Numbers and percentages of primary assignments not completed by reason for failure
4. Numbers and percentages of completed assignments that include visits to alternate sites, as well as numbers and percentages of completed interviews obtained at alternate sites
5. Numbers and percentages of assignments where no interviews were attempted
6. Numbers of potentially eligible fishermen not intercepted due to inability of interviewer to intercept while interviewing another fisherman
7. Distribution of interviews obtained and fishing effort and estimated fishing effort as recorded in the site register among counties within each state and fishing mode
8. Results of supervisory field visits
9. Results of telephone validation of intercept interviews
10. Tabulations of the residence of intercepted fishermen by sampling strata

Summaries of selected variables from the intercept survey showing means for the following: hours fished per trip, days fished in this state in the sampling period and telephone ownership by state and subregion for each sampling period.

Ranked summaries of the numbers of the top 25 species caught and total number of fish caught by subregion and sampling period and the minimum and maximum lengths of each species caught.

Recommendations and proposals for change based on intercept survey results. This includes plans to increase sampling efficiency, minimize variance, enhance participation and cooperation of respondents and/or coastal states, or increase the visibility and usefulness of the survey to the public.

G. PHONE INTERVIEW PERFORMANCE

In addition to quota completion results, dialing results should be documented. Dialing results include (but are not necessarily limited to):

1. Line busy
2. No answer
3. Answering service
4. Answering machine
5. Not in service/disconnected number/dead line
6. Connected to wrong number
7. Household previously called on different number
8. Business/coin phone/time/weather/computer tone, etc.
9. Institutional housing (dormitory/barracks/nursing home)
10. Part-year housing
11. Wrong county
12. Initial refusal
13. Communication problem (deaf, foreign language)
14. Could not answer 12 month question
15. Refused to answer 12 month question
16. No fishing in last 12 months
17. Could not answer sampling period question
18. Refused to answer sampling period question
19. No fishing in last sampling period
20. Number first-time contacts who indicated marine fishing activity but turned out to be non-fishing households
21. Number of fishermen who refused to provide trip information
22. Number of fishermen not available to be interviewed
23. Number of ineligible fishermen (e.g., not in sampling universe)
24. Eligible households (one or more people fishing in the previous sampling period)
25. Complete interview
26. Incomplete interview by reason of refusal
27. Other (such as language barrier)

Also of critical importance to quality control is regular reporting from supervisors on interview validation results. These include observations of in-progress interviews, follow-up counseling after in-progress monitoring that identifies problem areas and improves interview technique, and counseling on problem areas following callback verification.

The following is summary of the top quartile of the 2010 biosampling sampling priorities. These clusters are grouping of species in upper 25% of the entire matrix based on sampling adequacy and average priority of NOAA Fisheries Service, ASMFC, Councils, NOAA Fisheries Service, and the states.

The most up-to-date matrix can be found here (http://www.accsp.org/funding.htm)

		BIOLOIOGCAL SAMPLING ADEQUACY	
		Adequate (0-2)	**Inadequate (3-5)**
Average Priority Column	**High (≥ 3.0)**	- Spiny Dogfish - Summer Flounder - Winter Flounder	- Black Sea Bass - Scup
	Low (<3.0)	- Sandbar Shark - Blacktip Shark - Illex Squid - Yellowtail Flounder	- Weakfish - Finetooth Shark - American Eel - Horseshoe Crab - Red Porgy - River Herring - Snowy Grouper - Vermilion Snapper - Blueline Tilefish - Winter Skate - Shad - Little Skate - American Lobster

The following is summary of the top quartile of the 2010 bycatch sampling priorities. Grouping of fisheries in the upper 25% of the total matrix score that are clustered by the amount of sea days needed to adequately sample * and matrix priority score.

The most up-to-date matrix can be found here (http://www.accsp.org/funding.htm)
* Adequacy in sampling would be 20-30% coverage or 2% of trips are covered by samplers/observers

		ADEQUATE SAMPLING TARGETS	
		1-100 Sea Days Needed	**>101 Sea Days Needed**
Matrix Priority Score	**High (≥ 25)**	- South Atlantic Coastal Gillnet - Mid-Atlantic Pound-Net - New England Lobster Pots - Mid-Atlantic Inland Gillnets (bays, sounds and estuaries from New York to North Carolina) - Mid-Atlantic Small Mesh Gillnet - New England Large-Mesh Gillnet	- South Atlantic Shrimp Trawl - Mid-Atlantic Small-Mesh Otter Trawl - South Atlantic Skimmer Trawls - South Atlantic Snapper-Grouper Handline/ Electric Reel
	Low (<25)	- New England Purse Seine - Mid-Atlantic General Cat. Closed Area Scallop Dredge - Mid-Atlantic Fish Pots and Traps - Mid-Atlantic General Cat. Scallop Trawl - Mid-Atlantic Hand Line - South Atlantic, Black Sea Bass Pot	- New England Large-Mesh Otter Trawl - Mid-Atlantic Bottom Longline - Mid-Atlantic Extra-Large-Mesh Gillnet

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Table I-1: STANDARD MEASUREMENTS FOR GEAR TYPES

TYPE OF GEAR	QUANTITY	FISHING TIME	# SETS	TIME SET	TIME RECEIVED	DEPTH FISHED
Traps and Pots	# traps pulled	Mean soak time		When first pot goes over	From the moment buoy line is retrieved	Bottom depth
Trawls	# nets towed	Total tow time	# tows	When winch stops	When winch starts	Bottom of net
Gill Nets - Entanglement	# panels	Soak time	# string (net) hauls	When first buoy goes over	When last buoy comes on board	Depth of floatline
Longlines	# gangions/hooks	Soak time	# hauls	Start of set	Retrieval of set	Depth of set
Dredges	# pulled	Total tow time	# tows	When winch stops	When winch starts	Bottom depth
Nets	# pieces of apparatus	Soak time	n/a	When first net goes over	Moment buoy line is retrieved	Bottom of net
Hook and Line	# of lines (# of hooks is secondary)	Soak time (not including transit time)	n/a	Set: When first lines are lowered	When last lines are pulled up	Bottom fishing - *bottom depth* Trolling - *average depth fished between set and retrieval*
Purse Seines	Length of floatline	Soak time	# sets	When nets are placed	Nets removed	Bottom depth
By Hand	n/a	Actively Fishing	n/a	n/a	n/a	Bottom depth
Spear and Gig	#	Search time	n/a	n/a	n/a	n/a
Haul Seines	Length of net	Soak Time		Seine in	Seine out	

Table I-2: GEAR DATA ELEMENTS FOR GILL NET FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Unique Identifier *	- Trip start, vessel or individual identifier, and trip number - See vessel and trip information	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Vessel name	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit numeric
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit numeric
Gear Characteristics		
Number of Nets *	- # nets used in the gear	2 digit numeric
Length of Nets *	- Average horizontal distance in feet of net on this gear as measured along the floatline	3 digit numeric
Mesh Count, Vertical *	- Average number of vertical meshes for this gear type	2 digit numeric
Net Height *	- Average height of net measured in feet at the endline	2 digit numeric plus 1 decimal point
Net Color	- Color or combinations of colors that best describe individual net panels (00 = unknown; 01 = clear; 02 = white; 03 = pink; 04 = black; 05 = green; 06 = blue; 07 = multicolor; 08 = red; 09 = orange; 10 = purple; 98 = combination; 99 = other)	2 digit character
Hanging Ratio *	- Average ratio of the number of meshes to the length of the floatline they are attached to	1 digit numeric plus 2 decimals
Minimum Mesh Size *	- Minimum mesh size of the net - To be collected only if net mesh size is not recorded	2 digit numeric plus 2 decimals
Maximum Mesh Size *	- Maximum mesh size of the net - To be collected only if net mesh size is not recorded	2 digit numeric plus 2 decimals
# Nets at each Mesh Size *	- # nets of each corresponding mesh size	2 digit numeric
Net Mesh Size (actual or estimated) *	- Indicate whether mesh size corresponding to # nets element are actual or estimated to the nearest 1/10th of an inch	2 digit numeric plus 1 decimal
Maximum Twine Size	- Maximum twine size the net/To be collected only if nettwine size is not recorded	2 digit numeric
Net Material *	- Type of material used to construct the majority of the net (0 = unknown; 1 = mono; 2 = multi-mono; 3 = multistrand; 9 = other)	1 digit character
Floatline Material *	- Type of material used to construct the majority of the floatline (0 = unknown; 1 = floating with foam core; 2 = twisted poly; 9 = other)	1 digit character
Float Distance	- Average distance in inches between floats; measured from center to center	2 digit numeric
Float Type	- Material used to construct the majority of floats (0 = unknown; 1 = plastic; 2 = styrofoam; 9 = other)	1 digit character
Float Diameter	- Average float diameter measured in centimeters	2 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Leadline Weight *	- Weight of leadline measured in pounds per 100 fathoms	3 digit numeric
Additional Leadline Weight	- Total weight in pounds of additional weights added to leadline (not including the leadline weight)	3 digit numeric
Length of Tiedowns *	- Average length of tiedown measured in feet	1 digit numeric plus 1 decimal
Distance Between Tiedowns	- Average distance between tiedowns measured in feet	2 digit numeric plus 1 decimal
Length of Buoyline *	- Average length of buoyline in feet; measured from the floats at the water surface	2 digit numeric
Anchor Weight *	- Total weight of anchor(s) in pounds holding gear in place	3 digit numeric
Anchor Method	- Type of method used to anchor the gear (0 = unknown; 1 = tied to vessel only; 2 = anchored only; 3 = tied to vessel and anchored; 9 = other)	1 digit numeric code
Number of High Flyers	- # high flyers used on this gear	2 digit numeric
Floatline Length *	- Length of floatline in feet	5 digit numeric
Number Floats *	- # floats used	5 digit numeric
Floatline Type *	- 0 = unknown; 1 = sinking/neutrally buoyant; 2 = floating; 8 = combination (record all line types used in the comments fields) 9 = other (record line type in the comments field)	1 digit numeric
Floatline Diameter *	- Average diameter of the floatline in inches	1 digit plus 2 decimals
Leadline Length *	- Length of leadline in feet	5 digit numeric
Leadline Type *	- 0 = unknown; 1 = sinking/neutrally buoyant; 2 = floating; 8 = combination (record all line types used in the comments fields); 9 = other (record line type in the comments field)	1 digit numeric
Leadline Diameter *	- Average diameter of the leadline in inches	1 digit plus 2 decimals
Space between Net	- Number of spaces used between nets	3 digit numeric
Weighted Width of Spaces between Net	- To the nearest foot - Weighted average width of space(s) used between nets	2 digit numeric
Number of Spaces *	- # spaces between nets	3 digit numeric
Anchor Method	- Type of method used to anchor the gear (0 = unknown; 1 = tied to vessel only; 2 = anchored only; 3 = tied to vessel and anchored; 9 = other)	1 digit character
Net Information		
Net Mesh Size *	- Inside distance between knot to knot of stretched mesh	2 digit numeric plus 2 decimals
Twine Size *	- Twine size derived from the diameter of the net webbing	2 digit numeric
Comments	- Comments or uncoded data	Text

Table I-3: GEAR DATA ELEMENTS FOR TRAWL FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Vessel name	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit numeric
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit numeric
Gear Characteristics		
Net Name *	- Common name for net (If no common name; indicate net manufacturer and other relevant information)	25 digit character
Net Position	- Net position relative to vessel and other nets (1 = out/port; 2 = in/port; 3 = in/starboard; 4 = out/starbaord; 5 = trytrawl; 6 = stern trawl)	1 digit numeric
Door Type *	- Common name of door type; include construction material	25 digit character
Door Length	- Length of the sled edge in feet	4 digit numeric plus 2 decimals
Door Height	- Height of door in feet	4 digit numeric plus 2 decimals
Door Weight *	- Weight of one door in pounds	4 digit numeric
Net Construction Material Type *	- Primary type of construction material used in the body of the net; the codend and the liner (00 = unknown; 01 = nylon; 02 = poly; 99 = other)	2 digit character
Headrope Length *	- Length of headrope in feet	3 digit numeric plus 2 decimals
Footrope/Sweep Length *	- Length of footrope/sweep in feet	3 digit numeric plus 2 decimals
Ground Cable Length *	- Length of ground cable in feet	3 digit numeric plus 2 decimals
Top Bridle Length *	- Length of top bridle in feet	3 digit numeric plus 2 decimals
Bottom Bridle Length *	- Length of bottom bridle in feet	3 digit numeric plus 2 decimals
Number of Meshes in the Fishing Circle *	- # meshes at the area of largest opening in the net	4 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Mesh Size in the Fishing Circle *	- Size of mesh opening to the nearest tenth of an inch	3 digit numeric plus 1 decimal
Mesh Type in the Fishing Circle	- Type of mesh used in fishing circle (1 = square; 2 = diamond)	1 digit character
Measurement Type in the Fishing Circle *	- Type of mesh measure (1 = stretc.hed center knot to center knot; 2 = stretc.hed inside measure; 3 = bar)	1 digit character
Codend Hung *	- Hanging configuration of codend (1 = diamond; 2 = square; 3 = square wrapped; 4 = combination; 5 = other; 6 = unknown)	1 digit character
Codend Twine Type *	- Twine type (number of strands) in codend of net (1 = single; 2 = double)	1 digit character
Codend Twine Material	- Material used to construct codend (00 = unknown; 01 = nylon; 02 = poly; 99 = other)	2 digit character
Codend Twine Diameter	- Diameter of twine used in codend in millimeters	2 digit numeric
Codend Mesh Size *	- Size of mesh opening in codend to the nearest tenth of an inch	3 digit numeric plus 1 decimal
Liner Used *	- Is a liner used in codend? (0 = no; 1 =yes)	1 digit character
Liner Mesh Size *	- Size of liner mesh opening to the nearest tenth of an inch	3 digit numeric plus 1 decimal
Liner Mesh Type *	- Mesh type used in liner (1 = square; 2 = diamond)	1 digit character
Codend Strengthener Used	- Is there a strengthener used on codend? (0 = no; 1 = yes)	1 digit character
Codend Chaffing Gear Used *	- Is chaffing gear used on codend? (0 = none; 1 = bottom half; 2 = all the way around)	1 digit character
Codend Length	- # meshes in length of codend	3 digit numeric
Codend Circumference	- # meshes in widest circumference in codend	3 digit numeric
Codend Mesh Size *	- Size of mesh opening in the codend	3 digit numeric plus 1 decimal
Codend Mesh Type *	- Mesh type used in codend (1 = square; 2= diamond)	1 digit character
Codend Measurement Type *	Type of mesh measure (1 = stretc.hed center knot to center knot; 2 = stretc.hed inside measure; 3 = bar)/This should be consistent for all mesh measurements	1 digit character
Graduated Mesh in Net Body *	- Is the mesh size used in the body of the net the same size throughout? (0 = no; 1 = yes)	1 digit character
Minimum Mesh Size in Net Body *	- Size of opening of smallest mesh	3 digit numeric plus 1 decimal
Maximum Mesh in Net Body *	- Size of opening of largest mesh	3 digit numeric plus 1 decimal
Net Body Mesh Type	- Mesh type used in net body (1 = square; 2 = diamond)	1 digit character

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Net Body Mesh Measurement Type *	- Type of mesh measure (1 = stretc.hed center knot to center knot; 2 = stretc.hed inside measure; 3 = bar)/This should be consistent for all mesh measurements	1 digit character
Cable Type *	- Type of ground gear used on ground cable (0 = none; 1 = chain; 2 = cable; 3 = wrapped cable; 4 = rock hopper; 5 = roller; 6 = rubber cookie; 7 = bobbin; 9 = other; 10 = unknown)	2 digit character
Cable Diameter *	- Maximum diameter in centimeters of ground gear	3 digit numeric plus 2 decimals
Leg/Bridle Type *	- Type of ground gear used on leg/bridle (0 = none; 1 = chain; 2 = cable; 3 = wrapped cable; 4 = rock hopper; 5 = roller; 6 = rubber cookie; 7 = bobbin; 9 = other; 10 = unknown)	2 digit character
Leg/Bridle Diameter *	- Maximum diameter of leg/bridle in millimeters	3 digit numeric plus 2 decimals
Footrope Type *	Type of ground gear used on footrope (0 = none; 1 = chain; 2 = cable; 3 = wrapped cable; 4 = rock hopper; 5 = roller; 6 = rubber cookie; 7 = bobbin; 9 = other; 10 = unknown)	2 digit character
Footrope Diameter *	- Maximum diameter of footrope in millimeters	3 digit numeric plus 2 decimals
Trawl Extension Used *	- Is a trawl extension used? (0 = no; 1 = yes)	1 digit character
Trawl Extension Mesh Size	- Size of mesh opening in the trawl extension	3 digit numeric plus 1 decimal
Trawl Extension Mesh Type	- Mesh type used in the trawl extension (1 = square; 2 = diamond)	1 digit character
Trawl Extension Mesh Measurement Type	- Type of mesh measure (1 = stretc.hed center knot to center knot; 2 = stretc.hed inside measure; 3 = bar) This should be consistent for all mesh measurements	1 digit character
Tickler Chain Length *	- Length of chain in feet	3 digit numeric plus 2 decimals (00 = not used)
Tickler Chain Size	- Stock size of the chain	2 digit numeric plus 2 decimals
Number of Floats on Headrope *	- # floats on headrope	2 digit numeric
Floatation Diameter *	- Maximum diameter of most common float size in centimeters	3 digit numeric plus 2 decimals
Loop Chain Length *	- Length of chain in feet	3 digit numeric plus 2 decimals (00=not used)
Loop Chain Size	- Stock size of chain	2 digit numeric plus 2 decimal points
Number of Links Per Loop	- # chain links between two attachments to the footrope	2 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
# of Loops Per Net	- # chain links between two attachments to the footrope	2 digit numeric
Release/Discard Reduction Device Used *	- Release/discard reduction device used? (0 = no; 1 = yes)	1 digit character
Type of Release/Discard Reduction Device	- Type of release/discard reduction device used in the trawl (0 = none; 1 = TED; 2 = finfish excluder; 3 = finfish deflector; 4 = combination; 5 = other; 6 = unknown)	1 digit character
Escape Outlet Used *	- Indicate whether escape outlets are used (0 = no; 1 = yes)	1 digit character
Escape Outlet Type	- Type of escape outlet used on this gear (0 = unknown; 1=panel; 2=opening; 3=single flap; 9=other)	1 digit character
Kite Panel Used *	Indicate whether a kite is used in this gear (0 = no; 1 = yes)	1 digit character
Number of Panels in Kite	- Total number of panels used in a kite in this net	2 digit numeric
Width of Panels in Kite	- Average width of the panels used in a kite in this net	3 digit numeric plus 2 decimals
Length of Panels in Kite	- Average length of the panels used in a kite in this net	3 digit numeric plus 2 decimals
Additional Characteristics for Twin Trawl Gear		
Twin Trawls Connected *	- Indicate if the two nets are connected to each other while fishing by the center ground cables or bridles (0 = no; 1 = yes)	1 digit character
Additional Characteristics for Single/Paired Midwater Trawl Gear		
Gear Fished *	- How is gear fished? (0 = unknown; 1 = pelagic; 2 = semi-pelagic; 3 = bottom; 9 = other)	1 digit character
Design *	- Design of this net (0 = unknown; 1 = two seam; 2 = four seam/equal panels; 3 = four seam/unequal panels; 9 = other)	1 digit character
Minimum Mesh Size *	- Minimum inside mesh measurement of this net (not including the codend) to the nearest tenth of an inch	2 digit numeric plus 1 decimal
Maximum Mesh Size *	- Maximum inside mesh measurement of this net (not including the codend) to the nearest tenth of an inch	4 digit numeric plus 1 decimal
Top Bridle *	- Length of the top bridle in whole fathoms	2 digit numeric
Bottom Bridle *	- Length of the bottom bridle in whole fathoms	2 digit numeric
Wing Bridle *	- Length of the wing bridle in whole fathoms	2 digit numeric
Bridles per Warp *	- # bridles attached to each warp	2 digit numeric
Bridles per Side *	- # wings or bridles found on one side (left or right) of the net	2 digit numeric
Warps per Boat *	- # warps fished by each boat - This field should only be filled in for *Pair Trawl Trips*	2 digit numeric
Strengthener Used	Was strengthener material used in the codend of this net? (0 = no; 1 = yes)	1 digit character

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Chafing Gear	- Was chafing gear used? (0 = no; 1 = yes)	1 digit character
Additional Characteristics for Scalloped Trawl Gear		
Net Location *	- Location where the net is deployed (1 = port; 2 = starboard; 3 = aft; 9 = other)	1 digit character
Additional Characteristics for Raised Footrope Trawls		
Frame Material *	- Primary construction material of the frame (1 = aluminum; 2 = steel; 9 = unknown)	1 digit character
Frame Width *	- Width of frame in feet	2 digit numeric plus 1 decimal
Shoe Length *	- Length of shoe in inches; which is attached to the outer; lower part of the frame	2 digit numeric plus 1 decimal
Shoe Weight *	- Weight of shoe in pounds	2 digit numeric
Loop Chain Size	- Stock size of chain	2 digit numeric plus 2 decimal points
Weight of Bullet *	- Weight of bullet in pounds (which is attached to the inner, lower part o the frame and acts as a counterweight)	3 digit numeric
Attachment Point of Tickler Chain	- Distance from the footrope to the point of attachment of the tickler chain in inches	3 digit numeric
Net Body Material *	- Primary construction material of net body (00=unknown; 01=nylon; 02=poly; 03=Kevlar; 04=Spectra; 05=Tenex; 06=Nomex; 98=combination; 99=other)	2 digit character
Codend Material *	- Primary construction material of codend (00 = unknown; 01 = nylon; 02 = poly; 03 = Kevlar; 04 = Spectra; 05 = Tenex; 06 = Nomex; 98 = combination; 99 = other)	2 digit character
Codend Twine Size *	- Twine size of codend in millimeters	2 digit numeric
Additional Characteristics for Raised Footrope Trawls		
Dropper Chain Size *	- Stock size of dropper chain	2 digit numeric plus 2 decimals
Dropper Chain Sweep Length *	- Sweep length of dropper chain in feet	3 digit numeric
Number of Vertical Dropper Chains *	- # vertical dropper chains	2 digit numeric
Length of Vertical Dropper Chains *	- Length of vertical dropper chains in feet	3 digit numeric plus 2 decimals
Additional Characteristics of Beam Trawls		
Headrope Attachment Points *	- Points of attachment of headrope (1 = all along length of beam; 2 = outside edges of beam; 3 = other; 9 = unknown)	1 digit character
Number of Floats on Headrope *	- # floats on headrope	2 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Number of Bridles *	- # bridles per beam (1 = all along length of beam; 2 = outside edges of beam; 3=other; 9 = unknown)	2 digit numeric
Bridle Attachment Points *	- Points of attachment of bridle	1 digit character
Location of Additional Weights *	- Location of additional weights	1 digit character
Weight of Additional Weights *	- Total weight of additional weights in pounds	3 digit numeric plus 2 decimals
Beam Weight *	- Weight of beam in pounds	3 digit numeric plus 2 decimals
Beam Shoe Width *	- Width of beam shoe in inches	2 digit numeric plus 1 decimal
Beam Height *	- Height of beam in feet	2 digit numeric plus 1 decimal
Beam Width *	- Width of beam in feet	2 digit numeric plus 1 decimal
Beam Maximum Diameter *	- Maximum diameter of beam in centimeters	3 digit numeric plus 2 decimals
Beam Fishing Opening Height *	- Height of beam fishing opening in feet	2 digit numeric plus 1 decimal
Beam Fishing Opening Width *	- Width of beam fishing opening in feet	2 digit numeric plus 1 decimal
Beam Material *	- Primary construction material of beam (0 = unknown; 1 = steel; 2 = wood; 3 = fiberglass; 9 = other)	1 digit character
Number of Rock Chains *	- # rock chains used (0 = none used)	2 digit numeric
Number of Tickler Chains *	- # tickler chains (0 = none used)	2 digit numeric
Chain Bag Used *	- Indication of whether a chain bag was used (0 = no; 1 = yes)	1 digit character
Chaffing Gear Used on Chain *	- Indication of whether chaffing gear was used (0 = no; 1 = yes)	1 digit character
Average Number of Links Between Rings in Chain *	- # links between rings	1 digit numeric
Inside Chain Ring Size (Top of Bag) *	- Inside diameter of rings in inches	2 digit numeric plus 2 decimal points
Inside Chain Ring Size (Bottom of Bag) *	- Inside diameter of rings in inches	2 digit numeric plus 2 decimal points
Chain Length	- # rings from club - Stick or terminal end of dredge-to-dredge frame	3 digit numeric
Comments	Comments or uncoded data	Text

Table I-4: GEAR DATA ELEMENTS FOR LONGLINE FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit numeric
Gear Characteristics		
Number of Hooks *	- Average # hooks per gear (round to nearest whole number) over the entire trip	4 digit numeric
Mainline Diameter *	- Diameter of mainline in millimeters	3 digit numeric plus 1 decimal
Mainline Test *	- Strength of line in pound strength	4 digit numeric
Mainline Material *	- Primary construction material of mainline (1 = nylon; 2 = cotton; 3 = steel wire; 9 = other)	1 digit character
Number of Strands in Mainline *	- # strands in mainline	2 digit numeric
Mainline Color	- Predominant colors used in the mainline (1 = clear; 2 = white; 3 = pink; 4 = black; 5 = green; 6 = blue; 7 = multi-color; 8 = red; 9 = other)	2 digit character
Dropline Minimum Length *	- Shortest dropline length in feet (rounded to nearest whole number)	3 digit numeric
Dropline Maximum Length *	- Longest dropline length in feet (rounded to nearest whole number)	3 digit numeric
Gangions Diameter *	- Diameter of gangions in millimeters	3 digit numeric plus 1 decimal
Gangions Test *	- Strength of line in pound strength	3 digit numeric
Gangions Material *	- Primary construction material of gangions (1 = nylon; 2 = cotton; 3 = steel wire; 9 = other)	1 digit character
Distance Between Gangions *	- Distance between hooks (round in whole feet)	4 digit numeric
Gangions Color	- Predominant colors of gangions (1 = clear; 2 = white; 3 = pink; 4 = black; 5 = green; 6 = blue; 7 = multi-color; 8 = red; 9 = other)	2 digit character

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Gangion Minimum Length *	- Shortest dropline length used in feet (rounded to nearest whole number)	3 digit numeric
Gangion Maximum Length *	- Longest dropline length used in feet (rounded to nearest whole number)	3 digit numeric
Leader Length *	- Average total length of leader (rounded to whole inches) (0 = none used)	4 digit numeric
Leader Test *	- Strength of line in pound strength	3 digit numeric
Leader Material *	- Type of leader material (1 = nylon; 2 = cotton; 3 = steel wire; 9 = other)	1 digit character
Hook Brand	- Manufacturer brand name	10 digit character
Hook Model/Pattern Number *	- Hook number assigned by manufacturer	10 digit character
Hook Size *	- Manufacturer hook size with slash included	4 digit character
Number of Light Sticks *	- Average total count of light sticks; calculated based on light sticks per set during trip (0 = none used)	4 digit numeric
Light Stick Color(s)	- Predominant color of light sticks (1 = clear; 2 = white; 3 = pink; 4 = black; 5 = green; 6 = blue; 7 = multi-color; 8 = red; 9 = other)	2 digit character
Number of Radio Beacons *	- # radio beacons used on this gear	2 digit numeric
Number of Radar Reflectors *	- # radar reflectors used on this gear	2 digit numeric
Number of Floats *	- Average total count of polyballs and/or dobs used per set for the trip (0 = none used)	3 digit numeric
Number of Hooks Between Floats *	- Total count of hooks (round to whole numbers) between floats	4 digit numeric
Anchor Weight *	- Total anchor weight in whole pounds (0 = none used)	3 digit numeric
Anchor Weight/Actual or Estimated *	- Indication of how weight was measured (1 = actual; 2 = estimated)	1 digit numeric
Bait Used *	- Indication of whether bait was used or not (0 = no; 1 = yes)	1 digit character
Bait	- Predominant species used as bait	6 digit character
Comments	- Comments or uncoded data	Text

Table I-5: GEAR DATA ELEMENTS FOR DREDGE FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics for Scallop Dredge		
Dredge Frame Type *	- 0 = unknown; 1 = standard; 2 = C-farm; 3 = other	1 digit character
Dredge Configuration *	- 0 = unknown; 1 =standard; 2 = turtle chain mat	1 digit character
Dredge Weight *	- Estimated weight of dredge frame and bag in pounds	5 digit numeric
Width of Dredge Shoe	- Width of dredge shoe in inches at widest point	3 digit numeric plus 2 decimals
Number of Digby/Rock Buckets Per Dredge *	- # buckets on Digby dredge	2 digit numeric
Bucket Width *	- Width of bucket opening in inches	3 digit numeric plus 2 decimals
Bucket Height *	- Height of bucket opening in inches	3 digit numeric plus 2 decimals
Frame Height *	- Height of dredge frame in inches (bottom of cutting bar to top of pressure plate or top of frame)	3 digit numeric plus 2 decimal points
Frame Width *	- Width of frame at the widest point in inches	3 digit numeric plus 2 decimal points
Fishing Opening Height	- Height of fishing opening from bottom of cutting bar or shoe to bottom of upper frame in inches	3 digit numeric plus 2 decimal points
Fishing Opening Width	- Inside measure of the widest point in dredge frame in feet	3 digit numeric plus 2 decimals
Cutting Bar Used	- Type of cutting bar used (0 = none; 1 = bar only; 2 = bar with teeth; 8 = other; 9 = unknown)	1 digit character

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Angle of Cutting Bar/Teeth	- Angle of teeth or cutting bar in relation to horizontal in degrees	2 digit numeric
Depth of Cutting Bar/Teeth	- Maximum depth bar/teeth cut into sediment in inches	2 digit numeric plus 2 decimals
Teeth Spacing	- Space between teeth in inches	2 digit numeric plus 2 decimals
Pressure Plate Used *	- Indication of whether a pressure plate was used (0 = no; 1 = yes)	1 digit character
Club Stick Used *	- Indication of whether a club stick was used (0 = no; 1 = yes)	1 digit character
Twine Top Mesh Size *	- Record to the nearest tenth of an inch inside mesh measurements from the twine top (0 = no twine top used)	3 digit numeric plus 1 decimal
Twine Top Mesh Configuration *	- Mesh configuration used in the twine top (0 = unknown; 1 = square; 2 = diamond; 8 = combination)	1 digit character
Twine Top Measurement Type *	- Type of mesh measurement (1 = stretc.hed center knot to center knot; 2 = stretc.hed inside measure; 3 = bar)	1 digit character
Twine Top Number of Meshes Long *	- # meshes for the length of the twine top (runs from the dredge frame to the chain bag)	2 digit numeric
Twine Top Number of Meshes Width *	- # meshes for the width of the twine top (runs from one side of the dredge frame to the other side of the dredge frame)	2 digit numeric
Number of Rings *	- # rings from which the twine top is hung	2 digit numeric
Number of Rows of Rings in the Apron *	- # rows of rings in the apron (from the row of rings attached to the bottom of the twine top to the row of rings attached to the clubstick)	3 digit numeric
Twine Top Height in Rings	- # rings in length	2 digit numeric
Twine Top Width in Rings	- # rings in width	2 digit numeric
Number of Rock Chains *	- # rock chains used (0 = none used)	2 digit numeric
Number of Tickler Chains *	- # tickler chains (0 = none used)	2 digit numeric
Chain Bag Used *	- Indication of whether a chain bag was used (0 = no; 1 = yes)	1 digit character
Chaffing Gear Used on Chain *	- Indication of whether chaffing gear was used (0 = no; 1 = yes)	1 digit character
Average Number of Links Between Rings in Chain *	- Average number of links between two rings in the bottom of the chain bag	1 digit numeric
Inside Chain Ring Size (Top of Bag) *	- Inside diameter of randomly selected rings in inches from the apron	2 digit numeric plus 2 decimals
Inside Chain Ring Size (bottom of bag)	- Inside diameter of randomly selected rings in inches from the bottom of the chain bag	2 digit numeric plus 2 decimals
Chain Length	- # rings from clubstick or terminal end of dredge to dredge frame	3 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Mesh Bag Chaffing gear Used	- Indication of whether chaffing gear was used (0 = no; 1 = yes)	1 digit character
Mesh Bag Mesh Size	- Size of mesh (0 = no mesh bag used)	3 digit numeric plus 2 decimals
Mesh Bag Mesh Type *	- Type of mesh used in the mesh bag (1 = square; 2 = diamond)	1 digit character
Mesh Bag Measurement Type *	- Type of mesh measurement (1 = stretched center knot to center knot; 2 = stretc.hed inside measure; 3 = bar)	1 digit character
Mesh Bag Length *	- # meshes in length	2 digit numeric
Mesh Bag Circumference *	- # meshes in fishing circle	3 digit numeric
Gear Characteristics for Hydraulic Escalator Dredge		
Cage Height *	- Overall height of the cage frame in whole inches	2 digit numeric
Cage Width *	- Width of the dredge cage in whole inches	2 digit numeric
Cage Length *	- Length of the dredge cage in whole inches	3 digit numeric
Cage Bottom Bar Diameter *	- Size of the bars in the bottom of the cage in whole inches	2 digit numeric plus 1 decimal
Cage Bottom Bar Spacing *	- Distance between the bars in the bottom of the cage in whole inces	2 digit numeric plus 1 decimal
Sorter Used *	- Indicate whether a sorter was used to remove undersized shellfish; debris, etc. from catch (0 = no; 1 = yes)	1 digit numeric
Towline Type *	- Type of line configuration used to two the dredge (0 = unknown; 1 = single; 2 = bridle; 3 = other)	1 digit numeric
Pump Capacity *	- Horsepower of pump	3 digit numeric
Intake or Suction Hose *	- Inside diameter of intake or suction hose in millimeters	2 digit numeric plus 1 decimal
Pressure Hose *	- Inside diameter of pressure hose in millimeters	2 digit numeric plus 1 decimal
Pressure Manifold or Head *	- Width between inside edge of sled runners in inches	3 digit numeric
Number of Nozzles on Manifold *	- # nozzles on manifold	2 digit numeric
Diameter of Nozzles *	- Inside diameter of nozzles in millimeters	2 digit numeric plus 1 decimal
Length of Nozzles *	- Length of nozzles in feet from point of attachment on manifold to opening of nozzle	2 digit numeric plus 1 decimal
Angle of Nozzle Attachment	- Angle of nozzle measured from horizontal	2 digit numeric
Overall Length of Conveyor *	- Overall length of conveyor in feet measured from manifold to other end of conveyor belt where it reverses direction	2 digit numeric plus 1 decimal
Comments	- Comments or uncoded data	Text

Table I-6: GEAR DATA ELEMENTS FOR CAST NET FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics		
Mesh Size *	- Size of opening of largest mesh	4 digit numeric
Mesh Type *	- Type of mesh used in net (1 = square; 2 = diamond)	1 digit character
Mesh Measurement Type *	- Type of mesh measure (1 = stretched center knot to center knot; 2 = stretched inside measure; 3 = bar)	1 digit character
Number of Weights *	- # weights on the net	2 digit numeric
Individual Weight *	- Individual weight of lead line weights in ounces	2 digit numeric plus 2 decimals
Twine Material *	- Type of twine material (1 = mono; 2 = multi)	1 digit character
Breaking Strength *	- Pound test of twine	2 digit numeric plus 2 decimals
Radius of Gear *	- Radius of gear in feet	2 digit numeric plus 2 decimals
Modification *	- Are any modifications made to gear (strengtheners, etc.) (0 = no; 1 = yes)	1 digit character
Description	- Description of modifications	50 character text
Comments	- Comments or uncoded data	Text

Table I-7: GEAR DATA ELEMENTS FOR FIXED NET FISHERIES (POUND NETS, WEIRS, ETC.)

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics: Bottom Staked Pound/Fyke & Hoop Nets (including floating trap nets)		
Net Active *	- 0 = no; 1 = yes; 3 = unknown	1 digit character
Ebb/Flood Tide *	- 0 = ebb; 1 = flood	1 digit character
High/Low Tide *	- 0 = low; 1 = high	1 digit character
Pound/Bowl Shape *	- Geometric shape of pound/bowl (0 = unknown; 1 = rectangular; 2=round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	1 digit character
Length/Diameter of Pound/Bowl *	- Length/diameter of gear in feet	2 digit numeric
Width *	- Width of gear in feet	2 digit numeric
Mesh Size *	- Predominant mesh size	3 digit numeric plus 1 decimal
Twine Size *	- Predominant twine size	3 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Pound/Bowl Material *	- Predominant construction material (00 = unknown; 01 = nylon; 02 = poly; 03 = Kevlar; 04 = Spectra; 05 = Tenex; 06 = Nomex; 98= combination; 99 = other)	1 digit character
Height of Pound *	- Height of pound in feet	3 digit numeric
Number of Pounds *	- # pounds; hoops, etc.	1 digit numeric
Bait Used *	- Bait used in the pound (i.e., hoop nets used for shrimp)	ITIS11 digit character
Anchoring Method *	- Method of anchoring the net (1 = stakes; 2 = anchors)	1 digit character
Number of Pound Escape Vents *	- # escape vents	2 digit numeric
Geometric Shape of Pound Escape Vent *	- Geometric shape of pound escape vent (0 = unknown; 1 = rectangular; 2 =round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	1 digit character
Pound Escape Vent Length *	- Total length of pound escape vent in feet	2 digit numeric
Pound Escape Vent Width *	- Total width of pound escape vent in feet	2 digit numeric
Location of Pound Escape Vent *	- Location of pound escape vent	2 digit character
Pound Biodegradable Panel Attachment Type *	- Predominant type of degradable material used (0 = none used; 1 = iron hogrings; 2 = degradable plastic; 3 = softwood lathe; 4 = uncoated wire)	1 digit character
Leader Inshore Mesh Size *	- Predominant mesh size at nearshore end of net	3 digit numeric plus 1 decimal
Leader Trap Mesh Size *	- Predominant mesh size at trap entrance	3 digit numeric plus 1 decimal
Leader Inshore Twine Size *	- Predominant twine size at nearshore end	3 digit numeric
Leader Trap Twine Size *	- Predominant twine size at trap entrance	3 digit numeric
Modified Leader Used *	- 0 = no; 1 = yes; 2 = unknown	1 digit character
Leader Material *	- Predominant construction material of leader (00 = unknown; 01 = nylon; 02 = poly; 03 = Kevlar; 04 = Spectra; 05 = Tenex; 06 = Nomex; 98 = combination; 99 = other)	1 digit character
Leader Length *	- Total length of leader in feet	4 digit numeric
Leader Inshore Depth *	- Depth of leader at nearshore end; in feet	2 digit numeric
Leader Trap Depth *	- Depth of leader at trap entrance in feet (also end of leader)	2 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Leader Anchoring Material *	- Method of anchoring the net	1 digit character
Heart Length/Diameter *	- Length/diameter of heart in feet	2 digit numeric
Heart Width *	- Width of heart in feet	2 digit numeric
Heart Mesh Size *	- Predominant mesh size in heart	3 digit numeric plus 1 decimal
Heart Twine Size *	- Predominant twine size in heart	3 digit numeric
Heart Material *	- Predominant construction material of heart	1 digit character
Heart Anchoring Method *	- Method of anchoring heart	2 digit character
Distance Between Vertical Lines *	- Average distance between vertical lines	3 digit numeric
Wing Inshore Mesh Size *	- Predominant mesh size at nearshore end of net	3 digit numeric plus 1 decimal

Wing Trap Mesh Size *	- Predominant mesh size at trap entrance	3 digit numeric plus 1 decimal
Wing Inshore Twine Size *	- Predominant twine size at nearshore end	3 digit numeric
Wing Trap Twine Size *	- Predominant twine size at trap entrance	3 digit numeric
Wing Material *	- Predominant construction material of leader (00 = unknown; 01 = nylon; 02 = poly; 03 = Kevlar; 04 = Spectra; 05 = Tenex; 06 = Nomex; 98 = combination; 99 = other)	1 digit character
Wing Length *	- Total length of wing in feet	4 digit numeric
Wing Inshore Depth *	- Depth of leader at nearshore end of net in feet	2 digit numeric
Wing Trap Depth *	- Depth of leader at trap entrance in feet (also end of leader)	2 digit numeric
Number of Wings *	# wings in the net	2 digit numeric
Wing Anchoring Material *	- Method of anchoring the wings	1 digit character
Comments	- Comments or uncoded data	Text

Table I-8: GEAR DATA ELEMENTS FOR HAUL SEINE FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics – Haul Nets		
Net Far End Mesh Size *	- Predominant mesh size at the far end of the net	3 digit numeric plus 1 decimal
Net Pocket Mesh Size *	- Predominant mesh size at the pocket	3 digit numeric plus 1 decimal
Net Far End Twine Size *	- Predominant twine size at the far end of the net	3 digit numeric
Net Pocket Twine Size *	- Predominant twine size at the pocket	3 digit numeric
Net Material *	- Predominant construction material of the net (00 = unknown; 01=nylon; 02=poly; 03 = Kevlar; 04 = Spectra; 05 = Tenex; 06 = Nomex; 98 = combination; 99 = other)	1 digit character
Net Length *	- Total length of the leader in feet	4 digit numeric
Net Depth *	- Depth at the ends of the wings in feet	2 digit numeric
Pocket Shape *	- Geometric shape of pound/bowl (0 = unknown; 1 = rectangular; 2 = round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	1 digit character
Pocket Length/Diameter *	- Length/diameter of the pocket in feet	4 digit numeric
Pocket Width *	- Width of the pocket in feet	2 digit numeric
Pocket Depth *	- Depth of the pocket in feet	2 digit numeric
Pocket Mesh Size *	- Predominant mesh size of the pocket	3 digit numeric plus 1 decimal
Pocket Twine Size *	- Predominant twine size of the pocket	3 digit numeric
Comments	- Comments or uncoded data	Text

Table I-9: GEAR DATA ELEMENTS FOR POT AND TRAP FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics		
Number of Pots *	- # pots per haul	3 digit numeric
Geometric Shape *	- Geometric shape of pots (0 = unknown; 1 = rectangular; 2 = round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	2 digit character
Frame Primary Construction Material *	- Primary material (1 = wood; 2 = wire; 3 = plastic; 9 = other)	2 digit character
Mesh Size *	- Mesh size of the pot or trap	2 digit numeric plus 2 decimals
Top Length *	- Length of the top of the predominant pot in whole inches	2 digit numeric
Top Width *	- Width of the top of the predominant pots in whole inches	2 digit numeric
Bottom Length *	- Length of the bottom of the predominant pot in whole inches	2 digit numeric
Bottom Width *	- Width of the bottom of the predominant pots in whole inches	2 digit numeric
Height *	- Height of the predominant pots in whole inches	2 digit numeric
Distance Between Pots *	- Average distance between pots in feet	2 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Number of Entrances *	- # entrances to the pot or trap	1 digit numeric
Geometric Shape of Entrance	- Geometric shape of the entrance (0 = unknown; 1 = rectangular; 2 = round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	2 digit character
Length of Entrance *	- Length of the entrance in inches	2 digit numeric
Width of Entrance *	- Width of the entrance in inches	2 digit numeric
Location of Entrance *	- Location of the entrance (00 = unknown; 01 = top; 02 = side; 03 = end; 08 = combination; 99 = unknown)	2 digit character
Number of Escape Vents *	- # escape vents	1 digit numeric
Geometric Shape of Escape Vents *	- Geometric shape of escape vents (0 = unknown; 1 = rectangular; 2 = round/oval; 3 = 1/2 round; 4 = cone; 5 = trapezoid; 6 = square; 7 = diamond; 8 = triangular; 9 = other)	2 digit character
Length/Diameter of Escape Vents *	- Length of escape vents in inches	2 digit numeric
Width of Escape Vents *	- Width of escape vents in inches	2 digit numeric
Location of Escape Vents	- Location of escape vents (00 = unknown; 01 = top; 02 = side; 03 = end; 08 = combination; 99 = unknown)	2 digit character
Use of Biodegradable Panel *	- Is a biodegradable panel used? (0 = no; 1 = yes)	1 digit character
Attachment Type *	- Type of attachment of biodegradable panel (0 = unknown; 1 = iron hog rings; 2 = degradable plastic; 3 = softwood lathe; 4 = uncoated wire; 9 = other)	1 digit character
Bait *	- Predominant type of bait used	6 digit character
Buoy Line Length *	- Length of buoy line in feet	5 digit numeric
Number of Floats *	- # floats used	5 digit numeric
Buoy Line Material *	- Predominant type of line material (0 = unknown; 1 = sinking/neutrally buoyant; 2 = floating; 8 = combination/record all line types used in the comments field; 9 = other/records line type used in the comments field)	2 digit numeric
Buoy Line Diameter *	- Average diameter of the floatline in inches	1 digit numeric plus 2 decimals

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Trot Line Material *	- Predominant type of line material (0 = unknown; 1 = sinking/neutrally buoyant; 2 = floating; 8 = combination/record all line types used in the comments field; 9 = other/records line type used in the comments field)	2 digit character
Trot Line Diameter	- Average diameter of the leadline in inches	1 digit numeric plus 2 decimals
Mark *	- Buoy(s) is(are) marked to identify the vessel or fishery (0 = no; 1 = yes)	1 digit character
Weak Links *	- Indicate if any weak links are used on this gear (0 = no; 1 =yes)	1 digit character
Number of Weak Links	- Total number of weak links used on this gear	1 digit character
Weak Link Type	- Type of weak link(s) used on this gear (0 = unknown; 1 = rope of appropriate breaking strength; 2 = off the shelf; 3 = overhand knot; 4 = hog rings; 8= combination; 9 = other)	1 digit character
Anchors Used *	- Indicate if any anchors are used on this gear (0 = no; 1 = yes)	1 digit character
Number of Anchors	- # anchors used on this gear	1 digit character
Anchor Weight	- Total weight of the anchor(s) used on this gear in whole pounds	2 digit character
Anchor Type	- Which type(s) of anchor(s) is used on this gear (0 = unknown; 1 = Danforth-style; 2 = dead weight (e.g., railroad tracks, mushroom weights); 8=combination; 9=other)	1 digit character
Anchor Line Length	- Length of line; in whole feet; between the anchor and the closest gangion attached to the groundline for this gear	1 digit character
Anchor Line Type	- Type of anchor line used on this gear (0 = unknown; 1 = sinking/neutrally buoyant; 2 = floating; 8 = combination; 9 = other)	1 digit character
Anchor Line Diameter	- Average diameter of the anchor line used on this gear in inches	1 digit numeric plus 2 decimals
Comments	- Comments or uncoded data	Text

Table I-10: DATA ELEMENTS FOR PURSE SEINE FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics		
Float Line Length *	- Length of floatline in feet	4 digit numeric
Float Line Diameter *	- Diameter of floatline in millimeters	2 digit numeric plus 2 decimals
Lead Line Length *	- Length of lead line in feet	4 digit numeric
Lead Line Diameter *	- Diameter of lead line in millimeters	2 digit numeric plus 2 decimals
Lead Line Weight *	- Total estimated weight of lead line in pounds	4 digit numeric plus 2 decimals
Purse Line Length *	- Length of purse line in feet	4 digit numeric
Purse Line Diameter *	- Diameter of purse line in millimeters	2 digit numeric plus 2 decimals
Type of Hauling Device *	- Device used to haul the net in (1 = power block; 2 = triplex; 3 = drum; 9 = other; 8 = unknown)	1 digit numeric
Ring Type *	- Type of ring used to hold purse line (1 = round; 2 = snap; 3= combo; 9 = other)	1 digit character
Ring Material *	- Material from which rings are constructed (1 = steel; 2 = iron; 3 = alloy; 4 = stainless; 5 = combo; 9 = other)	1 digit character
Net Material *	- Material used in net; excluding bunt (1 = nylon; 2 = poly; 3 = Kevlar; 4 = Spectra; 9 = other)	1 digit character
Net Length *	- Total length of net in feet	4 digit numeric

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Net Depth *	- Depth of net in feet	3 digit numeric
Net Twine Size *	- Diameter of twine in millimeters	2 digit numeric plus 1 decimal
Additional Weights Used *	- Indicate whether any additional weights were used on the leadline of this gear (0 = no; 1 = yes) - Note: additional weights are Tom weights	1 digit character
Tom Weight	- Record total weight on the leadline in pounds used on this gear to control the depth of the purse line do not include the weight of the leadline	4 digit numeric (0=none)
Net Mesh Size *	- Size of mesh in the net	3 digit numeric plus 2 decimals
Net Mesh Type	- Type of mesh used in the net (1 = square; 2 = diamond)	1 digit character
Net Mesh Measurement Type	- Type of mesh measurement (1 = stretched center knot to center knot; 2 = stretched inside measure; 3 = bar)	1 digit character
Sack/Bunt Material *	- Material used in net; excluding bunt (1 = nylon; 2 = poly; 3 = Kevlar; 4 = Spectra; 9 = other)	1 digit character
Sack/Bunt Length *	- Total length of sack/bunt in feet	4 digit numeric
Sack/Bunt Depth *	- Depth of sack/bunt in feet	3 digit numeric
Sack/Bunt Mesh Size *	- Size of mesh in the sack/bunt	3 digit numeric plus 2 decimals
Sack/Bunt Mesh Type	- Type of mesh used in the sack/bunt (1 = square; 2 = diamond)	1 digit character
Sack/Bunt Mesh Measurement Type	- Type of mesh measurement (1 = stretched center knot to center knot; 2 = stretched inside measure; 3 = bar)	1 digit character
Sack/Bunt Twine Size *	- Diameter of twine in sack/bunt in millimeters	2 digit numeric plus 1 decimal
Chase Boat Horsepower	- Total horsepower of the boat	3 digit numeric
Chase Boat Gross Tonnage	- Gross tonnage of the boat	3 digit numeric
Chase Boat Length	- Total length of the chase boat in feet	2 digit numeric
Comments	- Comments or uncoded data	Text

Table I-11: GEAR DATA ELEMENTS FOR RAKE/HOE/THONG FISHERIES

** required fields are noted with asterisk (Please note that required elements may be populated with an unknown)*

DATA ELEMENT	DESCRIPTION / CRITERIA	FORMAT
Header Information		
Observer Identification Number *	- Unique observer number	30 digit character
Trip Identifier *	- Unique identifier assigned to the trip	21 digit character
Vessel Identifier *	- Unique vessel identifier (US Coast Guard or state registration number) - These identifiers must be trackable through time and space	11 digit character
Vessel Name	- Name of vessel	20 digit character
Unloading Date *	- Date of unloading at the dealer (may be more than one unloading date per trip)	MM/DD/YYYY
Gear Information		
Gear Code *	- Type of gear used to catch the marine resource	3 digit character
Gear Number *	- Consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described	2 digit character
Gear Characteristics		
Operating Mechanism *	- Method of operation (1 = mechanical; 2 = hand; 3 = hydraulic; 4 = sail)	2 digit character
Shaft Length *	- Length of shaft/handle in feet	2 digit character
Width *	- Width of entire tongs, rakes, hoes in inches	2 digit numeric
Length of Tines/Teeth *	- Length of tines/teeth in inches	2 digit numeric plus 2 decimals
Spacing of Tines/Teeth *	- Spacing of tines - Teeth in inches	2 digit numeric plus 2 decimals
Bar Spacing *	- Bar spacing in inches	2 digit numeric plus 2 decimals
Weight of Tongs *	- Total weight of tongs in pounds	2 digit numeric
Comments	- Comments or uncoded data	Text

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: _____ **NMFS REGIONAL #:** _____ (NMFS USE) **NATIONAL DATABASE#:** _____ (NMFS USE)

COMMON NAME: _____ **GENUS:** _____ **SPECIES:** _____

EXAMINER Name: _____ Affiliation: _____

Address: _____ Phone: _____

Stranding Agreement or Authority: _____

LOCATION OF INITIAL OBSERVATION

State: _____ County: _____

City: _____

Body of Water: _____

Locality Details: _____

_____

Lat (DD): _____ . _____ N

Long (DD): _____ . _____ W

☐ Actual ☐ Estimated

How Determined: (check ONE)

☐ GPS ☐ Map ☐ Internet/Software

OCURRENCE DETAILS ☐ Restrand GE# _____ (NMFS Use)

Group Event: ☐ YES ☐ NO

If Yes, Type: ☐ Cow/Calf Pair ☐ Mass Stranding # Animals: _____ ☐ Actual ☐ Estimated

Findings of Human Interaction: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Boat Collision ☐ 2. Shot ☐ 3. Fishery Interaction

☐ 4. Other Human Interaction:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

Gear Collected? ☐ YES ☐ NO Gear Disposition: _____

Other Findings Upon Level A: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Illness ☐ 2. Injury ☐ 3. Pregnant ☐ 4.Other:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

INITIAL OBSERVATION

Date: Year: _____ Month: _____ Day: _____

First Observed: ☐ Beach or Land ☐ Floating ☐ Swimming

CONDITION AT INITIAL OBSERVATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Condition Unknown

LEVEL A EXAMINATION ☐ Not Able to Examine

Date: Year: _____ Month: _____ Day: _____

CONDITION AT EXAMINATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Unknown

INITIAL LIVE ANIMAL DISPOSITION (Check one or more)

☐ 1. Left at Site ☐ 6. Euthanized at Site

☐ 2. Immediate Release at Site ☐ 7. Transferred to Rehabilitation:

☐ 3. Relocated Date: Year:_____ Month:_____Day:___ Facility:_____

☐ 4. Disentangled ☐ 8. Died during Transport

☐ 5. Died at Site ☐ 9. Euthanized during Transport

☐ 10. Other:_____

CONDITION/DETERMINATION (Check one or more)

☐ 1. Sick 7. Location Hazardous

☐ 2. Injured ☐ a. To animal

☐ 3. Out of Habitat ☐ b. To public

☐ 4. Deemed Releasable ☐ 8. Unknown/CBD

☐ 5. Abandoned/Orphaned ☐ 9.Other_____

☐ 6. Inaccessible _____

MORPHOLOGICAL DATA

SEX (Check ONE)

☐ 1. Male

☐ 2. Female

☐ 3. Unknown

AGE CLASS (Check ONE)

☐ 1. Adult ☐ 4. Pup/Calf

☐ 2. Subadult ☐ 5. Unknown

☐ 3. Yearling

☐ Whole Carcass ☐ Partial Carcass

Straight length:_____ ☐ cm ☐ in ☐ actual ☐ estimated

Weight:_____ ☐ kg ☐ lb ☐ actual ☐ estimated

PHOTOS/VIDEOS TAKEN: ☐ YES ☐ NO

Photo/Video Disposition: _____

_____

TAG DATA Tags Were:

Present at Time of Stranding (Pre-existing): ☐ YES ☐ NO

Applied during Stranding Response: ☐ YES ☐ NO

ID#	Color	Type	Placement* (Circle ONE)	Applied	Present
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐

* D= Dorsal; DF= Dorsal Fin; L= Lateral Body
LF= Left Front; LR= Left Rear; RF= Right Front; RR= Right Rear

CARCASS STATUS (Check one or more)

☐ 1. Left at Site ☐ 4. Towed: Lat_____Long_____ ☐ 7. Landfill

☐ 2. Buried ☐ 5. Sunk: Lat_____Long_____ ☐ 8. Unknown

☐ 3. Rendered ☐ 6. Frozen for Later Examination ☐ 9. Other_____

SPECIMEN DISPOSITION (Check one or more)

☐ 1. Scientific collection ☐ 2. Educational collection

☐ 3. Other:_____

Comments: _____

_____

NECROPSIED ☐ NO ☐ YES ☐ Limited ☐ Complete

☐ Carcass Fresh ☐ Carcass Frozen/Thawed

NECROPSIED BY: _____

Date: Year: _____ **Month:**_____ **Day:**_____

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PLEASE USE THE BACK SIDE OF THIS FORM FOR ADDITIONAL REMARKS

ADDITIONAL REMARKS

ADDITIONAL IDENTIFIER: _____ (If animal is restranded, please indicate any previous field numbers here)

DISCLAIMER

THESE DATA SHOULD NOT BE USED OUT OF CONTEXT OR WITHOUT VERIFICATION. THIS SHOULD BE STRICTLY ENFORCED WHEN REPORTING SIGNS OF HUMAN INTERACTION DATA.

DATA ACCESS FOR LEVEL A DATA

UPON WRITTEN REQUEST, CERTAIN FIELDS OF THE LEVEL A DATA SHEET WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR CREDIT THE STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE. THE NATIONAL MARINE FISHERIES SERVICE WILL NOTIFY THE CONTRIBUTING STRANDING NETWORK MEMBERS THAT THESE DATA HAVE BEEN REQUESTED AND THE INTENT OF USE. ALL OTHER DATA WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR OBTAIN PERMISSION FROM THE CONTRIBUTING STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE.

PAPERWORK REDUCTION ACT INFORMATION

PUBLIC REPORTING BURDEN FOR THE COLLECTION OF INFORMATION IS ESTIMATED TO AVERAGE 30 MINUTES PER RESPONSE, INCLUDING THE TIME FOR REVIEWING INSTRUCTIONS, SEARCHING EXISTING DATA SOURCES, GATHERING AND MAINTAINING THE DATA NEEDED, AND COMPLETING AND REVIEWING THE COLLECTION OF INFORMATION. SEND COMMENTS REGARDING THIS BURDEN ESTIMATE OR ANY OTHER ASPECT OF THE COLLECTION INFORMATION, INCLUDING SUGGESTIONS FOR REDUCING THE BURDEN TO: CHIEF, MARINE MAMMAL AND SEA TURTLE CONSERVATION DIVISION, OFFICE OF PROTECTED RESOURCES, NOAA FISHERIES, 1315 EAST-WEST HIGHWAY, SILVER SPRING, MARYLAND 20910. NOT WITHSTANDING ANY OTHER PROVISION OF THE LAW, NO PERSON IS REQUIRED TO RESPOND, NOR SHALL ANY PERSON BE SUBJECTED TO A PENALTY FOR FAILURE TO COMPLY WITH, A COLLECTION OF INFORMATION SUBJECT TO THE REQUIREMENTS OF THE PAPERWORK REDUCTION ACT, UNLESS THE COLLECTION OF INFORMATION DISPLAYS A CURRENTLY VALID OFFICE OF MANAGEMENT AND BUDGET (OMB) CONTROL NUMBER.

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SEA TURTLE STRANDING AND SALVAGE NETWORK – STRANDING REPORT

OBSERVER'S NAME / ADDRESS / PHONE:
First _____ M.I.____ Last _____
Affiliation _____
Address _____
_____
Area code/Phone number _____

STRANDING DATE:
Year 20☐☐ Month ☐☐ Day☐☐
Turtle no. by day ☐☐ Time☐☐☐☐

Coordinator must be notified within 24 hrs; this was done by ☐phone (561)575-5407 ☐email ☐fax (561)743-6228

SPECIES: (check one)
- ☐ CC = Loggerhead
- ☐ CM = Green
- ☐ DC = Leatherback
- ☐ EI = Hawksbill
- ☐ LK = Kemp's Ridley
- ☐ LO = Olive Ridley
- ☐ UN = Unidentified

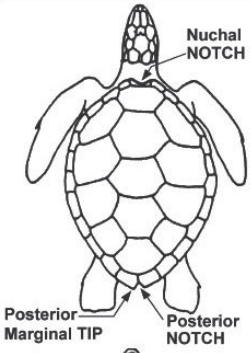
Check Unidentified if not positive. Do Not Guess.

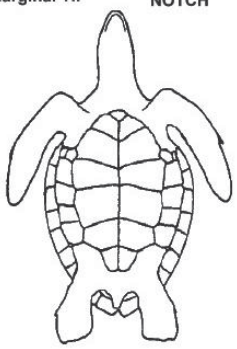
Carcass necropsied? ☐Yes☐No
Photos taken? ☐Yes ☐No
Species verified by coordinator?
☐ Yes ☐ No

SEX:
- ☐ Undetermined
- ☐ Female ☐ Male

Does tail extend beyond carapace?
- ☐ Yes; how far?_____ cm / in
- ☐ No

How was sex determined?
- ☐ Necropsy
- ☐ Tail length (adult only)





STRANDING LOCATION: ☐Offshore (Atlantic or Gulf) ☐Inshore (bay, river, sound, inlet, etc)
State _____ County_____
Descriptive location (be specific)_____
_____
_____
Latitude _____ Longitude _____

CONDITION: (check one)
- ☐ 0 = Alive
- ☐ 1 = Fresh dead
- ☐ 2 = Moderately decomposed
- ☐ 3 = Severely decomposed
- ☐ 4 = Dried carcass
- ☐ 5 = Skeleton, bones only

TAGS: ***Contact coordinator before disposing of any tagged animal!!***
Checked for flipper tags? ☐ Yes ☐ No
Check all 4 flippers. If found, record tag number(s) / tag location / return address
_____
_____
_____
PIT tag scan? ☐ Yes ☐ No
If found, record number / tag location
_____
_____
Coded wire tag scan? ☐ Yes ☐ No
If positive response, record location (flipper)
_____
Checked for living tag? ☐Yes ☐ No
If found, record location (scute number & side)
_____

FINAL DISPOSITION: (check)
- ☐1 = Left on beach where found; painted? ☐Yes* ☐No(5)
- ☐2 = Buried: ☐ on beach / ☐ off beach; carcass painted before buried? ☐ Yes* ☐ No
- ☐3 = Salvaged: ☐ all / ☐ part(s), what/why? _____
  _____
  _____
- ☐4 = Pulled up on beach/dune; painted? ☐Yes* ☐No
- ☐6 = Alive, released
- ☐7 = Alive, taken to rehab. facility, where? _____
  _____
- ☐8 = Left floating, not recovered; painted? ☐Yes* ☐No
- ☐9 = Disposition unknown, explain _____
  _____

If painted, what color? _____

CARAPACE MEASUREMENTS: (*see drawing*)

Using calipers		**Circle unit**
Straight length (NOTCH-TIP)	_____	cm / in
Minimum length (NOTCH-NOTCH)	_____	cm / in
Straight width (Widest Point)	_____	cm / in
Using non-metal measuring tape		**Circle unit**
Curved length (NOTCH–TIP)	_____	cm / in
Minimum length (NOTCH-NOTCH)	_____	cm / in
Curved width (Widest Point)	_____	cm / in
		Circle unit
Weight ☐ actual / ☐ est.	_____	kg / lb

Mark wounds / abnormalities on diagrams at left and describe below (note tar or oil, gear or debris entanglement, propeller damage, epibiota, papillomas, emaciation, etc.). **Please note if no wounds / abnormalities are found.**

_____
_____
_____
_____
_____
_____

The Committee on Economics and Social Sciences (CESS) will be working on revisions to the Social and Economic Data section of the ACCSP Standards more frequently than the whole document is updated, and therefore those revisions will be reflected in subsequent appendices. CESS will undertake a substantial revision to this section for the next update of the ACCSP Standards. That revision will involve simplifying the data elements requested and based, in part, on the results from surveying ASMFC Commissioners on their states' socioeconomic data needs. CESS will try to be clear about the questions being answered/hypotheses being tested rather than embarking on a major data gathering effort that is largely descriptive. They will also take into account any major studies that have occurred since these survey questions/parameters were originally described, as well as current demands for social science data. Some issues that CESS will work to incorporate:

1. Latent effort (i.e., fishermen that hold a permit/license but do not use it): Members feel that a clear understanding of this phenomenon (i.e., magnitude, motivation, etc.) may be crucial for the design of effective management (from buybacks to quota programs)
2. Additional measures of social capital and trust among fishermen (already ask about membership to fishery organizations): For example, do fishermen share information or "team fish"? If so, how many partner boats do they have?
    a. Number of partner boats (i.e., number of boats with whom the permit holder shares information on fish location and cooperates in the harvest on a regular basis)
    b. Number of individuals in the industry on which the permit holder can rely to harvest his permit in case of illness or other emergency
3. Attitudes and perceptions of stakeholders: Underlying aspects of stakeholders' general satisfaction with the fishery and its operations.
4. Implementation of acquiring these data: Consider less frequent data collection may be more realistic from a "survey fatigue" and cost standpoint