The Hummers Pond Alewife Restoration Project
Madison, Connecticut
1978 to 1989

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University of Connecticut
Cooperative Extension Service

From a Report Submitted
To The Madison Land Conservation Trust, 1988

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Introduction

Alewife and smelt, both anadromous fish, were common to coastal Connecticut streams and creeks in early spring. Early Colonial reports refer to some fish appearing soon after the ice melted, and in some communities of eastern Connecticut, fine mesh gill nets were used to catch smelt under the ice. A few weeks later, the first alewives would appear around the middle of March, and run until late April. These species were also important food sources to the Native Americans. New England winters were especially long and harsh, and the arrival of fresh food must have been a welcome event. Some records mention Native Americans roasting anadromous fish, including shad, while alewife and smelt, much smaller fish, were more suited to smoking and drying. Early European settlers also brought an interest in herring, and they utilized the returning fish as food oils, animal feed and fertilizer. Later, near shore herring species were netted and boiled to remove oil and usually not sought after as food fish.

Commercial use was a driving force to capture smelt and alewife. Smelt were especially valuable, and Old Saybrook became a railroad shipping point from which barrels of smelt were shipped weekly to the markets of New York City. The last major shipments of fresh caught smelt that occurred from Connecticut were in the late 1940's and early 1950's (US Fish Commission Reports, 1959, 1955).

Alewife was also important, not so much for food, but for fertilizer. Two or three fish buried in a hill of squash or beans nearly assured a good harvest. They were often smoked and dried for use during winters. As any anadromous fish, they provided an ecological niche, a food source for mammals and birds of prey – especially the osprey - nicknamed the "fish eagle," a relative of eagles. Many ecologists feel the return of the alewife would help to ensure the continued resurgence of the osprey.

About the Alewife

Alewives are a member of the herring family, native to New England waters. Not unlike anadromous fish in Northern Europe, these herring mature at sea and return to fresh water each spring to spawn and then return to sea. When these herring return, they are vulnerable to predators and our commercial use. A soft-bodied oily fish, it originally

was brined whole, the smoked and salted strips of fish not unlike the salted anchovies still popular (for some) today.

As the story goes, these bony, oily fish when smoked and salted into strips and served much as the pretzel is today – at taverns with the "ale." As taverns often had extended families in them, the term "alewife" came about – or so the story is told. Apparently, the term and usage was continued here during Colonial times and remains in current usage.

The scientific name for the alewife is *Alosa pseudoharengus*, by Merriam Webster Dictionary. Etymology: perhaps alteration of obsolete *allowes*, a kind of shad, from French *alose* shad, from Old French, from Late Latin *alausa*. Date: 1633. Records are found indicating that the alewife and close relation rainbow smelt were essential staples for the Native Americans in the Guilford/Madison region. Today, a Connecticut commercial alewife fishery for human consumption no longer exists. In some localities, alewives continue to be smoked (Apple wood or Hickory) and salted, but this process is nowhere what it was 100 years ago. More recently, the alewife was sought after as recreational fish bait (principally for striped bass) and as lobster bait, especially in Cape Cod and Maine.

Alewife "Runs"

Each spring, as the ice broke in small tidal streams, rainbow smelt and alewife would begin to move toward upland streams from offshore waters. No doubt, it must have been a welcomed first sign of spring, and a source of great food for the Hammonasset Indians that lived in our town of Madison. Contrary to alewife, smelt continues to be a much favored "food fish." In Massachusetts and Maine, where runs still exist, a run is when conditions for movement are perfect – a good sized rain followed by sunny days, when hundreds if not thousands swim against the break to gain access to headwater pond for spawning. Hundreds of dams built in the 18th and 19th centuries blocked these returning "anadromous" fish, eliminating successful runs in much of their former habitats.

Rhode Island and Massachusetts Programs

My first experience with alewife runs was in Rhode Island, near the birthplace of Gilbert Stuart, the famed portrait artist. Across from his homestead was a large state-

maintained alewife “run.” Here a series of graduated pools allowed returning fish to gain elevation until reaching the dam and entering the pond above. Once there, adults would mass spawn and eventually return to sea again. Young-of-the-year fish would grow and eat plankton and small larva of insects before themselves returning to sea. Without that graduated entrance, sometimes called a “fish ladder,” adults could not reach the still deeper waters needed to reproduce. “Fish ways” were a method of recovering lost habitat and restoring a vital part of the estuarine food web. At one small run, the importance of these alewife runs was made clear. In the area called Bonnett Shores, Narragansett, RI, a small tidal stream emptied two salt ponds. At night and at high tide, returning fish would ride the waves into the stream that enter these salt ponds. It lasted for several nights. Each evening, osprey would gather and pluck stranded fish left by a retreating wave during high tide. At the same time, huge striped bass would eat the herring just offshore. We had bamboo leaf rakes and would rake out live fish to use as bait. Keeping them alive in buckets proved irresistible to osprey, and they would dive into the buckets for the alewives. Between the striped bass thrashing in the surf and the osprey swooping in to catch them on each wave and our raking, you couldn’t help but feel sorry for these fish — what they had to overcome – thousands of miles at sea to return to their birthplace only to run into this gauntlet of carnage! But it was the marine food web at its best. Ospreys needed these fish, rich in oil, to help rear their young in a few weeks and the stripers strived to replace lost food reserves from their long swim up north from southern waters. Skunks and raccoons were close by to pick up any pieces. In the morning, fish scales upon the beach were the only remains of the violence that occurred the previous evening.

A few years later, when I worked for the University of Massachusetts, Cape Cod Extension Service (Cooperative Extension Service), I had the chance to conduct some fish run restoration workshops with the Massachusetts Division of Marine Fisheries, Joseph DiCarlo. There the state had built concrete fish ways in many towns, some of the largest in Dennis and Brewster. Each spring, hundreds of thousands of fish returned to the shallow glacier ponds on the Cape followed by huge stripers! The recreational fishermen had learned about this and fished these areas with great success. These fish ways were unknown to me; growing up in Madison, we just didn’t have them. The areas were blocked,

and fish couldn’t make it past the tide gates and dams in many Connecticut coastal communities. As early as 1865, the Connecticut General Assembly had recognized the loss of anadromous fish resources.

In 1866, a resolution was passed by the General Assembly, May session, concerning the “protection of fish in the Connecticut River” to make “report of such facts and suggestions as may be material to the next session of the legislature.”

Part of that report printed in 1867 details some of the concerns around the loss of anadromous fish, especially salmon and shad. (Pages 15-16)

> “The disappearance of salmon in the Connecticut River is of much earlier date than in the Merrimack; nor was it gradual, but comparatively sudden. In 1797, they were abundant; within a dozen years after they had nearly or quite disappeared. The cause of this rapid extinction was a dam, whose effect was precisely that of the one at Lawrence, though its relative position was entirely different. Just below the mouth of Miller’s River, may yet be seen the ruins of this fatal barrier, erected about 1798 by the Upper Locks and Canals Company. It was sixteen feet high, and stretched entirely across the river. The extinction that followed makes a precise parallel with that already cited in the Merrimack River. For some few years, till about 1808, salmon were caught at the falls. The first year they were in great numbers, being headed off by the new obstruction, but within a dozen years, their extinction was complete, and for the last fifty-five years the salmon has been unknown, except as a straggler, in the Connecticut streams.”

In many ways, this legislative report set the stage for decades of research on how to restore salmon to the Connecticut River.

Other barriers to returning fish were to be discovered such as the thermal (temperature) conditions of the water itself as it was classified and levels of contaminants determined.

Hammonasset River – Thermal Damage

The Hammonasset River, rising in the town of Durham, is obstructed by a large dam creating the Hammonasset Reservoir at Route 80 in the towns of Madison and Killingworth. This reservoir is owned by the New Haven Water Company. Below the dam, the Hammonasset River has a history of populations of shad, alewives, white perch, striped bass, tomcod, and sea-run brown trout. There is one small barrier below the Hammonasset Reservoir; the abandoned dam at the old paper mill pond site has practically disappeared, and no longer impounds water.

Fairly intensive study of this stream system in connection with the sea-run brown trout investigation has indicated that the new Hammonasset Reservoir has contributed to the deterioration of water quality through warming and irregular flows. These factors, plus the establishment of a warm-water fish population in the reservoir which, in turn, has encroached upon stream habitat, have eliminated evidence of natural populations of trout. The only recommendations that can be made regarding this system would be to ensure constant flows out of the reservoir and to eliminate the remnants of the abandoned dam at the old paper mill site. Some blasting could improve conditions for fish passage at this abandoned dam site and thus open up an additional five miles of stream for brown trout and shad. (Connecticut State Board of Fisheries and Game, June 1962)

The Madison project was seen as a way to begin local fish run restoration projects along Connecticut’s coast. The project site was free of many environmental constraints, except the dam/barrier. In several respects, Madison’s effort was seen to be an example that could perhaps be replicated in other communities, similar to the fish run programs on Cape Cod. There, a town department such as Bourne, Dennis and Barnstable, had “natural resource officers,” municipal employees who would monitor and patrol shellfishing areas, participate in dune/beach restoration, patrol habitat/land trust areas and keep the fish runs in working order. (Natural Resources Program of the Town of Dennis, Massachusetts, Barnstable County Conservation District, October 1974.)

Smelt and Alewife Restoration Project, Madison, Connecticut

Fisheries History

Historically, alewives and smelt would return each spring to run up the brooks in the Town of Madison. Captain Dowd recalls smelt being taken in seines off of Middle Beach (Ralph MacDonald, Charles Schroeder, personal communication). According to Charles Beebe of Madison, lobstermen would dip net returning alewives from Tuxis Brook until the new road blocked the run. Upon examination with John Bowers, of the Town of Madison, and consultation with Mr. D. Stewart MacMillan, Jr., Town Public Works Director, a coastal tide gate was installed under the roadway to the east of Wyndybrook Lane. In 1982, Tuxis Brook had been cleared of street sand and debris from the town center to the Union Trust Bank. The brook from Tuxis Pond had been piped under Route 1. Upon review of the pipe in the center of town and the tide gate/vault installed on Middle Beach Avenue, it was decided that it would be technically difficult and not cost effective to try to restore alewives to Tuxis Pond, although the upper habitat appeared good or sufficient to Steve Gephard of DEP marine fisheries, and a specialist on anadromous fish such as the rainbow smelt and alewife. Attention was then turned to "Hummers" Pond off Lovers Lane in Madison.

The outfall for this small pond is Fence Creek. Fence Creek, as compared to Tuxis Brook, had not been subjected to tidal flow restrictions (tide gate) and the brook from Hummers had not been piped a long way. In addition, Mr. Wilford Taylor, a local resident who owned half of the current pond dam, remembers seeing in some years past small, dark shaped fish (resembling herring) in a deep pool just below the dam. He had tried to catch one and they wouldn't bite, although he had seen dead ones on the banks; they were not trout. (We showed Mr. Taylor a picture of an alewife and confirmed that was the same fish he had seen). He saw them occasionally some years, none other times and quite a few other years, but thought predators would get them (he saw heads and tails in the water below the dam). Other times he remembered seeing hundreds of lost fish scales in the deep pool, just below the dam.

Habitat Restoration Projects

In Connecticut, many small streams were dammed in the 18th and 19th centuries for water power, irrigation and ice production. The latter appeared to be the case for Hummers Pond. Apparently, Hummers Pond was owned by the Scranton Family. The production of ice was a commercial concern in many towns, as no other way of preserving food long term existed, except for cut ice, followed by salt or smoked foods. Cutting and storing ice was a commercially important industry, and it was common to block off low pastures to facilitate ice production. In the late fall, landowners would impound the water and create an artificial pond. In late winter, ice would be cut and stored in nearby barns. One saying that was found in some local history provided the explanation – "Scranton the Hummer Sold Ice all Summer" and gave a reason for the name "Hummers Pond." This would be a possible explanation for the dam, and "weir boards," as they were so often called, to maintain water levels. As spring approached, in other towns and ice cutting stopped, ice ponds had their weir boards pulled and the low land converted back to pasture. Sometimes, weirs boards were removed when commercial ice production ceased, while others left the boards in place, creating a more permanent water body. This apparently was the case in Hummers Pond.

In the town of Killingworth, some ice ponds were successfully converted to cranberry bogs and remained commercially viable until the 1980's. According to Mr. Taylor, a single brook did exist and originally ran through the property as a division between two properties; the northerly landowner, Mr. Taylor was very interested in the project, but owned only half the dam; the other half was owned by a new development called Kensington Acres. In the 1970's, Hummers Pond was a popular ice-skating place, and many Madison residents would skate there. The property to the southerly side was sold and developed into a condominium association. To install a low-level fish way, permission would need to be obtained from both dam owners.

State Survey

Mr. Steve Gephard and Mr. Tom Savoy both surveyed the pond with Mr. Taylor. Both Steve and Tom thought the pond provided great habitat for the river herring (alewife and possibly smelt in the future) and much better than the conditions observed at Tuxis Pond/Brook. It was determined that the project was feasible, especially with observations

made by Mr. Taylor of seeing fish congregating below the dam.

Town Committees

Town support for the project was obtained from the Madison Conservation Land Trust and the Exchange Club in 1988.

Project Requirements

Hummers Pond had an earthen dam reinforced with cut granite stone typical of low profile pond dams of the period. The dam had a narrow weir board/spillway about 28 inches high above the downstream elevation. Mr. Tom Savoy of the DEP was able to locate a 12″ diameter PVC pipe. The spillway over the wood boards needed to be redesigned to change the spillway flow into a single flow leading to the PVC pipe. This was accomplished by creating a second spillway behind the spill/weir boards. In this way, stream flow could be concentrated and then directed into a fish ladder. This took about 6 weeks because temporary sand bags were needed to divert flow from the concrete stone work with the new pipe, then when the concrete was dry, diverted into the pipe so that the work could be completed. Granite stone was used to build the second spillway to match the original materials.

The modifications were done by 16th of July and the August period; then Tim Visel then lowered the flow. Tuxis Lumber Company, a local business in Madison, donated materials. During the springtime, the first set of weir boards would be pulled and all the flow concentrated into the 12″ -wide pipe.

The second phase of the project was to create a box fish ladder and attach it below the spillway pipe; to accommodate attachments, an aluminum plate was incorporated into the new spillway. The box fish ladder would be attached to this plate. Rushing water into the fish ladder would allow returning alewives to make the return swim up the ladder. When the flow subsided, the weir boards could be replaced and the fish way stored until next year. Since returning juveniles would spill over the weir boards after a sudden rain, it was determined that a pool below the dam should be enlarged with stones or possibly sand bags. In this way, small fish going over the boards would fall into a pool of water and not rocks, reducing possible injury.

This method of reintroducing alewives to streams has remained remarkably similar for over a century. The 1867 report of the commissioners concerning the protection of fish (General Assembly, May Session, 1867) mentions a very similar method (see Appendix).

The fish ladder design itself was well suited to removal and storage. It would be built of half-inch exterior grade plywood that would be coated with polyester resin to lengthen its life span. To help keep the run established, volunteers would be needed to clear the brush and clean any fallen debris from the pools below the dam. Similar to the fish run "wardens" on Cape Cod, volunteers would make annual reports on the fish run. DEP has offered initial technical assistance and to set a chicken wire fish trap in the pipe under Lovers Lane to check if fish try to return to Hummers. DEP has also offered to transplant returning pre-spawned adults from the Brides Brook alewife run in East Lyme. The success of the overall project is dependent upon a civic group, such as the Exchange Club, which has offered to fund the rest of the materials, and the Madison Land Trust to provide the fish run warden's assistance each year as the alewives prepare to return. Originally the plan called for three graduated pools, more of a Cape Cod method, but a fixed, short fish ladder was seen to be an effective method. Seeing that the elevation was low, only 28 inches, some initial opposition by the Kensington Homeowners Association was overcome, when the fish ladder was approved. Although more labor intensive, it required less construction around the century-old earthen dam, a concern of the association.

Local Involvement

I was fortunate (as the University of Massachusetts Regional Marine Resource specialist) to conduct workshops at the Cape Cod Extension Service with the Cape Cod Natural Resource officers about fish run management. Mr. Joseph DiCarlo was present at such a workshop during the winter of 1982. During the workshop, Mr. DiCarlo, who had worked for the Massachusetts Division of Marine Fisheries for many decades, said the key to maintaining the local herring runs on the Cape was the tradition of walking the runs, eliminating any trees or obstructions, cleaning of street sand from the streams by road culverts, and installing flow bypasses. The bypasses were needed to repair some of the

concrete fish ways built in the 1940's. Without volunteers - local people willing to help - the state couldn't maintain them; they just didn't have the resources or manpower to do it. Without the local fish warden, people would not have the striped bass bait and lobster bait that they needed. Mr. DiCarlo felt that communities that had commercial and recreational fishermen were the same ones who had the best runs. He challenged all the towns on the Cape to appoint fish run wardens or volunteers to walk the streams and clear any obstructions. Sometimes, people block the streams, and they don't realize that they may hinder the returning fish; other times, a tree falls and needs to be cleared. The Massachusetts State Division of Marine Fisheries just doesn't have the resources to maintain all the runs and establish new ones. He urged that the local land trusts and conservation commissions take a lead in forming groups of people in each community to help reestablish new runs. He concludes that restricted state budgets will redirect his activities to the larger runs, and that the only role he could perform was giving technical assistance and perhaps a site survey. He felt the rest of the effort must come from the townspeople themselves – noting that an increase in retirement communities on Cape Cod may be a source of interest (in the environment and preserving natural resources) and volunteers. If a local land trust or town conservation commission or shellfish commission member wanted a workshop, he would do it even on his own time, but he cannot play an organizing and developing role that would be needed to be done by others. Several people at the meeting discussed the need to remove street sand from streams.

In December of 1982, the Town of Madison removed accumulating silt, street sand and brush from a portion of Tuxis Brook (to alleviate perennial downtown flooding). The removal of debris gave rise to the concept of trying to restore an alewife run in the town of Madison. Several Madison residents recalled hearing stories of catching herring in the center of town, from Tuxis Brook around the turn of the century. In 1987, Ron Paffrath, former Chairmen of the Madison Shellfish Commission, wrote a paper for Wesleyan University entitled, "The Return of the Alewife," and used it to support a local effort for such a fish restoration project in Madison. His paper helped initiate conversations about Hummers Pond, which we walked in April of 1987.

Approvals/Contacts

Approval by current dam owners:
Mr. Wilford Taylor, Jr., 88 Lovers Lane
Signed Permission April 4,th 1988
See Appendix
August 28th, 1988, Kensington Acres North
Appears by Ballot A Revised plan of a fish ladder
Edward Brennan, Association President
(61 in favor, 9 opposed) reports overwhelming support
Friday, September 23, 1988
See Appendix

State Technical Report
Mr. Steve Gephard, September 23, 1985
Potential for Alewife Restoration to Tuxis Pond, Madison
See Appendix

Endorsement by Local Agencies Groups

Approval April 8th, 1988 Madison Exchange Club
Ernest W. Small, Chairman Projects & Aims – See Appendix
agreed to cover cost of project $200
Approval, June 22nd, 1988 Madison Land Trust (by vote of members)
Special Meeting – CT Light & Power Auditorium, Carl Schmidt, President

Work Plan outline – See Appendix C

First Transplant of Pre-spawned Adults

With the assistance of DEP staff, Mr. Tom Savoy, Tim Visel assisted by Ernest Small, Barry Eastland and Fred Korsmeyer, about 75 adult alewife were seined at the Brides Brook run in East Lyme and transported by a tank trailer to the Kensington Acres parking lot. A “bucket brigade” moved fish to the pond for release. The project plan was expanded to include two years of pre-spawned adults followed by installation of the fish ladder in the early spring of 1991. Plans for a box type fish ladder (made available by Steve Gephard), were provided to staff and students of Daniel Hand High School of Madison, Connecticut.

Mr. Steve Gephard of the CT Dept. of Environmental Protection provided the design for a multi-baffle fish ladder (about 12 to 14 feet long or wide) depends on run

length and rise height of the dam. Final measurements would need to be taken. He suggests the local high school wood shop class could build it, perhaps as a special project. The plans were made available to Daniel Hand High School. Before construction could begin, Tim Visel leaves The Sea Grant Marine Advisory Program for a school coordination effort for Bridgeport Public Schools. Nancy Balcom steps in and coordinates the remaining fish ladder installation effort.

Early Project History

1974 - 1978 Conversations with Madison residents Ralph Clark, Charles Schroeder, and Charles Beebe confirm historical accounts of herring in Madison's tidal streams – Tuxis Brook in the center of Madison.

1982 Tuxis Brook cleaned of build-up silt and street sand from center of town beyond Union Trust Bank by the town of Madison; proper flow restored.

1984 Meeting with Stewart MacMillen, Director of Public Works, Flood and Erosion Control programs for streams – He believes it to be a good way to reduce flooding during heavy rains. (Remove built-up street sand from winter application.)

1985 Mr. Jonathan Cole, Assistant Engineer Public Works Dept, Town of Madison – Siltation of Streams and Creeks (Feb 1985) correspondence about rebuilding fish runs in Madison. Steve Gephard, Fisheries Biologist DEP Fisheries (Maine) writes report – subject potential for alewife restoration to Tuxis Pond, Madison, Sept 23, 1985 (recommends Hummers Pond instead). Ron Paffrath, Tim Visel walk Fence Creek and Hummers Pond – October.

1986 Mr. Robert Hincks – Madison Summer Resident asks for information on restoring Alewife runs Dec. 15 1986. He provides 1962 (June) CT State Board of Fisheries and Game – was interested in the Hammonasset River.

1987 Ronald Paffrath writes a research paper titled "The Return of the Alewife" for Wesleyan University. Copy of report sent to First Selectman Donald LaChance June 15, 1987.

1987 Plan presented to Mr. Warren Sinclair, Kensington Homeowners Association in April, for possible alewife/smelt restoration to Hummers Pond.

Donations and Volunteers - Tuxis Lumber Company, a local hardware and lumber company, donated the Quik-crete® cement and plywood; funds from the Exchange Club purchased polyester resin and fasteners for students at Daniel Hand High School. Volunteers from the Exchange Club and Madison Land Trust helped install the fish way, which students had built as part of their woodworking class. Mr. Bruce Beebe prepared the plywood fish ladder with resin to improve its lifespan.

Press Articles

"Clearing Underway" - Shoreline Times, December 9, 1982.

"Groups Support Sought in Restoring Fish to Pond" – Hartford Courant, June 25, 1988.

"Madison Residents Reconsider Plan for Alewives" - Hartford Courant, August 25, 1988.

"Herring Restoration Workshop Tonight" – Shorelines Times, June 22, 1988.

"Fish Run to be Constructed at Madison Pond" - Hartford Courant, Sept. 24, 1988.

"The Biology and Life History of the Alewife" – Connecticut Currents Sea Grant Marine Advisory Service - Spring 1989.

"Officials Transport Alewives to Hummers Pond" - Hartford Courant, April 19, 1989.

"Land Conservation Trust Earns Better Community Award" – Shorelines Times, June 7, 1989.

"Alewife Restoration Project Progresses as Fish Way Installed" – Connecticut Currents Sea Grant Marine Advisory Service – Spring, 1991.

Project Timeline

1988- Alewife Restoration – Striped Bass Enhancement Pilot Project, Madison, CT for the Exchange Club of Madison, April 6th 1988.

Madison Land Conservation Trust Information Workshop - June 22, 1988.

Carl M. Schmidt, President (Herring Restoration) endorses project, May 19, 1998.

Support letter: Friends & Company, Mr. Richard Evarts Herring Restoration, May 18, 1988.

Kensington Acres North, Owners Association. Agrees to support the Alewife Restoration Project, October 26, 1988.

Presentation, January 17th, 1989; Madison Land Trust
April 17th, 1985: DED (Tom Savoy and Steve Gephard) Transplant 50 adult alewives into Hummers Pond from Brides Brook in East Lyme.

Dam stonework completed by Tim Visel, August, 1989.

Tim Visel leaves University of Connecticut Sea Grant Program, 1990.

Steve Gephard provides plans to Nancy Balcom (for Daniel Hand High School), who now coordinates restoration effort with woodshop class, Daniel Hand High School, 1990.

Fish ladder brought to Beebe Marine, Madison, where it is coated with polyester resin, April 1, 1991 (thanks to Bruce Beebe).

Fish ladder completed and installed – coordinated by Nancy Balcom, Sea Grant Marine Advisory Program, on March 15, 1991.

Final project team members:
Daniel Hand High School Vo-Ag students Craig Bravi, John Regan, Ryan Deschenes, Randy Lilly, Bill Boyd of Madison Land Conservation Trust, woodworking teacher Daniel Hauberger.

April 8, 1982

University of Conn.
Sea Grant Marine Advisory Program
Avery Point Campus
Groton, CT 06340

Attention: Tim Visel

Dear Tim:

Many thanks for speaking to the Madison Exchange Club on the Alewife Restoration Project this past Wednesday, April 6, 1988.

You have become our club's most popular speaker.

Yours truly,

Ernest W. Small
Chairman Projects and Aims

Mr. Wilford Taylor, Jr.
88 Lovers Lane
Madison, CT 06443

April 4, 1988

Timothy C. Visel
Sea Grant Marine Advisory Program
University of Connecticut
Avery Point Groton CT 06340

Dear Tim:

Thank you for your recent phone call regarding progress on the Alewife/Striped Bass project. I'm interested in seeing this effort move along and give D.E.P. marine fisheries staff and Sea Grant researchers access to my property this spring for transplanting herring into Hummer's Pond.

You may wish to conduct your studies as soon as possible.

Good luck with the project.

Sincerely

Wilford Taylor, Jr.

February 12, 1982

Mr. Joseph DiCarlo
Division of Marine Fisheries
Shawmet State Forest
Route 130
Sandwich, MA 02563

Dear Joe:

On behalf of the Cape Cod Extension Service and the Cape Cod Natural Resource Officers, I would like to thank you for your most interesting and educational presentation on Fish Run Management. By all accounts, your slide-lecture discussion was found to be excellent.

Thanks again.

Sincerely,

Timothy C. Visel
Regional Marine Resource Specialist

To: Tim Visel, Marine Resource Specialist, Marine Advisory Service
From: Steve Gephard, Fisheries Biologist, DEP – Fisheries (Marine)
Date: September 23, 1985
Subject: Potential for alewife restoration to Tuxis Pond, Madison

On September 15, I visited Tuxis Pond in Madison. In the past, we have discussed the possibility of establishing an alewife run into this pond. My initial response to my on-site visit is that the chances for such are dim.

The pond has no clearly defined outlet stream. Using a topographical map as a guide (photocopy attached), I tried to find an outlet for the pond. My initial suspicion was that it flowed under the road to the east of the pond, into the swamp, and into Fence Creek. I did find a small, choked channel on both sides of Scotland Road, but found no trace of it near the pond. The ground on both sides of the street immediately to the east of the pond is high and dry. The only other possibility for an outlet would be a buried pipe, which alewives would not utilize. Likewise, if the pond drains to any other direction, it would have to exit via a buried pipe, unless I was unable to find a stream.

On the day of my visit, the pond was exceedingly turbid. I do not know if this is the normal condition or whether the turbidity was caused by bulldozer activity on the SE corner of the pond. That poor water quality would not be suitable for alewife populations.

If you have knowledge of the pond and its outlet that would shed new light on this subject, we should discuss it. Otherwise, I suggest we look for different candidates for alewife restoration. Hummers Pond, a sizeable impoundment just above tidewater on Fence Creek, has good potential.

Cc: Pete Minta, Anatropous Fisheries Coordinator, DEP

Appendix – Notes regarding the types of fish ways that may be built in particular, those that are suited for the Alewife – Pages 19-20 – reference Mystic Pond, 1867

Fish ways may be made in two modes: the pass, which is simply a sloping trough; or the stair, which is a series of steps, whereof each is a water-tank, (see plate.) In the first case, the fish rush up the sloping trough; in the second, they jump from step to step, aided by the flowing sheet of water, which makes a series of little falls in its descent. The pass is more simple, cheaper and less likely to get out of order; but the stair gives better chances to the fish to rest in their ascent, and is, therefore, more fitted for the high dams, and for fish of less activity than the salmon—for example, the shad. Several modifications may be introduced in the construction of both.

The alewife will run up a fish way of moderate width, as is proved by the success of the one below Mystic Pond; so, too, will salmon, which have been seen to force their way through water so shallow, that their back fins showed above the surface, and then rush up the apron of a dam six feet high. But it is to be feared that shad will be shy of any fish-way that is not approached by a channel, a dozen feet wide and a couple of feet deep. Furthermore, some mill canals are obstructed by locks, which would be a serious impediment.

The lower end of the fish way should rest in a large pool, not less than three feet in depth, and which, by its lower level, would be full, even when the river above it was shallow.

This pool and the current of pure water from the pass, would attract fish, which might further be directed to the spot by a slat weir, stretching toward the center of the stream. The head of the pass should be similarly arranged, so that the young fish

might go down by the proper route and not be carried over the dam and killed.

From the Report of the Commissioners Concerning the Protection of Fish – In the Connecticut River and Counties to the General Assembly. May Session 1867 – Printed by Orders of the Legislative, Hartford, CT. Case Lockwood & Co., Printers, 1867

	Look for returns; continue transplant program. Maintain stream free of brush/logs.	MADISON LAND CONSERVATION TRUST
SCHEDULE		RESTORATION OUTLINE, JUNE 1, 1988
Field Surveys		1986
Adult fish transplant with DEP staff		1987 (April)
Adult fish transplant 50-100 fish for spawning purpose		1988 (April)
Seine survey – survey shallow areas for juvenile herring		1988 (Summer)
Graduated pool construction. Three graduated pools will help adult alewives over the dam. The dam is about three feet high, requiring three one-foot-high pools.		1988 (Fall) 1989 (Spring)
Transplant 250-500 adult herring		1990
Transplant 250-500 adult herring		

1991 (Spring)		Club of Madison with approval.
	Postponed due to concerns expressed by Kensington North Association	Change to “box type fish ladder”
		With volunteers from public/pond owners
	To be conducted by volunteers	With volunteers from public/pond owners
<u>STATUS</u>	With cooperation of both dam owners. Labor and resources provided by Exchange	Same as above – Madison Land Trust conservation volunteers
Completed		