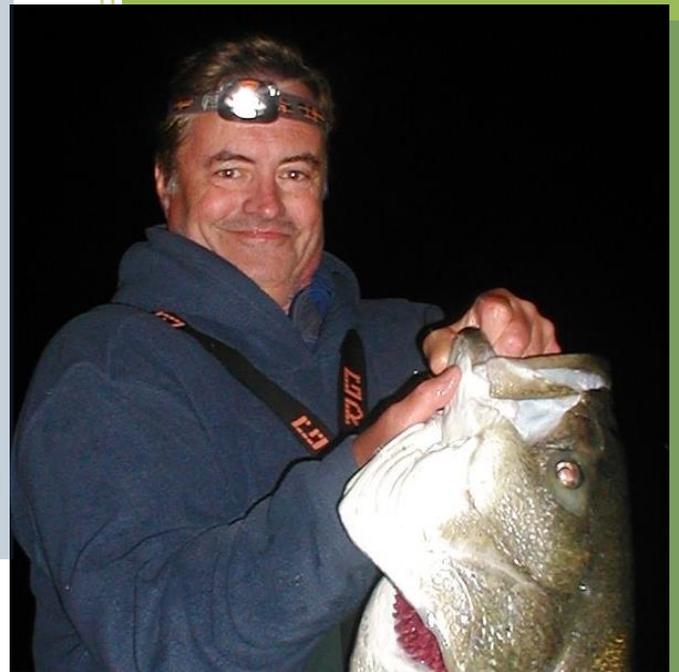


2018

Inland Fisheries Program Notes & Updates (Winter)



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News & Notes of Interest – Recent Retirements

Bob Jacobs & Eileen O'Donnell have retired!

We are sad to see the retirements (effective February 1) of two long standing veterans from our Inland Fisheries Management Warmwater program, Bob Jacobs and Eileen O'Donnell. Bob was a Supervising Fisheries Biologist with 39+ plus years, and Eileen was a Fisheries Biologist 2 with 31+ years. Bob and Eileen both worked out of our Marlborough office and have spent their careers focusing on managing the state's black bass (largemouth and smallmouth bass) populations and monitoring the state's lakes, ponds and large rivers. In recent years, Bob and Eileen along with other staff, were engaged in cutting edge collaborative research with UConn Professor Dr. Jason Vokoun and PhD candidate Jan-Michael Hessenauer on "fisheries-induced evolution" in largemouth bass populations. This research project yielded multiple publications in high-profile peer-reviewed journals, garnered national attention, and most importantly provided a foundation for the development of future bass management programs in CT. This project was illustrative of the progressive and forward-thinking attitude Bob and Eileen brought to the various projects they worked on during their tenure with CT DEEP Fisheries.

Bob and Eileen were also the primary authors of two of the bestselling books all time at the DEEP Book Store, "A Fisheries Guide to Lakes and Ponds of Connecticut", and "A Pictorial Guide to the Freshwater Fishes of Connecticut". We wish both of them well in their retirement.



Above. Bob and Eileen just a few short years ago.

Left. Bob & Eileen were primary authors for these two books, essential resources for CT anglers.

Cover: Fisheries Division's Eileen O'Donnell (left) and Bob Jacobs (right) recently retired. See this page for more on these two outstanding fisheries biologists.

Inland Fish Management & Fish Culture

COLDWATER FISHERIES

2018 SPRING TROUT STOCKING. Approximately **540,000 catchable size trout were produced and are available for pre-season and in-season stocking in 2018, which is similar to last year's production.** In addition, 12,000 Brown Trout smolts have been produced for special programs such as sea-run trout fisheries. Also, 20,000 ("Survivor") Brown Trout fry and 145,000 Kokanee fry are currently in production for stocking into special designated waters. Because of low survival rates in the hatchery, Tiger Trout production was discontinued and none will be stocked starting this year. Approximately 310,000 trout are scheduled to be released prior to the new Opening Day (2nd Saturday in April, which is the 14th this year). The following have been produced for stocking this spring:

<i>Catchable size trout/salmon</i>		<i>Juvenile/yearling/fry trout & Kokanee</i>	
Rainbow Trout (10-12")	163,000		
Rainbow Trout (≥12")	38,000		
Brook Trout (10-12")	93,000		
Brown Trout (10-12")	209,000		
Brown Trout (≥12")	15,000	"Survivor" Brown Trout fry	20,000
Tiger Trout (10-12")	0	Atlantic Salmon fry	100,000
"Survivor" Brown Trout yearlings (7-9")	20,000	"Sea-run" Brown Trout smolts	10,000
"Survivor" Brown large adults (14-16")	1,000	"Cortland" Brown Trout fry	85,000
Surplus Broodstock (1-3 lb fish)	1,700	Kokanee fry	145,000
Totals	540,700		360,000

SURVIVOR BROWN TROUT. The hatchery staff continue the rearing of the Survivor Brown Trout at Burlington State Fish Hatchery. Elastomer tagging material has been received and plans are being formulated for the marking of 5,000 Farmington River Survivor yearling Brown Trout this year. This task is manually intensive and often requires 10-12 staff-days to complete. The Age-2 Farmington Survivor Browns will be marked later this spring as time permits. The Age-2 Survivor Browns scheduled for stocking in mid-April 2017 were marked last spring with a Left Red tag.

RAINBOW SMELT. Beginning three years ago, preliminary work was initiated to explore the potential for restoring an historic smelt population into West Hill Pond (New Hartford-Barkhamsted). This once popular recreational fishery, and important forage base for trout, was lost (for unknown reasons) some time back in the early 1990's. In the next several weeks, spawning mats will again be placed into several known spawning tributaries of an undisclosed private waterbody to collect fertilized Rainbow Smelt eggs during the spring spawn. Fertilized eggs will then be transferred to a tributary of West Hill Pond for maturing and hatching. In West Hill, prior stockings have hopefully produced adult smelt that should now be reaching sexual maturity. If true, these fish should be displaying spawning activity this spring. As one means of determining success of this introduction, the West Hill tributary stream will be monitored during April 2018, to document if the previous egg introductions have been successful in producing smelt. This information will be useful in our evaluation of the success of this program.

STREAM ANGLER SURVEYS. Plans are in place to determine a set number of waterbodies to survey this spring on Opening Day (OD). Efforts will focus on evaluating current trout stocking strategies and its effectiveness in providing the best possible fishing opportunities and utilization of stocked trout on OD.

STREAM SAMPLING and MONITORING

- **Statewide stream sampling. Winter activities** centered on data proofing, database updating and preparing materials for annual progress reports. Planning is now underway for the 2018 sampling season where old stream survey sites (1988-1994) will be re-sampled to document changes in fish communities throughout the State's wadable rivers/streams.

PUBLIC OUTREACH. During Feb.-March Fisheries Mgt. staff attended and provided presentations on statewide coldwater management activities and research at several of the following expos or meetings; CFFA Expo. CFFA monthly meeting, FRAA monthly meeting, Naugatuck-Pomperaug Chapter of TU and the Nutmeg Chapter of TU.

WARMWATER FISHERIES

ICE ANGLER SURVEYS. Ice-fishing angler surveys began on December 15, 2017 for three Eastern Connecticut lakes: Amos Lake (Preston), Beach Pond (Voluntown/Exeter, RI) and Pachaug Pond (Griswold). Though these three lakes are relatively close to each other geographically, each lake had safe ice develop at different times. Safe ice varied from lake to lake during this season with Pachaug having approximately 41 days of safe ice; Beach Pond having approximately 29 days of safe ice and Amos Lake having approximately 19 days. Our last ice angler survey for the season was on February 10, 2018, after which all the surveyed lakes lost ice. Angler effort and catch data from these locations will be forthcoming later this year.

NORTHERN PIKE. Four pike spawning marshes have been prepped for the 2018 Northern Pike propagation season. Broodstock collection for the Haddam and Mansfield marshes will begin once Connecticut River levels drop to a level where the weir trap is operational. Arrangements to obtain free Northern Pike fry from the state of New Jersey (Hackettstown state fish hatchery) for release into Wyantenock marsh #3 and #4 are underway. The two spawning marshes in Wyantenock SF have been prepped and are waiting to be stocked with NJ fry. In addition, the FD has made arrangements to purchase up to 400 yearling (10-12") pike yearlings from the private hatchery in PA (Zetts Fish Farm and Hatchery) for stocking into our Pike Management Lakes. The Punch Brook ponds at the Burlington State Fish Hatchery will not be used to raise Northern Pike in 2018.

CATFISH. Preparations for ordering Channel Catfish to be stocked in May 2018 are underway. This includes a review of past stocking densities, incorporating any changes that may be needed in the coming year, and submitting all required paperwork to the vendor, and the DEEP Purchasing Dept. Fish Health certification (as with all fish importation events) is required and reviewed by DEEP staff, prior to the approval for shipping.

WALLEYE. Preparations for ordering Walleye to be stocked during fall 2018 are being made. At this point this includes a review of past stocking densities and incorporating any changes that may be needed in the coming year.

Habitat Conservation and Enhancement

CTDOT CULVERT PROJECTS, FISH PASSAGE AND INSTREAM HABITAT ENHANCEMENTS

HCE staff review all Connecticut Department of Transportation (DOT) bridge and culvert replacement projects as well as many locally regulated projects. Staff ensure that such projects are designed to allow the unrestricted movement of fish upstream and downstream and do not degrade aquatic and riparian habitats. In addition, instream habitat structures are often recommended to restore/enhance instream habitat features or to mitigate unavoidable habitat losses. Permit conditions require project contractors to be assisted by HCE staff during construction to ensure the proper installation of fish passage and habitat structures. During this quarter, a total of twenty-two projects was reviewed for fish passage and habitat concerns.

- **TRIBUTARY to LYMAN BROOK, Marlborough (Route 2) – Fish Passage Monitoring**

This project is part of a 3 year study conducted by HCE staff to evaluate native Brook Trout passage performance at a culvert slipline project that was retrofitted with an outlet fishway and culvert baffles. Project equipment was funded by DOT. Passage is being assessed with the use of a passive integrated transponder (PIT) tag monitoring system. The system monitors Brook Trout movement before, during and after the October spawning period. Thirty-three fish were tagged in 2017 and eight recaptures were collected. Data collected in 2017 (the second year of monitoring) is being reviewed, summarized and compared with 2016 information. Study results in 2017 again indicate that Brook Trout can successfully pass upstream through the fishway and culvert. Upstream movement is most often associated with increasing streamflow in October when fish are actively seeking suitable spawning locations. Hydraulic metrics (water depth, nose velocity, discharge) were collected in 2017 in the fishway/culvert to assess and define hydraulic conditions during successful upstream passage.

View of the pool/weir fishway constructed at the outlet of the tributary to Lyman Brook.



- **MOTT HILL BROOK, East Hampton (in Meshomasic State Forest) – culvert replacement project.**

HCE and DEEP's Central Services engineering staff are developing a joint Memorandum of Understanding (MOU) with CTDOT to replace a substandard culvert that conveys Mott Hill Brook under Del Reeves Road, located on DEEP Meshomasic State Forest Property in East Hampton. The main

project goals are to restore upstream fish passage and instream habitats for the wild brook trout population and provide stream connectivity to over 1.68 miles of upstream habitats. Project objectives are: (1) remove an existing barrier to fish passage and replace it with an open bottom box culvert, (2) restore and stabilize instream and streambank habitats at and below the road crossing, and (3) monitor brook trout population response through two pre/post project annual fish surveys. CTDOT will provide funding to DEEP to design and build the Mott Hill culvert replacement project. Central Services engineering staff will contract out design and construction services. The Mott Hill Brook project was chosen as off-site mitigation for DOT Project 103-266 which involves the sliplining of a culvert conveying Hammer Brook, Norwich under Route 395. The Norwich project has been flagged as requiring mitigation due as the existing culvert provides fish passage but the proposed sliplining will prevent the passage of fish through the sliplined culvert.



Left. Outlet of 30 inch substandard culvert perched above the Mott Hill Brook streambed that blocks and prevents upstream passage for the wild Brook Trout population.



Right. Photo looking upstream from the culvert crossing flooding and road overtopping causing erosion and sedimentation impacts to Mott Hill Brook.

CARE & Constituent Services

ICE FISHING CLASSES. Taught 12 Family Ice Fishing classes for 234 students in the towns of Ansonia, Coventry, Farmington, Glastonbury, Killingworth, Litchfield, Madison, New Haven, Oxford, Trumbull, West Hartford and West Haven. Certified CARE Instructors taught students about winter pond ecology, safety on the ice, ice fishing equipment, proper bait and how to rig it, and fish identification and ecology. Five of these classes were all day events that included an ice fishing trip immediately following the classroom session.

Excellent ice conditions this January afforded the opportunity to incorporate five ice fishing trips for students that completed Introductory Ice Fishing Classes. Students put their new knowledge to the test and were rewarded with some successful fishing and great memories!



WINTER FESTIVAL. The 12th annual *No Child Left Inside*® **Winter Festival**, a partnership with DEEP's State Parks Division, was held at Burr Pond State Park on February 3rd. This year, perfect winter conditions with several inches of snow on the ground and 10 inches of ice attracted a record breaking crowd of 1,200 participants! Thirty CARE Instructors were on hand to show families how to setup a tip-up, use a jigging rod, and drill a hole in the ice. The lucky anglers who were patient were rewarded with catches of chain pickerel, perch, largemouth bass, sunfish, and even channel catfish! The Fisheries Outreach and Education trailer was on display, and families took advantage to learn about Connecticut's freshwater fish and fishing opportunities. Our Northwest CARE Instructor team setup their ever popular "fish fillet and cooking station", where they demonstrated proper filleting techniques and then fried fish for festival participants to sample!

The Winter Festival and other large scale fishing events allow families to try fishing while spending time together outdoors. Hopefully, this introduction will spark interest and motivate them to further pursue fishing as a lifelong activity.



SPRING CLASSES Scheduled 19 Introductory Level Family Fishing Courses for spring 2018 in Ansonia (3), Avon, Berlin, Essex, Farmington, Glastonbury, Groton, Hartford, Killingworth (2), Litchfield, Newington, Norwalk, Suffield, Trumbull, Wallingford and West Hartford. Again this spring, the CARE program will be offering a special “Women Only!” fishing course in Killingworth on June 16th. In addition to the traditional Introductory Level courses, we have scheduled four “Specialized Fishing Courses” that will focus on specific fishing techniques: Introductory Trout Fishing courses are scheduled for Killingworth and Farmington, Bass Fishing in Farmington, and Fly Fishing in Killingworth.

CARE CENTER PROGRAMS Staff has coordinated and scheduled 19 field trips for Hamden Public School 6th grade students and East Lyme middle school students to the CARE Center on Forster Pond for this spring. Teachers will incorporate modules from the CARE curriculum into science lessons prior to the class field trip to the CARE Center on Forster Pond. Every student will then visit the CARE Center for a day of aquatic education and angling.

INSTRUCTOR TRAINING Recruited, trained, and certified 10 new Instructors at the CARE Center this past February 24th. This group of environmental stewards brought with them great attitudes, diverse backgrounds, and immense enthusiasm to the certification training, and a commitment to educating the next generation of anglers. The next opportunity for CARE certification training will be June 23rd, 2018. Instructor volunteer hours are documented and used as State match for federal funding, which allows CARE to function with little to no State funding. Knowledgeable and passionate candidates interested in joining the program should contact Tom Bourret or Justin Wiggins at 860-663-1656 or thomas.bourret@ct.gov.



The 10 newest certified CARE volunteer Instructors and CARE's Justin Wiggins. A thank you to all the new instructors for taking the next step in being a steward of our environment!

Diadromous Fisheries Restoration

SEA-RUN ATLANTIC SALMON

- Staff transferred 94,500 ‘eyed’ Atlantic salmon eggs from the Kensington State Fish Hatchery to streamside incubators operated by the Tributary Mill Conservancy in Old Lyme. This is a privately-run volunteer hatchery at an old mill that uses brook water to incubate salmon eggs. When these eggs hatch, the fry will be stocked into the Salmon River watershed.

Interns from Old Saybrook High School load salmon eggs into incubators at the Tributary Mill Conservancy (photo by Sandra Tripp).



- Salmon-in-Schools – In January, staff at the Kensington State Fish Hatchery helped with the distribution of approximately 16,600 Atlantic salmon eggs to 83 incubators in 57 schools in 40 Connecticut towns. Diadromous program staff delivered eggs to Chester Elementary, Essex Elementary, and Waterford High School.

SEA-RUN TROUT

- The fifth year of sea-run brown trout (Iijoki strain) eyed egg importation in early February, 2018 proceeded as planned. This year’s importation was delayed two weeks awaiting viral test results which were negative. All of the flights from Oulu, Finland through Munich Germany to Boston’s Logan Airport remained on-schedule and the 36,400 eggs were in incubation trays at the Burlington State Fish Hatchery (BSFH) after 83.5 hours in transit. The eggs looked great as they were loaded into incubation trays (Heath Trays) at the BSFH. Since then, the eggs have hatched and the sac fry have been transferred into small aluminum raceways (troughs). To this point, mortality has been negligible (~400).

Some of the 36,000 Iijoki sac fry at BSFH. It will be a few weeks until they have absorbed all the yoke and begin feeding. The onset of feeding is a critical stage of development and to help the fry along, hatchery staff mix baby brine shrimp into the normal pelletized fish food.



- In February, Diadromous staff evaluated fin condition, length, and weight for 300 of the approximately 12,000 Iijoki strain sea-run Brown Trout smolts at BSTH. They are the third cohort of smolts produced and will be released the second week of March. This check revealed that very few individual fish have fin condition that would hinder survival in saltwater and are the highest quality smolts produced thus far. This year's smolts average the same average length as the 2017 smolts (200 mm) but weigh (on average) 7 grams less. Salmonid smolts typically have a lower condition factor (ratio of fish length to weight) than resident salmonids and indicate preparation for migration to saltwater. Most of the smolts sampled were beginning to show bright silver coloration (see photo on right). All of these fish will be stocked in March, 2018.

A handful of Iijoki smolts waiting to have their fins evaluated. These smolts are among the approximately 12,000 that will be released next month. They are 2+ years old, average nearly 8" in length and their fins are in very good shape! This cohort is expected to return to freshwater in the fall of 2020.



FISH PASSAGE

- Provided onsite monitoring of the initial breach of Blackledge River Dam on the Blackledge River in Glastonbury. The dam will be entirely removed by May as part of a mitigation agreement between the Town and US Corps of Engineers, with significant involvement of the Fisheries Division.

The initial breaching of the Blackledge River Dam proceeded smoothly. The pond surface elevation was slowly lowered, preventing the stranding of aquatic wildlife, and, without significant movement of sediment downstream. Note the minimal amount of turbidity within the river.



- Continued observation of the construction of the Scotland Dam Fishlift and review of FirstLight Power Resources' proposed evaluation study plan. The lift will become operational in April when the three year evaluation will begin.

The exit flume of the Scotland Fishlift is taking shape. Once completed, the fish lifted by the fishway will be sluiced from the lifting hopper into the entrance of the exit flume pipe (seen as the terminal end of the pipe in the image) and carried, along with the water from the hopper, 250 feet and released into the headpond.



- Worked with other DEEP staff on the development of a Section 401 Water Quality Certification for the upper Collinsville dam. The Town of Canton is pursuing a federal license for hydroelectric generation and the WQC spells out conditions that the DEEP will require as part of that. Conditions include upstream and downstream passage for trout, shad, river herring and separate facilities for American Eel.

OUTREACH & COLLABORATION

- Staff attended the February DOT/DEEP/ACOE/EPA Interagency Coordination Meeting.
- Spoke at the Haddam Land Trust annual meeting on American Eel biology and management.
- Hosted meeting of Northeast River Herring Working Group in Old Lyme. Biologists from six northeastern states, one local extension service and two federal agencies met to update each other on the effort to rebuild regional river herring runs and share ideas on methodologies.

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