

2016

Inland Fisheries Division Program Notes & Updates (Spring)



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Inland Fish Management & Fish Culture

COLDWATER FISHERIES

2016 SPRING TROUT STOCKING. Stocking for Opening Day (2nd Saturday in April) began in late January this year due to historic low flow conditions at Quinebaug Hatchery. All waterbodies were stocked prior to Opening Day, but a few waterbodies did not receive their full pre-season allotments due to inclement weather; postponed or “shorted” runs were later made-up during the first week after Opening Day. In-season stocking presented it’s own set of challenges with truck breakdowns, but was successfully completed by mid-May.

In all, approximately 609,000 **catchable size trout** produced by the three State Fish Hatcheries (Burlington, Kensington and Quinebaug), were stocked during spring 2016. Numbers were down slightly from 2015 (≈13,000). Of those stocked in 2016, approximately 553,000 adult size trout (9-12 inch fish) were stocked throughout the season; approximately 62.7% were stocked prior to Opening Day. The remaining adult size trout were stocked between Opening Day and mid-May. A total of 54,154 trout greater than 12 inches was stocked this season; some (≈1,000) were Seeforellen



Stocking trout into the West Branch Farmington River just downstream of the Riverton bridge.

strain Brown Trout raised at Kensington State Fish Hatchery that averaged 16 inches in length. Additionally, a total of 14,500 yearling size trout (6-9 inch fish) were stocked into the following locations; the Farmington (5,000) and Housatonic (7,000) rivers, and an additional 2,500 yearlings into Lake Wonoskopomuc (1,000) and the Saugatuck Reservoir (1,500). Finally, due to the continuing low flow rates the Quinebaug State Fish Hatchery, 120,000 Cortland Brown Trout fingerlings (3-5 inch fish) were emergency stocked into the Saugatuck Reservoir (85,000) and Lake Wonoskopomuc (35,000). These two waterbodies presented the best conditions for these fish to grow to a catchable size.

On a final note, due to the low flow issues that began last fall (2015) at Quinebaug State Trout Hatchery, IFD needed to make some tough decisions on how to help alleviate the problem and minimize impacts to trout anglers. Due to the above, a number of our better coldwater lakes around the state were stocked with 2016 production trout last fall (November-December, 2015). Subsequently, these same locations were stocked with normal numbers of fish prior to Opening Day but received fewer fish or were not stocked during the period after Opening Day in 2016. All of those locations received their annual allotments of trout at equal or greater numbers as compared to previous years. The big

Cover: *Fishing means many things to many people. However, a unifying thread (or line) that crosses generations, gender, ethnicity, catch-and-release or harvest, bait or fly, bass or trout, is the sense of pride and accomplishment after landing a fish. Whether a weathered angler or an upstart newbie, staff and the programs of the Inland Fisheries Division, work to ensure each get to have their moment to shine.*

difference was the timing of stockings and this likely led to some misinformation by anglers that normal production had been cut-back due to budgetary constraints.

TROUT FRY & FINGERLING STOCKING. Completed stocking of Brown Trout fry and fingerlings into enhanced (Class 2 and 3) Wild Trout Management Areas, designated “nursery streams”, and into other streams being managed to take advantage of in-stream trout production potential. A total of 251,000 trout fry were stocked into 28 streams covering approximately 60 stream miles. Considerable effort is made to ensure that fry are evenly spread out through available nursery habitat. Fry are transported and scattered through entire stocked stream sections by bucket or live car.

HOUSATONIC THERMAL REFUGE ENHANCEMENT. The first of three scheduled volunteer work days was completed at Housatonic River thermal refuges for trout. The refuge at the mouth of Furnace Brook was increased in size and depth, and overhead cover was provided to reduce predation on the anticipated summer congregation of trout. In conjunction with Housatonic Fly Fisherman’s Association and others, Inland Fisheries staff arranged rocks, logs, and brush to improve over-summer water temperatures and cover to increase trout survival. Thermal refuges have proven critical for trout survival in the Housatonic during summer heat waves when river water temperatures often exceed the short-term lethal limits for trout.

HOUSATONIC PCB FISH CONSUMPTION ADVISORY SIGN CHECKS AND RE-POSTING. IFD staff visited 150 access points along the entire Housatonic River and its impoundments and tributaries to check signage that warns anglers (in six languages) of the potential hazards of eating excessive amounts of PCB-contaminated fish. Missing signs were replaced as needed. A presentation was prepared and given on the health advisory efforts, at the annual meeting of the Citizens Coordinating Council of the on-going EPA/General Electric PCB clean-up on the Housatonic.

WATER TEMPERATURE LOGGER DEPLOYMENT: A total of 31 water temperature loggers were set in key trout and smallmouth bass management streams to track and assess conditions for trout and bass during the up-coming summer, and to assess long-term trends in water temperature and the effects of changes on key managed fish species.

LAKES. Work continued to restore the historic smelt population in West Hill Pond, New Hartford-Barkhamsted. Artificial spawning mats were constructed with materials donated from a local sportsman’s organization (Northwest CT Sportsman’s Council) and deployed in a water company reservoir. Rainbow smelt successfully utilized several of the mats, which were then transferred to West Hill Pond. Later observations indicated that the eggs had successfully hatched. After three years of transferring eggs to West Hill Pond, spawning by smelt has been documented for the first time in West Hill Pond since



Small spawning mat with smelt eggs ready for transfer to West Hill Pond.

the 1990's.

A total of 138,000 fingerling kokanee salmon were raised at the Burlington State Fish Hatchery from egg to small fingerling (~2.5 inches) for stocking in 2016. Beginning in mid-May fingerling kokanee were stocked into West Hill Pond (26,000), East Twin Lake (75,000), and Beach Pond (11,000). This was the first time that Beach Pond (Voluntown) has been stocked with kokanee salmon since the 1960's. This waterbody has suitable summer habitat for kokanee, but landlocked alewife, which compete with kokanee salmon for zooplankton forage, were abundant in the lake until recently. Assessments by IFD biologists have determined that landlocked alewife have recently disappeared from Beach Pond.

Due to low flow rates at the Quinebaug State Trout Hatchery, 117,000 Cortland Brown Trout fingerlings (3-5 inch fish) were stocked into the Saugatuck Reservoir (85,000) and Lake Wonoskopomuc (35,000). These two waterbodies presented the best conditions for these fish to grow to a catchable size as they both provide abundant over-summer trout habitat and a strong forage base (alewives).

A 27" holdover brown trout recently captured in Lake Wonoskopomuc on a night electrofishing sample in spring 2016.



WARMWATER FISHERIES

WARMWATER FISHERIES MONITORING. The 2016 spring boat electrofishing field season was just completed. A total of 23 lakes were sampled, including seven water supply reservoirs that are closed to public fishing. Among the reasons for sampling closed waterbodies is that these sites give us insights into fish populations that are unaffected by angling. Fish populations in unexploited water supply reservoirs are in the most "natural" state of balance thereby giving us a benchmark to aim for in managing our fished populations. Sampling these pristine sites also helps us determine the causes of any statewide changes in fish distributions by eliminating the possibility that angling plays a role. Lastly, the recently conducted "Bass Supplemental Stocking Study" (see more details below) was formulated in part to determine whether stocking fish from unfished water supply reservoirs into public lakes is a viable management strategy. An inventory of the fish populations in our larger water supply reservoirs is necessary to make this determination.

LAKE & POND ANGLER SURVEYS. Year-round angler surveys are being conducted in 2016 at four lakes: **Coventry Lake** (Coventry), **Moodus Reservoir** (East Haddam), **Pickerel Lake** (Colchester) and **Lake Zoar** (Monroe/Oxford/Newtown/Southbury). Surveys assess angler catch, effort, and opinions of IFD management in these lakes. In addition to a general angler survey at Lake Zoar, IFD staff will also be

collecting angler catch data from six to eight bass tournaments throughout the 2016 tournament season. Data obtained will be used by a variety of IFD management projects, including the Bass, Northern Pike and Walleye Management Projects.

CATFISH. The annual **channel catfish** stocking occurred on May 24. A total of 6,175 adult catfish (14-18 inch fish) and 10,700 yearling catfish (9-12-inch fish) were stocked into 24 waterbodies throughout the state. This marks the tenth consecutive year DEEP has stocked Channel Catfish since the inception of the program at 11 waterbodies in 2007.

Adult catfish were released into 13 **Community Fishing Waters: Beaver Park Lagoon** (New Haven), **Birge Pond** (Bristol), **Bunnells Pond** (Bridgeport), **Butternut Park Pond** (aka Rowans Pond, Middletown), **Center Springs Park Pond** (Manchester), **Freshwater Pond** (Enfield), **Keney Park Pond** (Hartford), **Lake Wintergreen** (Hamden), **Lakewood Lake** (Waterbury), **Mirror Lake** (Meriden), **Mohegan Park Pond** (aka Spaulding Pond, Norwich), **Pickett's Pond** (in Osborndale State Park, Derby) and **Stanley Quarter Pond** (New Britain). Due to the discovery of a possible fish kill at the lake on the day of stocking, Mirror Lake in Meriden was stocked with a reduced number of fish this year.



Steve Piera, an Inland Fisheries Division employee at Burlington State Fish Hatchery, transferring Channel Catfish from the delivery truck to a State Hatchery truck for distribution.

Yearling catfish were stocked into 11 **Catfish Management Lakes: Batterson Park Pond** (Farmington/New Britain), **Black Pond** (Middlefield), **Burr Pond** (Torrington), **Hopeville Pond** (Griswold), **Lake Kenosia** (Danbury), **Maltby Lakes 2 & 3** (Orange/West Haven), **Quinebaug Lake** (aka Wauregan Reservoir, Killingly), **Scoville Reservoir** (Wolcott), **Silver Lake** (Berlin/Meriden) and **Stillwater Pond** (Torrington). In addition, two Community Fishing Waters (Lakewood Lake and Lake Wintergreen) were also stocked with yearling catfish.

NORTHERN PIKE. In addition to the annual brood stock collections, IFD biologists conducted a population estimate of adult pike in Mansfield Hollow Reservoir, and a controlled rearing experiment of pike fry at a Burlington State Fish Hatchery pond.

- **Broodstock Collection.** Weather and ice conditions were favorable this spring for the collection and stocking of Northern Pike broodstock adults into managed spawning marshes. The two Bantam Lake marshes (Experimental Marsh and Cemetery Marsh) and the Upper Haddam marsh were not used again this year because of ongoing structural issues that either don't allow water to be retained (Experimental and Cemetery) or do not allow for timely drawdown of the water (Upper Haddam). This is third and final year that one of the two Wyantnock Marshes were stocked with Northern Pike provided to us at no cost by NJ DEP.

- **Mansfield Hollow Reservoir Zetts Northern Pike Experiment.** During spring 2016, eight trap nets were set in Mansfield Hollow Reservoir to assess the relative survival of 60 (in 2013) and 120 (in 2014) yearling pike that were purchased from Zetts Fish Farm in Pennsylvania and stocked into the lake. This is the culmination of a multi-year experiment comparing the survival of fingerling pike produced at the Mansfield and Haddam marshes to that of the purchased yearlings. A cursory analysis of these data reveals that of the 30 Northern Pike captured by trap net, two were Zetts pike. Analyses of these data are ongoing, including a review of the age structure of this year's captured Northern Pike.
- **Northern Pike Rearing Experiment.** In the spring of 2016, IFD management and hatchery personnel began a Northern Pike culture experiment in Punch Brook Pond #6 on the Burlington State Fish Hatchery property. Northern Pike fry were obtained free of cost from the State of New Jersey Hackettstown Fish Hatchery and stocked into the pond on March 30th. The pond was fertilized with alfalfa meal to promote zooplankton growth. Once the fry were large enough, the pond was stocked with forage fish.

The pond was seined on May 20th to determine average length, weight and survival of the fry. A total of 2,000 fingerlings were captured equating to a 10 percent survival from fry to fingerling.

Larger forage (small fathead minnows) will be stocked into the pond and the fingerlings will be grown out through the summer to determine cost of producing large size (advanced) pike fingerlings.



Left. Punch Brook Pond #6 before it was filled with water for the pike rearing experiment this spring.



Right. Punch Brook Northern Pike fingerlings (note that the ruler gradations are in centimeters).

LARGEMOUTH & SMALLMOUTH BASS. The second scientific publication based on data from the **Bass Supplemental Stocking Study**, a cooperative venture between UConn and the Inland Fisheries Division, was recently accepted for publication in the pre-eminent journal Transactions of the American Fisheries Society. Jan-Michael Hessenauer, who completed his PhD in the UConn Department of Natural Resources in December 2015, is first author. The paper, entitled “Naivety to angling lost at different rates among fished and unfished populations of Largemouth Bass” demonstrated that Largemouth Bass subjected to controlled angling trials in a small pond were able to quickly learn to avoid the lures used in the trial. Further, bass originating from public lakes where fishing is allowed learned lure avoidance

faster than bass originating from unfished reservoirs, suggesting that over time angling pressure in public lakes has caused evolutionary selection for “smarter” bass that are able to learn to avoid being caught more quickly. One of the most interesting observations from the study was the fact that bass in the experimental pond apparently learned not only by being caught, but also learned by watching other bass be caught – a phenomenon known as “social learning”. Data analyses regarding other facets of the Bass Supplemental Stocking Study are ongoing, with a third paper currently in review at the North American Journal of Fisheries Management, and multiple future publications expected.

WALLEYE. Adult walleye sampling was conducted at Mount Tom Pond with trap nets and boat electrofishing March-April, 2016. Preliminary results indicate that there are approximately 50 legal size (>18”) walleye in Mount Tom Pond. Three other walleye lakes were also sampled via night electrofishing. The population of legal size walleye in Gardner Lake has been in decline for the last several years. Because of this, IFD stocked large fingerlings (7 inch fish instead of the typical 4 inch fish) last fall in hope that fingerling survival would improve. During electrofishing samples this spring these fish were encountered at higher densities than during recent years and this was the best catch rate of yearling Walleye at Gardner since the early 2000’s, so the outcome of stocking these larger fish is hopeful.

And you think you’ve had a bad day?
This photo was taken by DEEP Inland Fisheries Seasonal Resource Technician Jodi Pinder during an electrofishing survey of Candlewood Lake on May 31, 2016. We have seen lots of prey being ingested by fish over the years of sampling, but this was a first! The bass was measured and released, hopefully to enjoy its meal.



Diadromous Fisheries Restoration

ATLANTIC SALMON

- Stocked a total of 64,009 Atlantic Salmon fry in the Farmington and Salmon River watersheds. The fry were produced by the Kensington State Fish Hatchery in Berlin, CT (29,359 fry) and the Tributary Mill Conservancy in Old Lyme, CT (34,650 fry). Stocking was completed with the help of twelve volunteers and three school groups.

RIVER HERRING

- Transplanted 2,400 adult pre-spawn Alewife from the Brides Lake trap to spawning habitat upstream of fishways to accelerate restoration (Naugatuck River-1,000 fish; East Branch Eightmile River-400 fish; Fishing Brook- 400 fish; Falls River- 400 fish; West River- 200 fish).

Diadromous transport truck in front of the Bride Brook Alewife trap. Seasonal Resource Assistant Pat Wendt is seen on left preparing nets to move fish from the trap to the tank of the truck.



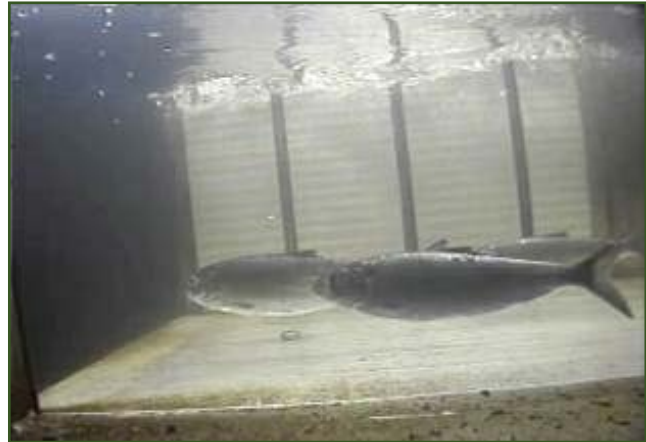
- Conducted biological sampling of adult Alewife entering Brides Lake. Data will allow staff to track changes in cohort strength, growth, and the percentage of repeat spawners in the population, which will aid in monitoring the status of the run as well as expand our knowledge of Alewife biology.
- Staff worked with U.S. Fish and Wildlife Service on multiple occasions attempting to collect blueback herring from Wethersfield Cove for upstream transplantation. Volunteers were also prepared to help offload sampled Blueback Herring from Wethersfield cove to waiting transport trucks. Due to low catch rates sampled fish were transplanted only in Massachusetts, and not in Connecticut.

Staff from USFWS and CT DEEP sampling Wethersfield Cove for Blueback Herring. including Pete Aarrestad (lower left, Director of the Inland Fisheries Division), and Dave Simpson (lower right, Director of the Marine Fisheries Division) seen here electrofishing.



- Assisted Yale University in the collection of genetic samples of all Alewife entering Rogers Lake. The run to Mill Brook which leads to Rogers Lake was so poor this year that fish were transplanted from Bride Lake into Rogers Lake to support the time-critical research.
- **Monitoring spring runs-** The Alewife run is over but the Blueback Herring runs continue, especially up the Connecticut River. Even though the runs are not over, it is clear that the 2016 Alewife runs are once again poor and it is likely that the Blueback Herring run will also be poor. The runs were also weak in Rhode Island and parts of New York and Massachusetts. These observations support maintaining the state's ban on harvesting river herring.

The Moulson Pond Fishway video imaging system is having a great operating season. Here, a group of three Blueback Herring are seen exiting the fishway through the 'video gallery' on their way upstream.



AMERICAN SHAD

- Transplanted 87 adult pre-spawn American Shad from the Holyoke Fishlift (Connecticut River, MA) to spawning habitat upstream of the Rainbow Fishway on the Farmington River to accelerate restoration. Stocking will continue into June for other rivers as numbers of shad at Holyoke permit.

Holyoke Dam Fishlift (MA) Trap Tank- These 80 plus American Shad were collected and held in a tank while waiting to be sluiced into CT DEEP's transport truck.



AMERICAN EEL

- Opened the Fishing Brook Eel Pass in Old Saybrook in early April to monitor the annual glass eel run, as mandated by the Atlantic States Marine Fisheries Commission. As of May 25, this device had passed 6,078 glass eels (far short of last year's May 25 count of 8,741).
- Collaborated with HCE staff to oversee the installation of an eel pass at an I-91 perched culvert on an unnamed tributary of Sawmill Brook in Middletown.

SEA-RUN BROWN TROUT

- Work continued on monitoring rearing techniques for the Iijoki strain of Sea-Run Brown Trout at Burlington State Fish Hatchery. In March, April and May, 20 Iijoki Sea-Run Brown Trout were sampled to assess Gill Na⁺, K⁺-ATPase activity. This non-lethal method of measuring a fish's

'preparedness' for surviving in saltwater is being conducted in partnership with Dr. John Kelly (University of New Haven) and Dr. Steve McCormack (University of Massachusetts and USGS). Additional seawater exposure trials are on-going.

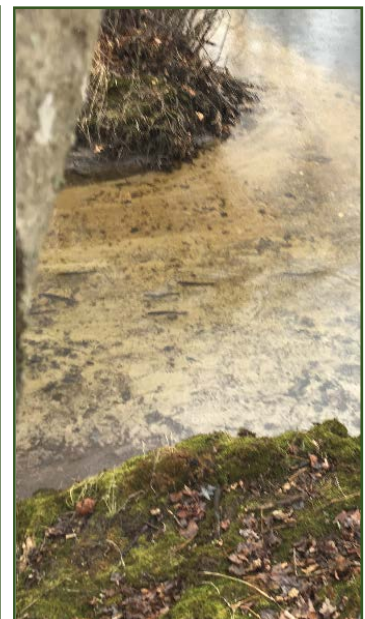
- Also in early March, 2,862 smolts were stocked into Latimer Brook. The stocking site is approximately 3.5 miles upstream of the head-of-tide.

Prior to smolt stocking, an 'imprint fence' (see *below*) was installed downstream of the stocking site at the outflow of a small pond through which Latimer Brook flows. This fence prevented the smolts from leaving the brook before they imprinted to the unique chemical signature of Latimer Brook. If imprinting was successful, these smolts will want to return to Latimer Brook as adult Sea-Run Brown Trout. The fence was removed a week after stocking and within minutes over 150 smolts were observed actively migrating downstream. Within 24 hours of removing the imprint fence anglers reported catching smolts within $\frac{1}{4}$ of saltwater (over 3 miles downstream of the stocking site), indicating that some fish had a strong directed migration downstream to Long Island Sound.



Stocking Sea-Run Brown Trout smolts. A net-full of silver smolts being released into Upper Latimer Brook.

Latimer Brook "imprint fence" (left) deployed in a low velocity area to help prevent smolts from impinging against it while searching for a path downstream. Immediately after removal, six smolts can be seen actively migrating downstream (right).



- The 2017 smolts (imported as eggs in 2015) continue to be raised at Burlington State Fish Hatchery and are looking great. There are a total of 15,000 on-hand averaging 125 mm (~5 inches). It appears that we will reach our annual production goal of 12,000 smolts.

- The Sea-Run Brown Trout eggs imported this year (2018 smolts; 40,460 eggs) had a high rate of hatch-out and successfully made the transition to hatchery feed with very low mortality.

FISHWAY OPERATIONS

- Opened fishways across the state and maintained monitoring equipment to count river herring (as well as other species) at 20 fishways; seven electronic fish counters, ten digital imaging systems and three fishway traps. The Rainbow Dam fishway was opened on April 14th and as of May 30th had passed a total of 150 American shad, 416 sea lamprey, and numerous non-diadromous fish.
- The Leesville fishway on the Salmon River in East Haddam was opened on April 11th and as of May 30th had passed sea lamprey and numerous non-diadromous fish.
- The StanChem fishway on the Mattabeset River in East Berlin was opened on April 1st and as of May 30th had passed 36 American shad, 303 alewives, 12 sea lamprey, 87 gizzard shad, and numerous non-diadromous fish.
- The Thames Valley Chapter of TU received a grant to replace the rotted wooden baffles in the Versailles Pond fishway on the Little River in Sprague. Staff assisted with the grant application and provided technical support for the design and installation of the new baffles. The project should be completed for operation in the fall of 2016.



Thames Valley TU members installing new aluminum baffles in the Versailles Pond fishway.

FISH PASSAGE EFFORTS

Staff continued to spend considerable time on projects intended to provide fish passage around stream barriers to promote diadromous fish restoration:

- Follow-up activities and monitoring was provided at sites where dams were removed last year: White Rock Dam (Save the Sound, Pawcatuck River, Stonington), Hyde Pond Dam (Save the Sound, Stonington, Whitford Brook), Ed Bill Pond Dam (The Nature Conservancy, Lyme, East Branch Eightmile River), Pond Lily Dam (Save the Sound, New Haven, West River).
- Staff worked with partners in anticipation of new projects for 2016: Norton Dam Removal (The Nature Conservancy, Colchester, Jeremy River), Flock Process Dam Removal (City of Norwalk, Norwalk, Norwalk River), Upper Pond Dam Fishway (Town of Darien, Darien, Goodwives River), Chapmans Pond Dam Fishway (Connecticut River Coastal Conservation District, Clinton, Menunketesuck River), Springborn Dam Removal (DEEP, Enfield, Scantic River).
- In addition, staff work with hydroelectric developers on fish passage schemes for either new projects or re-licensing for existing projects. During the last three months, work has continued on

improved stream flow and a fishlift at the Scotland Dam (First Light Power, Windham, Shetucket River), potential hydro development on the Upper Collinsville Dam (Town of Canton, Canton, Farmington River), and new hydro at the Hanover Pond Dam (New England Hydroelectric, Meriden, Quinnipiac River).

- Working in cooperation with New England Hydroelectric, staff captured and tagged 215 white suckers for a fish passage study at the Hanover Dam fishway on the Quinnipiac River. There is an existing Denil fishway at the dam and the study will help determine if the new hydroelectric facility to be built this summer will have an impact on the effectiveness of that fishway.

PUBLIC OUTREACH

- Public presentations on the Sea-Run Brown Trout Project were made to two angling groups.
- In partnership with the Connecticut River Watershed council, staff participated in two public meetings (East Hartford and Haddam) on river herring conservation and recruited volunteer citizen scientists to monitor Connecticut River river herring runs.
- Staff spoke at two dam removal celebration events sponsored by Save-the-Sound: Hyde Pond Dam (Stonington) and Pond Lily Dam (New Haven).
- Staff made a presentation on shad fishing to the Haddam Historical Society and shared the stage with active and retired shad netters.
- The program continued its weekly diadromous fish report, as it has for the past 10 or so years.
- Staff initiated a weekly radio show about diadromous fish runs on a streaming internet radio, iCRVradio.com
- Staff made themselves available for many TV and radio interviews, mostly about the wild salmon spawning in the Farmington River last fall.
- Staff conducted three tours of the Rainbow Dam fishway for school and civic groups. A total of 78 people attended the World Fish Migration Day (WFMD) open house at the Rainbow fishway on Saturday May 21st. Staff also participated in WFMD open houses at the Haakonsen and Latimer Brook fishways and a group “floatilla” paddle on the lower Connecticut River with interested members of the public, designed to draw attention to WFMD.

Members of the public viewing fish at the Rainbow fishway on World Fish Migration Day.



Habitat Conservation and Enhancement

CTDOT CULVERT PROJECTS, FISH PASSAGE AND INSTREAM HABITAT ENHANCEMENTS

HCE staff review all Connecticut Department of Transportation bridge and culvert replacement projects as well as many locally regulated projects. Staff ensure that 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. During the quarter, HCE staff reviewed engineering and design plans for over 10 projects throughout Eastern Connecticut. Two projects involved protection of habitats for State-listed Fish Species of Special Concern, Bridle Shiner in Whitford Brook (Ledyard) and Banded Sunfish in Mary Brown Brook (Putnam). Other highlighted projects include:

- **Terry Brook, Enfield**

Completed final review of a proposed culvert slipline project conveying Terry Brook under Route 190 in Enfield. The perched culvert at this location blocks upstream fish passage for a fairly robust native Brook Trout population that resides below the culvert. The provision of fish passage at this location will restore connectivity to over 0.6 miles of upstream habitats. A concrete weir fishway will be installed at the outlet and a series of v-notched weirs will be retrofitted within the sliplined culvert to provide upstream fish passage.

Culvert outlet perched over 2 feet in height blocks upstream fish passage on Terry Brook.



- **Beemans Brook, Enfield**

Completed initial review of culvert replacement project conveying Beemans Brook, a tributary of the Connecticut River under Orlando Road in Enfield. Existing perched outlet conditions block upstream fish passage for the resident fish community. Staff recommended replacement with a new culvert sunken 2 ft. below grade and filled with native streambed materials to provide upstream fish passage. The provision of fish passage at this location will restore connectivity to over 0.5 miles of stream habitats.

Existing perched outlet blocking upstream fish passage on Beemans Brook.



COASTAL PERMITTING

Reviews include projects proposed for tidal waters. Staff reviewed eight dredging projects in tidal waters, and ten bridge/culvert projects that ranged from repairs to full replacements. Measures were recommended, as needed, to maintain fish migratory corridors, avoid interference with river herring spawning migrations, and avoid impacts to winter flounder reproduction. Also, four applications to deploy shellfish and kelp aquaculture gear in Long Island Sound were reviewed to ensure that the aquaculture gear is not deployed within popular recreational fishing locations.

Staff reviewed a concept plan developed by the City of New Haven for the rebuild of the Fort Hale Fishing Pier, which was severely damaged by Storm Irene in 2011, and Town of Waterford plans for a fishing platform on the Niantic River at Mago Point. In consultation with Marine Fisheries Division staff, design suggestions were provided that would improve the piers for their intended purpose.

ENVIRONMENTAL ASSESSMENTS

As part of the implementation of PA 05-142, An Act Concerning the Minimum Water Flow Regulations, we assisted with the review and classification of all watercourses within the Connecticut River watershed basin. The proposed stream flow classification of a stream or river segment is based on ecological conditions and human use characteristics, and determines flow management goals and applicable flow standards for that segment. Proposed stream flow classifications were developed using known information on factors indicative of the degree of human alteration of natural stream flow, environmental flow needs and existing and future needs for public water supply.

PUBLIC OUTREACH

HCE staff routinely conduct environmental education outreach efforts to inform the public on the importance and protection of fish habitats in Connecticut. Most recently, staff were involved in the following efforts: (1) Provided overview of riparian corridor protection and management efforts in Connecticut at New England Stream and Wetland Buffers Workshop in Westborough, MA and, (2) classroom presentation at Three Rivers Community College, Norwich regarding stream habitat restoration and enhancement projects in Connecticut.

CARE & Constituent Services

SPECIAL MESSAGE FROM THE CARE PROGRAM

It's with a heavy heart that we report the passing of a long-time CARE volunteer, Joe Wozniak, who passed away on May 19, 2016. Joe "Woz" joined the ranks of our volunteer staff in July of 1987 and stepped up as Chief Instructor, partnering with North Haven Parks & Recreation, teaching classes and running the Town's annual trout derby. Joe also led CARE classes as a member of the Milford Striped Bass Club and along with his wife Rita, conducted classes and casting contests at his church.

Joe was always prepared with a full agenda of topics and a few clever fishing jokes thrown into his constantly entertaining teaching style. Joe introduced a lot of kids, teens, and adults to his favorite activity. He conducted 168 classes of which he took the lead role of chief in 96. He reported over 1,900 hours of in-kind match funding for CARE (being the modest guy he was he almost always under reported his and Rita's hours). Joe logged 12,700 driving miles. The most impressive statistic was that Joe was involved in introducing **12,129** students to fishing.

Joe was a confident self-starter, especially important in the formative early years of the program, and he and the other charter members of CARE made the program work. He will be missed.

- Over 600 students attended family fishing courses taught by certified volunteer CARE Instructors this spring. Courses consist of two hours of classroom instruction followed by a fishing trip to a local waterbody!
- Introduced two newly developed education materials, a "Let's Go Fishing" student workbook and a family fishing course PowerPoint presentation, during classes this spring. The upgrades in teaching materials were very well received by instructors and students alike!
- Initiated an effort to recruit more women into the fishing community by scheduling two special family fishing classes this spring. First, a pilot "Mom and Me" family fishing course attracted 21 students. The course was only open to mothers and their children, and was held in Farmington and taught by Chief Instructor Judy Witzke. The second, a "Women only!" class, is scheduled for June 25th at the CARE Center.
- A family fishing course focused specifically on bass fishing was held in Farmington at Winding Trails and attracted 26 students. Thanks to Certified CARE Instructor Dean Rustic and volunteers from CT BASS Nation for coordinating and teaching this class designed to increase skill level of new anglers.



A proud young angler shows off a nice largemouth bass during the "Mom and Me" family fishing class this April.

- Hosted 19 field trips focused on angling instruction and fishing at the CARE Center on Forster Pond this spring. Over 500 sixth graders and parents from Hamden Public Schools and East Lyme Middle School attended this spring. Prior to the field trip, teachers included lessons on fish habitat, identification, anatomy, and ecology in their classrooms. Then at the CARE Center on Forster Pond students enjoyed a day of hands-on skill building and fishing!
- “FREE Family Fishing Day” was held in partnership with the State Parks Division’s No Child Left Inside® program at Stratton Brook State Park, Simsbury, on May 7th. The rainy, cold weather didn’t stop the over 1,000 people that attended! Highlights include an excellent trout and panfish bite all day long, smiles on families as they stocked trout together, fly tying and casting stations (thanks to Hammonasset Trout Unlimited), and of course the fresh fried fish sampling. Forty volunteer CARE instructors chipped in to make this day a huge success!
- An additional 20 special fishing events were held by CARE instructors for over 1,400 students this spring. These highly-variable events provide services to people of all abilities and skill-levels.



Scenes from the FREE Family fishing Day at Stratton Brook State Park. Families who braved the cold and rainy weather for Free Fishing Day were rewarded with excellent trout fishing at Stratton Brook State Park!

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