

2018

Inland Fisheries Program Notes & Updates (Spring)



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News & Notes of Interest – Recent Retirements

Tim Barry & Bill Gerrish have retired!

The Fisheries Division pays tribute to two long standing Inland fisheries biologists who recently retired from state service.

Tim Barry worked primarily as a District Fisheries Biologist (Bio 2) in the Western District for a long career until he was promoted to Supervising Fisheries Biologist a few years ago after the retirement of Bob Orciari. Tim set a high standard for the rest of us in the way that he established very effective working and personal relationships with DEEP staff from other disciplines, including but limited to the Wildlife Division and the ranks of the Environmental Conservation Police. Tim was an a very impassioned outdoorsman, and spent a lot of time in pursuit of whitetail deer here in CT and other large game animals such as black bear on numerous trips out of state. Tim ended his career as the Supervisor of our Coldwater Fisheries Management Program. Tim was never shy about offering his opinion on various natural management resource issues, even if they differed from conventional wisdom or the opinions of his peers or managers in Hartford. His critical thinking and passionate defense of his positions certainly led us to make more informed management decisions on a variety of fronts. We wish Tim well in his retirement.

Bill Gerrish was hired into the Hartford Office early in his career by the late Jim Moulton to blend his expertise in data management and computer skills with his educational background in Fisheries Management. Bill was responsible for creating and maintaining data bases supporting the entire Division in his early years, before expanding his skills into a variety of other administrative fields as Fisheries Biologist 2. Among other things, Bill served as the Division’s Health and Safety Liaison, he coordinated the efforts of the Fisheries Division as part of the DEEP Property Acquisition Review Team, he administered the permitting programs for Scientific Collectors permits and Fish Importation and Liberation permits, he served as our lead liaison with the Aquaculture Program in the State Department of Agriculture, he managed the inland Trophy fish Award Program, and he had a lead role in producing our weekly fishing report. In addition, Bill was probably the first biologist on our staff to recognize the potential of CT’s Common Carp resource and as a carp angler himself, worked with a small but ever growing constituency of anglers to help facilitate the growth of carp angling in CT. We wish Bill well in his retirement as he pursues trophy carp and his other varied life interests.



Above. Both Tim & Bill enjoyed years of field sampling, including night electro-fishing!

Cover: Fisheries Division’s Tim Barry (left) and Bill Gerrish (right) recently retired. See this page for more on these two outstanding fisheries biologists.

CARE & Constituent Services

FAMILY FISHING COURSES were quite popular this spring. Taught by certified volunteer CARE Instructors, over 550 students graduated from 23 courses that were offered around the state. Courses consist of two hours of classroom instruction followed by a fishing trip to a local waterbody!



Left. One of the most important lessons taught during a Family Fishing Course is how to tie the improved clinch knot. Tom Bourret is demonstrating the knot to New Canaan families.



Right. One of the students from this New Canaan course went on to catch her first trout and win the town fishing derby that very weekend (shown with Instructors Joe Lucas, Steven Ruttkamp, and Mose Saccary).

SPECIAL FISHING EVENTS. CARE Instructors taught an additional 20 special fishing events this spring for over 1,600 students! These highly-variable events provide services to people of all ages, abilities and skill-levels. Notable highlights include:

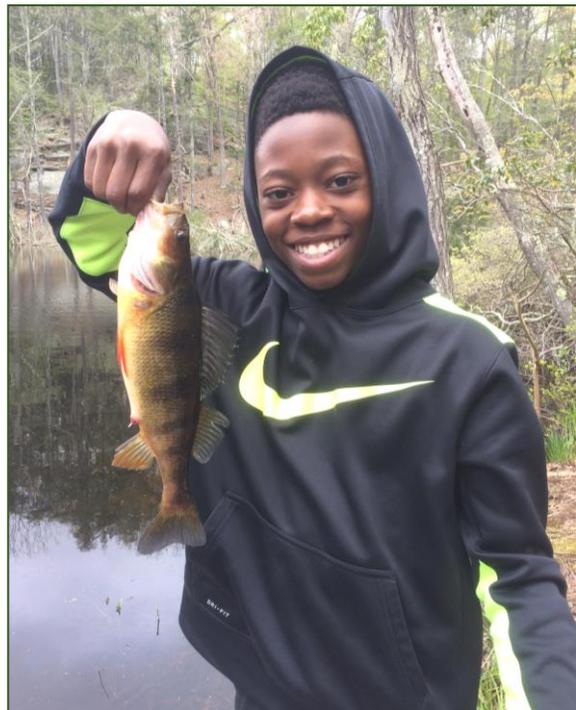
- **FREE Family Fishing Day** was held on May 12th in partnership with State Parks *No Child Left Inside*[®] program at Wharton Brook State Park in Wallingford. A steady rain all day could not keep the over 600 people from attending! Highlights include excellent trout fishing, smiles on families as they stocked trout together, and fly tying and casting stations (thanks to the Hammonasset Trout Unlimited Chapter). Thirty-three volunteer CARE instructors chipped in to make this day a huge success!

Over 600 participants enjoyed a memorable FREE Fishing Day at Wharton Brook State Park! Huge thanks to all the dedicated CARE volunteer instructors, like John DeLaurentis (shown here), who gave up their Saturday to make this event a success.



- **Ladies Range Day** is an annual event hosted at Rockville Fish and Game club, and was attended by 131 women. CARE Instructors taught seven – 1 hour long sessions to participants. Each session includes a fishing trip.
- **White Memorial Conservation Day** attracted 120 sixth grade students from Litchfield, Warren, and Morris. CARE staff hosted a fish identification and ecology station where all students were able to learn about freshwater fish and local fishing opportunities.
- **The TAKE A VET FISHING program** kicked off their 2018 season with five events this spring that attracted 340 veterans for a day of fishing. CARE Instructors are regular volunteers at these events and have been integral in the expansion of the program over the last 10 years.

CARE CENTER PROGRAMS. Hosted 16 field trips at the CARE Center on Forster Pond focused on angling instruction and fishing so far this spring. A total of 450 sixth graders and parents from Hamden Public Schools and East Lyme Middle School attended. Prior to the field trip, teachers incorporated lessons on aquatic habitat, ecology, and fish identification and morphology into their classrooms. While at the CARE Center on Forster Pond, students enjoy a day of hands-on angling skills building and a fishing trip.



The CARE Center on Forster Pond hosted 450 sixth grade students so far this spring. Many “First Fish” memories and future anglers were produced during these field trips!

Diadromous Fisheries Restoration

ATLANTIC SALMON

Stocked a total of 197,475 Atlantic Salmon fry in the Farmington and Salmon River watersheds. The fry were produced by the Kensington State Fish Hatchery in Berlin, CT (110,434 fry) and the Tributary Mill Conservancy in Old Lyme, CT (87,041 fry). Stocking was completed with the assistance of ten volunteers.

RIVER HERRING

- Transplanted 7,346 adult pre-spawn Alewife from the Brides Lake trap to spawning habitat upstream of fishways to accelerate restoration (Farmington River-700 fish; Pachaug River-800 fish; Quinebaug River-800 fish; Little River- 400 fish; Falls River- 100 fish; Noroton River- 400 fish; Poquetanuck Brook- 400 fish; Bronx River- 400 fish; Rogers Lake- 3,346 fish).

A Seasonal Resource Assistant preparing to load the stocking truck with fresh alewife.



- Conducted biological sampling of 200 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.
- 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.

DEEP and Yale staff on the shore of Rogers Lake collecting genetic samples.



- Used electronic fish counters, video cameras, and site visits to monitor the strength of river herring runs, statewide. The Alewife run is over in the eastern part of the state but a few are still running to the west. It is clear that the 2018 Alewife runs were far better than last year and in some cases better than they've been since we've been collecting data (e.g. Bunnells Pond in Bridgeport.) Blueback Herring runs continue, especially up the Connecticut River, but it is too early to assess how large those runs are.

AMERICAN SHAD

- Transplanted 175 adult pre-spawn American Shad from the Greenville Fishlift (Shetucket River) to upstream locations in support of the Scotland Fishlift evaluation. This is the first year of operation for FirstLight Power Resource's fishlift and their license requires them to study its effectiveness. Fisheries Division staff helped move Shetucket River shad to above and below the dam in our transport truck so that FirstLight and its consultants could put radio-tags in them and track their movement as they approach the dam and fishlift.

Staff from Kleinschmidt consultants inserting a radio tag in to one of many study fish for the Scotland Fishlift evaluation.



SEA-RUN BROWN TROUT

- In mid-March, 5,009 smolts were stocked into Latimer Brook approximately 3.5 miles upstream of the head-of-tide and 5,555 smolts were stocked into Menunketesuck River approximately 1 mile upstream of the head-of-tide.
- Prior to smolt stocking, an 'imprint fence' 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 on 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 in 2020.
- Soon after stocking, the video imaging system (SalmonSoft) became operational at the Chapmans Pond Fishway downstream of the Menunketesuck River smolt stocking site. The imaging system allowed staff to monitor the movement of the recently stocked smolts. Results indicated that the smolts moved downstream almost exclusively at night and often in small groups over a two-week time period.

A sea-run brown trout smolt migrating to sea through the Chapmans Pond Fishway (infrared video image).



- The 2019 smolts (imported as eggs in 2017) continued to be raised at Burlington State Fish Hatchery and are looking great. There is a total of 15,000 on-hand and it appears that we will reach our annual production goal of 10,000 – 12,000 smolts.

- The sea-run Brown Trout eggs imported this year (2020 smolts) had a high rate of hatch-out and successfully made the transition to hatchery feed with very low mortality.

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 (ASMFC). As of May 25, this device had passed 37,458 glass eels (a vast increase over last year's May 25 count of 8,212).
- Chapmans Pond Eel Pass was operated for its first season and as of May 25th it had passed 19,495 glass eels.

FISHWAY OPERATIONS

- The Rainbow Dam fishway was opened on April 17th.
- The Leesville fishway on the Salmon River in East Haddam was opened on April 24th and as of May 30th has passed Sea Lamprey and numerous non-diadromous fish.
- The StanChem fishway on the Mattabeset River in East Berlin was opened on April 10th and as of May 21st has passed 325 Alewife, 8 Blueback Herring, 24 Sea Lamprey, 27 Gizzard Shad, and 505 non-diadromous fish of various species.
- Other state-owned dams were also opened and staff assisted partners with the operation of non-state fishways, as needed.

FISH PASSAGE PROJECTS

- The Scotland Dam Fishlift (Shetucket River, Windham) began operation in early April as the fourth fishway on the Shetucket River. The dam and fishlift are owned and operated by FirstLight Power Resources. Division staff have been heavily involved in the relicensing process for this hydroelectric project and the fishlift and its subsequent evaluation were key conditions in the new federal license and the DEEP's Section 401 Water Quality Certificate.

The entrance of the Scotland Fishlift is out of sight below the dam to the left. Fish are lifted in a hopper to the shiny silver funnel and discharged into the pipe with lots of water and then are flushed through the pipe to the right and released in the headpond off the photo.



- The Noroton Culvert Fishway (Noroton River, Stamford) was completed in April by Save the Sound. This perched culvert had blocked fish runs for decades but this rock ramp style fishway now allows them to get over the lip and enter the culvert. The other two culverts have low flow diverters to ensure that minimum flows only go through the far western culvert where there are baffles inside to

help the fish swim through the culvert and the rock ramp at the bottom to allow the fish to get into the culvert.

There is a short wall at the upper end of the middle and right culvert to divert low flows to the left culvert. The rock ramp fishway allows fish to enter the culvert.



- Staff worked closely with the Town of Glastonbury on the removal of the Blackledge River Dam (Blackledge River, Glastonbury), which was part of an open space park near the Hebron town line. The removal of this Town-owned dam was mitigation for filling diadromous fish habitat in the Connecticut River. With the removal of this dam and the Norton Mill Dam on the Jeremy River last year, the Salmon River watershed no longer has any significant dams that block diadromous fishes.



Left. The pond behind the old stone dam prior to removal. The dam blocked all fish from moving up the Blackledge River much farther than Route 94 in Glastonbury.



Right. This is the same pond with the dam removed and the stream channel restored with rock riffles and habitat features. The area that was disturbed was hydro-seeded (foreground) but the undisturbed area was not seeded and you can see the natural vegetation already greening up.

- Staff continue to work on fish passage requirements for the licensing of a new hydroelectric project at the Upper Collinsville Dam (Farmington River) and well as assisting NGO partners on future fish passage projects including the removal of the Flock Process Dam (Norwalk River, Norwalk), Old Papermill Pond (East Aspetuck River, New Milford), and the Dolan Pond Fishway (Falls River, Essex), all slated for completion this summer.

- Sherwood Mill Eel Pass (unnamed tributary to Mill River, Fairfield) was built as a condition of a dam repair permit. The project was part of a large residential development that can be seen from I-95. The addition of grouted stone to the dam's spillway will allow young eels to enter the pond, which is good rearing habitat.

This is the crest of the spillway where a recessed channel had roughness embedded to allow young eels to climb over the dam in the summer when only a very small amount of water is passing downstream.



OUTREACH & COLLABORATION

- Staff conducted five tours of the Rainbow Dam fishway for schools and civic groups. Tours were also provided for the Chapmans Pond Fishway, Springborn Dam removal project and a series of central Connecticut fishways for visiting New York conservationists.
- Staff helped staff the DEEP's booth at the Connecticut Hunting and Fishing show in Hartford.
- A total of 59 people attended the World Fish Migration Day event at the Rainbow fishway on Saturday April 21st. This event was hosted in cooperation with the Connecticut River Salmon Association (CRSA). Staff also hosted events at Eagle Landing State Park, Haakonsen Fishway (Wallingford), Latimer Brook Fishway (East Lyme), and Hallville Fishway (Preston) as well as supported events hosted by NGO partners at many other sites statewide.

World Fish Migration Day event co-hosted with CRSA at the Rainbow fishway.



- Assisted the Town of Windsor prepare an informational video on the Rainbow Dam fishway, as part of a series on points of interest in Windsor.
- Talks were given to the annual meeting of the Old Saybrook Land Trust and the dedication of the new Quinnipiac River Canoe Trail for National Trails Day.
- Staff participated in ribbon cuttings for the Noroton Culvert fishway and the Scotland Dam Fishlift.
- Staff were interviewed by WNPR radio for a feature on streams of Connecticut and by a National Park Service blogger for a story on Atlantic Salmon.

Inland Fish Management & Fish Culture

SPRING STOCKING

TROUT

- Stocking for Opening Day (OD; 2nd Saturday in April; 4/14/2018) began in late February this year.
- All scheduled waterbodies were stocked prior to OD.
- The majority of rivers and streams were stocked within one months' time prior to OD to limit losses due to fish movement post-stocking.
- Once again, hatchery staff displayed great resilience in getting every scheduled waterbody stocked before OD despite three nor'easters in March.
- In-season stocking went relatively smoothly and was successfully completed by late May.
- In all, approximately 524,000 **catchable size trout**, produced by the three State Fish Hatcheries (Burlington, Kensington and Quinebaug), were stocked during spring, 2018.
- Numbers of catchable size fish were up slightly from 2016 (~517,000 were stocked last spring).
- Of those stocked this spring (2018), approximately 472,000 were adult size trout (9-12 inch fish) with approximately 59% of these fish stocked prior to OD.
- Approximately 50,500 trout greater than 12 inches were stocked this season.
- Additionally, a total of 12,000 yearling size trout (6-9 inch fish) were stocked into the Trout Management Areas on the Farmington River (5,000 fish) and the Housatonic River (7,000 fish).
- Finally, nearly 1,935 broodstock trout were liberated into Connecticut's waters.
- Approximately 102,000 juvenile Brown Trout were spread through 50 miles of stream habitat on 28 streams, including Class 2 and Class 3 Wild Trout Management Areas, stocked Trout Management Areas, Trout Park Streams, Nursery Streams, and other streams with good habitat for young trout.
- The two year-round Catch & Release Trout Management Areas on the Housatonic River were stocked with their standard spring allotments of Brown Trout and Rainbow Trout. In the spring, both TMAs receive Survivor-strain yearling Brown Trout, averaging about 8 inches, and adult Brown Trout averaging around 11 inches. The upper TMA in Cornwall also receives large adult rainbow trout averaging over 12 inches.

KOKANEE SALMON. Three waterbodies were stocked by boat with kokanee fry this spring; Beach Pond (30,000 total, Voluntown/Exeter, RI), East Twin Lake (70,000, Salisbury), and West Hill Pond (26,000, New Hartford/Barkhamsted). West Hill Pond will receive another stocking by mid-June (25,000). This is the third year of experimentally stocking kokanee into Beach Pond; sampling for reproductively mature adults will need to be conducted in the fall of 2018 or 2019 to determine if stocking was successful.

RAINBOW SMELT REINTRODUCTION. For the fifth straight year, work continued to restore the historic smelt population into West Hill Pond (New Hartford/Barkhamsted). Artificial spawning mats constructed entirely out of burlap and weighed down with rocks were deployed into two tributaries to a drinking

water supply reservoir this spring (April). Rainbow smelt successfully utilized all three 3'x8' mats, but before biologists could transfer them to West Hill Pond, bears ate all the eggs off of one mat and hung it in a nearby hemlock tree, and a second mat was never recovered. The one mat that was found was immediately reset in the stream and was again utilized by spawning smelt. The mats were relocated into the recipient stream at West Hill Pond and monitored until it appeared that the eggs had successfully hatched. Unlike last year, no natural spawning was observed in West Hill Pond. Angler catches will be monitored to determine if this re-introduction has been successful.

CATFISH The annual Channel Catfish stocking occurred on May 22, 2018. A total of 6,600 adult (14-18 inch fish) and 10,600 yearling catfish (9-12-inch fish) were stocked into 24 waterbodies statewide. This marks the twelfth consecutive year DEEP has stocked catfish since the inception of the program in 2007. The fish were in good condition upon arrival although there were some mortalities due to transportation related stress (possibly exacerbated by a period of hot weather beginning several days after the stocking) reported from Mirror Lake, Mohegan Park Pond, Batterson Park Pond, and Burr Pond.

- **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).
- **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

- **Broodstock Collection.** Conditions were favorable this spring for the collection and stocking of Northern Pike broodstock adults into all the managed spawning marshes in Connecticut (Mansfield Hollow, Lower Haddam, Wyantenock #3 and #4). This year all adults were collected from the weir trap located on the Connecticut River in Haddam.
- **Fry.** Additionally, the State of New Jersey Hackettstown Fish Hatchery provided approximately 90,000 free fry to us again this year. All of these were directly stocked into Mansfield Hollow Marsh on March 26, because both Wyantenock Marshes were still frozen.

MONITORING & SAMPLING

- **LAKES AND PONDS.** Annual Spring Lake and Pond Sampling was temporarily postponed during 2018 as we develop a path forward in this era of reduced staff, while balancing competing priorities among Fish Management Projects. Moving forward, a detailed and strategic review of all past lake and pond data will be undertaken, resulting in a more strategic sampling matrix and strategy over

the next 5 years that will maximize sampling efficiency of our warmwater inland fisheries resources on a statewide basis.

- **RIVERS AND STREAMS.** The 2018 summer stream monitoring schedule is being developed and will focus on long term reference sites and a resample of sites from the stream survey project 1988-1994.

250 locations were randomly selected, using equal probability method, from nearly 1,140 previously sampled sites.

- Of the 250 sites, 125 were specifically chosen because wild Brook Trout populations were detected during the initial sampling period from 1988-1994.
 - Approximately 160 randomly chosen sites will be sampled over the next two years to determine if there has been a shift in the state's stream fish communities (80 sites total) and wild brook trout populations (80 sites total) since the stream survey project concluded in 1994.
- **WALLEYE.** A relative abundance sample for the adult Walleye population was conducted at Batterson Park Pond via night boat electrofishing between April 18 and April 30, 2018. Four nights of boat electrofishing were conducted to assess the impact of the regulation change that opened the lake to ice fishing in 2015. Though a full analysis of the collected data has not yet been completed, a total of 136 Walleye were handled by Fisheries Division staff during this time period with 32 of these being recaptures. A relative abundance estimate for this population by size class will be conducted over the summer to see how the population compares to previous estimates

MISCELLANEOUS

2018 SPRING TRAIL CAMERAS.

- Five Moultrie M – 40 Infrared Game Cameras and associated security equipment (i.e. camera security boxes and locks) were purchased this spring.
- The cameras were purchased to test their efficacy in detecting angling activity on small streams.
- Results have been mixed thus far, as the security boxes have limited the motion detection capabilities of the cameras.
- The functionality of the cameras will be further evaluated during the spring and summer.

SIGNAGE UPDATES

- All along the Housatonic River, signs are posted at thermal refuges, to protect vulnerable aggregations of stressed trout during the warm summer months. Recently, the period closed to fishing was extended from August 31 to September 15, due to observations of large numbers of trout still present in refuges in early September. This spring we have taken down all of the old postings, and replaced them with new signs showing the new date. In addition, other special regulation signs on the Housatonic were checked and replaced as needed.
- Trout Management signs on the Mill River in Fairfield were replaced to reflect the new regulation changes to year-round Catch and Release. Signs on many other Trout Management streams were also checked and replaced as necessary.

BASS CONSERVATION SUMMIT. Fisheries Division biologist Ed Machowski along with Connecticut Bass Nation (CBN) Conservation Director Dean Rustic traveled to Greenville, SC in mid-March to attend the National Bass Conservation Summit. Summit attendees comprised of current and retired state fisheries biologists, state Fisheries Chiefs and Bass Nation Conservation Directors from around the country were treated to a two day professional conference along with the opportunity to attend the Saturday weigh-in of the National Bass Master Classic. Conference topics were very diverse ranging from benefits and pitfalls of using social media by fisheries managers, spread of invasive aquatic organisms, to the latest research on proper handling of bass during tournament fishing. All attendees were able to attend the Bass Nation Awards ceremony and dinner. Dean Rustic won a community service award for cooperative efforts between CBN and CT DEEP and with local municipalities in the design and placement of Mossback fish habitat structures. Dean worked very closely with the Fisheries Division to determine best locations for these structures in two Connecticut public lakes (Lake Lillinonah and Lake Zoar).

Ed Machowski (left) and CBN Conservation Director Dean Rustic (right) at the 2018 National BASS Conservation Summit held in Greenville, SC.



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 the last quarter our program reviewed over 16 proposed bridge and culvert replacement projects, two municipal projects, one private land project, and five forest management plans.

- **FALLS RIVER, Essex (Walnut Street) – culvert/bridge replacement.**

Perched culverts on a road crossing over Falls River were replaced with a clear span bridge. In addition to enhancing fish passage and instream habitats, removing the culverts also eliminates the clogging by woody debris that also inhibited passage of fish and wildlife through this section of river corridor.



View of Walnut Street crossing in Essex over the Falls River. The four perched corrugated metal culverts (left photo) were replaced with a clear span bridge (right photo).

- **NORWALK RIVER, Norwalk (Perry Avenue - Federal/Local Bridge Project 102-319).**

Staff provided guidance on the installation of boulder clusters both upstream and downstream of the new Perry Avenue Bridge over the Norwalk River in Norwalk. The boulders will function as fish habitat structures in the newly reconstructed stream channel.

Installation of Perry Avenue boulder clusters.



SCANTIC RIVER, SOMERVILLE MILL HABITAT ENHANCEMENT

The abandoned Somersville Mill, a section of which had been constructed over the top of the Scantic River was demolished in 2017-18. This removal of infrastructure provided a great opportunity to enhance instream habitats for the resident/diadromous fish community especially with the removal of the former downstream Springborn Dam in 2017.

HCE staff directed the placement of several groups of large boulders which provide velocity refugia, channel roughness and habitat diversity to this channelized section of river that was previously underneath the Somersville Mill complex. The Town of Somers plans to redevelop the site that may include park and trail access to the Scantic River.

View of large boulders being installed in the Scantic River to enhance fish habitats.



COASTAL PERMITTING

Reviews include projects proposed for tidal waters. Staff reviewed four dredging projects in tidal waters. Measures were recommended, as needed, to maintain fish migratory corridors, avoid interference with river herring spawning migrations, and avoid impacts to winter flounder reproduction. Five dock projects were reviewed and recommendations were made to protect fish habitat and submerged aquatic vegetation. Also, two applications to deploy shellfish gear in Long Island Sound were reviewed to ensure that the aquaculture gear is not deployed within popular recreational fishing locations. Several large estuarine dredging projects have been proposed and staff have worked closely with analysts from other divisions within the DEEP to assess the impact of the proposed activities on fisheries resources and determine if mitigation is appropriate.

BISHOP SWAMP (JUROVATY POND), ANDOVER - FISH SALVAGE.

During a large rainstorm in March, fish within Bishop Swamp were flushed out of the pond through the outlet control structure and became trapped within a downstream pool of Staddle Brook. With the assistance of UCONN fisheries students, staff collected these fish and returned them back to Bishop Swamp. An estimated 350 adult Largemouth Bass, Yellow Perch, Pumpkinseed, Bluegill and Black Crappie were collected. Modifications of the outlet structure will be required to prevent such events in the future.

Neal Hagstrom, Brian Murphy and UCONN students collecting fish in Staddle Brook below Bishop Swamp.



COMMERCIAL DEVELOPMENT PROPOSAL, WILLINGTON.

HCE staff provided written testimony for a public hearing regarding the application by Loves Travel Stop and Country Store for a permit to discharge wastewaters from an onsite sewage treatment and subsurface disposal system adjacent to Roaring Brook, designated as a Class 3 Trout Management Area. In addition to Roaring Brook, the development site also supports a native brook trout population within an unnamed tributary to Roaring Brook. It is important that the proposed development does not impact the long term survival of this coldwater fish species in this tributary and Roaring Brook. In addition to providing mitigatory comments for the proposal, it was requested that the applicant develop a pre/post water quality monitoring plan to ensure the long-term protection and survival of fisheries resources.

FISHKILL INVESTIGATIONS

Staff investigated fishkills in Mansfield Hollow Reservoir, Mansfield, Middle Bolton Lake in Vernon, and Hidden Lake in Southbury. The first two fishkills were related to spawning related stressors and bacterial infections. These fishkills are very common in Connecticut Lakes and last about a 2-4 week period. Fish that die within waterbodies tend to accumulate on windblown shorelines. The fishkill in Southbury was due to winterkill due to the lack of oxygen in an ice-covered shallow pond over the winter—another common event.

MANAGEMENT RECOMMENDATIONS FOR SLEEPING GIANT STATE PARK- MILL RIVER

A tornado ripped through Hamden in May and knocked down a large number of trees in the State Park. Many of them ended up in the Mill River. The Parks and Forestry divisions needed a plan to clean up the park and re-open facilities. They turned to the Fisheries Division for advice on how to handle all the trees in the river. While it is clear that many trees have to be removed from the river for safety and to support recreation, the Fisheries Division typically adds woody debris to streams to enhance the fish habitat. Staff visited the site and developed recommendations for which trees to remove, which trees to leave in place for fish habitat, and details on trimming and replanting.

Many pines were topped into the Mill River by the tornado. At this site the river is almost completely filled by trees. Fisheries Division recommendations will seek a balance between removal and leaving some trees in the water for good habitat.



WYRE WYND HYDROELECTRIC LICENSE RENEWAL, QUINEBAUG RIVER, JEWITT CITY.

The Wyre Wynd Project located at the Aspinook Pond Dam, Jewitt City is a 2,780 kW hydroelectric Project that is up for FERC license renewal. HCE staff provided review and comments for a draft instream flow study to be conducted within the project 450 foot long in length bypass reach. The study

will make seasonal flow requirement recommendations for study target species that include all life stages of White Sucker, Fallfish and Smallmouth Bass.

HABITAT PROGRAM PUBLIC OUTREACH.

Loss and degradation of aquatic habitats are important factors contributing to the long-term health and abundance of fishery resources. The HCE Program often fulfills an active role in educating the public, NGO's, students, and fellow biologists to prevent further habitat degradation as well as investigate opportunities for habitat restoration in Connecticut. Most recently, presentations were provided at the Connecticut Annual Meeting of Wetland Scientists, Meriden to discuss culvert fish passage projects in Connecticut and at the Instream Flow Council's Flow 2018 Workshop, Fort Collins, CO to discuss the protection of instream flows and aquatic resources during droughts.

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