2013

Inland Fisheries Division Program Notes & Updates (Summer)

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Inland Fish Management & Fish Culture

WARMWATER FISHERIES

LARGEMOUTH & SMALLMOUTH BASS. The *Bass Supplemental Stocking Study* was initiated to determine how bass from unfished water supply reservoirs would perform when stocked into public water bodies. The study is in its second year of field sampling. This past spring Gardner Lake (Salem) was stocked with 345 largemouth bass over 12 inches from an unfished Connecticut water supply reservoir. These fish were given a unique fin clip so they could be recognized in bass tournament weigh-ins during the fishing season. Thus far, IFD has attended 20 bass tournament weigh-ins at Gardner Lake. All reservoir and resident bass were counted, measured and given an additional identifying spine clip. Bass population size, angler catch rates of stocked vs. resident bass and persistence of reservoir bass will be assessed.

Bass population estimates (not including the stocked reservoir bass) were conducted at Gardner Lake (6 laps of electrofishing and 20 tournaments), Mansfield Hollow Reservoir (2 laps of electrofishing and 18 tournaments), Candlewood Lake (4 nights of electrofishing and 15 tournaments) and Bigelow Pond (5 laps of electrofishing).

Table 1. Bass population estimates in four study lakes during the spring/early summer 2013.

	Largemouth Bass	*95% CI*	*Smallmouth Bass*	*95% CI*
Bigelow Pond	174	127 - 239		
Candlewood Lake[1]	7,540	5,368 - 10,592	34,283	21,943 - 53,591
Gardner Lake	1,497	1,129 - 1,985	316	160 - 625
Mansfield Hollow Reservoir	1,942	1,460 - 2,582		

[1] *The recapture rate of marked bass was low at Candlewood Lake, therefore population estimates for this lake may be inflated.*

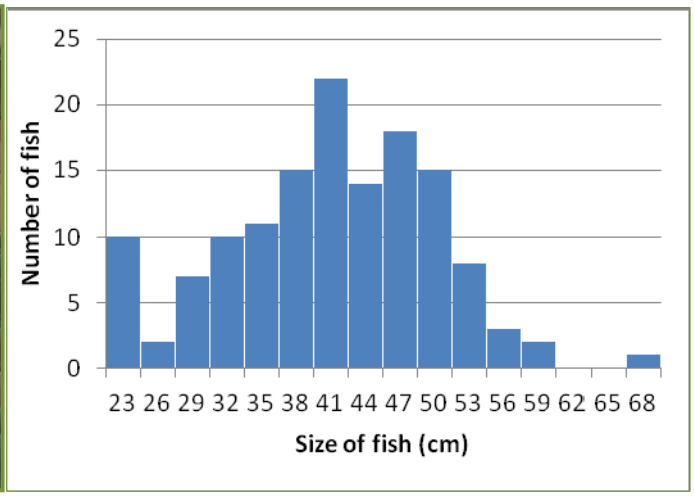
NORTHERN PIKE. Total statewide pike production in 2013 was 7,177 fingerlings, approximately half of the project goal of 15,700 fingerlings. Reasons for this shortfall include; 1) a lack of seasonal personnel due to budgetary cuts, 2) an extremely wet spring with a significant flood event in early June that delayed the drawdowns at both the Mansfield and Haddam marshes, 3) a high mortality rate of New Jersey northern pike fry (130,000) stocked into the Wyantenock #3 marsh attributable to a rapid drop in temperatures occurring the day following stocking, and 4) reduced numbers of broodstock pike collected at Bantam Lake in March/April. Therefore, all Northern Pike Management Lakes were stocked with reduced numbers of fingerling pike; Bantam Lake received 935, Pachaug Pond received 1,141, Quaddick Reservoir received 300 and Winchester Lake received 671. For the first time since 2004, Mansfield Hollow Reservoir was stocked with 4,670 fingerlings from the Mansfield marsh and 40 yearling pike purchased from Zett's Fish Farm, PA. A comparison of survival rates between these two groups will be conducted over the next several years.

Cover photo: Inland Fisheries Resource Assistant Megan Cruz holding one of the largemouth bass sampled from a bass fishing tournament this summer at Mansfield Hollow Reservoir for the *Bass Supplemental Stocking Study* (see above for more information).

Two pike population estimates were carried out in 2013. At Lake Lillinonah 1,147 (95% CI 390-5,733) were estimated to be present. Since 2007 this lake has received an annual stocking of ~200 yearling pike from Zetts Fish Farm, PA purchased by the Lillinonah Lake Association. On all years except 2009 and 2012 fish were given distinguishing fin clips. During the 2013 population estimate we also kept track of these clipped Zetts fish. Out of the total (95) pike captured over 152 net-days, 24 (25%) were clipped Zetts fish. The percentage of Zetts fish is probably higher in the lake due to the fact that two entire year classes of Zetts fish were not clipped and were therefore not distinguishable from unclipped pike already in the lake. The second population estimate at Mansfield Hollow Reservoir is still ongoing with the final method of capture (gill nets) being carried out during the last week of August. Results will be available come the next quarterly report.

CATFISH. Channel catfish project work was centered on two activities this summer. Pectoral spines and sagittal otoliths were removed from a subsample of channel catfish collected via hoop nets at Silver Lake and Lower Bolton Lake. These structures are being processed and will be aged during the winter. This information will provide catfish growth rates in Connecticut lakes. A mark recapture population estimate of channel catfish was conducted in Lower Bolton Lake during May. It was estimated that there are approximately 430 (95% confidence interval 269 – 713) channel catfish with a modal length of 16-20 inches (40-50 cm) weighing approximately 1.3 to 2.5 lbs.

IFD staff clipping catfish fins to mark fish as part of the mark-recapture population estimate at Lower Bolton Lake.



Size structure of channel catfish collected during May 2013 at Lower Bolton Lake (n=138 catfish).

LAKE & POND ANGLER SURVEYS. Year-round angler surveys are ongoing at three lakes: **Mansfield Hollow Reservoir** (Mansfield), **Bigelow Pond** (Union) and **Gardner Lake** (Salem). Surveys will assess angler catch, effort and opinions of IFD management of these lakes. Data obtained will be used by the Bass Management (all three lakes), Walleye Management (Gardner Lake) and Northern Pike Management (Mansfield Hollow Reservoir) projects. In particular, data from Gardner Lake are providing valuable insight into the performance of transplanted reservoir bass to the bass fishery in this lake.

COLDWATER FISHERIES

2013 SUMMER/FALL TROUT STOCKING. The Farmington River TMA's were stocked with 2,250 large adult (>12 inches) brown trout on July 1, and 2,000 large adult (>12 inches) browns on August 29 for the July 4th and Labor Day holidays, respectively. The 2013 fall trout stocking schedule is currently being finalized. In all, 55**,000 catchable size trout**, produced by the three state fish hatcheries (Burlington, Kensington and Quinebaug) will be stocked starting in mid-September. A total of 30,000 yearling-sized brown trout, 10,000 large (>12 inches) adult brown trout, and 15,000 adult rainbow trout will be distributed throughout the state's Trout Management Areas (TMA's), Trout Parks, Trout Management Lakes and other select waterbodies. Additionally, the Housatonic TMA's will receive annual fall allotments of adult rainbows, Survivor yearlings, and 1,000 large adults (>12").

In addition to stocking trout, approximately 1,450 Atlantic salmon (1,200 1-4 lb fish and 250 3-14 lb fish) will be stocked this fall. These salmon are produced at the Kensington hatchery and will likely be stocked into the Naugatuck and Shetucket rivers, as well as Crystal Lake and Mount Tom Pond.

TROUT STOCKING MAPS- SITE EVALUATION AND ASSESSMENT. There is a long history of trout stocking in many of our cold water rivers and streams, by the DEEP Inland Fisheries Division (IFD) and its predecessor the CT Board of Fish and Game. Many of the same locations have been stocked for over the past half-century; however, much of Connecticut's land ownership has changed during the same time period. Some places that originally had excellent public access have changed ownership, or are now fragmented by multiple landowners, and access is now forbidden. Furthermore, improvements to water quality in some of the State's major rivers and streams, due to better sewage treatment practices and reduction in industrial and permitted discharges, has created additional habitat (previously not suitable for trout), which may now support stocking. In 2011 and 2012 IFD provided public stocking maps on the DEEP web page. Upon closer inspection, some of these maps have not kept up with current changes in property ownership and therefore may not be entirely accurate. In the summer of 2013, the IFD began accessing and ranking the current 90 streams stocked in the Western District, to determine if all stocking locations are accessible to the general angling public. Fisheries staff have begun the process of visiting each site, and ranking each stocking location in terms of 3 categories: 1) ownership (public or private), 2) ease of stocking, and 3) accessibility to the angler (parking, fishing proximity to parking, easily recognized as a fishing area, managed body of water, etc). Most information can be gathered at the site; however, determining whether a stream has fishing easements that allow public access will be further investigated by meeting with other DEEP units (including Constituent affairs/Land Management and Environmental Conservation Police) and by researching deed documents at Town Halls. As of the end of August, 61 of the 90 streams stocked in the Western District have been site checked. This current methodology will be expanded statewide during the fall and winter.

IFD staff will use this information to make the best use of our limited hatchery production and hopefully improve angling for CT anglers. Outcomes of this assessment may include the removal of some traditional stocking locations where there is no longer verified public access, but also may include the addition of some new locations. Additionally, it will help guide the re-allocation of trout within a given stream system and statewide.

LAKES MONITORING. **Dissolved oxygen and temperatures** were measured from surface to bottom in June, July and August at 15 lakes (including many important trout lakes). The depths with the greatest temperature decrease within the narrowest band of water (thermoclines) were detected at typical depths this summer. A layer of cold oxygenated "trout water" persisted through August in Beach Pond, East Twin Lake, Highland Lake, West Hill Pond and Lake Wononskopomuc. Crystal Lake (Ellington) retained "trout water" only through July, and Mount Tom only had a thin layer of well oxygenated, cold water by mid-August. Lakes where "trout water" was lacking included Amos Lake, Bashan Lake, Gardner Lake, Mashapaug Lake, Pocotopaug Lake, Rogers Lake, Squantz Pond and Wyassup Lake.

COLDWATER LAKES MANAGEMENT. This August, vertical gill nets were set in Lake Wononskopomuc and East Twin Lake to sample for the presence of landlocked alewives. Alewives were collected from Lake Wononskopomuc in higher abundance (98/net day) this year than what was found during 2011 and 2012 (42 and 36/net day, respectively). Although no fish were aged, there appears to be at least three year classes present in Lake Wononskopomuc, including a strong year-class of young-of-the-year fish. No alewives were detected in East Twin Lake for the fourth straight year.

(left) *A close-up of a vertical gill net in Lake Wononskopomuc*. (center) *Vertical gill net being retrieved with alewives caught in the net.* (right) *Young-of-the-year alewives measuring 9 cm in length.*

WILD TROUT MANAGEMENT

- ***Annual WTMA surveys.*** Despite frequent, high stream flows in 2013, electrofishing surveys were completed at approximately 100 sites totaling approximately 12 stream miles. This sampling was conducted to determine trends in wild brook trout and brown trout abundance, survival of stocked fry and fingerlings, and potential for wild trout management in other streams. Over 7,000 trout were sampled, the majority if which were wild or stocked as fry. Wild trout abundance varied from stream to stream, showing generally lower than average abundance of young-of-year, possibly due to the recent history of extreme weather and flows. As in past years, brown trout stocked as fry in early/mid spring 2013 contributed greatly to semi-wild trout populations in all streams where fry stocking was assessed.
- ***Mill River in Easton/Fairfield.*** Was again sampled at seven locations to assess the reintroduction of native brook trout and populations of wild brown trout in the catch-and-release Wild Trout Management Area, the open harvest area, and the seasonal adult-stocked TMA. Summer water temperatures in this tailwater stream (50-60^{o}F) are some of the coldest in the state, offering significant potential for increasing year-round trout management. Sampling in 2011 produced 701 wild trout (441

browns, 258 brookies, 2 tiger trout), and only 15 stocked trout. Sampling in 2012 produced 1,161 wild trout (944 browns and 217 brookies) and 29 stocked trout. Standard sampling this year (2013) produced 537 wild trout (433 browns, 103 brookies, 1 tiger trout). Reintroduced native brook trout continue to be abundant in the Wild Trout Management Area, but have not yet expanded downstream into the open harvest area and the Seasonal TMA to any significant degree. All areas showed fair to good natural reproduction of wild brown trout. Trout data, combined with angler survey data, were used to outline several different management options for future consideration.

- ***Shepaug River*.** Seven sites were surveyed again this year, to assess the effects of the new higher minimum flows and to evaluate the potential for trout management. Wild trout (133 total) were sampled at all locations, including 13 wild yearling browns (7-10 inches) at the downstream-most site in Roxbury. The majority of the wild trout were brown trout (91%), but wild brook trout were also present (9%). Only 2 young-of-year were sampled, however 113 yearlings were collected, and a few large wild browns (up to 20 inches) were netted. Only 18 stocked trout were sampled including seven that appeared to be from the initial small stocking (2,500) of Farmington Survivor fingerlings last October. This river continues to show promise with regard to trout management

CULVERT/STREAM CROSSING SURVEY. Due to IFD summer seasonal employee staffing reductions, very few culvert surveys were completed. Coverage for several towns in eastern CT is still incomplete. However, volunteers from the Eightmile Watershed (interns from Goodwin College) completed culvert surveys in three towns in eastern CT this summer. Additional volunteers have begun the process in Meriden. Possible new cooperative opportunities, with several other volunteer organizations, are being explored. IFD anticipates beginning a cooperative project with the Housatonic Valley Association to further this work in the Housatonic River drainage in western CT.

A "perched" culvert in Union, CT. This is an example of a barrier to potential fish movements in a small stream.

STREAM FISH POPULATION SAMPLING. Stream electrofishing was completed for most scheduled sites as part of the coldwater monitoring project. A total of 90 (western CT) sample sites streams were surveyed as of early September. This year, population sampling was conducted on 11 new headwater streams in Fairfield County. Additionally, 9 previously sampled sites were re-sampled this year, updating data that were in many cases over 15 years old. It is anticipated that this re-sampling effort will allow IFD to monitor changes in statewide fish distribution. Fish samples for contaminants monitoring were taken from a number of locations. A new, long-term monitoring objective was added to the stream monitoring project. Select representative streams around the state will be sampled every other year to develop trend analysis

datasets. These data should allow IFD to determine broad-based population shifts occurring over a 10-20 year time frame. Water temperature data loggers were placed in 72 Connecticut streams this spring. Fish population data were collected from 37 of these temperature sites. Data will be used in regional water temperature models of fish habitat.

HOUSATONIC RIVER

- ***Thermal refuge improvements.*** Again this year, two Housatonic River thermal refuges were enhanced to improve summer trout survival through a cooperative effort between volunteer angler groups, the Housatonic Valley Association, and the IFD. Work completed on two days in May and July on both the upper and lower Furnace Brook refuge and Mill Brook refuge was effective in providing additional shelter and cool water for trout through the summer. Observations made during warm spells, as well as late summer electrofishing, confirmed that refuges were effective in protecting many trout.
- ***Wild rainbow trout surveys.*** This summer (2013) no wild rainbows were sampled from nine tributaries where wild rainbows were observed in 2010. However during main stem river and refuge sampling, one one-year-old (11 inches) and four 3-year-olds (17-20 inches) were sampled. Trout ages, and wild origin were confirmed by microscopic examination of scales. As background, in 2010, for the first time ever, wild young-of-year rainbow trout were found to be abundant in almost every perennial tributary to the upper Housatonic (nine streams). This widespread rainbow trout reproduction was attributed to private stockings of large spring-spawning rainbows and the cool wet summer of 2009 which enhanced survival, condition and spawning potential of these large stocked fish.
- ***Housatonic river sampling.*** Six main stem locations and two thermal refuges were sampled to assess trout and smallmouth bass populations and management initiatives, as well as effects of run-of-river flows on all game and non-game species. In 2013, trout fared moderately well in the mainstem, due partly to high flows during many of the hot summer days, however a few dead trout were observed during the July heat wave. Mainstem sites in the Bulls Bridge TMA still retained fair to good numbers of trout (50 sampled in the Housatonic, and 58 in the Tenmile); and main stem sites in the Cornwall TMA had fair to good numbers as well (70 total). Refuge sampling in the Cornwall TMA produced fair to good numbers of trout (181 at Furnace refuge, 23 at Mill refuge), including many larger trout (88 over 15 inches, up to 21 inches). Smallmouth numbers were dominated by age 1 and age 2 fish (7 inches and 10 inches average length respectively). Despite a potential longevity of 17+ years in the Housatonic, numbers of larger smallmouths older than age 2+ were very low, due in part to poor reproduction in 2008 and 2009 caused by high spring flows, and possibly due to harvest of larger individuals. Smallmouth reproduction was very low in 2013, with young-of-year bass totally absent at some sites. Apparently, poorly timed natural high flow events in June 2013 caused widespread nest failure. Non-game species, especially several minnow species, were much less common along the margins of the river, which may also have been due to the high June flows, when minnow larvae were vulnerable.
- ***Housatonic river angler survey.*** The Housatonic Angler Survey has continued through the summer revealing a moderate level of fishing effort and catch consisting mostly of smallmouth bass and trout. The Enhanced Law Enforcement Initiative on the Housatonic has been effective at curtailing illegal activity in some areas (mostly fishing without a license) although the large numbers of weekend visitors to the river again posed some challenges.

INCOME TAX CHECKOFF FUNDED PROJECT. A grant from the state income tax check-off fund allowed Kasey Pregler to work on a project investigating bridle shiner distributions this summer. Bridle shiner (a Connecticut Species of Special Concern) is generally thought to be in decline throughout its range. Kasey is building on a gear comparison study she began last summer. During that initial study, it was found that seining was twice as likely to detect the presences of bridle shiner as electrofish sampling. Kasey and her team are re-sampling many of the historical sites where bridle shiner had been originally sampled but not found since. It is hoped that this work will give us a better understanding of this fish's true population status.

Matt Tracski and Kasey Pregler seining for bridle shiners in Marlborough.

INVASIVE SPECIES

WATER CHESTNUT SURVEY…Completed 2013 water chestnut survey/removal activities. Beginning in 2005, Inland Fisheries (IFD) staff have surveyed (often in collaboration with other DEEP staff) the mainstem CT River and associated coves from Hartford to Haddam for the highly invasive water chestnut (*Trapa natans*). US Fish & Wildlife Service (USFWS) staff coordinate and lead water chestnut control activities from Hartford north into Massachusetts including major infestations on the Hockanum River and several other sites in the Hartford area.

This year, due to cutbacks in the number of seasonals and the availability of boats, IFD staff surveys were limited to sections of the river (including coves and several tributaries) where plants have previously been found. No plants were found in the Portland/Middletown/Gildersleeve Island area and in the Hartford/Glastonbury area from the Hartford Flood Control Pond (North Meadows) to Crow Point (White Oaks) Cove (including Wethersfield Cove, lower Keeney and White Oaks coves). In response to a report from an angler, staff located and removed two "pick-up truckloads" of plants from the CT River near Andrews Marina/Goodspeed Bridge in Haddam. Since 2011, the Tidewater Institute (with coordination from USFWS) has surveyed portions of the lower river, locating and removing plants from the Eustasia Island area and several small patches in Salmon River Cove. A new patch was recently found in Salmon River Cove, however its likely too late in the season for removal to have much impact (seeds have ripened and fallen).

In western CT, IFD staff surveyed Mudge Pond (removing 2 "big tubs" of plants), Lake Lillinonah (removed numerous plants during one trip on the lake, most plants were found uprooted and drifting) and the confluence with the Still River (removing one plant).

Habitat Conservation and Enhancement

DICKINSON CREEK, LYMAN VIADUCTS - FISH PASSAGE

HCE staff just completed an as-built ground survey of the roughened ramp fishway that was installed at the Lyman Viaduct culvert on Dickinson Creek (Colchester) during the summer of 2012. This unique fishway design is comprised of a series of natural boulder grade-control structures installed below the outlet of the western culvert, providing suitable water depth and velocity conditions for upstream fish passage during a variety of streamflow conditions. This unique fishway has reconnected more than 6.3 mainstem miles of upstream habitats for the resident and diadromous fish community within Dickinson Creek and the Salmon River.

Low flow conditions at the roughened ramp fishway at the Lyman Viaduct culvert on Dickinson Creek.

ROARING BROOK, WILLINGTON, ENVIRONMENTAL ASSESSMENT

HCE staff were asked by the Town of Willington to review an application concerning a possible zoning change for the development of a Love's Travel Stops & Country Stores facility. This facility is to be located on a 40 acre parcel that borders the Nipmuck State Forest, as well as Roaring Brook, a designated Class 3 Wild Trout Management Area (WTMA). Staff discussed the importance and value of the fisheries resources within Roaring Brook and outlined concerns over how the proposed commercial development may alter these valuable natural resources.

CONNECTICUT RIVER, STREAMBANK STABILIZATION

Completed final review of the US Army Corps of Engineers (ACOE) proposal to stabilize over 1,300 feet of streambank along the Connecticut River in Middletown, CT to protect the John S. Roth Wellfield from erosion. Staff have provided technical guidance on this project since 2010 that has resulted in several modifications to project design with the goal of avoiding and minimizing long term impacts to shoreline habitats along the Connecticut River. Project design will include the incorporation of several rock structures, called "bendway weirs" that function to deflect flows away from the streambank as well as provide cover and shelter for Connecticut River fishes.

Example of Connecticut River floodplain forest that will be protected.

DREDGING PROJECT REVIEWS

Reviewed ten projects involving dredging in coastal waters, including the tidal reaches of streams and rivers. These included small maintenance dredging projects in marinas, a lead remediation project, removal of sand that was deposited by major storms last year from navigation channels, and federal navigation channel projects. Measures were recommended, as needed, to protect fisheries resources such as river herring spawning migrations and shortnose sturgeon (a state and federally listed endangered species). Six projects involving bridges or culverts in tidal waters were also reviewed for fish habitat and fish migration issues.

HUBBARD BROOK TRIBUTARY, FISH PASSAGE

HCE staff in concert with the Department of Transportation engineers have reviewed final design plans to install a concrete pool/weir fishway below a perched culvert that blocks fish passage within an unnamed tributary to Hubbard Brook, Middletown (*see the Spring 2013 IFD Notes & Updates report for project details*). The provision of fish passage at this location will restore connectivity to over 1.4 miles of stream habitats for native brook trout and American eel. In addition to the review of design plans, IFD staff completed its second annual pre-construction monitoring sample of the fish population below and above this culvert.

GRASS CARP PERMITTING

During the last quarter, HCE staff received 58 permit applications for the liberation of triploid grass carp. Of those, 26 were new applications that required a site inspection. The remaining applications were for the restocking of previously permitted ponds. All applications were checked through the DEEP Natural Diversity Database for locations of threatened or endangered species. To date this year, 86 of the 110 applications have been permitted for the liberation of triploid grass carp, with fish being released into ponds in 53 towns across the state.

BALL POND GRASS CARP STUDY

Assisted The Town of New Fairfield with the annual vegetation survey and found that approximately 85% of the vegetation is now coontail and 15% is other plant species such as *Elodea*, *Chara* and *Naiad*. An additional stocking of 175 grass carp was authorized to help maintain this abundance of native plant populations at levels that are beneficial for the fish community. Previous stockings of triploid grass carp include 401 stocked in 1997, 175 in 2004, 70 in 2006, 75 in 2008, 75 in 2010 and 75 in 2011. The success of the Ball Pond experiment will help inform HCE reviews of future applications for stocking grass carp in other public lakes.

Diadromous Fisheries Restoration

SPRING DIADROMOUS FISH RUNS

The spring fish runs ended in June with the following highlights:

- A strong run of American shad in the Connecticut River, with 390,000 passed over the Holyoke Dam in Massachusetts.
- A strong run of American shad in the Shetucket River with 3,800 passed at the Greeneville Dam and record numbers passed at the two second dams: 146 at Tunnel (Quinebaug River) and 105 at the Taftville Dam (Shetucket River). Counts are not yet complete for the Occum Dam (third fishway on the Shetucket River) but it is clear that it too passed record numbers of shad and river herring.
- Runs of alewife in New London County were generally strong (Bride Brook counted a record 363,000) but runs elsewhere in the state were mostly disappointing.
- Runs of blueback herring continue to be extremely low.
- The return of adult Atlantic salmon to the Connecticut River totaled 88 fish, almost double the 2012 number. Captured salmon are being held at the Richard Cronin National Salmon Station and will be spawned in the fall. All eggs will be shipped to the Kensington State Fish Hatchery to support the new Legacy Program.

FISH PASSAGE PROJECTS

- After many years of planning, design, and permitting, work has finally begun on the future Tingue Dam Fishway on the Naugatuck River in Seymour. This will be a bypass channel type of fishway. This style is very stream-like in appearance and will be the largest of its kind in the state and perhaps one of the largest on the East Coast. Tingue Dam is one of the last remaining barriers on the Naugatuck River downstream of the Thomaston Flood Control Dam. Shad, river herring, sea-run trout, and sea lamprey are all able to pass the first dam using the Kinneytown Dam Fishway. Tingue is the next dam and once this fishway is completed, fish will have access to nearly 25 additional miles of mainstem river. The construction is sponsored by DEEP but the property will be owned by the Town of Seymour. The construction is expected to be complete sometime in the first half of 2014.

The Tingue Dam Fishway will run adjacent to the Route 8 overpass over the Naugatuck River and then pass underneath it to reach the river upstream of the dam.

- Work on the Pequonnock River Apron Fishway is nearing completion. This site in Bridgeport is about a quarter mile downstream from the Bunnells Pond Fishway. Over 40 years ago, the DOT lowered the streambed as part of a road project and installed a broad concrete apron in the river to stabilize it. During low flows, this apron is very difficult for alewives to get over. ***Save the Sound***, in cooperation with the City of Bridgeport, has sponsored a project to build a simple recessed pool-and-weir fishway in the apron to make it easier for fish to ascend. The work was delayed last fall due to high water but is expected to be completed in September.

Water is diverted around the far side of the apron (beyond the large sandbags) while workers form and pour concrete for the Pequonnock Apron Fishway. The floor is recessed by about a foot and there will be five weirs to pool the water. Protruding wire show the locations of the weirs.

FISHWAY OPERATIONS

- Most fishways were closed for the summer in July. At the same time, many of the seasonally-installed eel passes were activated. Once the Rainbow Fishway is closed, a portable eel pass is set up inside of it and to date, 750 eels have been trapped and passed over the dam.
- Summer is the best time to perform maintenance on the existing fishways. This summer staff have performed various maintenance tasks at the following fishways: Hallville, Clarks Pond (replaced two broken weirs), Haakonsen (waterproofing the countinghouse roof), Rainbow, Leesville (replaced steel cable for trap), Latimer Brook (replaced footbridge), Hyde Pond, Vargas, Gorton, Jordan Mill (improved eel pass), Trading Cove Brook, Capello, StanChem (installed sunshade for camera), Moulson Pond (replaced log boom).

Fisheries Technician Bruce Williams forming a second weir for the Clarks Pond Fishway. Another weir, already filled with concrete, is seen behind him.

- The special truck used to transport shad and river herring between streams was in the repair shop much of the season, minimizing the number of fish that were transplanted this year. Once repaired, we were able to move shad from the Holyoke Fishway to three locations; Farmington River (150), Naugatuck River (60), and the Connecticut River in New Hampshire to support watershed restoration (130). No river herring were transplanted.

HURRICANE SANDY FOLLOWUP

The U.S. Fish & Wildlife Service announced a grant program to fund projects that will promote coastal resiliency using funds authorized by Congress to mitigate impacts from Hurricane Sandy. Staff worked with others in the Department, the Service, and NGO partners to identify candidate projects that would benefit migratory fish (e.g. dam removals and fishways) and helped prepare grant applications for these projects. A second round will occur later in the year.

SAMPLING/SURVEYS

- During the spring, alewives returning to spawn in Bride Brook are sampled for scales in order that the fish may be "aged". During the past 3 months, staff have been cleaning, mounting, and reading these scales to generate data on the age of the run as a important step to stock assessment.
- Projects proposed for the Hurricane Sandy grants and other grants must have a demonstrable benefit to migratory fish, typically expressed as the number of river miles made accessible. This often requires stream surveys to verify that a stretch of stream is free of all barriers and possesses suitable habitat. Staff conducted three such habitat surveys during the past three months: upper Whitfords Brook, Indian River (Orange), and Steele Brook.
- The Atlantic States Marine Fisheries Commission requires the collection of population data for American eels in inland habitat. Staff conducted such electrofishing surveys in the watersheds of the Housatonic, Scantic, and Natchaug rivers.

OUTREACH & COLLABORATION

- The annual open house at the Rainbow Dam Fishway held on June 1st was attended by 154 people.
- Assisted an Eagle Scout and his volunteers with the improvement of the Crystal Lake Fishway in Old Saybrook. The fishway, owned by the Town, had been damaged by high water. The scout organized a crew that repaired stone weirs and restored the function of the fishway.
- Assisted staff from the Kensington State Fish Hatchery to apply fin clips to 42,000 brown trout that will be stocked in coastal streams next spring as part of the sea-run brown trout project. The fin clips will allow identification of these fish and thus evaluation of the stocking.

CARE &Constituent Services

SALTWATER FISHING DAY. The second annual Saltwater Fishing Day was held at Fort Trumbull State Park, New London this August. CARE partnered with DEEP's State Parks Division *No Child Left Inside Program*® to offer this free educational event to families. The goal was to introduce the excellent fishing opportunities along the Connecticut shoreline and Long Island Sound while getting families outside enjoying our state's beautiful natural resources and State Parks. Over 300 people attended and spent the day at Fort Trumbull State Park fishing pier. Participants were delighted when they pulled in hundreds of snapper bluefish along with scup, black sea bass, American eel, cunner, hickory shad, sea robin, fluke, winter flounder, crabs, a mantis shrimp, and even a tinker mackerel. This event could not have been possible without the 27 certified CARE instructors who volunteered their time and expertise. CARE instructors manned an information tent complete with fish ID station, cut and distributed bait, helped with all aspects of angling, and enjoyed the camaraderie of their fellow Instructors.

***SUMMER FISHING* PROGRAM.** Staff completed 59 half-day *Summer Fishing* classes for 1,466 students.

Over 300 anglers lined the fishing pier at Fort Trumbull State Park in New London for the second Saltwater Fishing Day held August 10th.

CARE Instructor Joe Arnson shows off a keeper scup that this happy young angler caught at Saltwater Fishing Day.

Each *Summer Fishing* class consisted of interactive lessons on fish identification, safety, casting, proper bait selection, knot tying, pollution prevention, and concluded with an actual fishing trip. Family Fishing Nights were included so that parents could participate in angling with their children. Getting families fishing together at CARE classes is a valuable path to the lifelong tradition of angling. Classes were held in Hartford, Bridgeport, Meriden, New Britain, Bristol, Lebanon, Griswold, New London, Portland, Norwich, Hamden, West Haven, Killingworth, New Haven, Stratford, and Middletown. Over 36,500 students have participated since the inception of *Summer Fishing* program in 1990.

***SUMMER FISHING* INTERNSHIP PROGRAM.** Starting the summer of 2012 CARE staff oversaw two high school volunteers, one of whom was hired as an Interpretive Guide this past summer. This summer, two new interns from Boston College and Castleton State College joined our *Summer Fishing* staff to help assist staff and instruct students. In addition to gaining work experience in the field they are studying,

students also received college credits after completing a predetermined number of teaching hours and submitted required documentation to college advisors.

SPRING CLASSES. An additional 41 CARE classes were conducted for 1,455 students. Twenty of these classes were multiple-meeting Family Fishing Courses, which accounted for 261 students. Most of the remaining classes consisted of fishing trips and/or aquatic education programs led by CARE Instructors.

NEW INSTRUCTOR TRAINING. Twelve new Instructors completed certification training at the CARE Center at Forster Pond, bringing the program total to 667 certified volunteers since 1986. Several have already scheduled, taught and/or participated in CARE activities this summer. CARE staff will continue to strive to strategically increase Instructor recruitment efforts and municipal partnerships where geographical gaps exist. The Northwest and Western regions of our State will be recruitment focal points over the next year.

Pictured are the twelve newest Certified CARE Instructors, along with CARE staff Tom Bourret and Justin Wiggins. Many of these new Instructors have already conducted a CARE course!

YOUTH FISHING PASSPORT PROGRAM. Currently (as of 9/9) over 2,000 participants have registered to participate in the program.

ELECTRONIC COMMUNICATIONS AND OUTREACH. Efforts continue to expand and enhance electronic outreach, which currently include several list serves, a fish and wildlife Facebook page and the more traditional website.

- ✓ ***IFD listserv:*** All fishing license holders who provided their email address when obtaining their license have been added to the IFD listserv. Email distribution of important or timely information including the status of various boat ramps, stocking information and weekly fishing reports now reach over 44,000 subscribers.
- ✓ ***DEEP Fisheries web page:*** the remodeling continues, the latest enhancements including rotating graphics on the fisheries homepage.
- ✓ ***Facebook:*** The "Connecticut Fish and Wildlife" Facebook page now has 3,040 followers (as of September 11) and remains the most popular Facebook page in the agency.

ANNUAL FISH DISTRIBUTION REPORT The report for hatchery trout and other fish species stocked by the Inland Fisheries Division throughout CT in 2012 has been completed and is now available on the DEEP Inland Fisheries webpage. This edition sports a new format with numerous color images and expanded text.

COMMUNITY FISHING WATERS PROGRAM Initiated planning to expand the Community Fishing Waters Program by up to six additional water bodies for 2014. Staff are currently evaluating a number of additional water bodies accessible from population centers for inclusion. The Community Fishing Waters Program (formerly the urban fishing initiative) was started in 2006 by the IFD to enhance fishing opportunities in Connecticut's major population centers. Currently the program includes six ponds. These areas have some combination of stocking including spring trout and/or late spring channel catfish.

Getting youngsters hooked on fishing. *Fishing success is a critical component in creating lifelong anglers. The CARE Summer Fishing staff works hard at ensuring student success and creating those memories of a first fish!*