

NEW YORK STATE  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# BUREAU OF FISHERIES

*2012-13 Annual Report*

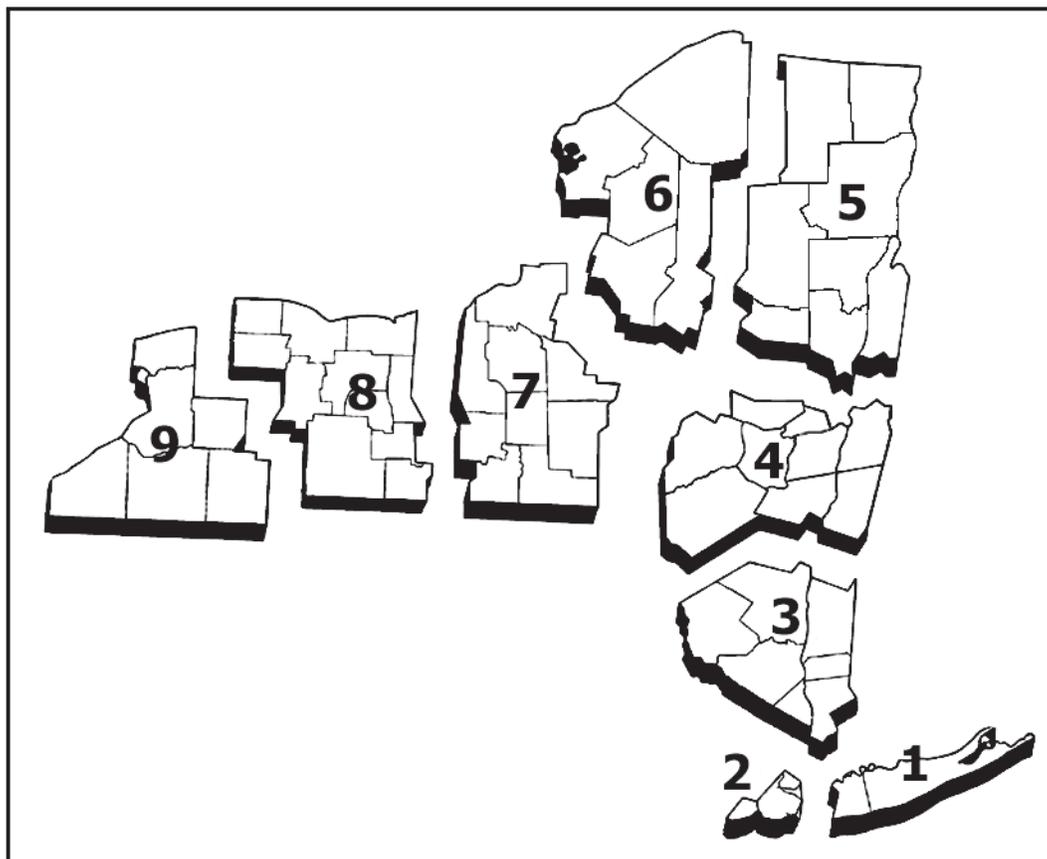


**FISH CULTURE  
INLAND FISHERIES  
GREAT LAKES FISHERIES  
PUBLIC USE & OUTREACH**

[www.dec.ny.gov](http://www.dec.ny.gov)



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# 2012-13 Annual Report

New York State Department of Environmental Conservation  
Bureau of Fisheries  
*Phillip J. Hulbert, Chief*

## Introduction

The New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Bureau of Fisheries delivers a diverse program and annually conducts a wide array of activities to accomplish its mission:

*Conserve and enhance New York State’s abundant and diverse populations of freshwater fishes while providing the public with quality recreational angling opportunities.*

This report provides a summary of significant activities completed during fiscal year 2012-2013 by Bureau of Fisheries staff located in 9 regional offices, 2 research stations, 12 fish hatcheries, 1 fish disease laboratory, as well as the DEC Central Office in Albany.

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# 2012-13 Annual Report

## Common Acronyms, Definitions and Units of Measure

### Common Acronyms

**CPUE or CUE:** catch per unit of effort - such as the number of fish caught per hour or fish caught per net.

**OMNR:** Ontario Ministry of Natural Resources

**PFR:** Public Fishing Rights.

**USGS:** United States Geological Survey.

**USFWS:** United States Fish and Wildlife Service.

**YOY:** young of year - typically a fish that is captured by sampling in the same year it was hatched.

### Definitions

**Ark population:** a group of animals held and propagated in captivity to prevent extirpation or extinction in cases where natural populations are at risk in the wild.

**Bottom trawl:** a sampling technique where a net is dragged along the bottom of a water body behind a boat.

**Creel Survey:** a survey where anglers are interviewed about their catch.

**Cross vane structure:** a "U"-shaped structure of boulders or logs, built across the stream channel to reduce velocity and energy near the stream banks.

**CROTS:** Catch-Rate-Oriented-Trout-Stocking - the model used by the Bureau of Fisheries to develop stocking rates for trout streams that takes into account biological measures of the stream, stream carrying capacity, angling pressure and wild trout abundance.

**Electrofishing:** use of electricity to temporarily stun fish, allowing them to be captured.

**Extirpated species:** a species that no longer exists in the wild in a certain country or area.

**Fyke Net:** a trap style net that is composed of a number of hoops surrounded by netting and usually has netted wings and a leader that direct fish into the net.

**Gill Net:** a vertical wall of netting that is typically set in a straight line and entangles fish as they try to swim through it.

**HUC:** Hydrologic Unit Code. A categorization of watershed boundaries from the basin to the sub (small) watershed level (HUC12).

**Hydroacoustic survey:** use of sound and reflected echoes from schools of fish to estimate abundance.

**Lentic:** associated with still water such as a lake or pond

**Lift** - difference in license renewals between the control and treatment group.

**Mesotrophic** - an intermediate stage of lake productivity lying between oligotrophic (nutrient poor) and eutrophic (nutrient rich).

**Oligotrophic** - a water body that is low in nutrients.

**Pen reared:** raising hatchery salmon or trout in a pen to "imprint" those fish to the pen rearing site. In theory, this will cause the fish to return to the pen rearing site to spawn.

**PIT Tag-** an implanted tag that is used when an individual fish needs to be identified. The tag contains a series of numbers and letters that can be obtained by passing a "PIT Tag reader" over the implanted tag.

**PSD:** proportional stock density - describes the portion of a fish population or sample that exceeds a size threshold. For example, the PSD for largemouth bass is the proportion of 12 inch and larger bass in the sample of largemouth bass that were stock size (8 inches and larger).

**RSD 15:** relative stock density greater than 15 inches - describes the proportion of fish larger than 15 inches in a population or sample of all fish exceeding a size threshold. For example, the RSD 15 for largemouth bass is the proportion of 15 inch and larger bass in a the sample of all largemouth bass that were stock size (8 inches and larger).

**Seining:** using a seine net - a net with weight on the bottom and floats on the top that is dragged through the water to capture fish.

**Trap Net:** similar to a fyke net but usually larger and rectangular in shape.

**VHS/VHSv:** Viral hemorrhagic septicemia - a serious disease of fish (not humans) recently introduced into New York State.

**Year Class:** a group of fish spawned during the same year.

### Units of Measure

**°C:** degrees Celsius - to convert from c to fahrenheit (f) = (f - 32) x 5/9.

**ha:** hectare - a metric system unit of area; 1 hectare = 2.47 acres.

**hr:** hour.

**in:** inch.

**kg:** kilogram - a metric system unit of weight; 1 kg = 2.2 pounds.

**km:** kilometer - a metric system unit of length; 1 km = 0.62 miles or 3,281 feet.

**m:** meter - a metric system unit of length; 1 meter = 3.28 feet.

**mm:** millimeter - a metric system unit of length; 100 mm = 3.94 inches.

**ppm/ppb:** part per million/parts per billion - describes the density of a substance in another solid, liquid or gas (typically water, air).

**µg/l:** micrograms per liter; equivalent to ppb,



### Monitoring Fish Movement in the Carmans River

In an effort to track movement of a variety of fish species including alewife and native and stocked trout, staff from DEC and Cornell Cooperative Extension of Suffolk County built and installed 11 tracking antennas. One of these antennas was placed in the tidal segment of the Carmans River, with the remaining antennas installed at various locations in the upstream, non-tidal segment of the river. These antennas are designed to detect passage of fish that have internal PIT tags installed. Of particular interest is the movement of alewife over the recently installed fish ladder at the Hard Lake Dam, as well as movement of trout to and from the tidal section of the river.



In 2012 Regional Fisheries Unit, SoMAS (School of Marine and Atmospheric Sciences) at SUNY Stony Brook, and Cornell Cooperative Extension staff successfully tagged 195 American eels, 173 alewife, 143 brook trout, 126 brown trout, and 105 rainbow trout. As of the end of March 2013 there were an additional 3 alewife, 136 rainbow, and 71 brown trout tagged and in the river. Between April 1, 2012 and March 31, 2013 over a million lines of data were retrieved from the antennas.

Of the 195 tagged eels, 105 were transported and released in the tidal section of the river. This was done to monitor their ability to utilize the fish ladder and any possible “homing” abilities they could show. Fifty-one of these eels successfully moved upstream from the tidal section. 11 eels were last detected at the tidal antenna on the evening that Superstorm Sandy hit Long Island, indicating that they may have been leaving the system and heading for spawning grounds in the Sargasso Sea.

Of the tagged brown and rainbow trout, 55% and 43%, respectively, were documented swimming downstream of the stocked section. There were a small number of trout possibly recorded returning to the stocked section, but only two brown trout have been definitively detected by an antenna within that part of the river. Tagged brook trout showed little movement over the season. The exception being some trout documented moving to known spawning habitat in October 2012. There was also no recorded movement of brook trout into the tidal section.

Two populations of alewife were tagged and released in the Carmans River: fish from the Carmans captured using fyke nets; and

fish captured with scap nets in the Peconic River (a river system to the east), then transplanted and released into the tidal section of the Carmans. Only two of the Carmans River alewife and four Peconic River alewife successfully made it over the fish ladder and came back downstream into the tidal area of the river within nine days. Since the use of the fish ladder by alewife was less than expected, Fisheries staff brought in Curt Orvis from the USFWS to inspect the Carmans River fish ladder. Based upon his recommendations, the ladder was modified in January 2013 and a deflector was added to reduce the turbulence surrounding the fish ladder entrance.

### Belmont Lake Fisheries Assessment

In an effort to assess the effect of the catch and release only regulation for largemouth bass that was instituted in October of 2004, an electrofishing survey of Belmont Lake was completed in May. Compared with pre regulation change surveys conducted in 2000 and 2004, the overall catch rate of largemouth bass increased slightly, from 12.7 per hour in 2000 and 16.1 per hour in 2004 to 19.3 in 2012. However, the catch rate for bass over 15 inches increased substantially, from 2.9 and 2.0 per hour in 2000 and 2004, respectively, to 11.2 per hour in 2012. Half of the bass caught weighed over three pounds and more than a quarter were over four pounds. Unlike some other waters in the region, there was no concurrent improvement in the size distributions of the forage fish in the lake. Overall catch rates for bluegill, pumpkinseed and yellow perch declined substantially from the 2004 survey. No quality size pumpkinseed (>6”) or yellow perch (>8”) were caught in 2012 and the catch rate for quality size bluegill (>6”) dropped from 10.2 per hour in 2004 to 2.7 per hour in 2012. While the decline in quality size panfish in Belmont Lake is not promising, the increase in abundance of large bass is. The catch and release regulation, has clearly resulted in an improvement in the size distribution of the bass in the lake.

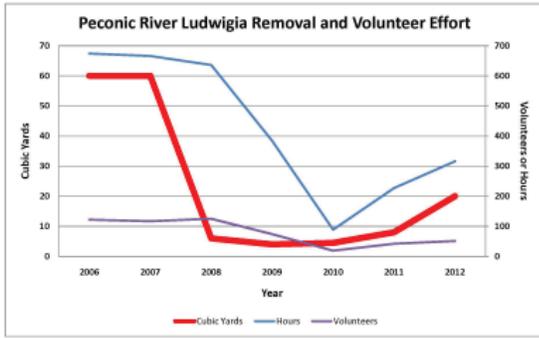


### Invasive species control and monitoring continues

#### *Ludwigia in the Peconic River*

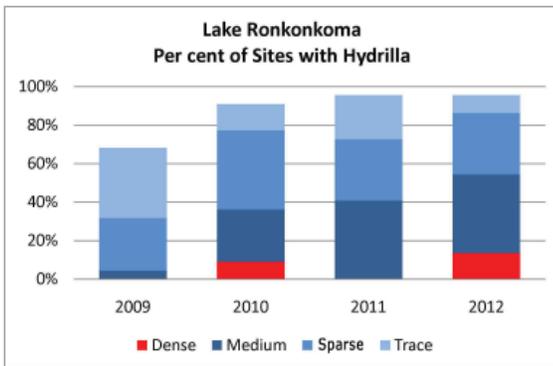
Region 1 Fisheries Staff continued to work with the Peconic Estuary Program and numerous volunteers to control *Ludwigia* in the Peconic River. In 2011 hand pulling operations in August and September could not get ahead of the explosive summer growth of the plant. In an attempt to get ahead of the growth, the first hand pulling operation was scheduled for July 12, 2012. However, warm early summer weather resulted in explosive growth and 30 volunteers and DEC Staff in jon boats, canoes and kayaks barely made a dent in the growth despite pulling over five cubic yards of *Ludwigia*. A second pull was scheduled for August 2nd and 20 volunteers worked 137 hours to remove over 15 cubic yards of *Ludwigia* from Peconic Lake and the River downstream. This was the largest amount pulled in a single day since 2007. In an effort to control this invasive species before the explosive summer growth begins, the first pull in 2013 will be scheduled in June.





*Hydrilla in Lake Ronkonkoma*

The annual August survey of the Hydrilla infestation in Lake Ronkonkoma showed a slight increase in the density of the infestation over 2011. The Hydrilla infestation remains limited to the near shore area of the lake where the water is less than 12 feet deep and doesn't reach nuisance levels anywhere until late September. Because use of the lake is declining at this point and the Hydrilla dies back completely over the winter it has not impaired the use of the lake. Management continues to be limited to monitoring and public education to prevent its spread to other water bodies.



**Outreach**

*I FISH NY Long Island*

The I FISH NY program reached close to 9,000 local residents and students at a variety of outreach events in 2012. This is a 40% increase in participants since last fiscal year. Of those 9,000, approximately 5,400 were participants at the annual Fall and Spring Fishing Festivals held at state parks in Nassau and Suffolk Counties. The remaining 3,600 participants attended public fishing clinics, conservation day events, summer camp programs, scout fishing clinics, and in class events.

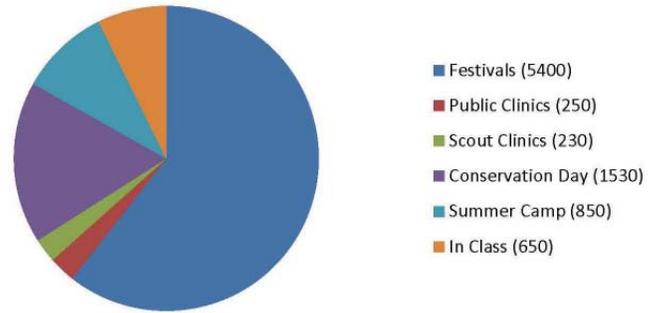


Three fishing clinics were offered to the public at Lake Ronkonkoma, MacDonald Pond, and Corey Beach in Blue Point reaching approximately 250 participants. Public fishing clinics include educational lessons and games to teach participants about local fish species, fishing regulations, and fisheries management. These events were provided as free fishing days so that participants 16 years of age and older had the opportunity to fish without a license. Conservation day events continue to account for a large portion of the

I FISH NY audience. Fisheries staff presented quick 20-25 minute lessons on fish identification, fishing regulations, and casting safety to over 1,500 participants at a total of nine events.

Throughout the school year, fisheries staff presented I FISH NY lessons on aquatic ecology, fish biology, fisheries management, and fishing regulations to approximately 650 students in grades 3-12. Although student numbers didn't increase much since last fiscal year, the number of in class events nearly doubled this year. Our goal is to continually increase the number of in class events each fiscal year.

**2012 Fiscal Year I FISH NY Event Totals**



**Public Access**

*Fisherman Parking Areas Constructed on Otis Pike Preserve*

Region 1 Operations completed construction of three fisherman parking areas on the DEC's Otis Pike Preserve. While these sites have been open and available for angler use for many years, they were basically undeveloped pull off areas. Based upon designs developed by Fisheries and Operations Staff, the parking areas were delineated by guide rails and covered with packed bluestone blend. A kiosk was placed at the head of the trail to the water. Two sites provide access to the headwaters of the Peconic River, and one provides access to Prestons Pond. All three provide opportunities for anglers to hand launch boats, fish from the shore, or wade.



**2012-13 Region 1 Fisheries Staff**

Charles Guthrie	Biologist 2 (Aquatic)
Heidi O'Riordan	Biologist 1 (Aquatic)
Pete Davis	Seasonal Fish & Wildlife Technician
Ann Ezelius	Environmental Education Assistant
Kathleen Marean	Seasonal Fish & Wildlife Technician
Chris Scott	Seasonal Fish & Wildlife Technician
Bob McCormack	Environmental Education Assistant
Luke Gervase	Intern
Chris Mazzeo	Intern



## Warmwater Fisheries Surveys

### *Bronx River*

Fisheries staff performed an electrofishing survey of the Bronx River on May 8th, 2012. New and previously-surveyed sites were surveyed. Species collected were redbreast sunfish, yellow bullhead, tessellated darter, blacknose dace, mummichog, and white sucker. American eels were observed but not captured. These species are the same as were collected in 2007 and 2010 Bronx River surveys, but a greater number of blacknose dace were found in 2007 ( $n = 47$ ) compared with the numbers of these fish found in 2010 ( $n = 4$ ) and 2012 ( $n = 13$ ). This year's survey yielded a larger number of redbreast sunfish ( $n = 54$ ) compared with numbers of these fish found in 2010 ( $n = 14$ ) and 2007 ( $n = 5$ ). Distribution of fish species between the sites also differed although no consistent pattern of species distribution among sites seemed apparent among the three years of surveys.



### *Ohrbach Lake, Staten Island*

The Region's first electrofishing survey of this lake was performed in anticipation of an easement (since obtained) allowing DEC to facilitate angling access to this lake. Species collected were largemouth bass, chain pickerel, black crappie, bluegill, pumpkinseed and brown bullhead. American eels ( $n = 13$ ) were observed but not collected. Ohrbach Lake is one of the few New York City water bodies offering fishing for chain pickerel. A good amount of large-sized bass were found: catch per unit effort (CPUE) of all bass was 48/hour and CPUE of bass over 12 inches was 29/hour. While a few large-sized panfish were captured the majority of these were in smaller size ranges suggesting either high exploitation of panfish by humans or non-exploitation of panfish by predators is occurring. Eighty-eight fish were removed for testing as part of DEC's statewide fish disease surveillance program; none tested positive for any diseases assessed.

### *Willowbrook Lake Fisheries, Staten Island, NY*

Region 2 staff performed its second electrofishing survey of Willowbrook Lake in September, 2012. Size indices from a previous electrofishing survey (on 9/29/10) had revealed unbalanced predator and prey populations of largemouth bass and sunfish; the 2012 survey

was performed to document any changes which may have occurred during the two year period between surveys. 2012 results indicate improved size indices for both largemouth bass and sunfish, to ranges suggestive of balanced fish populations. Scale aging indicated largemouth bass of the 2012 survey had a slower growth rate than those of the 2010 survey, commensurate with the higher catch rates of these fish. Fish species assemblage was similar to that found in 2010 but observed number of American eels was lower. Lack of fish kills related to shoreline erosion control work performed by the New York City Parks Department may be partially responsible for the improvement of this fishery.

### **Northern snakehead monitoring in Meadow and Willow Lakes,**

For the sixth consecutive year of electrofishing surveys no significant changes have been observed in catch rates for northern snakeheads and other resident fish species of Meadow and Willow Lakes (Queens County). Staff from DEC Region 4 and the New York City Department of Environmental Protection assisted with the Willow Lake survey which yielded eight snakeheads and our largest captured (over 32 inches and nearly 12 pounds) to date. Largemouth bass were captured for the third consecutive year; these had not been captured in surveys from 2006 – 2009.



## Outreach

### **NYC I FISH NY Program**

R2 Fisheries staff conducted programs in 65 elementary and middle school classrooms, reaching a total of 1,631 students. An additional 560 people were reached through 13 outreach events. Visibility of and accessibility to New York City waterbodies was increased further through the addition of several new DEC web pages.

### **Soundview Park Cleanup and Fishing Clinic**

The Soundview Park cleanup/fishing clinic was our first fishing event conducted in partnership with the Bronx River Alliance at Soundview Park where anglers have access to both the Bronx River and northern portions of the East River. Combining angling with shoreline cleanup helped link angling with stewardship for the participants. First time anglers of all ages took advantage of a favorable tide to catch their first fish when a school of hungry snappers moved in.

### **Train the Trainer Program**

Region 2 Fisheries staff led an angling training workshop for outreach professionals from both the National Park Service (NPS) and New York City Department of Parks and Recreation (NYC Parks)

on February 22nd. The workshop taught participants the fundamentals of setting up a fishing rod, aquatic education, fresh and saltwater recreational fishing regulations and fish consumption advisories. National Park Service staff is gearing up to implement fishing clinics for new anglers within Gateway National Recreation Area, and DEC's I FISH NY program is providing the angler training for the future angler trainers. The NPS and NYC Parks staff members were enthusiastic and followed instruction well. By the end of the class, they were familiar with basic knot tying and setting up a fishing rod, fish identification, rules and regulations that apply to New York City waters, and the basics of finding fish to catch in New York City. R2 staff hopes to coordinate events with both the NPS and NYC Parks in the future and has planned a train-the-trainer hands-on fishing event at Gateway National Recreation Area.

#### **New York State Marine Educators Association "Share-A-Thon"**

Fisheries staff participated in a New York State Marine Educators Association "Share-A-Thon" workshop at Columbia Teachers College on March 10th. The workshop provided useful, natural resource-focused, lesson plans to teachers. R2 staff presented the Fish Anatomy and Diversity lesson plans used in its I FISH NY classroom program and received an enthusiastic response from the teachers. These lesson plans utilize I FISH NY Go Fish cards and are a simple and effective way to teach students of different ages about fish anatomy and the diversity of New York State's fish. Teachers of Kindergarten through high school participated in the workshop and will hopefully help get the word out to their students about the wonderful diversity of fish we have in New York State.

#### **Other Fishing Outreach and Training**

Oasis Children's Summer Science School, Van Cortlandt Lake, Bronx

City of Water Day, Governor's Island, NY

Staten Island Greenbelt Summer Camp, High Rock Park, SI

Harlem YMCA, 125th St. Pier, NY

CAMBA, Canarsie Pier, Brooklyn

WorldPlay Summer Camp, Flushing Meadows Park, Queens

Baisley Pond Seniors Fishing Clinic, Baisley Pond Park, Queens

Little Red Lighthouse Festival, Ft. Washington Park, NY

Alley Pond Environmental Center Teacher Workshop, Queens

#### **National Hispanic Environmental Council/STEM Institute**

Fisheries Staff teamed up with biologists from the US Fish and Wildlife Service to help introduce minority high school scholars in Science, Technology, Engineering and Mathematics (STEM) disciplines to natural resource management careers. Participants observed a backpack electrofishing study of the stream linking what was formerly Wolfe's Pond to a feeder pond across Hylan Boulevard and participated by assisting with fish processing.



#### **2012-13 Region 2 Fisheries Staff**

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Steven Wong

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Biologist 2 (Aquatic)

Environmental Education Assistant

Environmental Education Assistant

Environmental Education Assistant



### **Muscoot Reservoir Trout Assessment (Westchester County)**

This survey was conducted to evaluate the experimental stocking of brown and rainbow trout. Roughly 1,000 of each species have been stocked annually since 2010. Each stocked fish has been marked with a fin-clip to separate them from naturally reproduced fish. Two bottom and four mid-water gill nets were set overnight. A total of 69 trout were collected, 66 brown trout and 3 rainbow trout. Of those trout collected only 3 brown trout were stocked fish. It is a possibility that many of these wild trout would have normally resided in the tributaries to Muscoot Reservoir. New York City DEP has been allowing the reservoirs that feed the two major tributaries to Muscoot Reservoir (East Branch and West Branch Croton Rivers) to spill from the surface without a corresponding higher release of colder water from deep in the reservoir. This may have caused the trout to seek thermal refuge in the reservoir since the stream temperatures were so warm. Anglers have reported catching some nice sized fish with fin clips. Region 3 fisheries unit will continue to monitor the experimental stocking.

### **Alder Lake Brook Trout Assessment (Ulster County)**

Alder Lake was sampled by trap netting on October 16, 2012, with the objective of determining the status of the lake's wild brook trout population. Alder Lake was last sampled with similar methods in 1991, 1992 and 1997. Concerns over time have been raised about the potential lack of recruitment to the brook trout population. Golden shiner, fathead minnow, and brown bullhead were the only other fish species documented to be present in previous surveys.

No new species of fish were collected during the 2012 survey. Numbers of brook trout collected were down in 2012 with only 39 collected vs 92 in 1991, 65 in 1992 and 159 in 1997. Growth rates have apparently been improving over the surveyed time period with average length at age for yearling brook trout being 6.6 (1991), 7.1 (1992), 6.6 (1997) and 8.1 inches (2012).

Based on these results, it appears that there may be some evidence that the brook trout population in Alder Lake has declined since the sampling in the 1990's, while the species assemblage of other fish has remained stable.

An adopt a Natural Resource Agreement with a local Trout Unlimited group has been initiated with the aim of increasing fish passage from Alder Lake into a known spawning tributary. This work was started in the late summer of 2012 and might result in increased recruitment by increasing the access for brook trout to more spawning habitat. Recruitment may also possibly be enhanced here by the placement of artificial spawning box(es).

### **Tidal Hudson River Largemouth Bass Over-Wintering Area Population Estimates**

In late March through early April a mark and recapture study was conducted on the tidal Wappingers, Esopus and Rondout Creeks to monitor the over wintering populations of largemouth bass. Three days of boat electrofishing (6.61 hrs of on time) was performed on the tidal Wappingers Creek to collect 136 largemouth bass for a total of 20.58 largemouths/hour. The calculated population estimate for largemouth bass in the tidal Wappingers Creek was 270. Three days of boat electrofishing (5.43 hrs of on time) was performed on the tidal Esopus Creek to collect 327 largemouth bass for a total of 60.22 largemouths/hour. This resulted in a calculated largemouth bass estimate of 1,575 in the tidal Esopus Creek. Four days of boat electrofishing (9.12 hrs of on time) was performed on the tidal Rondout Creek to collect 203 largemouth bass for a total of 22.3 largemouths/hour. An estimate of 952 largemouth bass were calculated to be residing in the tidal Rondout Creek.



Population numbers are down across the board from estimates calculated during the period from 1999-2001. It is hoped the 15 inch minimum length regulation in place on the river will result in an increased population in the future.

### **Lake Minnewaska (Ulster County) Fishery Survey**

This State Park lake has never been surveyed by the Department. Historically acidic for at least 80 years, golden shiner were reported to be present by Park personnel in 2008, and largemouth bass were reported present in early 2012. Minnewaska Lake was boat electrofished in early August 2012 with the objective of documenting the fish species present in the lake. One complete lap of the lake was sampled. Golden shiners were extremely abundant, with four age classes being documented. Four largemouth bass were collected representing three age classes.

### **Sullivan County Walleye Assessments**

#### ***Rio Reservoir***

Rio Reservoir was stocked with walleye advanced fingerlings in late summer 2012. This was the first stocking in a five-year experimental stocking program with the objective of establishing a self sustaining population. The reservoir was electrofished in October 2012 using the protocols of the Bureau of Fisheries' percid plan. The objective of this survey was to document survival of the recently stocked walleye. In 1.6 hours of electrofishing eight young-of-year walleye were captured between 120 mm and 171 mm total length. In comparison, a Fall 2011 electrofishing survey failed to collect any young-of-year walleye.

#### ***Swinging Bridge Reservoir***

Swinging Bridge Reservoir was electrofished in October 2012 roughly following the protocols of the Bureau of Fisheries' percid plan. The objective of this survey was to document survival of any naturally spawned walleye from the 2012 year class. No young-of-year walleye were collected, indicating a lack of survival of the 2012 walleye year class. Additionally, only four older walleye were captured during this survey.

Anecdotal angler reports indicate that the walleye fishery may be declining here. This survey will be repeated in 2013, and a creel survey is tentatively planned for 2014 to better document the fishery at this reservoir.

**Esopus Creek creel survey:**

A full season (April 1 – November 30) creel survey was conducted during the 2012 season. The surveyed reach of the Esopus includes the 11.9 mile section from the Ashokan Reservoir to the Allaben portal (broken into two sub sections), along with the section from the portal upstream to Lost Clove (5.0 mi). A total of 136 days were sampled in 2012.

Overall, the 2012 season pressure estimate for the Esopus was 132 hr/ac below the portal, and 131 hr/ac above the portal. Estimated 2012 overall season total trout catch rates were 1.0 trout/hr below Phoenicia, 1.2 trout/hr between Phoenicia and the portal, and 0.94 trout/hr above the portal.

A report summarizing and comparing all three years of the Esopus Creek creel survey (2010 – 2012) is now in preparation.

**Public Access**

**Sylvan Lake Fishing Access Site**

Region 3 fisheries staff acquired a new access site on Sylvan Lake from the Dutchess County Sportsmen’s Federation. The site provides the only public shore fishing and boating opportunities on this lake.



The site provides free access to Sylvan Lake, which is stocked with trout annually by DEC. The 1.1 acre property offers parking for 4 cars. Visitors can fish from shore and launch car top boats. Trailers are not permitted to be parked on site.

**Habitat Protection**

**Tappan Zee Bridge Replacement**

Region 3 fisheries staff provided all on site monitoring for the 2012 Tappan Zee Pile Installation Demonstration Project (PIDP). Seven test piles ranging in size from 4’ to 10’ in diameter were driven into the Hudson River bottom to depths exceeding 200’ into the sediment. In addition to



providing load testing data for bridge design parameters the PIDP also tested five under water noise attenuation devices. Fisheries staff was on site for tests and also reviewed and approved reports submitted by New York State Thruway Authority contractors summarizing test results. These results would be used in the development of permit requirements.

Fisheries staff remained heavily involved in the environmental review of all aspects of the project through 2012-13. Numerous revisions in project design were negotiated with the NYS TA as well as a mitigation project totaling approximately \$8 million.

Since the DEC permit for the project was issued in January 2013

fisheries staff have reviewed and approved numerous plans and submissions. A second PIDP is scheduled for 2013, as well as construction of the temporary trestles and dredging. Additional details on the bridge project can be found at [www.newnybridge.com](http://www.newnybridge.com).

**New York City Hydroelectric Development**

Several members of Region 3 staff participated in review and final approval of the first of several new hydroelectric turbines to be installed in existing release works at New York City reservoir dams.

**Permit Review**

Following the named storms of Irene, Lee, and Sandy in 2011 and 2012, Fisheries staff were called upon to issue General Permit Authorizations to do emergency work along protected waterways. During the period immediately following these storms, and into 2013, the Bureau of Fisheries, Bureau of Habitat, and Division of Environmental Permits staff issued roughly 1,000 General Permit authorizations in Region 3.

**Outreach**

The Region 3 Fisheries Unit I FISH NY Program was able to conduct 8 school programs reaching 395 students, 16 fishing clinics reaching 1,170 people and 5 summer camp programs reaching 175 campers. A total of 32 programs were delivered with over 1,740 people going fishing or receiving fishing information this year from the Region 3 I FISH NY Program.

Region 3 Fisheries staff set up and staffed a booth at the Suffern Sportsman Show in Rockland County. From February 28 through March 3, 2012, thousands of anglers attended the show. People who visited the booth were able to buy a fishing license, talk fishing with our staff, receive literature, and view mounts of our state record fish. The kids were entertained while playing velcro-fishing. License sales from this show totaled \$9,040.



**2012-13 Region 3 Fisheries Staff**

- |                  |                                     |
|------------------|-------------------------------------|
| Mike Flaherty    | Biologist 2 (Aquatic)               |
| Bob Angyal       | Biologist 1 (Aquatic)               |
| Larry Wilson     | Biologist 1 (Aquatic)               |
| Ryan Coulter     | Biologist 1 (Aquatic)               |
| Linda Wysocki    | Fish & Wildlife Technician 3        |
| Tim McNamara     | Fish & Wildlife Technician 2        |
| Dustin Dominesey | Seasonal Fish & Wildlife Technician |
| Ryan Burns       | Seasonal Fish & Wildlife Technician |
| Indie Bach       | Seasonal Fish & Wildlife Technician |



### Mohawk River Blueback Herring Assessment

Region 4 Fisheries teamed up with the State University of New York College of Environmental Science and Forestry (ESF) to track blueback herring (BBH) in the lower Mohawk River during their annual spring spawning run in 2012. A total of five sites were sampled below Canal Corp. dams and adjacent locks E7-9, E11, E15 between May 23 and June 26. Tailwater areas were boat electro-fished during the day to collect a min of 30 BBH per site. Approximately 1,000 adult BBH were recorded in 5.25 hours of effort with 352 individuals collected. Stomach analyses of collected fish determined that migrating adults fed mostly on midge larvae and fish eggs at all sites except below lock E15 where mayfly larvae dominated the diet. Males outnumbered females (2.27:1) but were significantly smaller in total length. Run timing was as expected with decreased adult density over time at lower sites; increased density at upper sites. Catch per unit effort was highest in late May (106/h) dropping to 88/h in early June to only 4/h in late June. Comparative analysis by ESF concludes that adult spawners have declined significantly in size over time and sex ratios have skewed towards males. River herring (BBH and alewife) numbers are down along the East Coast so new state regulations for river herring for 2013 and beyond are intended to reduce the harvest pressure by local anglers.

### Wilber Lake Fisheries Assessment

This 90 acre two-basin lake is a backup water supply for the city of Oneonta offering limited public access for anglers. Although locals claim fishing is productive, no current fisheries data existed for this waterbody. In a brief effort to assess the warmwater fishery, most of the larger basin was shocked in 1.25 hours of on-time in mid-June 2012. A total of 420 fish representing 10 fish species were captured. Variable shoreline cover resulted in noted changes in the fish community between sites. As expected, adult chain pickerel and black crappie (difficult to shock) were largely absent in the sample but black bass, brown bullhead, and yellow perch were abundant. Largemouth outnumbered smallmouth almost 6:1 and no legal size ( $\geq 12''$ ) smallmouth were captured. Almost 40% of the 63 largemouth captured were of legal size (up to 18.5"). Catch rates at the four sampling sites ranged from 21 to 91 fish per hour. Over 4,000 of the estimated 5,000 fish observed in the survey were smaller sized pumpkinseed and bluegill with few large adults captured. Brief observations two weeks after shocking revealed a school of adult black crappie present near a wood pile amongst many other common fishes in the lake. Overall, the sampling was representative of a typical warmwater fishery, including a good number of quality largemouth bass. No boating or wading is allowed on this waterbody but ice fishing does offer anglers an opportunity to fish over deeper water.

### Unadilla River

Region 4 and 7 Fisheries staff teamed up during the month of September to address recent concerns over a lack of adult sport fishes (mostly smallmouth bass and walleye) reported by local anglers from this small warmwater river. Limited



access, high turbidity and high conductivity (400+), in addition to the river's many riffles and wood jams created challenges for navigation and fish capture. In 1.5 hrs, 137 individual fish representing 19 common river species were captured. Adult sport fishes were noticeably scarce but forage fishes were abundant in the sampling. Only two walleye (8.6", 25.4") and 52 black bass were recorded. Smallmouth outnumbered largemouth almost 2:1 but catch per unit effort was dismal as most were immature fish and only 3 bass were of legal size ( $\geq 12''$ ). Over 500 of the 700 fish observed in the survey were spotfin shiner and immature fallfish. Compared to 2010, fewer adult sport fishes were found among instream wood habitat, although some quality fish were present. A large silt load from nearby farms may be limiting productivity of this fishery with additional perturbation as a result of more frequent high water events of recent years. Although black bass and walleye appear to be recruiting effectively in the river, the lack of adults is concerning. The river is in need of habitat restoration if the local fishery is to rebound anytime soon.

### Canadarago Lake

This lake is sampled for yellow perch and walleye every two years with six-panel gill nets set overnight once a month from early June to September. The lake is a very productive yellow perch fishery and supports trophy smallmouth bass, walleye, and the occasional tiger muskie. The recent abundance of alewife is thought to have halted walleye recruitment so a re-stocking program commenced in 2011. A total of 1639 individual fish were captured and processed including 16 species with a lone brook trout (16") being the surprise of the survey. Few large perch were found but the future looks promising with high numbers of age 2-3 perch and record low numbers of alewife (nine) compared to previous years. A continued lack of small walleye confirms their poor recruitment in the presence of alewife. Supplemental fall electro-fishing collected 331 individuals fish (16 species) and another 2100 fish were observed. No tiger muskie were found in either survey. Canadarago Lake supports a healthy, albeit young, population of yellow perch and older walleye mixed in with other popular sport fishes such as chain pickerel and black bass. Brown bullhead were common in the survey along with several adult rudd. Rudd are an invasive species now established in the lake in low numbers most likely from illegal bait introductions. We expect the ice fishing to be very good for larger perch in 2-3 years.

### Otsego Lake

Otsego Lake is sampled for trout and salmon every two years with six-panel gill nets set overnight at six sites in late September. A more recent concern is the poor condition of lake trout and lack of brown trout, Atlantic salmon, and alewife in the lake. Otsego is the only lake trout fishery in Region 4 and is fast becoming a favorite among

anglers for walleye (re-stocked since 2000). A total of 174 individual fish representing 8 species were recorded with nearly half being lake trout (N = 84). Lake trout catch per unit effort was 14.0 up from 8.7 in 2010 but down from 20.5 in 2008. Catch per unit effort for legal lake trout ( $\geq 23"$ ) was only 2.3 and many large fish were in poor condition as also reported by many anglers. Hydroacoustic surveys conducted by the State University of NY at Cobleskill and Oneonta confirm a major decline in alewife is the likely cause. A surprise catch of 12 adult lake whitefish was the most recorded since 1992, a possible tradeoff of alewife decline. Adult white sucker, walleye, rock bass, smallmouth bass, yellow perch, and immature (mostly wild) lake trout were captured in good condition. These findings suggest that with the exception of adult lake trout, most fishes are modifying their foraging habits in the absence of alewife. We expect lake trout numbers to decline until a coldwater forage base becomes re-established in the lake. The number of walleye and lake trout stocked was reduced in 2013 in response to the forage concern. Brown trout and landlocked salmon stocking has been terminated.

### Upper Kinderhook Creek Trout Population Studies

As part of the Cornell/DEC Fate of Stocked Trout Study (FOST), a trout population estimate was completed with stream electrofishing gear at four sites on the upper Kinderhook Creek between Adams Crossing and



Stephentown. The surveys were conducted at each site on two separate occasions, once in April and once in July. Study reaches ranged from 300 to 420 feet long. Both ends of each study reach were blocked off with seines set across the stream to prevent emigration and immigration. In April, a total of 50 hatchery brown trout were collected, along with 14 wild trout. In July, the collection included 13 hatchery yearlings, 5 hatchery two year old brown trout, 24 wild brown trout adults, one wild rainbow trout adult, and 60 young of the year trout. Estimates of trout density at the four sites in April ranged from 3 to 107 fish/acre. Estimated trout density in July ranged from 15 to 92 fish/acre. The high end of each density range occurred at the Adams Crossing sample site and hatchery fish provided a majority of fish sampled. Estimated total trout biomass in July ranged from 3 to 74 lbs/acre. The wild trout biomass at Adams Crossing was 5 lbs/acre and the stream section above Adams Crossing to Stephentown had 29.3 lbs/acre of wild trout. These results were very similar to a summer trout survey conducted in 1988 which found an estimated wild trout biomass of 4.4 lbs/acre at Adams Crossing and 27.7 lbs/acre on the stream section above Adams Crossing to Stephentown.

### Outreach

Region 4 Fisheries participated in 9 public outreach events in FY 2012. Public outcry silenced the newly proposed Goodyear Lake trailered boat ramp in a long meeting on April 25. The first of potentially many events was hosted by the Rensselaer Land Trust on June 23 at the new Staalensen Preserve in Troy to learn more about what's in the local trout stream. Trip three to the Mohawk River on June 26 to monitor migrating blueback herring was met with report-

ers from the Schenectady Gazette concluding in some much needed publicity for the declining species. An overdue invite to a local sports dinner was welcomed by members as they were treated to a brief electrofishing demonstration by a regional biologist on September 29. Continued participation in A Day in the Life of the Hudson River resulted in live river fishes for a local science class to inspect on October 4. The first ever ice fishing clinic was held at Crumhorn Lake on January 26 in Cooperation with the Otsego Co. Federation where many first time ice anglers were taught some basics by DEC personnel.



The 4th annual ice fishing clinic returned to Otsego Lake on February 20 in cooperation with OPRHP, DEC, and various volunteer staff to demonstrate ways to catch fish in the cold. On March 22 and 23, staff from Region 4 and the Central Office participated in the fourth Hoosick Falls Outdoor Expo. Lectures on careers in conservation with the DEC and stream ecology were given to students in the environmental sciences class and the ecology class. Another successful outreach year was completed despite very limited staff time.

### Cooperative Fishing Area Opens on Upper Susquehanna River

NYSDEC Region 4 Fisheries and Operations from the Stamford field office teamed up with the Otsego Land Trust (OLT) of Cooperstown to complete the new public fishing and boating access along the Susquehanna River this past October. Soon after the OLT purchased this 3-acre parcel by auction, a Fish and Wildlife Management Act (FWMA) Cooperative Agreement was signed in December 2009 to open up some 1,400 feet of river bank for shore angling and nature walks. Improvements to the new Cooperative Fishing Area (CFA) consist of two small parking areas, a six foot wide footpath, and small wooden foot bridge that now provides much safer and convenient river access from CR11c.

The new CFA is located just south of Cooperstown between Otsego and Goodyear Lakes at what locals refer to as 'Compton Bridge.' This area has been a long-time popular yet unimproved paddleboat access point and common viewing location during the annual General Clinton Canoe Regatta held in late May. The site also attracts local anglers in the spring for brown trout and later in the year for walleye and smallmouth bass among other resident fishes. Oaks Creek flows into the river at this CFA and is stocked annually in the spring with brown trout several river miles upstream. Some trout may be found in the river outside the warm summer months.

### 2012-13 Region 4 Fisheries Staff

Norm McBride	Regional Fisheries Manager (retired 5/12)
Chris VanMaaren	Regional Fisheries Manager (hired 12/12)
Dan Zielinski	Biologist 1 (Aquatic)
Scott Wells	Biologist 1 (Aquatic)
Dennis Wischman	Fish and Wildlife Technician 3
Dave Cornwell	Fish & Wildlife Technician 1
Tim Pokorny	Seasonal Fish & Wildlife Technician



**Lake Champlain Lake Trout and Landlocked Atlantic Salmon**



Reestablishing salmon and lake trout in Lake Champlain is a cooperative effort of the US Fish and Wildlife Service (USFWS), the Vermont Fish and Wildlife Department, and the New York State Department of Environmental

Conservation (DEC). Controlling the abundance of parasitic sea lamprey is critical to these management efforts.

During 2012, lamprey treatments were conducted on: Mount Hope Brook; the Great Chazy River; Mill Brook and its delta; the Saranac River delta; and in Vermont, the Winooski and Missisquoi Rivers.

The number of sea lamprey wounds on salmon and lake trout are an indicator of the impacts of lamprey predation on the fishery. Wounding rates for lake trout increased in 2012 relative to 2011, and rates for both species still have not met the program’s targets. Nevertheless, fishing for both species in the lake was good, with more older, larger fish being caught than several years ago. While fishing in the lake was good, returns of adult salmon to spawning streams were poor. USFWS is studying a variety of factors that may contribute to the poor returns to the streams.

In an effort to reach the wounding targets (and better achieve the potential for salmon and lake trout) the lamprey control effort is being intensified. Expectations are to treat the Saranac River (NY), the Lamoille River (VT) and Stonebridge Brook (VT) in 2013 – streams that have either never been treated or have not been treated in recent years. Those would be in addition to Putnam Creek which has been treated on a regular basis.

	Number of A1-A3 lamprey wounds per 100 fish				
	Objective	Pre Control	Exper. Control	2011	2012
Lake Trout <sup>a</sup>	25	55	38	30	40
Atl. Salmon <sup>b</sup>	15	51	27	19	21

<sup>a</sup> Lake trout in the 533-633 mm (21.0-24.9 inches) length interval. For lake trout, pre-control included 1982 - 92, while experimental control includes 1993 - 97.

<sup>b</sup> Salmon in the 432-533 mm (17.0-21.0 inches) length interval. For salmon, pre-control included 1985-92, while experimental control includes 1993-98.

**Round Whitefish Restoration**

Eggs from the endangered fish species, round whitefish, were collected from Upper and Lower Cascade Lakes (Essex County) in late November. Also, about 50 round whitefish were collected from Lit-

tle Green Pond (Franklin County) in mid-December, and transferred to temporary homes in raceways at the Adirondack Hatchery. Several days later about 1,500 eggs were collected from three females. Subsequently the 50+ round whitefish were returned to Little Green Pond. The fry from both egg collections will be stocked during the spring of 2013 in ponds with suitable habitat for round whitefish restoration.

To date, round whitefish natural reproduction has been unsuccessful in Little Green Pond. In hopes of improving natural reproduction, rock spawning beds were constructed during 2012 at four locations in the pond. Hopefully the pond stock will spawn over the rock piles which should enhance survival of eggs and fry.

**Brook Trout Restoration**

Long Pond in the Lake George Wild Forest (Warren County) was reclaimed in October 2012 to eliminate non-native and competitive fishes. Brook trout will be restocked in 2013 with the hope that they will become self sustaining via natural reproduction. Much needed assistance was provided by Bureau of Fisheries staff from Watertown, Utica, Stamford, Cortland, and Central Office. Helicopter support was provided by the state Aviation Unit.



Preparations began for restoring brook trout in Lower Sargent Pond in Hamilton County. The pond had a renowned, self-sustaining brook trout fishery for decades until the unfortunate and illegal introduction of largemouth bass. Staff surveyed the pond to assess the status of the brook trout population, including survival of two recent stockings. Only 4 stocked and 12 wild brook trout were caught. All were large adults; the absence of small, young trout was dramatic. Largemouth bass dominated the catch with 78 individuals netted, ranging up to four pounds in size. Neither natural reproduction nor stocking will sustain a trout fishery in the presence of so much predatory pressure. Applications have been submitted for the permits to reclaim the pond, and some rotenone was purchased. The reclamation may be conducted as early as the fall of 2013.

**Heritage Strain Brook Trout Egg Takes**

Egg takes were successful for three native Adirondack (heritage) strains of brook trout. About 47,500 Little Tupper strain eggs were collected from brood stock ponds in St. Lawrence County. Staff also gathered 25,000 Windfall strain eggs from Black Pond (Franklin County) and nearly 32,000 Horn Lake strain eggs from Fishbrook Pond (Washington County). All the eggs



were of high quality with very little pick off. In addition to the eggs, milt was collected from 42 Windfall strain males netted in Black and Mountain Ponds. That milt was used to fertilize 70,000+ eggs from domestic strain brook trout. These “Windfall hybrid” brook trout will be stocked in various waters to compare their performance with Temiscamie hybrids and heritage strains.

**Assessment of Lake Trout Reproduction in Raquette Lake**

Fisheries staff conducted a standardized juvenile lake trout survey on Raquette Lake (Hamilton County) in June. Raquette Lake is the brood stock water for Adirondack strain lake trout. A total of 222 lake trout were caught, producing the highest catch per net rate ever seen in these surveys. However, nearly every lake trout less than 21 inches long was of hatchery origin, with only two percent wild. Juvenile netting done in 2004 found that 18% of lake trout less than 21 inches long were wild. About 60% of the lake trout longer than 21 inches were wild in both surveys. Thus, the success of natural reproduction appears to have declined significantly. The cause of the decline is not known, but late fall manipulations of lake levels by locals may be a factor. Also, the apparent high survival of stocked fish (as indicated by the high catch rates per net) may indicate that intra-specific competition is an issue. DEC is negotiating with the lake level manipulators for less harmful fluctuation regimes, and the question of competition can be assessed when growth rates of the juvenile lake trout are calculated. DEC egg takes are probably not a factor in the decline, since far fewer eggs are now taken annually than in the 1970-1990’s. This decreased abundance of wild fish in the younger year-classes is disturbing, but the egg take during October of 2012 went well. Although young wild fish have declined, the abundance of juvenile stocked fish trout should sustain this fishery in upcoming years.

**Essex Chain of Lakes Surveyed**

Fisheries staff did a water chemistry “blitz” on ten lakes on the former Finch lands (Essex County). Staff collected water samples and did water column temperature and dissolved oxygen profiles on Second through Eighth Lakes of the Essex Chain, Deer Pond, Jackson Pond and Mud Pond. The sampling was done in late August, providing a glimpse of “worst case” conditions for trout survival in these waters. The lakes were not netted at the request of the Gooley Club to avoid killing trout stocked by the leasees. Water quality was suitable for long term trout survival in five of the 10 waters: Third; Fourth; Fifth; Deer; and Jackson. Netting surveys were done on three other ponds: Clear, Mud (south) and Cedar (Roundtop). Clear Pond has a native population of lake trout. Brook trout were collected in Cedar Pond. Mud Pond was shallow and full of minnows. The data is important to make management decisions for these waters which are expected to be opened to the public by late 2013.

**Remediation Project Stops Erosion of Mill Ash into Boquet River**

From about 1884 to the mid-1960’s a paper mill operated in Willsboro (Essex County) and deposited black ash wastes along the bank of the Boquet River. The mill closed in the mid-1960s, and since then, large quantities of the black ash have eroded into the river from an ugly, near vertical bank of the wastes. Georgia Pacific, the last operator of the mill, recently signed an Order on Consent with the DEC to remediate the eroding bank. Most of that remediation was completed during 2012. The black ash was sloped back from the river along about 1,500 feet of the bank, and rock was placed at the toe of

the slope. The process of sloping the bank required that a massive quantity of the black ash be excavated and moved inland. Both the slopes along the river, and the inland disposal area, were covered with top soil and seeded. Additional plantings of native brush and trees will be completed in the spring of 2013.

**East Branch Ausable River Stream Restoration**

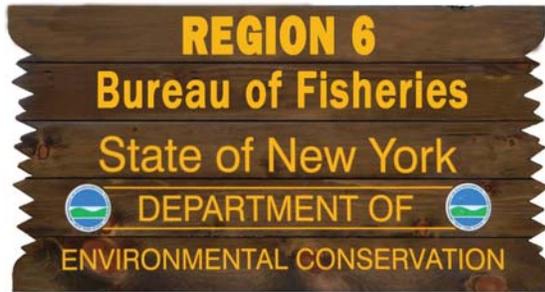


The “Rivermede” section of the East Branch Ausable River (Essex County) had been severely degraded for decades, and its problems were further aggravated by flooding from Tropical Storm Irene. Long stretches of vertical sand banks eroded during each high flow event, resulting in excessive sediment loading. Also, the river channel was over widened, making it less able to transport the large quantities of sediment. The combination of excessive loading and insufficient transport capacity resulted in continued worsening of the situation. In August, the US Fish and Wildlife Service and Trout Unlimited directed restoration of about a half mile of the river channel. The project included installing toe wood structures, two riffles for grade control, and rock and wood veins. The design of the project incorporated aspects to manage the stream’s energy and sediments in addition to flood flows. Restoring stable bankfull channel widths and elevations were a critical part of managing all three aspects – sediment, energy, and water. Flood flows occurred shortly after the work was completed. The channel features survived and performed as intended. Two bank-side workshops explaining the work were well attended by the public.



**2012-13 Region 5 Fisheries Staff**

- |                  |  |
|------------------|--|
| Bill Schoch      | Regional Fisheries Manager             |
| Rich Preall      | Senior Aquatic Biologist               |
| Jim Pinheiro     | Senior Habitat Biologist               |
| Rob Fiorentino   | Senior Aquatic Biologist               |
| Jennie Sausville | Fish and Wildlife Technician 3         |
| Thomas Shanahan  | Fish and Wildlife Technician 2         |
| Beth Kress       | Environ. Educator Assistant (Seasonal) |
| Jonathan Fieroh  | Seasonal Fish and Wildlife Technician  |
| Jon Preston      | Seasonal Fish and Wildlife Technician  |



### Eastern Lake Ontario/St. Lawrence River Warmwater/Coolwater Fish Stock Assessments

Over one-third of fishing effort in Region 6 occurs on eastern Lake Ontario or the St. Lawrence River. Warm/coolwater fish stock assessments are conducted by Region 6 on the St. Lawrence River and by both regional and Lake Ontario units on eastern Lake Ontario. The assessments track condition of fish stocks in these waters. In the St. Lawrence River Thousand Islands area abundance of legal size smallmouth increased from record lows in 1996-2004 and has varied at moderate levels since 2006. Much of this increase has been due to faster growth and earlier recruitment of young fish to the fishery (largely due to availability of round goby forage) rather than increases in the total population. Northern pike abundance in the Thousand Islands remains depressed largely due to habitat changes resulting from water level regulation. Lake St. Lawrence walleye numbers have declined from a peak in 2010 but remain above the long term average. Abundance of legal size smallmouth bass in eastern Lake Ontario has increased substantially from record lows in 2000-2004 although it remains low relative to the levels of the 1970s, 1980s and early 1990s. Increases since 2005 have been attributed to increased growth and vulnerability of young fish to the sampling gear. Regional cormorant management and a switch by cormorant to round goby prey have reduced their consumption of sport and panfish.

### Brook Trout Management

#### *Offsetting the Impacts of Acid Precipitation*

Acid deposition has historically had a negative impact on many Adirondack ponds and streams by causing them to become chemically unsuitable for brook trout survival. Region 6 has been involved in monitoring the chemical nature of many Adirondack brook trout waters. Surveys involved collecting water samples for chemical analysis and identifying candidates for the pond liming program. Lyon Lake was identified as a new liming candidate in 2012. Eighty tons of agricultural lime was applied to the lake in order to raise its pH and make it habitable for brook trout. Bear Pond was also treated with agricultural lime during the month of February. Hawk Pond has been identified as the next potential liming candidate. Along with these tasks, an effort has been made to find ponds which are naturally recovering from acidification, hopefully before competitive fish species become established. One example is Raven Lake, where the discovery of pumpkinseed nests indicates that the lake is recovering from acidification.

#### *Heritage Strain Egg Takes*

Genetically distinct brook trout populations, called heritage strains, exist in a number of isolated wild trout waters in the Adirondacks. Heritage strains of brook trout may have traits which make them more suitable for stocking in the Adirondack ponds than other brook trout. In Fall 2012, Region 6 conducted an egg take for Little Tupper heritage strain brook trout for future stocking efforts. Thousands of

eggs were collected, the majority from trout in Boottree Pond, Masawepie Easement. This is the fifth year Boottree Pond has been a part of the annual egg take. It is hoped that egg takes from heritage strain fish will allow them to play a larger role in the stocking program and continue as a unique part of New York's natural history.



### Fish Community Surveys Completed

To be more effective at gathering comparable data on lentic fish communities, extensive data collection was performed on the fish communities of three lakes within Oneida and Herkimer Counties. Fourth Lake, Kayuta Lake and Otter Lake were surveyed with multiple gear types throughout the summer and fall to assess the fish community within the entire lake. These efforts helped draft the Lake Community Survey Protocol which provides a standardized survey protocol. This standardization will allow collected data to be compared for individual lakes over a period of time, as well as, for comparing fish communities among different watersheds across the state.

### Lake Sturgeon Restoration and Assessment

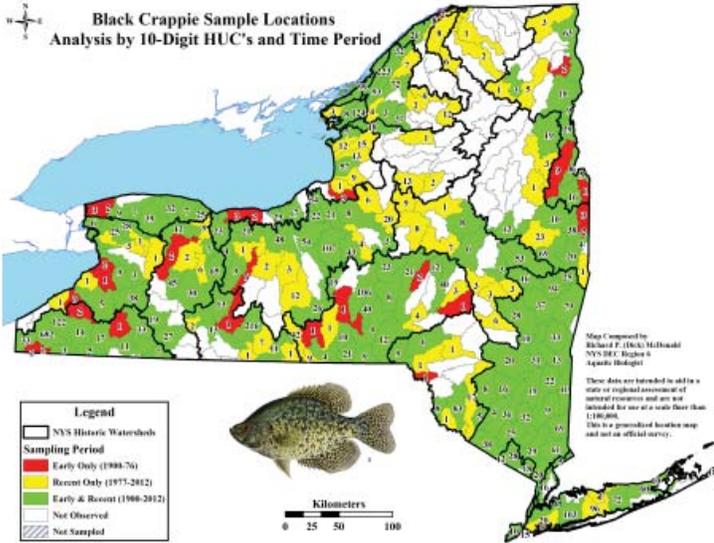


Lake sturgeon (*Acipenser fulvescens*) is a Threatened species in New York State. Sturgeon restoration efforts began in 1991. A tagging study started in 2010 to acquire biological data and provide the basis for movement studies throughout Lake

Ontario and the St. Lawrence River. A total of 228 sturgeon were collected in 2012 from the eastern basin of Lake Ontario and the St. Lawrence River downstream to just below the Robert Moses Power Project. Most of the fish (199) were new captures and were tagged with Passive Integrated Transponders (PIT tags). One sturgeon tagged in 2011 was recaptured by a Canadian researcher in the upper St. Lawrence River, demonstrating that the tagging program will increase the knowledge of movements throughout the system. Lake sturgeon eggs (90,000) were taken in early June at the Robert Moses Power Project, Massena NY with 3 egg bearing females providing eggs. A cooperative effort between NYS DEC and the Genoa National Fish Hatchery (USFWS, Wisconsin) was successful in rearing approximately 900 fingerlings which were stocked in the Salmon River (Franklin County).

**Mapping of New York Fish Species**

Region 6 Aquatic Biologist Dick McDonald and ETS Biologist Doug Carlson have produced location maps for 180 fish species in New York State. The maps allow quick comparisons for each species between the early (before 1977) and more recent records. There were about 40 species with significant range loss and about 30 species with range expansion resulting from introductions. Approximately 500,000 records of fish occurrence were used in this analysis and could be used for further analyses if desired. Maps will be available via the DEC Website.



ported that cisco have not been present in high numbers. Rainbow smelt are likely the predominant forage species in the deep water region for lake trout and salmon. Forage species collected included golden shiner, blackchin shiner, bluntnose minnow, and banded killifish. A new species for the water, a single tadpole madtom, was collected in the seine. Madtoms are small secretive members of the catfish family.

**Public Outreach**

Regional outreach efforts included outdoor expos, conservation field days, environmental awareness days, fishing clinics, Envirothon and Earth Day events which reached thousands of anglers, students and families and throughout the region



**Summer Sucker added to New York’s Native Fish List**

The newest fish species added to New York’s native fish list can be found in Razorback Pond of Herkimer County. Extensive sampling of the pond in 2012 noted a population of summer sucker very similar to the one previously found and described in Squaw Lake of Hamilton County. It is a secure population within the typically simple fish community of a headwater Adirondack pond. Additional studies were conducted at Elk Lake in the eastern Adirondacks where a similarly unique species of late-spawning sucker was collected. It has yet to be fully described and named, but its genetic heritage is more distinctively different from white sucker than the summer sucker. These findings are from collaborative studies with Dr. Rick Morse of NYS Museum and Dr. Evon Hekkala at Fordham University.

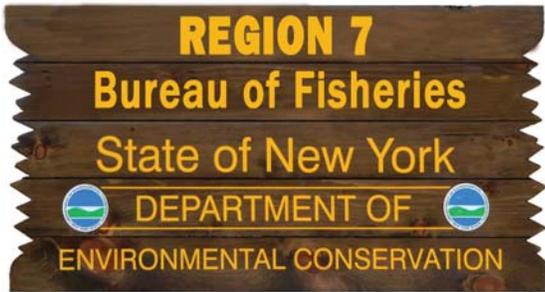
**Millsite Lake General Biological Survey**

Staff surveyed Millsite Lake (Jefferson Co.) the week of July 15th as part of a regular rotational assessment of the “Indian River Lakes.” This deep lake contains habitat acceptable for cold, cool, and warm-water species of fish and is referred to as a “two story water” for management purposes. Public access is available through a DEC hand launch restricted to motors of 10 hp or less.

A total of 18 species were collected through both gill netting and seining. Warmwater gamefish consisting primarily of northern pike and largemouth bass were abundant and of sizes to provide good fishing opportunity. Panfish were also abundant with bluegill being the predominant species. Coldwater species collected included lake trout, Atlantic salmon, and rainbow smelt. Salmon and rainbow trout are currently stocked by the DEC, although no rainbows were found in this effort. Cisco have historically been a large component of the coldwater fishery but were not collected. Anglers have recently re-

**2012-13 Region 6 Fisheries Staff**

- |                  |   |
|------------------|---|
| Frank Flack      | Biologist 2 (Ecology)                           |
| Russ McCullough  | Biologist 1 (Aquatic)                           |
| Rodger Klindt    | Biologist 1 (Aquatic)                           |
| Chris VanMaaren  | Bio 1 ( <i>promoted 12/12 to R4 Fish Mgr.</i> ) |
| Dick McDonald    | Biologist 1 (Aquatic)                           |
| Dave Erway       | Biologist 1 (Aquatic)                           |
| Dave Gordon      | Fish & Wildlife Technician 2                    |
| Jonathon Russell | Fish & Wildlife Technician 2                    |
| Heather Bull     | Seasonal Fish & Wildlife Technician             |
| Jeff Maharan     | Seasonal Fish & Wildlife Technician             |
| Seth Love        | Seasonal Fish & Wildlife Technician             |
| Amanda Velzis    | Seasonal Fish & Wildlife Technician             |
| Michael Stewart  | Seasonal Fish & Wildlife Technician             |
| Tyler Will       | Seasonal Fish & Wildlife Technician             |
| Trevor Parisian  | Seasonal Laborer                                |
| Kate Smith       | Seasonal Laborer                                |
| Doug Carlson     | Biologist 1 (Aquatic) ETS Unit                  |
| Robert D’Argenio | Seasonal Fish & Wildlife Technician             |
| Cory O’Dea       | Seasonal Fish & Wildlife Technician             |



### Arctic Lake Electrofishing Survey Completed

A fishery survey was conducted on 60 acre Arctic Lake located in Oquaga Creek State Park in Broome County. This small, two-story lake is home to a population of state-stocked rainbow trout, as well as numerous largemouth bass, and pumpkinseed. Yellow perch, alewife, white sucker, brown bullhead and golden shiners round out the fishery. Walleye were introduced in the lake during the early 1990's because predator density was low and yellow perch growth was poor. However, walleye stocking was discontinued after several years due to dramatic increases in juvenile largemouth bass numbers which resulted in poor survival of walleye. The 2012 survey was the first since 1996 and revealed that the largemouth bass population has remained high. In 1.5 hours of nighttime electrofishing 273 largemouth bass were caught, ranging in length from 68 mm to 512 mm (2.7" – 20"). The post-spawn bass were in good condition, and averaged about 280 mm (11") in length. The lake now has a healthy balance of predator and prey fish which has resulted in improved growth of panfish.

### Cazenovia Lake Warmwater Fishery Assessment

Two fisheries surveys were conducted on Cazenovia Lake, Madison County during 2012. The first was a two-night centrarchid electrofishing survey in May, and second was a two-day gill netting survey in July. These were the first DEC fisheries surveys on the lake since the 1950's due to historically poor public access to the lake. Improved access in recent years prompted the survey and many anglers now want DEC to stock walleye in the lake once again. These surveys were conducted to assess current sportfish populations and determine if walleye stocking is an appropriate management action for the lake. Overall 1,281 fish were caught, representing 17 species. Largemouth bass were the most numerous with 484 caught, 38% of catch, followed by yellow perch, 190 (15% of catch), and bluegill and pumpkinseed sunfish, 155 and 151 (12% of catch each), respectively. Fifty-two walleye and 50 smallmouth bass were also caught (4% of catch each).

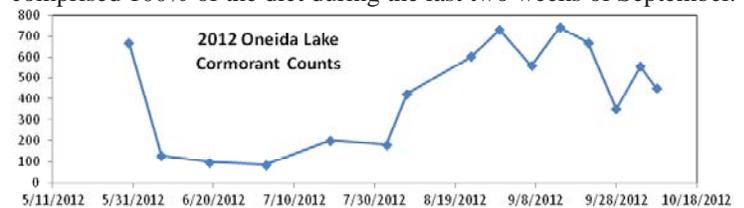


The gill net catch of 50 walleye was surprising given that Cazenovia Lake has not been legally stocked with walleye since 1989. Catch per unit effort (CPUE) ranged from zero to 18 fish/net with a mean of 6.25 fish/net. This gill net catch rate compares favorably with other walleye waters that support moderate to excellent walleye fisheries. However the bulk (70%) of the catch was two-year-old walleye (12"-13") indicating that older, legal fish are not particularly abundant. Given the current abundance of walleye, stocking by the Department is not required at this time.

Additional sampling will be conducted to determine whether walleye are naturally reproducing.

### Cormorant Management at Oneida Lake

A joint DEC and volunteer cormorant hazing program was again implemented at Oneida Lake during September 2012. Like the previous two years DEC Fish and Wildlife staff and Environmental Conservation Officers (ECO's) from both Regions 6 and 7, along with trained citizen volunteers, cooperatively conducted the fall hazing effort. ECO's conducted hazing every Wednesday of the month while F&W staff conducted counts and hazing each Friday of the month. Volunteers conducted hazing efforts each Tuesday and Thursday of the week. Cormorant numbers were consistently higher this year than the past two seasons with numbers ranging between 500 and 750 from late August through early October. As part of an ongoing diet study and to reinforce the hazing efforts a total of 96 cormorants were killed. Gizzard shad and emerald shiners were the primary food items found in cormorant stomachs the first two weeks of September and comprised 100% of the diet during the last two weeks of September.



### 2012 Skaneateles Lake Standard Gang Gill Netting

During early August 2012, the regional fisheries unit surveyed the coldwater fish community of Skaneateles Lake using standard Finger Lakes gang gill nets set at 21 standard netting sites around the lake. Comparable surveys were carried out in 1977, 1980, 1983, 1989, and 2008. The main objectives of this survey were to determine the densities of lake trout and cisco (lake herring) and to obtain information on species composition and forage base. A total of 130 fish were collected including 86 lake trout, 25 white suckers, 12 yellow perch, three smallmouth bass, three rainbow trout and one Atlantic salmon. Lake trout have not been stocked in Skaneateles Lake for many years therefore all the lake trout collected were considered wild. A sample of fifteen lake trout and ten yellow perch collected were sent to the Hale Creek Field Station for routine contaminant analysis. The 4.1 lake trout/net average in 2012 was slightly lower than the long term average of 5.0 per net but within the range observed (3.5, 3.7, 4.4, 6.8 and 6.4, for the respective years above). Overall, the lake trout catch in the Skaneateles Lake standard gang surveys has been indicative of a stable, light to medium density population maintained entirely by natural reproduction. The 2012 survey was the first standard gang survey where ciscoes were not collected. The average number of ciscoes caught per net in past surveys was 3.7, 4.0, 5.2, 7.2 and 0.4, respectively. The results of the standard gang surveys show that at some time after the 1989 survey, the cisco population experienced a precipitous decline. The reason for this decline is unknown but could be related to the Viral Hemorrhagic Septicemia virus (VHSV) outbreak that killed thousands of Skaneateles Lake smallmouth bass and rock bass in 2007.

### 2012 Owasco Lake Standard Gang Gill Netting

During late July 2012, the Region 7 fisheries unit surveyed the coldwater fish community of Owasco Lake using standard Finger Lakes gang gill nets at 20 standard netting sites. This was the eleventh time the lake was surveyed since 1977 using this technique. The main ob-

jectives of the 2012 survey were to evaluate lake trout density and condition and to obtain information on species composition and forage base. Twenty nets were set at regular intervals around the entire lake. A total of 1,546 fish were collected including 179 lake trout, 1,158 alewives, 161 rainbow smelt, 39 yellow perch, six white suckers, one longnose sucker, one rainbow trout and one walleye. Of the 179 lake trout collected, 163 had hatchery fin clips. Since all lake trout stocked in Owasco Lake have a fin clip, only the 16 (9%) without a fin clip could have been wild fish. The percentage of wild lake trout in the 2012 survey is similar to past years indicating hatchery augmentation continues to be necessary to support the lake trout fishery. The average of 8.9 lake trout per net in 2012 is somewhat lower than the long-term average of 10.6 per net but within the range seen previously (4.0–24.4). Results of the 2012 survey showed an increased growth rate of lake trout and increased abundance of forage species (alewives and rainbow smelt) compared to 2009. These are positive changes likely resulting from the recent reductions in lake trout stocking numbers and the cessation of walleye stocking.



### Cayuga Lake Sea Lamprey Control

Cayuga Inlet is the primary producer of sea lamprey in Cayuga Lake. The sea lamprey population is effectively controlled by a dam on the Cayuga Inlet when water levels are low enough to prevent movement directly over the dam. In most years, the spring lake level is low enough to create a drop over the dam, forcing the adult sea lamprey to enter the associated fishway where DEC staff capture and remove them. However, in both 2007 and 2011, high lake levels allowed migrating lamprey to get over the dam and spawn upstream. Individuals from the 2007 year class began maturing into their parasitic phase in 2011 and subsequently migrated downstream to Cayuga Lake. In spring 2012, lake anglers reported heavy parasitism of salmon and lake trout and we removed over 4,000 lamprey at the fishway in 2012 and nearly 6,000 in spring 2013, which are the highest catches since DEC began monitoring in 1979.



An August 2012, juvenile lamprey survey in Cayuga Inlet indicated that most of the 2007 year class had already migrated to the lake. More importantly, the survey indicated that the 2011 year class, which will migrate to the lake in 2015, appears to be even larger than the 2007 year class which is the source of our current problems. A lampricide application is planned for 2014 which will eradicate the 2011 year class of sea lamprey before they migrate out to the lake and further impact the salmonid fisheries of Cayuga Lake and tributaries.

### 2012 Finger Lakes Angler Diary Cooperator Program Results

At Otisco Lake, the legal game fish catch rate of 1.1 fish/trip was within the range observed over the past several years. Otisco Lake angler cooperators caught far fewer bass than the previous year but also recorded significantly less trips. At Skaneateles Lake, the legal salmonid catch rate increased 70% from the previous year to 1.7 fish/trip. Lake trout comprised 79% of the legal salmonid lake catch while rainbow trout and landlocked Atlantic salmon comprised 20% and <1%, respectively. At Owasco Lake, the legal salmonid catch rate of 2.9 fish/trip was double that recorded the previous year and the highest observed since 2008. Lake trout continue to dominate the fishery comprising 98% of the legal salmonid lake catch and no legal size rainbow trout and only one legal size brown trout were caught in the open lake fishery. At Cayuga Lake, the legal salmonid catch rate of 1.7 legal fish/trip was nearly identical to the previous year and higher than the range observed over the past several years. Lake trout comprised 77% of the legal salmonid lake catch while rainbow trout, brown trout and landlocked Atlantic salmon comprised 1%, 6% and 16%, respectively.

### Outreach

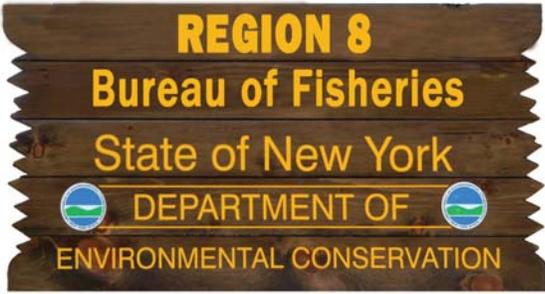
**South Otselic Fishing Heritage Day Family Fishing Clinic:** Approximately 250 people turned out on May 19th for the fourth annual South Otselic Fishing Heritage Day Family Fishing Clinic. The free family fishing clinic was offered by DEC and Trout Unlimited Chenango Valley Chapter. Staff from DEC's South Otselic Fish Hatchery conducted hatchery tours during the day. A few days before the clinic, the Rome Fish Hatchery stocked the Otselic River and brown trout were also placed in a pond on hatchery grounds to make access easier for children fishing at the clinic.

**Chesapeake Bay Academy:** On August 7th Region 7 Fisheries staff participated in the Chesapeake Bay Academy (CBA) event taking place at Friends of Rogers Environmental Center, Sherburne. The CBA helps local educators by giving them hands on field experience and environmental education materials. Thirteen teachers from central and southern New York took part in this year's events. Fish identification was done with fish seined from the Chenango River with teacher assistance, and also with taxidermy mounts. Teachers also enjoyed hands-on collecting and identifying aquatic invertebrates.

**Trout Unlimited Youth Camp:** Region 7 Fisheries staff attended the New York State Council of Trout Unlimited Trout Waters Youth Program (TWYP). Thirteen students spent a fun filled week at the TWYP camp learning about fly fishing, fly tying, aquatic invertebrates and stream ecology.

### 2012-13 Region 7 Fisheries Staff

Dave Lemon	Biologist 2 (Aquatic)
Jeff Robins	Biologist 1 (Aquatic)
Scott Prindle	Biologist 1 (Aquatic)
Jim Everard	Biologist 1 (Aquatic)
Emily Zollweg-Horan	Biologist 1 (Aquatic)
Ian Blackburn	Fish & Wildlife Technician 2
Denise Richardson	Seasonal Fish & Wildlife Technician
Jon Preston	Seasonal Fish & Wildlife Technician
Althea Heider	Secretary



**Wild Trout Surveys**

Electrofishing surveys were completed on 155 streams in 2012. Over a three year period (2010 through 2012), 466 streams were sampled and trout were collected in 141. The numbers of streams with each trout species combination collected are listed below. Wild trout were documented for the first time in 91 streams. These streams will be added to a list of streams that qualify for reclassification as wild trout streams.

Species	# Streams
Brook Trout Only	56
Brown Trout Only	41
Brook Trout and Brown Trout	24
Rainbow Trout Only	12
Rainbow Trout and Brown Trout	6
Rainbow Trout and Brook Trout	1
Rainbow Trout, Brook Trout, Brown Trout	1
Total	141

**Keuka Lake Outlet Sea Lamprey Larval Assessment**

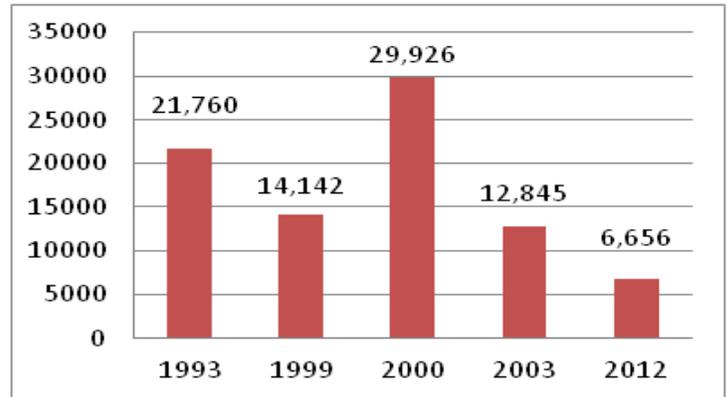
Sea lamprey larval habitat and abundance were assessed in a 2.4 mile reach of Keuka Lake Outlet in early fall using the Great Lakes Fishery Commission protocol for Great Lakes Streams. Keuka Lake Outlet was last treated for sea lamprey larvae in 2008. Treatment results during the 2000's indicated a very low abundance of larvae in the Outlet and therefore it was not included in the treatment plan in 2011. Results indicated that Type I habitat, which is prime sea lamprey larval habitat, accounted for only 2.5 percent of the total area while Type III habitat, which is extremely poor, was nearly 90% of available habitat. Larval abundance was estimated at 3,341 (1,637 – 5,046) larvae. This estimate was higher than anticipated and may warrant further investigation regarding inclusion in the next treatment cycle scheduled for spring 2014.

**Honeoye Lake Walleye Population Assessment**

A mark and recapture estimate was obtained on the Honeoye Lake walleye population during March and April, 2012. Catch rates from the cooperative angler diary program suggested that the adult walleye population may be at relatively low levels. This prompted the mark recapture population survey. This type of survey involves sampling walleye with trap nets, marking them with a fin clip, then returning a few weeks later and sampling using electrofishing. The ratio of marked to unmarked walleye in the electrofishing sample is used to estimate the total population of adult walleye. This same procedure was used to estimate the population in 1993, 1999, 2000, and 2003. The adult walleye population was estimated to be 6,656 at the beginning of the 2012 walleye season. This is significantly lower than in past years and suggests that the poor walleye fishing in recent years is due in part to a lower population. Regulation changes and stock-

ing strategies that may help to increase the walleye population will be considered.

**Honeoye Lake  
Adult Walleye Population Estimates**



**Lake Trout Assessment - Hemlock Lake**

The lake trout population in Hemlock Lake was assessed during late June using standardized Finger Lakes gill nets. This was the 4th survey conducted since 1986. Twelve nets were set resulting in the catch of 56 lake trout. This catch rate is similar to the last netting in 2007. Some large lake trout over eight pounds were collected and the overall sample averaged 3.6 pounds.



Mean relative weights of various size classes of lake trout ranged from 92 to 102, an indication that fish condition is quite good. Relative weight values for lake trout in Hemlock Lake are often higher than those observed in other nearby Finger Lakes. Angler diary results from recent years show that lake trout catch rates are somewhat lower than in nearby Finger Lakes. Good fish condition and low angler catch rates suggest that lake trout have plenty of forage in Hemlock Lake and may be less prone to take an angler's bait or lure.

Hatchery-reared lake trout receive a fin clip prior to being stocked into Hemlock Lake. This allows an assessment of whether there is any natural reproduction taking place. Approximately 96% of the sample consisted of stocked lake trout, indicating that very little successful natural reproduction of lake trout is occurring in Hemlock Lake.

**Lake Trout Assessment - Canadice Lake**

The lake trout population in Canadice Lake was assessed during late June using standardized Finger Lakes gill nets. This was the 6th survey conducted since 1984. Twelve nets were set resulting in the catch of 104 lake trout. This catch rate is similar to the last netting in 2008. Some large lake trout over eight pounds were collected and the overall sample averaged 3.5 pounds. A very nice 11.2 pound male lake trout was also collected.

Mean relative weights of various size classes of lake trout ranged from 85 to 95, an indication that fish condition is fair. Angler diary results from recent years show that lake trout catch rates are good compared to nearby Finger Lakes. Lower relative weights and high

angler catch rates suggest that lake trout forage may be somewhat limited in Canadice Lake and therefore lake trout may be somewhat easier to catch under current conditions.

Hatchery-reared lake trout receive a fin clip prior to being stocked into Canadice Lake to allow differentiation from naturally reproduced fish. The current year sample was dominated by wild lake trout, with only about 4% of the sample consisting of stocked lake trout. It appears that a very significant amount of natural reproduction of lake trout is occurring in Canadice Lake and stocking may no longer be necessary to maintain the population.

**Newtown Creek Survey**

In July 2012, staff conducted an electrofishing survey in a 650 foot section of a recently restored portion of Newtown Creek. Chemung Soil and Water Conservation District personnel and the Chemung County Stormwater Coalition completed a stream restoration/bank stabilization project on an approximately 450 foot section of Newtown Creek. The design included large woody debris, stacked rock and rip-rap, bendway weirs and plantings of willows and other vegetation to stabilize the banks, create small pools and provide shade to the stream. Two young-of-year and one yearling brown trout were collected. A couple of larger trout were also observed upstream of the survey site. This stream section is located in an area that is easy to access and within a moderately populated area that should result in high use during the spring fishing season. As a result of this restoration work and indications that this portion of Newtown Creek can support trout, a new stocking policy was submitted for this reach. The Department currently stocks brown trout about one mile downstream of the project location. The Chemung County Stormwater Coalition is proposing a similar project immediately upstream of this location which should provide additional trout fishing opportunities in the future.

**Accessible Canoe/Kayak launches**

Two accessible canoe/kayak launch systems were purchased and installed at DEC's Canandaigua Lake (Woodville) Fishing Access Site and at the West River Fishing Access Site (Naples, NY). These launch systems have received a lot of use and allow for easier access to the water. Similar systems are planned for additional access sites throughout Region 8.



**Local High School Students Learn About Fisheries Management.**

On October 18 and 19, 2012, for the eleventh consecutive year, Region 8 Fisheries staff cooperated with Delta Laboratories' Adopt-a-Stream program to provide about 120 Environmental Studies students from four area high schools a hands-on demonstration of fisheries management techniques. Boat electrofishing was demonstrated in Thousand Acre Pond in Monroe County's Mendon Ponds Park. Demonstrations were also given in fish identification, water quality, freshwater mussels, fish seining, and fish scale aging and data interpretation. Students had the opportunity to capture, handle, identify, and measure live native fish, age fish scales, and handle and identify benthic invertebrates.

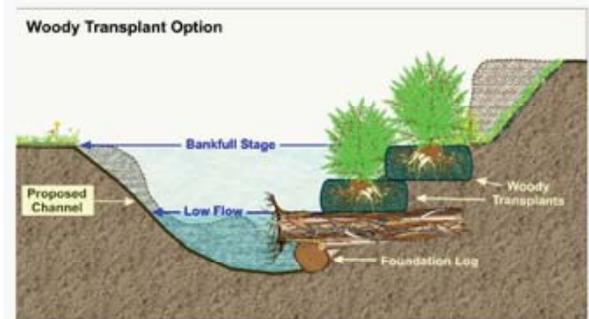
**Fishing Rod Lending program**

Five libraries participated in Region 8 Library Fishing Rod Lending Program. Regardless of the number of users, all the Librarians report the program generates a lot of positive comments.

- Dansville Public Library - A total of 42 users checked out fishing poles in 2012, with a total of 99 weeks of circulation.
- Honeoye Public Library – Started program in August. Poles were checked out nine times. Librarian Wendy Crouse states “This is such a great program, our customer’s love it and it is a great way to get information out to the public. At least one person a day walks up to our display of poles and is impressed that the DEC, Honeoye Fish & Game Club and Honeoye Public Library are working together on this cool project”.
- Pulteney Public Library - Poles were checked out 23 times, tackle boxes 10 times.
- Wood Library (Canandaigua) - Poles were checked out 22 times. Poles have been checked out 150 time since the program started in 2010.
- Woodward Memorial Library (LeRoy) - Poles were checked out 5 times.

**Aquatic Habitat Restoration in Irondequoit Creek Planned**

Planning for an aquatic habitat restoration project on Irondequoit Creek continued into 2012. Approximately 15 sites in the creek in two Monroe County Parks have been identified for the construction of in-stream habitat structures, primarily toe wood structures. Monroe County Parks Department and the United States Fish and Wildlife Service are partners in the project. Funding for the project is from the Lake Ontario Natural Resources Damages Fund. Construction is scheduled to begin in August, 2013.



**2012-13 Region 8 Fisheries Staff**

Web Pearsall	Biologist 2 (Aquatic)
Matt Sanderson	Biologist 1 (Aquatic)
Brad Hammers	Biologist 1 (Aquatic)
Peter Austerman	Biologist 1 (Aquatic)
Amy Mahar	Biologist 1 (Ecology)
Dan Mulhall	Fish and Wildlife Technician 1
Robert Deres	Fish and Wildlife Technician 1
Eric Olsowsky	Seasonal Fish & Wildlife Technician
Joe Dallas	Seasonal Fish & Wildlife Technician
Kevin Mazanec	Seasonal Fish & Wildlife Technician
Bobby Geroux	Seasonal Fish & Wildlife Technician
Daniel Drake	Seasonal Fish & Wildlife Technician
Nicolle Saavedra	Seasonal Fish & Wildlife Technician
Ben Carson	Seasonal Fish & Wildlife Technician
Catherine Gumtow	Seasonal Fish & Wildlife Technician
Ryan Parker	Seasonal Fish & Wildlife Technician



**Lime Lake Electrofishing Survey**

Lime Lake, a 154 acre lake located in Cattaraugus County provides angling opportunities for largemouth bass, smallmouth bass, walleye, tiger muskellunge and several species of panfish. In the spring of 2012, Lime Lake was electrofished to assess current fish populations. Collected data were then compared to past surveys from 1990-1992.



Largemouth bass dominated the catch with 170 being caught throughout the entire survey for a catch rate of 98/hour. Growth rates showed substantial improvement since last surveyed in 1992. Growth rates for panfish were above average and the number of quality sized bluegill and pumpkinseed within the lake have increased. Overall, the Lime Lake fish community appeared to be well balanced as suggested by relatively good predator/prey ratios (PPR) and proportional stock densities (PSD) for largemouth bass and panfish.

**50-day Walleye Stocking Survival Survey**

Chautauqua Lake, Red house Lake, Upper Casadaga Lake, Middle Casadaga Lake, and Lower Casadaga Lake were all night electro-fished to document survival of 50-day walleye. Young of the year walleyes captured from Chautauqua and Red house lakes were positively identified from the 50-day program. This is the first year that walleye from the program have been captured in Region 9 waters.



**Chautauqua Lake Aquatic Invasive Plant Response**

Water chestnut was discovered in Chautauqua Lake for the first time in July 2012, a rapid response was organized by Chautauqua County watershed coordinator and DEC Region 9 fisheries. Concerned citizens were given training on water chestnut identification, the entire lake was divided into quadrants and searched. The search resulted in thirteen plants being found and removed from the Bemus Creek area. The Chautauqua County Watershed Department plans to do annual surveys to monitor for the presence of Water chestnut.

**East Koy Creek Angler and Fisheries Surveys**

October 15th, 2012 brought an end to the second consecutive year of an angler use survey on East Koy Creek. A total of 86 days were surveyed throughout the season, resulting in 383 angler interviews. The vast majority of these interviews were in April, with low angler use noted through the summer and into the fall. There were considerably fewer interviews in 2012 than in 2011 when 552 anglers were interviewed. Anglers in 2012 caught an average of 0.41 fish per hour and reported releasing 76% of the trout they caught (Table 1). This catch rate is slightly lower than in 2011, but not significantly. The goal for a stocked stream in NY is to have an average catch rate of 0.5 fish per hour (one trout caught for 2 hours of fishing).



An estimated total of 7,678 hours was spent fishing East Koy Creek by anglers in 2012 (154 hours per acre of stream). This was less than the 11,769 hours (235 hours per acre) found in 2011. This is considered light to moderate fishing intensity and is considerably less than was found in 1996 and 1997 studies on the creek (Table 1).

The angler use study was done in conjunction with fish population sampling. In May and again in late-August both years, Region 9 Fisheries staff, assisted by angler volunteers conducted trout population sampling on East Koy Creek. The same four sites were electrofished in each of the four surveys. Preliminary analysis showed fair numbers of hatchery trout remained in the stream in May and also in August of 2011, where similar numbers of hatchery trout remained in comparison to 1996 and 1997 (Table 1). In August 2012, a considerably higher number of hatchery trout remained compared to the other three years surveyed. Remaining hatchery trout included fish from all three stocking increments (March, April and May). This was good to see after another brutally hot, dry summer. Water temperature monitoring done through the summer showed three of the four electrofishing sites had water temperatures in July that were marginal for trout survival. Moderate numbers of wild brown trout were also sampled in both years, mainly at the upstream most site with the best water temperatures, with more being found in 2011. In-depth data analysis of the angler use and electrofishing surveys is being completed by Cornell University researchers, as part of the state-wide "fate of stocked trout" study. Both the angler use survey and electrofishing survey will be repeated one final year in 2013.

Although plenty of trout remained in the stream to provide good fishing, the angler use survey showed very little use occurred from mid-August to mid-October. Anglers are missing out on a good time of year to fish in East Koy Creek.

**Table 1. Angler Use and Fish Sampling on East Koy Creek 1996-2012.**

Year	Fishing Use (hours/acre)	Catch Rate (fish/hr)	% Fish Released	#/mile of hatchery BT	#/mile of wild BT
1996	418	1.08	68%	220	367
1997	831	1.06	78%	241	251
2011	235	0.54	74%	219	494
2012	154	0.41	76%	400	365

**Eastern Brook Trout Joint Venture Surveys**

From June to November 2012, two seasonal Fisheries Technicians completed the third year of surveys on small streams across DEC Region 9. Many of these waters have never before been assessed for trout. The primary focus for this work (as part of the Eastern Brook Trout Joint Venture) is to locate undocumented wild brook trout populations or other wild trout species.

The 2012 work occurred mainly in the Cattaraugus County portion of the Allegheny River watershed. Once wild trout populations have been identified, the process to upgrade their water classifications, affording them additional legal protection can begin. Additionally, streams will be prioritized for future habitat restoration and perhaps brook trout reintroduction efforts.

During 2012, the crew assessed 447 streams. Of this total, 94 were found to be dry. In the 353 streams electrofished, they found wild brook trout populations in 69 of the streams and wild brown trout in 65 streams. Wild brook trout in these streams face threats to their existence such as competition with brown trout, elevated water temperatures and poor land use practices.

After three full field seasons, the entire upper Genesee watershed (288 surveys) and most of the Erie-Niagara watershed (421 surveys) in Region 9 have been completed. A large portion of the Allegheny watershed (665 surveys) has also been completed. A total of 1,381 streams have been assessed since 2010, of which 1,172 (85%) have never been surveyed before. Wild brook trout were found in 159 streams, wild brown trout in 187 streams and wild rainbow trout in 23 streams. Of the 316 streams sampled that contained wild trout, 296 (94%) need to have their water classifications upgraded in order to offer the streams maximum protections from disturbance. Man made barriers (mainly road culverts) potentially impassible to trout and other fish were identified on 254 streams in the surveys.

**Allegheny River Fish Community Assessment Summary**

In 2012, the Region 9 fisheries staff completed the first year of the Allegheny River Fish Community Assessment. The last extensive survey of the entire river was conducted by the New York Conservation Department in 1937, and included 39



sites sampled primarily with seines. From that survey J. R. Greely developed an annotated list of 80 species in the Allegheny River watershed. A total of 60 species were collected during the first year of this survey.

The Allegheny River watershed supports a diverse group of species, including 15 species found exclusively in this drainage and nowhere else in the state. There is also an abundant sport fishery for smallmouth bass, walleye, northern pike, and muskellunge. During the first year of the Allegheny River survey, a total of 46 sites were sampled over roughly 31 miles of the main stem of the Allegheny River. An additional 50 sites were sampled in tributaries and ponds directly connected to the Allegheny.

There are several species of special interest in the Allegheny watershed. The gravel chub has been found exclusively in the Allegheny

and is rare. The bigmouth shiner is also considered rare and has only been collected a few times in the Allegheny River. Neither species has been collected yet in this survey, but both are expected to be found during sampling in 2013. River carpsucker, variegated darter, longhead darter, bluebreast darter, and two lamprey species are not found in any other drainage in New York.

**Paddlefish Restoration**

**Propagation**

After some changes were made in rearing protocols at Oneida Hatchery, 2012 marks the third year of exceptional paddlefish production. Eggs received from University of Kentucky researcher Dr. Steve Mims resulted in 2061 juvenile paddlefish being stocked into the Allegheny River drainage. Fish averaging 14 inches were placed into the Allegheny Reservoir, Chautauqua Lake, and Conewango Creek in late July. Over 14,000 juvenile paddlefish have been stocked in these waters since 1998.

**Stock Assessment**

Region 9 Fisheries annually tags all stocked paddlefish with a Wire Code Tag, as per Mississippi Interstate Cooperative Research Agreement protocol. In 2012 Region 9 Staff conducted a juvenile paddlefish survey at the head end of the Allegheny Reservoir to document natural reproduction; no untagged paddlefish have been captured to date.

**Fishing Education, Outreach and Extension**

Region 9 fishing education efforts included involvement in 5 youth and family fishing clinics, reaching over 580 youth anglers and their families. Staff also provided 8 fishing education programs at DEC Rushford Environmental Summer Camp, teaching 287 teenage campers basic fishing skills. Additional fishing and fisheries outreach was provided at various fishing festivals, sport and travel shows, sportsmen’s groups, youth groups and County Conservation Field Days. Fishing extension was provided via the Lake Erie Fishing Hotline and Western New York Fishing Hotline, which are updated every Friday to provide western New York anglers with current info on productive fishing locations, baits, tips and techniques. Each hotline is available on the DEC website at [www.dec.ny.gov/outdoor/fishhotlines.html](http://www.dec.ny.gov/outdoor/fishhotlines.html) or can be heard at (716) 855-FISH. During the reporting period, anglers visited the Lake Erie hotline page 81,121 times, Western New York hotline page 64,900 times and the automated phone lines 24,015 times. In all, these popular angler resources were visited an average of 466 times per day.

**2012-13 Region 9 Fisheries Staff**

Mike Clancy	Biologist 2 (Aquatic)
Scott Cornett	Biologist 1 (Aquatic)
Mike Todd	Biologist 1 (Aquatic)
Mike Wilkinson	Biologist 1 (Aquatic)
Jim Zanett	Fish & Wildlife Technician 3
Rob Roth	Fish & Wildlife Technician 1
Justin Brewer	Fish & Wildlife Technician 1
Amanda Wagner	Fish & Wildlife Technician 1
Eric Stratton	Fish & Wildlife Technician 1
Rebecca Segelhurst	Fish & Wildlife Technician 1
Tobias Widger	Fish & Wildlife Technician 1
Ashleigh Read	Fish & Wildlife Technician 1



### **Bureau Field Surveys Entered Into Statewide Fisheries Database**

Data from a total of 1,054 fishery field surveys were received by the Biological Survey Unit during 2012-13. A total of 715 surveys were finalized and added into the Bureau of Fisheries Statewide Database (SWDB). A substantial number of the surveys received and processed by Central Office were a result of the recent increased effort by some DEC Regions in conducting Eastern Brook Trout Joint Venture surveys (approximately 635 conducted by regional staff during 2012-13). Data updates (“Releases”) were distributed in July 2012, and in November 2012.

### **New York Black Bass Angler Survey**

A statewide survey of black bass anglers was completed by the Cornell Human Dimensions Research Unit (HDRU). The survey, funded through the Federal Sportfish Restoration Program, was conducted for the purposes of characterizing anglers with a preference to fish for black bass, and to obtain insight on their fishing activity and preferences. The survey also was used to obtain feedback on a number of management areas; particularly the addition of the statewide catch and release season providing bass fishing opportunity throughout the year, as well as gauging participation in tournaments and black bass angler views on fishing tournaments held in New York. The results of the survey provided valuable information that will be utilized in managing New York’s black bass populations.

Almost three quarters (72%) of the surveyed anglers were satisfied with their black bass fishing experiences in New York in 2012, and most anglers were satisfied with the job DEC Bureau of Fisheries was doing managing black bass. The majority of anglers did not distinguish between largemouth and smallmouth bass, as far as a preferred species. Some key findings from the survey were as follows: (1) most anglers wish to see the catch and release season (winter/spring non-harvest season) for black bass continued; (2) a majority of anglers support special regulations if the special regulations are intended to increase the number of black bass on waters the anglers fish, or if the regulations would increase their chances of catching a larger black bass; (3) the far majority of anglers wish to be keep the harvest season dates as is, as well as maintain the current minimum size limit; and (4) 85% of the respondents obtained information about black bass fishing from a DEC information source (e.g. fishing regulations guide, other DEC publications, DEC website, or DEC personnel).

Feedback pertaining to bass tournaments and view of tournaments was mixed, with acknowledgement of tournaments providing a boost to local economies and promoting a catch and release ethic, but some anglers expressing concern over reducing the quality of fishing experience for non-tournament anglers. The Final Report is entitled “Black Bass Anglers’ Experiences in New York and Their Views on Tournaments and Fisheries Management” and was written by Nancy A. Connelly and Barbara A. Knuth.

### **Changes to Regulations Governing the Sale/Transport of Black Bass**

During 2012-13 a Notice of Adoption (NOA) was prepared, finalizing a rule governing the possession, transportation and sale of hatchery reared black bass in New York State. The regulations were modified to facilitate the marketing of largemouth bass for human food purposes including sale at restaurants. The changes to the regulations include requirements for identification of these fish through retail markets as part of an effort to minimize the opportunity for wild New York black bass to enter the market. The sale of black bass for human consumption is restricted to just largemouth bass. No allowances are provided for the sale of smallmouth bass for human consumption, including the previous limited opportunity of direct retail sale (with no resale) by licensed hatcheries. In New York smallmouth bass are commercially raised principally for stocking and recreational purposes, and these regulations apply to those activities (for both smallmouth and largemouth bass) as well as the sale of either species for scientific or exhibition purposes. The regulations became effective on January 2, 2013.

### **Exemption for the Possession and Sale of Bighead Carp**

A rule-making was initiated during the year for the purposes of removing the exception that has existed in statewide regulation allowing for bighead carp to be sold, possessed, transported, imported and exported in NYC and immediate vicinity. Since NY established this exception in 2004 the federal government enacted the “Asian Carp Prevention and Control Act” which added these fish as an Invasive and Injurious Species in 18 USC 42. This federal act went into effect in December 2010. Bighead carp are now federally prohibited from being imported and it is a Lacey Act violation if they are transported across state lines into New York. As a result of federal action, the exceptions in the state regulations (180.9 of 6NYCRR) are no longer legal and will be repealed. A Notice of Adoption was expected to be filed, to finalize this regulation change, in the summer of 2013.

## **Warmwater Fisheries Management**

### **Ecology and Management of the Fish Communities in Oneida and Canadarago Lakes**

Researchers at the Cornell Biological Field Station at Oneida Lake completed their annual assessment of the fish communities in Oneida and Canadarago Lakes. Funded by a Federal Aid to Sportfish Restoration grant, these monitoring projects are the longest running warmwater fishery assessments in New York State and continue to provide valuable insight on the complex dynamics associated with warmwater fish populations in large northern lakes.

#### **Oneida Lake**

Abundance of adult walleye (age 4 and older) in 2012 was estimated at 480,200, which was an increase from the 2011 estimate of 459,500. This modest increase was primarily from good recruitment of the 2008 year class. Over the full course of the 57 year data series the adult walleye population has experienced a significant decrease, but has shown a significant increase in the last decade. Predicted recruitment from the 2009 year class (40,800 fish) is below typical harvest levels, but predicted recruitment from the 2010 year class (108,500 fish) could result in an increase in the adult population in 2014.

The adult yellow perch population was estimated to be 1.4 million fish. Long term trends show a significant population decline, but

no trend is detectable over the last decade, suggesting a more or less stable, but much smaller population than was present in the lake in the 1960s – 1980s.

Long term fish community changes are measured by assessing standard gill net catches. There were 1,598 fish caught in the standard gill nets in 2012, which was similar to the numbers caught throughout the 2000's. Catches continue to be dominated by yellow perch (42% of the catch), white perch (24%), and walleye (20%). These three species have represented over 80% of the catch in most years, with white perch occasionally outnumbering yellow perch.

Increased water clarity due to filter feeding by zebra and quagga mussels has caused an expansion in the shoreline littoral habitat that favors species such as black bass, sunfish, and pickerel. Nearshore fyke net and electrofishing surveys were recently added to the monitoring program



to account for the anticipated changes in the fish community. In 2012, 25 species were caught in the fyke nets and 28 species were caught during electrofishing, many of which were littoral species that are not typically caught with the traditional gears used in the long term studies. The fyke net survey has provided an index of young-of-year largemouth bass production and also shows potential as an index for sunfish and chain pickerel. It also will provide valuable data on production of nesting centrarchids to assess potential impacts of round gobies, once they arrive. Electrofishing sites were selected to overlap fyke net sites to allow for the collection of a time series of data to assess the strengths and weaknesses of the two sampling approaches.

Creel surveys have not been a regular part of the sampling program, but have been conducted periodically, most recently from 2002-07. Beginning in 2011, and continued in 2012, a "limited" creel survey was conducted as a means to provide a reliable, yet low cost, annual estimate of the walleye catch and harvest. Surveys consisted of boat counts from a tower and angler exit interviews. Effort in 2012 was 213,570 boat hours, which was higher than observed in any year during the 2002-07 survey and continued a trend of increasing effort for the period 2002-12. 60% of anglers targeted walleye or walleye and other species and 30% of anglers targeted bass or bass and other species. The estimated catch and harvest rates for walleye during the open water season were 0.31/hour and 0.15/hour, respectively. The estimated annual walleye harvest was 59,500. Bass harvest rates were less than 10% of estimated catch rates, typical for this largely catch and release fishery.

#### *Canadarago Lake*

Walleye fry abundance was low again in 2012, continuing a trend which began in 2005. The low abundance of fry is attributable to an increasing population of alewife, which are known predators of fish fry and often have dramatic impacts on walleye reproduction. The reduction in fry abundance appears to be having an impact on the adult population as fall electrofishing



surveys have documented a decline in the number of adult walleye during the past several years.

In response to the almost complete lack of successful walleye reproduction over the last 8 years and a declining adult population, a walleye stocking program was initiated in 2011. Approximately 40,000 advanced walleye fingerlings will be annually stocked for 5 years. The goal of this program is to boost walleye recruitment by offsetting some of the losses of young walleye to alewife predation. Annual assessments of the fish community will allow up to date tracking of stocking success.

#### **Post Tournament Dispersal of Black Bass in Lake Champlain**

The increasing popularity of large-scale black bass tournaments on Lake Champlain has led to concerns about fish condition and dispersal post-tournament. A Sportfish Restoration funded study to track movements and assess the condition of black bass following release from tournaments held at Plattsburgh was completed by researchers at SUNY Plattsburgh and Lake Champlain Sea Grant. Largemouth and smallmouth bass were collected post weigh-in at 5 tournaments and anglers were interviewed to determine the approximate capture location of the fish.



In general, largemouth bass were caught further away from Plattsburgh than smallmouth bass. Over 1,300 bass were marked with external T-bar tags and 41 bass were implanted with radio transmitters. The T-bar tag return rate was 10% and the majority of these fish moved less than 3 km from the release point. Most radio-tagged bass remained in Cumberland Bay for at least several weeks post-release. Fifteen radio-tagged bass left Cumberland Bay, but they generally took two months to do so. These bass tended to disperse along the shoreline; only two largemouth bass crossed deep water areas (>65 m). No radio-tagged bass returned to their original capture location. To facilitate the movement of bass from Cumberland Bay following tournament release, alternate release sites were suggested.

#### **Statewide Black Bass Population Assessment**

Black bass are the most sought after species of fish by New York anglers, but the last comprehensive statewide population assessment occurred nearly 30 years ago. Since then black bass fisheries have become more tournament based and catch and release angling has become more prevalent. A 3 year study funded through a Sportfish Restoration Grant and conducted by the New York Cooperative Fish and Wildlife Research Unit was initiated in 2011 to compile black bass data from various large datasets and comprehensively assess population and environmental metrics. Initial efforts have focused on determining and selecting standardized data for further analysis. Multiple population parameters (relative abundance, growth, condition, etc.) will then be summarized for specific waterbody types (e.g. large rivers, small inland lakes, Great Lakes, etc.) and spatial and temporal trends will be assessed. This study will greatly enhance our current understanding of New York's bass populations and will result in the development and implementation of a revised management strategy.

### Stocking Evaluation of 50 Day Old Walleye Fingerlings

An experimental walleye stocking program, initiated in 2009, was continued using 50-day old tank raised fingerlings from Oneida Hatchery. Eleven lakes throughout the northern, central and western regions of the State were stocked in June with about 390,000 1.5 inch long fingerlings. Waters stocked included Loon Lake in Region 5, Black, Red, and Payne lakes in Region 6, Otisco and Otter lakes in Region 7, and Chautauqua, Redhouse and Upper, Middle and Lower Cassadaga lakes in Region 9. The success of this program is being assessed through annual monitoring in the fall and with a full fish community assessment at the end of a five-year stocking schedule. Annual fall surveys from 2009-12 have documented survival of stocked walleye at Loon, Otisco, Redhouse and Chautauqua lakes.



## Coldwater Fisheries Management

### CROTS Review & Fate of Stocked Trout Study

The Bureau of Fisheries completed the second year of fieldwork for a multi-year statewide study to verify and update the key biological and fishery parameters used to calculate trout stocking rates under our Catch Rate Oriented Trout Stocking (CROTS) method. This research, conducted in partnership with the Fish and Wildlife Cooperative Unit at Cornell University, will yield fresh estimates of angling effort, seasonal patterns of angling effort, harvest rates, and total mortality rates of stocked trout.



In 2012, bureau staff completed creel surveys and population estimates on the following streams: Carmans River, Esopus Creek, Kinderhook Creek, Kayaderosseras Creek, Oriskany Creek, Big Creek, Otselic River, Meads Creek, and East Koy Creek. Creel survey data collection was improved by the introduction of new handheld field computers and a new creel survey application. The data were provided to Cornell University graduate students Alexander Alexiades and Benjamin Marcy-Quay for analysis. The entire research team met twice in 2012 to plan the fieldwork and to review preliminary results from the first two field seasons as presented by Cornell.

Compared to the original CROTS parameter estimates, the preliminary findings of this study include: fewer hours of angling per acre relative to previous creel surveys, higher rates of catch and release but also higher rates of natural loss (mortality plus outmigration) over time for stocked trout.

A third and final field season is scheduled for 2013. By collecting these data over multiple years we can expect the results of the study to incorporate the inter-annual variation in hydrological, biological, and fishing conditions. Cornell University will deliver a final report including recommended modifications to the CROTS model in March 2014.

### Brook Trout Stream Status Surveys

New York is one of 17 states on the eastern seaboard participating in the Eastern Brook Trout Joint Venture. The goal of this effort is to halt the decline of brook trout and restore fishable populations of this native trout. In support of this goal, DEC biologists are conducting stream surveys to determine the status of brook trout populations in watersheds where our information is outdated or absent. Ultimately, on waters where the presence of wild brook trout or other naturally reproducing trout species was previously un-documented, the results of these surveys will allow the DEC to upgrade the classification of these waters to a level with enhanced legal protections. In addition, the information will also allow prioritization of habitat restoration projects or efforts to reestablish brook trout.

In 2012, six hundred two stream surveys were completed in regions 8 and 9 under this federally funded project. The cumulative total of completed brook trout status surveys since 2010 is 2,771. Of these surveys, 508 documented the presence of brook trout. The regional distribution of these totals is shown below. In many of these streams, the presence of trout had not been previously documented. Therefore, the information supports reclassification to a higher level of legal protection.

DEC Region	Total Streams Surveyed	Streams with Brook Trout
4	506	131
6	3	0
7	415	137
8	466	81
9	1381	159

### Delaware River Basin Gaging Stations Funded

In order to assure the availability of data essential to the management of the highly productive trout fisheries in the tailwaters of New York City's Delaware River Basin reservoirs, a total of \$51,877 was committed in 2012 to support the operation of U.S. Geological Survey stream gages at the following locations:

- Diversion from Schoharie Reservoir
- Esopus Creek at Coldbrook
- East Branch Delaware River at Harvard
- West Branch Delaware River at Hale Eddy
- West Branch Delaware River at Hancock
- Delaware River at Lordville
- Delaware River at Callicoon
- Neversink River at Bridgeville

These instruments, which transmit flow and temperature measurements in real time, would otherwise be shut down. The data they collect are particularly important because of the exceptional value of the recreational trout fishery and because they allow monitoring of the biological effects of flow management plans which are frequently al-





**Lake Ontario Unit**

The Bureau of Fisheries' Lake Ontario Unit (LOU), based in Cape Vincent, is primarily responsible for delivering a lake-wide fisheries assessment and research program. The mainstay of the program is the Department's 60 ton Research Vessel Seth Green,



which was out of service for two weeks in 2012 to conduct scheduled maintenance. Lake Ontario's sportfisheries have been valued at over \$112 million annually, and successful management requires that fisheries assessments and research be executed collaboratively. Delivery of our comprehensive program requires active partnerships with a number of institutions, including DEC Regions 6, 7, 8 and 9, the U.S. Geological Survey (USGS), the Ontario Ministry of Natural Resources (OMNR), the U.S. Fish and Wildlife Service (USFWS), the Great Lakes Fishery Commission (GLFC), Cornell University, and the SUNY College of Environmental Science and Forestry. Our complete annual report can be accessed at: [www.dec.ny.gov/outdoor/27068.html](http://www.dec.ny.gov/outdoor/27068.html).

**Sportfishery Monitoring**

Each year from April through September, the LOU conducts the Lake Ontario fishing boat survey at 30 access channels from the Niagara River in the west to the Association Island cut in the east. The survey tracks a multitude of trends in the open lake sportfishery, including angler effort, catch and catch rates, harvest and harvest rates, performance of stocked fish, and fish growth/condition. Lake Ontario fishing quality is best characterized by the number of trout and salmon caught per fishing boat trip (catch rate). In 2012, the catch rate for all trout and salmon combined was the second highest observed since this survey began in 1985. In fact, 7 of the 8 highest combined catch rates were recorded between 2003 and 2012 (Figure 1). These exceptional catch rates are largely due to record or near record-high catch rates in recent years for Chinook salmon, coho salmon, rainbow trout (steelhead), and brown trout. While fishing quality has been exceptional, open lake angler effort (number of fishing boat trips) has not increased (Figure 2). Seasonal estimates of total fishing boat trips, trips targeting trout and salmon (T&S), and trips targeting smallmouth bass (SMB) during the traditional open season (3rd Saturday in June-September 30 when the survey ended). In contrast to open lake angler effort (785,271 boat angler hours), angler effort in Lake Ontario tributaries during 2011/2012 was relatively high (1,582,428 tributary angler hours), with nearly 1.1 million angler hours expended on the Salmon River alone.

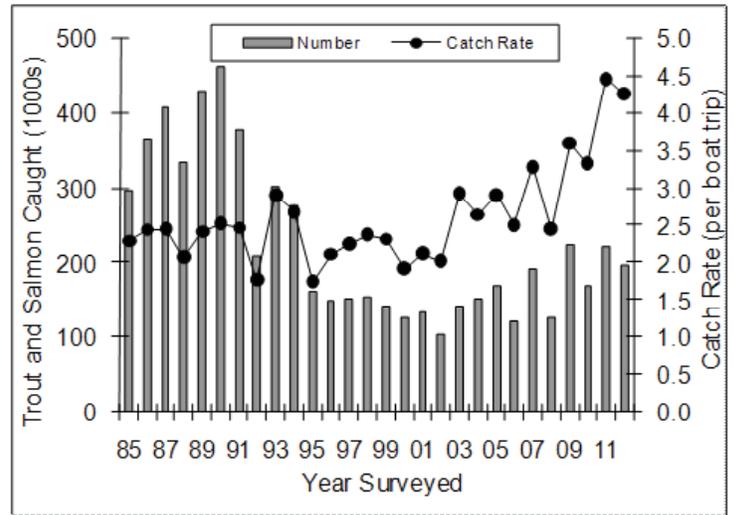


Figure 1. Total trout and salmon catch (bars) and catch rate (line/dots) for boats seeking trout and salmon, 1985-2010.

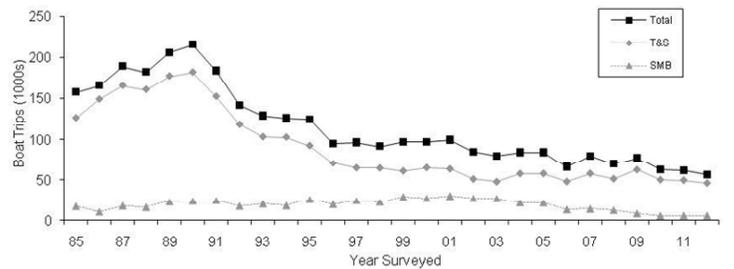


Figure 2. Seasonal estimates of total fishing boat trips, trips targeting trout and salmon (T&S), and trips targeting smallmouth bass (SMB) during the traditional open season (3rd Saturday in June-September 30 when the survey ended).

**Preyfish Monitoring and Predator Growth/Condition**

With over 5 million trout and salmon stocked annually into Lake Ontario by New York State and the Province of Ontario, it is important to monitor the abundance of bait or preyfish that trout and salmon predators feed on, as well as growth rates and condition of predators (also see Sportfishery Research). Partnering with USGS and OMNR, the LOU monitors relative abundance of alewife, rainbow smelt, sculpins, and round gobies. Alewife populations are of particular concern, as they are the primary food for Chinook salmon, the top predator in the lake. Lake Ontario predator demand in 2012 appeared to be in balance with available prey. Adult alewife abundance and biomass indices increased for a second year following the historic low levels recorded in 2010 (Figure 3). Abundance of age-1 (yearling) alewife was well above average, and represents the largest year class recorded since the 1998 year class collected as yearlings in

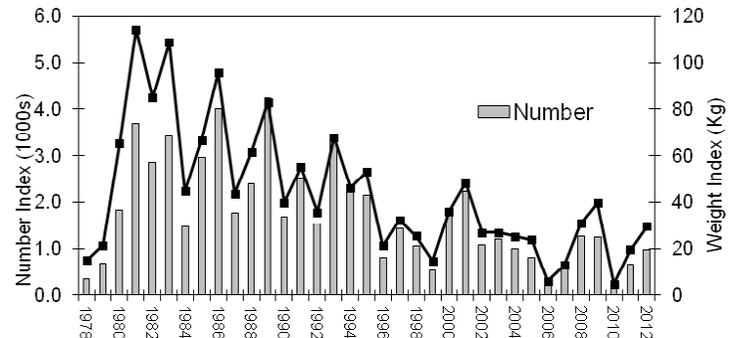


Figure 3. Abundance indices for adult (age-2 and older) alewife in the U.S. waters of Lake Ontario during late April-Early May, 1978-2012.

1999. The overall increase in alewife abundance contributed to increased or stable lengths of age-2 and age-3 Chinook salmon. Condition, or relative “plumpness”, of Chinook salmon decreased slightly from 2011, but remains relatively high. Lake Ontario continues to produce the largest Chinook salmon in the Great Lakes.

### Sportfishery Research

Using Lake Ontario Natural Resources Damages funds, the Bureau of Fisheries purchased a \$1.3 million automated fish marking trailer (“AutoFish”) in 2008. The AutoFish system is capable of removing a fish’s adipose fin and/or inserting a coded wire tag into the snout of the fish automatically at a high rate of speed and accuracy. Fin clipping and tagging give researchers tools to answer a variety of questions regarding the relative performance of stocked and wild fish. From 2008-2011, the Department and the OMNR “mass-marked” all Chinook salmon stocked into Lake Ontario with an adipose fin clip to determine the relative contributions of naturally reproduced (“wild”) and hatchery stocked Chinook salmon to open lake and tributary fisheries. Knowing the relative roles of hatchery and wild salmon in the lake is very important for fisheries managers to better understand



how stocking decisions can influence Chinook salmon population dynamics and predator/prey balance in Lake Ontario. High numbers of wild Chinook salmon in addition to stocked fish are thought to have contributed to an imbalance between predators and alewife in Lake Huron, greatly reducing growth and condition of Chinook salmon and negatively impacting sportfisheries. The relative contribution (%) of wild Chinook salmon in the open lake sport fishery varied by region (NY east, NY west, and Ontario waters) in 2012, and ranged from 17-34.5% for age-1 fish, 52.9-64.1% for age-2 fish, and 44.3-59.3% for age-3 fish. These preliminary results indicate that although wild fish are an important component of the Lake Ontario Chinook sport fishery, stocking remains essential for sustaining the sport fishery and managing the lake ecosystem.

### Native Species Restoration

An international program to restore a naturally reproducing population of lake trout in Lake Ontario is ongoing. To measure progress, cooperative DEC/USGS bottom trawl (juveniles; July) and gill net (adults; Sept.) surveys are conducted annually at 14 sites from the Niagara Bar to Charity Shoals in the Eastern Basin. Catch of age-2 lake trout in 2012 was the highest since 1992. Adult lake trout abundance increased in recent years following historic lows observed during 2005-2007, and appears to have stabilized.

Three species of deepwater cisco are considered extirpated from Lake Ontario, and the LOU has been collaborating with the OMNR, USFWS, and the GLFC to re-introduce “bloaters” into the lake. In 2012, bloater eggs were collected from Lake Michigan and reared at

OMNR’s White Lake Fish Culture Station and the USGS Tunison Laboratory. For the first time in Great Lakes fisheries management history, bloaters were stocked into Lake Ontario in November of 2012. Stocking of bloaters is expected to continue annually, with a goal of restoring a self-sustaining population within 25 years.

### Sea Lamprey Control

In an ongoing battle to combat the damaging impacts of sea lamprey on Lake Ontario sport fisheries, the GLFC and their sea lamprey control agents, the Department of Fisheries and Oceans Canada and the USFWS, conducted comprehensive control and assessment activities in Lake Ontario tributaries in 2012. In the adult phase, a single parasitic sea lamprey is capable of killing as much as 40 pounds of fish. Treatments to kill larval lamprey using lampricides were completed in 14 tributaries, and larval assessments were conducted on 49 tributaries. In 2012, the first sea lamprey barrier on a Great Lake’s tributary was completed on Orwell Brook, a tributary to the Salmon River. The low-head dam is designed to block migrating sea lampreys from reaching their spawning grounds, and features removable stop logs and an integrated sea lamprey trap.

### Warmwater Fisheries Assessment

Each year the LOU conducts index gill netting to assess the status of warmwater fish populations in Lake Ontario’s Eastern Basin. In 2012, smallmouth bass abundance was comparable to the previous 5-year average and well above low levels observed in 2000-2004. Walleye abundance remained relatively stable, while yellow perch catch remained relatively high. At least one lake sturgeon has been collected in 14 of the last 18 years (4 in 2010), suggesting an increase in sturgeon abundance.

## St. Lawrence River Research

Researchers at the SUNY College of Environmental Science and Forestry, Thousand Islands Biological Station continued their efforts in 2012 to study the warmwater fish communities of the St. Lawrence River with emphasis on muskellunge, northern pike and smallmouth bass.

### St. Lawrence River Muskellunge Research

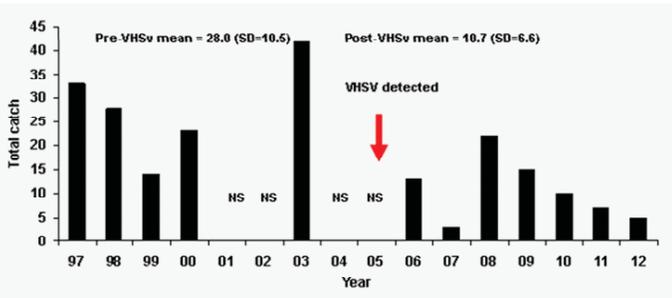
Muskellunge are the focus of a popular and economically important fishery in the Thousand Islands region of the St. Lawrence River, where the NYS record 69 pound 15 ounce muskellunge was caught in 1958. In the late 1970s, muskellunge guides raised concerns that the quality of the muskellunge sport fishery had declined dramatically. In response, the Department conducted preliminary research leading to an increase in the muskellunge minimum size limit from 32 inches to 36 inches. Using Federal Aid in Sport Fish Restoration program funding, the Department contracted with the SUNY College of Environmental Science and Forestry (ESF) beginning in 1987 to conduct St. Lawrence River muskellunge studies. In the ensuing years, studies have identified over 80 muskie spawning and nursery areas that have been afforded additional levels of protection from habitat alteration. Research documenting first spawning of females at approximately 36 inches



Research documenting first spawning of females at approximately 36 inches

in length (6 years old) led to increases in the minimum size limit first to 44 inches, and then to 48 inches. A muskellunge release program was instituted that rewards anglers who release a legal-size muskie with a limited edition muskie print created by a renowned local artist. By the mid-1990s, these management actions contributed to a substantial increase in muskellunge angler catch rates, which reached the management plan target rate in 1999.

More recently, large-scale mortalities of pre-spawn female muskellunge caused by the newly introduced Viral Hemorrhagic Septicemia virus (VHSV) were documented in 2005 and 2006 (dead muskies on tarp). As reflected in the graph below, spring spawning surveys using trapnets suggest declining abundance of adult muskellunge since 2008. Catches of young-of-the-year (YOY) muskellunge in index seine hauls have also declined since 2004. An angler diary program, which indexes the relative quality of muskie fishing through angler catches, also indicates relatively poor angling success. A number of potential causes may be contributing to the apparent muskellunge decline, including habitat changes (vegetative and fish communities on nursery grounds), VHSV mortality, and the presence of round goby in spawning/nursery habitats. Investigations into the cause(s) for these declines are ongoing.



**Northern Pike Research**

Northern pike spawn about one month earlier in the spring than muskellunge, and are more dependent upon the presence of submerged vegetation for spawning habitat. Long-term regulation of Lake Ontario and St. Lawrence River water levels by the International Joint Commission has reduced the natural range of water levels in the system, resulting in degradation of wetland habitats required by northern pike. Similar to muskellunge studies, ESF researchers have chronicled declines in the abundance of spawning adult and YOY northern pike in the Thousand Islands region. Ongoing research has focused on developing a better understanding of water level regulation impacts on wetland habitats, and conducting experimental habitat manipulations designed to improve natural reproduction of pike. Habitat manipulations include water level control structures used to restore more natural water level regimes in managed spawning marshes, and excavation of channels through cattail mats to restore fish passage to isolated pools of quality habitat.



Low numbers of spawning northern pike entering managed spawning marshes prompted

trapping of spawning fish elsewhere for release into managed marshes. While production of YOY northern pike in managed marshes was initially high, production has declined significantly since 2007. Low numbers of spawning adults, as well as a predominance of female pike, appear to contribute to low reproductive success. Assessment of the efficacy of excavated channels in increasing northern pike reproduction is ongoing (picture).

Northern pike sex ratios were investigated beginning in 2010. This research compared northern pike among two sites in the St. Lawrence River and other nearby “inland” water bodies, including Perch Lake, during late winter. Sex ratio imbalance was not significant for inland waters, but strongly female dominated for St. Lawrence River sites. Male sperm packet counts from pre-spawn testes histological samples were also compared in the study, but did not show significant differences among sites. Future research should examine the causal mechanism for the sex-ratio imbalance and determine if it affects reproductive rates.

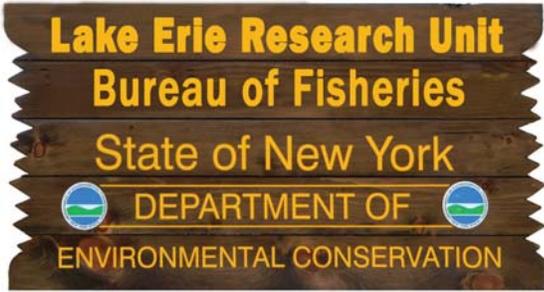
**Smallmouth Bass Research**

ESF researchers have also studied the prevalence of VHSV in St. Lawrence River smallmouth bass, and the timing, depth and distribution of smallmouth bass spawning. While no smallmouth bass mortality events have been documented, bass have been shown to carry relatively high levels of VHSV, and could be susceptible to disease during periods of stress. Studies indicate a strong relationship between rapidly rising spring water temperatures and VHSV prevalence in bass.

The potential effects of increased water clarity and the colonization of the St. Lawrence River by invasive round goby on smallmouth bass nesting success are also under investigation. Overall, smallmouth bass nests were distributed at the same density within each of three areas studied. Smallmouth bass nests were located in greater water depths than previously reported for this or any other system (mean=8.5 feet; maximum= 18 feet). Nesting at greater depth has implications for increased nesting duration due to cooler offshore temperatures, potentially greater temporal exposure to predation (i.e. gobies), as well as smaller YOY bass entering the overwintering period. Assessment of nest success relative to round goby density is ongoing.

**2012-13 Lake Ontario Research Unit Staff**

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Josh Dallas	Fish & Wildlife Technician 1
Chris Legard	Fish & Wildlife Technician 1
Kaitlin Larson	Fish & Wildlife Technician 1
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Corrie Odea	Fish & Wildlife Technician 1
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Gaylor Massia	Maintenance Assistant
Rose Greulich	Fish & Wildlife Technician 1

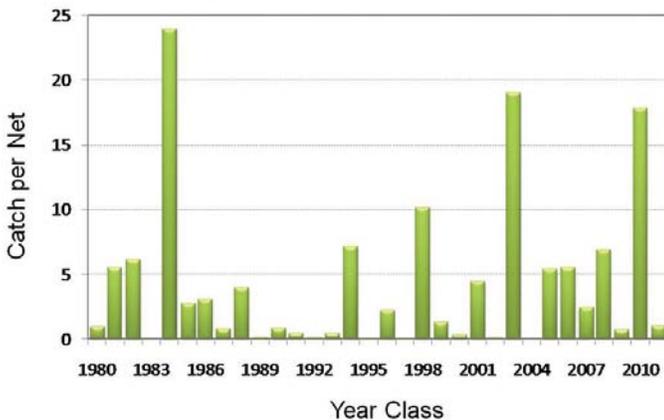


The Lake Erie Fisheries Unit is responsible for fishery research and assessment activities for one of New York’s largest and most diverse freshwater fishery resources. A variety of annual programs improve our understanding of the Lake Erie fish community to guide fisheries management, and safeguard this valuable resource for current and future generations. The following shares a few of the highlights from the 2012 program year. The Lake Erie Unit’s annual report is available on DEC’s website at [www.dec.ny.gov/outdoor/32286.html](http://www.dec.ny.gov/outdoor/32286.html), or by contacting DEC’s Lake Erie Unit office.

**Walleye**

Lake Erie’s eastern basin walleye resource is composed of local spawning stocks, as well as contributions from summertime movements from western basin spawning stocks. The annual movement of western basin stocks is now well known via long-term tagging studies conducted throughout the lake. Walleye fishing quality in recent years has generally been very good and largely attributable to excellent spawning success observed in 2003. However, the dominant 2003 year class has now begun to wane. Nevertheless, walleye fishing activity and quality continues to be very good due to average to good spawning success that occurred from 2005 to 2008 and 2010. Our most recent juvenile walleye survey indicates only modest spawning success in 2011. However, overall good recruitment in recent years, especially from 2010, suggests adult walleye abundance in the eastern basin will be satisfactory over the next few years.

**Age-1 Walleye Index**

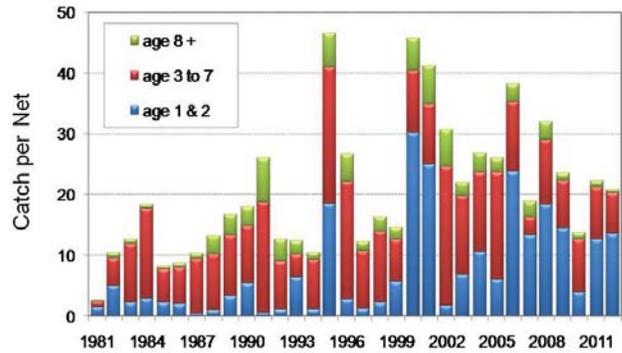


**Smallmouth Bass**

Lake Erie supports New York’s, and perhaps the country’s, finest smallmouth bass fishery. Generally stable spawning success, coupled with very high growth rates and acceptable survival, produce high angler catch rates and frequent encounters with trophy-sized fish. However, our most recent bass monitoring indicates a decline in particularly larger and older individuals. Our juvenile abundance measures indicate excellent recruitment from the 2010 year class,

and we expect these age-3 fish will be a very prominent component of the fishable population in 2013.

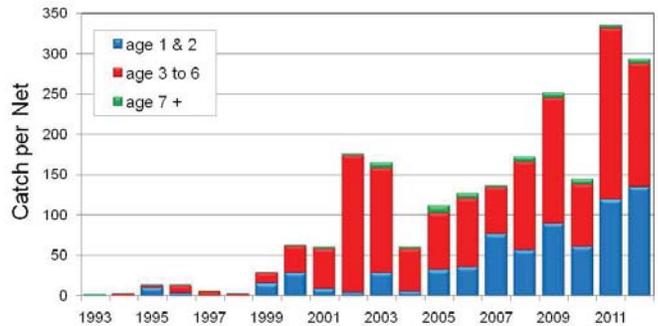
**Smallmouth Bass Index**



**Yellow Perch**

Lake Erie yellow perch populations have experienced wide oscillations in abundance over the last 30 years, from extreme lows in the mid-1990s, to an extended recovery that has now lasted over a decade. A large adult population continues to produce good angler catch rates, especially during spring and fall seasons. Abundance of juvenile perch in trawling and gill net surveys has been high in recent years, with record-high abundance of age-1 perch observed in 2011. Overall, this pattern of recruitment suggests that higher and more stable yellow perch abundance will extend at least another few years.

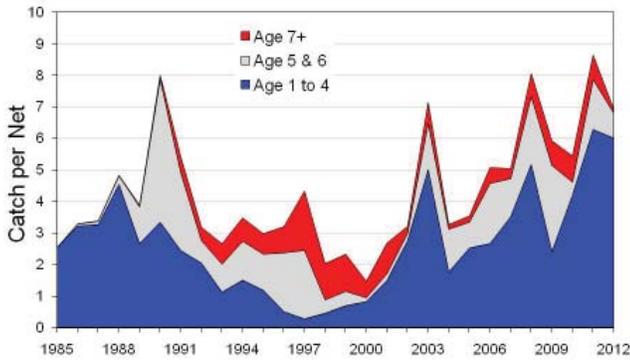
**Gill Net Catches of Yellow Perch**



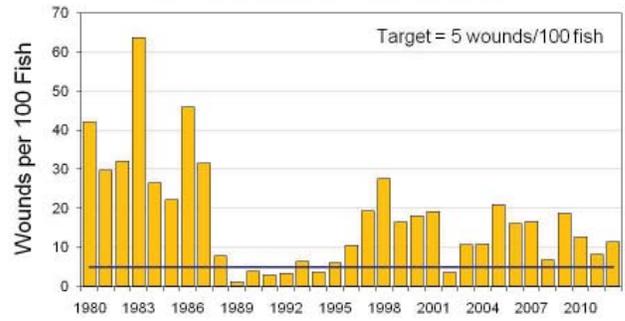
**Lake Trout Restoration**

Re-establishing a self-sustaining lake trout population in the eastern basin of Lake Erie continues to be a major goal of New York’s Great Lakes coldwater fisheries management program. Lake trout have been stocked annually since 1978 and assessment programs monitor the status of progress. A revised lake trout rehabilitation plan was completed in 2008 and will guide future recovery efforts. Overall abundance of lake trout in the New York waters of Lake Erie remained high in 2012. The majority of the catch was young lake trout ages 1-4, mainly due to increased stocking levels over the past 5 years. Adult stocks (age 5 and older) remain at relatively low levels; survival of adults is low due to high sea lamprey predation on lake trout. Lakewide abundance estimates for all age groups still remain well below targets. Natural reproduction has not been detected in Lake Erie, and continued stocking and effective sea lamprey control are needed to build adult lake trout populations to levels where natural production is viable.

### Gill Net Catches of Lake Trout



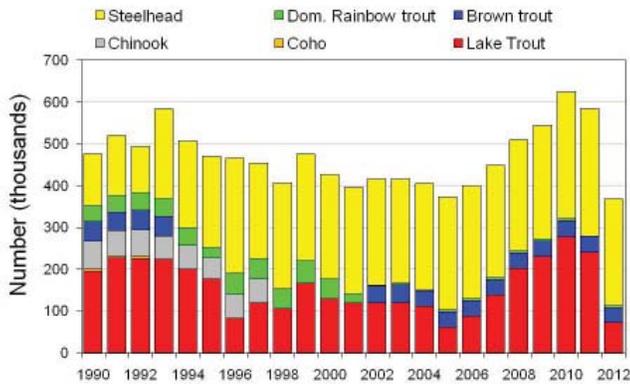
### Sea Lamprey Wounding Rate on Lake Trout >21 inches



### Salmonid Management

New York annually stocks approximately 270,000 steelhead and 35,000 brown trout into Lake Erie and its tributaries to provide recreational opportunities for both lake and stream anglers. Wild reproduction of steelhead also occurs which contributes to the fishery as well. Fall juvenile assessments conducted since 2001 confirmed substantial numbers of young-of-year steelhead present in many tributaries. Tributary angling for steelhead, assessed through an angler diary program, showed a sharp decline in fishing quality in 2010, but an increase in 2011. A tributary angler survey conducted during the 2011-12 fishing season on the major Lake Erie tributaries showed a 42% decline in salmonid catch rates and a 47% decline in overall catch compared to the 2007-08 survey.

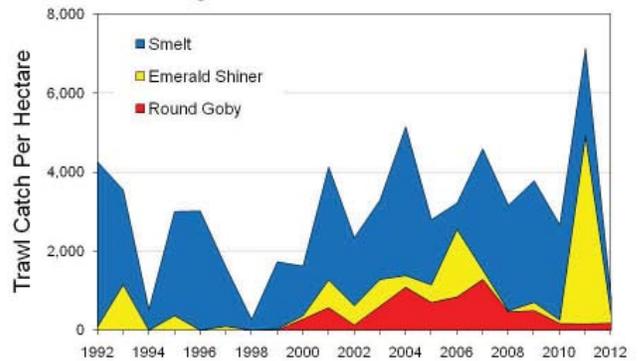
### Trout & Salmon Stocking in NY



### Prey Fish

A variety of prey fish surveys beginning approximately 20 years ago found rainbow smelt as the dominant component of the open lake forage fish community. Beginning in 2000, there has been a notable increase in prey species diversity accompanied by somewhat lower smelt abundance, and in some years especially high abundances of round gobies and emerald shiners were encountered in both prey fish collections and predator diets. In recent years, overall prey fish abundance trended slightly downward, particularly the contribution by gobies in trawl surveys. In 2012, emerald shiner and rainbow smelt abundance decreased sharply while gobies remained stable at lower abundance. Lower food web monitoring indicated the eastern basin was in its targeted mesotrophic status favorable for yellow perch and walleye production. Over time we expect these investigations to be useful in furthering our understanding of factors shaping the fish community.

### Forage Fish Abundance Trends



### Sea Lamprey

Sea lamprey invaded Lake Erie and the Upper Great Lakes in the 1920s and have played an integral role in the failure of many native coldwater fish populations. Sea lamprey control in Lake Erie began in 1986 in support of lake trout rehabilitation efforts, and regular treatments are conducted to control lamprey populations. Annual monitoring consists of observations of sea lamprey wounds on lake trout and other coldwater fish species, and lamprey nest counts on standard stream sections. Wounding rates on lake trout increased in 2012 and nest counts continue to remain very high, indicative of a high sea lamprey spawning population. Surveys indicate that the consecutive lampricide treatments of all key Lake Erie tributaries in 2008 and 2009 were successful in those streams, but the sea lamprey population remains high due to an unknown source of production.

### 2011-12 Lake Erie Research Unit Staff

- |                    |                                   |
|--------------------|-----------------------------------|
| Don Einhouse       | Biologist 2 (Aquatic)             |
| Jim Markham        | Biologist 1 (Aquatic)             |
| Doug Zeller        | Fisheries Research Vessel Captain |
| Brian Beckwith     | Fish & Wildlife Technician 2      |
| Rich Zimar         | Fish & Wildlife Technician 2      |
| Ginger Szejwbka    | Secretary 1                       |
| Mark Dusablon      | Fish & Wildlife Technician 1      |
| Carrie Ann Babcock | Fish & Wildlife Technician 1      |
| Jonathan Draves    | Fish & Wildlife Technician 1      |
| Kyle Nemecek       | Fish & Wildlife Technician 1      |
| Jonathon Townsend  | Fish & Wildlife Technician 1      |
| Ann Wilcox-Swanson | Fish & Wildlife Technician 1      |



**Angler Achievement Awards**

With 176 entries received, the 2012 Angler Achievement Awards Program saw a 25% increase compared to the number of angler entries received in 2011. An overwhelming 132 of those qualified for Catch and Release awards. Consistent with years past, almost half of the entries sent in were for largemouth and smallmouth bass catches. For the third consecutive year, a new state record brook trout was established. William Altman caught a 21", 5 lb 14 oz brookie from the West Canada Wilderness Area, Hamilton County on May 5, 2012. In addition to rewarding anglers for the trophy fish they catch, the AAAP also provides useful information on the quality of fishing in a number of private and public waters across the state.



**Interpretive Signage at Boat Launch Sites**

During 2012-2013, interpretive signage was designed and installed at Rogers Island Pool Boat Launch Site (Hudson River, Washington Co.) and Three Mile Bay Boat Launch Site (Lake Ontario, Jefferson County). Each set consists of 4 panels containing content on fish species present, fishing regulations, invasive species and a map of the water body showing nearby towns and additional access sites. Other information used at applicable sites includes a historical background, fish consumption advisories and NYS Canal regulations.



With the increased concern over invasive species being introduced into Lake George, a number of panels were produced for installation at all Lake George boating access sites. The standard panel discusses appropriate disinfection procedures for cleaning boating and fishing gear after use. Outreach and education has proven to be an effective means of raising awareness in combating the spread of aquatic invasive species.

**Updates at Oneida Fish Hatchery**

Outdated, dilapidated signage was replaced by large, new panels outlining the two rare species that the Oneida Fish Hatchery raises- lake sturgeon and paddlefish. Each panel contains information on life history, management actions and recovery efforts. As one of the most visited hatcheries in the state, having up-to-date, eye-catching signage is important. The panels currently hang over the tanks where the species are housed.



**Final touches put on the Rome Fish Hatchery**

Rome Fish Hatchery went through its final transformation since construction began in 2009. A self-guided tour on the hatchery grounds was established during the reporting period. The hatchery is visited by thousands of people each year, so it's vital to have effective outreach materials available. Each of the 6 stops of the tour is comprised of an 11 x 17 panel containing information on what visitors will encounter along the way, while addressing questions they'll most likely have. In addition to the actual stops, a follow-along brochure was developed for visitors to pick up at the beginning of the tour. Complete with a trout "prints" painted on the path, this tour will provide a great learning experience for visitors of all ages.



**I FISH NY - Statewide Implementation**

Angler education through the I FISH NY initiative continued in 2013. Although most DEC regions conduct some outreach efforts aimed at beginning anglers, these efforts are most prominent in the downstate region (DEC Regions 1 and 2) and the other DEC Regions containing dedicated outreach staff (DEC Regions 3, 7 and 9). Staff in DEC Central Office also conduct programs around the Capital District and the Adirondack Region.



**In-School Fishing Education Programs:** One hundred forty five formal education programs were conducted between April 1, 2012 and March 31, 2013 in DEC Regions 1,2,3,7 and 9. These included 128 inschool programs and 17 County Conservation days (schools come to go through environmental programs in a round robin fashion). Most of these programs (103) were conducted in DEC Region 2 (NYC). A total of 6,511 contacts with school aged kids were generated from these programs, including 4,181 in-school contacts and 2,330 contacts at County Conservation Days.

In support of the in-school program, lesson plants have been posted on the DEC website at [www.dec.ny.gov/education/89975.html](http://www.dec.ny.gov/education/89975.html).

**Fishing Clinics/Festivals:** One hundred twenty four programs were conducted reaching 12,209 people, including 6,673 at fishing festivals, 2,648 at fishing clinics, 2,569 at summer camps and 319 at DEC campgrounds. People attending fishing festivals generally received little to no fishing education, although there were generally seminars available to those who desired to learn more about fishing. People attending fishing clinics generally received 30 to 60 minutes of fishing education followed by an opportunity to fish.



The train-the-trainer program for summer camps was expanded during this fiscal year. Ten train-the-trainer programs were given to 139 counselors. The summer camps were provided with start-up equipment, educational materials and staff training. The camps provide the bait and the counselors to train the campers. Not all camps have reported back, but three camps reported an average of 178 campers reached each.

**Northville Boat Launch Rehabilitation**

A much needed repair to the Northville Boat Launch on Great Sacandaga Lake was completed. Two new concrete ramps were installed servicing the existing skid dock. The ramps were extended 4 feet beyond the previous launch ramps which should provide better access to the lake during low water periods.



**Schroon Lake (Horicon) Boat Launch Rehabilitation**

In response to complaints about a large power loading hole at the base of the Horicon Launch Ramp on Schroon Lake, an additional segment of concrete was added to the existing ramp. The project which involved dewatering of the site was completed in 3.5 days in early April.



**Cuba Lake Boat Launch**

The long awaited boat launch on Cuba Lake in Allegany County was completed in May. The site includes paved parking for 24 cars and trailers and nine cars. Access to the lake is provided via a single lane concrete ramp and floating boarding dock. A new informational kiosk, landscaping and parking area for the weed harvester used to control aquatic vegetation in the lake were also provided.



**New Aquatic Invasive Species Reminder Signs Produced**

In an effort to remind anglers and boaters to Check, Clean, and Dry their equipment before leaving a DEC boat launch, new corrugated plastic signs with this message were developed and installed at selected boat launches across the state. Two similar signs were developed, one designed to be posted at the launch ramp and the other designed to remind anglers leaving the site.



**Aquatic Invasive Species Information Expands on DEC Website**

In a continuing effort to provide the best information to the public concerning the confusing and often controversial issue of aquatic invasive species spread prevention, a number of new pages were added to the Bureau of Fisheries web content on the DEC website. Content added included AIS identification and cleaning guidance and updated guidance on drying, cleaning and disinfecting boats, including expanded information on how to best clean boats used in zebra mussel infested waters. The DEC boat launch directory on the web was also expanded to include information on invasive species known to exist in the waters these sites are located on.

**Boat Launch Modernization Plan Update Begins**

In an effort to update the 25 year old "Strategic Plan for Modernization of Department of Environmental Conservation Waterway Access Facilities in New York State," site visits designed to assess the current state of the 185 sites that provide some form of trailered boat access were initiated. Fifty three sites were visited in 2012 in DEC Regions 1, 5, 6 and 7.

**Adirondack Brook Trout Wayside Stations Completed**



Six 18" x 24" informative panels concerning DEC efforts to manage brook trout in the Adirondacks were completed. The panels are composed of a UV and weather resistant porcelite material and will be mounted into wayside stations that will be installed at prominent locations

around that park that have some association with DEC efforts to manage brook trout (roadside waters, trailheads to ponds, etc.). Plans are to begin installation of the wayside stations in 2013.

**Direct Mail Marketing of Fishing Licenses**

DEC's participation in the Recreational Boating and Fishing Foundation's (RBFF) Lapsed Angler Direct Mail Marketing Program continued in 2012. This cooperative effort to increase fishing license sales includes 38 states in the U.S. A reminder postcard is mailed to anglers who have let their fishing license lapse and the response rate is assessed by Southwick Associates, a contractor working for RBFF. In 2012, a single reminder postcard was mailed out on April 16. Even with an incentive provided by Shakespeare Fishing Tackle, the response rate of 6.1% and lift rate of 0.1% was the lowest of the 4 years that this program has been underway and below the national average of 8.6% and 0.19%. The response rate in 2010 (NY did not participate in 2011) when two mailings were conducted on May 27 and July 13 was 12.5% with a lift rate of 0.59%. It appears that at least in NY later mailings provide better results.



**2012-13 Public Use Staff**

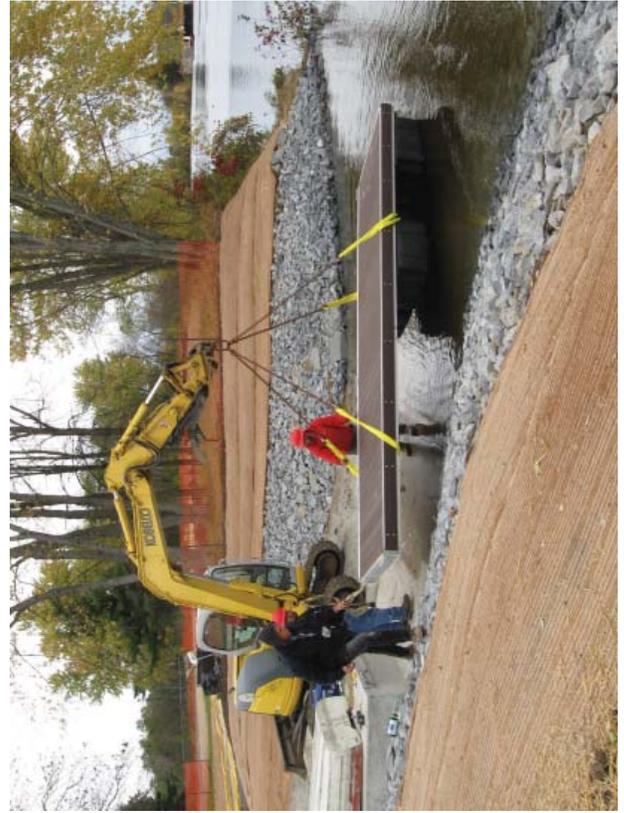
- |                   |                              |
|-------------------|------------------------------|
| Edward Woltmann   | Biologist 3                  |
| Gregory Kozlowski | Biologist 2                  |
| Joelle Ernst      | Biologist 1 (Aquatic)        |
| Scott Cornwell    | Fish and Wildlife Technician |

# Public Access Projects

Region	County	Waterbody	Description of Project
1	Suffolk	Preston's Pond	Three car parking area with guide rail and kiosk. Two hundred yard carry to the water.
1	Suffolk	Peconic River	Three car parking area with guide rail and kiosk. 100 yard carry to the water.
1	Suffolk	Peconic River	Four car parking area with guide rail and kiosk. 50 yard carry to the water.
3	Dutchess	Sylvan Lake	Four car parking area and hand launch area.
4	Albany	Onesquethaw Creek (PFR)	First ever PFR on this stream in Town of Bethlehem (Pulice)
4	Albany	Basic Creek (FAS)	Built first ever FAS on this stream in Coop with DOT R1
4	Columbia	Queechey Lake (FAS)	Repaired dock from Spring 2013 flood damage
4	Columbia	Taghkanic creek (FAS)	Clear 2000 feet of foot path
4	Delaware	EB Delaware River (Long Flat FAS)	New Footpath purchase in Coop with DOT R9 and the Kings
4	Montgomery	Schoharie Creek (Burtonsville FAS)	Repaired Fishing Access site from Irene 2011 flood damage
5	Warren	Schroon Lake	A prop-wash hole at the end of the cement ramp was repaired at the Horicon Boat Launch
5	Clinton	Lake Champlain	A prop-wash hole at the end of the cement ramp was repaired at the Peru Dock Boat Launch
5	Essex	Lake George	The toilet and boat pump out facilities were hooked up to the municipal sewer system at the Mossy Point BLS.
5	Hamilton	Seventh Lake (Fulton Chain)	A large quantity of sand was removed from the area of the ramp at the boat launch. Tropical storm Irene had deposited the sand there, making it difficult to launch boats.
5	Warren	Jabe Pond	The Town of Hague repaired the road into Jabe Pond using materials purchased by DEC (EPF funds).
5	Fulton	Great Sacandaga Lake	A new ramp, apron and approach area were constructed at the Northville Boat Launch
5	Franklin	Second Pond (Lower Saranac Lk)	Permitting and land classification changes were completed in preparation for renovating the site in 2013
6	Jefferson	Lindsey Creek	Construction of a gravel Fishermen's Parking Area with 5 – 6 vehicle parking.
6	Jefferson	Lake Ontario	Construction of a Fishing Access Site with parking for 25 vehicles with trailers, 1 accessible parking with trailer, and parking for 10 vehicles including 1 accessible. Installation of a 2-lane concrete launch ramp with floating docks.
6	Jefferson	Butterfield Lake	Resurface the gravel parking lot and reposition perimeter boulders for 30 vehicles or 20 vehicles with trailers.
6	Jefferson	Payne Lake	Resurface gravel parking lots and reposition perimeter boulders for 20 vehicles with trailers.
6	Lewis	Black River	Construction of a gravel Fishermen's Parking Area with 4 vehicle parking.
6	Lewis	Black River - Burdicks Landing	Construction of a Waterway Access Site for canoes/kayaks/small boats with parking for 8-10 vehicles with trailers. Installation of a 1-lane concrete launch ramp.
8	Ontario	Canandaigua Lake	Accessible canoe/kayak launch installed Canandaigua Lake (Woodville) FAS

# Public Access Acquisitions

ID Number	Water	Acres/Miles	Cost	Date	Comments
WA Dutchess 69	Sylvan Lake	.11 acres	\$25,000	12/28/2012	
PFR Delaware 106.29	East Br. Delaware R.	.01 ac+ footpath	\$2,081	2/6/2013	
PFR Albany 27.01	Onesquethaw Creek	.21 miles	\$3,494	3/15/2013	
PFR Monroe 18.01	Sandy Creek	.72 miles	\$36,330	11/7/2012	



# Habitat Improvement Projects

Region	Name of Water	Project	Cooperator Name	Comments
1	Peconic Lake	Ludwigia Control	Peconic Estuary Program, PLECO, Freshwater Anglers of Long Island	Ongoing management of this aquatic invasive species is required in order to keep it from overtaking the lake. In 2012, 51 volunteers spent 316 hours removing 20 cubic yards of Ludwigia.
4	Hoosic River	Re-Vegetation of Eagle Bridge FAS	Rensselaer Land Trust	Third annual seedling planting.
5	E. Br. Ausable River	Stream channel restoration @ Rivermede	USFWS, TU, Ausable River Association, Essex Cty. Soil & Water Cons. Dist.	Approximately 0.5 mile of severely degraded river channel was restored, primarily with toe wood structures.
5	Boquet River	Stream bank restoration	Georgia Pacific	Georgia Pacific signed an order with the Department to re-grade and stabilize several hundred feet of stream bank. Black ash wastes from a former paper mill were sloughing into the river in large quantities.
6	Greenwood Creek	Stabilization of streambank within Greenwood Creek State Forest	Potsdam Lands and Forests and Habitat	A section of the stream eroded severely causing dangerous conditions for visiting constituents using the picnic area. Using longitudinal toe slope protection the area was stabilized by DEC staff.
7	Chittenango Creek	Habitat improvement and bank stabilization.	Madison County Chapter of Trout Unlimited, USFWS	Work included installation of rock "J-hooks", boulder clusters, and toe-wood structures for bank protection and fish habitat enhancement.
7	Genegantslet Creek	Habitat improvement	Al Hazzard Chapter of Trout Unlimited, USFWS	Work included installation of rock and log "J-hooks" and installation of large woody debris for the purpose of fish habitat enhancement.
9	McIntosh Creek	Habitat enhancement	USFWS, TU, OPRHP	
9	N. Branch Wiscovy Ck	Habitat enhancement	USFWS, TU, SWCD, NYSDOT, Wyoming Co	
9	Wiscovy Creek	Tree planting	TU	
9	N. Branch Wiscovy Ck	Tree planting	TU	
9	Clear Creek -Arcade	Tree planting	TU	
9	Cryder Creek	Tree planting	TU	

# Habitat Improvement Projects

Region	Name of Water	Project	Cooperator Name	Comments
9	Upper Niagara River	Motor Island WMA Aquatic Habitat Restoration/Enhancement	New York Power Authority as required for Niagara Power Project FERC Re-licensing	Project concept was developed collaboratively with Region 9 DFWMR staff. Project consists of numerous shoreline treatments, along approximately 1,800 ft. of Niagara River riparian shoreline, to mitigate erosion and enhance shoreline habitat for fish and wildlife.
9	Upper Niagara River	Fish Attraction Structure—Boulder Field	New York Power Authority	150 Concrete blocks removed from Motor Island Project were beneficially re-used to create hydroaulic cover in an area of the Niagara River that is adjacent to a popular fishing area
Lake Erie Unit	Chautauqua Creek	Fish Passage	ACoE and Village of Westfield	In July 2013 fish passage structures installed for two small dams through the Great Lakes Fisheries and Ecosystem Restoration Program (GLFER) program.





### *Hatchery Infrastructure Improvements*

Work continued in 2012 to replace or repair aging hatchery infrastructure. Major projects included:

**Adirondack Hatchery** – Two new energy efficient water boilers were installed in the early production building in the fall of 2012. These replaced the original boiler which was poor in energy efficiency and was in constant need of repairs.

**Catskill Hatchery** – Work was completed in September of 2012 on the replacement of 50 year old deteriorating rearing troughs, associated plumbing, interior hatch house pipelines, exterior water lines and valves, and the completion of a new pole barn roof.



**Chateaugay Hatchery** – Installation of 10 new fiberglass raceways and associated pipelines and valves was completed in August of 2012. These new raceways replaced old concrete raceways in the hatch house which had numerous cracks and leaks. Newly hatched fish had been lost recently due to these cracks. Also replaced were the stacked columns for nitrogen and radon gas removal.

A new shingled roof was installed on the manager's residence in the fall of 2012. The roof had deteriorated to the point that numerous leaks were detected throughout the residence.

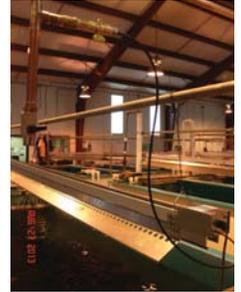
**Randolph Hatchery** – The manager's residence at the Randolph Hatchery was demolished in 2012 due to structural deficiencies and asbestos issues. A new modular home will be installed in 2013.

Three earthen ponds were rehabilitated along with a new main water line and associated valves to each pond. Presently, one of these ponds is being used for the propagation of the threatened northern (long ear) sunfish.



**Rome Fish Disease Control Unit** – The installation of two new fiberglass raceways and all associated plumbing is planned for the spring of 2013. These raceways will replace two old, small, round plastic ponds. These raceways will be used for raising brook trout and brown trout for the furunculosis resistant brood stock program.

**South Otselic Hatchery** – Eleven new Whisper automatic fish food feeders were installed in the spring of 2013 along with all new air lines and a new air compressor. These feeders are much quieter and more efficient than the original Loudon feeders. These feeders are used to supply feed to tiger muskellunge 24 hours a day.



### *Fall Egg Collections*

#### **Lake Trout from Cayuga Lake**

The annual Cayuga Lake egg collection of lake trout eggs began October 2, 2012 at Taughanock Point on Cayuga Lake. A total of 367,000 eggs were collected over a 6 day period. Of this total, 310,000 were used for lake trout production while 57,000 were fertilized with brook trout to produce splake eggs. The egg collection was completed using personnel from South Otselic Hatchery, Bath Hatchery, and Oneida Hatchery. The lake trout hatched from these eggs will be stocked throughout the state. The splake will be stocked in the Adirondack Mountain region.

#### **Lake Trout from Raquette Lake**

The egg collection for Adirondack strain lake trout began on October 16 at Raquette Lake and continued until October 22, 2012. A total of 201,000 green eggs were collected and 156,000 sac fry have hatched from the eggs. These numbers should be adequate to fulfill the 2014 spring stocking requirements.



#### **Salmon River Chinook and Coho Salmon**

The annual Salmon River Fish Hatchery's chinook and coho salmon egg collection began on October 9 and October 11, respectively. The chinook egg collection took twelve days to complete with a total of 3.3 million eggs taken. Included in this total are 580,000 eggs collected from the Black River in Jefferson County. The coho egg collection took six days to complete with a total of 1.7 million eggs taken. The salmon hatched from these eggs will be used in Salmon River Fish Hatchery's stocking program for Lake Ontario.

#### **Adirondack Hatchery – Landlocked Salmon Egg Collection**

The egg collection began on November 5 and ended on November 13, 2012. A total of 1.25 million eggs were collected. There were 198,000 collected from wild brood stock from Little Clear Pond and 1.05 million from captive brood stock. Target numbers were reached so there should be enough salmon for stocking in the spring of 2014.

Landlocked salmon are stocked into many Adirondack waters, as well as the Finger Lakes and other selected waters throughout the state.

### Windfall Heritage Strain Brook Trout

The egg collection of the Windfall heritage strain of brook trout took place on October 31, and November 1, 2012 in Black Pond in Franklin County. Personnel from South Otselic and Chateaugay fish hatcheries assisted the Region 5 Fish Management Unit in the egg collection process. A total of 25,000 eggs were collected over the two day period. The eggs were transported back to South Otselic Hatchery. The fish from these eggs will be stocked in selected waters under the Adirondack Heritage Strain Brook Trout Management Program.

### Windfall/Domestic Brook Trout

The egg collection of the windfall hybrid brook trout (Windfall x Domestic) took place on November 6, 2012 at Black Pond in Franklin County. A total of 17,000 eggs were collected and 12,000 sac fry have hatched from the eggs. These eggs were held at Chateaugay Hatchery until the eyed stage then transported to South Otselic Hatchery for hatching and initial fish rearing. This egg collection occurred as a result of the potential for the sale of our supplier of the Temiscamie hybrid brook trout eggs and the uncertainty for them to supply eggs to the NYSDEC in the future.

### Spring Egg Collections

#### Salmon River Hatchery

Salmon River Hatchery's annual steelhead rainbow trout egg collection began on April 3 and continued for 5 days. A total of 2.15 million Washington strain and 72,000 Skamania strain eggs were collected. The fish hatched from these eggs will be stocked in tributary waters of Lake Ontario and Lake Erie.

#### Bath Hatchery

An egg collection of wild rainbow trout from the Cayuga Inlet Fishway began on March 28, 2013. Eggs were also taken on April 5 and April 10. A total of 162,000 wild rainbow trout eggs were collected. There were also 26,000 hybrid (wild rainbows x domestic rainbows) rainbow trout eggs taken. Target numbers were reached and should be adequate to meet stocking targets.

## Fish Disease Control

### Fish Disease Control Unit Overview

The NYSDEC Fish Disease Control Unit (FDCU) at Rome Field Station oversees the fish health program for the state. The fish health program includes disease surveillance of (1) the DEC hatchery system, (2) fish living in wild rivers, streams and lakes, and (3) provide fish health care to fish in the state hatchery system.



### State Hatchery Disease Testing

In all, 61 different fish lots were tested from 12 DEC hatcheries and cooperating facilities, including both production fish and paren-

tal brood stock. Furunculosis disease was isolated from fingerling Brown Trout at the Rome Fish Hatchery (see Rome Hatchery item below) and from spawning Chinook and Coho Salmon at the Salmon River Hatchery. Bacterial kidney disease was isolated from an adult Steelhead at Salmon River as well.

### State Hatchery Fish Disease Epizootics

A number of common fish diseases occur periodically in the hatchery system and are managed by FDCU staff. These events can become very serious, particularly if environmental or nutritional conditions are not optimal. Over the past year, two unusual and serious disease epizootics occurred in the DEC hatchery system.

- ***Furunculosis at the Rome Hatchery:***

Furunculosis disease made its first appearance in a DEC hatchery since 1996, when Brown Trout imported from Virginia came down with the disease in the summer of 2012. The Rome-strain (furunculosis-resistant) Brook and Brown Trout on site were unaffected although they did suffer a low level infection for a short period. The Virginia Brown Trout lot was destroyed when the disease persisted throughout the summer and high losses mounted. Rome Hatchery went through an extensive disinfection procedure to minimize further outbreaks of the disease.

- ***Appearance of new form of Bacterial Coldwater Disease:***

Bacterial Coldwater Disease is a common occurrence in domestic trout production worldwide, but a series of disease episodes due to a closely related, but currently unidentified species of Flavobacterium occurred in 2012-13 in four DEC hatcheries. Clinical signs of the disease are similar to BCWD and include skin necrosis, darkened tail, and may result in high losses. One key difference is that the new bacterium thrives in warmer water (75°+F), and may persist longer into the year. Work is underway to further characterize this bacterium and understand the disease significance to our trout production.



### Wild Fish Disease Surveillance

Wild fish health is assessed annually in a cooperative program with the USFWS and the National Wild Fish Health Survey and the surveillance functions as an "early warning system" to detect harmful pathogens soon after they arrive in New York waters. We can also monitor the spread of



these pathogens with continual surveillance. Fish from 27 locations were tested at either the DEC Rome Field Station or the USFWS Fish Health Center in Lamar, PA. Locations included sites from all regions in the state and fish collections included cold water and cool water species. Nucleospora salmonis (an intracellular parasite) was isolated from Brown Trout in the Connetquot River, and Steelhead Salmon from Cattaraugus and Chautauqua Creeks. Nucleospora salmonis persisted in the western U.S. trout and salmon for decades and spread east via hatchery transfers. Epizootic Epitheliotropic Disease virus (EEDv) was isolated from Lake Trout in two locations in Lake Ontario (Oswego and Olcott). EEDv is a herpesvirus and was dis-

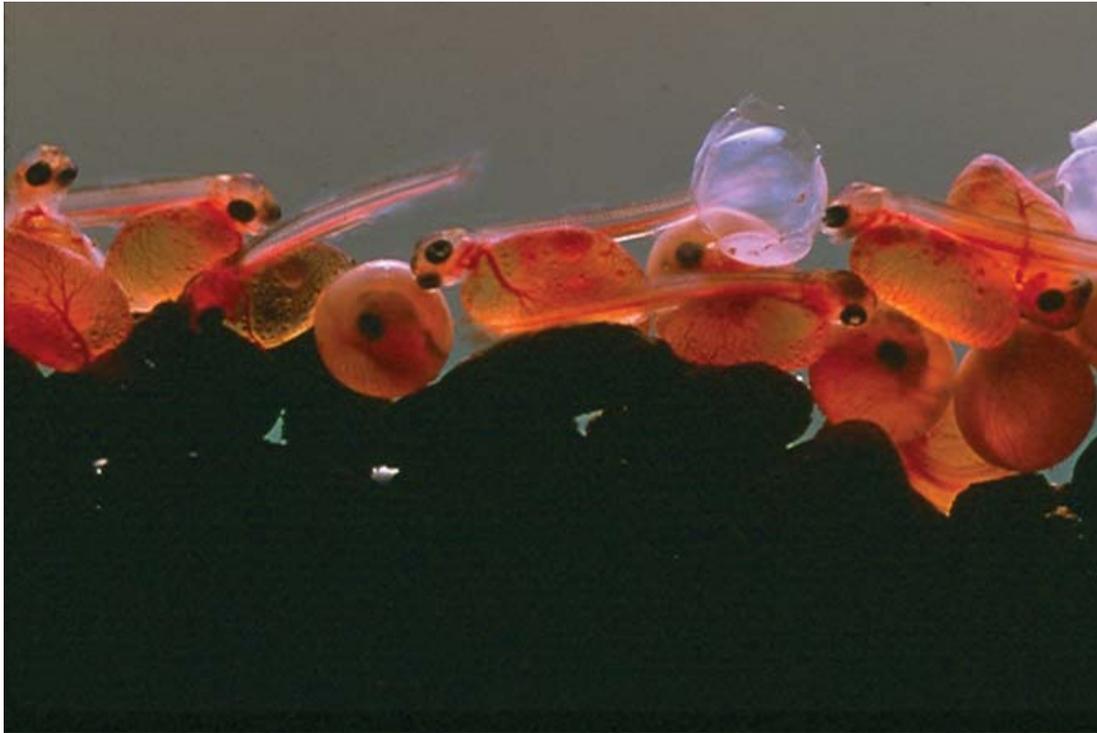
covered in the late 1980's as the cause of major mortality events in two Lake Trout hatcheries (MI and WI). Only recently has a detection method to find it been available.

### Other Fish Health Projects

**Experimental New Animal Drug Studies:** The DEC has had an ongoing agreement with the FDA and USFWS to use Chloramine T as a therapeutant to treat specific bacterial diseases when they occur. In return, the FDA will apply our treatment results in their drug approval process. Chloramine T was very effective in treating disease epizootics in 2011-12 and the drug should be approved very soon.

**Furunculosis-Resistant Trout Project:** The DEC's primary domestic brown and brook trout strains (Rome strain) were developed by the FDCU for disease resistance to bacterial furunculosis. Every year, fingerling Rome strain trout at Rome Field Station are challenged with a significant dose of *A. salmonicida* intended to ensure continuance of the disease-resistant trait. In 2011, Rome strain brown trout and brook trout were successfully challenged with a cocktail including eight different isolates of *A. salmonicida* from fish in Lake Ontario.

**Assess Egg Maturity for Sturgeon Propagation:** FDCU staff assisted the Bureau of Fisheries sturgeon propagation project by conducting an egg maturity assay during spawning to improve fertilization success. Eggs were harvested from prospective females and egg maturity was assessed to identify females having ripe eggs. Of the seven females collected, this assay targeted three ripe females for fertilization, thus doing away with needless fish handling of unripe fish. Egg fertilization was very successful.



## 2012-13 Fish Culture Staff

### CENTRAL OFFICE

Jim Daley Fish Culturist 6  
 Dave Armstrong Fish Culturist 5  
 Mary LaBoissiere Secretary 1

### ADIRONDACK

Matt Jackson Fish Culturist 3  
 Fritz Aldinger Fish Culturist 1  
 Kenneth Klubek Fish Culturist 1  
 Adam Kosnick Fish Culturist 1 (trainee II)

### BATH

Ken Osika Fish Culturist 3  
 Kelly Raab Fish Culturist 1  
 Robert Sweet Fish Culturist 2  
 Stephen Galbreth Fish Culturist 1  
 Adam Haley Fish Culturist 1

### CALEDONIA

Alan Mack Fish Culturist 4  
 Kevin Hayden Fish Culturist 2  
 Mark Krause Fish Culturist 3  
 Jason Schirmer Fish Culturist 1  
 Robert Stein Fish Culturist 2  
 Brian Ward Fish Culturist 1  
 Stephen Zenzen Fish Culturist 1  
 Steven Robb Fish Culturist 1

### CATSKILL

John Anderson Fish Culturist 4  
 Tim Anstey Fish Culturist 1  
 Joseph Gennarino Fish Culturist 2  
 James Judson Fish Culturist 1  
 Nathan Snyder Fish Culturist 1  
 Mark Ferron Fish Culturist 1 (trainee II)  
 Robert Poprawski Fish Culturist 1 (trainee II)

### CHATEAUGAY

Neal McCarthy Fish Culturist 2  
 Mike Disarno Fish Culturist (trainee II)  
 Doug Peck Fish Culturist (trainee II)  
 Mike Sicley Fish Culturist (trainee II)  
 Nicole Vogt Fish Culturist (trainee II)

### CHAUTAUQUA

Larry King Fish Culturist 3  
 Eric Defries Fish Culturist 2  
 Bradley Gruber Fish Culturist 1  
 Ron Preston Fish Culturist 1

### ONEIDA

Bill Evans Fish Culturist 4  
 Carl Rathje Fish Culturist 3  
 John Gray Fish Culturist 1  
 Neil Cranker Fish Culturist 1

### RANDOLPH

Richard Borner Fish Culturist 3  
 Trevor Brady Fish Culturist 1  
 Barry Hohmann Fish Culturist 1  
 Raymond Hulings Maintenance Assistant  
 Jim Rambuski Fish Culturist 2  
 Derek Weishan Fish Culturist 1

### ROME

Robert Lewthwaite Fish Culturist 4  
 Kevin Balduzzi Fish Culturist 1  
 John Draper Fish Culturist 1  
 Steven Grabowski Fish Culturist 2  
 Zach Goodale Fish Culturist 1  
 William R. Hajdasz Maintenance Supervisor  
 Kimberly Matt Keyboard Specialist  
 Scott Wanner Fish Culturist 3  
 William Woodworth Fish Culturist 2

### FISH DISEASE CONTROL

Andrew Noyes Pathologist 2 (Aquatic)  
 Geoffrey Eckerlin Biologist 1 (Ecology)  
 Mark Batur Fish Culturist 1

### SALMON RIVER

Andreas Greulich Fish Culturist 4  
 Brian Boyer Fish Culturist 1  
 Stephen Dolan Fish Culturist 3  
 David Domachowske Fish Culturist 2  
 Brian Edmonds Fish Culturist 1  
 Karen Hurd Keyboard Specialist  
 Robert Nelson Fish Culturist 2  
 Leslie Resseguie Fish Culturist 1 (trainee II)

### SOUTH OTSELIC

Pat Emerson Fish Culturist 3  
 Thomas Kielbasinski Fish Culturist 2  
 Bruce Ryan Fish Culturist 1  
 Mike Speziale Fish Culturist 1

### VAN HORNESVILLE

Larry Kroon Fish Culturist 3  
 Craig DuBois Fish Culturist 2  
 Lauren C. Watson Fish Culturist 1

# Annual Fish Production

ANNUAL STOCKING REPORT - BY SPECIES  
January 1, 2012 - December 31, 2012

SPECIES	LESS THAN 1"		1" - 4.24"		4.25" - 5.74"		5.75" - 6.74"		6.75" - 7.74"		7.75" Plus		TOTAL	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
<b>Cold Water</b>														
Brook Trout	700	0	74,258	1,524	77,010	2,976	15,900		400	64	179,965	44,330	348,233	48,894
Brown Trout	100	0			8,000	522			30,440	5,390	1,929,661	546,813	1,968,201	552,725
Rainbow Trout			52,210	602	58,000	3,602	3,500	368	13,500	1,929	397,921	101,988	525,131	108,489
Steelhead	66000	0	337,020	3,637	650,850	28,575	91,800	8,795					1,145,670	41,007
Lake Trout			5,000	50	122,830	5,025	108,000	6,917			82,400	10,969	318,230	22,961
Splake											158,400	3828	15,840	3828
Landlocked	1,000	38	178619	2054	68020	3854	158,030	15,217	177,267	24190	3000		585,936	45,353
Coho					120,190	7,856							120,190	7,856
Chinook	67100	0	1,443,980	20,552									1,511,080	20,552
<b>Cold Water Total</b>	<b>134,900</b>	<b>38</b>	<b>2,091,087</b>	<b>28,419</b>	<b>1,104,900</b>	<b>52,410</b>	<b>377,230</b>	<b>31,297</b>	<b>221,607</b>	<b>31,573</b>	<b>2,608,787</b>	<b>707,928</b>	<b>6,538,511</b>	<b>851,665</b>
<b>Warm Water</b>														
Walleye	207,750,000	2,771	640,840	1832	7,000	175							208,397,840	4,778
Muskellunge			64510	51							30,790	2,559	95,300	2,610
Tiger Muskellunge											102,600	16,171	102,600	16,171
Panfish											500	100	500	100
Paddlefish	700	200					337	15	500	22.6				
<b>Warm Water Total</b>	<b>207,750,700</b>	<b>2,971</b>	<b>705,350</b>	<b>1883</b>	<b>7,000</b>	<b>175</b>	<b>337</b>	<b>15</b>	<b>500</b>	<b>23</b>	<b>135,250</b>	<b>389</b>	<b>208,598,300</b>	<b>589</b>
<b>Grand Total</b>	<b>207,885,600</b>	<b>3,009</b>	<b>2,796,437</b>	<b>30,302</b>	<b>1,111,900</b>	<b>52,585</b>	<b>377,567</b>	<b>31,312</b>	<b>222,107</b>	<b>31,596</b>	<b>2,744,037</b>	<b>727,147</b>	<b>215,136,811</b>	<b>875,913</b>

## Summary of Fisheries, Creel & Angler Surveys

Survey Name	Purpose
<b><i>Region 1</i></b>	
Peconic River and Tributaries	Alewife Monitoring
Carmans River	Fate of Stocked Trout Population Surveys
Carmans River Creel Census	Fate of Stocked Trout Creel Census
Carmans River	Monitoring movement of PIT Tagged alewife, brook trout and American eel
Deep Pond	Esocid/ Toxic Substance Monitoring/Disease Monitoring
Belmont lake	Bass Catch and Release Assessment
Massapequa Lake	Bass Catch and Release Assessment
Hempstead Lake	Centrarchid Survey
Connetquot River	Disease Monitoring
Six small ponds in the Peconic River drainage	Threatened/Endangered Species Monitoring (Banded Sunfish/ Swamp Darter)
Massapequa Creek	CROTS
Nissequogue River	CROTS
Sunken Meadow Creek	Pre dam removal survey (NOTE: The dam was removed one week after the survey by Superstorm Sandy)
Smith Pond	Toxic Substance Monitoring
<b><i>Region 2</i></b>	
Ohrbach Lake, Staten Island	Centrarchid sampling plan
Bronx River, Bronx & Westchester	General biological survey
Willowbrook Lake, Staten Island	Centrarchid sampling plan
Prospect Park Lake, Brooklyn	Centrarchid sampling plan
Meadow Lake, Queens	Invasive species monitoring
Willow Lake, Queens	Invasive species monitoring
<b><i>Region 3</i></b>	
Mud Pond Brook	Reclassification
Tidal Wappingers Creek	largemouth bass overwintering assessment
Tidal Esopus Creek	largemouth bass overwintering assessment
Tidal Rondout Creek	largemouth bass overwintering assessment
Sylvan Lake	Water chemistry
Muscoot Reservoir	Trout assessment (gill netting)
Esopus Creek	Fate of Stocked Trout survey
Esopus Creek (below Ashokan Reservoir)	Electrofishing evaluation of release from Ashokan Reservoir
Lake Minnewaska	Assessment of new golden shiner population
Pascack Brook	Reclassification
Beaverkill	Wild fish disease monitoring
Alder Lake	Brook trout evaluation
Swinging Bridge Reservoir	Percid plan, walleye evaluation
Rio Reservoir	Percid plan, walleye evaluation
West Branch Croton River	Trout evaluation following low flow conditions
Whippoorwill Creek	Reclassification
Esopus Creek (above Ashokan Reservoir)	Creel Survey
Kensico Reservoir	Angler diary program

<i>Region 4</i>	
Blazer Pond	General Biological Survey
Mohawk River	River Herring Survey
Canadarago Lake	Percid Survey
Wilber Lake	General Biological Survey
Big Pond	General Biological Survey
Unadilla River	General Biological Survey
Otsego Lake	Salmonid Survey
Canadarago Lake	Percid Survey
Manor Kill	Oriental Weatherfish Survey
Schoharie Reservoir	Oriental Weatherfish Survey
Willey Brook (SR-142)	Oriental Weatherfish Survey
Kinderhook Creek	Creel census conducted in conjunction with statewide FOST study.
Kinderhook Creek	Population estimates conducted in spring and summer.
Hudson River	Collection for fish contaminant sample.
Basic Creek Reservoir	Collection for wild fish health assessment.
Little Hoosic River	Collection for wild fish health assessment.
<i>Region 5</i>	
Kayaderosseras Creek	Creel survey as part of Fate of Stocked Trout study
Kayaderosseras Creek	Trout population estimate as part of Fate of Stocked Trout study
Cranberry Creek	TSMP Collections
Great Sacandaga Lake	TSMP Collections
Bone Pond	General biological survey
Harris lake	Walleye stocking evaluation
St Regis River	General biological survey
Lincoln Pond	Tiger muskie stocking evaluation
Little Ampersand Pond	Water chemistry (pH) check
Great Chazy River	General biological survey
Clear Pond	Post reclamation survey
Raquette Lake	Juvenile lake trout survey
Black Pond	Post liming survey
Echo Pond	Post liming survey
Palmer Dam Pond	General biological survey
Sunrise Pond	Post liming survey
Federation Pond	General biological survey
Oregon Pond	Physical and water chemistry survey
Chub Pond	Water chemistry (pH) check
Benz Pond	Post liming survey
St Germain Pond	General biological survey
Eighth Lake	General biological survey
High Pond	Pre-liming survey
Little N. Whey Pond	Physical and water chemistry survey
Unnamed (Miles) Pond (SC P269)	Physical and water chemistry survey
House Pond	Pre-liming survey
Holmes Lake	Post liming survey

<i>Region 5 cont.</i>	
Mud Pond (C P211)	General biological survey
Barnes Pond	General biological survey
Challis Pond	General biological survey
Icehouse Pond	Post liming survey
House Pond	Water chemistry (pH) check
Toad Pond	Physical and water chemistry survey
Bear Pond	General biological survey
Lindsey Pond	Physical and water chemistry survey
Sochia Pond	Physical and water chemistry survey
Sunday Pond	Physical and water chemistry survey
Clear Pond	General biological survey
3rd Lake Essex Chain	Physical and water chemistry survey
5th Lake Essex Chain	Physical and water chemistry survey
Deer Pond	Physical and water chemistry survey
Jackson Pond	Physical and water chemistry survey
2nd Lake Essex Chain	Physical and water chemistry survey
6th Lake Essex Chain	Physical and water chemistry survey
7th Lake Essex Chain	Physical and water chemistry survey
4th Lake Essex Chain	Physical and water chemistry survey
8th Lake Essex Chain	Physical and water chemistry survey
Unnamed (Grass) Pond (SC P192)	Physical and water chemistry survey
Mud Pond (UH P624)	Physical and water chemistry survey
Unnamed Pond (C P54)	Water chemistry (pH) check
Mud Pond (UH P 630)	Physical and water chemistry survey
Cedar Pond	General biological survey
Putnam Pond	General biological survey
Loon Lake	Walleye stocking evaluation
Lake Clear	Smelt spawning check
Bear Pond	General biological survey
Lower Sargent Pond	Trout stocking evaluation and pre-reclamation
Raquette Lake	Lake trout brood stock monitoring
Black Pond	Windfall strain brook trout brood stock monitoring and egg take
Mountain Pond	Windfall strain brook trout brood stock monitoring and egg take
Fishbrook Pond	Horn Lake strain brook trout brood stock monitoring and egg take
Whey Pond	Fish disease monitoring
Upper & Lower Cascade Lakes	Round whitefish egg take
Little Green Pond	Round whitefish egg take
Arnold Brook	CROTS survey
<i>Region 6</i>	
Allen Pond	Coldwater Fishery Survey
Bear Creek	Brook Trout Genetics Study
Bear Lake	Brook Trout Genetics Study
Bear Pond	Limed Waters Program
Big & Oriskany Creeks	Fate of Stocked Trout Creel Survey
Big Creek	Fate of Stocked Trout Population Survey

<i>Regions 6 cont,</i>	
Big Hill Pond	Fish Disease Investigation
Big Moose Lake	Fish Disease Investigation
Bill's Pond	Acidified Waters Survey
Black Lake	Walleye Evaluation
Black River	Lake Sturgeon Monitoring
Black River	Salmonid Egg Take/ Thiamine Study
Boottree Pond	Brook Trout Egg Take
Boottree Pond	Limed Waters Program
Brewer Lake	Limed Waters Program
Brooktrout Lake	Coldwater Fishery Survey
Buck Pond	Limed Waters Program
Center Pond	Acidified Waters Survey
Clear Pond	Limed Waters Program (2 Surveys)
Cleveland Lake	Brook Trout Lipids Study
Cleveland Lake	Limed Waters Program (2 Surveys)
Creaky Creek	Acidified Waters Survey
Deer Pond	Brook Trout Egg Take
Deer Pond	Limed Waters Program
Deer Pond	Acidified Waters Survey
Delta Lake	Fish Disease Investigation
Delta Lake	Habitat Quality Survey (2 surveys)
Duck Pond	General Biological Survey
Evergreen Lake	Limed Waters Program
Fourth Lake	General Biological Survey
Gibbs Lake	Acidified Waters Survey
Gull Lake Outlet	Brook Trout Genetics Study
Hardscrabble Lake	Brook Trout Genetics Study
Hart Brook	Habitat Protection
Hawk Pond	Acidified Waters Survey
Hidden Lake	Limed Waters Program
Honedaga Brook	Brook Trout Genetics Study
Horn Lake	Limed Waters Program
Horseshoe Pond	Limed Waters Program
Horseshoe Pond	Fish Habitat Survey
Ice Cave Creek	Brook Trout Genetics Survey
Kayuta Lake	General Biological Survey
Lake Bonaparte	Warmwater Fishery Survey
Lake Ontario	Lower Trophic Level Sampling (12 surveys)
Lake Ontario	Warmwater Fish Stock Assessment, Eastern Basin
Lake Rondaxe	Contaminants Collection
Little Hill Pond	Fish Disease Investigation
Little Otter Lake	Limed Waters Program
Little Rock Pond	Acidified Waters Survey
Little Rock Pond (North of Stillwater)	Acidified Waters Survey
Long Lake	Limed Waters Program

<i>Region 6 cont.</i>	
Lyon Lake	Acidified Waters Survey
Middle Branch Black River	Brook Trout Genetics Study
Millsite Lake	General Biological Survey
Mohawk River	General Biological Survey
Mud Creek	Coldwater Fishery Survey
Mud Pond	Brook Trout Genetics Study
Negro Lake	Coldwater Fishery Survey
Nicks Pond	Limed Waters Program
Nicks Pond	Coldwater Fishery Survey
North Branch Black River	Brook Trout Genetics Study
North Twin Lake	Brook Trout Egg Take
Oriskany Creek	Fate of Stocked Trout 2 Population Surveys
Oswegatchie River	Walleye Egg Take
Otter Lake	General Biological Survey
Payne Lake (Lewis County)	Limed Waters Program
Payne Lake (Jefferson County)	Walleye Evaluation
Peaked Mountain Lake	Limed Waters Program
Pine Pond	Limed Waters Program
Pine Pond	Fish Habitat Survey
Pitcher Pond	Limed Waters Program
Pitcher Pond	Brook Trout Lipids Study
Quiver Pond	Limed Waters Program
Raven Lake	Acidified Waters Survey
Red lake	Walleye Evaluation
Round Pond	Limed Waters Program
Sandy Creek	Habitat Protection
South Branch Beaver River	Coldwater Fishery Survey
South Branch Grass River	Brook Trout Genetics Study
Shallow Pond	Acidified Waters Survey
Soda Pond	Acidified Waters Survey
St. Lawrence River	Contaminant Collection, Cape Vincent
St. Lawrence River	Contaminant Collection, Ogdensburg
St. Lawrence River	Lake Sturgeon Egg Take
St. Lawrence River	Lake Sturgeon Juvenile Assessment
St. Lawrence River	Lake Sturgeon Monitoring
St. Lawrence River	Warmwater Fish Stock Assessment, Lake St. Lawrence
St. Lawrence River	Warmwater Fish Stock Assessment, Thousand Islands
St. Lawrence River	Young-of-the-Year Esocid Index
Summit Pond	Acidified Waters Survey
Sunshine Pond	Acidified Waters Survey
Tamarack Pond	Limed Waters Program
Townline Pond	Limed Waters Program
Townline Pond	Fish Habitat Survey
Trout Pond	Habitat Protection
Unnamed Water	General Biological Survey

<i>Region 6 cont.</i>	
Unnamed Water	Brook Trout Genetics Study
Unnamed Water	Brook Trout Genetics Study
Unnamed Water	Acidified Waters Survey
Unnamed Water (Lower Beech Ridge)	Acidified Waters Survey
Unnamed Water	Acidified Waters Survey
White Creek	General Biological Survey
Wolf Pond	Acidified Waters Survey
<i>Region 7</i>	
Otselic River (2 surveys)	Population estimate and presence of stocked trout
Skaneateles Lake	General biological survey
Owasco Lake	Lake trout abundance
Cayuga Inlet Fishway	Spring rainbow trout spawning run/sea lamprey control
Beaverdam Brook (2 surveys)	Steelhead and chinook/coho spawning run surveys
Cazenovia Lake (2 surveys)	General biological and centrarchid sampling surveys
Arctic Lake	Centrarchid sampling survey
Sherman Creek	Demonstrate electrofishing survey to TU camp
Susquehanna River (5 surveys)	Water chemistry, fish disease monitoring, and TSMP collection
Cayuga Inlet	Sea lamprey ammocoete population estimate
Otisco and Otter Lakes, Deruyter Reservoir (3 surveys)	Walleye stocking evaluation
Whitney Point Reservoir	Monitor walleye year class strength
Cayuga Lake	Evaluate presence of lake sturgeon
Unadilla River	Determine status of gamefish
4 streams in Madison County	Attempt to document the presence of trout
<i>Region 8</i>	
Seneca lake Trout Derby	Lamprey wounding Rates and general salmonid biological data
Meads Creek	Fate of Stocked Trout Study
155 Streams Region-wide	Surveys to document trout presence
Hemlock Lake	Lake trout assessment
Canadice Lake	Lake trout assessment
New Town Creek	Assess stocking potential after stream enhancement work
Port Bay (Lake Ontario)	General warmwater assessment
Keuka Lake Outlet	Sea Lamprey Larval Assessment
Honeoye Lake	Walleye population Assessment
East, Port, Blind Sodus Bays (Lake Ontario)	Recreational Fishery Creel Survey
Catharine Creek	Rainbow Trout Production Survey
Sleepers Creek	Rainbow Trout Production Survey
Springwater Creek	Rainbow trout assessment
Catherine Creek	Rainbow trout assessment / lamprey wounding rates
Sleepers Creek	Rainbow trout assessment
McClure Creek	Rainbow trout assessment
Cold Brook	Rainbow trout assessment
Sleepers Creek	Rainbow Trout Assessment

<i>Region 9</i>	
447 small stream surveys in Cattaraugus, Wyoming, Chautauqua and Erie Counties	EBTJV survey to document brook trout presence
Wischoy Creek	Tri-annual wild trout population estimate
N. Branch Wischoy Creek	Tri-annual wild trout population estimate and evaluation of trout habitat enhancement project
Trout Brook	Tri-annual wild trout population estimate and evaluation of trout habitat enhancement project
McIntosh and Beehunter Creeks	Evaluation of trout habitat enhancement project
East Koy Creek	Part of Fate of Stocked Trout statewide study
Spring Mills Creek, T-2	Evaluation of trout habitat enhancement project
Goodell Creek	Evaluation of trout habitat enhancement project
Niagara River	Muskellunge habitat and population assessment
Cassadaga Lake	Muskellunge broodstock survey and document stocking survival of 50 day walleye.
Lime Lake	Warmwater fish community survey and Centrarchid sampling
Chautauqua Lake	Centrarchid, muskellunge and percid sampling
Redhouse Lake	Document stocking survival of 50 day walleye.
<i>Lake Erie Research Unit</i>	
Lake Erie Commercial Fishery Assessment	Sampling to characterize harvest & age composition of Lake Erie's commercial yellow perch fishery
Lake Erie Lower Trophic Monitoring Program	Index of lower trophic indicators seasonally, including zooplankton density, nutrient concentrations, temperature and water transparency
Lake Erie Open Lake Sport Fishing Survey	Creel survey measure of sport fishing catch and effort from Lake Erie's boat fisheries for walleye, smallmouth bass and yellow perch
Lake Erie Tributary Angler Diary Program	Diary index of fishing quality for Lake Erie's tributary steelhead fishery
Lake Erie Tributary Sea Lamprey Nest Density	Annual nest counts to index the concentration of sea lamprey nests in selected Lake Erie tributaries
Lake Erie Fish Cleaning Station Monitoring	Annual examination of angler caught walleye processed at cleaning stations to characterize size, age composition and stomach contents
Lake Erie Beach Seine Assessment	A pilot survey to assess abundance and distribution of near shore young-of-year fishes in eastern Lake Erie
Lake Erie Coldwater Community Assessment	Gill net index of abundance, age composition, growth, and diet of lake trout, burbot and lake whitefish
Lake Erie Warmwater Community Assessment	Gill net index of abundance, age composition, growth, and diet of walleye, yellow perch and smallmouth bass
Lake Erie Tributary Angler Survey	Creel survey measure of catch and effort from Lake Erie's tributary fisheries for steelhead.
Lake Erie Forage and Juvenile Fish Assessment	Bottom Trawl index of abundance, age composition and growth, of juvenile yellow perch and an array of forage fish species
Lake Erie Lake Trout Spawning Survey	Gill net survey to understand site selection by spawning phase lake trout in nearshore and offshore areas
<i>Lake Ontario Research Unit</i>	
Lake Ontario Alewife Bottom Trawl Survey	Assess yearling and adult alewife in Lake Ontario
Lake Ontario Rainbow Smelt Bottom Trawl Survey	Assess yearling and adult smelt in Lake Ontario
Lake Ontario Juvenile Lake Trout Trawl Survey	Assess juvenile lake trout in Lake Ontario
Lake Ontario Warmwater Fisheries Assessment	Assess warmwater fish populations in the Eastern Basin
Status of Lake Ontario's Lower Trophic Levels	Monitor trends in Lake Ontario productivity, including nutrients, chlorophyll a, and zooplankton populations

*Lake Ontario Research Unit cont.*

<i>Lake Ontario Research Unit cont.</i>	
Lake Ontario Adult Lake Trout Assessment	Assess adult lake trout populations in Lake Ontario
Lake Ontario Fishing Boat Survey	Monitor trends in angler effort/catch/harvest in the open waters of Lake Ontario
Lake Ontario Chinook Salmon Mass Marking Program	Determine contribution of wild Chinook salmon to Lake Ontario sportfisheries and evaluate success of pen-rearing projects
Northern Pike and Muskellunge Monitoring in the Thousand Islands Region of the St. Lawrence River	Monitor northern pike and muskellunge spawning and nursery areas to assess reproductive success and influence habitat changes
Lake Ontario Hydroacoustic Preyfish Assessment	Use hydroacoustic technology to develop lakewide estimates of alewife numbers and biomass

## Reports and Presentations

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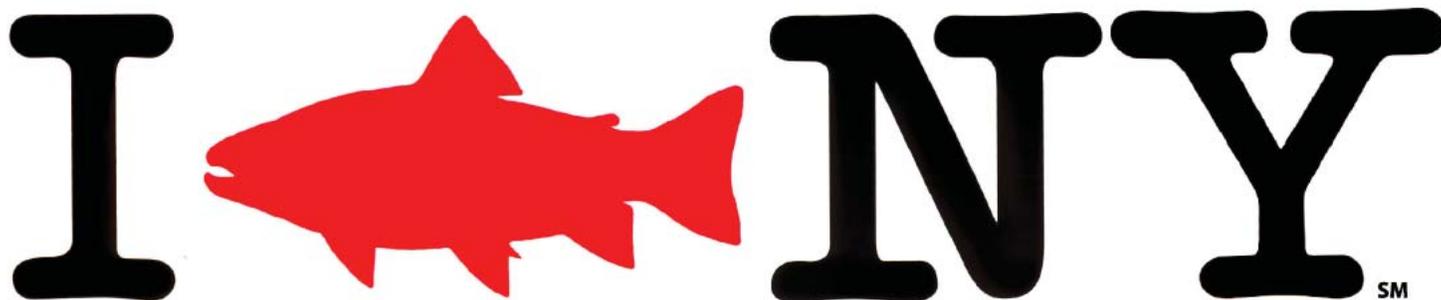
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# Permits & Licenses

*A summary of licenses and permits reviewed or issued by the Bureau of Fisheries*

## DEC REGION

Permit Name	1	2	3	4	5	6	7	8	9	CO	Total
Farm Fish Pond			7	245	10	15	146	53	53		529
Stocking	8		159	49	200	38	28	11	7		500
Triploid Grass Carp	7		263	230	50	52	275	349	641		1867
Overland Transport of Bait			16	5		5	2	10	15		53
Fish Possession (over daily limit)						3	1		1		5
Piranha					5	1	1		1		8
Baitfish	4						84	90			178
Temporary Revocable Permit (TRP)			2	4	20	3	21	5	4		59
Article 15 Review		1	1035	200	200	464		112	682		2694
Article 24 Review	10		298		10						318
Pesticide Permit Review	25		11	5		6		21	12		80
Bass Hatchery Permits (C.O)										14	14
Trout Hatchery Permits (C.O)										32	32
License to Collect and Possess		11									11
<b>Other:</b>											
Trout in the Classroom							9				9
Hydropower Relicensing						6					6
Adopt A Natural Resource								2			2
Fish Removal											1
Commercial Fishing (Great Lakes)										5	5
<b>Total - All Permits</b>	<b>54</b>	<b>12</b>	<b>1792</b>	<b>738</b>	<b>495</b>	<b>593</b>	<b>567</b>	<b>653</b>	<b>1416</b>	<b>51</b>	<b>6371</b>