

Bureau of Fisheries

2014-2015 Annual Report

Great Lakes Fisheries Management
Inland Fisheries Management
Public Use and Outreach
Fish Culture

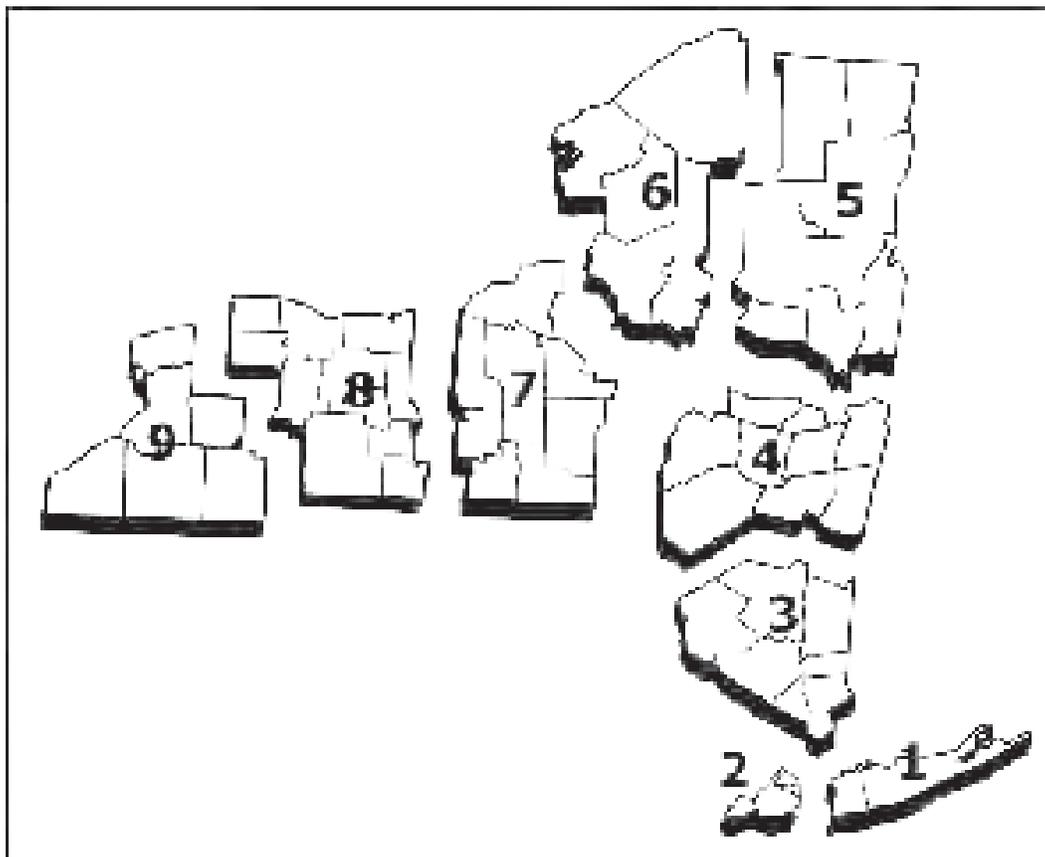


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2014-15 Annual Report

New York State Department of Environmental Conservation
Bureau of Fisheries
Philip 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 2014-2015 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. Activities are categorized according to the major objectives of the Division of Fish, Wildlife and Marine Resources.

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2014-15 Annual Report

Common Acronyms, Definitions and Units of Measure

Common Acronyms

- AIS:** Aquatic invasive species
- 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

- 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.
- Conductivity:** the ability of water to conduct an electric current. Waters of low conductivity are low in dissolved minerals.
- 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.
- Hazing** - to discourage an animal from frequenting a waterbody.
- 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 or plants to estimate abundance or distribution.
- Lentic:** associated with still water such as a lake or pond.
- Littoral:** the nearshore shallow water area of a waterbody.
- 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).

Reclamation: the removal of non-native fish and restoration with native fish. Traditionally done to restore pond brook trout populations.

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,



SPECIES CONSERVATION AND MANAGEMENT

Walleye Management in Lake Ronkonkoma and Fort Pond

Walleye *Sander vitreus* fingerlings are stocked into Lake Ronkonkoma and Fort Pond every year as a supplemental predator in an effort to control the overabundant white perch *Morone americana* population. The Region 1 Fisheries Unit conducted gillnet and electrofishing surveys on both waters in the fall of 2014 to evaluate these stocking efforts.

When the lakes were last surveyed in 2010, the white perch population in Lake Ronkonkoma was down substantially but the walleye population was also down and walleye were showing poor growth. In Fort Pond on the other hand the white perch population was still out of control. As a result decisions were made to reduce the stocking in Lake Ronkonkoma from 10,000 walleye per year to 5,000 per year and increase the stocking in Fort Pond from 4,000 every other year to 4,000 every year. These were the first surveys of these water bodies since the stocking policy changes.

In Lake Ronkonkoma, the catch rates for walleye in the gill nets and electrofishing increased despite the reduction in stocking rates. Substantially more walleye over 15" were caught in 2014 than in 2010. The white perch showed little change in the catch rates of adult fish, but the catch rate of young of the year white perch increased substantially. It is too early to tell if this is a shift back toward overabundance of white perch or a single strong year class.

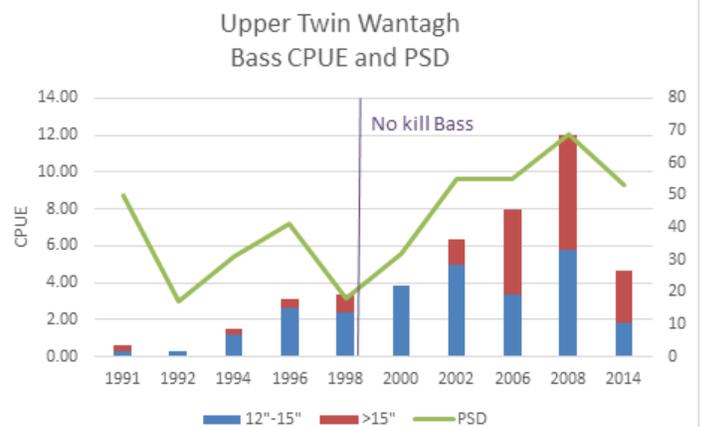
In Fort Pond the catch rate for walleye increased in both the gill nets and electrofishing as might be expected by the increased stocking rate. The gill net catch rate for walleye over 15" was the highest observed since 2001 and the electrofishing catch rate for walleye over 15" was near the highest observed over the same period. Despite the increase in walleye abundance, the white perch electrofishing catch increased to the highest recorded since 2001. This was primarily due to a very high catch of young of the year white perch. There were more large white perch as well including the highest ever electrofishing catch rate for white perch over 8" and the first ever memorable size white perch (>12") caught in Fort Pond.

At the present time no changes in management policy are warranted for Lake Ronkonkoma or Fort Pond. The Regional Fisheries Unit will resurvey both ponds in 2017 to continue monitoring the walleye stocking and the white perch populations.

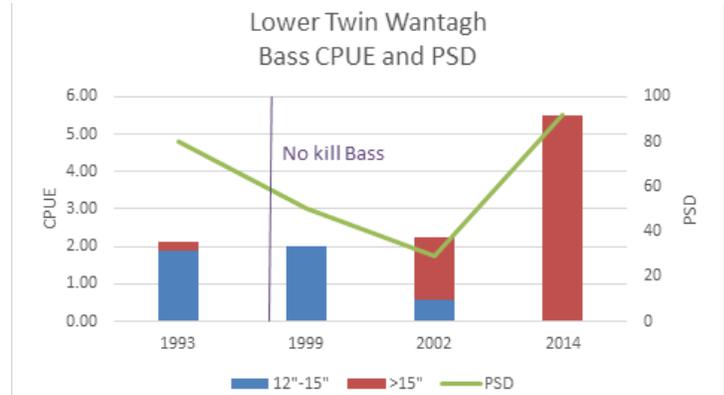


Black Bass Catch and Release Regulation Assessment

Upper Twin and Lower Twin Ponds in Wantagh, Town of Hempstead, Nassau County, were surveyed in 2014. This was part of a continuing effort to assess the results of the implementation of the Catch and Release Only Regulation for black bass in Nassau County in 1998. Catch rates for quality bass (12" and over) and preferred size bass (15" and over) increased since the regulation change in Upper Twin Pond. Survey results show a decline in larger bass in the 2014 survey, however, dense vegetation present during the survey may have prevented capture of the larger fish. Over the ten surveys conducted, 90% of all bass over 12" were caught after the regulation change. The Proportional Stock Density (PSD) for bass improved since the regulation change and continue to be in the optimal range (40 to 70) since 2002. Bluegill catch rates fluctuated across the surveys from 1991 through 2014, however, the highest catch rate for quality (6" and over) bluegill was in 2008 and the highest catch rate for preferred (8" and over) Bluegill was noted in 2014. The catch rate for quality-size (6" and over) pumpkinseed also increased in 2008.



Catch rates for preferred sized bass in Lower Twin Pond increased from 0.3 fish per hour in 1993 to 1.7 and 5.5 fish per hour in 2002 and 2014, respectively. The PSD value at 90, shows the population as being dominated by larger bass. Pumpkinseed and Bluegill catch rates decreased in Lower Twin Pond after the regulation change with zero preferred sized sunfish caught since the regulation change. Overall, the size distribution of bass improved in both Upper and Lower Twin Ponds since the regulation changes in 1998. The results for sunfish varied. Additional waters in Nassau County will be monitored to further assess the effects of the 1998 regulation changes.



Post dredging survey on Upper Yaphank Lake

Upper Yaphank Lake was dredged by the Town of Brookhaven in 2013. Over the course of two months over 60,000 cubic yards of sediment were hydraulically dredged from the lake in an effort to remove the soft sediment from the lake and prevent regrowth of aquatic invasive species. The Regional Fisheries Unit completed pre and post dredging surveys of the lake to assess changes in the fish community

in the lake. During the pre-dredging survey 14 species of fish were caught with largemouth bass, bluegill, pumpkinseed, golden shiner, brown bullhead and American eel being most numerous. The same six species were also the most numerous in the post-dredging survey. Six species were collected during the pre-dredging survey that were not collected in the post-dredging survey. All of these species were relatively rare in the pre-dredging survey with no more than nine individuals caught from any of these species. One species, the common carp, was not observed during the pre-dredging survey and one individual was observed during the post dredging survey. Stocked brown trout and rainbow trout were caught in both surveys. The catch of largemouth bass increased from pre-dredging to post-dredging while the bluegill and pumpkinseed catch declined. The increase in the bass catch rate was probably due to the reduced aquatic vegetation in the deeper water resulting in large bass moving inshore looking for cover which made them more vulnerable to electrofishing. This survey will be repeated in two to three years to assess the long term effects of the dredging project.

HABITAT CONSERVATION

***Ludwigia* Removal in the Peconic River**

The Region 1 Fisheries Unit in cooperation with the Peconic Estuary program and with the assistance of DEC staff from the Bureau of Habitat and Forestry and numerous volunteers completed four hand pulling operations of floating water primrose *Ludwigia peploides* in the Peconic River this year. Over 25 cubic yards of *Ludwigia* was removed, mostly from the Upper Mills Pond section of the river. This was the area with the most extensive infestation, but less than half of the infestation was removed. Due to the loss of support from the Freshwater Anglers of Long Island, very little effort was expended on Peconic Lake and the infestation worsened there. Further upstream, the infestation which had been out of control in 2012, was nearly completely removed. It will have to be watched closely in future years to prevent re-establishment.



Two additional infestations, not connected to the river were documented this year. One in Swan Pond, just south of Peconic Lake and the other in a private stormwater pond in a development north of the river. The Swan Pond infestation was mapped, but no removal was attempted. The infestation in the private pond was treated with Glyphosate and will be monitored. The Peconic Estuary Program, Fisheries and the Long Island Invasive Species Management Area (LIISMA) are working together to develop a comprehensive management plan for future control efforts of *Ludwigia*.

***Hydrilla* Surveys on Lake Ronkonkoma and Blydenburgh Lake**

The Region 1 Fisheries Unit completed the annual surveys of the extent of *Hydrilla* in Lake Ronkonkoma and Blydenburgh Lake in August of 2014. This was the sixth annual survey for Lake Ronkonkoma and the third annual survey for Blydenburgh Lake. Since 2009, *Hydrilla* has been the dominant aquatic plant species in Lake Ronkonkoma and in 2014 comprised 86% of all samples taken. However, it shows no trend toward increasing density. Because most of the lake is too deep for it, *Hydrilla* still covers less than 20% of the surface area of the lake. In Blydenburgh Lake the density of the infestation declined, but it remains to be the dominant species at 81% of all samples in 2014.

***Water Chestnut* Removal in Massapequa Creek**

This nasty invasive plant was first discovered downstream of the creek in Massapequa Lake in 2011. Last year it was identified in the reservoir upstream of the lake, and now, unfortunately, it has expanded its range to the creek. The creek is currently under a new stocking protocol to reintroduce brook trout. Fortunately this plant remains in the ponded areas along the creek. Region One Fisheries Unit with the help of Freshwater and Marine Habitat staff as well as a handful of volunteers hand removed approximately 150 large waste bags of the plant and seeds in June, July, and August. A last visit to the site was done in September and only a few lingering plants were observed and removed. The ponds along the creek will be surveyed next spring to evaluate the effectiveness of the hand-pulling efforts, which will continue as needed.



PUBLIC SERVICE AND CONSTITUENT SUPPORT

I FISH NY Long Island



In 2014, the Region 1 I FISH NY Program held slightly fewer fishing events than the year before, but the overall attendance at I FISH NY events increased substantially. This was primarily due to much higher than average attendance at the major spring and fall Fishing Festivals, but attendance also increased at Fishing Clinics including a 50% increase in attendance at the two day Valley Stream Fishing Clinic held during Free Fishing Weekend. In 2014 a total of 11,292 people attended one of the 29 I FISH NY events held in the Region.

Region 1 Fisheries staff again participated in the statewide I FISH NY train the trainer program, a fishing training for summer camp counselors, at two 4H camps on the eastern end of Long Island. Freshwater fishing equipment was supplied by DEC's central office, while saltwater equipment was loaned by Region 1 for use by the campers. The camp's fishing classes were very popular and well attended.

In FY 2014 the Regional I FISH NY Program completed the posting of the I FISH NY Lesson Plans on the DEC website. A total of 16 lesson plans for grade levels 3 through 12, for both in class and out of class lessons. The lesson plans can be accessed at <http://www.dec.ny.gov/education/89975.html>.

2014-15 Region 1 Fisheries Staff

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SPECIES CONSERVATION AND MANAGEMENT

Bronx River Bioblitz

Fisheries staff participated in a multi-organization, comprehensive survey of the Bronx River on August 18, 2014. Multiple sites were sampled by DEC through backpack electrofishing while other organizations collected water quality data and conducted sampling for invertebrates. The fisheries data complements existing data on the Bronx River fish community species composition, part of a larger NYSDEC fish community study of the Bronx River ongoing since 2007. Additionally, fin tissue samples were collected from white suckers for genetic studies through Fordham University. The day was organized through the Bronx River Alliance and involved efforts by other government agencies, universities and non-governmental organizations including Columbia University, City University of New York, Fordham University, the Wildlife Conservation Society, Rocking the Boat and New York City Department of Parks and Recreation.



Brook Lamprey Investigation, Tibbetts Brook

Fisheries staff accompanied fisheries staff from the Canadian Museum of Nature on a search for American brook lampreys in Tibbetts Brook, a stream running into Van Cortandt Park in the Bronx from Westchester. The last brook lamprey record for Tibbetts Brook was from 1979 and a finding of this species would have been notable. Unfortunately, no brook lampreys were found during this survey but staff now has some expertise and knowledge to search elsewhere for these fish.

Prospect Park Lake Creel Survey

A creel survey of Prospect Park Lake (Brooklyn) anglers was completed in 2014. The survey was used to estimate angling pressure, catch rates, species targeted, demographics of anglers, angler comments and angling methods. The survey period was conducted between May 5th and November 4th, 2014. A creel agent counted and surveyed anglers every weekend day and on two randomly selected weekdays. Greatest angler effort occurred in June, with July having the second highest amount of effort.

Ohrback Lake Fishery Survey

A boat electrofishing survey of Ohrback Lake in Pouch Camp, Staten Island was completed on April 29th. Objectives of the survey were to determine species composition and collect fish for contaminant testing. The DEC recently obtained an easement for portions of Pouch Camp including most of Ohrback Lake. Species captured were those typical of warm water lakes in New York City with the exception of chain pickerel which have a limited distribution in New York City. Almost 90% of sunfish captured were less than six inches in length while the largemouth bass captured were in relatively large size ranges. The bass population was dominated by larger fish as reflected by the relatively high size indices of Proportional Stock Density (86) and Relative Stock Density (40). Size distribution of sunfish and largemouth bass suggests a moderate to low density of bass and high sunfish exploitation although low water temperature may have affected electrofishing catch rates.

Flushing Airport Invasive Species Monitoring

Fisheries staff continued monitoring a population of northern snakeheads at the site of the former Flushing Airport in College Point, Queens. This population was confirmed through angling in July, 2012. Eradication was not pursued as this freshwater wetland area is surrounded by marine waters making travel by these fish to other waters, unlikely. Age, length and weight information collected during the 2014 angling survey of Flushing Airport snakeheads indicated most of the fish caught were one and two years of age. Comparison of length-weight data with that from snakeheads surveyed in Flushing Meadows Corona Park, where a population of northern snakeheads have been existing since at least 2005, indicates Flushing Airport snakeheads are smaller and likely food-limited. Introduction most likely occurred through one of two routes: 1) fish moved from the Meadow/Willow Lake system, north, through Flushing River and into the canal and Flushing Airport drainage basin; or 2) fish were released directly to the Flushing Airport drainage basin. Although the site is surrounded by a chain-link fence we observed several breaches of the fence through which people could enter.

PUBLIC SERVICE AND CONSTITUENT SUPPORT

NYC I FISH NY Program

R2 Fisheries staff conducted programs in 64 elementary and high school classrooms, reaching a total of over 2,200 students. An additional 533 people were reached through 10 outreach events and ten potential trainers were reached through train-the-trainer events.

Coordination with Other NYC Fishing Outreach Groups

On February 24th representatives from fresh and salt water fishing outreach groups in New York City met at the Long Island City Regional Office for the second of its kind workshop. A DEC Environmental Conservation Officer (ECO) provided information on fishing regulations, licenses and enforcement of these. Participants had the opportunity to ask questions and the ECO offered to provide



assistance at fishing events of other groups. The NYS Department of Health provided details on the procedures involved in developing fish consumption advisories and shared a lesson plan on how to teach



these at outreach events. Methods of teaching fishing regulations were shared among group participants and links to resources on lesson plans, regulations and consumption advisories were provided.

Groups represented at the meeting were the Prospect Park Alliance, Hudson River Park Trust, Battery Park City Parks Conservancy, the Lower East Side Ecology Center, the River Project, Solar 1, Urban Kid Adventurers, the Wildlife Conservation Society, Randall's Island Park Alliance, DEC Education, the DEC I FISH NY program, and the NYS Department of Health.

Fishing Event for Senior Citizens

On October 28th, Region 2 I FISH NY program hosted a multi-lingual Fishing Clinic for the Selfhelp Innovative Senior Center in Flushing, Queens. On an unseasonably warm day, 25 Cantonese speakers, all of them first time anglers, enjoyed a relaxed morning by Kissena Lake, catching more than 30 fish among them. Through a translator, Region 2 Fisheries Staff provided information about fishing licenses, places to fish, fish handling tips, and general assistance. Many participants expressed interest in pursuing angling as an activity to pursue with grandchildren. The event was open to the public and numerous walk-ins stopped by to experience angling for the first time and learn more about their local lake. Everyone enjoyed the day so much that plans are already in the works to return to Kissena in the spring.



Fishing Event with the National Park Service at Ft. Wadsworth, SI

On August 8, a fishing clinic was conducted at Gateway National Recreation Area, Ft. Wadsworth, Staten Island in collaboration with the National Park Service (NPS). The R2 I FISH NY program has fished with the NPS during summer camps and has also provided a train-the-trainer program but this was the first partnership at a weekend family event. The clinic was held at the northern tip of the beach with the Verrazano Bridge as background. While the NPS provided upland

activities including a living history exhibition covering American history between the Revolutionary and Civil Wars, DEC Fisheries staff provided fishing education along the beach at Ft. Wadsworth to over thirty New Yorkers. Virtually every angler caught fish, mostly "snapper blues", and a lucky few caught up to 10 fish in a span of a few hours. Many of these participants were first time anglers and stayed the duration of the clinic to catch fish. A NYCares volunteer provided assistance at this event and has proven to be useful at other fishing clinics conducted over the year.

Multiple Sclerosis Society Fishing Clinic in Williamsburg



On September 10th R2 Fisheries staff hosted a fishing clinic for the New York Chapter of the Multiple Sclerosis Society at North 5th Street Pier in Williamsburg, Brooklyn. Approximately 30 participants enjoyed views of the Williamsburg Bridge and Manhattan while fishing and catching striped bass, oyster toadfish and black sea bass. As is typical for these clinics information on fishing regulations, licenses and fish consumption advisories was provided as was information on fish species of the East River. These annual

MS Society fishing clinics have become so successful staff has added a spring clinic making these semi-annual events.



Other Fishing Outreach and Training

- Fishing outreach training for Prospect Park Audubon Center staff, Prospect Park, Brooklyn
- Prospect Park Earth Day Fishing Clinic and Family Fishing Clinic, Prospect Park, Brooklyn
- Raritan Bay Festival, Conference House Park, Staten Island
- Selfhelp Innovative Senior Center Fishing Clinic, Kissena Lake, Queens
- East Side YMCA Fishing for Summer Camp Youth, East River, Manhattan
- Baisley Pond Fishing Clinic, Baisley Pond, Queens
- Little Red Lighthouse Festival, Fort Washington Park, Manhattan
- Fishing Clinic with the National Park Service, Fort Wadsworth, Staten Island

2014-15 Region 2 Fisheries Staff

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Ann Murphy	Seasonal Fish & Wildlife Technician



SPECIES CONSERVATION & MANAGEMENT

Hudson R. Largemouth Bass & Walleye Telemetry Study



After conducting a pilot study in 2013 fisheries staff learned that the Lotek CART tags (dual mode tags) worked best for walleye and allowed both our Hudson River Fisheries Unit and our Inland Fisheries Unit to track these fish. Lotek radio only tags were selected for the largemouth bass in 2014 because of their shallow water habitat preference. In 2014 we used a larger 4 element yagi antennae to increase our range of detection and a four stroke motor to cut down on interference while tracking.

In 2014 fisheries staff surgically implanted Lotek radio tags into largemouth bass and Lotek CART tags into walleye in the tidal Hudson River to track their seasonal movements and habitat preference. A total of 31 largemouth bass >15" were collected and tagged (13 from the tidal Rondout Creek and 18 from the tidal Esopus Creek) and 10 walleye >18" were collected and tagged (7 from the tidal Rondout Creek, 2 from the tidal Esopus Creek and 1 from the Catskill Creek). Both our Hudson River Fisheries Unit and our Inland Fisheries Unit were able to successfully track these fish in 2014. Sampling efforts will continue into 2015 tagging an additional 24 largemouth bass and 20 walleye. Data collected from this research project will be beneficial to managers to help protect and improve both these fisheries.

Lake Minnewaska (Ulster County) Electrofishing Survey

This State Park lake was sampled by night boat electrofishing in June 2014, with the purpose of documenting the fish species present in Lake Minnewaska, as well as updating the status of the largemouth bass population which was first documented in 2012. Historically acidic for at least 90 years, golden shiner were reported to be present by Park personnel in 2008, and largemouth bass were reported present in early 2012. Both largemouth bass and golden shiner were collected in electrofishing surveys in 2012 and 2013.

Electrofishing in June of 2014 collected 108 largemouth bass, with no other species collected. It is apparent from these results that the introduced largemouth bass may have completely eliminated the previously introduced golden shiner from Lake Minnewaska, an outcome which is further corroborated by the documentation of increasing water clarity in the lake in 2014. Uncontrolled golden shiner can reduce zooplankton populations, resulting in increased phytoplankton density.

Rio Reservoir (Sullivan County) Walleye Assessment

Rio Reservoir was stocked with walleye advanced fingerlings in late summer 2012 as the first stocking in a five-year experimental stocking program, with the objective of establishing a population there. Walleye were not stocked in 2013 due to problems with the hatchery supply, however, fingerling stocking resumed in 2014 and will continue for five additional years. The reservoir was electrofished in October 2014

roughly following the percid plan, with the objective of documenting survival of the 2014-stocked walleye, as well as the presence of any additional walleye. In 2.6 hours of electrofishing no young-of-year walleye were captured, with only three older walleye up to age 5+ captured.

Swinging Bridge Reservoir Walleye Assessment

Swinging Bridge Reservoir in Sullivan County was electrofished in October 2014 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 2014 year class. No young-of-year walleye were collected, indicating a lack of survival of the 2014 walleye year class. Six older walleye were sampled, representing an age range of 4+ to 5+. A total of 14 white perch were sampled, which may indicate that this invasive species is increasing in abundance in this reservoir, when compared to previous surveys. A creel survey was conducted during the 2014 open water season as well as two months during the following ice fishing season on this reservoir, partly in response to anecdotal angler reports indicating that the walleye fishery may be declining here. This is currently being analyzed.

Swinging Bridge Reservoir Creel Survey

In response to angler complaints about and observations of a declining walleye fishery, a full open water season (May 1 – November 30) creel survey was conducted on Swinging Bridge Reservoir. Additionally, a cold winter with corresponding good ice conditions allowed for the winter ice fishery to exist, with an additional two months of creel survey data collected during February and March 2015 when ice conditions were safe.

Although the data are currently being analyzed, preliminary results indicate that the open water (boat) fishery accounted for 1.5 times the fishing pressure as did shore anglers. Total open-water season fishing pressure was estimated to be approximately 25 hours/acre. A total of 1566 fish were observed by or reported to the creel agent, with the highest proportion (45%) being comprised of black bass (primarily smallmouth), followed by black crappie (26%). Walleye only comprised 5% of the open water season catch.

One interesting finding was the interest in fishing for common carp, especially amongst shore anglers. Overall, 58% of the anglers interviewed were shore anglers, and of these 28% were targeting common carp. This was the second most fished for shore angling category, following those shore anglers fishing for "anything" (60%).

Ridgebury Lake Northern Snakehead Surveillance

In 2008 and 2009 a two mile section of Catlin Creek (including four small private ponds and a 49 acre wetland), as well as Ridgebury Lake (28 acres), were treated with rotenone in an attempt to eradicate northern snakehead. If northern snakeheads were to have dispersed downstream from this treatment area, the fish could have traveled through a series of streams (Rutgers Creek – Walkkill River – Rondout Creek) and ultimately to the Hudson River.

To confirm that all northern snakehead have been removed from this watershed, and to document fishery restoration, follow-up fisheries surveys have been conducted. In the Fall of 2013 and 2014, Ridgebury Lake was sampled by boat electrofishing and a typical warm-water fish assemblage was documented. No northern snakeheads or common carp were seen or collected. Despite multiple stockings of triploid grass carp from 2009 to 2014 for aquatic vegetation control, no triploid grass carp were seen or collected via electrofishing. Due to dense Eurasian milfoil and thick duckweed and watermeal on the surface of the water, these fish collections were very difficult and many fish were probably not visible to collect. A winter kill was documented in March 2015, at which time approximately 20 triploid grass



carp were found dead. The grass carp had obviously grown since stocking, so some limited success can be claimed from the previous grass carp stockings. Additional triploid grass carp will be stocked in 2015 to further reduce the nuisance levels of submerged aquatic vegetation at the lake.

eDNA Northern Snakehead Testing

A collaborative effort was conducted with The Nature Conservancy (at Notre Dame University) and researchers from Central Michigan University to take water samples to test for the presence of Northern Snakehead environmental DNA (eDNA). In 2013 a total of 260 2L water samples were collected throughout this watershed, including locations upstream of the treatment area and downstream to the tidal portion of the Rondout Creek at the Hudson River. These samples were analyzed using a species specific PCR (polymerase chain reaction) marker and traditional PCR techniques. The results of these tests were all negative. Additional samples were taken in 2014. The samples from 2014, as well as the 2013 samples, will be screened using digital PCR. The digital PCR method is even more sensitive than traditional PCR and will also be used to help verify results.

HABITAT CONSERVATION

Tappan Zee Bridge Replacement

Region 3 fisheries staff provided onsite monitoring during 2014 and 2015 for the \$3.9 billion Tappan Zee Bridge Replacement Project. Fisheries staff conducted approximately three site visits per week overseeing various construction activities. Special attention was given to activities with the greatest impact on fish and the Hudson River.



Over the past year this included concrete placement which can impact the pH of the river through concrete leachate, and pile driving which can impact fish and other organisms through sound and vibrations created from hammering. Fisheries staff also participated in monthly progress meetings held between DEC, Thruway Authority and Tappan Zee Constructors (the consortium of companies building the bridge). To reduce some of the sound and vibrations from pile driving, bubble rings were deployed around the piles during the hammering to help insulate the sound waves and reduce the range and magnitude of impact. Construction of the bridge is well under way with just over 51,000 cubic yards (CY) of concrete placed of the 200,000 CY's expected. Also, 992 piles of the 1,120 piles supporting the bridge have been driven. Other highlights include the completion of the first pier cap which will eventually support the new bridge's road deck and the arrival of the Left Coast Lifter (LCL). The LCL is one of the largest cranes in the world and took a 6,000 mile journey from San Francisco Bay, through the Panama Canal and arrived at the construction site during fall of 2014.

Rio Reservoir water release to Mongaup Creek

The Rio Reservoir is a hydroelectric impoundment on the Mongaup Creek along the Orange and Sullivan County line. The dam is owned and operated by Eagle Creek Renewable Energy, and in addition to generated hydroelectric power they must also make consistent water releases to sustain flow in Mongaup Creek. In November 2014, they had a catastrophic failure of their newly constructed 4 foot diameter minimum flow waterline. This resulted in an uncontrolled flow of water (500+ cubic feet per second) washing out the hillside that supported the main power generating penstock (see photo). Regional Fisheries Staff and Central Office and Regional Permit Staff worked with Eagle Creek to quickly provide the necessary, field work, plan review and

permitting to reestablish stable conditions and repair necessary infrastructure. In mid-February the hillside was reconstructed and flow was reestablished in the penstock. The old minimum flow release structure was also reactivated at the same time. Between the November failure and mid-February, the required water flow was maintained by spill from the reservoir spillway. The reestablished minimum flow release structure will enable the release of cold water, which is essential to trout survival in the lower Mongaup Creek during the period of the year when warm water would otherwise spill over the dam.



PUBLIC SERVICE AND CONSTITUENT SUPPORT

I FISH NY Efforts

The Region 3 I FISH NY program conducted 16 fishing festivals reaching 1,273 people, four fishing clinics reaching 282 people, four summer camp programs reaching 167 campers and 1 school program reaching 92 students. The clinics targeted various groups including people with a disabilities, adult day care centers and inner city youth. Over 1,800 people were involved in the 27 programs conducted and either fished or received fishing information in 2014 from the Region 3 I FISH NY Program.

Staff also conducted 7 "train the trainer" programs teaching 64 camp counselors how to fish and providing the camps with fishing equipment, so they can teach the kids during camp.

World Hunting and Fishing Exposition

Region 3 Fisheries staff set up and staffed a booth at the World Hunting and Fishing Exposition at Rockland Community College in Rockland County. From February 27 through March 2, 2014, thousands of anglers attended the show. People who visited the booth were able to talk fishing with our staff, receive literature, and view mounts of our state record fish. The kids were entertained by playing Velcro-fishing.



2014-15 Region 3 Fisheries Staff

Mike Flaherty	Biologist 2 (Aquatic)
Bob Angyal	Biologist 1 (Aquatic)
Larry Wilson	Biologist 1 (Aquatic) - Retired 4/14
Ryan Coulter	Biologist 1 (Aquatic)
Michael DiSarno	Biologist 1 Trainee (Aquatic)
Linda Wysocki	Fish & Wildlife Technician 3
Tim McNamara	Fish & Wildlife Technician 2
Amanda Tong	Seasonal Fish & Wildlife Technician
Indie Bach	Seasonal Fish & Wildlife Technician
Jessica Goretzke	Seasonal Fish & Wildlife Technician



SPECIES CONSERVATION & MANAGEMENT

Mohawk River Fishery Assessment

A two-year field study commenced in 2014 in cooperation with USGS staff out of the Troy office to assess the current status of fish assemblages in the Mohawk River and adjoining NYS Barge Canal in DEC Regions 4 and 6. Daytime boat electrofishing was conducted at 27 sites in various impounded and seasonal sections of the river from Crescent Lake (Waterford) above lock E6 upriver to lock E21 (Rome). Due to the long study area, alternate sections between locks were selected for sampling in the late spring of 2014 and 2015. A sample set of scales were collected to age walleye and black bass >1+ years old. Preliminary results suggest fish communities differ substantially between permanently and seasonally impounded sections of the river. CPUE for the fish community in permanently impounded sections was more than twice that of seasonally impounded sections. Centrarchids and yellow perch contributed most strongly to these differences but popular gamefish such as walleye were also more abundant in permanently impounded reaches presumably due to more deepwater (i.e., stable) habitat.



Seining was also conducted to collect smaller fish that might have been missed by the electrofishing effort. This produced several fish species not captured in the spring effort. Rainbow darter, a new invader to the river was added to the fish community analysis (spring effort) along with young-of-year gizzard shad, and stocked young-

of-year tiger muskellunge. No round goby were collected in either of the river surveys although one specimen (first record) was collected by another party in September 2014 near Utica.

Results from 2015 effort will be combined with 2014 and used to compile a contemporary dataset to fully assess the spatial and temporal trends in the fish communities between reaches.

Also commencing in 2014 was a study of the river's invertebrate community conducted in cooperation with Onondaga Environmental Institute.

Canadarago Lake Fishery Assessment

The bi-annual summer gill net and annual fall boat electrofishing assessment of yellow perch and walleye in Canadarago Lake continued in 2014 in cooperation with Cornell University. Sampling included two gill nets set overnight once a month during May, June, July, and August (eight sites) around the lake. A water chemistry profile was completed at the start of each monthly netting. Fisheries staff also

completed a one night electroshocking effort during the fall on the western shore and around Deowango Island to supplement the summer netting and search for stocked young-of-year walleye.



Gill net effort of 8 nets nights produced 19 species of fish with alewife being the most numerous (414 recorded). Only 21% of yellow perch were of desirable size to anglers ($\geq 8''$). Twenty smallmouth bass were captured (17 over 12") but only four largemouth bass were caught. A total of 101 walleye were recorded with 95% of them \geq to the 15" legal size.



Total electrofishing effort of 1.5 h produced 17 species of fish with yellow perch being the most numerous (367 recorded). However, only 7.1% of yellow perch were of desirable size to anglers ($\geq 8''$) despite a high CPUE of 245/h. Only three smallmouth bass were captured (one over 12") but 13 of the 41 largemouth bass were $\geq 12''$ (legal size) with some adults weighing up to about five pounds. Good numbers of chain pickerel were found with 60% being of legal size ($\geq 15''$) indicating recent successful recruitment

for the species. A total of seven walleye were collected with 100% of them $\geq 15''$ (legal size) and a relatively high CPUE of 5 fish/h.

Schoharie Reservoir

Schoharie Reservoir was sampled in cooperation with the New York City Department of Environmental Protection to determine the success of walleye stocking that began in 2011. Fish were also collected for a wild fish health assessment conducted by the USFWS. Angling, electrofishing, and gill netting were conducted at five sites around the reservoir on September 10 and 11, 2014. Approximately 2.5 h were spent angling on the reservoir targeting walleye for the fish health collections on the first trip. Another 1.0 h of shocking was completed along the shoreline at night on the 10th and the following morning to complete the survey (avg. 0.5 h per trip). Gill nets were also deployed to collect older walleye, with a total soak time of 6.5 h, averaging 3.3 h and 1-2 nets used per trip.



The overall survey effort resulted in the collection of 413 fish comprised of 20 fish species. Emerald shiner comprised almost half of the catch followed by spotfin shiner (19%). No other species comprised $\geq 10\%$ of the catch. Angling resulted in a few sunfish, perch, and black bass collected, but no walleye. Very few panfish species were collected via boat shocking with only two of the 13 yellow perch and all three of the white perch collected of desirable size ($\geq 8''$). Only 19 black bass were collected with only two of each species exceeding the legal size ($\geq 12''$). Only one of the smallmouth bass was $> 16''$.

Walleye numbers were low compared to the 2013 effort and the 15 fish comprised only 4% of the total catch with two fish of legal size ($\geq 15''$). The gill nets did capture multiple year classes of walleye from young-of-year to adult. Six of the fish were just under 15" and presumed to be 2-y olds that should grow to legal size by spring. Compared to other waters that we stock, the 50-day fingerlings appear to be surviving well in the turbid water and recruiting to legal size in three

years as hoped. No Oriental weatherfish were found but recruitment of alewife was confirmed in the reservoir again this survey.

Otsego Lake

The bi-annual fall gill netting of Otsego Lake was conducted to assess the response of the salmonid fishery to a reduced annual lake trout stocking policy (~2,500 SY lake trout). Fish were also collected for fish disease testing. Three nets were set on consecutive nights at six designated sites in deep water around the lake. A water chemistry profile was completed at the start of the survey near the deepest part of the lake.



Overall, six gill nets collected a total of 123 fish (55 salmonids) in the September sets and a few dozen others fishes (mostly young yellow perch) were collected via seine. The numbers continue to decline for lake trout (49 individuals) with a catch per net of 8.3 fish, down from 14.0 in 2012, and well below a mean of 12.9 fish/net since alewife became dominant in 1992. A total of 10 walleye were also caught in the net which remain in good condition unlike many (but not all) of the lake trout. The poor fitness of most lake trout is thought to be a result of a lack of adequate forage resulting from an excess of predators in the lake and the introduction of zebra mussels to the lake.

Lake whitefish numbers indicated a minor resurgence in 2012 with 12 fish caught, the most caught since 1992 (21 fish), but only six individuals were collected in 2014. These numbers are consistent with the 14-year average of 5.8 fish per survey. Cisco numbers are below detection levels now with none collected by gill net since 2010 and <10 fish caught after 2004. Coregonid numbers are expected to increase in the absence of abundant alewife and collaborative research is under way between SUNY and DEC to restore habitat and perhaps re-stock lake whitefish in Otsego Lake. Fish health in the lake appears good for all fishes tested except lake trout which tested positive for Epizootic Epitheliotropic Disease (EED), a causative virus that infects mostly the epidermis tissue of young lake trout. The infection is probably due in part to the poor condition of most lake trout in Otsego Lake and is not expected to have a significant impact of the lake trout fishery. A new management strategy for the lake will be developed focus ing on the restoration of the coldwater salmonid fishery.

Onesquethaw Creek Brown Trout Assessment

An electrofishing survey was conducted on August 12, 2014 on Onesquethaw Creek to assess the current brown trout population at two possible habitat improvement sites (site 1 and 3) and one pristine site (site 2). The three sites were located in newly acquired public fishing rights sections on the Onesquethaw. Wild brown trout collected included 38 fish with a size range of 2.55 – 11.25 inches, and a mean length of 6.01 inches at site 1, 40 fish with a size range of 2.87 – 16.58 inches, and a mean length of 7.98 inches at site 2, and 103 fish with a size range of 2.64 – 9.69 inches, and a mean length of 4.03 inches at site 3. The estimated >1+ trout population for the PFR section was 110.49 trout/acre and 34.39 lbs/acre, respectively. No stocked trout were collected even though roughly 1,200 brown trout are stocked annually starting about 2.0 miles upstream of the PFR section.

Overall, this section of the Onesquethaw Creek can be valued as a high quality trout stream. This can probably be attributed to low summer water temperatures and quality trout habitat. .

PUBLIC SERVICE AND CONSTITUENT SUPPORT

Onesquethaw Creek PFR Acquisition

On July 15, 2014 NYSDEC officially acquired roughly 7,000 feet of PFR along the Onesquethaw Creek, including an access trail and parking area on Rupert Road, Town of Bethlehem, Albany County. This easement, purchased by NYSDEC from the Town of Bethlehem, gives anglers the right to fish along the stream where PFR signs are present. This PFR project was a success because of the collaboration between NYSDEC, the Town of Bethlehem and the Clearwater Chapter of Trout Unlimited.

2015 Otsego Lake - Ice Fishing Clinic



On February 18, 2015 OPRHP and DEC Bureau of Fisheries conducted their 6th annual free ice fishing clinic at Glimmerglass SP on Otsego Lake. This event, geared towards kids and those new to the sport of ice fishing, was again a success due to multi-agency staff collaboration and public participation. About 100 people attended the event and many fished despite the lengthy hike out on the lake in the snow and slush. A large solar-heated shanty with a color fish finder and black-n-white camera was of interest to some anglers, but most ventured

about on the ice with jig'n rods in hand looking for biting fish amongst a field of tip ups staff had set. DEC staff baited hooks and answered many questions from new anglers on the rather nice (~30° F) calm sunny day. Staff were often outnumbered ~12-1 by the new anglers and soon ran out of rod/reel combos for everyone to jig with. Luckily additional support was provided by local SUNY Cobleskill students. Unfortunately, the bite was very slow on the flats off the beach. Overall about 10 fish were caught, mostly on tip ups baited with live Golden Shiners. Five or so Chain Pickerel from 14-20" were caught along with the same number of Yellow Perch from 8-12". A lone 27" Lake Trout was the biggest fish iced that day. No other species were captured in the event but several people went home with fillets.

Green Lake Accessible Fishing Pier

An accessible fishing pier was installed at the Green Lake Fishing Access Site. The fishing pier is pinned to the lake bottom which will remain year round, thus reducing the need for staff to remove and install the pier every spring and fall. The pier is located directly on the edge of the deep drop off in the lake which is one of the preferred shore fishing locations on the lake. The lake is stocked with 2-year-old brown trout and is open year round to trout fishing. The lake also contains bass, sunfish, crappie, yellow perch and pickerel.



2014-15 Region 4 Fisheries Staff

Chris VanMaaren	Biologist 2 (Aquatic)
Daniel Zielinski	Biologist 1 (Aquatic) - retired
Scott Wells	Biologist 1 (Aquatic)
Tim Pokorny	Biologist 1 (Aquatic) Trainee 2
Dennis Wischman	Fish and Wildlife Technician 3
Jackie Trosterud	Seasonal Clerk 1
Anthony Bruno	Seasonal Fish & Wildlife Technician



SPECIES CONSERVATION & MANAGEMENT

Lower Sargent Pond Post-Reclamation Survey



Lower Sargent Pond in the Town of Arietta, Hamilton County was reclaimed in 2013. A survey of the pond in July, 2014 to determine the success of the reclamation was performed using nets and traps. One metal minnow trap was set along with one 100' minnow net and five 30' minnow nets. Four experimental gill nets designed to catch fish of different sizes due to the varying mesh sizes in the net were also set. Twenty central mudminnows were captured. Mudminnows were never documented in Lower Sargent Pond until just before the reclamation. Their survival in the pond is not a problem because this species is not a serious competitor of brook trout. The main species targeted for the reclamation were brown bullhead, golden shiner and largemouth bass, and none of these species were captured or observed. Little Tupper strain brook trout were stocked in the pond in September, 2014.

Lake Trout Population Surveys

Lake trout assessments were completed on Piseco, Schroon and Paradox lakes, primarily to assess the status of the juvenile lake trout population.

Piseco Lake

These gill net surveys are part of a multi-year study of the lake trout population across Region 5. At Piseco Lake, the lake trout population appears to be in reasonably good shape with 132 fish collected. Stocking rates for lake trout were reduced in Piseco in 2010 to increase growth, and the improved condition of the lake trout in 2014 indicates the stocking rate reduction achieved its objective. It does appear, however, that the population is still dependent on stocking. No landlocked salmon were captured in nets suspended in the water column, perhaps due to water temperature conditions. Lake whitefish and rainbow smelt were also collected during the survey.

While it is likely that some natural reproduction of lake trout still exists, the relative lack of smaller lake trout in the sample combined with the increased growth rate and the improved condition of the lake trout population indicate the size of the lake trout population is being maintained at a reasonable level using the current stocking regime. Hence no management changes are recommended based on the survey results.

Spiny water flea was recently detected in this water and, as usual, great care was taken to sterilize all of the equipment that was used to prevent the spread of this invasive species. This survey may also serve as a baseline of information should spiny water flea impact these fish populations.

Schroon Lake

At Schroon Lake, both lake trout and yellow perch were collected and

submitted for toxic substance monitoring. Lake trout sampling results indicate that the lake trout population is doing reasonably well with very good condition and growth rates. However, because of a relative lack of older lake trout, the size limit on Schroon may need to be increased to the statewide limit of 21 inches for protection of age six fish, the age at which lake trout become sexually mature. This naturally reproducing population is supplemented by annual stocking.

Paradox Lake

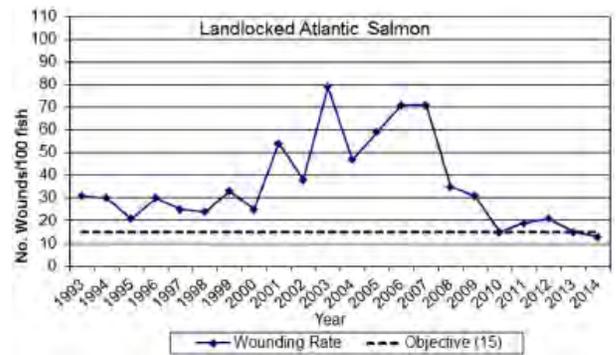
Although a small lake in comparison to the Region's other top lake trout waters, Paradox has a solid reputation as a lake trout producer, and our netting results reaffirmed that. Several 20+ inch fish including an 11 pounder were caught. Overall, the 2014 survey revealed a healthy population of lake trout with good growth and condition, and no management changes are needed. Paradox Lake is also noteworthy for its population of cisco, a large forage fish that undoubtedly contributes to the impressive growth rate of its lake trout. Of the waters surveyed, only Lake George and Lake Champlain have greater numbers of cisco.

Lake Champlain Lamprey Control

The Boquet, Salmon, Little Ausable and Ausable rivers and their deltas, the Saranac River delta, and the Great Chazy River were all treated to reduce the number of parasitic sea lamprey in Lake Champlain. A single treatment in Lewis Creek, Vermont was also completed. These treatments are part of an integrated management program to restore trout and salmon populations and their associated fisheries to Lake Champlain and its tributaries. While the U.S. Fish and Wildlife Service has now taken the lead, Region 5 fisheries staff and one staff member from Region 7 also assisted with these treatments. All the treatments appeared to be successful, with the exception of the Ausable River, where low flows in the South Fork of the Ausable prevented sufficient quantities of the control chemical from entering this stretch of river. A spring treatment of the South Fork, similar to the one conducted in 2007, will be conducted.

The trend for sea lamprey wounding rates on both landlocked Atlantic salmon and lake trout is positive, with decreases in wounding rates observed for both species. In fact, data from 2014 assessments show the lowest sea lamprey wounding rates since the long term sea lamprey control program began in 2002.

Another primary indicator of an improving fishery is the strength of annual spawning runs – which produced several record or near-record numbers in 2014. Additionally, anglers are reporting excellent catches of lake trout and landlocked salmon in both the lake and its tributaries.



Nellie and Bessie Ponds Brook Trout Surveys

These waters, located in the St. Regis Canoe Area, were reclaimed in 1990 and were stocked with Horn Lake Strain brook trout for two years following the reclamation. Natural spawning was deemed adequate in these waters after those initial stockings. Recent angler reports, however, indicated that the trout population may be in decline in both ponds, and these surveys were undertaken to answer that question. The surveys show that self-sustaining brook trout are still present in

these ponds, although the brook trout populations in both have been reduced through the introduction of competing fish species including in Nellie Pond, newly documented white sucker and common shiner. In adjacent Bessie Pond, the brook trout also have competition from brown bullhead, golden shiner, and northern redbelly dace, as well as four newly documented species including white sucker, common shiner, creek chub, and fathead minnow.

Hybrid Brook Trout Performance

Often in the past we have stocked fall fingerling Temiscamie x Domestic strain brook trout in our brook trout ponds. In 2014 a switch to Windfall x Domestic fall fingerling hybrids was made in some ponds. In order to gage the performance of these new hybrids, a series of surveys in several ponds were completed. These ponds had a variety of fish populations that might influence the performance of the new strain. For instance, Ochre Pond contains brown bullhead, white sucker, and golden shiner as well as brook trout. Nineteen Temiscamie hybrids were collected during the survey, most in the 9-12 inch size range.

A similar survey in Meadow Pond evaluated the current Temiscamie hybrids, this time in a brook trout monoculture. The current brook trout population appears to be in fine shape, with good numbers of trout collected from several year classes with lengths up to 14”.

Finally in Bear Pond, the fish population was comprised of brook trout and pumpkinseed (sunfish). The Temiscamie hybrid brook trout population here looks to be in good shape with several year classes represented, with some in excess of 2 pounds.

The Windfall hybrids in these three ponds, along with those of Bone and St. Germain ponds which were surveyed in 2012 and 2013, respectively, will be evaluated in a few years to see how they perform in relation to the Temiscamie hybrid performance observed during these surveys. The results will provide an understanding of how this new strain of brook trout responds in a variety of fish community complexes.



Lake Pleasant Fisheries Survey

Region 5 Fisheries staff conducted a night-time electro-fishing survey of Lake Pleasant in June. The survey was conducted during the fourth year of a five-year experimental walleye fry stocking program to assess the success of the program. Unfortunately, no walleye were collected during the survey. This may have been partially due to the water temperatures, which had warmed just out of the optimal range for collecting walleye. The success of the walleye stocking will be evaluated again in the future with gill nets. The survey did reveal that smallmouth bass are quite abundant, with 78 individuals collected in a wide range of sizes including a fair number in excess of 16”.

Hudson Gorge Wilderness Area Survey Work

A concentrated survey effort was initiated to inventory the waters in and adjacent to the Hudson Gorge Wilderness Area. There have been recent state land acquisitions in this region, so up-to-date information on the fish populations in the area’s waters was needed for fisheries and unit management planning purposes. Waters surveyed included Dunk Pond, Huntley Pond, Pine Mountain Pond, Blue Ledge Pond, Carter Pond, Upper Carter Pond, Cheney Pond and Ross Pond. Of

these waters, Dunk Pond, Huntley Pond and Ross Pond were found to have fair - good populations of Temiscamie x Domestic Hybrid brook trout. Cheney Pond was identified as a potential future reclamation candidate. The other waters were determined not to be suitable for brook trout management.

Restoration of Fish Barriers



Region 5 Fisheries staff annually inspects fish barriers that have been constructed to prevent the upstream migration of unwanted, non-native fish species into Adirondack brook trout ponds. These barrier dams are often an integral part of protecting brook trout populations from competing fish species. Our annual inspection revealed two barrier dams in need of repair. At the Lost Pond barrier dam in the Moose River Plains, tree roots from a stump on the far side of the barrier had caused a wash-out, and almost all water was bypassing the barrier. Staff removed the top of the stump but found the base was still very much intact! Sand bags, bentonite (a clay product) and plastic sheeting were used to fill the hole under the stump and to create a new watertight seal. The barrier is once again serving its intended purpose.

At the West Pine Pond barrier dam the deck holding the screening was severely compromised following a high water event at ice out and had to be completely replaced. Every member of the fisheries staff participated in the repair of this important fish barrier, which protects a self-sustaining brook trout population from several non-native species including yellow perch and northern pike.

PUBLIC SERVICE AND CONSTITUENT SUPPORT

Boarding Dock Installed at Saratoga County Boat Launch



The Saratoga Boat Launch on Great Sacandaga Lake in the Town of Day has a dock! The floating dock was installed May 22 and is a welcomed addition. Due to the often windy conditions and lack of dock, launching and retrieving boats via the existing concrete ramp was often very difficult. The new floating dock, supported by steel piles, is 168’ long and is designed to accommodate the large water level fluctuations that occur on the lake.

2014-15 Region 5 Fisheries Staff

Bill Schoch	Biologist 2 (Aquatic) - Retired
Lance Durfey	Biologist 2 (Aquatic)
Rich Preall	Biologist 1 (Aquatic) - Retired
Jim Pinheiro	Biologist 1 (Ecology)
Rob Fiorentino	Biologist 1 (Aquatic)
Thomas Shanahan	Biologist 1 (Aquatic)
Jonathan Fieroh	Biologist 1 (Aquatic)
Jennie Sausville	Fish and Wildlife Technician 3 - Retired
Dustin Dominesy	Seasonal Fish and Wildlife Technician
Jessie Maxfield	Seasonal Fish and Wildlife Technician
Brett D’Arco	Seasonal Fish and Wildlife Technician
Adam Kosnick	Seasonal Fish and Wildlife Technician



SPECIES CONSERVATION & MANAGEMENT

Lake Sturgeon Restoration

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 245 sturgeon were collected in 2014 from the eastern basin of Lake Ontario, mouth of the Oswegatchie River, and the St. Lawrence River downstream to just below the Robert Moses Power Project. Most of the fish (205) were new captures and were tagged with Passive Integrated Transponders (PIT tags). Lake sturgeon eggs (112,000) were taken in early June at the Robert Moses Power Project, Massena NY with 4 egg bearing females providing eggs. A cooperative effort between NYS DEC and the Genoa National Fish Hatchery (USFWS, Wisconsin) was successful in rearing approximately 25,555 fish. Hatchery capacity at both facilities was exceeded so stocking was split into two increments; 14,000 summer fingerlings and 11,555 fall fingerlings. Approximately 17,300 fish were stocked in the St. Lawrence, Raquette River, St. Regis River, Oswegatchie River, Black Lake, Cayuga Lake, Genesee River and Salmon River (Franklin County). The remainder (~8,250) were stocked into bays of the eastern basin of Lake Ontario. All fingerlings received Coded Wire Tags (CWT) or OxyTetraCycline (OTC) prior to stocking for year class survival assessments in the future.



Black River Bay Lake Sturgeon Assessment



A spring pre-spawn sampling of lake sturgeon in Black River Bay (Lake Ontario) during the last 2 weeks of April, 2014. This survey is a continuation of annual research started in 2005 to assess lake sturgeon entering the Black River to spawn.

Staff captured 25 sturgeon consisting of 16 new fish and 9 recaptures from previous years. Fish were examined and scanned for an existing Floy® and PIT (Passive Integrated Transponder) tags. All untagged sturgeon received PIT tags after biological data was recorded. Fish were released immediately upon completion of processing.

One recapture was a fish originally tagged in 2005 in Oneida Lake by Cornell University. This fish left Oneida Lake via the NYS canal system, exited through the Oswego River, and navigated Lake Ontario to the mouth of the Black River. Tagging studies such as this are valuable in determining dispersal and growth rates. At the time of capture this fish was 19 years old weighed approximately 43 pounds.

Eastern Lake Ontario/St. Lawrence River Warmwater Fish Stock Assessment

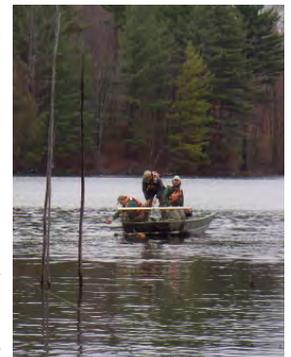


Over one-third of fishing effort in Region 6 occurs on eastern Lake Ontario or the St. Lawrence River. Warm/coolwater fish stock assessments are conducted by Region 6 on the St. Lawrence River and by both regional and Lake Ontario units on eastern Lake Ontario. The assessments track condition of fish stocks in these waters. In

the St. Lawrence River Thousand Islands area abundance of legal size smallmouth bass increased from record lows in 1996-2004 and has varied at moderate levels since 2006. This increase has been due to faster growth and earlier recruitment of young fish (largely due to availability of round goby forage) rather than improved recruitment or increases in the total number of individuals in the population. Northern pike abundance in the Thousand Islands remains depressed largely due to habitat changes resulting from water level regulation. For 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. No strong year classes have been detected in recent years. Small increases in harvestable size bass since 2005 have been attributed to increased growth and vulnerability of young fish to capture. Continuing cormorant management and a switch to round goby prey have reduced cormorant feeding and consumption of sport and panfish.

Brook Trout Management

Heritage strains of brook trout are genetically distinguishable from each other and other strains of brook trout and this makes them important to New York's biodiversity. Their unique adaptations also make them valuable tools in fisheries management. For a number of years, Region 6 has conducted annual heritage strain egg takes in order to further the propagation and distribution of these unique strains of brook trout. In fall 2014, egg takes for the Little Tupper strain were conducted on Boottree Pond. Wild male Little Tupper brook trout were collected from South Twin Lake and their milt was used to fertilize some of the eggs collected from Boottree Pond. This was an attempt to bring wild selected genes into the gene pool. Fertilized eggs were transferred to the NYSDEC hatchery system where they will be raised and stocked in the fall as fingerlings. This is the seventh year that an egg take has been conducted on Boottree Pond.



Oswegatchie River Cooperative Walleye Project

Walleye brood stock were collected on the Oswegatchie River (Ogdensburg) on April 29, 2014, as part of an annual cooperative project with the St. Lawrence Valley Sportsman and Massena Fish and Game Club. Due to severe winter conditions which provided an extended snow melt and high cold river conditions, this year's collection was the latest to date for this project.

Mature fish were captured by Region 6 personnel by boat electroshocking. Walleye were in various stages of spawning at the time of capture with both ripe and hard females collected. The run appeared typical with numerous white suckers in proximity as they spawn con-

currently with walleye. Approximately 2.2 million eggs were harvested and fertilized for rearing by the sportsman clubs. Progeny will be screened for diseases prior to release into the St. Lawrence River.

HABITAT CONSERVATION

Mitigating the Impacts of Acid Precipitation

Good water quality is vital to a thriving fish population. Many fish, including brook trout *Salvelinus fontinalis* cannot tolerate acidic conditions. In an effort to counterbalance the effects of acidification NYSDEC conducts a pond liming program which includes monitoring water quality in vulnerable waters. During the 2014 field season, Region 6 monitored water quality in 29 Adirondack lakes and ponds. Bear Pond which lies in the Five Ponds Wilderness Area was limed with 80 tons of lime. Lime is typically spread on the pond's frozen surface and mixes into the water once the ice melts in the spring. Two strains of brook trout which include the Horn Lake strain and the Temiscamie-Hybrid strain, have been stocked into Lyon Lake and Hawk Pond which are located in the Five Ponds Wilderness Area. The two strains were stocked together in the same water to create a "head to head" competition. Future surveys will be conducted in an attempt to determine which strain may be better suited for survival in Adirondack waters.



Erosion Mitigation on Sandy Creek (Jefferson Co.)

Staff assisted Jefferson Co Soil and Water in evaluation of erosion mitigation efforts on Sandy Creek. Like many streams Sandy Creek changes course regularly with the stream bed moving back and forth in the valley impacting property owners. Areas of intense erosion were treated with varying stabilization methods; root wad fortification, rock jetty and J hooks, and willow plantings. Four sites were evaluated with backpack electroshocking to assess the fish community in each site.



Three of four sites were stabilized in 2013, only one of which remained intact after high water in the fall of 2013. Two of these sites need extensive repair. The fourth site was completed in 2014. The fish community was found to be dominated by minnow species (cyprinids) at all sites. Diversity was highest at the two upstream sites (total species = 13) and noticeably lower at the downstream sites (total species = 7). Blacknose dace, bluntnose minnow, common shiner, cutlips minnow and fantail darter were the species most often encountered during sampling. Brown trout were collected at the upper sites where appropriate habitat was created.

Fish Passage

Region 6 Fisheries personnel have been involved with reviewing fish passage designs for Emeryville, Natural Dam, and Eel Weir on the Oswegatchie River. We have encouraged the use of 'nature-like' fishways, such as the rock ramp, which are often less expensive, and more effective at passing a range of fish species, than conventional fishways. We continue to work on re-licensing efforts for the Upper and Lower Beaver Falls Hydropower Plants. The Village of Gouverneur Hydroelectric facility began the licensing process in December of 2014 and will continue for the next couple of years.

PUBLIC SERVICE & CONSTITUENT SUPPORT

New/Upgraded Access Facilities



During 2014-15 three new access sites were constructed using the principals of Universal Access Design. The Wegatchie Fishing Access Site is a Universal Access, hand carry canoe/kayak/car-top boat launch on the Oswegatchie River in St. Lawrence County. Also built in St. Lawrence County is a new

Universal Access, hand carry canoe/kayak/car-top boat launch on Fish Creek in the Fish Creek Wildlife Management Area. In Lewis County on the East Fork of the Salmon River, a new Universally Accessible Fishing Deck was constructed along with a new Universally Accessible Parking Area, an Access Aisle and an associated Access Lane to the fishing deck.



Outreach and Education

Regional outreach efforts contacted anglers and families at an outdoor expo, fishing clinics and Earth Day events. We also reached elementary school students at conservation field days and environmental awareness days, and high school students at Environmental competitions. Together thousands of anglers, students and families throughout the region were exposed to information about fish, fishing and aquatic systems.

Jefferson County Environmental Awareness Days

Over two days, three members of the regional Fisheries staff, one from the Bureau of Habitat, and a staffer from Environmental Permits, participated in Jefferson County Environmental Awareness Days at the Fort Drum Natural Resources Area. The event was coordinated by Cornell Cooperative Extension. Hundreds of sixth graders from area schools were presented with information regarding Jefferson County waters and fish communities. Despite cold weather and warnings that the fish were cold, slimy and attracting bees, hands-on activities with iced fish generated great interest and enthusiasm.



2014-15 Region 6 Fisheries Staff

- | | |
|-----------------------|-------------------------------------|
| Frank Flack | Biologist 2 (Ecology) |
| Russ McCullough | Biologist 1 (Aquatic) |
| Rodger Klindt | Biologist 1 (Aquatic) |
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| Doug Carlson | Biologist 1 (Aquatic) ETS Unit |
| Jeff Maharan | Seasonal Fish & Wildlife Technician |



SPECIES CONSERVATION & MANAGEMENT

2014 Cormorant Management at Oneida Lake

For the fifth consecutive year DEC Fish and Wildlife staff from both Regions 6 and 7 conducted a cormorant management program on Oneida Lake. The main goal of this program is to reduce the number of cormorants on the lake in order to limit their impact on the lake’s sportfish populations. Effort was increased in 2014 to address a recent trend of increasing numbers in the spring and summer months and to limit cormorant nesting activity. Department staff began hazing and egg oiling in mid-May and continued hazing and culling activities through fall. Of note, this was the first year of DEC hazing in which volunteers were not utilized. Counts and/or hazing took place from May 19th through October 29th on a total of 29 days. From May through the end of July cormorant numbers on the lake averaged in the low 100’s (low of 74, high of 170). August saw an incremental increase in cormorant numbers up to a high count of 445 on August 19, which was also the highest count of the season. To reinforce our hazing efforts we also culled some birds as part of a diet study. A total of 232 cormorants were culled of which 183 were submitted to Cornell for diet analysis. Diets consisted of a mix of species with both young yellow perch and walleye comprising a significant portion of the diets. Given the diet composition, it is safe to say that Department hazing efforts saved large numbers of Oneida Lake sportfish from cormorant predation in 2014.

Spring 2014 Cayuga Inlet Fishway Operations



Fishway operations continued in spring 2014 and for the season 549 rainbow trout were handled and 5,300 adult sea lamprey were killed. The lamprey wounding rate on rainbow trout, within the target index size range (19.7–21.6 in.), was 0.33 wounds/trout - well above the management objective of < 0.23 wounds/trout. For comparison observed wounding rate on Rainbow trout in the spring of 2013 was 0.18 wounds/trout and nearly 6,000 adult lampreys were trapped at the Fishway. This spring’s wounding rate was higher than anticipated. The 2007 year class of lamprey in Cayuga Inlet, which went untreated, proved to be substantially larger than our earlier ammocoete (juvenile lamprey) surveys suggested. The high wounding rates are an indication that they have had a significant impact on the trout and salmon fishery of Cayuga Lake. This information reinforced the need to conduct the lampricide treatment in Cayuga Inlet in August 2014 especially since our ammocoete surveys indicate that the density of 2011 year class of juvenile lamprey was nearly double that of the 2007 year class.

Cayuga Inlet Sea Lamprey Control

Historically, Cayuga Inlet produced the vast majority of sea lamprey in the Cayuga Lake system in years when adults successfully reached the high quality spawning and rearing habitat present upstream of the flood control dam in Ithaca. In most years they are unable to get

above this dam but occasionally high lake levels and/or high flow conditions allow them to “escape” over the dam. These conditions were present during May/June 2007, 2011, and 2014 and resulted in significant production of sea lamprey larvae in Cayuga Inlet. The 2011 year class was determined to be exceptionally large and on August 19-20, 2014 the aquatic pesticide, TFM, was applied to 5.5 miles of the lower Cayuga Inlet to kill them before they could migrate down to Cayuga Lake. The treatment was successful at removing both the 2011 and 2014 year classes of larval Sea Lamprey. Lamprey control in Cayuga Inlet protects populations of trout and salmon in Cayuga Lake, and is an important part of DEC’s ongoing efforts to provide high quality fishing opportunity in both the lake and its tributaries. If not eliminated, the 2011 year class would have migrated to the lake in 2015 to begin the predatory phase of their life cycle. Thousands of larval lamprey were killed during the treatment, while mortality of non-target aquatic organisms was minimal. A heavy rainstorm at the end of the treatment rapidly dispersed the chemical into lower Cayuga Inlet and out into Cayuga Lake. Here, exposure to sunlight over the next few days quickly broke the TFM down, allowing us to lift the water use restriction advisory after only five days. This project was only possible because of the cooperative effort by Fisheries staff and equipment from five DEC regions (Regions 4, 5, 6, 7, and 8) and Central Office.

A follow-up electrofishing survey of Cayuga Inlet found no surviving larvae in any of the areas which previously held high densities of larval sea lamprey. Sea lamprey wounding rates on lake trout had already decreased from 83% in 2012, to 40% in 2013 as the density of parasitic sea lamprey in Cayuga Lake, from the uncontrolled 2007 year-class, declined. As the remaining lamprey (from the 2007 year class) in the lake mature, spawn, and die, we expect that the number of fresh wounds on the lake’s trout and salmon will decrease markedly over the next year and then remain low. This should result in a better fishing experience for anglers targeting these fish.



Fall Sampling for Cayuga Inlet Juvenile Rainbow Trout

In early September, staff conducted an abbreviated survey to assess the current status of the Cayuga Inlet wild rainbow trout population. Wild rainbow trout production from Cayuga Inlet makes up a substantial portion of the overall population of rainbow trout found in Cayuga Lake. Concerns about the level of wild trout production in the Inlet have lingered since a 1997 diesel spill impacted much of the stream. The trout population was last assessed in 2004 and seemed to have fully recovered relative to pre-spill wild trout densities. The intent of this survey was to determine the current level of wild trout production in Cayuga Inlet since several major floods over the past decade have caused extensive erosion and an apparent decline in quality trout habitat. We sampled seven of the eleven sites from 2004 and found an abundant, although somewhat reduced, population of juvenile Rainbow Trout. In 2014 the number of juvenile trout captured ranged from 31 to 800 trout per acre while in 2004 catches ranged between 31 and 1,344 per acre. The overall average for the 2014 survey was 372 trout per acre, compared to an average of 536 trout per acre in the 2004 survey. The differences observed between the two years may very well reflect typical year-to-year variations in production rather than an actual decline. Additional sampling in future years will help determine whether the stream is still actually capable of supporting the level of wild rainbow trout production observed in the past.

Whitney Point Reservoir Fall Walleye Sampling

Night electrofishing was conducted in early October along the Whitney Point Reservoir shoreline to monitor year class strength of walleye. A total of 726 walleye were captured in 3.5 miles of shoreline sampled. Of those captured, 613 (84% of the catch) were young-of-year (YOY) which ranged in size from 6 - 9.5 in. and 3 fish (<1% of the catch) were of legal size, the largest of which measured 22.2 in. The average length of YOY walleye was approximately 8 in. which is about average compared to past years. Searns' (1982) formula for estimating YOY walleye population sizes provides an estimate of 49,200 YOY present in the reservoir. This is one of the larger year classes sampled in the reservoir over the history of this sampling program which has been conducted in most years since 1994. Given both the abundance and size of the YOY walleye they should provide the adult population a significant boost in numbers in 3-4 years.



Lake Moraine Sampling

Lake Moraine is a 261 acre lake located in the Town of Madison, Madison County. Two fisheries surveys were conducted on the lake during the summer of 2014. The first was a two-night electrofishing survey in June, and second was a two-day gill and fyke netting survey in July. One of the prime objectives for the surveys was to determine if stocked tiger musky are surviving and recruiting to the fishery. Additionally, we sought to develop a picture of the overall fish community of the lake. In total, 1,093 fish were caught, representing 15 species. Pumpkinseed sunfish were the most numerous fish in the sample with 224 caught (20% of catch). The next most abundant species captured was bluegill (n = 171, 15% of catch), followed by yellow perch (n = 137, 13% of catch), golden shiner (n = 134, 12% of catch), chain pickerel (n = 132, 12% of catch), and largemouth bass (n = 110, 10% of catch). Thirty-two walleye were also caught (3% of catch). No tiger musky were captured or observed during the survey, indicating little or no recruitment in recent years. Sample results suggest that panfish populations are subject to high angler harvest but predator populations are fairly well balanced with good numbers of legal length black bass and chain pickerel present. Because of the poor tiger musky recruitment, boat stocking will be tried for several years to see if survival of stocked fish improves. Given the apparent success of the Lake Moraine Association's sporadic walleye stocking program, the Department is considering an experimental walleye policy at some point in the future.

Otisco Lake 2014 Fish Community Survey

Otisco Lake is a 2,236 acre eutrophic lake lying wholly within Onondaga County, near the City of Syracuse. It is the most easterly of the eleven Finger Lakes and is eighth in size. A Fish Community Survey was conducted on Otisco Lake during the summer and fall of 2014. Multiple sampling gears consisting of fyke nets, standard inland gill-nets, bag seine, and boat electrofishing were used during the survey. The purpose of the survey was to develop an overall picture of the fish community and to monitor the stocking program for tiger musky and walleyes. Overall, 2,343 fish were caught, representing 23 species. Of note, yellow bullhead were collected for the first time in Otisco Lake. Bluegill were the most numerous species captured with 667 caught (29% of catch) followed by white perch (n= 335, 14% of catch), smallmouth bass (n=161, 8% of catch), and yellow perch (n=145, 6% of catch). Other gamefish captured included largemouth bass (n=92, 4% of catch), walleye (n=71, 3% of catch), tiger musky (n=12, 1% of catch), and brown trout (n=1, < 0.001% of catch). Walleye gill net

and electrofishing catch per unit effort (CPUE) was 5.9/net night and 4.8/hour, no walleye were collected with the fyke net. These CPUE's would suggest that Otisco Lake has a moderate to abundant walleye population. Walleye showed good growth rates with walleye reaching the legal size of 18-inches between age-3 and age-4. The tiger musky ranged in length from 7.5 (recently stocked) to 35.3 inches, with a mean length of 22.1 inches. Tiger musky gill net and electrofishing CPUE was 0.4/net night and 3.2/hour; as with walleye, no tiger musky were collected with the fyke net. Data analysis is still ongoing and a final report should be available by early 2016

2014 Finger Lakes Angler Diary Cooperator Program

Angler catch data for the 2014 fishing season on the four eastern Finger Lakes were summarized and letters sent to participating co-operators in late-March 2015. Data from this program provides DEC with information on growth rates, stocked fish recruitment, and angler success rates which help guide our management efforts. A brief summary of each lake follows, but the full summaries are available on the DEC website at www.dec.ny.gov/outdoor/27875.html. At Otisco Lake, the legal game fish catch rate of 1.3 fish/trip is one of best observed in the history of the program and this was driven, in part, by the record number of legal walleye that were caught. Otisco cooperators also caught better than average numbers of legal largemouth bass and tiger musky. At Skaneateles Lake, the legal salmonid catch rate of 1.6 fish/trip is similar to that observed in recent years. Lake Trout comprised 85% of the legal salmonid lake catch while rainbow trout and landlocked Atlantic salmon comprised 12% and 4%, respectively. At Owasco Lake, the legal salmonid catch rate of 1.2 fish/trip was up slightly from the previous year. Lake trout continue to dominate the fishery comprising 95% of the legal salmonid lake catch but a few legal size rainbow and brown trout were also caught in the open lake fishery. At Cayuga Lake, the legal salmonid catch rate of 2.2 legal fish/trip was up somewhat compared to the past several years. Lake trout comprised 83% of the legal salmonid lake catch while rainbow trout, brown trout and landlocked Atlantic salmon comprised 3%, 7% and 3%, respectively.

PUBLIC SERVICE & CONSTITUENT SUPPORT

Salmon River Fish Hatchery School Tours

The Pacific salmon (Chinook and Coho) egg collection at the Salmon River Fish Hatchery, Altmar, NY, is a very popular event for school groups to see in mid-October. These school groups range from home schooled students all the way up to Aquaculture majors from area colleges. During October of 2014 around 600 students from 12 different school groups took part in educational tours at the hatchery. Students learned about the Lake Ontario fishery and ecosystem, were able to witness the egg collection process taking place in the spawn house, see natural spawning activity taking place in Beaver Dam Brook, learn how to tell the two species apart, and how salmon find their way back to their spawning streams, just to name a few things. Students were also able to get a close up look at some adult salmon that were used for display. For most of them it was the closest they had been to such large fish and many were eager to have their picture taken with one.

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SPECIES CONSERVATION & MANAGEMENT

Lamprey Control Shifts to Catharine Creek Canal

Because the Catharine Creek treatment was canceled due to high flows throughout the Spring treatment period, control efforts shifted to the Catharine Creek canal, immediately downstream of Catharine Creek. In late October Region 7 and 8 staff successfully treated approximately 34.5 acres of the canal with the lampricide Bayluscide. Sea lamprey larvae mortality ranged from 2,200 – 7,150. This estimate is similar to the 2008 canal treatment and exceeds estimates of sea lamprey mortality experienced in Catharine Creek TFM treatments in recent years. Additionally, transformers accounted for nearly 20% of the lamprey that were collected. Based on estimates from Great Lakes Fishery Commission studies that show one adult lamprey can account for the loss of up to 40 pounds of fish, 88,000-286,000 pounds of Seneca Lake fish were potentially spared loss to lamprey predation. These results lessen the impacts of not being able to treat Catharine Creek in the spring.



Cold Brook (Keuka Lake Inlet) Rainbow Trout Survey

Six sites in Cold Brook were electrofished on August 25-27 to look for age 0 and age 1 and older rainbow trout. Cold Brook is the main tributary to, and the main source of naturally produced rainbow trout in Keuka Lake. Only 19 young-of-year (YOY) rainbow trout were collected resulting in an average of



669 YOY rainbow trout/acre. This was the lowest density recorded of the 15 surveys conducted since production monitoring began in 1968. Conversely, 42 age 1 and older rainbow trout were collected resulting in an average of 1,645 age 1 and older trout/acre, the 2nd highest density recorded. Two significant rain events occurred in the area in mid-May around the time the rainbow trout fry would be vulnerable to extremely high flows. This may be one reason for the low number of YOY collected. Two sites on both Naples Creek, the main rainbow trout producing tributary for Canandaigua Lake, and Catharine Creek, the main rainbow trout producing tributary for Seneca Lake, which have a similar sampling history as Cold Brook and also experienced these rain events, were surveyed to determine if there were similar reductions in rainbow trout YOY density. Although the sample was small, site to site comparisons with previous years also showed extremely low YOY production in 2014 indicating that these storms may have negatively impacted rainbow trout reproduction.

Lake Trout Assessment – Canandaigua Lake

The lake trout population in Canandaigua Lake was assessed during early July using standardized Finger Lakes gill nets. This was the 7th standard lake trout survey conducted on Canandaigua Lake since 1978. Catch rates were lower than previous years with 141 lake trout caught in twenty-four nets. Some large lake trout in the 8 to 12 pound range were collected and the overall sample averaged 2.9 pounds. Mean relative weights of various size classes of lake trout ranged from 89 to 94. These values are typical for Canandaigua Lake lake trout and are an indication that fish condition is average.

Hatchery-reared lake trout receive a fin clip prior to being stocked into Canandaigua Lake to distinguish them from naturally produced fish. Spring yearlings and fall fingerlings currently receive different fin clips to assess the success of each stocking period. Approximately 83% of the sample consisted of stocked lake trout, indicating a small amount of successful natural reproduction of lake trout is occurring in Canandaigua Lake. Approximately 54% of stocked lake trout in the sample consisted of fish stocked as fall fingerlings compared to 46% stocked as spring yearlings. This indicates that the annual stocking of 12,100 yearlings and 24,100 fall fingerlings are both viable options at this time for Canandaigua Lake.

Wild Trout Surveys

Electrofishing surveys were completed on 236 streams in 2014. Over a four year period (2010 through 2012 and 2014), 702 streams were sampled and trout were collected in 179. The numbers of streams with each trout species combination collected are listed below. Wild trout were documented for the first time in 124 streams. These streams will be added to a list of streams that qualify for reclassification as wild trout streams.

Species	# Streams
Brook Trout Only	67
Brown Trout Only	55
Brook Trout and Brown Trout	30
Rainbow Trout Only	19
Rainbow Trout and Brown Trout	6
Rainbow Trout and Brook Trout	1
Rainbow Trout, Brook Trout, Brown Trout	1
Total	179

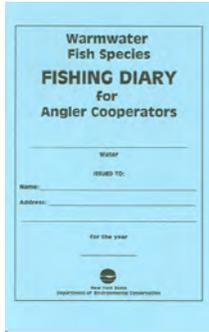
Assessment of Merganser Predation in Spring Creek

Regional staff had received numerous reports of poor fishing in Spring Creek in Livingston County during the spring of 2014. Spring Creek had traditionally provided an excellent fishery for wild brown trout. The winter of 2013-2014 was very cold and many large water bodies that normally don't freeze, froze over completely. Mergansers, fish-eating ducks, are a frequent winter visitor on the Great Lakes and the larger lakes of interior New York. When these large bodies freeze, mergansers move to open water to feed. The spring-fed sections of Spring Creek provided open water over the winter and were frequented by mergansers. This was the first time mergansers had been seen on Spring Creek at the Caledonia Fish Hatchery for at least 30 years. Region 8 fisheries staff surveyed the Veteran's section of Spring Creek on November 13, 2014. The results were compared to results of the last time the Veteran's section was surveyed in 2001 and Oatka Creek in 2003. While abundance was lower, it appeared that the numbers and percentages of the size and age groups were similar, although it did seem like the number and percentage of yearlings should have been higher. Given this data, Region 8 biologists concluded that absent further merganser predation, the trout population in Spring Creek should naturally recover fairly quickly.

Angler Diary Cooperator Programs

Western Finger Lakes

The Angler Diary programs were continued on Canandaigua (42 years), Seneca (42 years) and Keuka (47 years) Lakes in 2014. Total number of angler trips were 232 (all time low), 843 (all time low), and 783 for Canandaigua, Seneca, and Keuka Lakes, respectively. Catch of legal trout per hour ranged from 1.6 legal trout/hour in Keuka to 2.7 legal trout/hour in Canandaigua. Salmonine catch composition continues to remain at more desirable levels than in the early 2000's in Canandaigua and Seneca Lakes with lake trout accounting for about 71-78% of trout caught. However in Keuka Lake, 98% of salmonines caught were lake trout, indicating very little contribution to the fishery from brown trout, rainbow trout and Atlantic salmon. The lake trout population in Keuka Lake continues to be sustained entirely by naturally reproduced fish, whereas the other lakes have variable natural recruitment rates that require supplemental stockings to maintain the lake trout fishery. In all three lakes, brown trout populations, almost entirely dependent on stocking, appear to contribute little to overall catch. Canandaigua Lake continues to be the one western Finger Lake with a significant contribution of rainbow trout constituting 20% of all trout caught. Regulations were recently enacted to improve the overall trout fishing experience in the western Finger Lakes. The diary program remains an integral part in the evaluation of these new regulations.



Conesus Lake

Fishing effort by volunteer angler diary keepers in 2014-2015 was similar to 2013-2014. Overall it took diary-keeping anglers 3.94 hours to catch one legal game fish. For anglers targeting bass, the catch rate was 0.42 legal bass/hour. Largemouth bass accounted for 44% of the total game species caught. Eighty-seven percent of the largemouth bass catch was composed of legal-sized fish. Of the legal largemouth bass caught, all but 10 were released. Although most of the bass were less than 14 inches, anglers did catch 17 memorable fish greater than 18 inches. Smallmouth bass comprised 10% of the total game fish catch, 95% were legal size, and all but one were released. Ten smallmouths caught were larger than 18 inches. Northern pike made up 38% of the total game fish catch. Ninety-five percent were legal size, with fish averaging 28.2 inches in total length. Thirteen tiger muskies were caught, one was a memorable fish of 38.5 inches. Five walleyes were caught by cooperating angler diary keepers. Eleven panfish were caught at a rate of 0.38 panfish per hour including 9 yellow perch that were caught by one diary keeper while ice fishing.

Honeoye Lake

The 2014-15 fishing season (April 1, 2014 through March 31, 2015) was the 26th consecutive year for the Honeoye Lake Volunteer Angler Diary Program. Twenty-one diary cooperators recorded information from 662 fishing trips during the 2014-15 season.

Overall it took diary cooperators 0.74 hours to catch one legal game fish. This catch rate was primarily driven by excellent largemouth bass fishing. Anglers targeting largemouth bass averaged 2.1 bass per hour. Eighty-four percent of the largemouth bass caught were legal size (12 inches or larger), including seven over 20 inches.

This year 42 walleye were caught with 33 harvested. This is down compared to last year. Anglers who were specifically targeting walleye had a catch rate of 0.40 walleye/hour. Although the total walleye catch is down, the catch rate for anglers specifically targeting walleye is much higher than last year and above the target for New York State

waters (0.25 walleye/hour). Most of the walleye reported were 18 inches or larger. Although it is nice to see some large walleye caught in Honeoye Lake, there is concern that only 24% of the walleye were in the 15 to 18 inch range and none of the catch consisted of sub-legal walleye (< 15 inches). The walleye size limit was increased to 18 inches in Honeoye Lake starting April 1, 2015. This diary program will be one of our tools used to evaluate this change.

Black crappie, bluegills, chain pickerel, pumpkinseeds, smallmouth bass, and yellow perch all provided good fishing during the 2014-15 season. Honeoye Lake continues to produce very large bluegills and pumpkinseeds.



Conesus Lake Fish Community Assessed



From September 23-25, fisheries staff conducted a fish community assessment of Conesus Lake using standard gangs of gill nets. Surveys are done at 5 year intervals and are the primary means of assessing the success of the fingerling walleye stocking program and yellow perch population parameters, and also as another recapture sample for the walleye population estimate. Eleven species were caught, including 183 walleyes (26.1/net), 11 northern pike, and 20 smallmouth bass. Seven jaw tagged walleyes were caught. The walleye CPUE is very high, suggesting that the population estimate of 5100 adult walleyes calculated during the spring is underrepresenting the actual walleye population. Data analysis is ongoing, and a report is expected in late 2015.

PUBLIC SERVICE & CONSTITUENT SUPPORT

Fishing Pole Lending program

Six libraries were actively involved in the Region 8 Library Fishing Pole Program in 2014. Regardless of the number of users, all the Librarians report that the program generates many positive comments.

- Dansville Public Library – Poles were checked out 53 times, similar to the 49 from 2013.
- Wood Library (Canandaigua) – Poles were checked out 45 times, down slightly from the 62 in 2013.
- Pulteney & Honeoye Public Libraries – No report.
- Woodward Memorial Library (LeRoy) – Poles were checked out 17 times, similar to 23 from 2013.
- Modeste Bedient Memorial Library (Branchport) - Doubled

2014-15 Region 8 Fisheries Staff

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SPECIES CONSERVATION & MANAGEMENT

Chautauqua Lake Fisheries Management

Black Bass Survey

A boat electrofishing survey of the black bass population was completed during the spring of 2014. Sampling effort was divided into 23 separate electrofishing runs. Thirteen runs were completed in the north basin and 10 runs were completed in the south basin. A total of 2,508 fish, representing 17 species, were collected during 9.5 hours of electrofishing. Pumpkinseed sunfish and yellow perch were the most abundant species collected and largemouth bass were the most abundant game fish collected. The catch rates of largemouth bass and smallmouth bass were 29.5 fish/hr and 5.7 fish/hr respectively. The catch rate of largemouth bass in 2014 was slightly higher than the catch rate in 2012 and was higher than the statewide average. The catch rate of smallmouth bass was similar to the catch rate in 2012 and was also above the statewide average. The proportional stock density was within the desired range for both largemouth bass and smallmouth bass and both species reached legal size of 12 inches by age five. The bass population continues to remain stable and Chautauqua Lake is one of the best bass fishing lakes in New York.



Fall Walleye Survey



A total of 342 walleye were collected during 7.5 hours of electrofishing for a catch rate 45.7 fish/hr. The catch rate of adult walleye was 10 fish/hr and the catch rate of young-of-year walleye was 35.7 fish/hr. The catch rate of adult walleye indicates a moderate population density and the catch rate of young-of-year walleye is one of the highest catch rates on record for Chautauqua Lake. The average length of adult walleye was 530 mm and the average length of young-of-year walleye was 200 mm. Most walleye reached legal size of 18 inches during their sixth growing season.

Muskellunge Egg Take

The Region 9 fisheries unit and Chautauqua Fish Hatchery staff conducted a trap net survey on Chautauqua Lake to collect muskellunge eggs for the New York State hatchery system and to assess the status of the muskellunge population in the Chautauqua Lake. Six Oneida style trap nets were set for two weeks beginning April 28th, 2014. A total of 353 adult muskellunge were collected during 84 trap net nights for a catch rate of 4.2 fish/net. The total length of all muskellunge collected ranged from 26.4 in to 52.2 in with a mean of 37.3 in. The catch rate in 2014 was the second highest catch rate on record since the

early 1970's. In addition to large numbers of fish, there was also an abundance of large sized muskellunge in Chautauqua Lake during 2014. This year marks the second year in a row that fish over 50 inches have been collected during the egg take. In 2014, three muskellunge greater than 50 inches were collected and 25% of all muskellunge were greater than 40 inches.



Clear Creek and Lime Lake Outlet Trout Assessment

Region 9 fisheries staff and angler volunteers sampled the Clear Creek (Arcade) and Lime Lake Outlet wild brown and rainbow trout fisheries in northeastern Cattaraugus County. In 2014 the same sites that had been sampled several times since the early 1990s, with the latest being in 2007, were electrofished. In Clear Creek, the overall abundance of adult wild brown trout and total biomass has varied substantially over time, with the lowest values being found in 2014. While no clear trend is evident from 1995-2000, both adult brown trout abundance and biomass have been declining since 2002. The number of brown trout >9 inches appeared very stable from 1995-2000, with some increase in 2002 and 2007 and a dramatic decrease in 2014. Similarly on Lime Lake Outlet, brown trout abundance and biomass peaked in 1998 and has been declining, with the lowest values found in 2014. In both streams, the percent of the adult brown trout catch consisting of yearlings has remained fairly stable. This indicates reproduction/recruitment of brown trout may be relatively stable and observed variation of the adult brown trout population may be due to other factors such as available adult trout habitat, water quality and/or other mortality factors such as predation. Several wild brown trout 15-18 inches long were captured in this year's surveys.



The wild rainbow trout populations in Clear Creek and Lime Lake Outlet from the early 1990s through 2007 showed an overall increasing trend in abundance of adult trout and biomass. Adult rainbow trout abundance and biomass peaked in 2007, but declined >50% in 2014. The abundance of rainbow trout >9 inches in 2014 was also at historical lows. As with brown trout, it appears that the substantial decline in adult rainbow trout from 2007 to 2014 involved several year classes.

Adult trout habitat on Clear Creek at all sites has varied substantially over the sampling years, while two of the four sites on Lime Lake Outlet varied substantially. It is not clear if habitat changes at survey sites were representative of the streams as a whole. Floods approaching or exceeding 100 year levels impacted both watersheds in 1996 and 1998 and the streams seem to still be adjusting from their impacts.

For reasons associated with spawning site locations and susceptibility to floods, total catch of young-of-year brown trout in 2014 differed greatly between the two streams. Young-of-year brown trout catch in 2014 for Clear Creek was the second lowest in the sampling period. Numbers collected declined every year from a high in 1997 to a low in 2007. The numbers of young-of-year rainbow trout collected in 2014 was the lowest recorded in the sampling period. Numbers of young-of-year rainbow trout collected has varied greatly with the highest number collected in 2007. In Lime Lake Outlet in 2014, we collected the most young-of-year brown trout in the entire sampling period, with the next highest collections coming in 1992 and 2007. Based on the low numbers of young-of-year rainbow trout collected most years in Lime Lake Outlet, it is likely that most reproduction leading to recruit-

ment occurs in tributaries.

In spite of substantial population declines in 2014, the total of 890 adult wild trout/mile and 53 pounds/acre indicates Clear Creek and Lime Lake Outlet (669 adult wild trout/mile, 68 pounds/acre) still support good populations of wild trout capable of producing an outstanding fishery. With the populations of both resident trout species showing large declines, it is likely that factors such as available adult trout habitat, water quality or other mortality factors including predation are the causative agents at work. It is also possible that increased winter/spring flood events have been negatively affecting reproduction in Clear Creek



Genesee River Angler Diary Program

The Genesee River diary program covers the entire river in Region 9 from the Pennsylvania state line downstream to Letchworth State Park. The river is managed as a stocked trout fishery from the PA line downstream to Belmont. The river also has a substantial population of smallmouth bass throughout its length. Diary programs have also been used on the river in 1988, 1989 and 2010.

A total of 19 diarists report a large number of trips made (237) and hours fished (749) in 2014. The majority of diarist trips were made by anglers targeting trout (84%) and occurred in the months of April, May and June (61% of total trips). A total of 450 yearling brown trout (91% released), 179 two-year-old or older brown trout (80% released), 120 rainbow trout (90% released), 13 brook trout (92% released) and 222 smallmouth bass (all released) were reportedly caught by diarists.

The combined average catch rate for brown trout and rainbow trout in 2014 of 1.17 fish/hour was well above the management objective of 0.5 fish/hour. Although only 39 trips targeted bass, the average catch rate for smallmouth bass in the diary program was very high at 2.01 fish/hour. The diarist's average catch rate for brown and rainbow trout combined in 2014 (1.17 fish/hour) was very similar to the 2010 (1.33 fish/hour) and 1988 (1.38 fish/hour) diary programs, but lower than the rate found in the 1989 program (2.40 fish/hour).

Stream Habitat Enhancement Monitoring

Region 9 fisheries staff, and angler volunteers conducted trout population sampling on the North Branch Wiscoy Creek. Habitat enhancement work was completed on a 2,100 foot section of the stream in July 2011. This work involved installation of over 450 feet of LUNKER structures which act as artificial undercut bank habitat for trout. Two years of trout population assessment was completed prior to the habitat project. In 2014, the third year of post-habitat enhancement fish population sampling was completed. In addition to sampling the enhanced section, two additional sites on the N. Branch and on Trout Brook were sampled as "control sites".

Compared to pre-habitat enhancement surveys (2010 and 2011), the abundance of brown trout larger than 12 inches more than doubled by 2014 in the enhanced section, while it fell substantially in the two control sites. Biomass of adult brown trout also increased significantly, more than doubling from 2010 to 134 pounds/acre in 2013, but had fallen back to 70 pounds/acre in 2014. Numbers of young-of-year brown trout captured fluctuated substantially between 2010 and 2014 at all sites.

PUBLIC SERVICE & CONSTITUENT SUPPORT

Angler Education

Region 9 fishing education efforts included coordination and involvement in 4 free youth and family fishing clinics, reaching 466 youth anglers and their families. Two exceptionally strong free fishing day events at Ellicott Creek County Park and Chestnut Ridge County Park were provided in cooperation with the Erie County Federation of Sportsmen's Clubs.

Summer Camp Programs

Fisheries staff provided 7 fishing education programs for youth campers at DEC Rushford Environmental Camp, covering fishing education and instruction for a total of 375 campers. In an effort to offer fishing education to more youth summer camps than DEC staff can actually visit, the Train-the-Trainer program was provided for 4 water-based summer camps. The goal is to teach fishing education to the camp counselors who will in turn provide the training to their many campers throughout the summer. A total of 15 camp counselors received fishing education training from DEC staff. Fishing equipment and fishing education lesson plans were also provided to the camps.



Fishing Hotlines

Management of the Lake Erie Fishing Hotline and Western New York Fishing Hotline continued in 2014. The hotlines 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 or can be heard at (716) 855-FISH. During the report period, anglers visited the Lake Erie hotline page 95,498 times, Western New York hotline page 80,224 times and the automated phone lines 22,388 times. In all, these popular angler resources were visited an average of 543 times per day.

2014-15 Region 9 Fisheries Staff

Mike Clancy	Biologist 2 (Aquatic)
Scott Cornett	Biologist 1 (Aquatic)
Mike Todd	Biologist 1 (Aquatic)
Mike Wilkinson	Biologist 1 (Aquatic) retired 4/14
Chris Legard	Biologist 1 (Aquatic)
Jim Zanett	Fish & Wildlife Technician 3
Justin Brewer	Fish & Wildlife Technician 1
Amanda Wagner	Fish & Wildlife Technician 1
Tobias Widger	Fish & Wildlife Technician 1
Kyle Keys	Fish & Wildlife Technician 1



Fishery Surveys Entered Into Statewide Database

Data from a total of 745 fishery field surveys were received by the Biological Survey Unit during 2014-15. A total of 559 surveys were finalized and added into the Bureau of Fisheries Statewide Database (SWDB). One hundred and eighty five of the surveys that were finalized were a result of the Bureau's continued effort in support of the Eastern Brook Trout Joint Venture (EBTJV). Updated copies of the SWDB containing newly entered data ("Releases") were provided and distributed at three separate times during the year; in July 2014, October 2014, and in January of 2015. The SWDB contains survey data for biological surveys conducted at Inland waters since 1988. In addition to the surveys that have been entered into the SWDB, 510 historical surveys (i.e. referred to as the Greeley surveys) have been entered into a separate database and will be distributed regionally in 2015.

The Bureau continued to investigate and pursue electronic data collection and recording in the field. In 2014, further field testing of an MS access form proposed to replace the paper "Individual Fish" form was completed using the Panasonic Toughbook tablets. Performance was extremely satisfactory with respect to speed of data entry. On the basis of cost, it was decided that the next tablets purchased would not be field-hardened models. The biggest remaining obstacle to fully electronic fish data collection is development of an alternative data verification procedure that would allow proofed fish records to be appended to the master database without compromising its structural integrity.

The SWDB proved most useful for two important studies being conducted for the Bureau of Fisheries by the Fish and Wildlife Coop Unit at Cornell. Geographically referenced records of brook, brown and rainbow trout queried from the SWFDB were the primary dataset used to construct the catchment level brook trout assessment. Secondly, data contained in the SWDB was compiled and summarized as part of a statewide black bass study, including to evaluate important population metrics such as relative abundance, growth, condition, and size structure for inland lakes. Both of these efforts are described in further detail, in the Coldwater Fisheries Unit and Warmwater Fisheries Unit Sections of this report.

Amendments to Sportfish Regulations

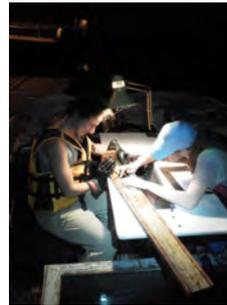
During 2014-15 amendments were made to the sportfishing regulations. This rule making included a broad array of changes to the sportfishing regulations such as adjustments to season dates and creel limits for specific species, both statewide as well as for specific waters; as well as changes pertaining to fishing gear and the collection and use of baitfish. In addition, many of the changes were the result of the Bureau's effort to consolidate regulations where possible and eliminate special regulations that are no longer warranted or have become outdated.

A Notice of Public Rule Making (NPR) was published in the State Register on October 15, 2014 announcing the proposed changes, as well as initiating a public comment period that ran through December 1, 2014. Subsequently, the changes to the sportfish regulations were finalized with the filing of a final rulemaking (NOA) with the Department of State on February 23, 2015. The regulation changes became

effective on April 1, 2015 and are included in the 2015-16 Fishing Guide. Some of the specific changes included modifying the State-wide and Great Lakes regulations for muskellunge; initiating a catch and release season for trout for sections of the Salmon River (Franklin County) and Ninemile Creek (Onondaga County); establishing a special trout regulation of "a daily creel limit of five fish with no more than two fish longer than 12 inches," for many waters in Herkimer, Jefferson, Lewis, Oneida, and St. Lawrence counties; and establishing year-round trout seasons, with catch and release fishing only from October 16 through March 31, for several streams in Western New York.

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 in 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

Long term fish community changes in Oneida Lake are measured by assessing standard gill net catches. There were 1,293 fish caught in the standard gill nets in 2014, the lowest observed since 2003. Walleye represented 32% of the catch, exceeding both yellow perch (26% of the catch) and white perch (25%) for the first time in the entire data series. These three species represent over 80% of the catch in most years.

The estimated adult (age 4 and older) walleye population abundance was 442,000 in 2014, which was an increase from the 2013 estimate of 360,000. The increase in the adult population is the result of a relatively large 2010 year class recruiting into the fishery. The 2010 year class is the largest year class at age 4 since 1987, and constitutes 36% of the entire adult population. 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 since 2000.

The adult (age 3 and older) yellow perch population was estimated to be 596,000 fish, a 64% reduction from 2013. This decline may be in part due to the inherent variability of gill net catches, but relatively small year classes from 2009-2011 and perhaps a higher than normal level of harvest due to an extended ice fishing season in 2013-14 may also account for it. Additional years of sampling, and an expansion of sampling locations in nearshore areas of the lake, will be required to assess the true magnitude of the decline and the overall status of the population. 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.

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 boat electrofishing surveys were recently added to the monitoring program to account for the anticipated changes in the littoral fish community. In 2014, 30 species were caught in the fyke nets, 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 black bass production and also shows potential as an index for sunfish and chain pickerel. It also will provide valuable data on production of nesting bass and sunfish to assess potential impacts of round gobies, which were first confirmed in the lake in 2013 and distributed throughout the lake in 2014.

Spring boat electrofishing survey sportfish catches were dominated by largemouth bass (12/hour), chain pickerel (7/hour), walleye (5/hour), and smallmouth bass (4/hour). Yellow perch, brown bullhead, pumpkinseed and rock bass made up the majority of the panfish and non-sportfish catch. Spring electrofishing provides a good complement to fyke nets for assessing the nearshore fish community and provides the only index for adult largemouth bass and best index for chain pickerel. Timing of the initiation of electrofishing surveys was fortuitous, as there are now three years of surveys in advance of establishment of round goby to facilitate assessment of any community responses to this new invader.

In 2014, an access site creel survey was conducted during June and July, which provides an accurate estimate of complete open water season walleye catch and harvest rates. Estimated effort in 2014 was 217,548 boat hours, which continued a trend of increasing effort since 2002. About 50% of anglers sought walleye specifically, while 35% sought only bass. The estimated walleye catch rates for June and July were 0.16/hour and 0.33/hour, respectively (a catch rate exceeding 0.25/hour is characteristic of an excellent fishery). The overall harvest rate was 0.22/hour. The estimated total harvest was 60,192 walleye, which was slightly more than the estimated total harvest of 58,947 in 2013 and 59,500 in 2012. Smallmouth bass catch rates in June and July were 0.49/hour and 0.25/hour, respectively. There were very few smallmouth bass harvested (0.01/hour).

Canadarago Lake

Walleye fry continue to be low in abundance, 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. This has resulted in a decline in the number of juvenile walleye captured during recent surveys and is likely to impact adult walleye population abundance in the future. In 2014, all walleye captured in a boat electrofishing survey and most collected in a gill net survey were age 7 or older, a clear indication of recruitment problems.

In response to the almost complete lack of successful walleye reproduction and an adult population at risk of decline, a walleye stocking program was initiated in 2011. Approximately 40,000 advanced walleye fingerlings were stocked from 2011-2013. In 2014, Canadarago Lake was stocked with 40,000 50 day walleye fingerlings, and will be similarly stocked again in 2015. The goal of the stocking 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.

Statewide Black Bass Population Assessment

A 3-year study assessing the current status of black bass (largemouth bass and smallmouth bass) populations in New York was completed in September. The last comprehensive black bass population study in New York was conducted about 30 years ago and since that time black bass fisheries and many associated aquatic habitats have undergone significant changes. Catch and release and tournament angling have become much more prevalent, a winter and spring catch and release fishing season was implemented, and ecologically impactful invasive species such as zebra mussels and round gobies have been introduced into many waters. Thus, a new foundation of black bass population information was needed in order to assess responses to these changes.

The study was conducted by the New York Cooperative Fish and Wild-

life Research Unit at Cornell University and funded through a Federal Aid in Sportfish Restoration Grant. Largemouth and smallmouth bass population data were compiled and summarized from 4 long-term fisheries databases (Lake Erie, Eastern Basin Lake Ontario, Oneida Lake and the Statewide Fisheries databases). Important population metrics such as relative abundance, growth, condition, and size structure were summarized for inland lakes, including Oneida Lake, and Lake Erie and the eastern basin of Lake Ontario. The influence of environmental parameters, spatial patterns, and population trends through time were part of the assessment. Results indicated that both largemouth and smallmouth bass populations are generally doing well throughout the state and some metrics have improved over the time series of the databases, providing some evidence that bass populations are adjusting to changing conditions in a positive way.

Stocking Evaluation of 50 Day Old Walleye Fingerlings



An experimental walleye stocking program, initiated in 2009 in nine lakes in central and western regions of the state, was continued using approximately 50 day old tank raised fingerlings from Oneida Hatchery. These nine lakes (Upper, Middle, and Lower Cassadaga Lakes, Redhouse Lake, Payne Lake, Otisco Lake,

Loon Lake, Black Lake and Red Lake) were stocked for 5 consecutive years with about 250,000 1.5 inch long fingerlings and assessed every fall for young of year survival. Stocking ended for these lakes in 2013 and full walleye population assessments were conducted on the Cassadaga Lakes, Redhouse Lake, Red Lake, Payne Lake, and Otisco Lake in 2014 to assess the success of the program. No walleye were collected from the Cassadaga Lakes, and few walleye were collected from Redhouse, Red, and Payne Lakes, indicating that the stocking experiment in these waters was unsuccessful in establishing walleye fisheries. Walleye were commonly captured from Otisco Lake, indicating that the program can be successful in certain waters. Black Lake and Loon Lake will be evaluated in 2015. Other lakes, including Chautauqua Lake, Otter Lake, Rio Reservoir, Sacandaga Lake, Kiwassa Lake, St. Regis Falls Impoundment, Canadarago Lake, and Lake Pleasant have subsequently been added to the stocking program and will be evaluated after being stocked for 5 years.

Sauger Management



Sauger were historically common in the Great Lakes, Lake Champlain, and St. Lawrence River watersheds of New York, but are now one of the state's most imperiled fish species, perhaps now occurring only as a remnant population in Lake Champlain. An objective of NYSDEC's recently adopted Sauger Conservation Management Plan is to establish a sauger population in the Allegheny River watershed above the Kinzua Dam, which blocks the downstream population in

Pennsylvania from accessing the reservoir and upper river in New York. To achieve this objective, a 5-year stocking plan was established in 2014.

Approximately 33,000 sauger fry from Ohio River brood stock were donated by the West Virginia DNR in early spring 2014 and reared in a pond at the NYSDEC Chautauqua Hatchery. In June, 5,700 2-inch long sauger fingerlings were stocked in the upper Allegheny Reservoir. In September, the NYSDEC Region 9 Fisheries Unit surveyed the reservoir near the stocking location using a combination of boat

electrofishing and trawling to determine survival and growth of the stocked sauger. Fifty young of the year sauger were captured (5 from trawls, 45 from boat electrofishing). The average length of sauger caught via boat electrofishing was 6.4 inches and the catch rate was 18/hour. These are strong indications that survival and growth of the stocked sauger were good. To protect sauger during the restoration process, fishing for sauger was prohibited statewide.

Coldwater Fisheries Management

CROTS Review & Fate of Stocked Trout Study

In March 2014, the Fish and Wildlife Cooperative Research Unit at Cornell University completed its evaluation of the catch rate oriented trout stocking (CROTS) method. The report, based on fieldwork completed between 2011 and 2013, concluded that the method was fundamentally sound but that several important parameters had changed markedly (increased rate of non-angling mortality, decreased angling effort and decreased harvest rate) since CROTS was first used to calculate stocking rates for New York trout streams in 1990.

Since then, the findings of the report have been carefully reviewed, studied and discussed within the Bureau of Fisheries. Ongoing dialogue with Cornell has resulted in several further revisions to the report for the purpose of clarity and to correct some problems identified by bureau staff. A meeting was held in Ithaca in January 2015 to discuss questions arising from the study. Some additional analyses have since been conducted by Cornell at the request of bureau staff.

At this stage, no changes in stocking strategy have been made and several ideas for further research are under consideration. The bureau is taking a slow and methodical approach in considering the findings of the CROTS study and assessing whether adjustments in stocking strategy could provide for a more reliable return of stocked trout to anglers.

New York State Brook Trout Assessment Completed

In 2015, the Bureau of Fisheries completed an assessment of the current distribution of wild brook trout in New York State as part of its participation in the Eastern Brook Trout Joint Venture (EBTJV); a partnership of conservation organizations and state and federal natural resource management agencies dedicated to halting the decline of wild brook trout and restoring fishable populations of the species within its native range. The other state agency partners have completed similar assessments and the data has been combined to produce a range-wide assessment at the catchment level (a small watershed unit that results in a very high resolution map). This new assessment replaces an assessment, completed in 2006 at a much coarser scale, which lacked sufficient detail to fully support the conservation strategies of the partnership.

New York's assessment was informed primarily by over six thousand biological surveys completed since 2007 with the specific objective of documenting the status of brook trout in watersheds where prior information was non-existent, outdated or inadequate. A computer model used these data to predict the presence or absence of brook trout in adjacent catchments that were not surveyed and construct a comprehensive statewide map. This map was then subjected to two rounds of review and revision by Bureau of Fisheries biologists. The first round of review resulted in the production of a revised map enhanced by the inclusion of survey data from two additional sources: the New York State Fish Atlas and the Adirondack Lake Survey Corporation. In the second round of review, biologists carefully examined the revised map looking for catchments where model predictions were at odds with their professional judgment or knowledge. For example, biologists made revisions to catchment classifications based on their knowledge of waterfalls or other barriers to fish passage that were not

known to the computer model. Thus, the final product incorporates extensive survey data, model predictions and professional judgment at a fine geographic scale.

In addition to providing for an enhanced understanding of the range-wide status of wild brook trout, the new assessment will allow for more effective prioritization of conservation efforts. Within NYSDEC, the assessment is already being used to integrate brook trout conservation benefits into the prioritization of riparian revegetation projects.

Coldwater Habitat Management and Monitoring in the New York City Watershed

The upper reaches and tributaries of the Delaware River support one of most productive trout fisheries east of the Mississippi River. The fishery depends upon releases of cold water from three water supply reservoirs operated by New York City under a Flexible Flow Management Plan (FFMP) that is negotiated between New York City and the states of New York, New Jersey, Pennsylvania and Delaware. The FFMP is, in turn, based on the outcome of legal proceedings among the above parties which culminated in 1954 in a United States Supreme Court decree. In this management context, NYSDEC's habitat protection objectives are contained in recommendations set forth on January 12, 2010 in concurrence with the Pennsylvania Fish and Boat Commission. Both the FFMP and the joint fisheries recommendations can be found on the website of the Delaware Rivermaster: <http://water.usgs.gov/osw/odrm/index.html>

In order to assure the availability of flow and temperature data essential to coldwater fisheries management in the tailwaters of New York City's Delaware and Catskill reservoirs, a total of \$53,730 was committed in 2014 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 not otherwise be operated. The data they collect are available to the public at the following website: http://water-data.usgs.gov/ny/nwis/current/?type=sw&group_key=basin_cd

Beyond supporting the operation of the USGS gages, Bureau of Fisheries staff from Regions 3 and 4 deploy an array of temperature recording sensors at strategic locations downstream of the three Delaware reservoirs on an annual basis to provide additional information to evaluate the performance of the FFMP with respect to the habitat protection objectives described above. A report summarizing the data collected from this monitoring effort for the period 2011-2014 was completed in 2015.

Management of Rare & Endangered Fishes

Lake Sturgeon Recovery Activities



Restoration efforts for Threatened Lake Sturgeon *Acipenser fulvescens* that began in 1991 continued in 2014.

Lake sturgeon eggs (112,000) were taken in early June at the Robert Moses Power Project, Massena NY from four egg bearing females. A cooperative effort between NYS DEC and the Genoa National Fish Hatchery (USFWS, Wisconsin) was successful in rearing approximately 25,555 fish. Approximately 17,300 fish were stocked in the St. Lawrence, Raquette River, St. Regis River, Oswegatchie River, Black Lake, Cayuga Lake, Genesee River and Salmon River (Franklin County). The remainder (≈8,250) were stocked into bays of eastern basin of Lake Ontario. All fingerlings received Coded Wire Tags or OxyTetraCycline marks prior to stocking for year class survival assessments in the future.

A tagging study was 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 245 sturgeon were collected in 2014 from the eastern basin of Lake Ontario, mouth of the Oswegatchie River, and the St. Lawrence River downstream to just below the Robert Moses Power Project. Most of the fish (205) were new captures and were tagged with Passive Integrated Transponders (PIT tags).

A more intensive annual stocking survival assessment is conducted monthly from May to October by USGS staff. Regional staff assisted with the October 23, 2014 sampling. Overall cumulative survival of lake sturgeon stocked into the Genesee River exceeds 30%.

In contrast to lake sturgeon populations throughout the Lake Ontario, Finger Lakes and St. Lawrence area that were stocked as part of recovery, the New York portion of Lake Erie appears to be experiencing natural recovery. The spawning population of lake sturgeon in Buffalo Harbor was surveyed from 2012 – 2014 by the Region 9 fisheries unit and the Lake Erie fisheries research unit. Sampling occurred for two weeks during late May and early June each year. Sturgeon were collected using a combination of daytime gill nets and overnight set lines. A total of 109 lake sturgeon were caught during three years of sampling. All fish were tagged with an external tag, an internal PIT tag and had a section of pectoral fin spine removed for age determination. We found 22 age classes with fish ranging from 8 years old to 84 years old. However, most fish were less than 20 years of age.

Region 8 Staff Assist with Stocking Lake Herring into Irondequoit Bay

Re-establishing self-sustaining populations of native whitefishes in Lake Ontario is the focus of cooperative efforts between the Department, the United States Geological Survey (USGS), the Ontario Ministry of Natural Resources (OMNR), the U.S. Fish and Wildlife Service (USFWS), and the Great Lakes Fishery Commission (GLFC), with supporting research conducted by The Nature Conservancy (TNC). Lake herring were once an important prey fish in Lake Ontario, and supported important commercial fisheries that collapsed in the early 1950s largely due to over-harvest. In New York waters of Lake Ontario, lake herring historically spawned in Irondequoit Bay, Sodus Bay, the Sandy Ponds, and Chaumont Bay.



In September and November 2014, Regional staff assisted USGS with stocking lake herring in Irondequoit Bay. The juvenile lake herring that were stocked originated from eggs collected by Department staff in Chaumont Bay during November and December, 2013. Lake herring eggs were hatched and juveniles reared at the USGS Tunison Laboratory of Aquatic Science in Cortland, New York. Irondequoit Bay is adjacent to the Rochester Area of Concern (AOC), and is the focus of national efforts to restore habitats and human uses impacted by historic chemical contamination.

Round Whitefish Restoration

Egg takes were attempted at Upper and Lower Cascade lakes once again in late 2014. The nets yielded few round whitefish and a small number of eggs were sent to Oneida Hatchery for rearing in late November. In spring of 2015, we had good eye-up and hatching success with these few eggs and ended up with 650 one and a half inch fish to stock into Fishbrook Pond in Washington County. This new location for round whitefish was reclaimed in 1995 and has become a brood stock water for Horn Lake strain brook trout. This remote pond is an ideal location for round whitefish, and they are compatible neighbors with our native brookies. A second round of stocking in Fishbrook is planned for Spring of 2016, assuming a successful egg take in the fall of 2015.



Native Mussel Distribution in the Upper Susquehanna Watershed

Region 8 Fish and Wildlife staff completed the first year of a five-year project to determine distribution, density, and status of native freshwater pearly mussel species in six major subbasins of the Susquehanna, Lake Erie, and Allegheny Watersheds. Mussels stabilize streambeds, diversify stream habitat, provide nutrients to other benthic invertebrates, filter suspended solids and pollutants from water, and are considered indicators of ecosystem health. In spite of the ecological importance of freshwater pearly mussels, they are among the most imperiled groups of animals in North America.

In 2014, 45 sites were surveyed along 18 streams in the Chemung subbasin of the Susquehanna Watershed. Evidence of mussels (live animals or empty shells) was found in nine of the surveyed streams, with Species of Greatest Conservation Need (SGCN) confirmed in five streams. Mussels were documented for the first time in eight of the streams.

Twelve mussel species are represented in these surveys, including four SGCN. Streams with greatest species richness include Fivemile Creek, Cohocton River, and Mud Creek. Mussel community composition varied by stream. Green floater, a NYS threatened species, was found at several sites along the Chemung River and in one of its upstream tributaries. Species occurrences will be used to create distribution maps which will help guide future mussel conservation efforts.



Allegheny River Native Fish

Intensive surveys of the Allegheny River with electrified trawl nets in 2014 revealed a more robust population of bluebreast darter than previously thought to exist there. This colorful darter is listed as Endangered in New York and is only native to the Allegheny. During three days of sampling in the summer, 66 bluebreast darters were collected. A similar survey effort in 2013 collected 56 bluebreast darters. Historic surveys had only encountered a handful of these darters on 20 occasions dating back to the 1930s.

By contrast, the 2014 trawls only collected one gilt darter. Gilt Darters were re-introduced to the Allegheny in 2012 and 2013 through a combination of captive reared fish and trapped and transferred fish from Pennsylvania. The captured fish bore an elastomer tag that indicated it was a captive reared fish stocked in 2013. Previous surveys in 2013 recaptured a total of 3 gilt darters in the river. Future surveys are planned to monitor for natural reproduction by the stocked gilt darters.

Region 6 Rare Fish Management Update

Life history studies about time of spawning, sizes, ages and genetics of summer sucker were summarized in an overview of characteristics and locations in ponds of the Adirondacks. The eastern variant of the late spawning sucker was caught in Fish Pond (previously known from 1972) and in Thirty-Six Outlet (first time), both of the northeast Adirondacks region. This extended our knowledge of the number of waters inhabited by late-spawning suckers to 11 in the western Adirondacks (summer sucker) and to 6 waters in the east (unnamed eastern variant).

Planning for a pugnose shiner recovery program in bays of Lake Ontario began in 2014 and includes establishing a population, like that in Sodus Bay into Chaumont Bay. There is also a study to get underway about relationships of pugnose shiner to habitats of submerged aquatic vegetation in the St. Lawrence River. This will be part of a graduate program at SUNY Brockport, funded by FEMRF. The NYS Fish atlas is nearing completion as a series of maps, for the entire group of 180 fish that was installed on the DEC webpage in 2013. The entire atlas project, including extensive descriptions of their distribution as annotations, was submitted for peer review to be published in the NYS Museum Record in 2015.

2013-14 Inland Section Staff

Section Head: Shaun Keeler Biologist 3 (Aquatic)

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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 hauled-out in 2014



for maintenance and installation of two new transducers. 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 this 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 and Forestry (OMNR), the U.S. Fish and Wildlife Service (USFWS), the Great Lakes Fishery Commission (GLFC), Canada Fisheries and Oceans (DFO), Cornell University, and the SUNY College of Environmental Science and Forestry. The complete annual report can be accessed at www.dec.ny.gov/outdoor/27068.html.

SPECIES CONSERVATION & MANAGEMENT

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 2014, the catch rate for all trout and salmon combined was the third highest observed since this survey began in 1985. In fact, 9 of the 10 highest combined catch rates were recorded between 2003 and 2014 (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. Open lake angler effort (917,662 angler hours) for trout and salmon has been relatively stable for over ten years (Figure 2).

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. Despite strong year classes produced in 2009-2012, the severe winter of 2013-2014 impacted the alewife population leading to poorer condition and some spring die-offs around the lake. Still, the adult ale-

wife abundance index in 2014 was very similar to the previous three years and near the previous ten year average (Figure 3). Catches of age-1 alewife in 2014 were very low indicating relatively poor reproductive success in 2013. Chinook salmon growth and condition were below average during summer 2014, likely reflecting poorer alewife condition, and cooler summer 2014 water temperatures.

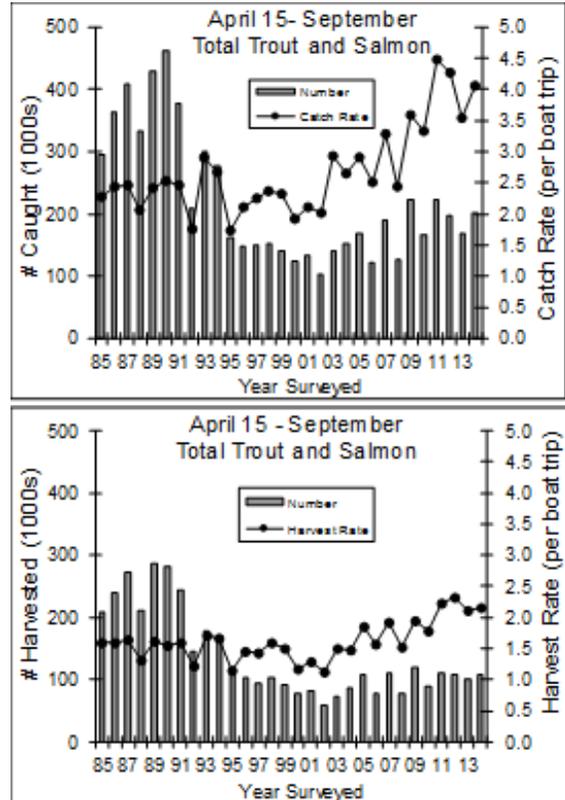


Figure 1. Total trout and salmon catch (bars) and catch rate (line/diamonds; top graph) and harvest (bars) and harvest rate (lines/diamonds; bottom graph) for boats seeking trout and salmon, 1985-2014.

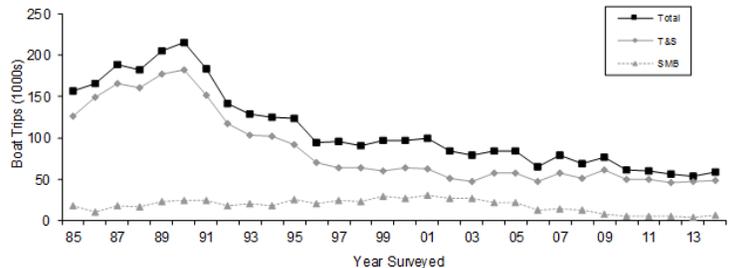


Figure 2. Seasonal estimates of total fishing boat trips, trips targeting trout and salmon (T&S), and trips targeting smallmouth bass (SMB) during the traditional open season (3rd Saturday in June-September 30 when the survey ended).

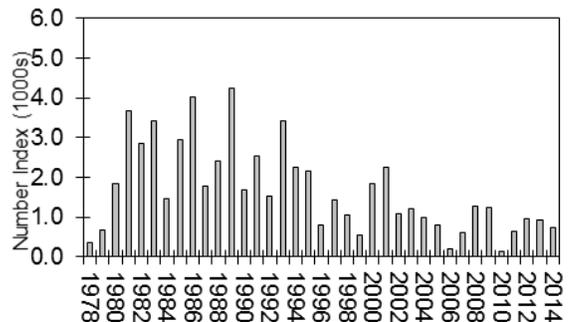


Figure 3. Abundance indices for adult (age-2 and older) alewife in the U.S. waters of Lake Ontario during late April-Early May, 1978-2014. (1 kg = 2.205 lbs)

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 Ontario sport fishery averaged approximately 47% from 2010-2014. These 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.



DEC's Salmon River Hatchery aims to stock Chinook salmon at sizes which promote good survival and imprinting to stocking sites. Tagging of Chinook salmon by LOU has also provided valuable information to managers regarding the effectiveness of hatchery stocking methods. Returns of tagged Chinook salmon to the Salmon River hatchery suggest a high degree of homing by fish stocked at the Salmon River and a low degree of straying from other stocking sites to the hatchery. Preliminary results of another LOU stocking strategy evaluation indicate that stocking and holding salmon in pens for a period of a few weeks prior to release provides better relative survival than stocking salmon directly into the lake.

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 Shoal in the Eastern Basin. Adult lake trout abundance increased each year from 2008-2014, following historic lows observed during 2005-2007. In 2014, 47 age-1 and 70 age-2 naturally produced lake trout were collected in trawl surveys, the largest catch of naturally produced lake trout in nearly 40 years of surveys.

Three species of deepwater coregonids (members of the whitefish family) are considered extirpated from Lake Ontario, and the LOU has been collaborating with the OMNR, USFWS, and the GLFC to reintroduce bloater into the lake. In 2014, bloater eggs were collected from Lake Michigan and reared at OMNR's White Lake Fish Culture Station and the USGS Tunison Laboratory of Aquatic Sciences in Cortland. For a third consecutive year, bloaters were stocked into Lake Ontario via this international partnership. Stocking numbers have increased each year, highlighting great advances made in bloater culture techniques at these facilities. 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 2014. 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 ten tributaries (four in Canada, six in NY). Treatments in New York included Lindsey Creek, tributaries to the Salmon River (Trout, Orwell, and Beaverdam Brooks), Little Salmon River, Ninemile Creek, Sandy Creek, and Oak Orchard Creek (Marsh Creek). Larval assessments were conducted on 49 tributaries (27 in Canada, 22 in NY). In 2012, the first purpose built sea lamprey barrier in New York's Great Lakes waters 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. Orwell Brook was treated for the second time since construction of the barrier and post-treatment evaluation surveys yielded no evidence of sea lampreys.

In addition, the USGS Tunison Laboratory of Aquatic Sciences, in partnership with DEC, is rearing and stocking another coregonid, lake herring. In 2014, 145,000 lake herring were stocked into Irondequoit Bay on Lake Ontario.

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 2014, smallmouth bass abundance declined to the lowest level observed since 2004 and among the lowest in 39 years of netting. Walleye abundance was similar to that observed in recent years and, with the presence of moderate to strong year classes, is expected to remain relatively stable for the next few years. In 2014, yellow perch catch declined to the lowest level in the time series. Perch catches are more variable than other fishes because of their schooling nature; however, a lower population level is likely given angler reports of reduced yellow perch fishing quality in 2014. At least one lake sturgeon has been collected in 14 of the last 20 years (none in 2014), suggesting an increase in sturgeon abundance.

St. Lawrence River Research

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 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 achieved the management plan catch rate target in 1999.



Large-scale mortalities of pre-spawn female muskellunge caused by the newly introduced Viral Hemorrhagic Septicemia virus (VHSV) were documented in 2005 and 2006 (picture 2. dead muskies on tarp). Spring trapnet surveys at index sites sampled each year indicated declining spawning adult abundance since 2008, with marginally improved catches in 2013 and 2014. (Figure 1). Catches of young-of-the-year (YOY) muskellunge in index seine hauls also declined since 2004, but improved slightly in 2013 and 2014 (Figure 2). An angler diary program, which indexes the relative quality of muskie fishing through angler catches, also indicates that angling success remains well below the target of 1 fish caught per 10 hours of fishing. 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.

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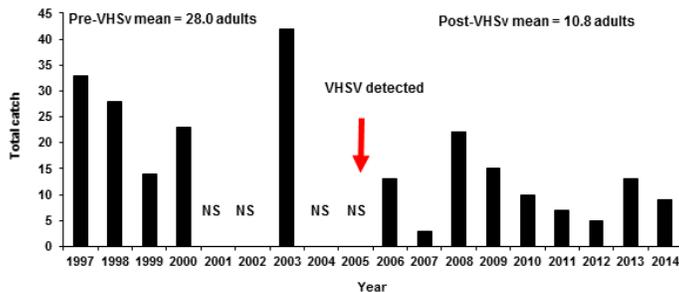


Figure 1. Total catch of muskellunge during spring trapnet sampling during 1997- 2014. Sites and effort are approximately equal over the series. Samples were not collected in 2001-02 and 2004-05 (NS) because of a decision of the Esocid Working Group to monitor muskellunge every third year. Following VHSV outbreak it was decided to resume annual monitoring.

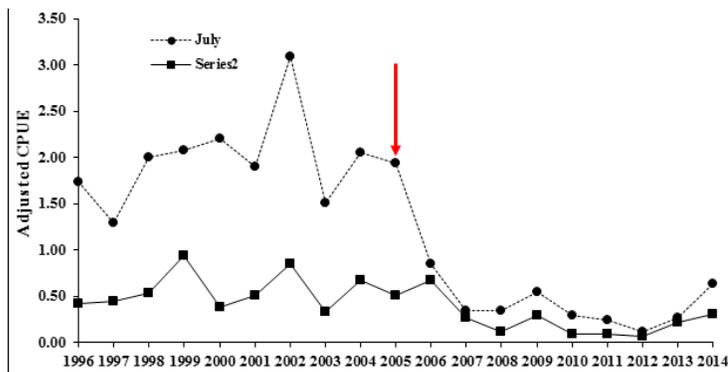


Figure 2. Catch per unit effort of YOY muskellunge captured in standardized seine hauls in eleven upper St. Lawrence River nursery sites from 1996 to 2014 (July= 30' seine series; Series 2= 60' seine). The arrow indicates the year VHSV (2005) was detected resulting in widespread mortality of adult muskellunge in the upper River.

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 and pools in cattail mats.



Production of YOY northern pike in managed marshes was initially high, but 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. Seine hauls at Delaney Bay, downstream of a managed spawning marsh, resulted in a catch of only 12 YOY pike in 2014. The YOY muskellunge seining survey at eleven index sites caught 5 northern pike YOY in the 30' seine series in 92 hauls and 16 in the 60' seine series in 90 hauls. Eight upper St. Lawrence River bays were sampled by seining and 27 YOY pike were captured (N=57 hauls). Assessment of the efficacy of excavated channels in increasing northern pike reproduction is ongoing.

More detailed information on muskellunge and northern pike studies can be found in the Lake Ontario Unit annual report which can be accessed at www.dec.ny.gov/outdoor/27068.html.

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2014-15 Lake Ontario Research Unit Staff

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SPECIES CONSERVATION & MANAGEMENT

The New York State Department of Environmental Conservation's Lake Erie Fisheries Research 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 are designed to improve our understanding of the Lake Erie fish community to guide fisheries management, and safeguard this valuable resource for current and future generations. This document shares just a few of the highlights from the 2014 program year. The complete annual report is available on DEC's website at www.dec.ny.gov/outdoor/32286.html, or by contacting DEC's Lake Erie Unit.



Warmwater Fisheries Management

Walleye



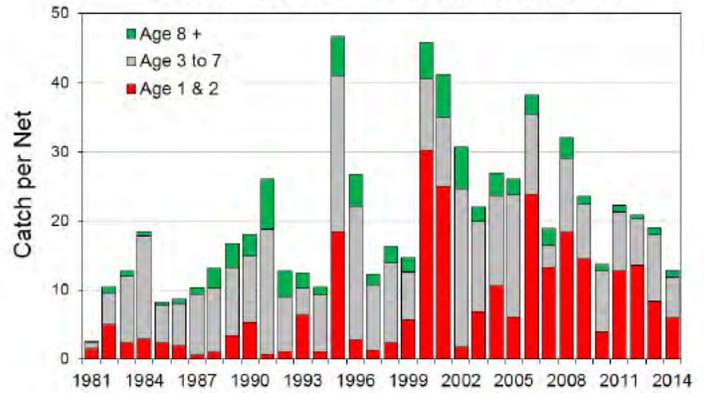
Lake Erie's eastern basin walleye resource is composed of local spawning stocks as well as contributions from summertime movements of western basin spawning stocks. Walleye fishing quality in recent years has generally been very good and largely attributable to excellent spawning success

observed in 2003 and again in 2010. Measures of walleye fishing quality in 2014 were the highest recorded in 27 years. New York's most recent juvenile walleye survey indicates a poor spawning year in 2013. However, the abundant 2012 year class began recruiting to the sport fishery in summer 2014. Overall good recruitment through recent years, especially from 2010 and 2012, suggests adult walleye abundance in the eastern basin will remain satisfactory the next few years. A new research initiative beginning in 2015 will use acoustic telemetry to study walleye movement and assess the contribution of western basin migrants to the New York walleye fishery. A \$100 reward will be associated with the return of each tagged fish along with the internal acoustic tag.

Smallmouth Bass

Lake Erie supports New York's, and perhaps the country's, finest smallmouth bass fishery. Bass fishing quality in 2014 was the second highest observed in the 27 year series of monitoring, with the peak observed in 2013. 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. Most recent data indicate a very gradual decline of abundance to near long term average measures. Juvenile abundance measures suggest 2012 produced a moderately abundant smallmouth bass year class.

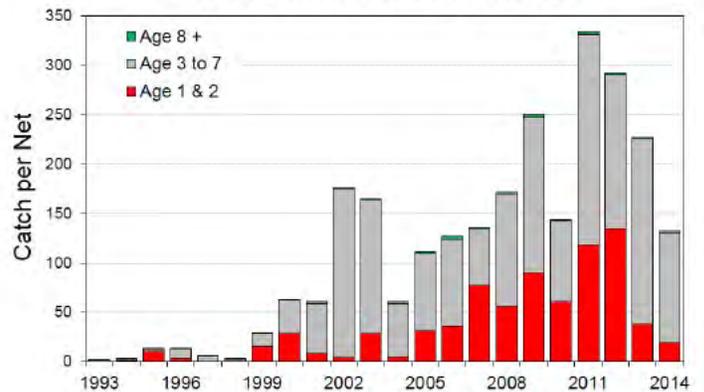
Gill Net Catches of Smallmouth Bass



Yellow Perch

Lake Erie yellow perch populations have experienced wide oscillations in abundance over the last 30 years, from extreme lows in the mid-1990's to an extended recovery that's now lasted well over a decade. A large adult population continues to produce good angler catch rates, especially during spring and fall. Declining levels of juvenile yellow perch have resulted in an overall decline in the population over the past three years. Spawning success from 2011 through 2013 was average to poor. This decrease has yet to influence yellow perch angler quality which was the highest in the 27 year series in 2014.

Gill Net Catches of Yellow Perch



Coldwater Fisheries Management

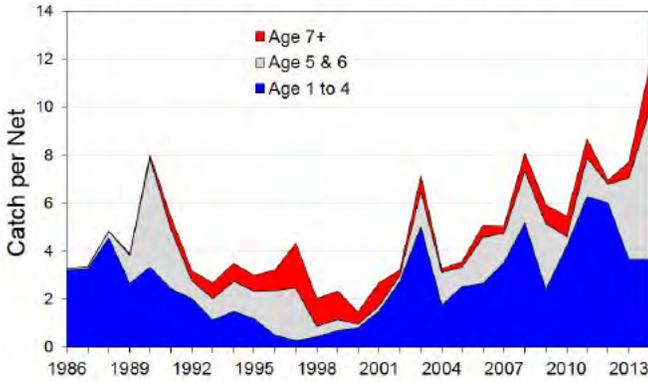
Lake Trout Restoration

Re-establishing a self-sustaining lake trout population in Lake Erie continues to be a major goal of Lake Erie's coldwater program. Lake trout have been stocked since 1978 and annual assessments monitor progress towards restoration objectives. A revised lake trout rehabilitation plan was completed in 2008 and guides current recovery efforts. The overall index of abundance of lake trout in the New York waters of Lake Erie continues to increase and was at its highest level in 29 years of monitoring in 2014. The majority of the catch was young adult lake trout ages 4-6. Adult fish (age 5 and older) were also at their highest abundance in 2014; lake trout age 10 and older remain scarce. Basinwide estimates surpassed targets for adult abundance for the first time. However, adult survival for some lake trout strains remains low, mainly due to high sea lamprey predation. Natural reproduction has not yet been detected in Lake Erie, and continued high stocking levels and sea lamprey control are needed to build adult lake trout populations to levels where natural production is viable.

Salmonid Management

New York annually stocks approximately 255,000 steelhead and 35,000 brown trout into Lake Erie and its tributaries to provide rec-

Gill Net Catches of Lake Trout



reational opportunities for both lake and stream anglers. Wild reproduction of steelhead also contributes to the fishery. Fall juvenile assessments conducted since 2001 confirmed substantial numbers of young-of-year steelhead present in many tributaries. A long term annual angler diary program continues to monitor characteristics of the tributary steelhead fishery. In addition, a tributary angler survey is being conducted in 2014-15 to determine the current status of the steelhead fishery. A pilot study to investigate emigration of stocked steelhead suggests stocking size may be influencing adult returns of stocked fish. An expanded investigation is planned for 2015-16 which should provide insights on the influence of stocking size and location on adult returns.

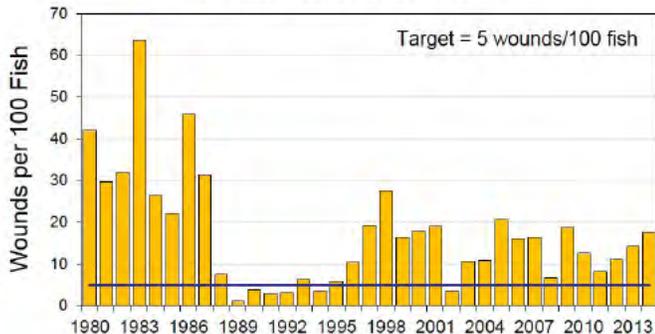


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Sea Lamprey

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. Great Lakes Fishery Commission coordinated sea lamprey control in Lake Erie began in 1986 in support of lake trout rehabilitation efforts, and regular treatments are conducted to reduce sea lamprey populations. Annual monitoring undertaken by NYSDEC includes observations of sea lamprey wounds on lake trout and other fish species, and lamprey nest counts on stream sections. Wounding rates on lake trout increased in 2014, indicative of a high sea lamprey population in Lake Erie. Inspections of sportfish species documented sea lamprey wounding on warmwater species as well. Surveys conducted over the past four years indicate the largest source of Lake Erie's sea lamprey production may be the St. Clair River rather than traditionally monitored and treated Lake Erie streams.

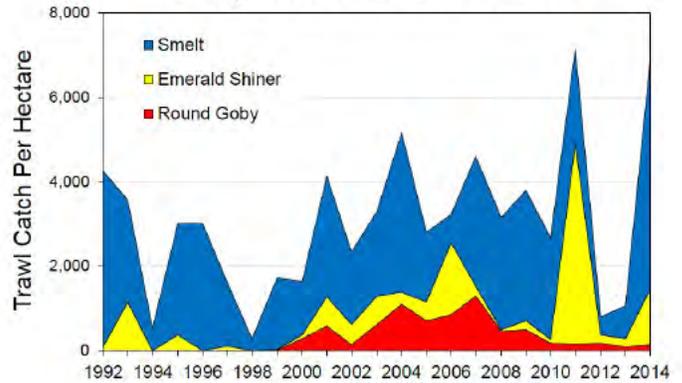
Sea Lamprey Wounding Rate on Lake Trout >21 inches



Prey Fish

The Lake Erie Unit conducts a number of surveys to assess forage fishes and components of the lake's lower trophic levels. These programs have included trawling, sonar surveys of prey fishes, predator diet studies, and lower food web monitoring. A variety of prey fish surveys beginning approximately 20 years ago identified 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 surveys and predator diets. In recent years, overall prey fish abundance trended slightly downward, with notable declines of goby abundance in trawl surveys. Overall abundance of forage-sized fishes was the second highest in the series in 2014, mainly due to especially high abundance of young-of-the-year rainbow smelt and emerald shiners (all life-stages). Round gobies appear to have stabilized at low levels of abundance. Lower trophic monitoring indicated nearshore eastern basin waters are currently best described as a mesotrophic environment favorable for percid production. Over time we expect these investigations to be useful in furthering our understanding of factors shaping the fish community.

Forage Fish Abundance Trends



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| Ann Wilcox-Swanson | Fish & Wildlife Technician 1 |
| Robert Lichorat | Fish & Wildlife Technician 1 |



PUBLIC SERVICE & CONSTITUENT SUPPORT

I FISH NY Angler Recruitment Efforts

Angler education through the I FISH NY initiative continued in 2014/15. 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 with dedicated outreach staff (DEC Regions 3, 7 and 9). Staff in DEC Central Office also conducted programs around the Capital District and the Adirondack Region. The webpages outlining I FISH NY program offerings were revised and are available at www.dec.ny.gov/outdoor/89362.html.

In-School Fishing Education Programs

One hundred forty-seven formal education programs were conducted between April 1, 2014 and March 31, 2015 in DEC Regions 1, 2, 3, 4, 5, 7 and 9. These included 142 in-school programs and 5 County Conservation days (schools come to go through environmental programs in a round robin fashion). Most of these programs (118) were conducted in DEC Region 2 (NYC). A total of 6,124 contacts with school aged kids were generated from these programs, including 5,584 in-school contacts and 540 contacts at County Conservation Days. In support of the in-school program, lesson plans have been posted on the DEC website at www.dec.ny.gov/education/89975.html, including 5 in the past year.

Fishing Clinics/Festivals

One hundred twenty-six programs were conducted reaching 13,237 people, including 7,388 at fishing festivals, 3,244 at fishing clinics, 2,222 at summer camps, 272 scouts and 111 at DEC campgrounds. People attending fishing festivals generally received little to no fishing education, although seminars were generally 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.

Fishing with Seniors

For the first time since its inception, the I FISH NY program conducted two senior-focused fishing clinics- one in Albany, NY and the other in Flushing, Queens. The Queens event was a multi-language event reaching 25 Cantonese speaking participants through an interpreter. These events offer the perfect opportunity for seniors to get back in touch with fishing- a memorable experience they can share with their grandchildren.



Train the Trainer Initiative

Since 2013, the I FISH NY program continues to expand its train the trainer efforts. Providing fishing education training to summer camp

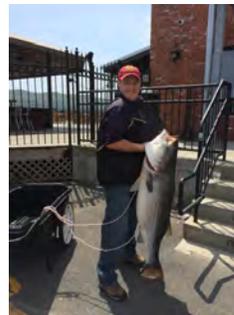
counselors so that they in turn, can teach a fishing program to their campers, allows DEC to reach many more children than they would otherwise be able to. Each 2+ hour training session covers topics on sportfish identification, fishing regulations, safety, knot tying, basic tackle and techniques, places to fish, and advanced lure techniques. Overall, Fisheries Staff from Regions 1, 3, 7, 9 and Central Office collectively covered 33 camps and taught 296 counselors.

I FISH NY Beginners' Guide to Freshwater Fishing

The "I FISH NY Beginners' Guide to Freshwater Fishing" is an upgrade of the popular "Getting Started: A beginners guide to freshwater fishing" manual (first produced in 1992). The new manual will be a complete re-write and designed in full color. The previous manual was produced in black and white. Four chapters have been completed, including "The Fishes of New York," "Basic Fishing Tackle and Techniques," "Care of Your Catch" and "Safe and Responsible Angling." These chapters have been posted on the DEC website at www.dec.ny.gov/outdoor/98506.html. Five additional chapters are anticipated to be finalized during 2015-16.

2014 Angler Achievement Awards

The Angler Achievement Awards Program received a total of 157 entries in 2014, a slight decline compared to 2013. Over 75% of the entries received qualified under the Catch and Release Category, exhibiting the sound stewardship of participating anglers. Nineteen entries were entered into the Annual Award Category (kept fish). Two state records were established exactly one month apart- a 60 lb. (inland) striped bass was caught from the Hudson River in Orange County on May 14th by Eric Lester and on June 14th a 26 lb. 9 oz. freshwater drum was caught by James VanArsdall from Lake Ontario's Irondequoit Bay (Monroe County).



Free Sportfishing Clinics

In 2013 legislation passed allowing for an unlimited number of Free Sportfishing Clinics to be held in New York State. This was a change from the traditional 4 free fishing clinics that used to be allowed for each DEC region. Compared to the 39 events that were held in 2013, the number of approved free sportfishing clinics has grown exponentially. During the 2014/2015 fiscal year DEC approved 118 free sportfishing clinics, with an estimated 11,500+ participants! Downstate New York (Regions 1-3) conducted the majority of the clinics. These events are a great way to introduce people to the sport of fishing, as well as reconnect those who have taken on other activities.

Interpretive Signage at Boat Launch Sites



Interpretive signage was designed and installed at Round Lake (Saratoga County). Each panel series has helpful information directed towards anglers and boaters. Content provided includes: fish species present, fisheries management actions, invasive species disinfection procedures, fishing and boating regulations and angling advice.

Second Pond Boat Launch Upgrade Completed



The Second Pond (Lower Saranac Lake) boat launch in Franklin County reopened for public use in 2014 following a complete rehabilitation. A new asphalt paved 100 car and trailer parking area was installed that includes parking for both day use boaters and overnight campers. A new two lane launch ramp was constructed and a pair of floating boarding docks installed. New kiosks, landscaping and accessibility improvements completed the upgrades to this popular boat launch.



New Boat Launch Constructed on Round Lake

Construction of a new boat launch on Round Lake (Saratoga County) was completed in 2014 in cooperation with the Village of Round Lake. The new site includes asphalt paved parking for 9 cars and trailers and 11 cars. A single lane launch ramp, informational kiosk and floating boarding dock were also installed. The new site replaces a hazardous informal launch location on this very popular warmwater fishery approximately 20 minutes north of Albany.



Boat Launch Upgrades Underway

Rehabilitation of the Forge Pond Boat Launch (Suffolk County), Upper Saranac Lake (Franklin County) and Lake George Beach (Warren County) began in 2014. At Forge Pond, a popular warmwater impoundment on the Peconic River, a former hand carry launch site will be converted into a single lane trailered boat launch site.



At Upper Saranac Lake, the site will be modernized to include paved parking a new launch ramp and boarding docks. A boat flushing station will also be installed to address concerns associated with the spreading of microscopic aquatic invasive species.

At Lake George Beach, the existing degraded launch ramp in the middle of the beach will be removed and replaced by a new two-lane launch ramp at the southeast corner of the site. A 25 car and trailer parking area dedicated to the site will be provided that will remain open during the entire openwater season. Expanded parking will be provided during the non-beach season.

Direct Mail Marketing of Fishing Licenses

IT'S TIME TO RENEW YOUR FISHING LICENSE.



DEC's participation in the Recreational Boating and Fishing Foundation's (RBFF) Lapsed Angler Direct Mail Marketing Program continued in 2014. This collaborative effort to increase fishing license sales includes 40 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. On April 2, 85,762 post cards were mailed to resident lapsed anglers with 5,772 anglers purchasing a license during the 42 day evaluation period. The overall lift rate of .76% was slightly below the .84% lift noted in 2013.

New Boat Launch Regulations Target Invasive Species

ATTENTION BOATERS

Before you launch your boat or leave this facility you are required to:

- ✓ Clean all visible plant and animal material from your boat, trailer and associated equipment.
- ✓ Drain your boat's bilge and other water holding compartments.



HELP STOP THE SPREAD OF AQUATIC INVASIVE SPECIES
New York State Department of Environmental Conservation, Bureau of Fisheries
625 Building Road, NY 12203
914.455.7300
www.dec.ny.gov

In an effort to reduce the spread of aquatic invasive species to and from DEC boat launch facilities, new regulations were enacted on June 4, 2014. The regulations require all boaters to remove all visible plant and animal material from their boats and trailers and to drain their boats before launching and before leaving the site at the end of their boating trip.

NY Fishing, Hunting and Wildlife App

On May 14, 2014, the free NY Fishing, Hunting & Wildlife App was released for iPhones and Droid phones. The App features sections on Fishing, Shellfishing, Hunting, Trapping, Watchable Wildlife and Licensing Details. It also has a news feed, an events calendar and advanced GPS feature that allows users to identify and locate New York's many fishing, hunting and wildlife watching sites. A great feature is that the app can be used offline in mobile "dead zones," so people can use most of the features of the App without having a network connection. On the Fisheries portion of the App, extensive work was done to convert the format of the Fishing Regulations to be mobile friendly. The current projection is that sometime in the next year more people will get their information from mobile devices than from desktop/laptop computers. The release of this App will allow us to connect better with our users. The app is a collaborative effort between Parks by Nature Network® and NYSDEC. Additional information can be found on the DEC website at www.dec.ny.gov/outdoor/96470.html.



2014-15 Public Use and Outreach 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	Forge Pond (Peconic River)	Convert 10 car parking with hand launch to 10 car & trailer and 5 car parking with concrete ramp and loading dock and ADA compliant canoe and kayak launch. Construction begun 9/14. Expected completion 6/15.
4	Otsego	Oaks Creek (Parslow Cooperative Area)	New parking lot for 6-8 cars, new kiosk, and footpath extension.
4	Otsego	Susquehanna River (Colliersville BLS)	MOU with DOT Increase parking lot (15 c) add boat slide.
5	Franklin	Second Pond (Saranac Lakes chain)	Rehabilitation of existing site including new docks, ramps, toilet facilities and increased parking
5	Saratoga	Round lake	Construction of new site. 9 trailer/vehicle and 11 vehicles, concrete ramp; separate launch area for canoes/kayaks
5	Saratoga	Great Sacandaga Lake	Installation of a new 168' floating dock to enhance functionality during windy conditions and highly variable water levels
5	Essex	Balfour Lake	New car-top launch; accessible trail from the 4-car parking lot to the water
5	Franklin	Meacham Lake	Develop new site in new location to avoid too-shallow area of old site; under planning & design
5	Franklin	Upper Saranac Lake	Complete rebuild including new docks, ramps, and boat flushing station (completion date 5-28-15)
5	Warren	Lake George	Complete rebuild including porous pavement, new docks, ramps & boat washing station (completion date 5-28-15)
6	St. Lawrence	Oswegatchie River @ Wegatchie FAS (on Yellow Lake State Forest)	4-6 car parking with an additional Universal Access Parking. Universal Hand Carry canoe/kayak/car-top boat launch.
6	St. Lawrence	Fish Creek (on Fish Creek WMA)	4-6 car upper parking lot with an additional Universal Access Parking nearer to the waterbody. Universal Hand Carry canoe/kayak/car-top boat launch.
6	Lewis	East Fork of the Salmon River	4-6 car upper parking lot with an additional Universal Access Parking nearer to the waterbody. Universally Accessible Fishing Deck was also constructed at this site.
7	Oswego	Little Sandy Creek (Town Landfill FAS)	Constructed a 10 car parking area
7	Oswego	Deer Creek (Deer Creek FAS)	Constructed a six car parking area to serve anglers fishing Deer Creek through the Sandy Creek State Forest. Will serve a dual purpose by providing parking for hunters.
7	Tompkins	Fall Creek (Old Stage Road FAS)	Constructed a four car parking area
7	Tompkins	Fall Creek (Hinman Road FAS)	Constructed a four car parking area
7	Madison	Oneida Lake (South Shore BLS)	Installed solar lighting to assist in night-time launch activity
7	Broome	Skaneateles Lake	Installed solar lighting to assist in night-time launch activity
7	Broome	Oquaga Creek (Sandford FAS)	Constructed a four car parking area.
7	Cayuga	Owasco Inlet (Warner Rd. FAS)	Constructed an eight car parking area.
8	Schuyler	Cayuta Lake	New dock and accessible canoe/kayak launch installed.
8	Monroe	Black Creek FAS	Parking lot paved, fishing platform constructed, accessible canoe/kayak launch installed, new kiosk, new benches, walkways, guide rails.

Public Access Projects

Region	County	Waterbody	Description of Project
8	Monroe	Slater Creek (Slater Creek Park)	New parking lot, railing, removal of chain link fence. Bank stabilization. New management agreement with Town of Greece.

Public Access Acquisitions

Region	County	Waterbody	Acres/Miles	Cost	Date	Comments
4	Albany	Onesquethaw Creek	.032 mi	\$17,489.00	7/15/14	
4	Albany	Onesquethaw Creek	.178 mi		7/15/14	
4	Albany	Onesquethaw Creek	.107 mi		7/15/14	
6	Oneida	Fish Creek	4.5 acres	\$14,900.00	10/8/14	
7	Tioga	Owego Creek	.070 mi	\$2,400.00	7/21/14	
7	Tompkins	Owego Creek West Branch	.065 mi	\$2,400.00	2/10/15	
9	Allegany	California Hollow Brook	.127 mi	\$4,000.00	8/11/14	

Habitat Improvement Projects

Region	Name of Water	Project	Cooperator Name	Comments
4	Unnamed Stream	Install habitat features in Brook Trout spawning stream	Private Property, funded by owner, Duane LaFever	A 50 foot reach will be rechanneled with step pools, rocks will be placed for habitat, a stone water jack will be installed, three boulders will be placed for habitat, rock vanes will be installed for bank stabilization and a toe wood structure will be installed. We advised the owner on what to do and where to place habitat improvement features.
4	Horse Brook	Remove a double barrel bridge structure that is a barrier.	Trout Unlimited	Region was approached by Trout Unlimited regarding potential barriers in the Beaverkill and East Branch of the Delaware River watersheds. Region assisted in the design of the project and conducted a presence/absence survey to make sure brook trout would not be displaced. The project will open 2.3 miles of stream to trout spawning.
4	Looking Glass Pond	Create Bass spawning beds in pond	DEC	
5	Lost Pond	Barrier Dam Repair	DEC	Located in the Moose River Plains area.
5	Clear Pond	Barrier Dam Repair	DEC	Located in the Siamese Ponds Wilderness Area; protects a Horn Lake strain brook trout monoculture.
5	Whey Pond	Barrier Dam Repair	DEC	Located in the Rollins Pond campground.
5	West Pine Pond	Barrier Dam Repair	DEC	Located in the Saranac Lake Wild Forest, near the southwestern edge of the St. Regis Canoe Area.
5	Little Fish Pond	Barrier Dam Repair	DEC	Repair materials (lumber, cement and sand bags) flown in during fall via helicopter for extensive repair work during summer 2015. Located in the St. Regis Canoe Area, the dam protects multiple trout waters from non-native yellow perch and bass.
6	Bear Pond	Pond Liming	DEC/NY State Police	State Police helicopters transported 80 tons of lime.
6	East Fork of the Salmon River	Streambank stabilization and habitat improvement.	DEC Lands and Forests, Operations and Fisheries	Installed root-wad streambank stabilization structures and a pool digger in conjunction with a Universally Accessible Fishing Deck as well as access road improvements.

Habitat Improvement Projects

Region	Name of Water	Project	Cooperator Name	Comments
7	Chittenango Creek	Bank Stabilization and Trout Habitat Enhancement	Madison County Chapter of Trout Unlimited/ U.S. Fish and Wildlife Service	Habitat and Access Stamp funds were used to purchase the rock used to create rock vanes for stabilizing and enhancing several areas of stream. These funds were also used to purchase several dozen 1"-6" diameter trees that were planted along the bank to shade the stream. TU covered contractor costs to construct the rock vanes while the USFWS designed and oversaw construction of the structures. The USFWS also supplied machinery and manpower to haul and plant the trees.
9	Mansfield Creek	Stream improvement	USFWS/TU	Installation of toe-wood bank protection and LUNKER fish cover structures.
9	Spring Brook	Stream improvement	SWCD/TU/Village of Springville	Installation of LUNKER fish cover structures and longitudinal stone bank protection.
9	Various Waters	Shade tree and willow planting	Local TU chapters	2,400 trees and shrubs planted along trout streams by TU Chapter volunteers.





Hatchery Infrastructure Improvements

Work continued in 2014 to replace or repair aging hatchery infrastructure. The majority of these projects were funded through the New York Works program. Major projects included:

Bath Hatchery

A new outdoor kiosk and interpretive area was constructed with the help of the Bath Hatchery crew, Region 8 Operations, and the Public Use and Outreach Section. This new area will benefit the public as it explains the past history of the Bath Fish Hatchery and it helps explain the overall mission of the Fish Culture Section. Excellent interpretive signs were developed which explain the egg collection process, fish propagation at the hatchery, and statewide fish stocking methods using trucks, planes, barges, and helicopters.



Catskill Hatchery

A pond replacement project is planned for the summer of 2016 due to concrete deterioration in the pond walls. Many production ponds will be replaced along with the covered brood stock ponds. In anticipation of the project, new drain lines and valves were installed in the summer of 2014 for the raceways in the pole barn building so they could be used for holding brown trout brood stock during the construction phase of the project. The brood stock are under light control and need a special enclosed area that could replicate the holding area they are presently occupying in the pond area. Presently, the pond replacement project is under design.

Chautauqua Hatchery

Due to an aging boiler system that is used for heating the main hatchery building and heating the water used for the inside raceway fish production, replacement of the existing system will occur in the fall of 2015. The ultra violet water purification system is also antiquated and will also be replaced in the fall of 2015. Presently, these two project contracts are at the Office of State Contracts being reviewed. Once the contracts have been approved they will be awarded and construction will begin in October 2015.

Caledonia Hatchery



In the summer of 2014 many of the Caledonia Hatchery buildings, which date back to the 1800's, received cosmetic improvements to their exteriors and a fresh coat of paint. Many of the roadways at the hatchery were paved and drainage pipe and gratings were installed in the pond area of the hatchery. This project was

completed just in time for the 150th anniversary celebration of the hatchery. During the winter of 2015 the raceway area and stairway of the main hatchery building were painted. This was a project that was long overdue and since it has been completed it complements the paving and exterior painting projects.

Fourteen new inside raceways were purchased. These raceways will replace the sixty year old deteriorating inside raceways in the main hatchery building. Installation is planned for the summer of 2016.

Chateaugay Hatchery

Thirteen new outside raceways were delivered recently and installation is anticipated for the summer of 2016. These raceways will replace 50-60 year old raceways that have been leaking for many years. Contracts for the demolition of the old raceways and construction of a new cement pad are being prepared. The actual raceway installation will be completed "in-house" by hatchery employees from Chateaugay Hatchery and Rome Hatchery.

Oneida Hatchery

Two new boilers and a rotating drum water filtration system will soon be installed in the main hatchery building. These new systems will replace antiquated systems that have been in the main hatchery building since it was built over 20 years ago. The contract has been awarded and the boiler installation is planned for the summer of 2015. The installation of the rotating drum filter is anticipated for the fall of 2015.

Salmon River Hatchery



A contract for the replacement of the roof on the main hatchery building has been awarded and construction should be completed in August 2015. New aquariums for the visitor center have been installed along with a supporting water recirculation system and a water chiller unit. Additional work still needs to be completed on the aquariums before they are operational. It is expected they will be in use by the fall of 2015.



South Otselic Hatchery

The engineering design for the new outlet control structures for the earthen ponds which hold fingerling walleyes is close to being completed along with design work which will combine smaller ponds into larger ponds. Soil test borings of the earthen pond berms and test pit excavations in the existing pond bottoms were completed in the fall of 2014 in preparation for combining ponds. Overall, the improvements will help in the efficiency of collecting the walleyes from the earthen ponds.

Van Hornesville Hatchery

Phase II of the installation of new drainage pipes and asphalt walkways along with new asphalt in portions of the hatchery access roads and a new cement apron in the main hatchery building entrance area are being designed. Completion of the project will be in the summer/fall 2015.

New Hatchery Trucks Arrive

Sixteen new Freightliner six-tank stocking trucks were purchased in 2014. Most were used throughout the state during the 2015 spring stocking season replacing trucks purchased in 2000 and 2002. Most of the older stocking trucks were each nearing 200,000 miles or greater and were prone to breakdowns and repairs. The new trucks are outfitted with the most up-to-date exhaust emission control devices which will help "green" the fleet of vehicles and ultimately benefit the

environment in many ways. The trucks along with new stocking tanks, aerators, industrial batteries to operate the aeration system, and all necessary hardware were purchased using NY Works III Funding.



150th Anniversary of the Caledonia Hatchery Celebrated

The 150th anniversary celebration of Caledonia hatchery took place on August 9 and 10, 2014. Hundreds of visitors attended along with elected officials and DFWMR Division Director Patricia Riexinger. Speeches were delivered by the invited officials. Tours of the hatchery were conducted. Booths were set-up by local history groups, Trout Unlimited, and a local fish and game club. It was a great success!

Fall Egg Collections

Lake Trout from Cayuga Lake

The annual Cayuga Lake egg collection of lake trout eggs (Finger Lake strain) began October 7, 2014 at Taughannock Point on Cayuga Lake. For the next two days eggs were collected for a total of 355,000 green eggs. Of this total, 313,000 eggs were used for lake trout production while 42,000 eggs were fertilized with brook trout from Randolph hatchery to produce splake eggs. The eggs were transported each day to Bath Hatchery. The egg collection was completed using personnel from South Otselic Fish Hatchery, Rome Fish Hatchery, and Bath Fish Hatchery. The lake trout hatched from these eggs will be stocked throughout the state and the hatched splake will be released in the Adirondack Mountain region.

Lake Trout from Raquette Lake

The annual Raquette Lake egg collection of lake trout eggs (Adirondack strain) began on October 14, 2014 at North Point on Raquette Lake. For the next ten days eggs were collected for a total of 88,000 green eggs. The eggs were transported each day to Chateaugay Fish Hatchery. The egg collection was completed using personnel from Chateaugay Fish Hatchery, Rome Fish Hatchery, Adirondack Fish Hatchery, and the Region 5 Fish Management Unit.

Salmon River Hatchery- Chinook and Coho Salmon

The annual Salmon River Fish Hatchery's chinook and coho salmon egg collection began on October 14 and October 20, 2014, respectively. The chinook egg collection took six days to complete with a total of 4.3 million green eggs taken. Eggs were collected from 900 ripe females. For the coho egg collection, it took seven days to complete and 1.5 million green eggs were taken. Eggs were collected from 566 ripe females. Target numbers were reached for both species of fish. The egg collection was completed using personnel from Salmon River Fish Hatchery and the Salmon River Steward's Program. 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 10, 2014. A total of 1.2 million eggs were collected. There were 180,100 collected from wild brood stock from Little Clear Pond and 1,034,705 from captive brood stock. Of the 1.2 million eggs collected, 103,200 pure Sebago strain eggs were transferred to Tunison Laboratory in Cortland, NY for a research project to determine better return of stocked salmon smolts. Target numbers of eggs were achieved so there should be enough landlocked salmon to meet future target numbers. These landlocked salmon are stocked into many Adirondack waters, Lake Champlain, Lake Ontario, as well as the Finger Lakes, and other selected waters throughout the state.

Windfall Heritage Strain Brook Trout

The annual egg collection for the Windfall strain of brook trout took place at Mountain Pond in Franklin County (DEC Region 5) on October 29 and 30, 2014. Three trap-nets were set for two nights and eggs and milt were stripped from a total of 48 pairs of brook trout. A total of 25,000 green eggs collected. The egg collection was completed using personnel from South Otselic Hatchery, Rome Hatchery, and the Region 5 Fish Management Unit.

Windfall X Domestic Brook Trout

The annual milt collection at Black Pond in Franklin County (DEC Region 5) for the genetic cross of Windfall strain brook trout and "domestic" brook trout took place on November 5 and 6, 2014. Milt from eleven males was used in the fertilization process along with 15 domestic females for a total collection of 40,000 green eggs. The egg collection was completed using personnel from South Otselic, Rome, and Chateaugay hatcheries.

Egg-Take for Round Whitefish

Region 5 Fisheries staff, along with staff from the Adirondack Hatchery, conducted an egg take for round whitefish in Lower Cascade Lake in late November. Lower Cascade Lake is an important broodstock water for this species which is endangered in New York State. The timing of the spawn for round whitefish often makes this effort problematic, and 2014 was no exception, as more than an inch of ice covered the lake the night before this netting effort was to begin. We were able to chop enough ice to set the net; and to tend and retrieve it the next day, but the egg take was poor. It may be that the shifting ice or refreezing lifted the trap-net slightly off of the lake bottom, resulting in a poor catch. Five of the six female round whitefish caught were ripe, but a total of only five pairs of round whitefish could be stripped for their eggs in 2014. The eggs were taken to a hatchery for rearing to eventually stock other waters in an effort to expand the number of waters where this species is found.

Spring Wild Fish Egg Collections

Salmon River Hatchery – Steelhead

Salmon River Hatchery's annual steelhead rainbow trout egg collection began on April 4 and ended on April 7 for a total of 4 days of egg collecting. A total of 2.4 million Washington strain and 209,000 Skamania strain eggs were collected achieving the target number. The fish hatched from these eggs will be stocked in tributary waters of Lake Ontario and Lake Erie.

Bath Hatchery – Wild and Hybrid Rainbow Trout

An egg collection of wild rainbow trout from the Cayuga Inlet Fishway was held on April 10 and April 16, 2015. A total of 190,690 wild rainbow trout eggs were collected. There were also 29,230 hybrid (wild rainbows x domestic rainbows) rainbow trout eggs taken. Target numbers were reached and should be adequate to meet future stocking targets.

Oneida Hatchery – Walleye

Oneida Fish Hatchery staff, with the assistance from other NYS hatcheries and regional fisheries staff, conducted trap netting operations for spawning walleyes between April 16th and 22nd, 2015. Oneida Lake's ice completed breaking up on April 16th, although hatchery staff began setting nets on April 15th. Twelve trap nets were set, totaling 84 net lifts. Nets were tended and emptied daily for seven days. Captured fish were transferred back to the facility where eggs were collected and fertilized. Stripped walleyes were released back into Scriba Creek. The staff captured 13,462 walleyes, and collected 262.8 million eggs. A total of 5,176 females were stripped, averaging 50,773 eggs per female. A male to female ratio of 2:1 was used for

fertilizing the eggs. Low creek flows prevented regular formalin treatments after the initial treatment. Without this preventative measure to prevent fungus from growing on the eggs, the eggs required much more manual handling (sifting and syphoning) to remove the affected eggs. The eye up percentage was 72.3% resulting in 188,640,000 fry. The fry were transferred to two other NYS DEC hatcheries and stocked into 13 water bodies across New York State.

Chautauqua Hatchery – Muskellunge

Chautauqua Fish Hatchery's muskellunge egg take took place between April 27 and May 8. During that period six trap nets were set in Chautauqua Lake at standard index net locations. Water temperature ranged from 46 to 65 degrees Fahrenheit during the netting period. A total of 152 adult muskellunge were captured, from which we mated 32 pairs and collected 911,600 eggs.

Fish Disease Control

Statewide Fish Health

Two separate pathogen surveillance programs are conducted annually in New York. The first is an ongoing statewide survey to identify waters where regulated pathogens may be present in fish populations. Cornell University performs the second survey through a program to investigate diseases in wild fish.

Wild Fish Pathogen Surveillance Program

For the statewide survey, a wide range of fish species were collected from 20 locations (1,407 fish) and clinical testing was done at the USFWS fish health center in Lamar, PA. Three different pathogens were isolated this year, all from salmonids. EEDv was isolated from one location this year, from lake trout in Otsego Lake. In previous years, EEDv was isolated from several locations annually, and consistently from Lake Ontario. Newly discovered Salmonid Herpesvirus 5 (NaHV) was identified from lake trout in two different locations, including Lake Ontario and Otsego Lake. In fact, the previous reports of EEDv in Lake Ontario were probably NaHV instead. The two viruses share similar homologies and couldn't be distinguished by the previous PCR method. Finally, *Myxobolus articus* was isolated from brook trout at two different locations, Slush Pond in the Adirondack Mountains, and the Connetquot River in Long Island. None of New York's eight regulated fish pathogens were detected in our wild fish collections. Also not found in 2014 was *Nucleospora salmonis* which has been consistently found in previous years.

Wild Fish Disease Investigations

Cornell staff conducted 16 fish disease investigations in 2014. Viral Hemorrhagic Septicemia was isolated from gizzard shad in Dunkirk Harbor, Lake Erie in March. The investigation was initiated as a result of a prominent fish kill. Epizootics like this are common with shad in spring, yet VHS isn't always found. Alewives collected during concurrent fish kills at two different locations on Lake Ontario were negative for VHS in May. In those cases, lesions were consistent with VHS, although no cause was identified. Many other cases were fish with commonly occurring diseases and were often small scale events. This included a small scale kill of yellow perch and rock bass due to a *F. columnare* (Columnaris) outbreak on Canandaigua Lake in June and Lymphosarcoma in northern pike in Lake Ontario in October.

In November, anglers reported seeing lethargic steelhead listlessly floating down the Salmon River. Thiamine deficiency was determined to be the cause and an effort was made to inject all feral adults arriving at the hatchery with thiamine. As of this report, 1,153 fish have been injected in four different trials. The mortality rate so far is 30% and largely due to gluco-regulatory collapse where those fish simply lacked the energy to recover from the trauma of handling.



Hatchery Fish Health and INAD Projects

The overall health of fish in our hatchery system has been remarkable. Many diseases we routinely encountered in previous years, such as prominent *Saprolegnia* in our trout brood stock and *Gyrodactylus* infestations in our brook trout have been mostly resolved. Also, our hatchery system has been free of harmful program viruses, such as IPN, for decades. We do have commonly occurring bacterial disease issues that are addressed routinely, but these diseases are very manageable.

Progress of Furunculosis Abatement at Rome SFH

In the summer of 2012, a serious epizootic of furunculosis occurred at the Rome hatchery and was linked to the importation of a very susceptible brown trout lot from Virginia. By September, an abatement plan was developed that included (1) destroying 800,000 still infected fish, (2) bi-annual inspections of all lots at 2% prevalence interval for two years, and (3) only Rome strain trout could be cultured on site. Rome strain brook and brown trout on site during the event were spared because they were largely unharmed during the epizootic. *Aeromonas salmonicida* was not detected in 2013 or 2014 inspections, so the hatchery classification was upgraded to 'A' in September. However, during spawning activities at Rome Field Station in November, clinical Furunculosis was evident in a few dozen adult Rome Strain brown trout. These 4-yr old fish were on site during the 2012 event and we speculate that the rigors of spawning may simply have triggered disease activity in latent fish. After eggs were successfully collected, the entire year class of fish was destroyed. All other lots, including brook trout, were retested and no *A. salmonicida* was isolated which demonstrates the resiliency of the strain. It's worth noting that **none** of the fish in Rome Hatchery production tested positive at any time this year.

Flavobacterial Diseases

In 2014, the usual epizootics of bacterial gill disease, bacterial cold water disease, and columnaris disease appeared throughout our hatchery system along with other undescribed Flavobacteria. These comprise the majority of our clinical hatchery work. In our quest to reduce Terramycin use, we did have success using Perox-Aid and Chloramine T in combatting columnaris disease and bacterial coldwater disease on several occasions. We found the key was early detection and early drug administration.

Investigational New Animal Drug (INAD) Work

INAD projects included Chloramine T (INAD 9321) and Aqui-S (11-741) this year and we plan to include Oxytetracycline in our 2015 work. With the Chloramine T approval being limited to certain fish species and diseases, we collaborated with the Aquatic Animal Drug Approval Partnership (AADAP) to study Chloramine T efficacy against columnaris in tiger muskellunge at our South Otselic Fish Hatchery. The fish were naturally infected, and one group was treated with Chloramine T (20 mg/L) and the control group was untreated. After 17 days, the treated group had a cumulative mortality of 12.6% versus 81.8% for the control group. The study report has been submitted to the FDA for review. In 2015, we plan to conduct a similar study using OTC-343 at the South Otselic Fish Hatchery.

Hatchery Inspection Program

The DEC's Fish Disease Control Unit (FDCU) annually inspects all lots of fish in DEC culture programs, both domestic and from wild sources. In 2014, our inspections included domestic trout cultured in our hatcheries, plus various species of wild fish used in egg collections intended for hatchery propagation. In all, we conducted 56 inspections in 2012 totaling 5,196 fish. *Aeromonas salmonicida* was

isolated from chinook and coho adults during egg collections at the Salmon River and production fish at the Rome State Fish Hatchery in 2014 and an atypical variant of *Yersinia ruckeri* was isolated from wild brook trout from Big and Little Hill Ponds in the Adirondacks. These fish are used as gamete sources for our heritage Brook Trout program and the fish are not removed from the site. No other program pathogens were detected in our hatcheries.

2014-15 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
Kenneth Klubek	Fish Culturist 1
Adam Kosnick	Fish Culturist 1
Doug Peck	Fish Culturist 1

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
Michele Zeigler	Fish Culturist 1
Robert Poprawski	Fish Culturist 1

CHATEAUGAY

Neal McCarthy	Fish Culturist 2
Anthony Bruno	Fish Culturist (Trainee I)
Logan Grishaber	Fish Culturist (Trainee I)
Mike Sicley	Fish Culturist
Nicole Vogt	Fish Culturist

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
Mark Ferron	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

John Gray	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 - retired
Stephen Dolan	Fish Culturist 3
David Domachowski	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 - retired

Annual Fish Production

ANNUAL STOCKING REPORT - RTF SPECIES January 1, 2014 - December 31, 2014

SPECIES	LESS THAN 1"		1" - 4.24"		4.25" - 5.74"		5.75" - 8.74"		8.75" - 7.74"		7.75" Plus		TOTAL	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
Cold Water														
Brook Trout			483,305	7,831	28,899	964	4,410		10,844		190,201	51,310	687,459	60,100
Brown Trout			41,000	682	113,080	7,004	37,500	3,160	295,665	40,166	1,590,732	460,209	2,017,997	511,253
Rainbow Trout			71,005	474	25,500	1,419	77,150	6,561			301,998	77,200	475,671	66,674
Steelhead					638,850	23,549	137,500	9,548					776,350	33,095
Lake Trout			14,000	77	547,984	13,059	498,000	32,261	154,110	15,408	74,900	13,427	1,266,974	74,252
Splake														
Landlocked Salmon			455,409	801	1,000	63	162,028	15,824	172,430	21,833	12,037	2,805	864,464	41,326
Coho					130,000	8,125							130,000	8,125
Chinook			1,999,790	22,607									1,999,790	22,607
Cold Water Total			3,014,549	32,472	1,486,093	54,183	915,488	67,382	573,049	77,439	2,191,506	609,799	8,179,665	841,265
Warm Water														
Walleye			211,698,000	3,649									212,254,082	4,381
Muskellunge			403,000	16							26,900	2,363	479,060	2,397
Tiger Muskellunge											100,680	8,982	136,460	9,076
Panfish											500	100	500	100
Warm Water Total			212,074,000	3,685							128,080	11,425	212,869,072	15,954
Rare/Threatened/Endangered														
Lake Sturgeon			7,400	25					500	32			12,000	139
Round Whitefish			10,500	4									10,500	4
Lake Herring			144,670	2,524									144,670	2,824
RTE Total			162,570	2,853	4,100	82			500	32			167,170	2,967
Grand Total			212,298,570	6,518	3,691,561	33,336	1,488,193	54,265	573,549	77,471	2,319,566	621,224	221,215,927	860,266

Summary of Fisheries, Creel & Angler Surveys

Survey Name	Purpose
Region 1	
Peconic River	Alewife Spawning Survey
Little River	Alewife Spawning Survey
Alewife Creek	Alewife Spawning Survey
Beaver Brook	Brook Trout Survey
Beekman Creek	Brook Trout Survey
Hempstead Lake	Fish Kill Survey
Peconic Lake	Centrarchid/ Community survey
Upper Lake	Post Dredging Survey
Upper Twin Pond	Centrarchid Survey
Halls Pond	TSMP
Grant park Pond	TSMP
Lower Twin Pond	Centrarchid Survey
Wantagh Mill Pond	Centrarchid Survey
Sandy Pond	Threatened Species
Unnamed Pond	Threatened Species
Fox Pond	Threatened Species
Connetquot River	Disease Monitoring
Hards Lake	Alewife Survey
Railroad Pond #1	Threatened Species
Lake Ronkonkoma	Vegetation/Water Chemistry
Lily Pond	Special Collections
Underhill Pond #1	General Biological Survey
Underhill Pond #2	General Biological Survey
Lake Ronkonkoma	Percid/Centrarchid Survey
Fort Pond	Percid/Centrarchid Survey
Swan Pond	Threatened Species
Ronkonkoma Swamp	Other- Loach (Invasive Species) collection
Region 2	
Bronx River Electrofishing Survey	
Collaborative Comprehensive Bx. River Survey	
Willow Lake Electrofishing Survey	
Meadow Lake Electrofishing Survey	
Oakland Lake Electrofishing Survey	
Prospect Park Lake Electrofishing Survey	
Willowbrook Lake Electrofishing Survey	
Tibbetts Brook Electrofishing Survey	
Flushing Airport Fish Survey	
Region 3	
Swinging Bridge Reservoir	Creel Survey
Ridgebury Lake	Invasive Species Eradication follow-up
Lake Minnewaska	Assessment of new introduction (bass and shiners)
Round Lake	Water Chemistry profile

Titicus Outlet	Trout population assessment
Kisco River	General Biological Assessment
Esopus Creek	Electrofishing evaluation of water release from Ashokan Reservoir
Swinging Bridge Reservoir	Percid Plan Walleye evaluation
Rio Reservoir	Percid Plan Walleye evaluation
Titicus Reservoir	Percid Plan Walleye evaluation
Region 4	
T16 Manor Kill	Invasive Fish Monitoring (O. weatherfish)
Goodyear Lake	General Biological Survey and TSMP Collection
Shingle Hollow Brook	Fish Kill Investigation
Little Pond	General Biological Survey
Mohawk River (with USGS) - contract	General Biological Survey
Canadarago Lake x2	Summer and Fall Percid Sampling
Schoharie Creek	Special Regs Evaluation
Upper Blenheim-Gilboa Reservoir	TSMP Collection
Unadilla River	TSMP Collection
Delta Pond	General Biological Survey
Blazer Pond	General Biological Survey
E. Greenbush Pond	General Biological Survey
Ouleout Creek	CROTS and General Biological Survey
Walloomsac River	General Biological Survey (Access)
North-South Lake	TSMP Collection
Onesquethaw Creek	CROTS Survey
Unnamed Waters (8 trout streams)	General Biological Survey (trout p/a)
Schoharie Reservoir	Fish Disease Monitoring
EB Delaware River (tailwaters)	General Biological Survey (trout)
Otsego Lake	General Biological Survey (salmonids), Fish Disease Monitoring
Hudson River	2014 Day on the Hudson Event
Poesten Kill	General Biological Survey
Mohawk River (with OEI) - contract	General Biological Survey
Region 5	
Lake Champlain	Rare/endangered species
Halfway Creek	CROTS survey
Panther Pond	Physical/Chemistry survey
Slush Pond	Whirling disease sampling
Lake Placid	Juvenile lake trout survey
Crane Mountain Pond	General biological survey
Little Clear Pond	Physical/Chemistry survey
Grass Pond	Physical/Chemistry survey
Lindsey Pond	Physical/Chemistry survey
Little Green Pond	Physical/Chemistry survey
Bone Pond	Physical/Chemistry/Post-liming survey
Rat Pond	Physical/Chemistry survey
Sunday Pond	Physical/Chemistry survey
Duell Pond	Physical/Chemistry survey

Meadow Pond	General biological survey
Lake Pleasant	Evaluate experimental stocking water
Bear Pond	General biological survey
Grass Pond	General biological survey
Schroon Lake	Juvenile lake trout survey
Ochre Pond	General biological survey
Paradox Lake	Juvenile lake trout survey
Federation Pond	Post-liming survey
Sunrise Pond	Post-liming survey
St. Germain Pond	Pre-liming survey
Echo Pond	Post-liming survey
Black Pond	Post-liming survey
Piseco Lake	Juvenile lake trout survey
Icehouse Pond	Post-liming survey
High Pond	Pre-liming survey
Panther Pond	Physical/Chemistry survey
Benz Pond	Post-liming survey
Bessie Pond	General biological survey
Nellie Pond	General biological survey
Lower Sargent Pond	Post-Reclamation survey
House Pond	Post-liming survey
Holmes Lake	Post-liming survey
Dunk Pond	General biological survey
Huntley Pond	General biological survey
Lake George	Population estimate
Ross Pond	General biological survey
Blue Ledge Pond	General biological survey
Pine Mountain Pond	General biological survey
Carter Pond	General biological survey
Unnamed (Upper Carter) Pond	General biological survey
Gulf Brook	General biological survey
Cheney Pond	General biological survey
Rock Pond	General biological survey
Little Rock Pond	General biological survey
Rock Pond	General biological survey
Hudson River	TSMP collection
Raquette Lake	Brood stock monitoring
Mountain Pond	Brood stock monitoring
Black Pond	Brood stock monitoring
Fishbrook Pond	Egg take
Lower Cascade Lake	Rare/endangered species
Region 6	
Barrett Creek	Connectivity Study
Bear Pond	Limed Waters Program
Big Hill Pond	Fish Disease Investigation

Black River	Lake-Run Salmonid Monitoring
Boottree Pond	Brook Trout Egg Take
Boottree Pond	Limed Waters Program
Brewer Lake	Limed Waters Program
Buck Pond	Limed Waters Program
Clear Pond	Limed Waters Program
Cleveland Lake	Limed Waters Program
Deer Pond	Fish Disease Investigation
Deer Pond	Brook Trout Egg Take
Delta Lake	Fish Disease Investigation
Delta Lake	Walleye Evaluation
Effley Falls Reservoir	Contaminant Collection
Elmer Falls Reservoir	Contaminant Collection
Hedgehog Pond	Limed Waters Program
Hidden Lake	Limed Waters Program
Fox Creek	Connectivity Study
Guffin Creek	Connectivity Study
Hawk Pond	Limed Waters Program
Horn Lake	Limed Waters Program
Hickory Lake	Bass Evaluation
Horse Creek	Connectivity Study
Horseshoe Pond	Limed Waters Program
Lake Ontario	Lake Sturgeon Evaluation
Lake Ontario	Warmwater Fish Stock Assessment
Lake Ontario	Lower Trophic Level Study (12 surveys)
Lake St. Lawrence	Warmwater Fish Stock Assessment
Little Hill Pond	Fish Disease Investigation
Little Otter Lake	Limed Waters Program
Long Lake	Limed Waters Program
Lyon Lake	Limed Waters Program
Moshier Reservoir	Contaminant Collection
Nicks Pond	Limed Waters Program
North Twin Pond	Brook Trout Egg Take
Oswegatchie River	Walleye Egg Take
Payne Lake (Jefferson County)	Walleye Evaluation
Payne Lake (Lewis County)	Limed Waters Program
Pine Pond	Limed Waters Program
Pitcher Pond	Limed Waters Program
Quiver Pond	Limed Waters Program
Raven Lake	Acidified Waters Survey
Red Lake	Walleye Evaluation
Round Lake	Limed Waters Program
Sandy Creek	Salmonid Evaluation
Slender Pond	Limed Waters Program
Soda Pond	Limed Waters Program

South Colton Reservoir	Contaminant Collection
South Twin Pond	Brook Trout Egg Take
St. Lawrence River	Lake Sturgeon Egg Take
St. Lawrence River	Lake Sturgeon Evaluation
St. Lawrence River	Esocid Monitoring
St. Lawrence River	Warmwater Fish Stock Assessment
Stony Creek	Salmonid Evaluation
Sunshine Pond	Limed Waters Program
Tamarack Pond	Limed Waters Program
Three Mile Creek	Connectivity Study
Townline Pond	Limed Waters Program
Twitchell Lake	General Biological Survey
101 Surveys DEC Regions 3-9	Rare Fish Assessment
Region 7	
Chittenango Creek	Creel
Ninemile Creek	Creel
Glacier Lake (Clark Reservation State Park)	General Biological Survey
Cazenovia Lake	Percid Sampling
Lake Moraine	Centrarchid Sampling
Dryden Lake	Centrarchid Sampling
Otisco Lake	Community Survey
Hunts Pond	Centrarchid Sampling
Owego Creek	Habitat assessment prior to improvement project
Cayuga Inlet	Juvenile Trout
Owasco Inlet	Juvenile Trout
Hemlock Creek	Juvenile Trout
Susquehanna River	TSMP
Whitney Point Reservoir	Percid Sampling
17 small streams in Chenango and Broome Counties	Potential reclassification as trout streams
Cayuga Inlet Fishway	Finger lakes Rainbow Trout egg take, fish passage, Sea Lamprey removal
Salmon River	Steelhead Egg Take
Salmon River	Salmon Egg Take
Cayuga Lake	Lake Sturgeon survey, Lake Trout Egg Take
Otisco Lake	Percid Sampling
Otter Lake	Percid Sampling
Region 8	
Conesus Inlet and Lake	Walleye Population Estimate
Seneca Lake	Monitor Fishing Tournament
Cohocton River	Evaluation of habitat improvement work (TU Project)
Canandaigua Lake	Lake Trout population survey
Black Creek	General Biological Survey
Springwater Creek	Rainbow Trout spawning run evaluation
Cold Brook	Rainbow Trout spawning run evaluation
Naples Creek	Rainbow Trout spawning run evaluation
Catherine Creek	Lamprey Control Evaluation / Rainbow Trout spawning run evaluation

Sleepers Creek	Lamprey Control Evaluation / Rainbow Trout spawning run evaluation
McClure Creek	Lamprey Control Evaluation / Rainbow Trout spawning run evaluation
Conesus Lake	Percid population survey
Spring Creek	Impact of Mergansers on Brown Trout Populations
Seneca Lake	Fish Community Survey
Birdseye Hollow Pond	Fish Kill Investigation
Queen Catharine March	Fish Kill Investigation
Lake Ontario (Pultneyville)	Fish Kill Investigation
Lake Ontario (Sandy Creek)	Fish Kill Investigation
Canandaigua Lake	Fish Kill Investigation
Seneca Lake	Fish Disease Monitoring
236 Various Tributaries	EBTJV Surveys
Region 9	
Red House Lake	Evaluate 50-day Walleye stocking program
Chautauqua Lake	Esocid sampling
Chautauqua Lake	Centrarchid sampling
Chautauqua Lake	Percid sampling
Lake Eire	Lake Sturgeon sampling
Upper Cassadaga Lake	Evaluate 50-day Walleye stocking program
Lower Cassadaga Lake	Evaluate 50-day Walleye stocking program
Niagara River	Fish community sampling
North Branch Wiscoy Creek	Third year post-habitat enhancement evaluation of trout population
Clear Creek - Arcade	Wild trout population estimate
Lime Lake Outlet	Wild trout population estimate
Cayuga Creek	CROTS survey
Canacadea Creek	CROTS survey and Fishkill investigation
Goodell Creek	Post-habitat restoration evaluation of trout population
Buffalo Creek tributary	Culvert assessment and trout population survey
Lake Ontario Research Unit	
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 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
Lake Erie Research Unit	
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, 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 Steelhead Smolt Out-migration Study	Sampling to assess size specific out-migration patterns of newly stocked steelhead in selected Lake Erie tributaries
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	Continue 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

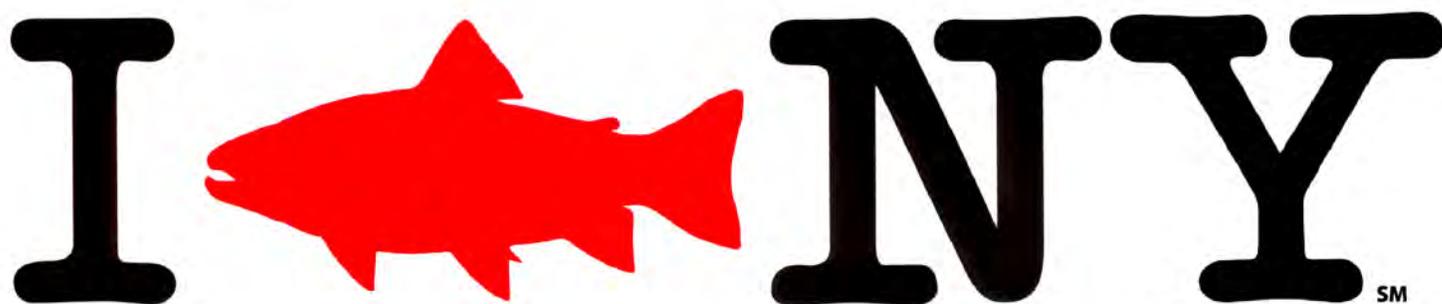
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2014 Public meeting series on the status of Lake Ontario fisheries (meetings held in March 2015 in Pulaski, Rochester, and Lockport).



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			5	143		13	130	63	57		411
Stocking	7		138	26	81	42	35	16	7		352
Triplod Grass Carp	2	1	208	241	36	47	268	355/361	650		1814
Overland Transport of Bait			10	6		6	6	15	12		55
Fish Possession (over daily limit)					2		2		1		5
Piranha		1	1				2				4
Baitfish			80	42		49	112	77			360
Temporary Revocable Permit (TRP)			3	1	37	5	18	13	4		81
Article 15 Issued/Reviewed		2	440	228	311			82	321		1384
Article 24 Issued/Reviewed	14		231	5	1	*561/814					1065
Pesticide Permit Review	30		31	24	19	6	31	10	12		163
Bass Hatchery Permits (C.O)										20	20
Trout Hatchery Permits (C.O)										31	31
License to Collect and Possess		4						4	10	3	21
Other:											
Trout/Salmon in the Classroom			59	25	2/4						90
Hydropower Relicensing						0/3					3
Adopt A Natural Resource											
Fish Removal											
Commercial Fishing (Great Lakes)										5	9
Triplod Grass Carp Importer/Supplier											

* Issued/Reviewed

RETIREMENTS

The Bureau of Fisheries would like to acknowledge the following recent retirees for their years of service to the Bureau and their contribution to the effective management of the freshwater fisheries of New York State.

Andy Gruelich
Salmon River Fish Hatchery



Lauren Watson
VanHornsville Fish Hatchery



Joe Galati
Region 9 Fisheries



Bill Schoch
Region 5 Fisheries



Mike Wilkinson
Region 9 Fisheries



Dan Zielinski
Region 4 Fisheries



Jennie Sausville
Region 5 Fisheries



Rich Preall
Region 5 Fisheries



Larry Wilson
Region 3 Fisheries

