



**Department of
Environmental
Conservation**

Division of Lands & Forests

Presentation to the NYS FWMB

September 20, 2018

5 Bureaus

Forest Preserve & Conservation Easements

Forest Resource Management

Invasive Species & Ecosystem Health

Real Property

Division Direction/Administration





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Forest Preserve & Conservation Easements

2.9 million acres of Forest Preserve, 2.6 in ADK
900,000 of Conservation Easements



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Recreation Management Plans

9 large Working Forest Easements

Cedarlands; Hyslop Tract; Perkins Clearing/Speculator
Tree Farm; Santa Clara; Croghan; Grass River;
Oswegatchie; Tooley Pond; Kildare



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Forest Preserve UMPs – Boreas Ponds

High Peaks Wilderness Area - Approved

Vanderwhacker Mtn. Wild Forests - Approved



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State Forests

797,000 acres – 79 Planning Units

10 years Green Certified by FSC & SFI



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State Forests

7,747 acres harvested (311 acres of clear-cuts)
\$9.4 million from sales



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Softwood Plantations
50,000 acres of plantations
Norway Spruce and Red
Pine much is 80 years old
About 1 billion board feet





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Private Lands – Restore-Regenerate NY

NYFOA Effort – too many Deer
No regeneration



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Urban & Community Forestry

NY has 132 Tree Cities

NY program served 15 million New Yorkers

Invasive Species & Ecosystem Health

EPF provides \$13.3 million for invasive species

DEC works closely with 8 PRIMS

Partnership for Regional Invasive Species Management

Contracted for 124 Boat Stewards



Invasive Species & Ecosystem Health

Hydrilla

Long Island

Croton

Ithaca –Cayuga

Tonawanda

Central NY Ponds



Invasive Species & Ecosystem Health

Spotted Lantern Fly

Adults found in Albany & Keuka

Working closely with DAM &

APHIS

Serious agriculture pest



Invasive Species & Ecosystem Health

Hemlock Woolly Adelgid (HWA)
2018-New find in Saratoga Co
Summer 2017 – Prospect Mtn
Adirondacks, “eradication”
Few high value stands treated
Partner with Cornell
Bio-control lab



Invasive Species & Ecosystem Health

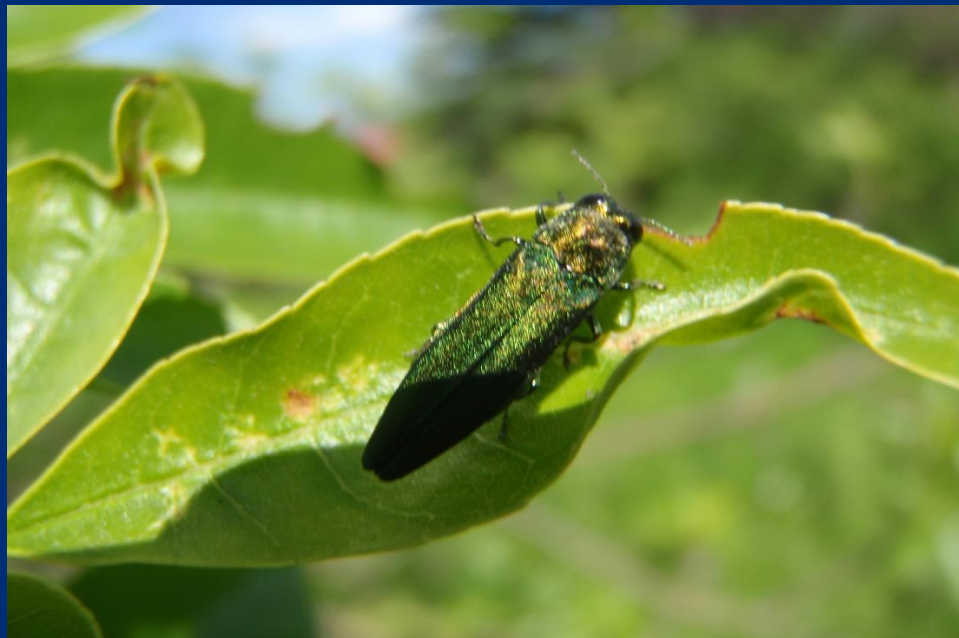
Emerald Ash Borer (EAB)

Quarantine lifted in NY

Widespread

Significant ash mortality

Just found in NH



Invasive Species & Ecosystem Health

Oak Wilt

New location in Bristol
LI, NYC, Schenectady,
Ontario County

Rapidly kills red oak

State – aggressively treats infected trees

Working with APHIS & Canada – Canadian Imports



Invasive Species & Ecosystem Health

Southern Pine Beetle (SPB)

Significant Mortality on
Long Island

Extensive mitigation
Project – thinning

Found in Albany Pine Bush
in 2017



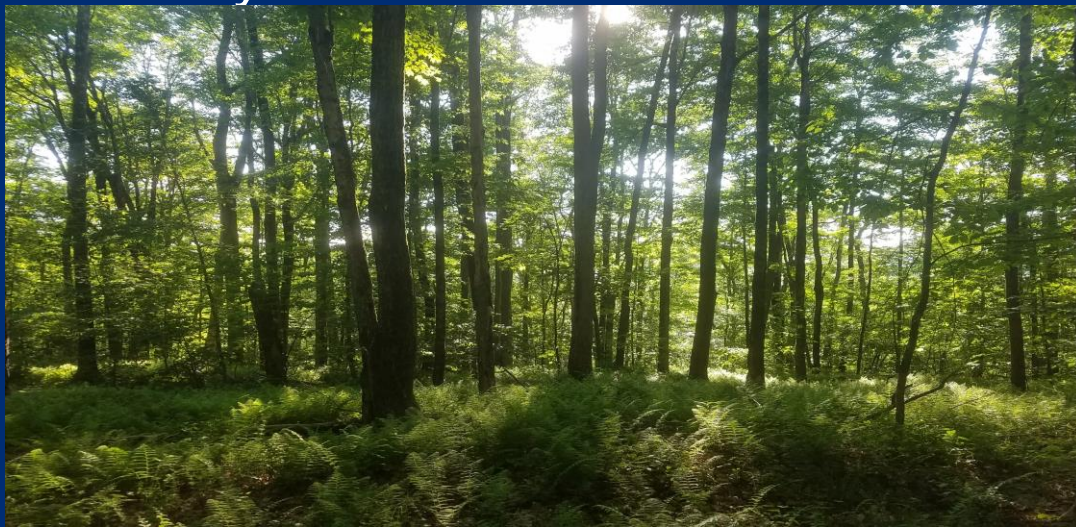
Real Property

Acquired 6,800 acres in 43 projects - \$17.1 million

55 additional projects under contract - \$10.4 million

Surveyed 575,000 feet of boundary line

Doodletown WMA



Boreas Ponds



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Wildlife- sometimes bold



Thank You

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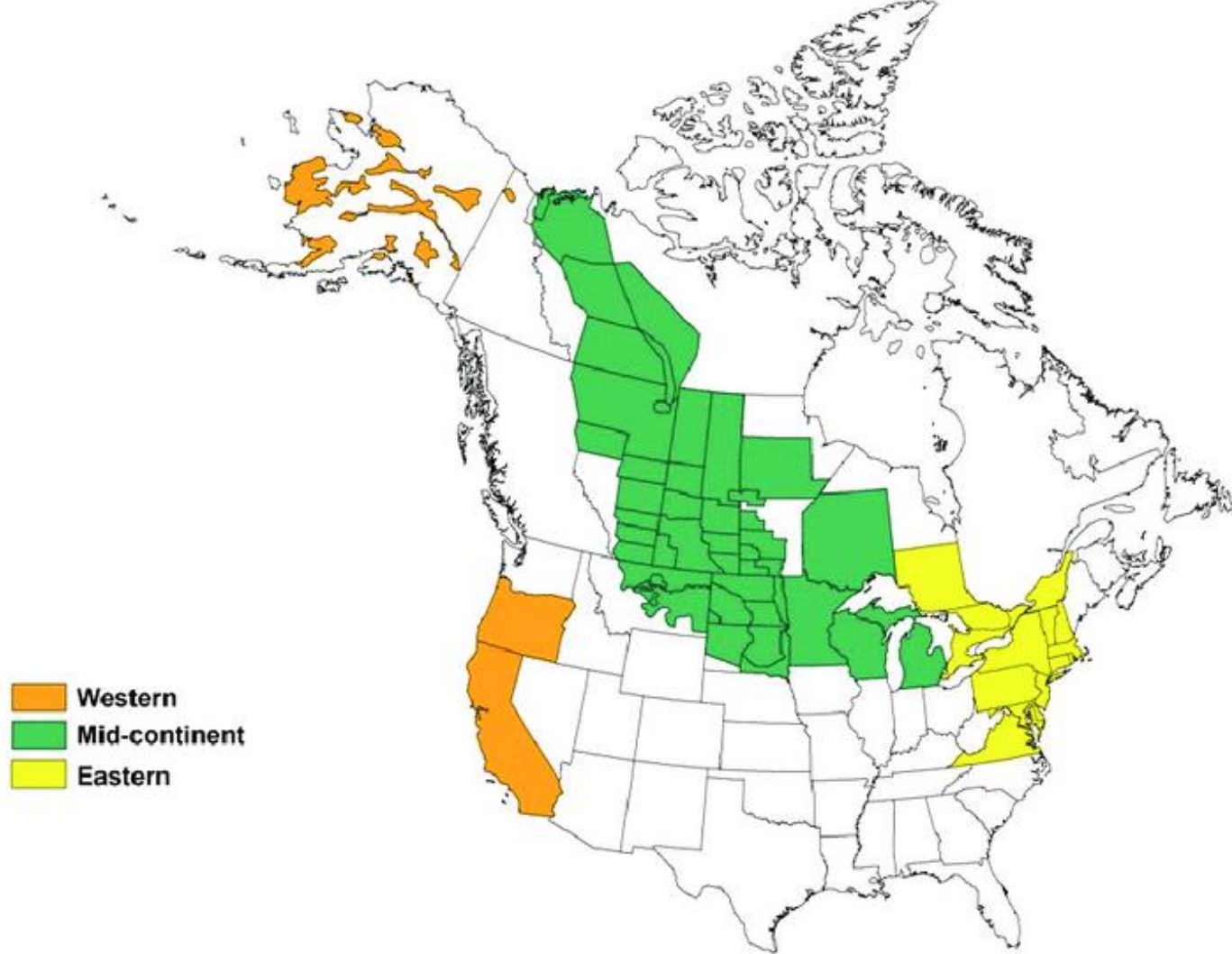
Multi-stock Management and Mallards

10/2/2018

Atlantic Flyway - Adaptive harvest management history

- 1985 – first attempt to separate regulations from mid-continent mallards
 - USFWS and AF agreed more data was needed
 - Cooperative banding and monitoring program initiated
- 1996 – Eastern Mallard Adaptive Harvest Management implemented



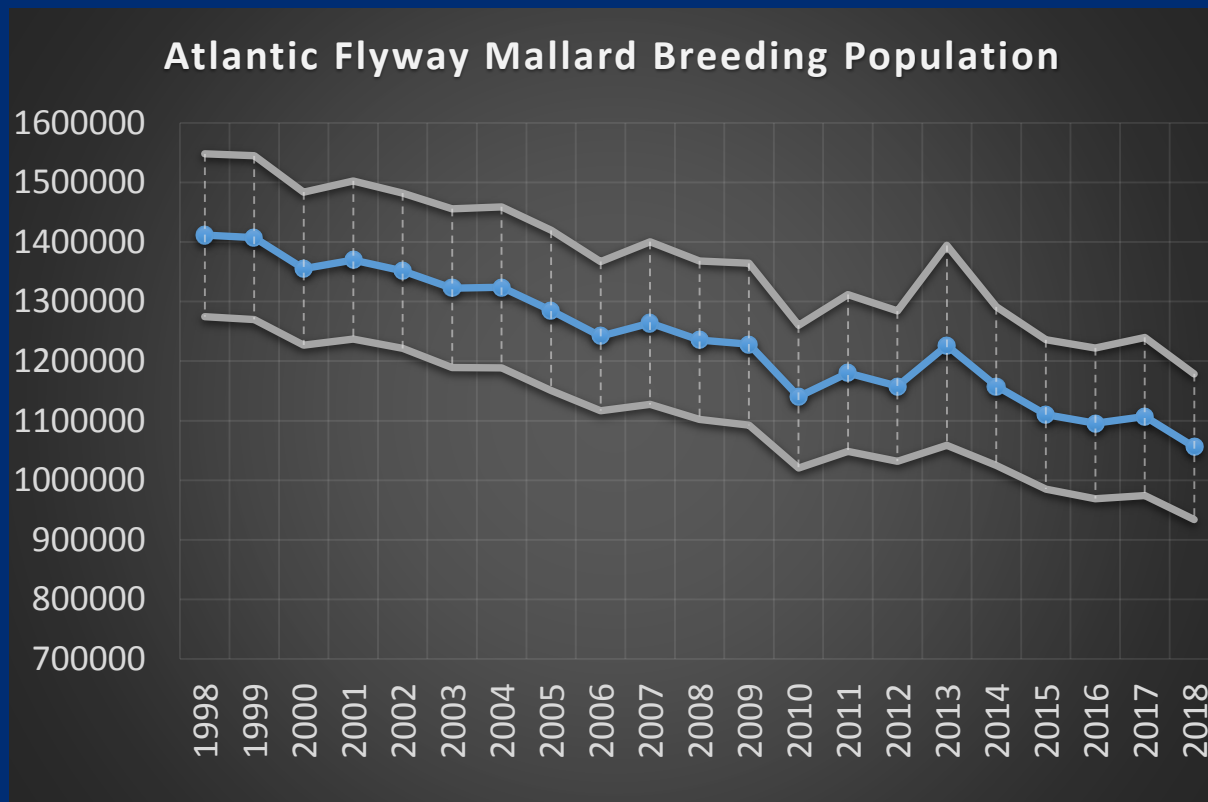


Atlantic Flyway - Adaptive harvest management

- 1997 through 2018
 - Eastern mallard-based decision
 - Assumes mallards represent all ducks in the Atlantic Flyway
 - 22 straight years of liberal seasons

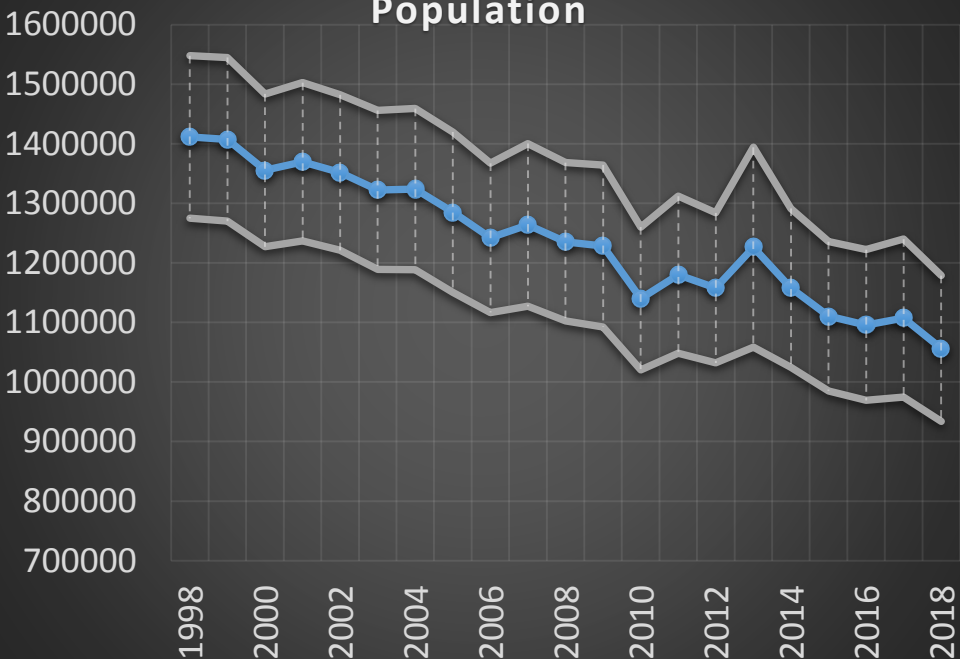


Why change?

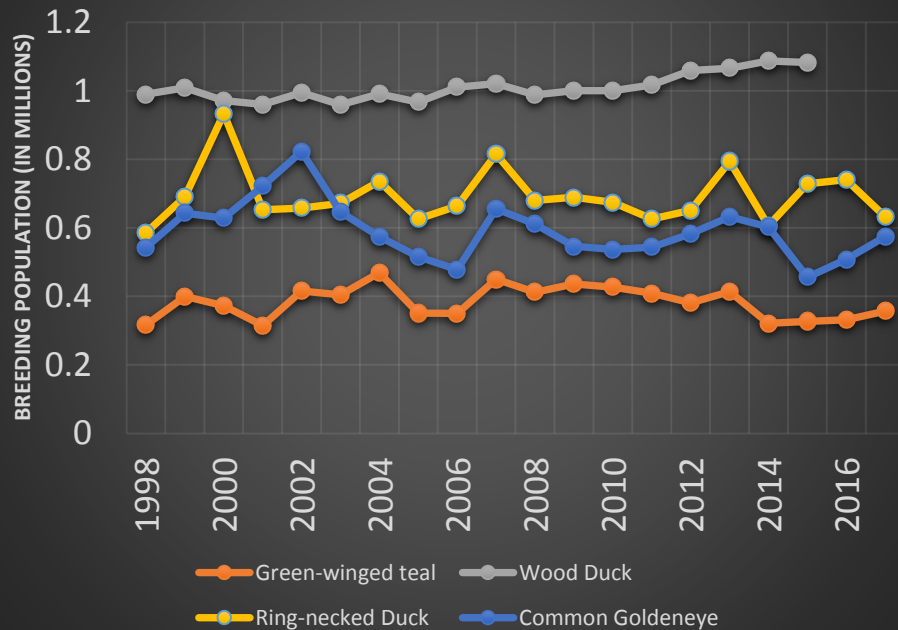


Why change?

Atlantic Flyway Mallard Breeding Population



Atlantic Flyway Multi-stock Breeding Population



Why change?

- Are mallards representative of all Atlantic Flyway ducks?
 - If not, what species are?
 - Wood Ducks
 - Ring-necked Ducks
 - American Green-winged Teal
 - Common Goldeneye
- Are human dimensions incorporated sufficiently?
 - How does season length/bag limits effect participation?
 - How does this effect harvest?



Objectives

- Sustain Atlantic Flyway duck populations at levels that meet legal mandates and demands for recreational uses
 - No species below level for sustainability
 - Harvest decisions based on representative species
- Maximize hunter satisfaction with harvest opportunity and regulations
 - No closed seasons
 - Maximize percentage of satisfied hunters
 - Simple regulations (reduce complexity)
 - Minimize annual regulation changes

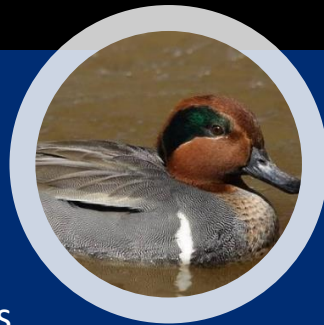


Table 1 – Regulatory alternatives for the 2019 duck-hunting season.

Regulation	Flyway			
	Atlantic ^{a,b}	Mississippi	Central ^c	Pacific ^d
Shooting Hours	one-half hour before sunrise to sunset			
	Opening Date			
Restrictive	October 1	Saturday nearest October 1		
Moderate		Saturday nearest September 24		
Liberal				
	Closing Date			
Restrictive	January 20	Sunday nearest January 20		
Moderate	January 31	Last Sunday in January		
Liberal				
	Season Length (days)			
Restrictive	30	30	39	60
Moderate	45	45	60	86
Liberal	60	60	74	107
	Bag Limit (total / mallard / hen mallard)			
Restrictive	3 / - / -	3 / 2 / 1	3 / 3 / 1	4 / 3 / 1
Moderate	6 / - / -	6 / 4 / 1	6 / 5 / 1	7 / 5 / 2
Liberal	6 / - / -	6 / 4 / 2	6 / 5 / 2	7 / 7 / 2

Anticipated season framework for 2019-2020

Atlantic Flyway Breeding Population (in millions)

Green-winged Teal	Wood Duck	Ring-necked Duck	Common Goldeneye	Regulatory Package
0.282	0.952	0.508	0.388	Restrictive
0.282	0.952	0.508	0.532	Restrictive
0.282	0.952	0.712	0.388	Moderate
0.282	0.952	0.712	0.532	Moderate
0.282	1.236	0.508	0.388	Restrictive
0.282	1.236	0.508	0.532	Restrictive
0.282	1.236	0.712	0.388	Liberal
0.282	1.236	0.712	0.532	Liberal
0.373	0.952	0.508	0.388	Restrictive
0.373	0.952	0.508	0.532	Restrictive
0.373	0.952	0.712	0.388	Moderate
0.373	0.952	0.712	0.532	Moderate
0.373	1.236	0.508	0.388	Restrictive
0.373	1.236	0.508	0.532	Liberal
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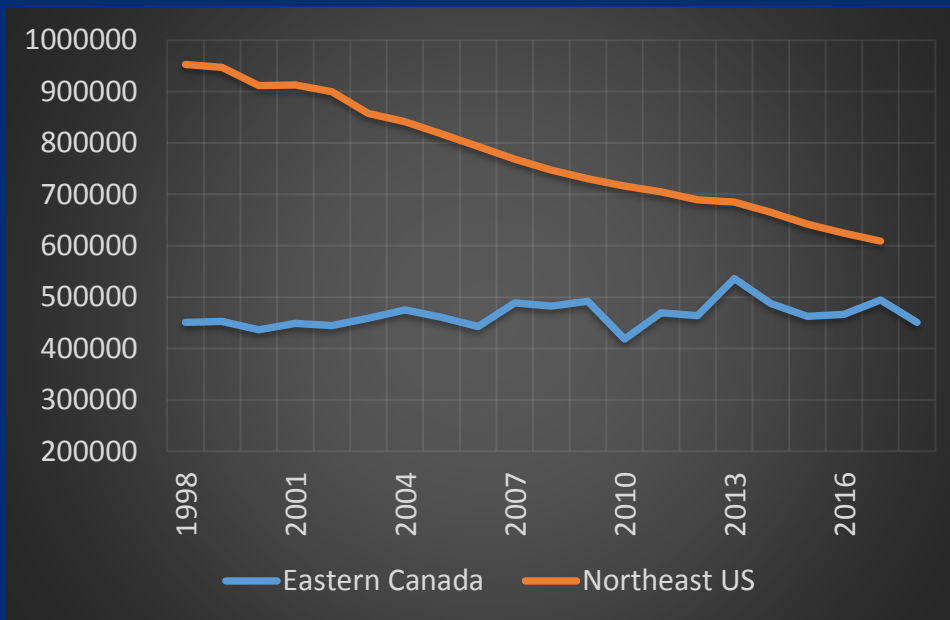
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Liberal	6 / - / -	6 / 4 / 2	6 / 5 / 2	7 / 7 / 2

What is happening with mallards?

- Breeding surveys provide the best estimate of waterfowl abundance
- 42% decline from 1998-2017 in the Northeast US
- Overall, decline ~1% per year since a 60-day, 6/duck seasons

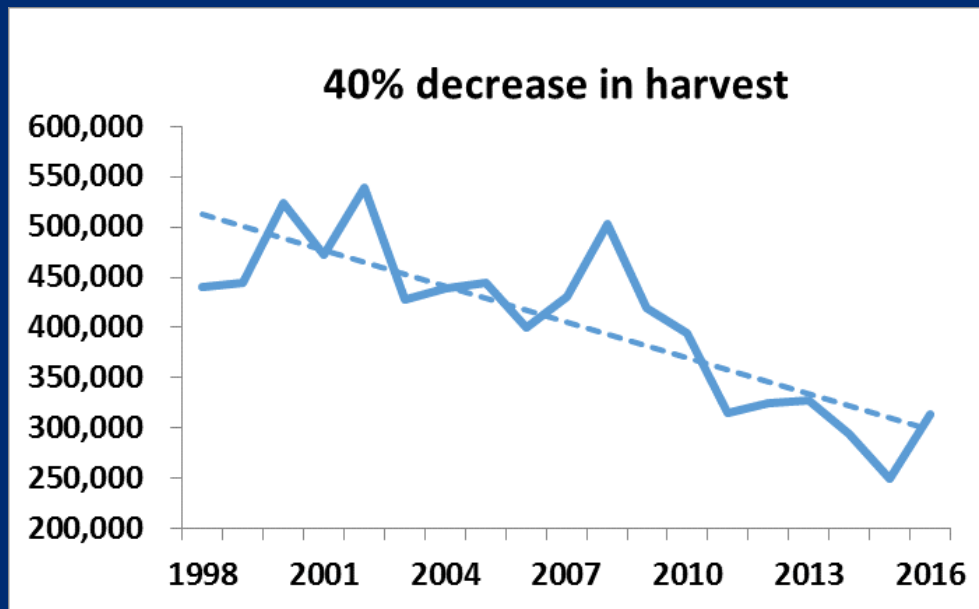
Atlantic Flyway Mallard Breeding Population Estimates, 1998-2017



Declining Eastern Mallards

- Harvest trends suggest a similar decrease as population estimates
- Population estimates from banding data suggest a similar declining trend

Atlantic Flyway Mallard harvest, 1998-2016



Why are mallards declining?



Overharvest?



**Large Scale
Habitat Change?**



**Captive Reared
Mallards?**

What will happen in the interim?

- Mallard bag limits will be reduced from 4/day to 2/day for the 2019-2020 duck season

- Biologists and researchers have begun work to develop a new harvest strategy for managing mallards



Thank You

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Fish and Wildlife Program Highlights - Fall 2018

Budget and Staffing

Staffing:

Division of Fish and Wildlife

- 299 permanent positions (306 in spring 2018)
- Approval to move forward with 21 permanent positions
- 49 seasonal positions converted to permanent positions @ 80%
 - Fish and Wildlife Technician 1s



Staffing:

Waivers from Hiring Freeze

Biologist 2 (Wildlife) – Albany, Hunter Education Coordinator

Biologist 3 (Wildlife) – Albany, Outreach and Communication

Biologist 1 (Ecology) – R2

Biologist 2 (Aquatic) – Lake Erie Unit Leader

Biologist 2 (Aquatic) – R1, Regional Fisheries Manager

Biologist 2 (Wildlife) – R2, Regional Wildlife Manager

Biologist 1 (Aquatic) – R6



Staffing:

Waivers from Hiring Freeze

Biologist 1 (Aquatic) – R9

Fish and Wildlife Technician 2 – R6

Administrative Specialist 2 – Albany

Administrative Specialist 1 – Albany

Environmental Chemist 1 – Hale Creek, contaminant analysis

Research Scientist 1 – Delmar, Wildlife Health Unit

Captain, Fisheries Research Vessel – Lake Erie Unit



Staffing:

Waivers from Hiring Freeze

Biologist 1 (Wildlife) – R8, big game biologist

Biologist 1 (Wildlife) – Albany, bird population monitoring

Fish Culturist 5 – Albany, hatchery infrastructure

Fish Culturist 3 – Salmon River Hatchery

Fish Culturist 3 – Rome Hatchery

Fish Culturist 3 – Caledonia Hatchery

Fish Culturist 1 – Randolph Hatchery



Staffing:

Seasonal Conversion (49)

Direction – 2

Ecosystem Health – 9

Fisheries – 5

Wildlife - 33



Staffing:

Seasonal Conversion (49)

Central Office – 12: License Sales (2), Ecosystem Health (1), Lake Ontario Unit (1), Wildlife (5), Wildlife Health Unit (1), Game Farm (2)

Region 1 – 4: Ecosystem Health (1), Wildlife (3)

Region 3 – 4: Ecosystem Health (1), Wildlife (3)

Region 4 – 5: Ecosystem Health (1), Wildlife (4)

Region 5 – 4: Ecosystem Health (1), Wildlife (3)

Region 6 – 5: Ecosystem Health (2), Fisheries (1), Wildlife (2)



Staffing:

Seasonal Conversion (49)

Region 7 – 3: Ecosystem Health (1), Fisheries (1), Wildlife (1)

Region 8 – 7: Ecosystem Health (1), Wildlife (6)

Region 9 – 5: Ecosystem Health (1), Fisheries (1), Wildlife (3)



Budget: Flat for 2018-19

Division of Fish and Wildlife

- General Fund: \$ 608,100 (OPS) \$4,281,555 (NPS)
- Conservation Fund: \$2,036,000 (OPS) \$2,991,745 (NPS)
- Federal Aid
 - Wildlife Restoration: \$22.6 M
 - Sport Fish Restoration: \$4.5 M (freshwater)
 - State Wildlife Grants: \$2.2 M



Hatchery Renovations

New York Works Funding

- NYW 3 - \$4 million
- NYW 4 - \$4 million
- NYW 5 - \$3 million
- NYW 6 - \$3 million
- NYW 7 - \$3 million



33 Projects Completed



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Game Farm Renovations



New York Works Funding

- NYW 5 - \$1 million
- NYW 6 - \$1 million
- NYW 7 - \$175,000



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Habitat and Access Stamp

Promoting Habitat / Access Stamp Sales:

- Goal – 25,000 2018 H / A Stamps (Barred Owl)
- “Stickers” – agents, State Fair
- Pins – State Fair
- Agent Incentives (recognition)
- Banner-ups – State Fair, top retailers
- Posters – (image of “stickers”)
- Social Media
- Change Call-out Box in DECALS



Promoting Habitat / Access Stamp Sales:

To date 2018 H/A Stamp Sales = **7,463**

To date 2017 H / A Stamp Sales = **2,816**

All-time high sales = **9,961** (in 2007)



BE A HABITAT HERO

2018 Habitat & Access Stamp



\$5
Invest in the future of
New York's wildlife habitat
and outdoor recreational
opportunities.

Whether you are an angler or hunter, birder or photographer, purchasing a \$5 Habitat & Access Stamp is the perfect way to preserve New York's wildlife heritage and increase public access for fish- and wildlife-related recreation.

For more information, talk to your NYSDEC license-issuing agent, or visit our website at www.dec.ny.gov



2018-19 Resident Habitat Stamp/Contribution

Artist by: Angela Brown



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Young Forest Initiative Update



Young Forest Initiative - **Progress**

38 Approved Habitat Management Plans

5 additional Habitat Management Plans pending approval

22 additional Habitat Management Plans in draft

28 Public meetings held (35 WMAs)



Young Forest Initiative - Progress

Inventories Completed (acres):

Region 3	(9,370)	(72%)
Region 4	(6,225)	(35%)
Region 5	(5,269)	(90%)
Region 6	(43,628)	(100%)
Region 7	(50,712)	(97%)
Region 8	(31,771)	(67%)
Region 9	(11,439)	(74%)
Total	(158,414)	(81%)



Young Forest Initiative - Progress

Inventories completed on 70 (77%) of WMAs

Inventories underway 8 additional WMAs (31,037 acres)

Inventories completed:

Bear Spring Mountain (R4), Capital District (R4), Tug Hill (R6), Little John (R7), Hamlin Marsh (R7), Oak Orchard (R8), Norther Montezuma (R8), Hanging Bog (R9)



Young Forest Initiative - Progress



Seed tree cut –
Rattlesnake Hill WMA –
R8



Prescribed burn – Louise Kier
WMA – R4



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Bureau of Fisheries Report to the Fish and Wildlife Management Board

September 21, 2018

Stephen S. Hurst, Chief of Fisheries



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Access

- **Mud Lock Boat Launch Site (Cayuga Lake)** – Awaiting contract approval from the Comptroller. Work should begin this fall.
- **Otisco Lake Boat Launch Site** – Working on final design. Work should begin next year.
- **Cove Road** – Development of a two lane launch and 60 trailer parking slots will begin in 2019.
- **A new boat launch site directory** was produced in conjunction with OPRHP.

Outreach and Fishing Education

- **Various brochures were produced since last fall**
 - Freshwater Fishing for Beginners
 - Wacky Rigging for Bass
 - Trout Fishing with Synthetic Bait
 - Steelhead Fishing in Great Lakes Tributaries
 - Trout Fishing in Streams
- Introductory fishing education programs and events were held across the State including a **fishing festival at the NYS Fair that drew over 1,000 participants.**

Fish Culture

- **Infrastructure work**
 - **Six-1 ton pick-up trucks purchased** for Adirondack, Bath, Oneida, Randolph, Salmon River, South Otselic. Two have been delivered (SO and ON) the other four are being built and will be delivered soon.
 - **Hydrogen peroxide storage areas** at Randolph H, Caledonia H, and Rome hatchery have been completed. Two storage containers were placed at Caledonia and Rome. At Randolph H an existing cold storage area was converted to store the hydrogen peroxide. This project was to comply with Dept. of Homeland Security regulations
 - **Four new fish pumps** were purchased for Salmon River H, Catskill H, Bath H, and Van Hornesville H.

- **Bath**
 - **Pond enclosures completed.**
 - **Feed building will be completed this fall.**
- **Caledonia**
 - A **single water outflow has been installed** so we could be in compliance to our SPEDES permit.
 - **Bid request for work on the building and raceways will be let next week (9/18).** Work expected to be completed before next summer.
- **Catskill**
 - **Concrete repairs on outdoor ponds almost near completion.**
- **Salmon River**
 - Developing plans for **replacing fish ladder.**
 - **Tearing down the denil sorter** soon.
 - **Residence renovation** of one house is nearing completion. When the first residence is completed work will start on the second one.
 - Many **visitor center improvements** were completed at the Salmon River H. A new ceramic tile floor was installed, new aquariums, new visitor desk and visitor displays, new lights, and new outdoor signs.
 - **New hatchery heating system** to be installed before winter.
 - A **new emergency generator** was installed at Salmon River H.
- **South Otselic**
 - **Residence renovations** should be completed later this month.
- **Adirondack**
 - Specifications for a comprehensive **monitoring and alarm system** have been completed. We hope to have a system in place by early winter.
 - The residence has been deemed structurally deficient and uninhabitable. **Plans for a new house are underway.**
- Staff at the Salmon River Hatchery experimented with grading steelhead into different size lots earlier this spring. The **fish grading resulted in increased and more uniform growth** (see technical brief attached).
- The Bureau is embarking on an experimental program to **refresh the hatchery system's brown trout brood stock.** Beginning in 2018, milt from wild fish will be used to fertilize domestic females to provide for greater genetic fitness and hopefully survival in higher quality stocked streams. A plan on this program will be finalized soon.

- *New hatchery management software used to track various aspects of hatchery operations including feed usage, inventories and chemical treatments to prevent disease is in the final stages of being developed. **The new hatchery software will increase efficiency and save money.** Phase two of the software will concentrate on the tracking of fish shipments and stocking.*

Inland Fisheries

- *A summary of the public meetings on trout stream management held last fall is now available at <http://www.dec.ny.gov/outdoor/114328.html>. Feedback obtained at these meetings will be used to inform the development of a **new trout stream management plan** for the State. We expect to have a draft plan ready for public comment by May, 2019.*

*The **top five take away messages** are that anglers value:*

- *high quality stream habitat, for better fishing and as a desired outcome in its own right*
 - *the opportunity to catch wild trout and to a lesser extent stocked trout that have been in the stream longer than freshly stocked trout*
 - *extended availability of trout stocked in streams*
 - *a diversity of distinct stream fishing experiences (stocked trout, wild trout, easy vs. challenging, etc.) and the information necessary to find them*
 - *management success to be based on more than just catch of trout per hour*
- ***44 walleyes were caught during a Skaneateles Lake netting this spring.** These walleyes are a product of illegal stockings. Multiple year classes were represented indicating that natural reproduction is most likely taking place. Expansion of walleye may result in a deteriorating rainbow trout fishery. Staff are in the process of evaluating the feasibility of various strategies to suppress these invasive fish.*
 - ***A revised bass and sunfish sampling manual has been developed** to guide staff sampling efforts for. The revision of the manual was a collaborative effort between DEC and Cornell University.*
 - ***The Bureau is now producing technical briefs for survey work conducted on the State's fisheries.** The intent is to ensure that data collected are analyzed and management conclusions are efficiently reported in a succinct form that is readily accessible on a long term basis. Although written for technical audiences, such as fisheries professionals, anglers will find many of the briefs useful as they contain information such as species presence, size distribution, and relative abundance for sportfish populations. See <http://www.dec.ny.gov/outdoor/112889.html> for more information and links to the briefs.*

- Fishing effort on **Oneida Lake** has been relatively low from May - July, but walleye **fishing has been excellent**, with a catch rate of over 1 fish for every 4 hours of fishing. In contrast, bass catch rates have been low; about ½ of what was seen last year, and the lowest since at least 2010.
- Work continues on implementing the [Fisheries Investigation Plan for the Delaware Tailwaters](#). Over 500 trout were handled during the July sampling event. A summary of the 2018 sampling efforts will be available this winter.
- **Thermal stress to trout in the Delaware Tailwaters was substantially mitigated during a severe early July heatwave** by enhanced releases made from a new “bank” of water dedicated to this purpose under the current Flexible Flow Management Plan (FFMP) negotiated in 2017. The new bank, while limited to 2,500 cfs days, allows DEC staff to quickly call for water to respond to potentially harmful conditions.
- **A revised NYS Lake Sturgeon Recovery Plan was released to the public in January.** The plan has broken the range of lake sturgeon in NY down into 7 Management Units. The plan sets a numeric target of at least 750 mature adults present and evidence of at least 3 years of natural recruitment within a 5-year period in 6 out of 7 Management Units. All Management Units have met the reproductive target, and 3 Management Units have met the mature adult population target. A full population assessment report is planned for later this year. We are confident that we will gather enough data by 2024 to support delisting of the species.
- **Natural reproduction of round whitefish** was detected in Bug Lake, a restored pond. This brings the number of stocked ponds that have begun natural reproduction to 3. Round whitefish have been stocked into 23 suitable Adirondack ponds and have survived in 18 of them. An additional 6 native ponds remain and are naturally reproducing. At this time, the recovery target is 10 reproducing ponds to warrant down listing to threatened.
- DEC boat electrofishing and gill net survey **catch rates of walleye in Chautauqua Lake are some of the highest on record**, primarily due to large year classes in 2014 and 2015. Both of these year classes are now recruiting into the fishery, providing exceptional opportunities for anglers. The lake’s muskellunge population is also doing well, with 305 adults captured during spring 2018 trap netting for the propagation program. Many (23%) of these fish were over 40”, and the largest was 50”.

Great Lakes Fisheries

- Preliminary results from the Lake Ontario Fishing Boat Survey indicate that fishing for Chinook salmon has been nothing short of excellent along the entire New York shoreline. **Chinook catch rates to date are the highest ever** recorded and 109% higher than the five-year average. Catch rates for all trout and salmon combined also reached a record high, 34% higher than the previous 5-year average.
- **Prey assessment** data collected from Lake Ontario this spring are being analyzed. Preliminary results from the 2018 spring whole-lake bottom trawl survey show:
 - A low to moderate year class of alewife was produced in 2017.
 - Growth and condition of alewife declined across all age classes

A decision on how many fish will be stocked in 2019 will be announced in early October. Three public meetings (Lockport, Rochester, Pulaski) will take place to discuss the status of the forage base.
- **Lake Erie walleye fishing was excellent** this summer, largely due to especially good hatches produced in 2015 and 2016. Walleyes currently dominating the catch are ranging between 15 to 18-inches.
- **New net pen rearing protocols have been developed for the Great Lakes Trout and Salmon Cooperative Pen Rearing Program.**
- Public comments have been assessed and the **Salmon River Fisheries Management Plan has now been finalized**. The 15-year management plan will be implemented through annual work plans that will be available to the public via the DEC website at <https://www.dec.ny.gov/outdoor/37926.html>.
- The Salmon River Restoration and Recreation Plan for the 1,700 acre Lower Salmon River State Forest has been finalized and **4 of the proposed in-river rock restoration structures were completed in summer 2018**. The projects were funded through the Lake Ontario Sportfishery Restoration Natural Resource Damage settlement and include 3 W-Weirs and one vane in the upper portion of the river. Two additional privately funded projects on privately owned portions of the river were also completed. DEC assisted with permitting and coordination for the private projects. USFWS partners designed and oversaw the construction of all of the projects.
- Design work has begun on **modifying the Springville Dam** on Cattaraugus Creek to provide for fish passage. Once completed this Lake Erie tributary will afford anglers 70 miles of fishing for steelhead. A fisheries management plan for the fishery above the dam has been drafted and will be available for public comment in October.

- *DEC held a series of meetings with Lake Ontario tributary and lake anglers. This “**Lake Ontario Fisheries Management Focus Group**” worked with DEC to tackle a number of fisheries management issues. Two more meetings are planned to complete a suite of management options to improve and sustain this high quality fishery.*

Direction

- *We are in the process of **developing a comprehensive work plan** to guide our Inland and Great Lakes fisheries management actions for the next five years.*
- *We will be **engaging the FWMB to discuss possible assistance** with gaining ingress and egress to existing PFRs that currently have no established access. We will also discuss the potential for having the FWMB assist in verifying access to stocking locations on private property.*
- ***Progress continues to be slow in regard to USFWS actions concerning cormorant control.** Two of four scheduled meetings across the country have been held to develop a cormorant/fish conflict framework and to begin identifying potential gaps in data associated with impacts on fish populations. DEC feels sufficient data exists and has asked for an interim solution while the current process takes place.*
- ***Significant progress has been made on the 2017 Statewide Angler Survey.** This is the first time DEC is using a web-based platform for the survey. The contractor is in the process of analyzing the data collected and a final report is expected by March, 2019.*

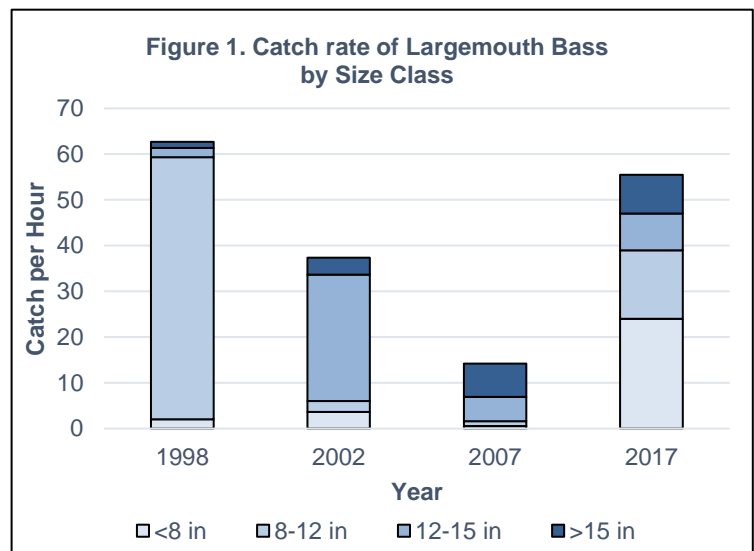
New Mill Pond Largemouth Bass Regulation Evaluation

Chart Guthrie, Region 1 Fisheries

12/12/2017

New Mill Pond, also known as Blydenburgh Lake, Stump Pond or Weld’s Pond, is a 111-acre impoundment of the Nissequogue River located in Blydenburgh County Park in the town of Smithtown on the north shore of Long Island. Boating access is provided via rowboat rentals by the county from Memorial Day weekend through Labor Day weekend, and as of 2014, hand launching of private boats is also permitted. New Mill Pond has long had a reputation for producing trophy largemouth bass. To provide anglers the opportunity to fish for bass year-round, a special regulation was established in 2002 to allow catch-and-release only from December 1 to the Friday before the opening of regular bass season on the first Saturday in June. To evaluate the impact of the regulation on the largemouth bass and panfish populations, pre-regulation surveys were completed in 1998 (Survey #: 198012) and 2002 (102008), and post-regulation surveys were conducted in 2007 (107004) and 2017 (117005). All four surveys were spring electrofishing surveys with at least four 15-min all-fish runs and two 30-min gamefish runs, except 1998 which had only one 30-min gamefish run. In addition, in 2017 three fyke nets were set for two nights each.

A total of 370 largemouth bass were captured during the four electrofishing surveys, ranging in size from 4.4 in to 22.2 in. The largest bass weighed 6.8 lbs (2017). Bass over 20 in were caught in 2007 and 2017, but not in 1998 or 2002. In 1998, the bass population was dominated by small fish with only 5% of the adult stock population over 12 in (PSD=5)ⁱ and 2% over 15 in (RSD_p=2) (Figure 1, Table 1). In 2002, the size structure improved dramatically, with nearly all fish 12 in or larger (PSD=92, RSD_p=11). In 2007, there was a higher percentage of bass over 15 in (PSD=93, RSD_p=53), but the catch rate (number of bass caught per hour) dropped substantially from 37 in 2002 to 14 in 2007. In 2017 the catch rate recovered to 55 and the population shifted to a more balanced size distribution (PSD=52, RSD_p=27; Figure 1).



Bluegill were the most consistently common panfish species with catch rates over 80 fish/hour in all four electrofishing surveys (Table 1). The size structure of this population has also been consistently good with PSDs over 40 through the time series. Yellow perch and pumpkinseed were also important panfish in New Mill Pond, both with catch rates exceeding bluegill in 2017. While electrofishing surveys indicated a shift in the size distributions of bluegill, pumpkinseed and yellow perch toward smaller fish (Table 1), the fyke net survey indicated that there were still substantial numbers of quality size bluegill and pumpkinseed and preferred size yellow perch.

There were three important changes in the fish community and habitat since the regulation change was implemented: 1) introduction of black crappie; 2) introduction of common carp; and 3) introduction of Hydrilla. Black crappie were first reported in New Mill Pond by Angler Diary Cooperators in 2001, but



were not confirmed in sampling gear until 2017 when 11 fish were caught in the electrofishing survey. The fyke net survey was much more effective, producing 339 crappie, most of which were quality sized (the largest was 13.6 in). Common carp were also first caught in 2017; six by electrofishing and three in fyke nets. Carp ranged from 24.9 in to 31.8 in, and all were kept for contaminant analysis. Hydrilla was first documented in New Mill Pond in 2008 and DEC Fisheries began annually monitoring it in 2012. It has steadily declined since then, going from being considered dense in almost 80% of the samples in 2012 to dense in none of the samples in 2017.

The implementation of the catch and release bass fishing season had no adverse effect on the bass population. In fact, the size structure of the consistently abundant bass population was more balanced in 2017 than in any of the other years surveyed. Largemouth bass will continue to be managed under the current regulation. Panfish also continue to thrive, providing anglers with excellent fishing opportunities. In addition, good-sized black crappie are now well-established in the pond and promise to add variety to the fishery. While the introduction of Hydrilla to the lake is troubling, it does not appear to be adversely affecting the fish community or the recreational opportunities on the lake. Posting signs to inform boaters about the risk of spreading aquatic invasive species is recommended.

Table 1. Catch per Unit Effort (CPUE^a) and size structure indices of sportfish and panfish from boat electrofishing surveys on New Mill Pond, 1998, 2002, 2007 and 2017.

Species	1998			2002			2007			2017		
	CPUE	PSD	RSD _p	CPUE	PSD	RSD _p	CPUE	PSD	RSD _p	CPUE	PSD	RSD _p
Largemouth bass	63	5	2	37	93	11	14	92	53	56	52	27
Bluegill	128	94	38	115	61	21	82	71	23	102	41	7
Pumpkinseed	17	100	31	83	24	2	24	67	27	108	26	1
Yellow perch	22	68	36	20	44	37	52	88	61	165	14	5
Black crappie ^b	0	-	-	0	-	-	0	-	0	11	-	-

^aCPUE is the catch rate (number of fish caught per hour).

^bAn additional 339 black crappie were caught in the 2017 fyke net survey. The CPUE was 57 per net night, the PSD=92, and RSD_p=7.

ⁱ PSD (Proportional Stock Density) and RSD (Relative Stock Density) are indices that allow for standardized comparisons of size classes of fish and provide measures of fish population balance. PSD is the percent of the stock sized population that are quality size, and RSD_p is the percent of the stock sized population that are preferred size. Populations of bass that are well-balanced (i.e., have good size distributions) have PSDs of 40-70 and RSD_ps of 10-25. Balanced panfish populations have PSDs of 30-60 and RSD_ps of 8-15.

Length categories for size structure indices for sportfish and panfish in New Mill Pond.

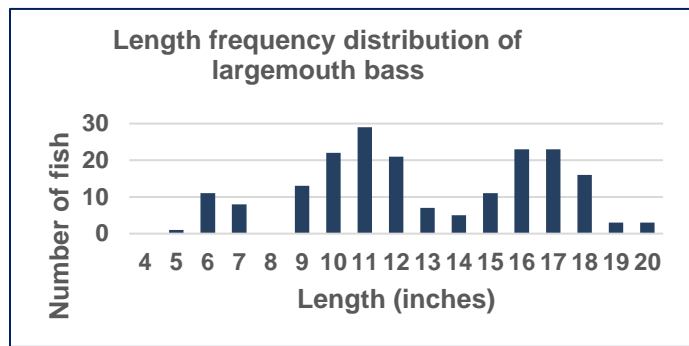
	Largemouth Bass	Bluegill & Pumpkinseed	Yellow Perch & Black Crappie
Stock	≥8 in	≥3 in	≥5 in
Quality	≥12 in	≥6 in	≥8 in
Preferred	≥15 in	≥8 in	≥10 in

Prospect Park Lake Centrarchid Survey (Survey #:217003)
 Melissa Cohen, Region 2 Fisheries

1/10/2018

Prospect Park Lake in the Long Island Sound watershed is the sole freshwater lake in Kings County (Brooklyn) open to the public. Its 55 acres are accessible to anglers only by shoreline and it was last stocked with bass and sunfish in 1999. As with other New York City (NYC) freshwater lakes and ponds, both New York State (NYS) and NYC angling regulations require catch and release of all fish. To monitor the status of Prospect Park Lake’s fish populations, fall boat electrofishing surveys have been performed biennially since 2010; but, in 2017, a spring survey was conducted on the evenings of May 8th and 9th.

A total of 835 fish of eight species were captured, with four carp and two American eels observed but not captured. Largemouth bass were good sized and abundant. The catch rates for largemouth bass twelve inches and longer (39/hr) and 15 inches and longer (29/hr) were greater than catch rates in 85% and 98% of similarsized NYS lakes, respectively. Size structure indicesⁱ (PSD = 54, RSD15 = 40) were indicative of a primarily balanced population, with a high proportion of large fish. These indices were also



high for black crappie (PSD = 89) and yellow perch (PSD = 67) indicating Prospect Park Lake’s fishery offers quality fishing for species other than largemouth bass. Average relative weights indicated largemouth bass to be in good condition, and the largest captured was 19.7 inches long and 4.8 lbs. Sunfish were abundant (Table 1) but none greater than eight inches were captured, similar to results of other NYC lake and pond electrofishing surveys. Relative weights for bluegill and pumpkinseed were above 100 suggesting the reason for this is not stunted growth but this should be confirmed through aging fish in future surveys. Survey results indicate that Prospect Park Lake should provide anglers with quality fishing opportunities for a variety of species, especially largemouth bass, black crappie and yellow perch.

Table 1. Number collected and length category catch rates for fish species captured during a boat electrofishing survey of Prospect Park Lake.

Species	Number collected	Length category catch rate (number caught/hour)					
		≥6in	≥8in	≥10in	≥12in	≥15in	≥18in
Largemouth bass	197	79	76	61	39	29	3
Pumpkinseed	127	90	0	0	0	0	0
Bluegill	343	150	0	0	0	0	0
Brown bullhead	3	3	3	2	1	0	0
Yellow bullhead	1	1	1	0	0	0	0
Black crappie	74	70	50	9	1	0	0
Golden shiner	18	16	10	0	0	0	0
Yellow perch	71	67	41	1	0	0	0

ⁱ PSD (Proportional Stock Density) and RSD (Relative Stock Density) are indices that allow for standardized comparisons of size classes of fish and provide measures of fish population balance. PSD is the percent of the stock sized population that are quality size, and RSD_p is the percent of the stock sized population that are preferred size. Populations of bass that are well-balanced (i.e., have good size distributions) have PSDs of 40-70 and RSD_{ps} of 10-25.



Swinging Bridge Percid Survey (Survey #:317025)

Michael DiSarno, Region 3 Fisheries

4/2/2018

Swinging Bridge Reservoir is located in southern Sullivan County in the towns of Thompson, Bethel, Lumberland and Forestburgh. This 889 acre reservoir is part of the Mongaup River Hydroelectric facility owned by Eagle Creek Renewable Energy, LLC. Eagle Creek provides public access to the reservoir with a boat launch located on the eastern shore. Gas motors are allowed, and a special fishing regulation applies, which limits walleye harvest with a three fish per day limit and 18 inch minimum size. Ice fishing is permitted. Walleye were stocked from 1993 until 1998, and once stocking ceased a natural population of walleye was found to occur. Fall boat electrofishing surveys, following methods in the Percid Sampling Manual (Forney 1994), have been conducted most years since 1998 to document fall young of year walleye resulting from stocking or natural reproduction. This was continued in 2017 with a boat electrofishing survey conducted for 3.05 hours on the night of 10/26/17, targeting gamefish only.

A total of five species of gamefish were collected including black crappie, chain pickerel, largemouth bass, smallmouth bass and walleye. A total of three walleye were collected (1/h), which were 18-20 inches long. No young of year walleye were collected during this survey, which is similar to results seen since 2012 (Table 1).

Smallmouth bass were the most abundant species collected at 19/h. This was just below the statewide mean of 23/h (Brooking et al. 2018). Smallmouth bass ≥ 11 inches were caught at 4.9/h, which is near the statewide mean of 5. Most smallmouth bass collected were six to eleven inches (Figure 1). Catch rates for largemouth bass of all sizes was 3.9/h, which is well below the statewide mean of 49/h.

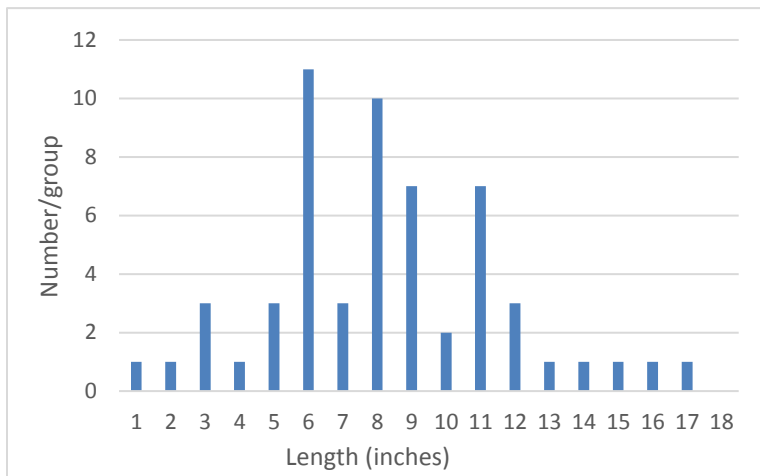


Figure 1: Smallmouth bass length frequency distribution.

Overall, the 2017 spawning year class of walleye appears to have failed, with no young of year walleye collected. Walleye abundance is likely low, given the low electrofishing catch rates and no young of year walleye documented since 2011. The likely cause of the failed reproduction of walleye is the presence of alewife which are known to feed on young walleye soon after hatching. Yearly fall boat electrofishing should continue to monitor walleye abundance. If improvements in walleye abundance are not seen, a yearly stocking policy could be considered to improve catch rates. Smallmouth bass catch rates were near the statewide mean for fall boat electrofishing, indicating moderate abundance. A dedicated springtime centrarchid survey should be conducted here within the next five years to determine black bass abundance. Springtime centrarchid sampling has never been conducted here.

Table 1: Total number and catch/size group of walleye caught during fall boat electrofishing surveys conducted since 1998.

Date	Total Caught	#/h	Total Number Caught/Size Group (inches)						
			0 to 6	6 to 9	9 to 12	12 to 15	15 to 18	18 to 21	≥21
10/26/2017	3	1.0						3	
11/17/2016	2	0.9					1		1
10/29/2015	1	0.3						1	
10/16/2014	6	2.2					3	2	1
10/17/2013	9	3.8						8	1
10/3/2012	4	1.7					1	3	
10/18/2011	17	9.0		1	1	2	8	3	2
10/21/2009	36	20.5		5	28	1	2		
10/14/2008	77	35.6		34	14	25	2	1	1
10/24/2007	85	27.8		9	67		5	3	1
10/13/2004	221	182.6		204	1	1	10	5	
10/9/2003	24	9.6		5		8	6	3	2
10/11/2001	217	81.9	11	197			1	6	2
10/25/2000	110	26.3		66	9	1	21	11	2
10/6/1999	3	0.7					3		
10/7/1998	14	2.3				6	3	3	2

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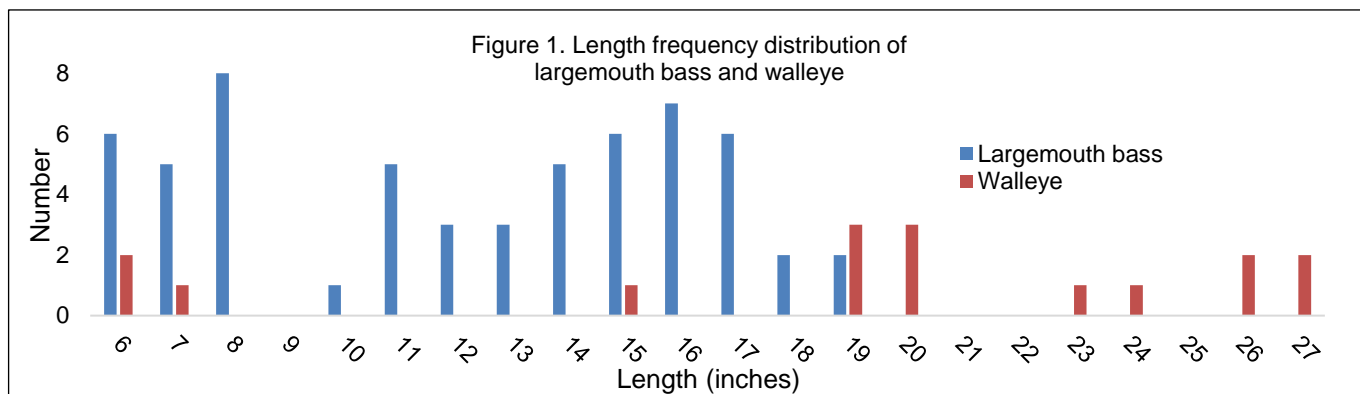
Annual Fall Canadarago Lake Bass/Walleye Survey (Survey #:417077)

Scott Wells, Region 4 Fisheries and Jeff Loukmas, Warmwater Fisheries Unit

1/17/2018

Canadarago Lake is a 2,000 acre headwater lake in the upper east branch of the Susquehanna River located in Otsego County, NY. This eutrophic lake supports a diverse assemblage of warmwater sportfish, including walleye, largemouth bass, smallmouth bass, tiger muskellunge and chain pickerel. Yellow perch, sunfish and alewife are the most common forage species. Alewife were first reported in 2006 and have increased in abundance in recent years, negatively impacting walleye recruitment due to fry predation. To maintain the popular walleye fishery, NYSDEC established an experimental stocking program in 2014 comprised of both pond raised and intensively raised (50-day) fingerlings, stocked at 20/acre each. Also, in 2017, the walleye harvest limit was changed from the statewide regulation to 18 in minimum size and 3 fish/day. After a three-year hiatus, annual tiger muskellunge stocking resumed in 2015 to provide additional trophy fishing opportunities. A survey using DEC’s draft revised black bass and sunfish sampling methods was conducted on November 2, 2017 to assess the status of warmwater sportfish populations in the lake, with a focus on black bass and walleye. The survey was a collaborative effort among NYSDEC, SUNY Cobleskill and SUNY Oneonta, comprised of four electrofishing boats, each concurrently sampling ¼ of the lake’s shoreline on a mild evening.

A total of 963 fish and 24 species were collected. The most numerous sportfish was largemouth bass; 78 were collected with a good size distribution ranging up to 19.6 in (Figure 1). The catch rate of largemouth bass ≥ 12 in was 6/h (Table 1), which is slightly below the statewide average of 8/h for fall surveys. Largemouth bass were in good condition with weights ranging up to 4.5 lbs. Chain pickerel were also common; 46 were collected and 18 of these were legal size (≥ 15 in). Only six smallmouth bass were collected, the largest of which was 18 in and 3.1 lbs. Sixteen walleye were collected, but only three were stocked young of the year (YY). Adult walleye ranged from 15 – 27 in and the largest was 8.7 lbs. Only one tiger muskellunge was collected – a recently stocked YY fish that was 12.4 in long. Yellow perch, bluegill, pumpkinseed, and rock bass were commonly collected panfish (Table 1).



The largemouth bass population is doing well in Canadarago Lake and should provide quality fishing opportunities for years to come. The black bass fishery will continue to be managed under the statewide fishing regulation. Not enough walleye were collected to determine the status of the population, but the capture of several YY fish in this survey and during a subsequent forage fish gill netting indicate that at least some stocked fish survived. However, the low number of young fish collected is an indication that the high density of alewife in Canadarago Lake continues to impact walleye recruitment. The current stocking program will continue through 2020 and will include annual monitoring. The more protective



special regulation will be maintained for walleye until recruitment to age 3 is improved. Also, despite the lack of tiger muskies in the survey, anglers are occasionally reporting catches and this stocking program will continue. There is also a variety of quality sized panfish that adds to this lake's diverse warmwater fishery. It should be noted that sportfish collections, particularly for walleye and smallmouth bass, may have been affected by clear, calm conditions, and rapid surface water cooling just before the survey, which may have caused these fishes to seek deeper water.

Increased predator stocking in the lake will hopefully reduce alewife numbers and result in a more balanced warmwater fishery for anglers to enjoy. The 2016-2017 ice fishing season was the first since 2010 where a notable number of preferred size yellow perch were being caught, a good sign of positive changes in the fish community. A summer gill net survey scheduled for 2018 is expected to better evaluate the new stocking strategy.

Table 1. Numbers of fish and their length category catch rates for eight fishes captured in Canadarago Lake on November 1, 2017.

Species	Number collected	Time (h)	All sizes	Length category ⁱ catch rate (fish/hour)			
				YOY	≥Stock	≥Quality	≥Preferred
Largemouth bass	78	5.3	13.7	3.3	8.3	6.0	4.0
Smallmouth bass	6	5.3	1.1	0.4	0.2	0.2	0.2
Chain pickerel	46	5.3	8.1	1.4	4.2	3.2	1.4
Walleye	16	5.3	2.8	0.5	2.3	2.3	1.8
Pumpkinseed	136	1.3	112.6	5.9	80.7	25.2	0.8
Bluegill	124	1.3	98.3	36.1	62.2	17.6	2.5
Yellow perch	219	1.3	174.8	0.8	119.3	36.1	7.6
Rock bass	58	1.3	44.5	5.9	33.6	13.4	9.2



Canadarago Lake survey crews from NYSDEC, SUNY Cobleskill, and SUNY Oneonta, November 2, 2017.

ⁱ Length categories for sportfish and panfish in Canadarago Lake.

	Largemouth bass	Smallmouth bass	Walleye/ Chain pickerel	Bluegill/ Pumpkinseed	Yellow perch	Rock bass
Stock	≥8 in	≥7 in	≥10	≥3 in	≥5 in	≥4 in
Quality	≥12 in	≥11 in	≥15	≥6 in	≥8 in	≥7 in
Preferred	≥15 in	≥14 in	≥20	≥8 in	≥10 in	≥9 in

Unnamed Water General Biological Survey (Survey #517019)

Robert Fiorentino, Region 5 Fisheries

2/5/2018

Unnamed pond P5297 in the town of Johnsbury in Warren county is a 5.7-acre water that has never had its fish population surveyed. The pond is entirely on state land within the Wilcox Lake Wild Forest. The pond can be accessed from Armstrong Road but there is no trail or sign. The pond was added to the baitfish prohibited waters list in 2002 to reduce the risk of nonnative fish being introduced into the pond and because a cursory desktop assessment indicated it might be a candidate for brook trout restoration via reclamation.

A netting survey was conducted to document what species of fish were present in the pond. One Swedish Experimental gill net with six variable mesh panels 25 ft. each in length for a total of 150 ft., a metal frame minnow trap and a multifilament 30 ft. x 5 ft., 0.75" minnow net were used to sample the fish community. The nets and minnow trap were set for one net night. Only brown bullhead and common shiners were captured during the survey. The total catch per gear type along with minimum and maximum fish lengths are presented in Table 1.

Table 1. Total catch for each gear type for one net night in Unnamed Pond P5297.

Gear	Species	Total	Minimum length (in)	Maximum length (in)
Minnow trap	Common shiners	27	2.5	3.7
Minnow trap	Brown bullhead	3	4.8	5
Minnow net	Brown bullhead	47	4.2	6.3
Experimental net	Brown bullhead	26	4.7	7.2

It was found that the surface temperature of the pond during the survey was 58°F. A summertime temperature and dissolved oxygen profile should be conducted to determine the pond's management class for the unit management plan, and to determine if it is suitable for trout stocking. Until that time, the pond will be managed to maintain its current native fish community.

While conducting the fisheries survey a pre-reclamation survey was also conducted. An extensive wetland complex associated with beaver activity was documented on the East side of the pond. There was also no suitable site to construct a fish barrier on the outlet of the pond. These findings preclude the pond from being reclaimed to create a native brook trout monoculture. As such, it is recommended that the pond be removed from the baitfish prohibited waters list as it is no longer warranted.

Bug Lake Round Whitefish Stocking Evaluation (Survey #517918)

Eric Maxwell and Doug Carlson, Region 6 Fisheries

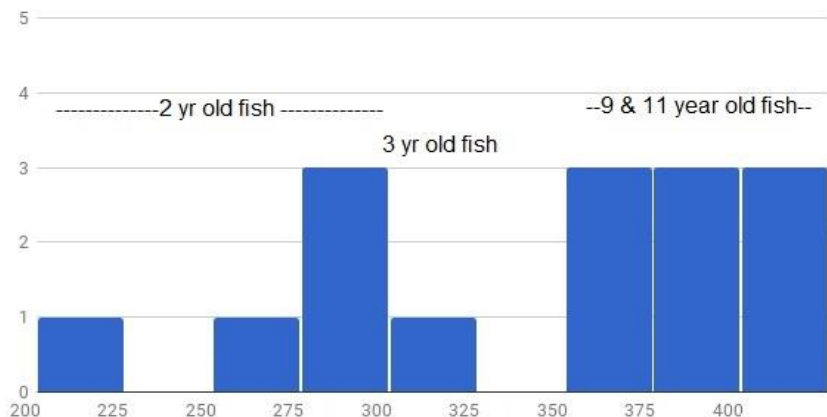
06/07/2018

Bug Lake is an 88.5-acre pond and has a maximum depth of 75 ft. It is in the Black River watershed in Hamilton County and can be accessed on a hiking trail one mile from the Eighth Lake Campground, and canoes are often carried-in. Bug Lake is one of 19 ponds in the Adirondack region that were chosen by the DEC for stocking of the state endangered round whitefish (*Prosopium cylindraceum*) based on its status as a historic water and current acceptable pH (Steinhart 2007). Round whitefish were endemic to this pond until the pond became compromised by invasive species and was then treated with rotenone in 1957 to remove all fish. Following reclamation, Bug Pond was stocked with cold water sportfish, including sockeye salmon (*Oncorhynchus nerka*), lake trout (*Salvelinus namaycush*), and brook trout (*Salvelinus fontinalis*). Fathead minnow (*Pimephales promelas*) were documented in lake trout stomachs in a 2011 survey, and there are anecdotal reports of rainbow smelt (*Osmerus mordax*), golden shiners (*Notemigonus crysoleucas*) and northern redbelly dace (*Chrosomus eos*) having been present at the time of a 1995 survey. Rainbow smelt are considered competitors of round whitefish, and golden shiners are competitors of brook trout.

A 2005 survey of Bug Lake with 18 gill net sets detected no round whitefish, but lake trout, brook trout and sockeye salmon were collected. Subsequently, DEC stocked Bug Lake with 1,700 and 1,200 young of year round whitefish in 2006 and 2008, respectively. Additional gill net surveys that confirmed survival of the two stockings were conducted in 2011 and 2013, but no unstocked year classes were detected at that time.

In August 2017, a single overnight gill netting effort was undertaken to sample for round whitefish survival and recruitment. Fifteen round whitefish were caught, of which six were wild recruits, between 8.0 and 12.0 inches (202 and 303 mm) total length. The remaining nine were stocked 9- or 11-year old fish between 14.2 and 16.3 inches (360 and 413 mm) total length. Otoliths were collected from seven representative fish and used to assign age-length categories for all fish captured. Length-at-age data indicates favorably fast growth. In addition to the round whitefish, nine brook trout 8.0 to 17.8 inches (204 to 452 mm) and nine lake trout 21.1 to 26.0 inches (535 to 660 mm) were caught. A large school (200+) of fathead minnows, including several

Figure 1. Number of Round Whitefish in size groups, as total length (mm), and estimated ages caught in Bug Lake, 2017.



apparently leucistic or albino individuals, was additionally observed near the shoreline of the lake, confirming the previous observation from 2011. No rainbow smelt, golden shiners, or sockeye salmon were captured in the current survey. However, a large sockeye salmon was reported by an angler earlier in the summer and the last one to be stocked was 2001, indicating natural reproduction is likely occurring.

Figure 2. The smallest Round Whitefish (202 mm) caught in Bug Lake, a wild 2-year old recruit.



Although this lake was only stocked with round whitefish on two occasions, this species appears to be thriving here. The presence of two- and three-year old round whitefish documents that natural reproduction has been achieved. The Round Whitefish Recovery Plan contained within the Steinhart (2007) report has a goal of 10 naturally reproducing round whitefish populations in New York Waters. The documentation of reproduction in Bug Lake brings the current total number of self-sustaining populations to nine. Continuing management actions should include posting signs for anglers about this special species to heighten awareness (protected from harvest) and possibly reduce chances for bait bucket releases of more invasive species.

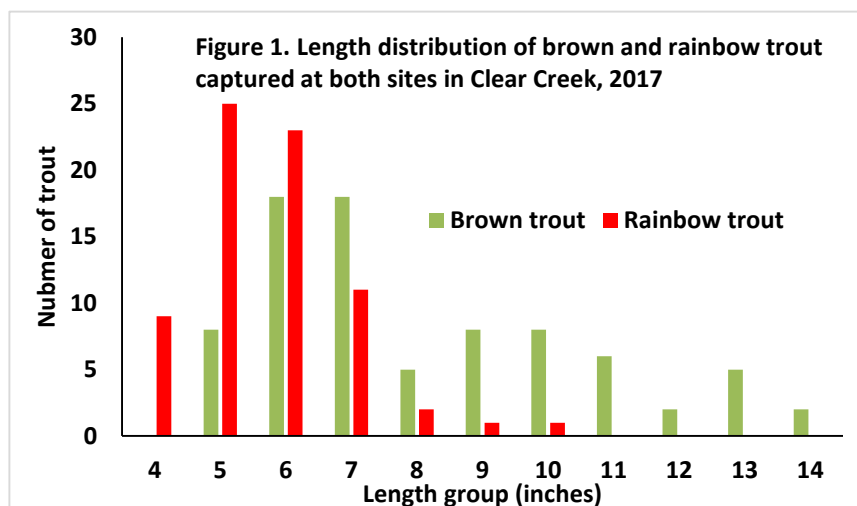
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Clear Creek (Arcade) Trout Population Estimate #917028
 Scott Cornett, Region Nine Fisheries

7/15/18

Clear Creek is a tributary of Cattaraugus Creek in northeastern Cattaraugus and southwestern Wyoming Counties, providing a high-quality fishery for wild brown and rainbow trout. This stream has abundant access, including 5.5 miles of public fishing rights easements. Clear Creek has been managed solely as a wild trout fishery since 1992, with a nine-inch minimum size limit and fishing allowed year-round. The year-round season includes catch and release – artificial lures only from 10/16-3/31. In 2017, as part of region-wide trout population monitoring, the stream was sampled by electrofishing at two sites. One was located approximately 1.5 miles above its mouth and the other at the junction of NYS Route 98 and Sandbank Road. Combined, they totaled 1,000 feet of stream. Both sites had been sampled previously each year from 1995 to 1998 and in 2000, 2002, 2007, 2014 and 2016. In all years, trout population abundance was estimated from two electrofishing passes.



In 2017, at our two sites combined, we captured 80 yearling and older (adult) wild brown trout along with 72 adult wild rainbow. Adult brown trout ranged in length from 5-14.8 inches (Figure 1), with an average length of 8.5 inches. Adult rainbow trout averaged 6.1 inches and ranged in length from 4-10.6 inches. Adult brown and rainbow trout abundance in 2017 at our site 1.5 miles above the mouth was 500 fish/mile and 175

fish/mile, respectively (Table 1). At our site at Sandbank Road in 2017, the abundance of adult brown trout was 303 fish/mile and 684 fish/mile for adult rainbow trout (Table 1).

At the site 1.5 miles above the mouth, adult brown trout abundance in 2017 was slightly reduced from 2016, but higher than we measured in 2007 and 2014 (Table 1). Also at this site, after peaking at over 1,200 fish/mile in 2007, adult rainbow trout abundance dropped back to much lower levels in 2016 and 2017. These abundances were well below what we found in 1995-2014. This decline in adult rainbow trout (and the less substantial decline in adult brown trout) agrees with reductions in abundance observed for many other Region Nine streams in this time period. Potential causes are increased predation and reduced reproductive success from impacts of high flows in critical periods through the winter and spring. Similarly, at the site at Sandbank Road, the abundance of adult brown trout in 2017 was lower than any sampling year, except 1997 and 2014 (Table 1). Conversely at this site, the adult rainbow trout abundance was intermediate between the higher and lower abundance sampling years and a considerable increase over what



Clear Creek (Arcade) Trout Population Estimate #917028
Scott Cornett, Region Nine Fisheries

7/15/18

we found in 2016. At this site in 2016, we captured a very high number of young-of-year rainbow trout, which showed up as yearlings in our 2017 sampling. At most streams and sites sampled in Region Nine in 2017, reproduction of brown and rainbow trout was found to be very poor. This was also the case in Clear Creek with no rainbow trout young-of-year found at our lower site and a low number at the upper site. Brown trout young-of-year were at very low numbers at both sites.

Based on this year’s sampling, it appears Clear Creek will continue to provide good fishing in 2018 for anglers wishing to pursue wild brown and rainbow trout, with the highly catchable rainbow trout providing much of the catch. In the long-term, with planned steelhead passage at the Springville Dam on Cattaraugus Creek, Region Nine and Lake Erie Unit staff are monitoring the wild trout population in this stream to assess any impacts to the fishery from expected reproduction of steelhead and increased angler use. This monitoring will determine whether we continue to manage Clear Creek with its current regulations and no-stocking policy.

Table 1. Adult wild brown and rainbow trout population estimates (fish per mile) for Clear Creek (Arcade), 1995-2017.

Year	Site 1.5 mi. above mouth (fish/mile)		Site at Sandbank Rd. (fish/mile)	
	Brown trout	Rainbow trout	Brown trout	Rainbow trout
1995	781	1132	389	695
1996	615	538	375	279
1997	379	609	281	351
1998	953	323	443	670
2000	857	643	444	1167
2002	681	819	558	590
2007	406	1208	526	882
2014	236	392	184	855
2016	598	78	575	163
2017	500	175	303	684

