



BUREAU OF FRESHWATER FISHERIES MONTHLY REPORT



October 16, 2022 – November 15, 2024

Shawn Crouse, Chief
Craig Lemon, Superintendent
Edward Conley, Superintendent

Christopher Smith, Principal Fisheries Biologist
Ross Shramko, Principal Fisheries Biologist

Dominick Mercurio, Crew Supervisor Bldg. Maintenance
Tyler Tresslar, Crew Supervisor, WMAO
Nicholas Healy, Crew Supervisor, WMAO
Brad Duckworth, Crew Supervisor, WW

Scott Collenburg, Sr. Fisheries Biologist
Eric Boehm, Sr. Fisheries Biologist
Justin Rozema, Assistant Biologist
Samantha MacQuesten, Assistant Biologist
Kyle Civalier, Biologist Trainee

Thomas Bissonnette, Technician I
Shaun Young, Technician II
Charles Sedor, Technician II
Nick Ruberto, Technician II
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Matthew Gadek, Sr. Wildlife Worker
Chris Sherwood, Sr. Wildlife Worker
Andrew Hutnik, Wildlife Worker
Travis Nitko, Wildlife Worker
Lynsey Bell, Wildlife Worker
Thomas Goetschkes, Wildlife Worker
Brooke Wakefoose, Wildlife Worker
Abby Bronico, Wildlife Worker

Ross StCerny- Agency Representative Trainee

Seasonals: Abby Bronicio, Chris Cohen, Robert Huth, Michael Kays, Samantha Lavan, Kendall Morgan, Karl Lightner, Matt Moury, Nick Moury, Andrew Ruiz, Jesse Tyther, Scott Ward, and Cheryl Weeks

FISHERIES MANAGEMENT

Fall Trout Stocking: Worked with Pequest Trout Hatchery and made changes to truckloads and number of trucks for the Fall and Winter Trout Stocking Schedule. Worked with Pequest Trout Hatchery and Bureau of Lands Management on drivers and helpers for Fall and Winter Trout Stocking. Distributed Final Updated Fall Stocking schedule to Pequest Trout Hatchery and Lands Management staff. Distributed Final Winter Stocking schedule to Pequest Trout Hatchery and Hackettstown Hatchery. Updated Bureau of Information and Technology on needed changes to the Fall and Winter Trout section of webpage and the Fall and Winter trout stocking hotline. Fall Trout season began on October 15th and concluded on October 24th. Monitoring of stream flows continued and due to the continued low flow conditions in many of the Fall Trout Stocked rivers and streams, biologists deemed it necessary to make multiple changes to the stocking schedule. The Black River stocking was canceled, and the fish were stocked throughout the South Branch of the Raritan River. The section of the Big Flat Brook upstream of Rt. 206 was canceled, and the fish were distributed throughout the rest of the Big Flat Brook. The Upper Rockaway River was canceled, and the fish were stocked throughout the rest of the Rockaway River. The section of the Wallkill River upstream of the Passaic Street bridge was canceled, and the fish were distributed throughout the rest of the Wallkill River. The rest of the Fall stocking was completed with minimal changes. The program consisted of a total of 19,690 two-year-old trout and 905 Broodstock Trout. (Civalier & Shramko)

FISHERIES SURVEYS IN LAKES

Lake Audrey (Cumberland) – An electrofishing survey was completed at Lake Audrey on 10/25/24. A total of 54 Largemouth Bass were collected during the 1.25-hour survey. The bass appeared to be in good condition. Bluegill, both young-of-the-year (YOY) and intermediate size were very abundant during the survey. The bass population abundance will continue to be monitored and determine if supplemental bass stocking is required. (Smith F-48-R)

Manasquan Reservoir (Monmouth) – Manasquan Reservoir is a 720-acre water supply reservoir in Howell Twp., maintained by the Monmouth County Park System, and New Jersey Water Supply Authority (NJWSA). It is one of the state's most popular bass fishing locations. A daytime boat electrofishing survey was conducted on October 30, 2024, to assess the Largemouth and Smallmouth Bass populations. The reservoir was low due to prolonged drought conditions, and a HAB was present which reduced in-water visibility. Areas sampled include the dam/riprap, northern shoreline, and the North Fork Timber Swamp Brook cove/riprap. A total of 72 Largemouth Bass were collected. The CPUE was 65 bass/hour, based on 1.09 hours of electrofishing. This is significantly higher when compared to an April 2, 2023, survey which had 26 bass/hour. This is most likely due to low water levels and fall seasonal movements concentrating the fish along the shoreline making them more susceptible to electrofishing. A PSD of 82, PSD-P of 48 and PSD-M of 3 were calculated for Largemouth Bass indicating a population that should provide quality fishing opportunities. Noteworthy was one individual weighing 2.652 kg (5.85lbs) and 538mm (21.18 in) in length. A total of 3 Smallmouth Bass were collected. The largest measured 411 mm (16.18 in) and weighed 1.018 kg (2.24 lbs.). The reservoir currently supports a high-quality Largemouth fishery and future management actions should focus on its maintenance. Supplemental young-of-the-year Smallmouth Bass should be

stocked whenever available. The reservoir will continue to be monitored on a regular basis. (Boehm F-48-R)

Round Valley Reservoir (Hunterdon) - Round Valley Reservoir is one of two major reservoirs within the state that is managed as a Trophy Trout Lake and contains a population of wild, reproducing Lake Trout. To monitor the status of this population, gill netting surveys typically take place on a biannual (once every two years) basis. However, due to the completion of dam repairs and subsequent refilling of the reservoir back to near full-pool, a monitoring effort was made this fall to track any changes to fish condition that may occur due this change. A total of 16 overnight gill net sets were deployed from October 22-24 and November 13-15. A total of 114 Lake Trout were captured. Additional data analysis is ongoing. (Rozema, F-48-R)

FISHERIES SURVEYS IN STREAMS

Rockaway Creek, S/Br – A section of this stream that flows through Whitehouse, parallel to Route 22, historically documented a rare species, soon to be listed as Endangered, Bridle Shiner. Multiple surveys, in the late 1960's and through the 1970's, documented their presence. However, surveys that have been recently conducted from 2000 to present have not documented their presence. On October 29th, two crews waded a combined 2.5 miles of the South Branch of the Rockaway Creek in hopes of observing Bridle Shiner schools. Bridle Shiners are generally easy to find when present, being described as locally abundant and preferring slow pools with an affinity to areas that are vegetated but clear. Their swimming patterns can be described as leisurely or unhurried, making them easier to detect as well. However, crews did not document their presence, and several factors could be attributed to this. The introduction of predators in the system, including species that were observed during the survey, Largemouth Bass, Green Sunfish, Smallmouth Bass, Brown Trout, and Rainbow Trout, may have inverted the trophic system and increased predation on more susceptible forage fish. Naturalist, Charles Abbott, had written extensively on the native fishes of NJ and wrote about Bridle Shiners that “there is not a predatory fish in the same water that does not largely depend on them for food.” In addition, land adjacent to the stream section sampled contains urban and agricultural land use and likely increases the turbid conditions inhibiting the ability of sight feeding fish like Bridle Shiners. Another note of consideration to impacts through the South Branch of the Rockaway Creek is the altered flow regime regulated through releases from Round Valley Reservoir; formed in 1960, at the time when Bridle Shiners were last documented. Water level manipulations have been identified as threats to Bridle Shiners because of the strong relationship between water level changes and the availability to aquatic vegetation. Changes in flows can be drastic. For instance, on July 22nd, 2024, the USGS gauge at Whitehouse Station (01399670) documented a discharge of 89.3 ft³/s at 11:45 AM and by 03:00 PM discharge dropped to 7.13 ft³/s. Another instance, on July 30th documented a discharge of 6.12 ft³/s at 5:45 AM and by 11:15 AM the discharge was 87.1 ft³/s. These flows and changes likely impact Bridle Shiners in several ways; but most directly by overexposing shallow water areas with submerged vegetation to predators or forcing the shiners out of their vegetated refuge. As with declines of other species, there is often no smoking gun as to why they may not be present, but several factors contributing negative impacts over the course of time. It's likely that Bridle Shiner no longer exist within the South Branch of the Rockaway River, but additional confirmation utilizing eDNA or additional surveys could be conducted to verify this. (Collenburg)

TECHNICAL ASSISTANCE (State Funding)

Classification Recommendations – Through the course of field work, from 2018 to 2023, 13 stream sections were identified as needing upgrades in their classification based upon their suitability for trout. Those recommendations were compiled in a report and shapefiles to be sent to NJDEPs Bureau of Environmental Analysis, Restoration and Standards for review and incorporation into changes to the surface water quality standards. (Collenburg)

Drought Response Advisory Group – Multiple meetings were held to discuss permitted and proposed modified passing flows related to water supply and the current state of drought in the state of NJ. Shawn Crouse, Chief of Freshwater Fisheries, and Scott Collenburg, Senior Fisheries Biologist, recommended changes to proposed modified flows focusing on flows that were rarely documented historically or modifying flows in areas with species that would likely be more susceptible to impacts during the fall (i.e. spawning of wild trout species). This included NJFW recommendations to help preserve more water within the Saddle River, Wanaque River, Raritan River, and the Passaic River. Time was spent analyzing historic flows in relation to ecological considerations and providing comment during weekly meetings with the advisory group. (Collenburg/Crouse)

Ironcolor Workgroup Sampling – Related to a National Fish and Wildlife Foundation grant awarded to the Academy of Natural Sciences of Drexel University (ANS) one day, October 23rd, was spent out in the field assisting ANS with data collection for Ironcolor Shiners. In 2023, eDNA results reflected the presence/absence of the soon to be listed Endangered species. Field work in 2024 was conducted to verify the eDNA results. The work ultimately aims to understand their distribution and habitat and implement or suggest management actions to conserve the species soon to be listed as Endangered in New Jersey. (Collenburg/Crouse)

FishTrack Database – The current Access database that holds data for the Bureau of Freshwater Fisheries has become an issue creating inefficiencies in time spent entering, managing, analyzing, and procuring data. This is likely caused by the transfer or querying of large amounts of information from the Garden State Network, Zscaler, and to the offices in Lebanon. Therefore, the backend of the FishTrack Access database was migrated to a Microsoft SQL backend in July of 2024. However, due to incapacibilities in code between Microsoft SQL and Access, a few issues are still being addressed to get the front end and back end of the database communicating fully. Currently, FishTrack will continue to be utilized as an Access front and back end until those issues are fixed, or data can be managed in another way. (Collenburg)

NAACC Assessments – In collaboration with seasonal and full-time staff the Bureau of Freshwater has completed assessments on a total of 319 crossings (some with multiple structures) in relation to habitat that was identified as important to native Brook Trout or wild Brown Trout and freshwater fish species that are soon to be listed as Endangered or Threatened (i.e. Bridle Shiners, Ironcolor Shiners, and Slimy Sculpin). Staff are currently working on compiling and analyzing results to identify management implications. Locations have been identified where crossings have created severe barriers to wild Brown Trout movement and isolated native Brook Trout populations. Information like this can be used to determine the best course of action. (Collenburg)

Freshwater Fisheries Permits – Reviewed water lowering and fish stocking applications and contacted applicants to obtain necessary information. A few projects required significant lowering that necessitated fish salvage. Reviewed LMRs from a freshwater fisheries perspective for upcoming projects. (Staff)

WMA Fishing Tournament Permits – Issued fishing tournament permits to local fishing organizations. Reports have been steadily coming in with good results reported from Union Lake, Assunpink Lake, and Stone Tavern Lake (Smith).

INFORMATION AND EDUCATION AND PUBLIC OUTREACH

Rider University (Centennial Lake) – Completed an electrofishing survey at Centennial Lake on 11/12/24 the Rider University campus, Mercer County as an electrofishing demonstration for an Environmental Science class. The lake has been sampled for the last 9 years in either October or November. This year’s survey resulted in a lot of large Bluegill (145) and Pumpkinseed sunfish (10), along with 55 Largemouth Bass. The largest bass measured 458 mm. The demonstration was well received by the students. In addition to that, a few Brown Bullhead and American Eel were collected. The pond is generally very shallow and potentially impacted by winter and summer fish kills. (Smith, Boehm, & Civalier)

Skillful Angler Program: Received and reviewed 21 Skillful Angler applications from anglers. Applications have now reached 380 for 2024 and continue to come in steadily. (Civalier)

Attended the virtual **Atlantic Coast River Herring Collaborative Forum** on 11/4/2024. The “River Herring Forum” is an information exchange venue to bring together river herring practitioners, managers, researchers, and community groups from across the species range. This forum is co-chaired by NOAA Fisheries and Atlantic States Marine Fisheries (ASMFC) staff. The purpose of the River Herring Forum is to promote the conservation of the species, support information exchange, and encourage collaboration. (Boehm)

Statewide Dam Removal Partnership (SDRP) “Sediment Management and Dam Removals” Information Session was attended virtually on 10/22/24. Engineers from Princeton Hydro presented methods used to quantify impounded sediment volume, estimate potential impacts, and various passive/active management options associated with dam removal projects. (Boehm)

Career Immersion Experience at the NJ School of Conservation-

BFF staff jointly participated in the Career Immersion Experience hosted by NJDEP Fish & Wildlife staff at the NJ School of Conservation. The program ran from November 8-10, 2024 and focused on creating experiences for motivated students in grades 7-12 who are curious about career pathways within Fish and Wildlife. Various bureaus and divisions within DEP participated, giving presentations and hands-on experiences related to their field. BFF set and checked trap nets within Lake Wapalanne to teach attendees about fisheries sampling, fish identification, and actual data collection. Students learned how to handle, measure, and weigh fish such as Bluegill, Pumpkinseed, Yellow Perch, and Brown Bullhead. All attendees participated, and many were enthusiastic to learn about fish in a hands-on way. (Rozema, Sedor, Kays, and Huth)

Fish & Wildlife Experience – Bureau of Freshwater Fisheries provided activities to new Fish & Wildlife staff as part of the Fish & Wildlife Experience program, devised to provide new staff an opportunity to get to know each other, while learning about the agency. Shawn Crouse provided an overview of the Bureau’s responsibilities, giving a few case studies of actual projects. Pequest Trout Hatchery Superintendent Ed Conley and Crew Supervisor Nick Healy gave an hour tour of the fish hatchery and explained the annual cycle. Principal Biologist Ross Shramko brought the participants to the adjacent Pequest River to demonstrate stream electrofishing. Participants got in the water, netted fish, and were taught about the various species that were encountered. Fun was had by all. (Crouse, Conley, and Shramko)

PEQUEST TROUT HATCHERY (Ed Conley)

Inventory Data

<u>Stocking Program</u>	<u>Length</u>	<u>Average Daily Increase</u>	<u>Conversion</u>
Spring 2025 RBT (13 months old)	8.9"	0.018	1.40
Fall 2025 RBT (13 months old)	9.8"	0.022	1.05
Winter 2024 RBT (25 months old)	14.4"	0.016	2.55

Flow Rates – October 2024

0.00 inches of precipitation fell during the month of October.

Production Well Pumping Rate Average for September was 6,062 gpm with an average 8.73 million gallons per day pumped during the month.

The potable well pumped 11,589 gallons for the month of October.

Fish Culture Activities

This year's 2024 Fall Stocking program was completed and saw 20,580 2-year-old Rainbow Trout being stocked along with 935 3-year-old broodstock into New Jersey public waters during October 15th - 16th (Ponds and Lakes), and 21st - 24th (Rivers and Streams). This year the rivers were pushed back two weeks in hopes of getting some rain before stocking them, but mother nature did not provide any leading to a few changes in the river stockings made by fisheries biologists this year, although most stocking points were able to be stocked using driver discretion. Due to production cycles at the hatchery these fish need to be stocked to make room for other year classes and could not wait any longer to be stocked with no rain in sight soon. We would like to thank everyone for their patience with the changes this year, as we were dealing with the drought and had to make the best choices for the fish, our anglers, and our staff.

PEQUEST TROUT HATCHERY **2024 FALL TROUT STOCKING SUMMARY**

	<u>#FISH</u>	<u>#LBS.</u>	<u>AVERAGE LENGTH</u>
RBT Production -	20,580	29,376	14.5"
RBT Broodstock -	935	3,609	19.9"

TOTAL RAINBOW TROUT – 21,515
TOTAL LBS. - 32,985

All lots of 2026 production trout have hatched resulting in approximately 1.02 million Rainbow Trout fry. Most lots are up and now on feed. Lots 1-3 have been dropped out of the troughs into the tanks. Staff are spending more time in Nursery building cleaning as more fish hatch and are being hand fed 8 times a day.

On 10/16/24, provided approximately 22,000 Rainbow Trout eggs to 107 schools for the Trout in the Classroom Program.

Staff are preparing trucks and equipment for the upcoming Winter Stocking Program that are scheduled to be stocked with two-year old Rainbow Trout on 11/25/24 and 11/26/24.



Pequest Maintenance

During the past month we had a couple of voltage spikes that set off alarms and had a couple of wells that needed to be reset as well as the alarm panel. Replaced a heating circulator pump in the Administrative Building. Staff winterized all the well houses, diesel back-ups, and the Education Pond restrooms. Loose louvers on the aerator buildings were secured. Removed tank off the Lands Management flatbed truck after Fall stocking concluded.

Sent out a couple of large stocking trucks for repairs, Truck 144 went for tires and alignment, and Truck 682 is in the shop now for excessive oil use.

Worked on and submitted the RFP on the Well #6 Rebuild and electrical update. The bids closed on 11/14/24 at 4pm. The winning bid was from William Stothoff Company in the amount of \$48,969.00. We are in the process of obtaining a purchase order through CBT funding.

Miscellaneous Activities

The annual bioassay at the treatment plant was completed 10/17/24-10/23/24. Received passing results back from Water Resource Management.

Prepared for and attended Federal Aid and Hunter Angler Budget Meeting on 10/29/24.

Newer staff have continued attending scheduled Fish and Wildlife Experiences to learn about various Fish and Wildlife Programs.

Submitted renewal package for the 2025 Federal Depredation Permit.

Hackettstown State Fish Hatchery (Craig Lemon)

<u>Species</u>	<u># Fish</u>	<u>Avg.”</u>
Landlocked Salmon	3,200	5.4”
Muskellunge	5,955	9.1”
Largemouth Bass	3,000	4.8”
Largemouth Bass (Ark.)	2,500	3.4”
Hybrid Striped Bass	1,600	6.5”
Gambusia	50,000	1.5”

Stocking Totals (October 16 – November 15)

<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>#Fish</u>	<u>Pounds</u>	<u>Length</u>
10/16	Mk	Mercer Lake	550	69	9.1”
10/16	Mk	Furnace Lake	100	13	9.1”
10/16	Mk	Mountain Lake	122	15.3	9.1”
10/17	Mk	Echo Lake Reservoir	560	70	9.1”
10/17	Mk	Greenwood Lake	3,525	441	9.1”
11/14	Lls	Tilcon Lake	480	665	14.1”
11/14	Lls	Lake Aeroflex	524	727	14.1”
11/15	Lls	Merrill Creek Reservoir	680	766	14.1”

Mk – Muskellunge

Lls – Landlocked Salmon

Intensive Culture

Landlocked Salmon

Currently culturing 3,200 fish about 5.4” in one 2,000-gallon tank. Staff clean and feed them daily. Staff will be splitting next year’s fish into two 2,000-gallon tanks soon. Finished stocking last year’s fish. A total of 3,000 fourteen-inch fish were float stocked. The stocking was two weeks later than normal waiting on lake and reservoir water temperatures to drop below 55°F.

Muskellunge

Hatchery staff float stocked 4,857 nine-inch Muskies in five lakes to finish up the 2024 stocking. Currently culturing 5,955, 9.1-inch fingerlings in two 2,000-gallon tanks. They will be overwintered on a dry pellet diet in 52°F spring water. After the New Year, we hope to change them over to live forage.

Hybrid Striped Bass

Currently culturing 1,600 6.5-inch fingerlings in one 2,000-gallon rectangular tank. These fish will be raised through the winter and be moved outside in the spring. They will be on a dry pelleted diet in 52°F water. Tank water temps are currently 60°F.

Largemouth Bass

Purchased 2,500 three-inch dry food trained Largemouth Bass from Keo Fish Farms to grow intensively until next spring. These will be part of the PERCH program in two to three years. Staff inventoried our NJ Largemouth Bass and came up with 3,295 pellet trained five-inch fingerlings. These will also be overwintered intensively and put outside in ponds for future

PERCH program fish. Both lots of fish are doing well and are in 60°F water until the recirculation systems are shut off.

Gambusia

Staff harvested Pond 64 and brought in three 1,000-gallon tanks of Gambusia and Fathead Minnow mix. These fish will be reared over the winter in 52°F spring water and fed a dry mash diet.

Intensive Production Work

We are currently pumping 492 gpm of 52°F spring water and 253-gpm of 68°F recirculated water. Staff shut down the 80°F system to help conserve spring water. The facility continues experiencing issues with low spring flow alarms almost daily when filling tankers and siphoning tanks. New Jersey is in a severe drought. Associated with the Spring water issues, staff changed to the pvc piping at the heads of the four 2,000-gallon salmon tanks. Two-inch ball valves were added for better control of water flow into the tanks. This allowed staff to cut back 60 gpm of water over the three tanks. Started stocking salmon on 11/14 and with each tank emptied 80 gpm of spring water will be saved.

Extensive Culture

Channel Catfish

Broodfish are being overwintered in Pond 92. Overwintering three year classes of catfish for the PERCH Program in Ponds, 74, 89, and 90.

Hybrid Striped Bass

Pond 77 was harvested on 10/9. The three-year-old Hybrids did well returning 915 of 1,200 fish averaging 15 inches and 1.5 pounds each. 675 were stocked in Monksville reservoir and 240 were moved to Pond 89 for future PERCH Program fish. The 2023 holdovers are overwintering in Pond 90.

Largemouth Bass & Smallmouth Bass

All bass broodstock ponds have been harvested and the adults returned to Pond 50 overwinter.

Fathead Minnows

Overwintering two 1,000-gallon tanks intensively for use as live forage after January 1st on Muskies.

Hatchery Extensive Pond Work

The final extensive pond was harvested for the season. Staff are cleaning up and organizing all the pond gear – screens, plugs, slides, and boards in the storage building. Putting together a list of concrete repairs to inflow and outflow structures. Staff did an excellent job putting the final touches on the new Pond 87. The project has been in the works for a few years, but really came together this summer. Plans are to fill it and use it in the Spring of 2025. Setting pond and ditch flows for the Winter. Drought conditions continue and looks to be one of the worst conditions in the history at the facility. Pond draining is finished for the year and staff are taking advantage of the drought conditions and warmer weather using the excavators and skid steer to dredge pond bottoms and move materials.

Information & Education

Provided information and photos for three GoFishFriday's posts 177-179.

1,987 likes, 80 comments, and 140 shares. Answered as many questions as possible on these posts. Provided pics and information on the stocking of Hybrid Striped Bass in Monksville Reservoir. The hatchery hosted the second Fall Trappers Education Program on the weekend of 10/19 & 10/20. Participated in a Touch A Truck Event for Hunterdon County Parks on 11/2. Set up a small tanker with fish tank and educational materials.

CBT/CBTM Projects

A CBTM project was created for the dredging and regrading of Pond 90. Tilcon would not update their DPA paperwork, so we opted to Stavola, and they did the paperwork. A PO has been issued and plans are to order stone to complete the Pond 90 project. The CBT Project for Boiler Replacement has moved to the next step. An engineering consultant has been chosen and a meeting has been set for 11/20.

Severe Drought Conditions

The hatchery has been fighting off low water conditions both intensively and extensively for the last couple of months. Trout Brook and spring water levels have been slowly dropping, forcing staff to make daily/weekly pond water flow adjustments. Staff drained a couple ponds that were not scheduled to come down to save flow to others. Beginning in late September, during morning tank cleanings and all distribution truck fillings the hatchery low spring water alarm would sound. And the emergency well would kick on for a couple minutes to fill up the sump. Trout Brook levels remain extremely low. This is the only time of year we could get by as many of our ponds are empty for Winter. Spring water is low and dropping. Staff just finished up salmon stocking allowing for less use of spring water which will get us through the winter.

Employee Actions

Congrats to Brooke Wakefoose on completing her CDL training.