



BUREAU OF FRESHWATER FISHERIES MONTHLY REPORT



August 16, 2022 – September 15, 2024

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FISHERIES MANAGEMENT

Brook Trout Restoration Efforts on NJ Trout Production Streams Project - In June of 2023 Bureau of Freshwater Fisheries biologists began a multi-year Brook Trout restoration study. In New Jersey, competition from Brown Trout, along with other habitat stresses (increased temperature and land use impacts), has severely reduced Brook Trout populations throughout their range. This reduction has likely been happening since Brown Trout were first stocked in the state in 1908. It is unknown exactly how the long it takes for Brown Trout to displace Brook Trout, and this question is compounded by the fact that this is not the only contributing variable to Brook Trout decline. However, this study aims to determine cost and feasibility of aiding Brook Trout populations by conducting manual removals of Brown Trout through backpack electrofishing. This study aims to determine how long Brook Trout populations can withstand and hold back Brown Trout recolonization under different environmental conditions. This knowledge will inform trout biologists if manual Brown Trout removals to restore Brook Trout populations is a viable management tool and if it can and should be implemented on a larger scale in the future. It is commonly considered by trout biologists from other states that Brook Trout have a greater ability to fend off Brown Trout (keep them at low numbers or from establishing entirely) when habitat conditions are optimal for Brook Trout.

Staff selected 2 small *Trout Production* streams to begin this study in 2023 and added Turkey Brook, located in Morris County, in 2024. On June 24th, 25th, 26th and 27th, crews began removal of Brown Trout in the nearly 1.8 mile stretch of Turkey Brook. Crews continued removals of Brown Trout from Turkey Brook on July 18th, 19th, 23rd, 24th, 25th, August 6th, 13th, 14th, 27th, and 29th. Field work was primarily led by Seasonal Biologist, Luke Diglio. Additional removals of Brown Trout occurred on Pohatcong Creek (trib.)(Willow Grove) and Trout Brook on July 8th, 9th, 10th, 18th, 19th, 29th, August 6th and 20th. (Collenburg/Shramko/Diglio, F-48-R)

Fall Trout Stocking: The fall and winter trout stocking schedules have been finalized internally and approved by the Fish & Game Council. Fall trout stocking will occur during the second and third weeks of October, with approximately 20,000 two-year-old trout being stocked in addition to up to 1,000 Broodstock trout. Winter trout stocking will occur on the Monday and Tuesday prior to Thanksgiving, with approximately 4,500 trout being stocked. The schedules were reviewed by BFF and Land Management staff across multiple offices before being approved and made publicly available. Drivers and helper staff will be assigned to each run in the coming weeks. Fall stream flows are being monitored regularly so that determinations can be made as to whether stocking needs to be altered or postponed due to flows. Additionally, BFF staff will continue to monitor the NJDEP Harmful Algal Bloom (HAB) Dashboard to monitor for HABs on fall trout stocked waters. Bureau of Freshwater and Biological Monitoring (BFBM) will assist BFF staff in making final stocking determinations by sampling any trout stocked waters that have HABs prior to fall stocking to determine if stocking needs to be altered due to the presence of a HAB. (Shramko & Civalier)

Westville Lake Fish Kill (Gloucester) – A fish kill consisting of approximately 30-40 Largemouth Bass, sunfish, and bullhead was reported on 8/28/24. No dead or activity dying fish were observed upon arrival on 9/3/24. No foreign smells or chemical slicks were observed. Water chemistry was collected and all measurements would readily support aquatic life. Several

adult Bluegills were observed swimming along the shoreline. The lake is quite shallow due to excessive sedimentation. Dredging would be beneficial. Small, shallow ponds can heat up very quickly during summer heat waves causing dissolved oxygen to temporarily drop to lethal levels resulting in fish kills. Additional follow up actions are not needed at this time. Westville Lake is a spring trout stocked water. (Boehm)

POND SEINING

Goffle Brook Park Pond (Passaic) - Goffle Brook Park Pond, also known as Arnold's Pond, is a small, 2-acre impoundment of Goffle Brook. The pond was lowered briefly during the fall of 2012 for a dredging project and was last surveyed in 1973. On 8/27/24, a seining survey occurred to assess the fishery present and make any necessary stocking recommendations. A total of 11 seine hauls were completed around the perimeter of the pond, capturing Bluegill (1/haul), Gambusia spp. (5/haul), Largemouth Bass (<1/haul), Pumpkinseed (<1/haul), and Tessellated Darter (<1/haul). Overall, few fish were caught during the survey. Water Chestnut was noted to be present at this pond, which could become problematic in the future. A supplemental stocking of Bluegills and Largemouth Bass would be beneficial towards improving the quality of the fishery here. (Rozema, F-48-R)

Ed. A Grekoski Park Pond (aka Bissett's Pond) – This 2-acre pond located in South River Borough was seined on 7/22/2024 primarily for the evaluation of its inclusion in NJDEP's Fish and Wildlife's Trout Stocking Program. The closest trout stocked stream, Lawrence Brook, is ~4 miles away and the nearest trout stocked lake/pond, Lake Papaiani, is ~6 miles away. The pond is connected to a park with a large parking area, baseball field, playground, and restrooms. The park appears to be well maintained, and the Borough has installed a fountain in the pond to aide in aeration. A total of 17 seine hauls was conducted on the waterbody and captured predominantly Sunfish species (16/haul). Only 3 Largemouth Bass were captured. Eastern Banded Killifish and Mosquitofish were also captured. This waterbody will be recommended for adding to the Trout Stocking Program but permission from the Borough is pending. (Colenburg, F-48-R)

John F. Kennedy East Park Pond (Middlesex) – This 2-acre pond located in Sayreville Borough was seined on 7/26/2024 primarily for the evaluation of its inclusion in NJDEP's Fish & Wildlife's Trout Stocking Program. The closest trout stocked stream, Lawrence Brook, is ~6.5 miles away and the nearest trout stocked lake/pond, Lake Papaiani, is ~6 miles away. The pond is connected to a park with multiple parking areas, tennis courts, skate park, basketball courts, and restrooms. The park appears to be well maintained, and the Borough has installed a fountain in the pond to aide aeration. A total of 7 seine hauls was conducted on the waterbody and captured predominantly Largemouth Bass (6/haul) and only a total of 3 sunfish were captured. It will be recommended to stock this waterbody with sunfish species to increase the abundance of forage fish available. This waterbody will also be recommended for adding to the Trout Stocking Program and permission has been granted by Sayreville Borough to do so. (Collenburg, F-48-R)

John F. Kennedy West Park Pond (Middlesex) – This 18-acre pond located in Sayreville Borough was seined on 7/26/2024 primarily for the evaluation of its inclusion in NJDEP's Fish & Wildlife's Trout Stocking Program. The closest trout stocked stream, Lawrence Brook, is ~

6.5 miles away and the nearest trout stocked lake/pond, Lake Papaiani, is ~6 miles away. The pond is connected to a park with multiple parking areas, tennis courts, skate park, basketball courts, and restrooms. The park appears to be well maintained, and the Borough has installed a fishing pier on the south side of the pond. This pond is located only a few hundred feet from John F. Kennedy East Park Pond and is the larger of the two. A total of 8 seine hauls was conducted on the waterbody and captured predominantly sunfish species (22/ haul) but Largemouth Bass were not as abundant (<1/haul). A native fish species, Bluespotted Sunfish, was captured and is considered less common. Other species encountered included Yellow Perch, Banded Killifish, and Mosquitofish. This waterbody will not be recommended for addition to the Trout Stocking Program because larger sized waterbodies have historically had lower stocked trout return to creel than smaller waterbodies. (Collenburg, F-48-R)

Mountain Lake (Warren) – This 122-acre natural lake, situated at the base of Jenny Jump Mountain, inside the Pequest drainage. It has a public boat launch (electric-only motors) and public shoreline access is limited due to numerous lakefront homes. The lake is annually stocked with catchable-sized trout (in the spring, pre-season only) and Muskellunge. In recent years, surveys have been conducted to assess the Muskellunge and Largemouth Bass fisheries, however, the fish assemblage here has an interesting history and has changed over the course of 70 years since the first surveys were conducted in 1950. The 1950 report (New Jersey Fisheries Survey, Report Number One, 1950; Trenton, NJ) indicated stocking of Brown, Brook, and Rainbow Trout and their capacity to holdover; other introduced gamefish like Largemouth Bass and Smallmouth Bass, were common along with native forage fish, Pumpkinseed Sunfish and Yellow Perch. Yellow Perch and Smallmouth Bass are no longer documented here and the ability of the lake to holdover trout is unlikely due to water quality changes. One interesting note is that a species that was previously thought extirpated in New Jersey, the Allegheny Pearl Dace, was documented in the same 1950 report on Mountain Lake. A reporting, and confirmation, of Allegheny Pearl Dace in the upper Delaware River drainage resurfaced interest to understand if any more populations exist in New Jersey. To reassess the presence/absence of Allegheny Pearl Dace in Mountain Lake, a seining survey was conducted on 8/5/2024. Unfortunately, the survey did not find any Pearl Dace and common species that have been documented in recent history were found. Additional surveys, targeting the upper Delaware River drainage, will be conducted to confirm presence/absence in close proximity to the known population of Pearl Dace. (Collenburg F-48-R)

Pascack Brook County Park Pond (Bergen) - This 2-acre pond, owned by Bergen County Parks in Westwood has never been sampled. The pond has great parking and facilities and moderate shoreline accessibility, with a fair amount of bushes and shrubs lining the banks, particularly along the western end. The pond has a single aerating fountain in the center, and appears to be shallower in nature, however its maximum depth is unknown. A conversation with Bergen County Parks prompted a request to investigate the pond for stocking, as they use this location for some of their fishing education events. On 8/19/24, a seining survey was conducted to assess the fishery present and determine if any supplemental stocking is necessary. A total of 15 seine hauls were able to be conducted around the perimeter, capturing Black Crappie (<1/haul), Brown Bullhead (<1/haul), Bluegill (9/haul), Largemouth Bass (<1/haul), and Pumpkinseed (<1/haul). Overall, the pond's fishery appears to be balanced. No supplemental stocking is necessary at this time. (Rozema, F-48-R)

Stephen R. Gregg Park Pond (Hudson) - This pond is a small, 1.5-acre body of water owned by Hudson County Parks and is located within Bayonne. It was last sampled in 2015, finding only Mummichog. In addition, the pond was drained and dredged in the spring of 2017. As a result, the pond was restocked with Largemouth Bass, Bluegill, and Fathead Minnow in 2018. In recent years, the pond has become overgrown with Phragmites, inhibiting angler access and making the pond a strong candidate for potential inclusion in future small pond enhancement efforts. On 8/19/24, a seining survey was conducted here to evaluate the current status of the fishery. A total of 9 seine hauls were able to be conducted, capturing Bluegill (2/haul) and a single Largemouth Bass (<1/haul). Seining was difficult due to the extensive Phragmites and woody debris present, and many large Bluegill, Common Carp, Pumpkinseed, and Largemouth Bass were seen during the course of the survey but not captured. Despite poor seining results, it appears that a standard freshwater fishery is present. A single “No Fishing” sign was noted by staff, but a recent conversation with a Hudson County Parks official suggested that the pond was used extensively by families prior to Phragmites overtaking the shoreline. Eradication of this Phragmites would open up an opportunity for anglers to fish here. No supplemental stocking necessary at this time. (Rozema, F-48-R).

Somerset County Park Pond (Somerset) - This 0.8-acre pond located in and owned by Somerset County was seined on 7/30/2024 primarily for the evaluation of its inclusion in NJDEP’s Fish & Wildlife’s Trout Stocking Program. The closest trout stocked stream, Raritan River S/Br., is ~ 2.8 miles away and the nearest trout stocked lake/pond, Spooky Brook Park Pond, is ~7.3 miles away. The pond is connected to a park with a large parking area and hiking/biking trails. The park appears to be well maintained. A total of 12 seine hauls was conducted on the waterbody and captured predominantly sunfish species (>100/haul) and a total of 23 young-of-the-year Largemouth Bass (12/haul) were captured. This waterbody is being considered for stocking, but the shallow depth, turbid conditions, and low dissolved oxygen measured during the survey (1.93 mg/L) increases the concerns for potential fish kills and poor conditions for stocked trout to survive during the spring. Permission to stock has been granted by Somerset County. (Collenburg, F-48-R)

STREAM ELECTROFISHING SURVEYS

Beaver Brook (Morris-Rockaway) - Beaver Brook starts as the outlet of Split Rock Reservoir and flows south until it enters the Rockaway River just outside the center of Rockaway Township. A sparse population of wild Brook Trout has been documented with surveys near Meriden Road since 1984, with additional work occurring in 1991 and 2009. On 8/28/24, an additional survey occurred in the same location to continue monitoring efforts of this population of Brook Trout. No Brook Trout were captured in this year’s survey. Previous surveys in 2009 and 1991 found 15 (6 YOY) and 22 (2 YOY) Brook Trout, respectively. Instantaneous water temperatures have always been high in this location, with all 3 years being recorded >20°C (2024: 21.2°C; 2009: 21.5°C; 1991: 20°C). Rapid habitat assessments between 2024 and 2009 also did not vary by much (148 vs. 159, respectively). With the stream having consistently high temperatures, it is possible that additional thermal stress driven by low water and droughts within the past few years could have severely reduced or extirpated Brook Trout in this location. Additional investigations into the presence or absence of Brook Trout in this stream via electrofishing spot checks or eDNA sampling is warranted. (Rozema, F-48-R)

Lamington River (trib.)(N. of Hacklebarney Brook) (Morris) - This tributary to the Lamington (Black) River flows through the eastern side Morris County's Black River Park and joins the mainstem of the river just a few feet north of Hacklebarney Brook. Both streams are currently classified as *Trout Production* because they hold reproducing populations of Brook Trout. This tributary was first sampled in 2018 and found a total of 47 native Brook Trout, including 33 young-of-the-year (YOY). For a very small stream, the population is abundant. To continue monitoring the Brook Trout population, on 9/4/2024, a 3-person crew conducted a 150m standardized backpack electrofishing survey in the same location as was done in 2018. A total of 20 native Brook Trout were captured, including 16 YOY. Creek Chub and Blacknose Dace were also found. The stream corridor is very overgrown with invasive plants, Multiflora rose and Barberry, which made sampling difficult. This may have contributed to lower capture efficiency. This stream is scheduled to be monitored in accordance with the standards established for classified *Trout Production* streams (minimum of once every 10 years for streams having wild Brook Trout). However, consideration should be given to continuing the schedule as invasive plants border the bank of either side of the small stream for almost the entire length, creating dense thickets that impact efficiency, and likely, variability in capture rates. (Collenburg, F-48-R)

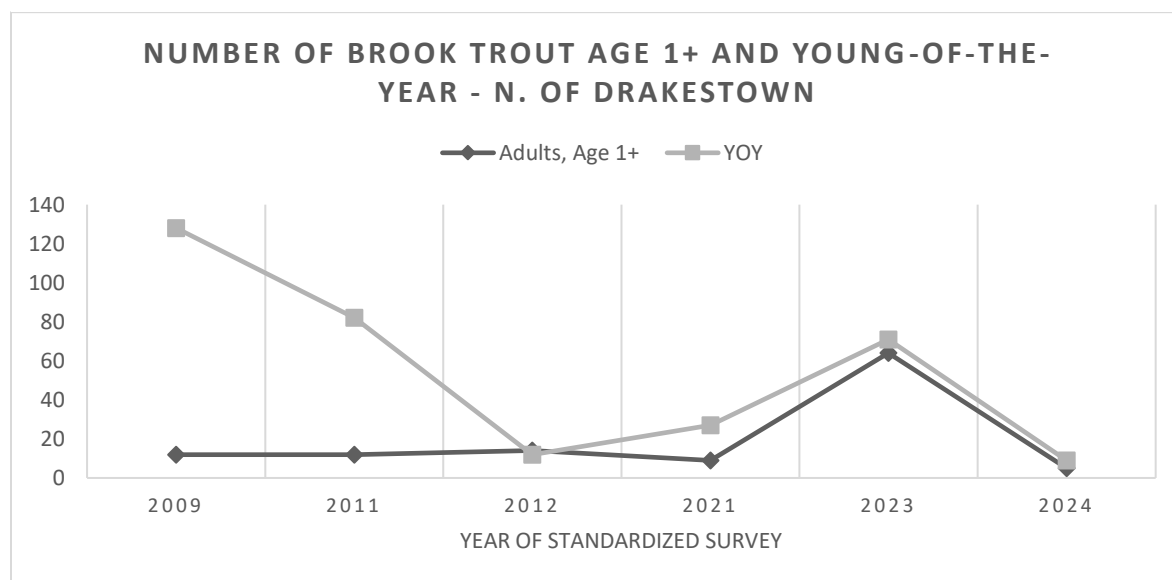
Livingston Ponds Brook (Sussex) - Livingston Ponds Brook is a small tributary of the Pochuck Creek, located right on the border of New York and New Jersey. The stream originates near Wawayanda State Park and flows northward through a primarily forested watershed before entering Wawayanda Creek just north of the New York border. The stream was first classified in 1990 when 20 Brook Trout (14 YOY) were captured, as well as 2 Brown Trout (1 YOY). A survey in 2013 captured a larger amount of Brook Trout, with 71 (18 YOY) being captured. On 8/23/24, another electrofishing survey occurred to continue monitoring the population of Brook Trout, with a total of 27 Brook Trout (24 YOY) were captured. The number of adult Brook Trout was notably lower this year than in 2013, (3 vs. 53, respectively) however the large number of adults was considered to be an unusual phenomenon that was attributed to the presence of large, deep pools formed from downed trees. Only 1 moderately sized pool was encountered in 2024, further suggesting that the high abundance of adults was habitat-driven. A similar number of young-of-the-year was captured between the two surveys, indicating that despite lower numbers of adults found in this specific reach, consistent reproduction still appears to be occurring on a stream-wide scale. A decrease in the rapid habitat assessment score (176 in 2013 vs. 158 in 2024), particularly in the embeddedness, sediment deposition, and channel flow status additionally suggests the reach's habitat has changed, likely through natural variation and processes. Routine monitoring (once every 10 years for Brook Trout streams) is recommended. (Rozema, F-48-R)

Raritan River S/B (trib.)(Drakestown) (Morris) - This tributary to the South Branch of the Raritan River was electrofished on 8/30/2024 to assess the wild trout population structure relative to understanding causative factors of changes over time. Surveys conducted in the past found an abundance of wild Brook Trout and data indicates that the total number of Brook Trout has the tendency to fluctuate. Large fluctuations in the abundance of Brook Trout over time is natural and caused by environmental factors such as summer drought or spring floods. Closely monitoring populations (e.g. with more frequency) will enable NJFW to study these

correlations more closely and identify additional factors that may be contributing to impacts to NJ trout populations (e.g. land use changes, precipitation, increasing temperatures). During this survey, a total of 34 wild Brook Trout, including 23 young-of-the-year, were captured. This was one of ten surveys conducted at this location since 2009. NJFW will continue to closely monitor Brook Trout at this location. (Collenburg, F-48-R)

Raritan River S/B (trib.)(N. of Drakestown) (Morris) - This tributary to the South Branch of the Raritan River was electrofished on 8/30/2024 to assess the wild trout population. This tributary has been monitored more frequently to understand impacts on the native Brook Trout population from stormwater impacts that were identified as part of a stream temperature monitoring network. In 2023, as part of a Multi-Stressor Study lead by NJDEP's Division of Science and Research (DSR), water quality data was collected to determine the role anthropogenic stressors (contaminants, degraded water quality) have on sensitive fish populations in Northern New Jersey. One of the main goal of the study was to document the presence of a tire anti-degradant 6 p-Phenylenediamine (6PPD; and degradant byproducts) in urban runoff and determine if there are measurable impacts on wild trout populations. Results indicated the 6PPD was present during stormwater events. In 2023 a total of 135 native Brook Trout, including 71 young-of-the-year, were encountered during the survey. Based on previous sampling that was done in this location (6 surveys since 2009), the number of fish collected, and the fish assemblage, fluctuates (Figure 1). However, it is concerning the degree to which the population declined from 2023 to 2024. Based on previous results, the 2024 survey marked the survey with the lowest number of Brook Trout captured, 14, including 9 young-of-the-year. Longnose Dace were not encountered for a second year in a row. This could be an indication of stress. Continuous stream temperature data (June through November of 2023) as well as other water quality data collected at this site reflected stressful conditions and this population will be closely monitored. (Collenburg, F-48-R)

Figure 1. The number of age 1+ and young-of-the-year Brook Trout that were captured during surveys from 2009 to 2024 conducted by NJFW.



Rinehart Brook (Morris) - Rinehart Brook is a small stream that flows through Hacklebarney State Park and ultimately into the Black River. It is currently classified a Trout Production (TP)

stream and one of the two streams inside Hacklebarney State Park that is regulated as a Native Brook Trout Stream. In the headwaters, Rinehart Brook's surrounding land use is a mix of agricultural and residential areas before it reaches the heavily forested state park dominated by Eastern hemlocks. This tributary was electrofished on 9/4/24 as part of ongoing monitoring related to multiple projects that occurred here. In 2017, a project was initiated to remove all Brown Trout from the stream. This resulted in the Brook Trout population filling habitat and being the dominant species present. At this historical survey sites, which started in 2004, only 2 Brook Trout were ever encountered in this 150 m stretch. Previous surveys conducted in 2004, 2014, 2015, and 2016 where a total of 143 (100 YOY), 95 (55 YOY), 94 (44 YOY), and 86 (44 YOY) wild Brown Trout were captured in each survey. During this survey, after removal of Brown Trout, a total of 77 Brook Trout were captured, including 17 YOY. In 2023, a total of 112 Brook Trout were captured, including 51 YOY. Data will continue to be collected to help understand population dynamics related to mixed trout populations and better guide management of NJ native Brook Trout populations. (Collenburg, F-48-R)

Sucker Run (Middlesex) – This tributary flows into Lawrence Brook just below Farrington Lake in Milltown, NJ. It was never surveyed before and therefore has a default classification of *Non-Trout*. An angler sent an email of a young-of-the-year Brown Trout and noted that it was caught in Sucker Run. A single backpack electrofishing survey was conducted on 9/3/2024 and captured a variety of fish species. However, no trout were captured. Most species captured are those most associated with warmwater (e.g. Largemouth Bass, Bluegill, Pumpkinseed Sunfish, and Creek Chub). The classification of the stream will not change based on the survey conducted this year. Additional spot checks can be conducted to further investigate the reported wild trout. (Collenburg, F-48-R)

DISSOLVED OXYGEN AND TEMPERATURE PROFILES

Clinton Reservoir (Passaic) Dissolved Oxygen/Temperature Profiles - Clinton Reservoir (412 acres) is managed as a *Holdover Trout Lake* and is annually stocked with Rainbow Trout to provide a put-grow-take fishery. Beginning in 2019, routine monitoring in the form of dissolved oxygen/temperature profiles (DO/temp profile) identified no summer trout supporting water being present in the reservoir. Additional investigation was warranted, and an additional profile in 2023 corroborated the lack of trout supporting water. On 8/16/24, four different DO/temp profiles occurred to further investigate the presence of potential summer trout supporting water throughout the lake. A survey was conducted at the deepest point within each arm of the reservoir and also within the center basin. The criterion for trout supporting water in New Jersey lakes is water temperature < 21°C and dissolved oxygen > 4 mg/L. On the day of the surveys, the reservoir was noted to be lowered approximately 5' below normal full pool. No trout supporting water was able to be identified within any of the four surveys. Additional investigation continues to be warranted. Setting gill nets to further confirm the presence or absence of holdover Rainbow Trout would prove useful. (Rozema, F-48-R)

Lake Sonoma (Passaic) Dissolved Oxygen/Temperature Profile - Lake Sonoma is a 15-acre body of water located within Norvin Green State Park. In 2023, a siphon was installed at the lake's spillway structure to draw water from approximately 6-7ft below the surface when in operation. To understand the effects of the siphon on the lake, a dissolved oxygen and temperature profile occurred on 8/14/24. The profile is able to be compared to another profile occurring in 2013. Both surveys show the epilimnion, the layer of warm, oxygenated water on

the surface to reach down to around 9-10ft in depth. Below 10ft, oxygen readings reached <0.5mg/L in both surveys until the bottom. At 6-7ft, where the siphon is located depth-wise, temperature was approximately 1.8°C cooler than at the surface (23.7°C vs 25.5°C, respectively) and dissolved oxygen levels being taken in were adequate for downstream survival of fishes at 4.3-5.1mg/L. Overall, the siphon does not appear to be altering the thermal and oxygenated habitat within the lake. (Rozema)

INFORMATION AND EDUCATION

Skillful Angler Program - Received and reviewed 33 Skillful Angler applications from anglers. Applications have now reached 345 for 2024 and continue to come in steadily. New Channel Catfish leader has been approved measuring 33.75 inches long and weighing 15lbs. 8oz. (Civalier)

2025 Freshwater Fishing Digest – The initial template of the 2025 Freshwater Fishing Digest was edited and submitted to the publisher. The first draft edits will be due to the publisher on 9/27/24.

TECHNICAL ASSISTANCE (State Funding)

Classification Changes related to updating the Surface Water Quality Standards (SWQS)

GIS Coverage – discrepancies between the old SWQS GIS coverage and the new SWQS GIS coverage are being identified because of a transition to the utilization of the Stream Network 2015 Hydro Layer by the Bureau of Environmental Analysis, Restoration, and Standards (BEARS). A review of 27 discrepancies related to trout classification were identified by BEARS and reviewed by the Bureau of Freshwater Fisheries Classification team to determine if reclassifications are necessary. (Collenburg)

Ironcolor Workgroup Sampling – Related to a National Fish and Wildlife Foundation grant awarded to the Academy of Natural Sciences of Drexel University (ANS) multiple days, September 12th and 13th, were spent out in the field assisting ANS with data collection for Ironcolor Shiners. In 2023, eDNA results reflected 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. This should help enhance speed and minimize impact to continuous use amongst users. 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. (Collenburg)

NAACC Assessments – Continued to lead the implementation of NAACC assessments on behalf of the Bureau of Freshwater Fisheries with priorities to assess crossings related to native Brook Trout, other wild trout populations, and fish species soon to be listed as Endangered or Threatened (Bridle Shiner, Ironcolor Shiner, and Slimy Sculpin). This will put the Bureau of Freshwater Fisheries in a position to guide and prioritize management of road/stream crossings that may be barriers to aquatic organism movement. Currently, a total of 252 crossings have been assessed and another 97 are scheduled for assessment. Results are already reflecting interesting results that may be able to implement as management objectives as early as 2025. (Collenburg)

Landscape Project – Landscape models related to fish species soon to be listed are soon to be completed for Landscape Project Version 3.4. Models for each fish species needs to have justification with appropriate citations supplied for publication. Therefore, justifications and citations were compiled for soon to be listed fish species, and shared with NJFW's GIS group. (Collenburg)

State Wildlife Action Plan Habitat Associations - As part of the State Wildlife Action Plan (SWAP) progress was made on describing the habitats and regions that SGCN fish species are located in. The deadline for Habitat Associations is the end of September. (Collenburg)

State Wildlife Action Plan Actions – As part of the State Wildlife Action Plan (SWAP) progress was made describing actions that can be implemented to address threats to fish species identified as SGCN. These actions are to be described for each habitat region in New Jersey (e.g. Kittatinny Ridge, Highlands, etc.). (Collenburg)

NJ Statewide Dam Removal Partnership (SDRP) - Attended New Jersey SDRP quarterly meeting on 9/12/24. The Paulina Lake Dam located on the Paulins Kill River in Blairstown has been completely removed. Paulina Dam was the next upstream barrier to fish passage following the Columbia Lake Dam removal in 2018. To date these to removals have opened approximately 20 river miles for both anadromous and resident fish from its confluence with the Delaware River. TNC is working to develop and fund a scalable model of teams of people who are fully focused on dam removals. It will pilot this in the Northeast but envisions the potential to scale nationwide. (Boehm)

Fish and Game Council Presentation - Prepared and presented at the 9/10/24 Fish and Game Council meeting on a recently awarded grant to build capacity for cold-water habitat conservation and Brook Trout population recovery across New Jersey, New York and Pennsylvania. The project will hire a landscape coordinator to facilitate project planning and a project manager to supervise on-the-ground conservation endeavors, ultimately streamlining implementation, enhancing stakeholder coordination, and bolstering habitat resilience and biodiversity in the watershed. The grant is for \$499,100, with \$202,100 of matching funds for a project total of \$701,200. This money comes through the National Fish & Wildlife Foundation's Delaware Watershed Conservation Fund. \$4.5 million additional dollars for project implementation were applied for through NFWF's America The Beautiful Challenge. If awarded, this project aims to implement Eastern Brook Trout (EBT) conservation projects in the Delaware River watershed across Pennsylvania, New York, and New Jersey over a four-year

period. The ask is \$4.5M. Each State and their partners will undertake various projects to enhance aquatic connectivity, improve in-stream habitat, and address upland stressors that impact the ecological function of coldwater habitat. These efforts include replacing undersized or failing culverts, removing derelict dams, enhancing habitat with large wood addition, floodplain reconnection, and reforesting riparian buffers to reduce erosion and polluted runoff.

The second half of the presentation was on recent updates at Mason's Run. Mason's Run is the State's furthest south reproducing Brook Trout population. In recent years the trout population has been impacted by surrounding land use activities and beaver activity. The population has been extensively sampled via electrofishing. Water temperature monitoring has been monitored at multiple location along the stream. Increasing sedimentation remains a major concern and negative impact to the survivability of the trout population. Additional funding is necessary to restore the stream optimal habitat conditions. The population is very small with low genetic diversity and staff are currently investigating the potential of a genetic rescue in the near future. (Smith)

Freshwater Fisheries Permits – Reviewed water lowering and fish stocking applications and contacted applicants to obtain necessary information. 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).

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 (11 months old)	7.4"	0.024	1.70
Fall 2025			
RBT (11 months old)	8.0"	0.025	1.32
Fall/Winter 2024			
RBT (23 months old)	14.0"	0.020	1.46

Flow Rates – August 2024

7.73 inches of precipitation fell during the month of August.

Production Well Pumping Rate Average for June was 6,058 gpm with an average 8.73 million gallons per day pumped during the month.

The potable well pumped 16,809 gallons for the month of July.

Fish Culture Activities

Rainbow Trout spawning (pictured below to the left) has begun in which hatchery staff have sexed, sorted, and have been checking three-year-old broodstock weekly for eggs weekly since 8/26/24. We have taken 3 takes amounting to 1.28 million eggs from approximately 429 three-year old female Rainbow Trout so far during this year's egg take. Eggs have been sterilized and placed in incubators (pictured below to the right). These eggs will be the production trout for 2026. We are planning on taking eggs for at least a few more weeks to meet our needs. After spawning the used breeders are being set-up for Fall and Spring stocking. Water was started up in the tanks and inserted troughs in preparation of first hatch at the end of the month. We also started up and tested the pump back system as well.



On 9/4/24, Jim Neugebauer from the Office of Fish and Wildlife Health and Forensics collected ovarian fluid samples from 60 female Rainbow Trout for annual disease testing.

The inventory was completed on the Spring 2025 and 2025 Fall/Winter Program fish. Feed quantities have been adjusted to regulate growth rates to reach our final goals for stocking. These fish are being fed by the feed truck 4 times a day with 5.0 mm feed. Screens are being cleaned twice a day and basins weekly. The 2024 Fall/Winter Program fish stock were also inventoried at this time. Feed quantities have been adjusted to regulate growth rates to reach our final goals for stocking. These fish are being fed by the feed truck 4 times a day with 5.0 mm feed as well. We went over the Draft Fall and Winter stocking lists with the Trout Coordinator. Fall Stocking will begin on 10/8/24 this year.

Pequest Maintenance

On 9/7/24, we had a high voltage power loss lasting about 5 hours due to a bad wire located on Pequest Road. The wells were running on diesel backup. We did have low voltage during the outage until they shut it off to fix the line. Staff maintained flows to the fish and had to restart couple of wells manually as some breakers tripped during the outage. The variable drive on Well 1# failed again and smelled of burning wires. The well is now currently running on bypass. The cost variable drive replacement is estimated around \$10,000. We are getting additional quotes from a couple of other vendors and will process it through CBT funding.

After reaching out to ATS the manufacturer of the UV domestic units regarding ongoing errors Portasoft Inc. changed the programming on 9/10/24. They also hooked up a remote router to see issues in live time if they resume. They will continue to monitor and collect data on the system. If issues resume, we will need to ask for another extension from DEP Water Supply.

Staff cleaned up down trees, mowed, and weed wacked the sluice-way area, Waste Treatment Plant area and shrubs by the Nursery.

Miscellaneous Activities

Assisted DOIT with sending preliminary photos and setting up the changing of a new switch in the Pequest Trout Hatchery Administrative Building on 08/27/24.

Attended Contract and Sub-award training for Federal Aid projects on 08/29/24.

Assisted Information and Education with getting some videos of spawning and the egg room process on 09/10/24. They are hoping to incorporate footage in the self-guided tour at Pequest Trout Hatchery.

Newer staff have been attending scheduled Fish and Wildlife Experiences to learn about various programs.

Hackettstown State Fish Hatchery (Craig Lemon)

<u>Species</u>	<u># Fish</u>	<u>Avg."</u>
Landlocked Salmon	3,200	9.9"
Muskellunge	10,812	7.2"
Northern Pike	2,200	10.4"
Largemouth Bass	3,000	4.1"
Largemouth Bass (Ark.)	2,500	3.0"
Channel Catfish	4,300	7.0"
Hybrid Striped Bass	1,600	6.0"

Stocking Totals (August 16 – September 15)

<u>Date</u>	<u>Species</u>	<u>Location</u>	<u>#Fish</u>	<u>Pounds</u>	<u>Length</u>
9/6	Gambusia	Warren Co. Mosquito Co.	20,000	10	1.0"
8/21	Lmb	West Hudson Pk Pd	14	14	12"
8/21	Lmb	Dahnert's Lake	13	13	12"
8/21	Lmb	Cooper's Pond	14	14	12"
8/21	Lmb	Wooddale Park Lake	14	14	12"
8/21	Lmb	Best Lake	15	15	12"
8/21	Lmb	Cedar Brook Pk Pd	15	15	12"
8/21	Lmb	Spring Lake (Somerset)	17	17	12"
8/21	Lmb	Holmdel Park Pond	13	13	12"
	Chc		12	20	18"
8/22	Lmb	Northern Community Pk Pd	11	11	12"
8/22	Lmb	Edgewater Pond	11	11	12"
8/22	Lmb	Gloucester City Pk Pd	11	11	12"
8/22	Lmb	Oak Pond	23	23	12"
8/22	Lmb	Patriot Lake	12	12	12"
9/9	Smb	Merrill Creek Res.	461		5.0"
7/30	Hsb	Lake Hopatcong	8,486	81	2.7"
8/16	Hsb	Lake Hopatcong	2,846	80	3.9"
8/19	Hsb	Lake Hopatcong	8,101	256	4.0"
8/16	Chc	Lake Hopatcong	2,204	90	5.3"
8/20	Chc	Swartswood Lake	1,010	35	5.0"
8/20	Chc	D&R Canal	2,514	102	5.3"
8/22	Chc	Laurel Acres Pk Pd	13	22	18.0"
8/26	Chc	Spruce Run Reservoir	1,520	91	6.1"
8/26	Chc	Greenwood Lake	2,115	127	6.1"
8/26	Chc	Monksville Reservoir	718	43	6.1"
8/27	Chc	Farrington Lake	933	60	6.2"
8/27	Chc	Lake Hopatcong	681	44	6.2"
8/28	Chc	Passaic River	2,211	100	5.5"
9/11	Bs	Huff Park Pond	200		6.0"

Bs - Bluegill Sunfish

Hsb - Hybrid Striped Bass

Chc - Channel Catfish

Lmb - Largemouth Bass

Gambusia

Intensive Culture

Landlocked Salmon

Currently culturing 3,200 fish about 9.9" in three 2,000-gallon tanks. Staff clean and feed them daily. Massachusetts F&W planned their trip down to trade salmon for Northern Pike on 9/18.

Muskellunge

Currently culturing 10,812, 7.2-inch fingerlings in three 2,000-gallon tanks and two 1,000-gallon tanks. Notified Regional Biologists that we may not have many Fathead Minnows to use as forage to overwinter the Muskies intensively. Largemouth Bass found their way into our minnow ponds. Plan to stock more fall fish and overwinter on dry pellet feed.

Northern Pike

Currently culturing 2,200 10.4-inch advanced fingerlings in one 2,000-gallon tank. They are surplus pike to trade with Massachusetts for salmon in September. Trade set for 9/18.

Channel Catfish

Currently culturing 4,300 seven-inch fingerlings in two 1,000-gallon tanks. These fish will be setup in Pond 90 later in the fall. Keeping them on 80°F recirculated water for as long as we can to maximize growth.

Hybrid Striped Bass

Currently culturing 1,600 six-inch fingerlings in three 350-gallon circular tanks. 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.

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.

Intensive Production Work

We are currently pumping 770 gpm of 52°F spring water and 254-gpm of 68°F recirculated water, and 181 gpm of 80°F recirculated water.

Extensive Culture

Channel Catfish

Staff harvested Pond 90 which was our broodstock catfish pond for the last five years. A total of 250 fish were stocked. They averaged 30 inches and 15 pounds. Staff harvested Pond 16, which was the first of our two Arkansas catfish ponds. A total of 4,100 yearlings were harvested and distributed to 28 ponds and lakes. The fish averaged 13.3 inches and about one pound each.

Hybrid Striped Bass

The Hybrid two-year olds are feeding aggressively in Pond 77 as water temps remain warm. Staff moved this year's holdover fingerlings to Pond 30. They are being cultured with

Largemouth Bass fingerlings and are feeding more aggressively this year than last. The bass mix in Pond 30 are being fed twice daily and looks like it's going to do great.

Largemouth Bass & Smallmouth Bass

Staff harvested Pond 15 Smallmouth Bass broodstock and moved 57 adults back to Pond 50 to overwinter. Stocked 460 five-inch fingerlings into MCR. All bass broodstock ponds have been harvested and the adults returned to Pond 50.

Fathead Minnows

500 pounds of minnows were purchased from Keo Fish Farms in Arkansas. Staff split them between Ponds 85 and 5-Acre for spawning. They are being fed daily. Staff harvested Pond 85 and found 850 five-inch Largemouth Bass. The bass must have entered as fry and fed on the minnows for a few months. Only two tank trucks of minnows were harvested, and they were added to the 5-Acre pond.

Hatchery Extensive Pond Work

Most of the extensive ponds have been harvested at this point. It is nice to have less ponds full this time of year due to seasonal low water flows. Broodstock ponds are being dyed to keep weeds and algae in check. Staff have made a lot of progress creating one big pond out of ponds 87a, 87b, and 87c. Staff are using both excavators, bulldozer, dump truck, skid steer and tractor to remove brush and dirt. The six-wheel all terrain dump truck was picked up from NJ Forest Fire for use. They are doing a great job, and we hope to have the pond filled by early fall. Pond 90 was harvested for the first time in five years. A CBTM project was created, and a 650 bulldozer was rented for two weeks. Staff did an excellent job dredging material and regrading the pond. It is $\frac{3}{4}$'s full already and fish have been added. Plans are to use it as part of a three-year rotation in the PERCH Program. Putting together a list of concrete repairs to inflow and outflow structures. There are 5 or 6 extensive ponds remaining to harvest for the 2024 season.

Information & Education

Provided information and photos for five GoFishFriday's posts 168-172. 1,818 likes, 49 comments, and 111 shares. Answered as many questions as possible on these posts. Provided pics and text for a Super Cat Channel Catfish post. The post received 1,473 likes, 256 comments, and 193 shares. Answered many comments on this thread. Hosted one First Catch Center event on 9/8. Two Trapper Education classes have been added to the schedule.

Purchasing and Budget

Working with Procurement staff to resolve purchasing issues with Zeigler Bros. Created a PO for Tower Fish Feed with Zeigler's and the feed was delivered 7/15. The PO did not match the invoice amount. Purchasing feed from BioOregon and Cargill.

CBT/CBTM Projects

A CBTM project was created for the dredging and regrading of Pond 90. Rented a bulldozer for two weeks as part of the project. Created a PO for emergency tree removal around Hatchery Hill School and the Gatehouse. Tree work was completed. Working on Tilcon DPA paperwork for the purchase of stone as part of the CBTM project.

State Mosquito Commission Fish Tanks

Two new fish distribution tanks were purchased by the Commission. The vendor delivered them to the hatchery. Staff ordered all the hardware and prepared them for use. They water and oxygen tested them. Camden County Mosquito Commission staff made the trip up and picked up the two new tanks.