



BUREAU OF FRESHWATER FISHERIES MONTHLY REPORT



November 14, 2021 – December 13, 2021

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FISHERIES MANAGEMENT

Trout Stocking

Winter Trout Stocking - Winter Trout stocking was completed, and the Division stocked 4,680 fish averaging 14.7 inches. (Shramko)

Stream Temperature Monitoring – This program was initiated in 2012 to monitor stream temperature in our major rivers that are currently regulated as Trout Maintenance. The continuous temperature monitoring program is designed to closely monitor stream temperature in areas that have marginal thermal habitat for the purpose of trout stocking, understanding thermal regimes in our major river systems, and expand the program to Trout Production streams to gain a deeper understanding of stream temperature's role on the entire life cycle of wild trout in New Jersey and assist in guiding management of these streams. This reporting period effort focused on compiling data from stream temperature loggers that were placed as part of the Brook Trout Strongholds Project in 2021 and analyzing impacts from stormwater surge events on streams that documented wild trout now or historically. (Collenburg)

Stormwater Impacts - Between 2018 and 2020 NJDFW's continuous stream temperature monitoring network that was used to identify Brook Trout resilient habitat to climate change in NJ found that 28 individual sites had at least one water temperature (T_w) surge on 24 streams and a total of 134 events defined as a 2°C increase of water temperature, or greater, in a 30-minute period. The following were key findings from that analysis:

- Multiple linear regression analysis revealed a significant linear relationship (adjusted r^2 of 0.3259; $p < 0.002761$) between dependent variable maximum T_w surge and percent agricultural land (positive correlate) and percent forest cover (negative correlate).
- The best predictor of dependent variable maximum T_w surge was the percent Altered Land (adjusted r^2 of 0.2887; $p < 0.001886$)
- The best predictor of the frequency of T_w surges between sites was percent Urban Land cover (adjusted r^2 of 0.1158; $p < 0.04283$).
- Presence or absence of trout species was determined at the 28 sites in 2021 due to land use and stormwater impacts:
 - Simple logistic regression found that an increase in Urban land cover was associated with a decrease in the odds of trout presence (p-value < 0.0276). A one-unit increase in Urban land cover is associated with a decrease in the odds of trout presence by 0.0901.

Packer Brook Trout Investigation - Packer Brook is a previously unsampled tributary to the Saddle River, located near E. Allendale Road in the town of Saddle River. Local residents reported an undocumented wild trout population in Packer Brook, which has a Nontrout Surface Water Classification. On December 16, biologists conducted electrofishing spot checks for wild trout along Packer Brook downstream throughout the stream. One spot check was conducted within Rindlaub Park, which is downstream of a small dam/impoundment located along E. Saddle River Road and where Packer Brook is directly connected to the Saddle River. Electrofishing was conducted for 326 seconds along an approximately 100-meter stretch of the stream. Three species were found in this location: Blacknose Dace, Creek Chub, and White Sucker. A greater effort occurred starting just upstream of the impoundment at E. Saddle River Road and ending approximately 150 meters upstream of the E. Allendale Road crossing for a

total length of approximately 450 meters. 2,116 seconds of electrofishing were conducted and only two species were found: Blacknose Dace and Green Sunfish. Both cursory spot check surveys failed to uncover the presence of wild trout within Packer Brook. Because these data were not collected based upon established protocols (i.e. standard survey lengths during July through August, etc.), they can neither be used to confirm the current Surface Water Classification, nor recommend a change to the Surface Water Classification. They were merely conducted to inform biologists as to whether or not standardized surveys should be scheduled for future standardized fieldwork. As a result, no further sampling is recommended, however obtaining summer temperatures along the brook may help provide further evidence supporting the Nontrout classification. (Rozema)

TECHNICAL ASSISTANCE

Cranberry Lake Water Level Management Virtual Public Meeting – The Division of Parks and Forestry hosted a public meeting on November 30 hosted by the Division of Parks and Forestry to attain information and set up an advisory board for water level management for Cranberry Lake. Assistance and participation by the Division of Fish and Wildlife and the Department’s Bureau of Freshwater and Biological Monitoring Division was provided. The advisory board will be made up of Division Personnel, Parks and Forestry Personnel, lake and township residents and municipal employees along with the possibility of special interest groups if they are interested. This advisory panel will then help with create a Water Level Management Plan. This process is being modeled off the Lake Hopatcong advisory committee that helped with the Lake Hopatcong Water Level Management Plan. (Shramko, Crouse, and Barno)

Trout Stocking GIS Layer – Bureau of Freshwater Fisheries is working with the Bureau of GIS in creating a GIS Layer showing the Trout Stocked waters for public use. This layer will contain information on the Spring, Fall, & Winter trout stocking programs and the stocking schedule for each season. This will be another tool for the public to use to more easily see when their favorite waterbody was last stocked and also aid in finding other waterbodies that are part of the stocking program using their smartphones / computers. See Bureau of GIS’s monthly reports for more information. (Staff, Shramko)

MAPAIS Meeting - The fall meeting for the Mid-Atlantic Panel on Aquatic Invasive Species (MAPAIS) was held virtually on December 1 and 2. Presentations on project updates were rather limited as Covid has impacted fieldwork throughout the region. A presentation was given by Dr. Joe Love, Maryland DNR, regarding the use of eDNA for monitoring invasive species. Dr. Love and Jay Kilian (MD MAPAIS panel representative), co-chaired at eDNA symposium at the July 2021 AFS Meeting held in Maryland. Highlights from the symposium were discussed to share opinions on the use of eDNA as tool for evaluating the presence of AIS. State updates were provided on day two of the meeting. New Jersey’s highlights include the additions of the three new species to the potentially dangerous list, the proposed AIS symposium for the 2022 NEAFWA Conference and updates on the NJ DEP Invasive Species Management Plan. New Jersey co-representative, Heather Desko (NJ Water Supply), provided updates on the D&R Canal SAV removal project, New Zealand Mudsail occurrences, additional SAV sightings and the Chinese Mystery Snail. The Chinese Mystery Snail was previously thought to have been eradicated but recent eDNA findings indicate they may still be present in

the waterbody. The spring meeting will be held in April 2022. Members were optimistic that the event would be held in-person in Annapolis, MD; but may need to be held virtually. (Smith)

Invasive Species Meeting (DEP) - Participated in meeting with Joe Bilinski (NJDEP), Rob Somes (ENSP), and Heather Desko (NJ Water Supply) on December 8 to discuss the potential for New Jersey to create an NAS Task Force approved Aquatic Invasive Species Management Plan that not only would provide much needed AIS (Aquatic Invasive Species) guidance statewide but would also make New Jersey eligible for funding to control AIS. New Jersey is one of only a handful of the states that currently do not have an approved plan. Delaware, another member of the MAPAIS is currently developing their own plan. (Smith)

Tributary Connections Workgroup (part of the NY-NJ Harbor and Estuary Program) - attended via Zoom on December 7. Future potential projects and focus areas for the group were discussed. (Boehm)

Statewide Dam Removal Partnership (SDRP) meeting - Attended via Zoom on November 30. (Boehm)

Freshwater Permits - Reviewed Land Management Reviews (LMR's) from a freshwater fisheries perspective to address any foreseeable negative impacts to local fisheries. Reviewed water lowering permits and fish stocking applications and contacted applicants as necessary to obtain required information. Responded to requests from the public for information on general fisheries questions, fish stocking and water lowering permit programs. (staff)

WMA Fishing Tournament Permits – The Division continued to receive applications for the 2021 fishing tournament season. A total of 183 applications for Wildlife Management Area fishing tournament permits have been received. WMA Tournament Reports indicate that the bass fishing has been unpredictable in recent weeks as the water temperatures continue to fluctuate. Organization began submitting applications for the 2022 season. Individuals will be notified after January 1 whether the permit has been approved. (Smith)

INFORMATION AND EDUCATION

Freshwater Fishing Digest (2022) - Staff completed the 3rd pass review of this document and it was submitted to publisher. It has an anticipated shelf date of January 26, 2022. (staff)

Website Meeting – Bureau staff continued to conduct reviews and contribute comments on the draft Freshwater pages of the Division's website redesign. (staff)

TRAINING

AFS Climate Communications Training – As part of a Multistate Conservation Grant Program through the American Fisheries Society, BFF Senior Biologist Scott Collenburg is training as a Climate Fellow to develop skills on how to effectively communicate about the impacts our

changing climate is having on our fish, fisheries, and the communities that depend on these resources. (Collenburg)

PEQUEST TROUT HATCHERY (Ed Conley)

Inventory Data

<u>Stocking Program</u>	<u>Length</u>	<u>Average Daily Length Increase</u>	<u>Conversion</u>
Spring 2022 RBT (14 months old)	9.2"	0.024	1.62
Fall 2022 RBT (14 months old)	9.6"	0.013	1.94
Spring 2023 RBT (2 month-old-fry)	1.9"	-	-

Flow Rates – November 2021

1.67 inches of precipitation fell during the month of November.

Pumping Rate Average for November was 6,697 gpm. An average 9.64 million gallons per day was pumped during the month of November.

The potable well pumped 5,761 gallons for the month of November.

Individual Well Reading: (gallons per minute)

Well #1	670 gpm
Well #2	350 gpm
Well #3	1,520 gpm
Well #4	670 gpm
Well #5	off
Well #6	310 gpm
Well #7	3,060 gpm

Fish Culture Activities

The Winter Stocking Program was completed on November 22 and 23. 4,680 two-year old Rainbow trout went out averaging 14.7" and 1.6 lbs. each into 19 waterbodies. Rosedale Lake was added to the Winter list this year because it was unable to be stocked due to a HAB during the Fall.



2021 WINTER TROUT STOCKING SUMMARY

Pequest State Fish Hatchery



	<u>#FISH</u>	<u>#LBS</u>	<u>AVG. LENGTH</u>
RBT Production II	4,680	7,444	14.7"

TOTAL FISH FOR WINTER

4,680 FISH

TOTAL LBS. FOR WINTER

7,444 LBS.

Daily load assignments for Winter Stocking Trout runs were coordinated to various water bodies onto selected distribution trucks. Daily stocking duties include crowding, loading, and transferring fish from the hatchery to the distribution trucks for the daily trout stocking runs.

The 2023 production stock have all been converted to feed now and have been dropped out of the small troughs. They are feeding on mash, #1, and #2 feeds being sprinkled in the tank 8 times a day. Tanks are being cleaned on all shifts.

Monthly inventories were completed on all the 2022 production pools. 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.

B-line raceways were cleaned and prepped to lighten the nursery building tanks soon.

Well Flows and Nursery Building flows were increased and adjusted.

Approximately 44,000 pounds of feed was fed during this time.

Hygiene

The iodine net/brush dip buckets were changed every 3 days or so to keep up with the hatchery hygiene plan.

Weekly catch basin and aerator building cleaning was completed as scheduled.

Head ends as well as lower ends of the raceways were vacuumed and scraped to remove a buildup of algae and moss. The aerator wheel area of the I-line was vacuumed to remove built up fish waste and decomposing algae.

Floor disinfectant baths were changed on a regular weekly schedule or as needed.

Treatment Plant

Submitted monthly discharge reports, filed any applicable paperwork, and met with the treatment plant operator.

Weekly treatment plant checks including, wastewater testing, chlorine levels, and domestic pit flow were performed. Set-up and collected composite sample for pick up on the 3rd Wednesday of the month.

Coordinated the pumping, loading, and spreading of 7,000 gals of fish waste to the Pequest WMA. A total of 7 loads were spread to Fields #13 during the month of November.

Performed preventative maintenance on treatment plant pumps, motors, greased bearings, and gears, and changed oil in blower motors.

Minor Vehicle and Equipment Maintenance

Set-up and installed new oxygen bottles on Distribution Trucks for Winter Stocking runs. Removed oxygen tanks after winter stocking was completed.

Maintained and submitted monthly mileage report for 17 hatchery vehicles.

Coordinated maintenance of 6 in-hatchery vehicles and performed minor vehicle maintenance.

Performed weekly site check of both Gasoline and Diesel fuel levels.

Prepared buildings, raceways, and vehicles for the upcoming winter months.

Pequest Mechanical Maintenance/Alarms

Staff responded to alarm on 11/20, there was a brief power outage that caused Well #1 to go into bypass. It had to be reset manually, and all flows were checked after adjustment. Fish stock was maintained.

Fixed raceway lighting on the lower raceways; most of lights were out due to bad section of wiring. A new section of conduit had to be dug installed and new wires pulled to bypass old section. A couple of new light heads have also been ordered to replace a couple that are out. Most of the wood lighting poles are now starting to deteriorate at the bases (almost 40 years old) and will have to be replaced in the near future, as it will become unsafe.

Received Passing Fire Alarm Certificates from APS Corporation for the Facility from the inspection completed on November 18 and 19. They were forwarded to the fire inspector.

Batteries were replaced on Well #1 and #7 diesel generators.

Monthly Diesel Test of the Generators and Alarm Panel was performed.

Miscellaneous Activities

Did interviews for hourlies and submitted to applications to be processed for next year.

Did interview with Tom Pagliaroli for “Rack and Fin Radio” about Winter trout Stocking on November 19, which was approved through the Press Office.

Received Confirmation of Activation on Domestic Water System for public use starting on November 29.

The Pequest Roof project was inspected and considered good on the Main part of the Administrative Bldg. One area of flat roof that was not in the original project was added for repairs.

Completed the Pequest Sections for the 2020 and 2021 Annual Reports.

There were no reported problems with trespassers by the night watchmen. The Information & Education Building remains closed to the public.

HACKETTSTOWN STATE FISH HATCHERY (Craig Lemon)

Intensive Culture (Inventory)

<u>Species</u>	<u># Fish</u>	<u>Avg"</u>
Landlocked Salmon	3,200	6.0"
Largemouth Bass	4,000	3.8"
Mosquitofish	50,000	1.0"

Stocking Totals (November 15 – December 14)

No Stocking During This Period.

Intensive Culture

Landlocked Salmon

Currently culturing 3,200 fish about 6.0-inches long in two 2,000-gallon tanks. Staff are cleaning and feeding them daily. These fish will be grown intensively until early November of 2022 and stocked when they reach 14-16 inches.

Largemouth Bass

Currently culturing 4,000 fish about 3.8 inches long in one 1,000-gallon tank. They are in 52-degree spring water and being fed live forage. This will be our first attempt at overwintering these fish intensively. Reasoning behind this is to eliminate early Spring bird predation in hatchery ponds. Plans are for these fish to meet Regional Biologists requests for 6-9" fish in 2022.

Mosquitofish

Currently culturing about 50,000 Gambusia in two 1,000-gallon tanks. They are being fed a dry feed diet.

General Hatchery Operations

Staff begin the day cleaning all tanks in the Intensive Culture Building. All the fish feeders are filled with proper size feed for the size and species in the tanks and all the feeders are set off to make sure they are feeding the correct amount. Feeder's run 24 hours a day so it is critical to be sure they are functioning correctly. Weight counts are done weekly to measure fish growth and inventories are performed when fish are being moved from tank to tank. Water flows, temperatures, and dissolved oxygen readings are performed every couple days to check on water quality. Pond screens and water flows are checked and adjusted daily. The last pond of the season was drained 10/15. Water flows and levels have been adjusted for the winter season. All pond equipment has been picked up and put away including screens, plugs, boards, and slides.

Budget, Purchasing, PO's, CBT, CBTM

The CBTM Project for dredging the Old Education Pond has been finished up and we are waiting for the final couple of invoices to be paid to close the project out. The pond has already been refilled and fish have been stocked in it for the winter. Met virtually with DPMC staff and architects regarding the CBT Project to replace the Maintenance Garage. Met with Clint Decker and Alarm Company representatives during a site visit to discuss alarm parameters and timetable for system update also a CBT project. Received a PO for dredging the 5-Acre Pond. Spoke with

the contractor and they said if the weather stays dry they would like to begin the end of December.

Maintenance (Jeffries)

Completed winterizing all equipment such as vehicles, tractors, mowers, distribution tanks, and boats/motors in Hackettstown. Performed a diesel run on Pequest Backup Generators. Replaced batteries and cables on two well generators. Dropped two vehicles off to be repaired, one for a faulty plow and another for a starter replacement. Purchased a piece of steel diamond plate to repair the deck on a Hackettstown stocking truck. Cut, fabricated, and welded the plate onto the deck of the tanker. Final touchup and painting to follow. Heating issues in the Hackettstown garage were addressed and new filters and a thermostat were replaced. Scheduled furnace maintenance for the two state houses in Hackettstown. Mulched leaves with a zero-turn mower and blew them off sidewalks and roadways.

Maintenance of Buildings and Equipment

Staff winterized all the boats/motors, mowers, trucks and small engines. All equipment was moved under cover and stored for the winter. Staff have been building and repairing plugs, slides and screens to be used in the extensive ponds next year. All the fish feeders in the intensive building have been cleaned and repaired. All the nets and dipnets were cleaned, repaired and inventoried. New replacement nets have been ordered. Boots and raingear were inventoried, and new gear was ordered to fill in missing sizes.

Grounds Maintenance

Staff spent a week mowing off a couple of areas with the John Deere tractor and brush hog attachment.

Winter Trout Stocking

Hackettstown staff participated in both days of Winter Trout Stocking.

Information & Education.

Participated in the Division's Social Media creation "GoFishFriday". This Friday's post will be the 31st post in the series targeting angler catches and the Division's fisheries programs. Hopes are to make it a year-round bragging catch following the seasons and the fish that are biting that week.

The hatchery hosted the second Deer Processing Course of the season on Sunday, November 28 inside and outside the Education Center. Despite a snowy and cold day, the turnout was great, and participants were treated to a great program.

COVID Testing Site

The hatchery's Education Center was chosen as the North Jersey DEP testing site. Met with agency staff and contractor representatives to set up the site for testing. Made signs and posted them around the grounds and buildings to notify staff of where the testing will take place. Testing days for this site were set up to be every Tuesday from 7-11 am, with the first one beginning 9/9/21. Testing sites have been closed as of 12/3/21. Cleaning services for the building have been cancelled.