BUREAU OF FRESHWATER FISHERIES
MONTHLY REPORT

November 14, 2020 – December 13, 2020

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Seasonals: Steve Jefferies, Travis Nitko, Kate Ayers, Tyler Bender Scott Bentley, Andrew Hutnik, Karl Lightner and Jordan Allen.

FISHERIES MANAGEMENT

2020 Winter Trout Stocking–Winter Trout stocking was completed and the Division stocked 4,460 fish averaging 14.4 inches. (Shramko)

Anadromous Fisheries Resources Mapping Project – The Bureau of Freshwater Fisheries, Marine Fisheries, and Environmental Review have collectively worked on a project since late spring to map the anadromous fisheries resources and associated timing restrictions by region. The Bureau of Freshwater Fisheries supplied a list of confirmed clupeid locations, sampled under various projects since the mid-1970's. The historical data in combination with more recent surveys will be utilized to determine the status of river herring and American Shad runs throughout the state. Reviewed the draft GIS layer prepared by the Office of Fish and Wildlife Information Systems. (Smith)

Freshwater Fisheries Data and Biotics Database- Shramko and Crouse continued the process of getting Freshwater Fisheries data (2000-2019) from FishTrack database into Biotics database, which will be into the Landscape Project mapping. Progress was made to: populating remaining data fields within Biotics database format, incorporation of 2019 dataset (minimal effort to get it up to date), plotting existing data to examine for anomalies, and determining methodology for Species Occurrence Areas (SOAs). (Shramko and Crouse)

Spruce Run (Creek) (Hunterdon) Supplemental Environmental Project (SEP) at Hunt Park - Site inspection was conducted on 11/18. A checklist of items that were completed include regrading and planting the park side, construction of the boulder wall, removal of invasive plants including bamboo, and the creation of a J Hook to prevent head cutting and to guide the thalwag around the 90 degree bend towards the bridge. A secondary weir was created downstream of the bend to create a pool and to back water up in the bend. Work was initially anticipated to be finished before the end of the month, however due to project delays, an extension was granted until November 20 and the work was completed. Unfortunately, November 30th brought significant rain and stream levels rose, causing erosion to the planted section of the project in which approximately the lower third of the bank (topsoil and plantings) was lost. (Crouse and Davis)

Restored streambank including topsoil and plantings **(left)**. Eroded bank on December 1st **(right)**.

Warmwater Fisheries Management Plan –

- Staff continued to work on assigned portions of the Warmwater Fisheries Management Plan. (Smith, Boehm, and Crouse)
- Warmwater Habitat chapter draft was completed and reviewed. (Boehm and Crouse)
- Continued to make GIS maps for plan. (Shramko)

Coldwater Fisheries Management Plan -

- Staff continued to work on assigned portions of the Coldwater Fisheries Management Plan. (Shramko and Collenburg)
- Continued to make GIS maps for plan. (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 collecting and managing stream temperature data that are of the Brook Trout Strongholds Project. (Collenburg)

Brook Trout Strongholds - Time was spent organizing data and developing models to make varying inferences and predictions about the state of Trout Production waters located throughout New Jersey. This project was initiated in 2018 and 94 sites with continuous stream temperature monitors are being analyzed and modeled in 2020 and primarily focused on the Delaware River drainage. The catalyst for this project was the idea that as air temperature increases due to climate change, stream temperature response will vary spatially and temporally depending on GWI, and several other factors. This idea is more pronounced in headwater streams where GWI may be stronger. Still, GWI is largely unknown, unless measured. The developed models can be used to estimate GWI using direct measurements of air and stream temperature. Models have been developed in the past to determine stream temperature sensitivity and vulnerability to climate change but are scaled too large and do not consider small scale differences in GWI. (Collenburg)

TECHNICAL ASSISTANCE

MAPAIS Meeting – The annual fall meeting for MAPAIS (Mid-Atlantic Panel on Aquatic Invasive Species) was held on November 18th. The one-day meeting consisted of six presentations on current research projects in the region. Topics included management Aquatic Nuisance Species Task Force update, USGS NAS updates and new Mid-Atlantic species alerts, Assessing the potential impact of Dominion Cove Point LNG export facility on ballast mediated invasions in Chesapeake Bay, adaptive management and monitoring of Northern Snakehead in the Susquehanna River basin, aquatic invasive species outreach and education to Delawareans, carbon dioxide as a new tool in the battle against AIS, and mapping forest edge Phragmites using LiDAR data. In addition, State panel representatives provided updates on AIS management, projects and new species distribution for their regions. New Jersey is one of only seven states in the country without an approved aquatic invasive species management plan. A coordinate effort

is needed to produce an approved management plan in the near future. The next meeting is planned for spring 2021. (Smith)

Statewide Dam Removal Partnership – Assisted with the preparation of a summary document that will used on the SDRP website providing potential dam removal project managers information on fish monitoring considerations when planning and implementing dam removal projects. (Smith and Boehm)

Bear Swamp Lake Dam (Bergen) – Bear Swamp Lake dam, located in Bergen County and on state property, was visited with Eric Pain, Ringwood State Park Superintendent, to determine and discuss plans for removal. This dam impounds water on Bear Swamp Brook which holds a prolific Brook Trout population downstream. Stream temperatures and flows on the brook have been shown to be problematic to the Brook Trout. Removal of the dam would provide cooler temperatures downstream. If the dam is left in place, marginal and continuing high temperatures may extirpate this population from the Ramapo River drainage. (Collenburg)

Freshwater Permits - Reviewed water lowering 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, fishing, fish stocking and water lowering permit programs. (Staff)

WMA Fishing Tournament Permits – Issued Wildlife Management Area fishing tournament permits and reviewed report forms. (Smith)

OTHER

Freshwater Fishing Website - Staff reviewed conceptual layout for future redesign of Division's Freshwater Fishing website. (Collenburg and Crouse)

HACKETTSTOWN STATE FISH HATCHERY (Craig Lemon)

Intensive Culture (Inventory)

Species	# Fish	Avg."
Muskellunge	4,600	10.0"
Landlocked Salmon	3,200	6.5"

Stocking Totals (November 15 – December 14)
No stocking during this period.

Intensive Culture
Muskellunge
Currently culturing 4,600 Muskellunge in two 2,000-gallon tanks. These fish are averaging 10.0 inches currently. These fish will be grown on forage until next Spring.

Landlocked Salmon
Currently culturing 3,200 fish about 6.5-inches. After last year's fish were stocked, the crew split the 3,000 new fish into two 2,000-gallon tanks. Staff are cleaning and feeding them daily. These fish will be grown intensively until next November and stocked when they reach 16-18 inches.

Maintenance of Ponds and Grounds
The back field outside the fence is being brush hogged. About ten loads of ¾", 2 1/2", and Rip Rap stone were delivered and are being spread on roads and used for bank repairs. The flow control ditch that feeds ponds 81,82, and 92 was drained for a day and staff excavated a number of dump trucks of leaves and mud. A major snowstorm dropped a foot of snow on North Jersey during the period. Staff cleared roads and sidewalks for a couple of days using plows, tractors, shovels and snowblowers.

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 of the fish feeders in the intensive building have been cleaned and repaired. All of 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.

Vehicle maintenance continues on all of the hatchery vehicles. Oil changes, air filters, grease jobs will be performed on all these vehicles over the winter.

Winter Trout Stocking
Hackettstown staff participated in both days of Winter Trout Stocking.

PEQUEST TROUT HATCHERY (Ed Conley)

Inventory Data

Stocking Program	Length	Average Daily Length Increase	Conversion
Spring 2021 RBT (14 months old)	9.1”	.024	1.41
Fall 2021 RBT (14 months old)	9.3”	.018	1.12
Spring 2022 RBT (2 months old-fry)	1.8”	-	-

Flow Rates – November 2020
5.51 inches of precipitation fell during the month of November.

Pumping Rate Average for November was 6423 gpm. An average 9.25 million gallons per day was pumped during the month of November.

The potable well pumped 4,410 gallons for the month of November.

Fish Culture Activities
The Winter Trout Stocking Program took place during November 23rd and 24th with 4,460 two-year old Rainbow Trout being stocked during the two days.

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 2022 production stock have all been converted to feed now, have been dropped out of the small troughs into the large tanks except for a couple of tanks, and have been inventoried. They are feeding on mash, #1, and #2 feeds being sprinkled in the tank 8 times a day. Lots 1 and 2 are on automatic feeders. Tanks are being cleaned on all shifts.

Monthly inventories were completed on all the 2021 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.

Approximately 42,000 pounds of feed was fed during this time period.

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 6000 gals. of fish waste to the Pequest WMA. A total of 6 loads were spread to Fields #4 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 and assisted in the maintenance of 6 in-hatchery vehicles, 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.

Miscellaneous Activities

Essential employees continue to maintain all fish production duties keeping the Pequest Hatchery fully operational, during COVID19. Staff are also maintaining disinfection procedures while operating.

On November 30, a power outage lasting 2.5 hours knocked out the variable drive on Well #2 due to power surges. Willier Electric came out and made repairs to the unit in which some components were damaged. The problems with power surges are being investigated.

Repairs have been made to the UV treatment unit, testing was completed, and the system was once again back online.

On December 7, there was a post bid meeting for the Pequest domestic water line replacement with Construction and Procurement with the selected contractor Viersma Inc. Estimated timeframe for work is early 2021.

Received quotes on a new separator in the treatment plant. We are now in the process of getting the DPA paperwork filled out for the lowest quote and process a purchase order.

The Federal Depredation permit renewal for next year was sent out.

There were no reported problems with trespassers by the night watchmen. The Information & Education Building remains closed due to COVID19.