



BUREAU OF FRESHWATER FISHERIES MONTHLY REPORT



April 14, 2022 – May 13, 2022

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Edward Conley, Superintendent

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FISHERIES MANAGEMENT

Spring 2022 Trout Stocking - The spring 2022 trout season is nearly complete, with only weeks 6 and 7 left. Many days were spent answering emails and phone calls from anglers regarding trout stocking. Research and Management staff continued to assist in spring trout stocking. (Berezin)

Cormorant Impacts to Stocked Trout – Double-crested Cormorants are a native, piscivorous bird species whose populations have been increasing for the past few decades. This increase in population size has increased conflicts between cormorants and anglers who compete to utilize the same resource. Assessing cormorant impacts to the New Jersey's trout-stocking program is imperative to better understand how to improve angler success and satisfaction at locations across the state where these conflicts exist.

A 7-week cormorant monitoring project, starting on March 21 (Week A of preseason stocking) through May 6 (the end of week 4 of in-season stocking). The highest number of cormorants counted at each waterbody all occurred during the three-week period from the last week of preseason stocking (when all monitored waterbodies were stocked) to the second week of the open trout season. 7 out of the 11 waterbodies monitored saw a notable increase in cormorant counts after the initial preseason stocking of trout. However, subsequent in-season stockings did not appear to further influence cormorant abundance, as changes in cormorant abundances after each stocking occurred varied widely at each waterbody. In the final two weeks of monitoring, the number of cormorants at all waterbodies decreased to numbers similar to the time period prior to the initial stocking of trout at the beginning of the monitoring period. This supports the idea that most cormorants seen earlier in the season are migratory and do not stay for the entirety of the in-season stocking period for these locations. Cormorants counted before and after the noticeable increase could potentially be resident birds that spend much of their time at these locations. Potential ideas for changes to the trout stocking program to minimize cormorant impacts to trout stocking and improve angler success/satisfaction based on the findings of this project will be discussed at a later date. (Rozema)

Clinton WMA Pond/5-Acre Pond Fish Salvage (Hunterdon) – The fish salvage on this pond was ongoing at this pond. Boat electrofishing and trap netting were both implemented. This pond is infested with curly-leaf pondweed, covering greater than 75% of the pond. The invasive aquatic plants species grows to a depth of around 12-13 feet at this location. Maximum depth in the pond is 16 feet. The combination of water depth and vegetation abundance significantly reduces the overall effectiveness of electrofishing, especially during the daytime. Staff from the Hackettstown Hatchery provided a small distribution truck and two staff members for five days during the salvage. Staff made two trips to DeVoe Lake/Spotswood Lake in Spotswood, Middlesex County with fish from the salvage. Trips were also made to Spruce Run Reservoir and back to the hatchery with some of the fish. Further electrofishing efforts to catch and relocate additional salvaged fish should be done when the water level has been dropped significantly below the normal water level, which is planned for late May. (Collenburg/Smith)

Third River Fish Kill (Essex/Passaic) - On Wednesday, May 11, 2022, Fisheries biologists at the Lebanon Field Office were alerted by Conservation Police Officer Nick Della Vella about a

fish kill that occurred on the Third River within the Alonzo F. Bonsal Wildlife Preserve in the town of Montclair. When Della Vella arrived on scene, multiple sizes and species of fish were seen dead, including American Eel, Blacknose Dace, and White Sucker and no live fish were seen within the stream. All dead fish appeared to have been dead for at least a day or two, and no specimens were retained for laboratory analysis. No noticeable turbidity or smell was able to be observed, however a slight sheen on the water's surface in some of the shallow back eddies of the stream was noted. Officer Della Vella continued to investigate upstream of the Wildlife Preserve, but no potential source of the kill was able to be located. The cause of the fish kill remains undetermined. (Rozema)

Stewart Lake Fish Kill (Gloucester) – Stewart Lake is a 45-acre impoundment of Woodbury Creek located in the town of Woodbury. A public boat ramp and township park land along the shoreline provide angler access. The dam is a first impediment and a fish ladder is present. A fish kill was reported to NJ Fish and Wildlife on April 18, 2022. A field investigation was conducted shortly after. Spring fish kills have taken place at this location in the past. The fish kill was very minor in size with approximately 100 dead fish in total consisting of a variety of species. Bluegill (25), Black Crappie (25), White Perch (12), Largemouth Bass (9), Brown Bullhead (10), Common Carp (10), Gizzard Shad (5), and Golden Shiners were observed. They were found scattered along both banks in the lower section of lake between the railroad bridge and dam (Broad St.). All fish were very faded in color and appeared to have been dead for several days, all too decayed for collection and pathogen testing. Water chemistry was not taken. No actively dying fish were observed. No foreign odors or chemical slicks were observed. Recent unseasonably warm temperature (highs in the upper 80's) may have caused stressful conditions leading to the kill. NJ Fish and Wildlife Law Enforcement and Office of Fish and Wildlife Health and Forensics were notified. No further action is required at this time unless newly deceased fish are reported. (Boehm/Smith)

Sport Fish Restoration Program– Assisted with the preparation and submission of the Bureau of Freshwater Fisheries Interim Report, for the Sport Fish Restoration Program grant, NJ F-48 R-29. (Smith F-48-R)

TECHNICAL ASSISTANCE

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 – We continued to receive applications for the 2022 WMA Fishing Tournament season. A total of 165 applications have been received to date and all conflicts have been resolved. Catch and Release bass season began on April 15 and continues through June 15. Many organized fishing clubs hold events outside of New Jersey during the catch and release season. Those holding event in state will submit tournament reports with lengths instead of weights of the fish caught. (Smith)

Eastern Brook Trout Joint Venture (EBTJV) Annual Meeting – The annual EBTJV meeting was held this month and staff attended virtually. Scott Collenburg gave a virtual presentation on Stormwater impacts to Brook Trout. The EBTJV has created several tools for managers to use to aid in Brook Trout conservation. One of the most useful tools the EBTJV created was mapping the presence or absence of Brook Trout range-wide at the catchment level. This was last updated in 2015. EBTJV has now implemented new software to allow managers to update this catchment mapping tool more often and on their own. Ross Shramko has been working with this new tool and EBTJV members in fixing “bugs” and minor adjustments and will be using this tool to update the catchments with work that has been done by staff since the last update in 2015. (Shramko/Collenburg)

Statewide Dam Removal Project (SDRP) Infrastructure Funding info session – Attended via Zoom on April 26. Discussed “Infrastructure Investment and Jobs Act” and the funding that will be available through various federal agencies for fish passage, dam removal, and restoration/resilience projects. These are all competitive grants open to all fifty states, US territories and federally recognized tribes. Large sums of money are going to be available from NOAA, USFWS, FEMA, USACE, and USFS. NOAA expects \$400 million over the next 5 years for fish passage related projects, and \$491 for restoration/resilience projects. NOAA representative expressed that fish ladders would qualify, but may not be as competitive as complete barrier removal projects. USFWS is providing \$26 million over 5 years for the Delaware River basin restoration, \$200 million for nationwide fish passage projects (will prioritize fish passage), and \$100 million for invasive species work. FEMA is expected to have \$75 million, USACE \$115 million and USFS \$10. However, these funds may not be as geared towards fish passage. (Boehm)

USFWS Seminar - Attended “Migratory Fish Restoration on the Susquehanna River – Challenges, Successes and Lessons Learned” virtual seminar presented by USFWS on April 28. Focused on long-term American Shad restoration efforts. Poor fish passage efficiency on the river was noted. American Shad passages rates are as follows; Conowingo Dam 37%, Holtwood Dam 32%, Safe Harbor Dam 76%, and York Haven Dam 14% with a cumulative passage efficiency rate of 1.2% (in order from first impediment moving upstream). Fish lift upgrades, and re-initiation of adult trap and transport at Conowingo, new nature-like fishway at York Haven, and Holtwood improvements are planned to improve passage.

Unfortunately, USFWS still anticipates it will take 40 years to reach restoration goal of 2 million American Shad upstream of York Haven Dam at historic spawning grounds. American Eels face similar challenges, and their numbers are extremely low in the Susquehanna due to these dams acting as nearly complete barriers to their migration. (Boehm)

Cranberry Lake Water Level Management - This monthly period had 2 more virtual meetings on Cranberry Lake Water Level Management. These meetings scheduled with DEP employees and the Cranberry Lake Citizen Advisory Committee are to assist with the creation of a Cranberry Lake Water Level Management Plan. The goal of the committee is to hear all concerns and needs for managing the water level at Cranberry Lake and to draft a multi-year water level management plan. (Shramko)

Snakehead Diet Study Meeting – Participated in a virtual meeting on April 29, with Dave Keller, Academy of Natural Sciences, Fisheries Department to discuss an ongoing diet study on the Delaware River to assess predation on native *Alosa* sp. The study focuses on collecting Northern Snakehead both prior to and after the spawning season. NJDEP Fish and Wildlife provided feedback and input on ways and locations to increase catch rates. (Smith/Crouse)

INFORMATION & EDUCATION/PUBLIC OUTREACH

Fish and Wildlife Website – Fisheries biologists Scott Collenburg and Justin Rozema are continually editing and building fisheries related websites within WordPress and facilitating content creation/edits with knowledgeable staff. (staff)

NJ Sportsmen's Federation Convention - Presented Bureau of Freshwater Fisheries updates at the NJ Sportsmen's Federation annual convention in Ocean City, NJ on April 23. (Boehm)

PEQUEST TROUT HATCHERY (Ed Conley)

Inventory Data

<u>Stocking Program</u>	<u>Length</u>	<u>Average Daily Increase</u>	<u>Conversion</u>
Spring 2023 RBT (7 months old)	4.5"	0.009	2.84
Spring 2022 RBT (19 months old)	11.5"	0.019	2.23
Fall/Winter 2022 RBT (19 months old)	12.1"	0.013	1.55

Flow Rates – April 2022

6.86 inches of precipitation fell during the month of April.

Pumping Rate Average for April was 6,766 gpm. An average of 9.74 million gallons per day was pumped during the month of April.

The potable well pumped 11,147 gallons for the month of April.

Individual Well Reading: (gallons per minute)

Well #1	680 gpm
Well #2	390 gpm
Well #3	1,510 gpm
Well #4	670 gpm
Well #5	off
Well #6	315 gpm
Well #7	3,210 gpm

Fish Culture Activities

Since the 2022 Spring Stocking program began on March 21 514,600 production size Rainbow Trout have been stocked along with 7,520 brood-stock, and 10,800 surplus. Surplus production fish started being added to stocking trucks during the end of Week #4 of the in-season stocking. Two more weeks of stocking remain. Spring 2022 production trout remain only in the H-line for the final two weeks of stocking.

The D, I, and F lines were all emptied, power washed, sterilized, and reset over the last month. G was also emptied during this time.

Rainbow Trout brood-stock for 2022 spawning were inventoried and reset at this time on the I-line.

The fish for the 2022 Fall Program fish were inventoried and reset into several pools to reach desired growth for stocking in October. Also, fish for the 2022 Winter Stocking Program were set-up at this time to be stocked in November. 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.

Spring sorting of the 2023 production stock outside has concluded in which smaller fish graded off using metal grader boxes and pools are reset as they come available. Pools are then reset to 13,500 Rainbow Trout. D and some of the F-line were reset at this time with these fish. Also, the 2023 Fall fish were set-up at this time. Approximately 119,000 four-inch surplus trout were given to Hackettstown Hatchery for forage.

Fish in the nursery were also sorted and tanks were reset. Some of the fish were set-up in the F-line and the rest are being fed by automatic feeder twice every hour for about 10 hours a day in the nursery building. The feeders are being filled daily with 2.5 mm feed. All tanks are still being cleaned by all shifts and flows were adjusted and outside screens are being cleaned twice daily. Outside trout are being fed 3.0 mm by the feed truck 4 times a day.

Approximately 31,000 pounds of feed was fed during this time.

Hatchery flows were adjusted during this period and dissolved oxygen levels were monitored.

Coordinated daily load assignments of Spring Stocking Trout runs to various water bodies onto selected distribution trucks.

Hatchery personnel have been stocking the weekly Pequest River TCA run and Raritan S/B Ken Lockwood Gorge runs.

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 6,500 gals of fish waste to the Pequest WMA. Total of 6.5 loads were spread to Field # 13 during the period of report.

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

Annual Trout Sludge sample was collected.

Minor Vehicle and Equipment Maintenance

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

Truck 682 was repaired by a local shop. A new pinion seal was installed and fluid as well as coupler on the yoke.

Truck 126 went to a local shop. It needed an EGR Valve replacement costing \$4,200.

Stocking truck 86V went to a local shop for a diesel leak.

Truck (305) that normally does the Black River and Pequest TCA run has been taken out of service. Where the bed meets the frame has rotted out and is now barely attached. The truck is a 1997 F-350 Diesel tanker (25 years old) which now needs to be replaced due to its age and amount of rot on the vehicle. A transfer truck will now be needed at Black River.

Maintained and submitted monthly mileage report for 16 hatchery vehicles.

Set-up and installed new oxygen bottles on distribution trucks for Spring stocking runs.

Scheduled delivery and pick up of distribution truck Oxygen. Also, maintained a daily inventory of useable bottles.

Performed weekly site check of both gasoline and diesel fuel levels.

Staff is repairing any broken equipment or nets that are being used on the stocking trucks daily.

Pequest Mechanical

On May 8 there was an alarm for loss of flow signal on Well #1 and then it came back. It was a communication error that only last briefly, but caused staff to respond.

Replaced starter on the black fish pump after it failed on April 22, causing us to switch to our other pump causing a half hour delay in truck loading.

Completed the F-line CBT-m project to repair the relief joints. G and H lines will also be done this year when they become empty as part of the project.

Several distributions trucks were worked on. The driver side window track, catwalks, fiberglass tank, and aluminum truck bed were all repaired.

Several days were spent on the lower pole outdoor sight lighting at Pequest. New electrical wire was pulled through underground conduit and hooked up, which repaired 4 of the 5 lights.

5 new lower raceways aluminum slide gate frames were removed and replaced with new ones.

Met with several contractors this month to obtain prices on needed repairs for one of the onsite state houses.

Several trips to the hardware store were made to purchase supplies for daily fisheries operations.

Conducted full diesel run test of the whole facility. All diesels were run during this period to simulate a full power outage.

All the alarm and control computers were rebooted.

Did all monthly production well number, along with potable UV water numbers, well levels, monthly gallons pumped, rain fall etc.

Did monthly service on the UV potable water unit, cleaned, calibrated, and retuned the system.

Miscellaneous Activities

Completed the online submittal of the Right to Know Survey for the year 2021, which is due in June 2022.

Did interviews for the NJDEP Special Corps Project at Pequest Hatchery.

Attended Solar Project Meeting discussing options for Mott/Mac Consultants and walk around of the facility.

The domestic UV System was overheating and was shut down on May 13. Reported it to Safe Drinking water. Do Not Drink posters were posted and bottled water is being provided.

Grass cutting continues inside the fenced hatchery area, treatment plant area, and well houses.

Predatory bird devices are in place (overhead lines, reflective streamers, propane cannons, scary-men, and scare crackers). This past month we are seeing more Great Blue Herons coming into the hatchery.

There were no reported problems with trespassers by the night watchmen. They did assist the Information & Education Unit with opening and closing gates and doors when there was an evening program occurring.

Hackettstown State Fish Hatchery

Intensive Culture (Inventory)

<u>Species</u>	<u># Fish</u>	<u>Avg."</u>
Landlocked Salmon	3,200	8.4"
Northern Pike	36,000	4.7"
Tiger Muskellunge	2,784	3.6"

<u>Stocking Totals</u>		(April 15 – May 14)			
<u>Date</u>	<u>Species</u>	<u>Location</u>	<u># Fish</u>	<u>Size (Inches)</u>	<u>Total Pounds</u>
5/9	Np	Cranberry Lake	2,781	3.9"	35.2
5/9	Np	Virginia F &	2,879	4.1"	42.3
5/10	Np	Deal Lake	4,831	4.0"	62.4
5/9	Tm	Delaware River	3,265	3.1"	18.9
5/2	Mk	Monksville Res.	760	11.0"	157
5/2	Mk	Little Swartswood	120	11.0"	25
5/3	Mk	Lake Hopatcong	2,685	11.0"	560
5/4	Mk	DOD Lake	180	11.0"	38
5/4	Mk	Cooper River Lake	173	11.0"	36
4/15	Wa	Delaware R. – Poxono	277,350	0.5"	2.84
4/16	Wa	Delaware R. – Belv.	752,500	0.5"	7.7
4/17	Wa	Delaware R. – Milford	915,900	0.5"	9.4
4/18	Wa	Delaware R. – Pburg	1,093,275	0.5"	11.2
4/20	Fhm	Camden Co. Mosq.	10,000	1.8"	28
4/20	Fhm	Salem Co. Mosq.	10,000	1.8"	28
4/20	Fhm	Gloucester Co. Mosq.	10,000	1.8"	28
4/20	Fhm	Burlington Co. Mosq.	10,000	1.8"	28
4/27	Fhm	Passaic Co. Mosq.	10,000	1.8"	33.3
4/27	Fhm	Mercer Co. Mosq.	2,500	1.8"	8.3
4/27	Fhm	Monmouth Co. Mosq.	5,000	1.8"	16.7
4/28	Fhm	Warren Co. Mosq.	20,000	1.8"	66
5/5	Fhm	Camden Co. Mosq.	10,000	1.8"	28.6
5/5	Fhm	Salem Co. Mosq.	10,000	1.8"	28.6
5/5	Fhm	Gloucester Co. Mosq.	10,000	1.8"	28.6
5/5	Fhm	Cumberland Co.	6,000	1.8"	17.1
4/20	Gamb	Camden Co. Mosq.	5,000	1.7"	6.72

Intensive Culture

Muskellunge

Stocked all holdover Muskellunge. A total of 3,918 fingerlings were stocked over five water bodies. The fish averaged 11.0 inches and 4.84 fish/pound.

Northern Pike

Currently culturing 36,000 pike fingerlings in seven 1,000-gallon and four 2,000-gallon rectangular tanks. They are all lot 1 fish. Lot 2 surplus fish were stocked in Cranberry and Deal Lakes, and the remainder were given to Virginia. We are still holding some fish for Pennsylvania and Massachusetts to trade for Muskies and Landlocked Salmon. Returned pike broodstock to Budd Lake.

Tiger Muskellunge

Currently culturing 2,784 3.6-inch fingerlings in one 1,000-gallon rectangular tank. Surplus 3,265 were stocked in the Delaware River at Belvidere.

Landlocked Salmon

Currently culturing 3,200 fish about 8.4-inches. After last year's fish were stocked, the crew split the 3,200 new fish into three 2,000-gallon tanks. Staff are cleaning and feeding them daily. These fish will be grown intensively until November and stocked when they reach 16-18 inches.

Intensive Production Work

Turned off the fixed speed Spring water pump after the holdover Muskies, Northern Pike broodstock, and egg hatching jars were finished up. We are currently pumping 400 gpm of 52-degree water, and 310 gallons of 68-degree water. Staff moved the Largemouth Bass tank out to the Silver \$ pond. All Mosquitofish fish were moved out to pond 64. Preparing all the equipment in the 80-degree system for startup.

Extensive Culture

Walleye

The 4-Acre Pond is full and has been fertilized three times preparing for walleye fry setup. Walleye fry were setup in the pond on April 14 and 15 totaling 529,975. Staff have fertilized the pond ten times since the fry were setup using both the sprayer and the boat. Fry were observed for the first time on May 11, 27 days after setup. They are estimated to be about 0.5 inches.

Largemouth Bass

Ponds 13, 17 and 48 West have been filled to be used as Lmb broodstock spawning ponds. Pond 50 was seined and 90 broodstock bass were setup as follows:

Pond 13 – 35 fish

Pond 17 – 30 fish

Pond 48 – 25 fish

The fish were in excellent health when set up. Bass are being observed on nests as of 5/15.

Smallmouth Bass

Pond 15 was filled preparing for bass setup. Pond 50 was seined, and 20 nice bass were set up for spawning. The Yards Creek Smallmouth Bass broodstock collection trip took place on May 11. Eric, Kyle, Doug, and Karl brought back 73 adults and they were placed as follows: 23 in pond 15 and 50 in pond 50.

Fathead Minnows

Ponds 85 and 5-Acre were filled in preparation for minnow broodstock stocking. 250 pounds of minnows were setup in both ponds. The ponds have been fertilized a couple of times and feeding areas are daily.

Golden Shiners

Six ponds have been filled and treated in preparation for the shiner fry delivery. The ponds have been fertilized twice and the fry delivery is scheduled for May 17.

Channel Catfish

Ponds 74, 90, and 92 are being fed daily. Ponds 16 and 57 are full and treated in preparation for the Arkansas delivery which should be in the next couple of weeks. Spawning barrels will be set in pond 90 at the end of May.

Hybrid Striped Bass

Pond 60 is $\frac{3}{4}$ full and has been treated. The flow has been shut back and we are waiting for a call from Delmarva Aquatics to deliver the fry.

Extensive Culture Work

All the extensive ponds are full. Many of them have been treated for weeds and pond dye applied. Fish have been setup in most of them and they are either being fertilized or fed. Screens are being brushed daily, and water levels and flows are being adjusted. Dissolved oxygen and temperature data are being collected.

Mosquitofish

The second, third, and fourth rounds of Fathead Minnows were distributed to County Mosquito Commissions. The State Mosquito Commission purchased 250 pounds of Fathead Minnows from Arkansas and they were delivered to the hatchery. Hatchery staff made two deliveries to the Camden County Mosquito Commission facility and met with 4 southern counties each trip. A total of 150,000 Fathead minnows have been distributed so far this season.

Trout Stocking

Hackettstown is providing a truck and two staff members to stock the lower Pequest River with trout for the last five weeks of the season.

Information & Education

Two hatchery staff attended the Earth Day DEP +2 Celebration at Liberty State Park on April 23. They brought a hatchery distribution truck and filled an aquarium and touch tank with water and fish. They handed out bobbers and literature all day and answered many questions for the public.

Staff gave a tour of the facility and grounds to a group of students from the Hackettstown High School. Gave a hatchery tour to staff from PBS during a Women's Afield Day at the hatchery on April 30.

Provided information and photos for five GoFishFriday. Posts on the Division's social media pages including last week's post #50.

Virtual Job Meeting for Garage Project

Participated in a virtual meeting with DPMC, Treasury, Engineers, and contractors on May 2. Discussions on the type of roof, interior roof screening, drainage, and timelines were discussed. Demolition of the existing structure is scheduled for later this year.

Trout Brook Sediment Issue

Just after noon on May 9, staff observed Trout Brook in the hatchery had turned almost totally Orange. Staff had an idea where this issue was coming from and headed for the site of the old Bergen Tool Factory on Main Street. Staff took photos and immediately alerted Conservation Officers and Hackettstown DPW staff to meet there. Upon arrival it was determined that earlier in the day contractors on the site had removed 60 feet of 36-inch diameter corrugated galvanized pipe which allowed a sizable puddle/pond that had accumulated from the previous weekends 2-3-inch rain to flow into storm drains and into Trout Brook in the area of Route 46. DEP Water Enforcement staff and Warren County Soils staff were on site the following morning. Staff followed up with County staff later in the week and were assured that the issue has been taken care of.

New Alarm System Install – CBT Project

The new alarm system project is complete. Hatchery staff were trained by a PSI technician. An application was provided which will allow staff to view many of the Intensive Recirculation System components and turn off water pumps during emergency situations. Values such as gallons per minute, bulk oxygen levels, UV, boiler temps, drum filter, and biofilter pressures can be looked at in real time from cell phones, laptops, and tablets.

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. Feeders 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 weekly to check on water quality.

Maintenance of Ponds and Grounds

Nearing completion of a CBTM Project in the 5-Acre Pond. Staff finished up dredging the material pushed to the banks. Thanks to NJ Forest Fire for the use of their six-wheel drive dump truck. The project included the rental of an excavator equipped with a compaction head to tamp the bank material. Received a jersey barrier block delivery of 15 that were set in a row from the outflow flume up the pond bottom to the north using our excavator. 100 tons of 4"-12" riprap was spread on the south and east banks of the pond to help control erosion caused by the prevailing NW winds. 200 tons of 2.5" stone was also spread on the roads and banks around the pond to help stabilize the area. Another 75 tons of ¾" stone and 150 tons of 1.5" stone were spread on the roadways around the pond to help with driving and erosion. Staff has done a great

job getting the pond ready to fill. The pond is full and the fish have been stocked. All mowers were serviced and started up. Both hatcheries have been mowed and weed whacked a couple of times. All trees along the entranceway were mulched. A couple of 2 – 3-inch rains found staff pulling boards on the main dam of Trout Brook.

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Maintenance of Buildings and Equipment

All fluids were checked and added to hatchery vehicles. The four distribution trucks were given a full inspection preparing them for the upcoming stocking season. Windshield wipers were changed out and new tires were put on a number of vehicles. A new light assembly was put on the fertilizing boat trailer in preparation for the Yards Creek Reservoir Smallmouth Bass broodstock collection. Hydraulic hoses were replaced on both the John Deere bulldozer and the Koehring excavator. A new water pump and thermostat were put on the excavator. Tuning up the tractor and sickle bar mower. Replaced valves and did a welding job on a Lands Management truck.