

**NJDEP Division of Fish and Wildlife
Bureau of Freshwater Fisheries**

Warmwater Fisheries Assessments 2015

New Jersey has over 400 impoundments open to the general public for fishing and thousands more in private ownership scattered throughout the state. These lentic environments offer excellent fishing opportunities for a variety of species such as bass, sunfish, crappie, and pickerel. These species naturally reproduce in the waterways and often do not require active stocking to sustain their populations. Although mostly self-sustaining, the Bureau of Freshwater Fisheries monitors these populations through boat electrofishing surveys on lakes and ponds throughout the state to assess the current status of warmwater fish populations. Sampling results are used to determine if additional management measures such as supplemental stockings and/or adjustments to current regulations are necessary.



6.66 lb. Largemouth Bass from Assunpink Lake held by Biologist Chris Smith

Lake Electrofishing

Twenty-seven lake electrofishing surveys were conducted in 2015. Assunpink Lake had the highest CPUE for Largemouth Bass at 33 bass/hour during daytime electrofishing. The two largest bass encountered during sampling were also collected at Assunpink Lake. Survey results indicate supplemental stockings of warmwater fish species is required at six of the waterbodies. Additional sampling is warranted at thirteen of waterbodies.

Reproductive Checks

Shoreline seining is also conducted in ponds in July through mid-September to collect young-of-the-year and juvenile fish to assess the extent to which popular game species and forage are reproducing. Documenting reproductive success helps assess stocking success or need as well as compliment other fisheries survey efforts such as electrofishing. These data are also beneficial in documenting the presence of both native and invasive species. Reproductive checks were conducted on 21 lakes in 2015.

Alcyon Lake (Gloucester) - A boat electrofishing survey was completed at the Alcyon Lake (18 acres) on July 24th to evaluate the Largemouth Bass population. The lake has a persistent abundance of aquatic vegetation that lake owners have attempted to control through winter lowering. The lowerings have been unsuccessful and alternate methods, including herbicides, are being considered. A total of 35 Largemouth Bass were collected in 1.05 hours of electrofishing, of which 30 were greater than the 200 mm stock size, resulting in a CPUE of 28 bass/hour. The PSD was 60 and RSD₁₅ was 22, indicating the population is balanced. Despite having a balanced Largemouth Bass population, a large number of undesirable rough fish were observed including Common Carp and White Suckers. Both

species were observed to be abundant and rather large. Removal of these species should be considered to allow more desirable game species to flourish. Additional stocking of Largemouth Bass, Bluegill, and Black Crappie should be considered in 2016.

Assunpink Lake (Monmouth) – Assunpink Lake is one of five lakes managed under the Lunker Bass Program and one of the most utilized Wildlife Management Areas in the state. A boat electrofishing survey was completed at Assunpink Lake (225 acres) on July 9th to evaluate the Largemouth Bass population. A total of 47 Largemouth Bass were collected during 1.02 hours of electrofishing. Thirty-four individuals were greater than the 200 mm stock size, resulting in a CPUE of 33 bass/hour. The PSD was 47 and RSD₁₅ was 23 indicating the population is balanced. The two largest bass collected were 558 mm (22.0 in) and 550 mm (21.7 in) and weighed 3.02 kg (6.66 lbs.) and 2.91 kg (6.42 lbs.). Additional stocking of Largemouth Bass is recommended in 2017.

Budd Lake (Morris) – Budd Lake, a 374 acre natural lake, is situated in the headwaters of the South Branch of the Raritan River and can support a variety of wetland and aquatic plants. A daytime boat electrofishing survey was conducted on July 17th. At an average of 6-8 feet of depth and being heavily vegetated, fish kills occur with regularity. Jan Lovy, Fish Pathologist with the Division of Fish and Wildlife, reported that, similar to the fish kill in Hyper Humus (page 72), it is likely that the kill was attributed to winter kill caused by the lake being ice and snow covered over for an extended period, preventing photosynthesis. It appears that a considerable number of large Northern Pike were impacted in this kill based on several reports from residents of hundreds of dead pike.” In addition, State Fish Hatchery’s annual trap netting for Northern Pike broodstock, which is typically successful in capturing high numbers was atypically low in 2015. The electrofishing survey lasted 1.50 hours and a total of 9 Largemouth Bass were captured ranging from 66 – 454 mm (2.6 – 17.9 in) in length (8 of which were \geq 200 mm), had a PSD of 38, and a CPUE of 5 bass/hr. The PSD indicates the population is composed of smaller individuals, but for a shallow lake with habitat located throughout it appears the abundance of bass is moderate when compared to surveys that were last done in 1987 and 1989. A total of 8 Northern Pike were captured ranging from 182 – 791 mm (7.2 – 31 in) in length and had a PSD of 71. In terms of catching Northern Pike via daytime boat electrofishing, catch rates are higher than when previous surveys were conducted in 1987 and 1989. The PSD also indicates the population is well balanced. Other notable species captured include Bluegill, Yellow Perch, and White Perch that were overly abundant. The results indicate that the Northern Pike population is still doing well, but the concern was not completely lifted by this sampling effort. Monitoring should continue here especially since this waterbody is a productive Northern Pike broodstock lake for the hatchery.

Clove Acres Lake (Sussex) – Clove Acres Lake (20 acres) was electrofished on July 30 with a Smith Root Electro-fishing boat



Seasonal Technicians Ryan Preston and Chrissy Szpond at Clove Acres Lake with Largemouth Bass

to determine the status of the lake's fish population. Sampling of the lake was requested by the Town of Sussex's lake manager. The lake was lowered prior to Superstorm Sandy in 2012, but was lowered beyond the level advised for fish survival. It was thought that the fish population suffered major losses due to the lowering and the current fish population and health of the fish population was unknown. After sampling the lake on July 30, it was determined that the fishery is in good condition. Largemouth Bass in several age classes including a few fish over 3 lbs. were collected. PSD for Largemouth Bass was 65 which indicates a balanced population. Ten different species were found in the lake including Sunfish (Bluegill & Pumpkinseed), Golden Shiner, and Yellow Perch.

Columbia Lake (Warren) – Columbia Lake (48 acres) was electrofished on July 10 to determine the status of the fish population. The sampling was done as part of the Paulins Kill Restoration Project, which is proposing to remove the Columbia Lake Dam to restore connectivity to 10.9 stream miles. This pre-dam removal assessment of the fish population found 132 individual fish, comprised of 16 different species. Interestingly, 12 stocked Rainbow Trout and 1 stocked hybrid trout were found near a large underground spring. The underground spring provides an area of coldwater refuge from summer elevated lake temperatures. The lake temperature was 22.9 °C while the area where the trout were found was 14.2 °C. Not surprisingly, 0 American Shad, 0 Blueback Herring, and only 3 American Eels (0 of which were less than 200 mm) were found in Columbia Lake further indicating that the Columbia Lake Dam impedes fish movement. Other species found included Largemouth Bass, Smallmouth Bass, Bluegill, Pumpkinseed Sunfish, Redbreast Sunfish, Rock Bass, Brown Bullhead, Golden Shiner, Yellow Perch, White Sucker, and Common Carp.

Cooper River Park Lake (Camden) – A boat electrofishing survey was completed at Cooper River Park Lake (150 acres) on August 3rd to evaluate the Largemouth Bass and known invasive Northern Snakehead populations. A total of 38 Largemouth Bass were collected in 1.24 hours of electrofishing. There were 31 Largemouth Bass greater than the 200 mm stock size, resulting in a CPUE of 25 bass/hour. The PSD was 35 and RSD₁₅ was 19, indicating the population is unbalanced. An extensive dredging project is scheduled to begin during the fall of 2015. Stocking of additional young-of-the-year (YOY) Largemouth Bass is recommended after the dredging project is completed. Fluctuating water levels during spawning season have presumably affected reproduction. One adult Northern Snakehead measuring 600 mm (23.6 in) was collected.

Davis Mill Pond (Cumberland) – A boat electrofishing survey was completed at Davis Mill Pond (40 acres) on July 7th to evaluate the Largemouth Bass population. The lake was suspected to have been affected by Largemouth Bass Virus in recent years. Anglers reported poor fishing success in 2010, which prompted electrofishing surveys in 2011 and 2012. Electrofishing surveys confirmed that the population had been impacted. Supplemental stockings of Largemouth Bass were completed in 2013 and 2014 to enhance the population. A total of 53 Largemouth Bass were collected in 1.27 hours of electrofishing. Thirty-eight Largemouth Bass were greater than the 200 mm (8 in) stock size, resulting in a CPUE of 29 bass/hour. A total of 15 individuals were less than the stock size. The PSD was 79 and RSD₁₅ was 21, indicating the population is balanced. The lake should be resampled by electrofishing in 2018 to monitor the population.

Deal Lake (Monmouth) – A boat electrofishing (0.96 hours) survey was conducted at Deal Lake (158 acres) in Asbury Park on September 23rd. Deal Lake was one of the coastal lakes that experienced a fish kill due to inundation with salt water by Hurricane Sandy in October 2012. Subsequently, after the water became fresh again, it was restocked in the fall of 2013 with Northern Pike, Largemouth Bass, Bluegill, Brown Bullheads and Channel Catfish from the

Hackettstown State Fish Hatchery. Electrofishing was not possible on the northern and southern arms of the lake due to bridge construction, therefore only the middle arm of the lake was sampled. The fish assemblage consisted of 10 species including Largemouth Bass (9), Black Crappie (1), sunfish sp. (100+), Gizzard Shad (300+), Common Carp (100+), Yellow Perch (200+), White Perch (200+), Brown Bullhead (6), Alewife (15), and American Eel (16). It appears the fish population is recovering from the effects of Hurricane Sandy. It is recommended that electrofishing be repeated when the northern and southern (historically, the most productive) arms are accessible. Reproduction checks (shoreline seining) should also be conducted.

Delaware Lake (Warren) – This 36 acre lake, located within the Paulins Kill WMA near the town of Columbia, has been regulated as a Lunker Bass Lake since 2000. A boat ramp and dock are present and anglers have good shoreline access, particularly along the long, earthen spillway. On October 8, 2015 the perimeter of the lake was electrofished at night (two complete passes) to assess the bass fishery. A total of 83 Largemouth Bass were collected in 1.88 hrs. The bass ranged in size from 120 – 491 mm (4.7 – 19.3 in) and weighed 0.02 – 2.13 kg (1 oz - 4.7 lbs). Half of the bass caught (42 fish) measured 200 – 300 mm (8 – 12 in). These fish are likely among those that were stocked by the Hackettstown State Fish Hatchery in 2012 (2,000 bass, primarily fingerlings, stocked). Of the 83 bass captured, 72 were at least 200 mm (8 in) for a catch per unit effort of 38 fish/hr. PSD was 42, RSD-P was 6, and RSD-M was 0. Although the PSD indicates a balanced bass population, all values are noticeably below the accepted ranges for a “big bass” (i.e., lunker bass) lake (PSD 50–80, RSD–P 30-60, and RSD–M 10-25). When surveyed in 2001 the PSD was 38, RSD-P was 18, and RSD-M was 0. Since the lake was opened for public fishing the fishing pressure has increased and it is possible anglers are harvesting the bigger bass, especially through the ice, despite the restrictive regulation. Another electrofishing survey should be conducted in 2016 (and bass scales taken for aging purposes) to better assess the bass population dynamics before considering any fisheries management actions.

Delaware River (Camden) – A boat electrofishing survey was completed at the Delaware River near Pennsauken Creek on August 4th to evaluate the Largemouth Bass population. A total of 15 Largemouth Bass were collected in 1.05 hours of electrofishing. All individuals were greater than the 200 mm stock size. One Smallmouth Bass measuring 396 mm (15.6 in) was collected. Adult Channel Catfish were observed to be rather abundant. No additional stocking or sampling is recommended at this location.

DOD Lake (Salem) – A boat electrofishing survey was completed at DOD Lake (120 acres) on July 13th to evaluate the Largemouth Bass and invasive Northern Snakehead populations. A total of 45 Largemouth Bass were collected in 1.30 hours of electrofishing, 36 of which were greater than the 200 mm stock size. The CPUE for individuals greater than the 200 mm stock size was 27 bass/hour. The PSD was 69 and RSD₁₅ was 14, indicating the population is slightly unbalanced. Two Northern Snakeheads were collected, measuring 320 mm (12.6 in) and 375 mm (14.8 in). Two additional snakeheads were observed but escaped capture. Snakeheads are believed to have entered the lake through a pipe connecting directly to the Delaware River. In addition, two adult Bowfin and two adult Alewife were collected. DOD Lake has been stocked with both Muskellunge and Smallmouth Bass. Neither species were collected during sampling. The DOD Lake should only receive surplus Muskellunge and should be removed from the regular stocking list. The stocking of Smallmouth Bass should also be discontinued.

Farrington Lake (Middlesex) - A boat electrofishing survey was completed at the Farrington Lake (290 acres) on July 17th to evaluate the Largemouth Bass population. A total of 26 Largemouth Bass were collected in 1.11 hours of electrofishing. Electrofishing was restricted to the section of the lake between Church Lane and Washington Place due to the low bridges. Fifteen individuals were greater than the 200 mm (8 in) stock size. The CPUE was 13 bass/hour. The PSD was 73 and RSD₁₅ was 27, indicating the population is balanced. One Channel Catfish was collected, measuring 605 mm (23.8 in) and weighing 2.52 kg (5.56 lbs.). No stocking of Largemouth Bass is recommended at this time.

Green Turtle Pond (Passaic) – Green Turtle Pond, a 40 acre lake, is situated between the larger Greenwood Lake and Monksville Reservoir, all of which drain into the Wanaque River. A daytime boat electrofishing survey was conducted here on July 29th. The survey lasted 1.45 hours and a total of 58 Largemouth Bass were captured ranging from 41 – 418 mm (1.6 – 16.5 in) in length and had a PSD of 12. Of the 58 captured, 33 were larger than 200 mm (CPUE of 23 bass/hr). The population was dominated by smaller sized individuals and is out of balance. Panfish, including Bluegill, were abundant and Bluegill had a PSD of 49. Plenty of habitat and forage exists. No action needs to be taken at this time, but an additional electrofishing survey should be conducted here in the early spring or late fall of 2016 to determine additional management strategies that can be implemented, if necessary, to help restore balance to the fishery.

Manasquan Reservoir (Monmouth) – A boat electrofishing survey was completed at Manasquan Reservoir (720 acres) on August 19th to evaluate the Largemouth and Smallmouth Bass populations. A total of 18 Largemouth and 4 Smallmouth Bass were



Manasquan Reservoir Largemouth Bass held by Seasonal Technician Ryan Preston

collected. The CPUE for Largemouth Bass was 15 fish/hour. The sample size was too small to calculate a CPUE for Smallmouth Bass. Two Largemouth Bass in excess of five pounds were collected weighing (2.430 and 2.640 kg) in 1.17 hours of daytime electrofishing. An additional survey should be completed at night during the spring of 2016 to further evaluate the population. Surplus

Smallmouth Bass have been stocked in recent years to enhance the population and should continue to be stocked in the future.



Long time Seasonal Technician Scott Ward with two nice Largemouth Bass from Mercer Lake

Mercer Lake (Mercer) – A boat electrofishing survey was completed at Mercer Lake (275 acres) on

July 10th to evaluate the Largemouth Bass population. Mercer Lake was impacted by Largemouth Bass Virus, however the population appears to be recovering. A total of 59 Largemouth Bass were collected during 1.61 hours of electrofishing. Twenty-six individuals were greater than the 200 mm stock size, indicating a CPUE of 16 bass/hour and 32 were less than the stock size. The PSD was 65 and RSD₁₅ was 38 indicating the population is balanced. Young-of-the-year (YOY) Largemouth Bass were stocked in 2015 to enhance the population. Electrofishing should be conducted at night in 2016 and 2017 to further monitor the Largemouth Bass Population and stocking success.

Merrill Creek Reservoir (Warren) – This 650 acre, privately-owned reservoir is the deepest waterbody in New Jersey (64 m (210 ft.)). It boasts an excellent bass fishery, dominated by Smallmouth Bass, is stocked annually with trout (currently Rainbows), and supports a reproducing Lake Trout population. Every seven years the reservoir’s owner and their aquatic consultant electrofish the shoreline to assess the warmwater fishery, and in particular, the black bass population. This assessment, consisting of one hour of night electrofishing, at each of four stations, was conducted on May 20, 2015. NJDFW participated in this survey and highlights of the data collected are summarized here. Twelve fish species captured, ranked by abundance include: Bluegill, Redbreast Sunfish, Smallmouth Bass (SMB), Largemouth Bass (LMB), Rock Bass, Pumpkinseed, Yellow Perch, Rainbow Trout, Chain Pickerel, Common Carp, Black Crappie, and Lake Trout. A total of 159 black bass (95 SMB and 64 LMB) were collected, measured, and weighed. The bass ranged in size from 120–491 mm (4.7–19.3 in) and weighed 0.02–2.13 kg (1 oz. to 4.7 lbs.). Scale samples were taken from a subset of bass, for age and growth determination. Of the bass collected, 112 bass (61 SMB; 51 LMB) were minimum stock size (at least 180 mm (7 in) for SMB and 200 mm (8 in) for LMB); the CPUE was 28 bass/hr. (15 SMB/hr, 13 LMB/hr.). The PSD, RSD-P, and RSD-M for bass were as follows:

Smallmouth Bass (SMB)			Largemouth Bass (LMB)		
PSD (Quality) > 280 mm (11 in)	RSD-P (Preferred) > 350 mm (14 in)	RSD-M (Memorable) > 430 mm (17 in)	PSD (Quality) > 300 mm (12 in)	RSD-P (Preferred) > 380 mm (15 in)	RSD-M (Memorable) > 510 mm (20 in)
67	48	24	63	35	4

The PSD and RSD values provide insight about the bass population dynamics. The bass population is considered “balanced” (PSD’s 40-70). In addition, the SMB population met the criteria for management under the “big bass” option established by Willis et al. (1993): PSD 50–80, RSD–P 30-60, and RSD–M 10-25. This data, and data from past surveys, has consistently shown the reservoir to have a good Smallmouth Bass fishery. This reservoir may be a good candidate for lunker (trophy) bass regulations. The fisheries data collected will be further analyzed by the consultant, and the results will be jointly reviewed by NJDFW and reservoir staff, and used to manage the reservoir's fishery.

Mullica Hill Pond (Gloucester) - Township officials requested an evaluation of the fish population following a dam repair project that was completed in spring of 2015. A boat electrofishing survey was completed at the Mullica Hill Pond (10 acres) on July 24th to evaluate the Largemouth Bass population. A total of 14 Largemouth Bass were collected in 0.30 hours of electrofishing, of which 9 were greater than the 200 mm stock size, resulting in a CPUE of 18 bass/hour. A total of 13 species of fish were collected including Bluespotted

Sunfish, Swamp Darter, and Pirate Perch. The lake was previously part of the trout stocking program and removed due to limited access and concern for employee and angler safety, due to the high traffic volume on the roadway. Although traffic volume has been reduced, due to the creation of the Mullica Hill by-pass road, declining water quality and a significant reduction in the size of the pond do not make it a desirable candidate for trout stocking. A fish ladder was incorporated into the new dam and will be maintained by Harrison Township. The fish ladder should remain open only during the peak of the river herring run in April and May due to the presence of Northern Snakeheads downstream of the dam. This lake might get stocked in 2016 if surplus warmwater fish are available.

Pompton Lake (Passaic) – A daytime boat electrofishing survey was conducted on July 23rd to assess the Largemouth Bass population. The survey lasted 1.56 hours and a total of 22 Largemouth Bass were captured ranging from 55 – 448 mm (2.2 – 17.6 in) in length, 9 of which were larger than 200 mm (CPUE of 6 bass/hr). The population appears to be moderately abundant and balanced with a PSD of 77. Other notable species captured were Northern Pike (stocked) (1 at 476 mm (18.7 in)), Bluegill Sunfish, and Yellow Perch. An electrofishing survey has not been conducted here in over 20 years and this data shall provide a baseline for future work. This lake will continue to be monitored.

Prospectown Lake (Ocean) – A boat electrofishing survey was completed at Prospectown Lake (80 acres) on July 6th to evaluate the developing fish population. The dam failed and was replaced in 2012. The lake was restocked in 2013 with Largemouth Bass, Bluegill, Golden Shiner, and Brown Bullheads. A total of 18 Largemouth Bass were collected in 1.05 hours of electrofishing. There were 12 bass greater than the 200 mm stock size resulting in a CPUE of 11 bass/hour. The PSD was 50 and RSD₁₅ was 25 indicating the population is balanced. Reproduction appears to be adequate based on the number of Age I and young-of-the-year Largemouth Bass observed. No further stocking is recommended at this point. The Brown Bullhead population should be reduced to alleviate competition with native species.

Rising Sun Lake (Monmouth) – A boat electrofishing survey was completed at Rising Sun Lake (38 acres) on July 6th to evaluate the Largemouth Bass population. A total of 52 Largemouth Bass were collected in 0.70 hours of electrofishing. Twenty-four bass were greater than the 200 mm stock size resulting in a CPUE of 34 bass/hour and 28 were less than 200 mm. The PSD was 13 and RSD₁₅ was 4, indicating the population is not balanced. These results were similar to a survey completed in 2014. The Bluegill and Pumpkinseed population appears to be adequate, with good numbers observed, however the lack of forage base species diversity may limit the growth and expansion of the bass population. The Largemouth Bass population should be resampled in 2017 to see if there are any changes. Golden Shiners should be stocked in 2016, if available from the hatchery.

Salem Canal (Salem) – A boat electrofishing survey was completed at the Salem Canal on July 21st to evaluate the Largemouth Bass population. Anglers reported an abundance of small Largemouth Bass below the 12” legal size limit, indicating possibly one or two very successful year classes. A total of 66 Largemouth Bass were collected in 1.34 hours of electrofishing, of which 43 were below the 200 mm stock size. The abundance of small fish should provide good fishing opportunities in the future. Scale samples were collected from a sub-sample of individuals below 200 mm for age determination. Growth rates were normal for fish of ages I and II. A follow up electrofishing survey will be completed in 2017 to evaluate the population distribution. No additional stocking is necessary at this time.

Sheppard Lake (Passaic)– Sheppard Lake, a 74 acre lake situated inside Ringwood State Park, is heavily used for multiple recreational purposes, such as swimming, kayaking, and fishing. A daytime boat electrofishing survey was conducted here on July 31st. The survey lasted 1 hour and a total of 60 Largemouth Bass were captured. However, only 6 Largemouth Bass were larger than 200 mm (7.9 in), indicating the population was unbalanced (CPUE of 6 bass/hr). The amount of fishing that occurs may have resulted in over harvest of Largemouth Bass. Sheppard Lake also has holdover trout water, but no trout were encountered in this survey. Another electrofishing survey will be completed in 2016 to obtain more data on the fishery.



Boat Electrofishing at
Sheppard Lake

South Vineland Park Pond (Cumberland) – A boat electrofishing survey was completed at South Vineland Park Pond (30 acres) on July 30th to evaluate the Largemouth Bass and Smallmouth Bass populations. A total of 7 Largemouth Bass greater than 200 mm were collected in 1.00 hour of electrofishing. Abundant young-of-the-year (YOY) Largemouth Bass were observed during electrofishing, however no Smallmouth Bass were collected or observed. A total of five fish species including Largemouth Bass, Bluegill, Pumpkinseed, Black Crappie, and Yellow Perch were observed. The fish appeared to be occupying deeper water habitat than the electrofishing boat could effectively sample, therefore additional sampling during the spring of 2016 is required.

Steenykill Lake (Sussex) – Steenykill Lake was electrofished on August 3rd 2015 with a Smith Root Electrofishing boat to determine the health and status of the lake. Historical records indicate that Bridle Shiners were once found in the lake. In 2014, biologists from the Bureau sampled the lake (seine) for Bridle Shiners and to assess reproductive status of fish in the lake. Sampling with a seine proved difficult due to the lake's extensive vegetation. The 2014 results did not find any Bridle Shiner and suggests that the Largemouth Bass population may be small. The electrofishing survey in 2015 also did not find any Bridle Shiner and showed a limited Largemouth Bass population as only 2 Largemouth Bass was found during the survey. Unfortunately, the electrofishing boat malfunctioned and the survey was cut short. A return sampling effort is needed to help determine the status of the Largemouth Bass population. Further seining may also be necessary to determine if there are any remaining Bridle Shiner in the lake. Other species found during the survey include Chain Pickerel, Golden Shiner, Pumpkinseed, Bluegill, and Yellow Perch.

Sunset Lake (Cumberland) – The Sunset Lake dam failed in 2012 and the lake remained completely drained until the spring of 2015 when a dam repair was completed. Sunset Lake was one of the most popular bass fishing locations in the southern part of the state. The lake was restocked with Largemouth Bass and Bluegill by Hackettstown State Fish Hatchery in June of 2015. A boat electrofishing survey was completed at Sunset Lake (88 acres) on October 30th to evaluate the Largemouth Bass population. A total of 12 species of fish including Largemouth Bass, Bluegill, Creek Chubsucker, Fallfish, Black Crappie, Pumpkinseed, Golden Shiner, Common Carp, Chain Pickerel, Gizzard Shad, Banded Killifish, and Rainbow Trout were collected during one hour of daytime electrofishing. A

total of 32 Largemouth Bass were collected. Twenty-nine of the bass collected were below the 200 mm stock size and the result of the recent hatchery stocking. The lake will be restocked with Largemouth Bass again in 2016. The population will continue to be monitored over the next couple years to determine stocking needs.

Tilcon Lake (Morris) – This 88-acre lake is located in Allamuchy Mountain State Park in Mt. Olive Township. When the Musconetcong River breached its banks during severe flood events in the early 2000's, water from the river inundated this former quarry and created the lake. Since 2011 the lake has been annually stocked with Smallmouth Bass (primarily fingerlings). When *Holdover Trout Lake* regulations were implemented at this lake in 2014, NJDFW began stocking catchable-sized Landlocked Salmon. The entire perimeter of the lake (and a small island) was electrofished at night on October 29, 2015 to assess the black bass fishery. Total run time was 1.53 hrs. The littoral areas dropped off sharply and expansive beds of aquatic vegetation (Eurasian Water Milfoil) extended into deeper water (but not to the surface) due to high water transparency (secchi disk measurement of 25 ft. on August 25) made sampling difficult. Fish were not very numerous and all fish were collected to the extent possible. A total of 93 fish were captured and 10 species were documented (Largemouth Bass, Chain Pickerel, Landlocked Salmon, Bluegill, Pumpkinseed, Bluespotted Sunfish, Yellow Bullhead, Creek Chubsucker, Common Carp, and Alewife). A total of 18 LMB were captured, ranging in size from 72–474 mm (2.8–18.7 in) and weighed from 0.1–1.6 kg (0.2 oz – 3.5 lbs). Only the smallest of these fish was considered to be a young-of-the-year. Of the bass collected, 15 were at least 200 mm (8 in), for a low CPUE of 9.8 bass/hr. The bass may be more numerous than this catch rate indicates if they reside primarily in deeper water (due to the drop-offs) or if they already moved into deeper water due to cooling water temperatures (surface water temperature was 13.9 °C). Twelve of the bass captured were at least 300 mm (12 in) and 8 of these were 380 mm (15 in) or greater. The PSD and RSD-P for bass could not be reliably determined because of the small sample size (suitable number of quality-length fish compared to stock-length fish not obtained). Despite recent stockings of Smallmouth Bass, none were encountered during this survey. The pickerel (18 individuals captured) ranged in size from 205–510 mm (8.1–20.1 in). The six Landlocked Salmon captured were likely those that were stocked earlier in the week. One Bluespotted Sunfish, a native sunfish species, was also collected. Another electrofishing survey (at night) should be conducted to better assess the bass fishery and to determine if continued stocking of Smallmouth Bass is warranted.