

**NJ DIVISION OF FISH AND WILDLIFE**  
**Bureau of Freshwater Fisheries**

**2015 Warmwater Reproduction Checks (Shoreline Seining)**

**Alloway Lake (Salem)** – A seining survey was completed at Alloway Lake (120 acres) on July 29<sup>th</sup> to evaluate the Largemouth Bass population. Alloway Lake was opened to the public in 2008 and a lake management plan was prepared in 2010. The lake has been managed as a Lunker Bass Lake since 2010. A total of 18 young-of-the-year (YOY) Largemouth Bass were collected in 12 seining locations. Largemouth Bass were found at 67% of the locations. A total of seven species of fish including Largemouth Bass, Bluegill, Yellow Perch, Black Crappie, Tessellated Darter, Bluespotted Sunfish, and Tadpole Madtom were collected. Additional stocking of Largemouth Bass will be considered in 2016.

**Amico Island Pond (Burlington)** – At the request of Burlington County Parks, a seining survey was completed at Amico Island Pond (1 acre) on July 16<sup>th</sup>. Due to limited access and seining locations only two locations were sampled. A total of seven young-of-the-year (YOY) Largemouth Bass and 11 YOY Bluegill were collected. The location appears to get a fair amount of fishing pressure and should be considered as a potential stocking location in the future for surplus warmwater fish.

**Bear Pond (Sussex)** – This shallow, privately-owned 63 acre lake was last surveyed in the 1950's, when it was open to public fishing through a boat livery. The 1950's survey documented 15 fish species, including Bluespotted Sunfish. The survey report also indicated two minnows found in the stomach of a pickerel may have been Bridle Shiners. However it is possible that these shiners may have been Creek Chubsuckers, which were also documented in the survey and are similar in appearance to Bridle Shiner. The 2015 survey was conducted to determine if Bluespotted Sunfish persist in the lake and if Bridle Shiners are present. Due to the steep ledges along the shoreline combined with mucky shallows only seven suitable sites were located and seined on September 24, 2015. Seven fish species (Largemouth Bass, Chain Pickerel, Yellow Perch, Bluespotted Sunfish, Bluegill, Pumpkinseed, and Black Crappie) were documented, with Bluegill the most abundant (79) followed by Pumpkinseed (33), and Bluespotted Sunfish (23). This fishery should be sampled again in 2016, using minnow traps to target locations having mucky substrate, to better assess cyprinids.

**Crystal Lake (Burlington)** – At the request of Burlington County Parks, a seining survey was completed at Crystal Lake (~5 acres) on July 28<sup>th</sup>. Only two seining locations were accessible. A total of three species of fish were collected including Largemouth Bass, Bluegill, and American Eel. Downstream of the spillway of Crystal Lake is a popular location for catching Northern Snakeheads. Poor access limits the ability to effectively sample the waterbody. No additional sampling or stocking is scheduled.

**Egg Harbor Township Nature Reserve Pond (Atlantic)** – A seining survey was completed at the Egg Harbor Nature Reserve Pond (~50 acres) on July 31<sup>st</sup> to evaluate the Largemouth Bass population. A total of 18 young-of-the-year (YOY) Largemouth Bass were collected in 12 seining locations. Largemouth bass were found at 67% of the locations. Only two species of fish were collected. Pumpkinseeds were encountered at 83% of sampled locations. No YOY Pumpkinseeds were collected. No additional sampling or stocking is recommended.

**Hartshorne Woods Park Pond (Monmouth)** - A reproductive check could not be conducted at Hartshorne Woods Pond (2 acres), Highlands on July 14<sup>th</sup> due to the heavy shoreline vegetation and the soft, silt bottom. Sunfish and Largemouth Bass were observed from a dock. Stocking is unnecessary.

**Hyper Humus Ponds (Sussex)** – The largest of ponds located in the Paulins Kill River Hyper Humus Wildlife Management Area known as Hyper Humus Pond had a rather large fish kill reported on April 11, 2015. The fish kill was investigated by NJDFW Pathologist Dr. Jan Lovy, who estimated over one thousand fish including over a thousand sunfish and several hundred large Largemouth Bass were found dead. Most of the bass were over 15” in length and some were estimated to be around five pounds. A single large carp was also observed dead. Water quality parameters appeared normal (temp: 12.5°C, dissolved oxygen of 10.5 mg/L, and a pH of 8.5). It was determined that the cause of the fish kill was due to low dissolved oxygen levels in the pond. Low dissolved oxygen levels can occur in shallow ponds with large snow and ice accumulations limiting the amount of sunlight to reach plants in the lake limiting photosynthesis which release oxygen. The plants die and decompose, which further uses oxygen dissolved in the water. The whole process is known as “winter kill.” Hyper Humus Ponds were originally created in the 1900’s by a peat and humus mining operation belonging to the Hyper Humus Company. The pond is only a couple of feet deep with high levels of decomposing vegetation and will most likely suffer from re-occurring winter kill preventing a fishery to fully develop. Sampling of the pond with a seine was attempted this summer, but the substrate, dominated by decaying plant matter, made it nearly impossible to seine and no fish were collected. It was determined that management of the Hyper Humus Wildlife Management Area ponds should be directed towards birds and other wildlife and not as a fishery. The ponds will not be stocked in response to this winter’s fish kill or future fish kills that may occur.

**Indian Lake (Bergen)** – At the request of an angler who reported that a fish kill occurred during Hurricane Sandy, a reproductive check was conducted at Indian Lake (6 acres) in Little Ferry on July 28<sup>th</sup>. This lake is stocked with trout during the spring, and as expected, none were collected during this summertime survey. The fish assemblage consisted of six species included Largemouth Bass (3), Black Crappie (9), Pumpkinseed (115), White Perch, Mummichog, and Banded Killifish. The low numbers of Largemouth Bass and Black Crappies collected indicate that perhaps a fish kill did take place as a result on Hurricane Sandy, although it was never reported at that time. Salinity (1.13 ppt) was acceptable to restock freshwater fish and as a result the Hackettstown State Fish Hatchery will stock Largemouth Bass, Bluegill, and Brown Bullheads in 2016.

**Lincoln Park Pond (Hudson)** - At the request of an angler, a reproductive check was conducted at Lincoln Park Pond (4 acres) in Jersey City on August 11<sup>th</sup>. The fish assemblage consisted of only two species: Pumpkinseed and Killifish sp. As a result of this survey the Hackettstown State Fish Hatchery stocked: Largemouth Bass, Bluegill, and Brown Bullheads. A follow-up survey should be conducted within the next few years to determine the status of the fishery.

**Olympia Lakes (Burlington)** – At the request of Burlington County Parks, a seining survey was completed at both lakes at Olympia Lakes (~20 acres) on July 16<sup>th</sup>. A total of 12 locations were sampled in the “front lake” and eight locations were sampled in the “back lake.” Five species of fish were collected including Largemouth Bass, Bluegill, Mosquito Fish, Banded Killifish, and Bluespotted Sunfish. Bluegill were determined to be rather abundant with both young-of-the-year (YOY) and intermediates well represented. Only three YOY Largemouth Bass were collected. A boat electrofishing survey should also be conducted in 2016 to better assess the fish population. Both lakes will be stocked with Largemouth Bass in 2016 due to the excessive fishing pressure.

**Rosedale Lake (Mercer)** - Rosedale Lake (30 acres) was seined as part of a native fishes assessment in which staff are going back to waterbodies where rare fish were previously documented. Bridle Shiners were documented in Rosedale Lake in 1970. Unfortunately, none were found when surveyed on June 11. The assemblage of fish was typical for a park pond, consisting of a well balanced, reproducing Largemouth Bass and Bluegill population, however no young-of-the-year (YOY) Bluegills were found due to the early date in which this lake was seined. Other species collected include Black Crappie, Banded Killifish, Golden Shiner, and Gizzard Shad. Rosedale Lake is stocked with Rainbow Trout in the spring and fall and Channel Catfish annually.

**Round Valley Reservoir (Hunterdon)** - Round Valley Reservoir (2,350 acres) is an oligotrophic lake that managed as a Trophy Trout Lake and has produced four current state records (Lake Trout, Brown Trout, Smallmouth Bass, and American Eel). The primary forage base was historically Alewives, however the population declined in the mid-1990's and is virtually non-existent today. In an effort to re-establish an alternate forage species, Golden Shiners were stocked in recent years cooperatively by Round Valley Trout Association and NJDFW. Round Valley Reservoir was seined on June 12 to determine if the Golden Shiners have established and if they are reproducing. Although no Golden Shiners were found, an assortment of other baitfish species was documented including Banded Killifish and Spottfin Shiners. Only one Largemouth Bass and no Smallmouth Bass were collected during this survey. Other species found include Rock Bass, Redbreast Sunfish, and Bluegill.

**Ruckman's Pond (Bergen)** – A reproductive check was conducted at Ruckman's Pond (3 acres) at The Closter Nature Preserve, Closter on August 7<sup>th</sup>. The fish assemblage consisted of four species including Largemouth Bass, Pumpkinseed, Green Sunfish, and Golden Shiner. Subsequent to the sampling, after a discussion with the preserve's manager, stocking was determined to be needed. He was interested in stocking Triploid Grass Carp to control the over abundant aquatic vegetation. An application was submitted, reviewed and approved for the stocking of 10 Triploid Grass Carp.

**Smithville Lake (Burlington)** – At the request of Burlington County Parks, a seining survey was completed at Smithville Lake (10 acres) on July 28<sup>th</sup>. A total of six locations were sampled and six species of fish were collected including Bluegill, Brown Bullhead, Golden Shiner, Largemouth Bass, Black Crappie, and Pumpkinseed. Bluegill and Brown Bullhead were the most abundant species collected. The lake is extremely shallow however this location may benefit from surplus warmwater fish including Largemouth Bass, Brown Bullhead, and Black Crappie.

**Steenykill Lake (Sussex)** – On August 24, Bureau of Freshwater Fisheries staff sampled Steenykill Lake with a seine to determine the current fish species composition of the lake. Historical records show that a rare native species, Bridle Shiner, were once found in the lake. Unfortunately, no Bridle Shiners were found at the 6 sites sampled during this survey. Previous sampling in 2014 with a seine also did not yield any Bridle Shiner. After two un-successful attempts to find Bridle Shiners in Steenykill Lake, it is likely that the species has been lost from this location. However, it is important to note that seining is difficult in Steenykill Lake as it has steep slopes and significant aquatic vegetation that impedes seining. It is possible that Bridle Shiners do reside in the lake and were just not collected under the difficult sampling conditions. Other species found during this survey include Chain Pickerel, Largemouth Bass, Bluegill Sunfish, Pumpkinseed Sunfish, and Golden Shiner. Other sampling techniques such as minnow traps should be considered before claiming that Bridle Shiner are lost from the lake.

**Stephen R. Gregg Park Pond (Hudson)** – At the request of an angler, a reproductive check was conducted at Stephen R. Gregg Park Pond (3 acres) in Bayonne on August 10<sup>th</sup>. The fish assemblage consisted of only one species: Mummichog. As a result of this survey the Hackettstown State Fish Hatchery stocked: Largemouth Bass, Bluegill, and Brown Bullheads. A follow-up survey should be conducted within the next few years to determine the status of the fishery.

**Strawbridge Lake (Burlington)** - Strawbridge Lake (14 acres) was surveyed as part of a native fishes assessment in which staff are resampling waterbodies where less common fish were previously documented. This waterbody has experienced multiple drawdowns, fish salvages, and stockings in it's history. Bluespotted Sunfish were collected when surveyed in 1950 and were considered common to this waterbody. This seining survey yielded a well balanced population of Largemouth Bass, Pumpkinseeds, and Bluegills. Other species encountered include Black Crappie, Brown Bullhead, Mosquitofish sp, and a limited number of Bluespotted Sunfish. In addition, several *Enneacanthus* species less than 20 mm in length were retained, but too small to be identified to the species level. Native species found in 1950, but not in this brief survey, include Chain Pickerel, Redbreast Sunfish, Creek Chubsucker, and Eastern Mudminnow, however additional effort may unveil these species.

**Success Lake (Ocean)** – A seining survey was conducted at Success Lake (57 acres) in response to a discussion that took place at the Jersey Shore Aquarium Society Meeting in April 2013. A presentation was given to the members of the Society in which information was presented regarding the status of Native and Non-native freshwater fish. A member suggested that NJDFW conduct a survey at Success Lake, as he recalls collecting the rare Ironcolor Shiner from this location. Although the Ironcolor Shiner was not found during this survey, the lake has primarily a native fish assemblage composed of Swamp Darter, Banded Sunfish, Bluespotted Sunfish, Pirate Perch, Chain Pickerel, and Creek Chubsucker. Only two non-native fishes were found, Bluegills and Largemouth Bass. In fact only one Largemouth Bass was captured. This low abundance is expected, as Success Lake is naturally very acidic (5.13 pH). A pH of less than 5 is considered to be too low for consistent reproduction of this species. This condition warrants the prioritization to manage it for native acidophilic species, such as those that are found here, and to abandon the notion of stocking non-native game species, and should not be stocked.



Bluespotted Sunfish

**Topanemus Lake (Monmouth)** – Following a request by the local environmental commission, a reproductive check was conducted at Topanemus Lake (21 acres) in Freehold Township on August 3. The fish assemblage was relatively diverse for a park pond, consisting of eight species including Largemouth Bass, Chain Pickerel, Black Crappie, Bluegill, Pumpkinseed, Yellow Perch, Brown Bullhead, and Golden Shiner. Largemouth Bass and sunfish species appear to be well-balanced with an average of 3.75 Largemouth and 35 sunfish per seine haul. Topanemus Lake is stocked with Rainbow Trout in the spring and winter. Channel Catfish will continue to be stocked in this lake, however survey results indicate there is no need to stock any additional warmwater fish at this time.

**Tuckahoe Lake (Atlantic)** - Tuckahoe Lake (19 acres) was surveyed as part of a native fishes assessment in which staff are returning to waterbodies where rare fish were previously documented. Mud Sunfish were recorded from the 1950 survey and they appeared in this seining survey as well. Quite a few *Enneacanthus* species were collected during this survey. A small subsample were confirmed as Banded Sunfish, however the majority of specimens were released and may have been Bluespotted Sunfish. Additional native species encountered include Chain Pickerel, Eastern Mudminnow, and Yellow Bullhead. A limited number of non-native fish were collected including Largemouth Bass, Bluegill, and Mosquitofish sp. Additional seining should be conducted and at least 20 *Enneacanthus* retained for laboratory identification.

**Wilson Lake (Gloucester)** - A seining survey was completed at Wilson Lake (58 acres) on July 14<sup>th</sup> to evaluate the Largemouth Bass population. A total of 6 young-of-the-year (YOY) Largemouth Bass were collected in 8 seining locations. Largemouth bass were found at 3 out of 8 locations. A total of 5 species of fish were collected, including 3 *Enneacanthus sp.* YOY. A dam repair project was completed during the winter of 2014/2015 which involved a substantial lowering. The lake will be electrofished in the spring of 2016 to determine if additional stocking is necessary.