Lake Moomaw Fish Population Status Report
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Image 1. Gathright Dam and intake tower in Lake Moomaw.

DGIF has three historic electrofishing stations on Lake Moomaw. An electrofishing boat is used to collect fish along the shoreline, after dark, in the spring, when water temperatures have reached 60°F. These stations are located in the upper reservoir near where Back Creek and the Jackson River enter the reservoir (Upper), the middle of the reservoir around the coves near the Forest Service campground and the islands (Middle), and along the rock wall cut to Coles Point (Lower). The target species for this springtime sampling include: largemouth bass, smallmouth bass, and sunfish Monofilament-mesh gill nets are used to monitor the trout fishery in the reservoir. Historically, horizontal gill nets were fished from the shoreline in the winter months to capture trout. In recent years biologists have been setting gill nets along the thermocline in the summer months when the reservoir is thermally stratified. This requires the nets to be "suspended" in the mid depths of the reservoir. Other types of nets are used to monitor forage species and other sportfish species.

The main forage base in Lake Moomaw consists of gizzard shad and alewife. The alewives are shallow and in-shore during late spring, and then move to the thermocline when the reservoir stratifies in summer. Lake Moomaw is home to both largemouth and smallmouth bass. Over the past decade smallmouth bass have become more abundant than largemouth (Figure 1.)

Moomaw actually provides better habitat conditions for smallmouth bass and anglers have the opportunity to catch more quality-size bronzebacks than bucketmouths. Lake Moomaw has aged over the years becoming slightly less productive. Smallmouth do better in the clearer, less productive environment than largemouth. Relative abundance of smallmouth bass has remained above the long-term average for the past two years (Figure 2) and the proportion of fish >14" in the population has remained very consistent (Figure 3). Lake Moomaw has the ability to produce trophy-size smallmouth bass and is usually one of the top waters in the Commonwealth for smallmouth citations. Abundance of largemouth bass has remained above the long-term average the past seven years, except for a slump in 2011 (Figure 4). The proportion of largemouth bass >15" in the population was right at the long-term average in 2014 (Figure 5). The size distribution and abundance of black bass in Lake Moomaw is not readily influenced by angler harvest. An angler creel survey was conducted in 2006 and 92% of the largemouth bass and 86% of the smallmouth caught by anglers were released. Fishing pressure was also greater for largemouth than smallmouth. While looking at angler creel survey data from the 1980's, 90's and 2006 the trend has been a decline in harvest of black bass with a slight increase in angler catch rates for these species.

The deep, cold waters of Lake Moomaw provide excellent year-round trout habitat. Brown trout are stocked as fingerlings each year. The brown trout fishery mainly consists of three cohorts (separate annual stockings), and anglers distinguish these by size-range. Brown trout that are stocked in Nov-Feb at 6-7" grow to 12-13" in six months. The second cohort are in the 16-20" range and the third cohort produces fish >20". Most of the brown trout reach the 16" minimum size limit the second season they are in the lake (Figure 6). In 2014, both anglers and biologists observed a dramatic reduction in the numbers of both 12-13" and 16-20" brown trout (Figure 7). This is validated by the reduction in gill net catch rate between 2013 and 2014. However, anglers did not report poor outings in past years when DGIF's gill net catches were lower than in 2014 (Figure 8). At this time biologists are not quite sure of the cause. In 2015 anglers can expect to continue to see reduced catches of brown trout >13". The cohort of fingerling browns that were stocked in early 2015 should produce good catch rates of trout in the 12-13"range. Beginning in 2009 biologists started stocking a "steelhead" strain of rainbow trout in the Jackson River upstream of Lake Moomaw. Steelhead are a replacement for the McConaughy rainbows that had been stocked in Moomaw for many years. Steelhead rainbow trout will feed heavily on alewives similar to brown trout and the hope is that they will grow much larger than the McConaughy rainbows did historically. If the steelhead stocking is successful, there is also the potential for large steelhead to make spawning runs out of Lake Moomaw up the Jackson River and Back Creek. To date, the steelhead introduction has not been very successful. Anglers and biologists are seeing limited survival of these fish in the reservoir. Biologists will be experimenting with different stocking strategies to improve steelhead survival over the next few years. In spring 2015 steelhead averaging 8" were stocked in both Lake Moomaw and the Highland County portion of the Jackson River upstream of the reservoir. In 2015 anglers can expect to catch steelhead from the lake stocking and also a few rogue rainbow trout as other rainbows find their way into Moomaw from upstream stockings on Back Creek and the Jackson River. While black bass and trout are the mainstay fisheries in Lake Moomaw, anglers should also find favorable populations of black crappie, bluegill, chain pickerel, and channel catfish. Yellow perch also provide a very important fishery in Lake Moomaw. However, the population has declined dramatically in recent years, perhaps as a result of habitat

loss. Because the yellow perch decline is still being investigated, biologists have instituted a conservative 10 fish per day creel limit to help stabilize the population. DGIF has been adding some wooden "porcupine" fish habitat structures to the lake over the past two years. An artificial "reef", consisting of multiple structures, is located on a natural contour across from the mouth of Mill Creek in the middle reaches of the reservoir. These structures are in roughly 30 feet of water when the reservoir is at normal pool elevation.

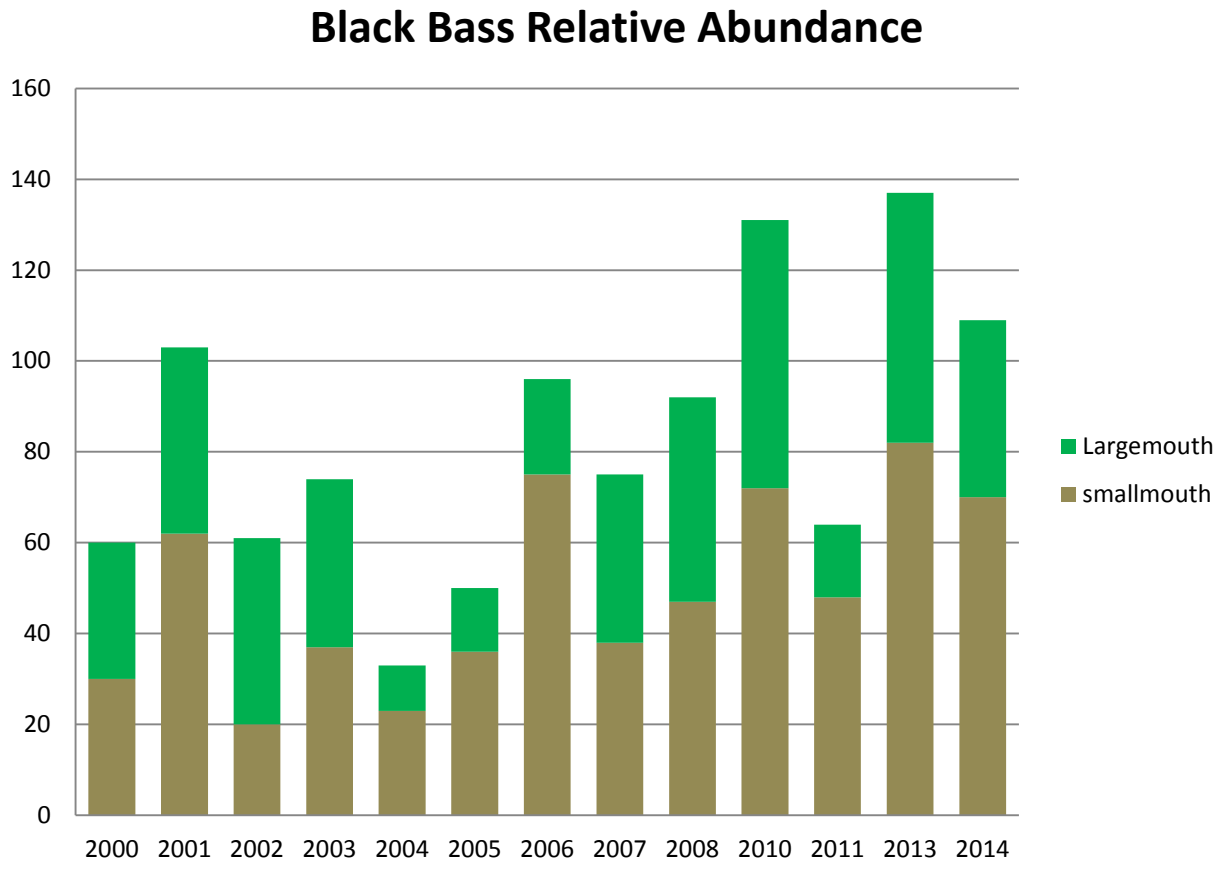

Figure 1. Composition of the black bass population in Lake Moomaw.

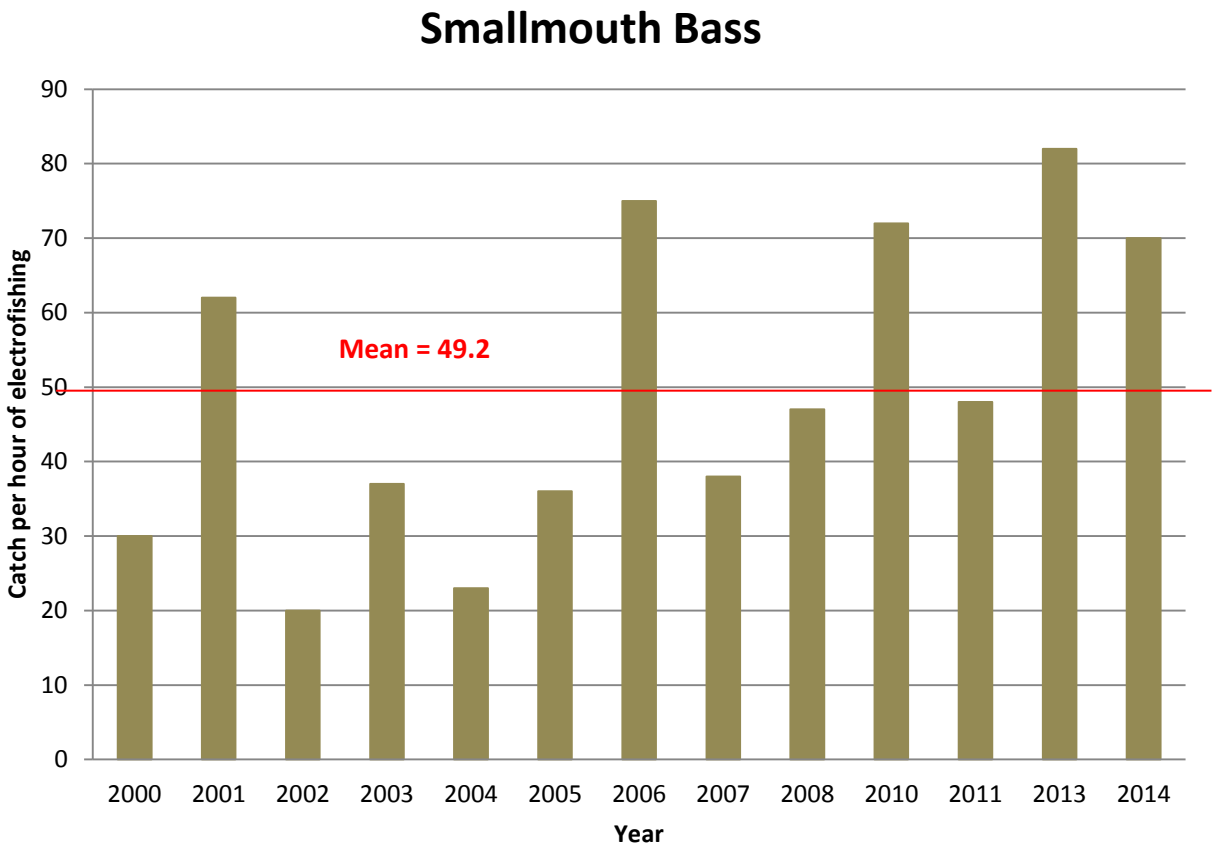

Figure 2. Relative abundance of smallmouth bass in Lake Moomaw.

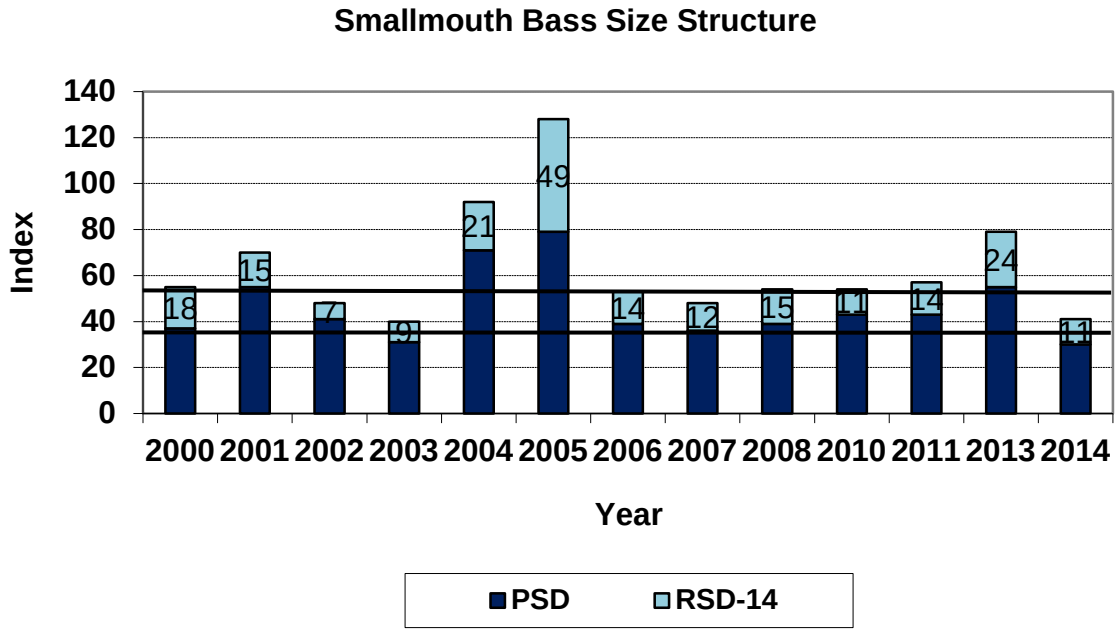

Figure 3. Size structure of smallmouth bass population in Lake Moomaw.

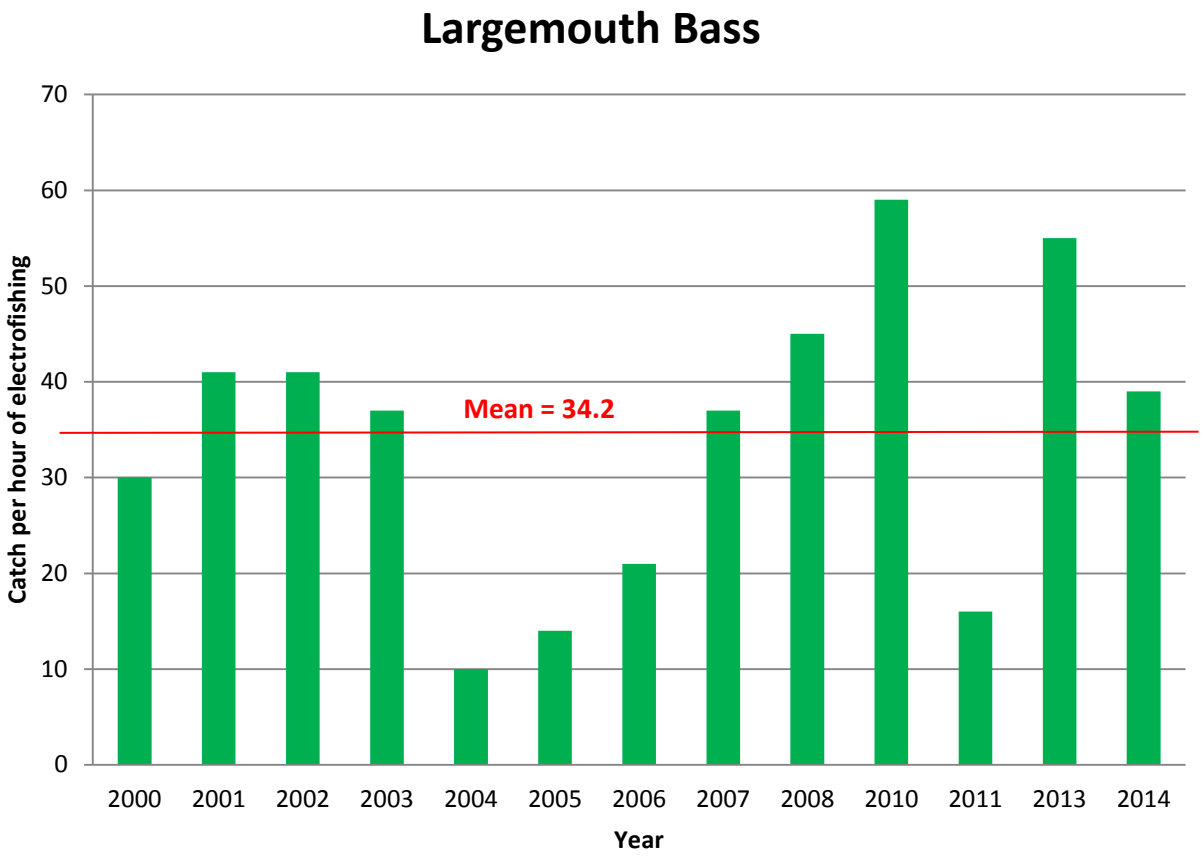

Figure 4. Relative abundance of largemouth bass in Lake Moomaw.

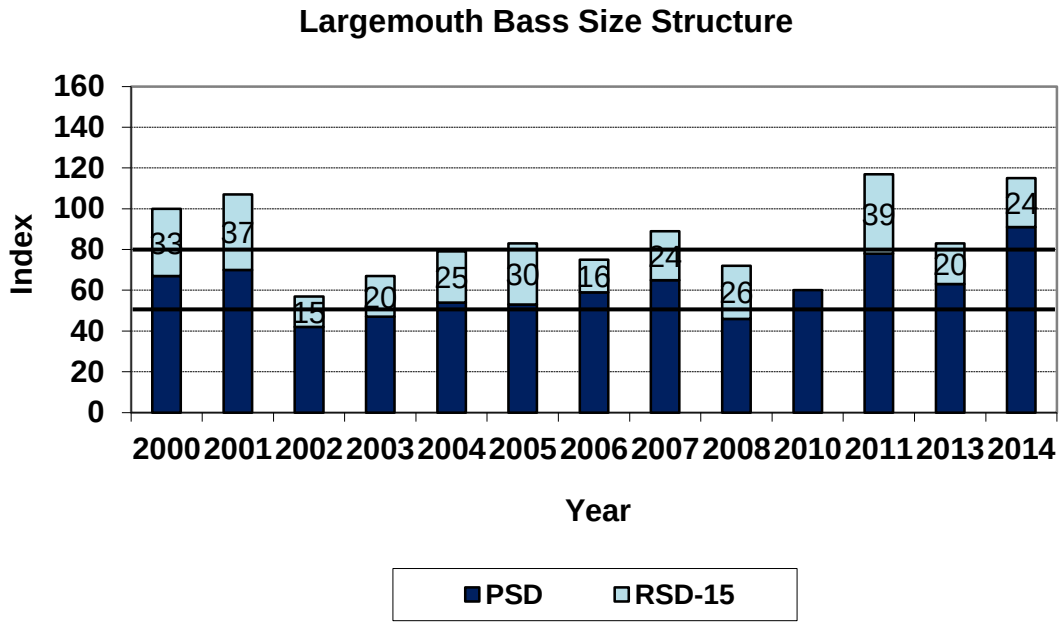

Figure 5. Size structure of largemouth bass population in Lake Moomaw.

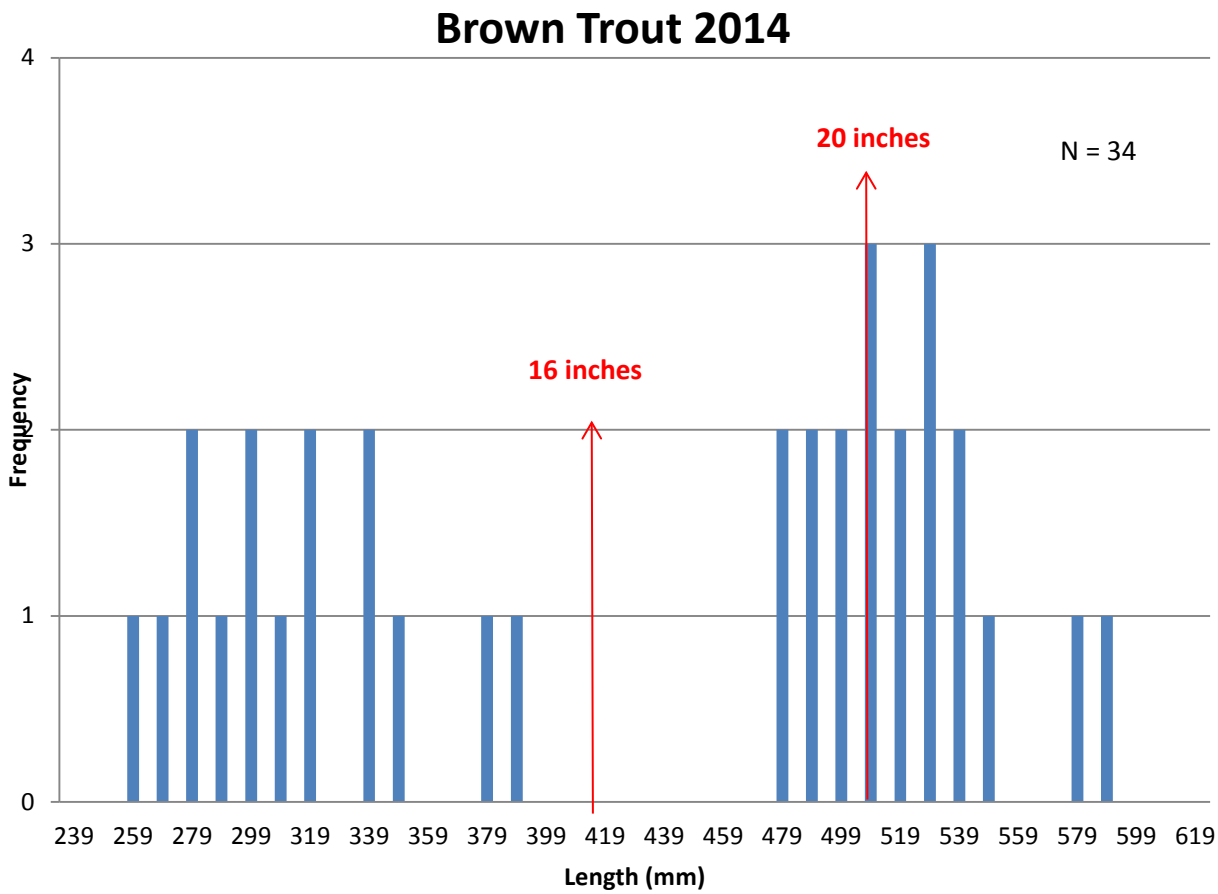

Figure 6. Length frequency of brown trout captured in gill nets from Lake Moomaw '14.

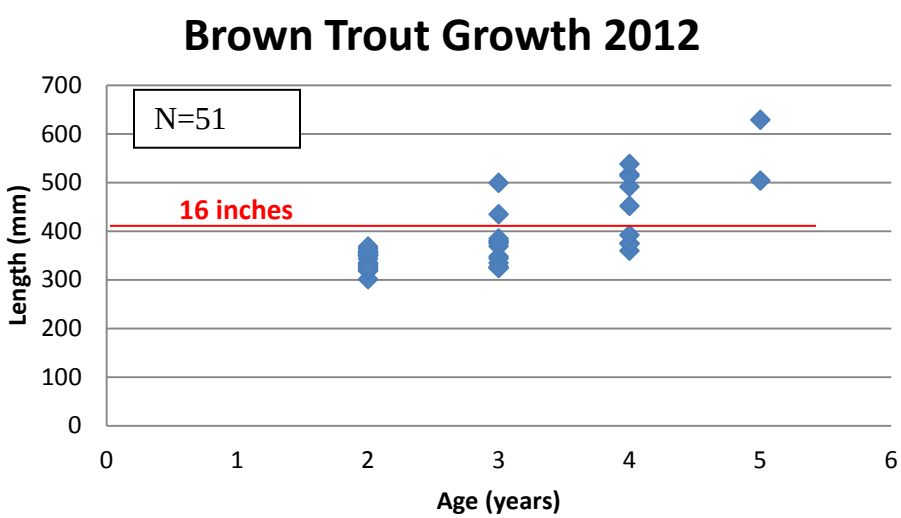

Figure 7. Brown trout growth rates in Lake Moomaw (2012).

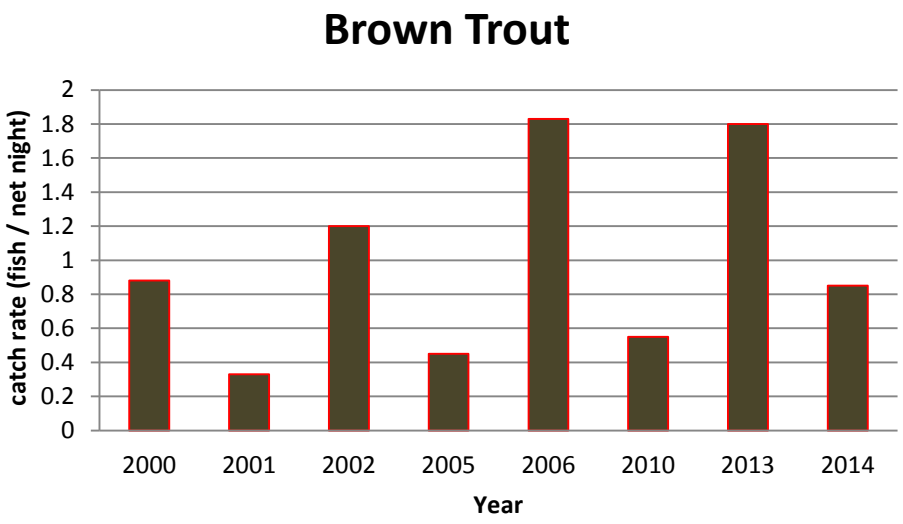

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Figure 8. Gill net catch rate of brown trout in Lake Moomaw.

Image 2. Trophy brown trout from Lake Moomaw.

Image 3. Brown Trout fingerlings being stocked at Coles Point January 2015.

Image 4. Steelhead rainbow trout stocked in Lake Moomaw and the Jackson River.