

## Northern Pike Monitoring and Management in Deep Creek Lake, Garrett County

Deep Creek Lake supports a naturally reproducing and self-sustaining northern pike (*Esox lucius*) population. Current regulations include a year round season, a 30 inch minimum size and a two fish daily creel limit, and a four fish possession limit. Prior to 2014, limited data was available for the northern pike fishery in Deep Creek Lake due to the relatively low numbers collected during the annual fish community surveys. Reports by anglers, however, began to suggest that both the number and size of northern pike in the lake were increasing, with legal size fish (30 inches) being common and large northern pike exceeding 40 inches being caught.



*Fisheries Biologist Matt Sell with a trophy northern pike from Deep Creek Lake.*

To gain a greater understanding of this fishery, Fishing and Boating Services initiated pike specific surveys in 2014 to collect life history data such as length at age by sex, growth rates, age at maturity, size distribution, and mortality rates. Additionally, all northern pike  $\geq 20$  inches have been tagged with a dart tag at the base of the dorsal fin on the fish's left side as part of a mark-recapture study to monitor seasonal movements and angler capture/harvest rates. Each tag is labeled with a unique number and a phone number for anglers to call to report their catch information including the location of capture, size of fish, and if the fish was harvested or released. Since 2016, efforts have been focused on spring electrofishing surveys in pike spawning habitat as this methodology was found to be most effective at collecting suitable numbers of pike for determining population characteristics. Recently, mark-recapture efforts were expanded during spring of 2019 to generate a population estimate of adult northern pike using multiple nights of sampling within a single year to mark and then attempt to recapture marked fish.



*Dart tag in northern pike with tag number and contact information.*

The number of northern pike in Deep Creek Lake has increased significantly since 2016 (see table below), which is supported by anecdotal angler catch information. Currently, there is an estimated 485 adult northern pike in Deep Creek Lake (7.5 per shoreline mile), with a large cohort of ages 4 and 5 northern pike present in the population and dominating the catch. The reason for the apparent boom in the population is part of the focus of current research and monitoring but

regardless of the reason, we anticipate excellent pike fishing opportunities in Deep Creek Lake for years to come.

Spring Survey	Electrofishing Catch per Hour	Number of Pike Collected
2016	4.41	15
2017	6.44	15
2018	38.48	60
2019 Mark Effort	37.08	49
2019 Recapture Effort	30.90	41

Based on the data collected, it appears that the growth of northern pike in Deep Creek Lake is sex specific, with females living longer, growing faster and to a larger size than males. In fact, male pike live around 10 years and only rarely reach the legal minimum size for harvest (30") whereas females will live for around 13 years, reach the legal minimum size between ages 5 and 6, and sometimes exceed 40". The harvest of legal-sized pike appears high, as 29 tagged pike have been caught and reported by anglers and eleven of them have been harvested, representing a 67 percent harvest rate.

The tagging and electrofishing studies are continuing and will give the department a better understanding of the population dynamics of the northern pike in Deep Creek Lake. Angler catch and harvest data along with robust population estimates are being used to determine management goals and whether various regulation scenarios can be used to enhance the fishery. If you catch a tagged northern pike in Deep Creek Lake, you can assist in this effort by reporting the location of capture, size of fish, and if the fish was harvested or released.

Information can be reported by calling (301)-689-7168 or emailing Matt Sell at [matt.sell@maryland.gov](mailto:matt.sell@maryland.gov) or Jody Johnson at [jody.johnson@marland.gov](mailto:jody.johnson@marland.gov).



*Collecting northern pike during a Deep Creek Lake night electrofishing survey.*