

Bova Creek Trout Population Evaluation
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On June 15, 2023, Region 9 Fisheries staff conducted a trout stream survey at two sites on Bova Creek, a tributary of Red House Brook in Allegany State Park (ASP), Cattaraugus County. The stream supports a reintroduced population of wild brook trout. DEC surveys in the 1990s and early 2000s found this stream to support a moderately abundant population of wild brook trout with a few wild brown trout also present. DEC surveys conducted in 2013 and 2014 found no brook or brown trout, however blacknose dace, mottled sculpin and creek chubs were present. No known pollution events were reported for the stream, thus it is not known why the trout population apparently disappeared. To recover the population, in September 2014 a small number of yearling and older (adult) wild brook trout were transplanted to Bova Creek from an adjacent watershed in the park. Sampling in the summer of 2015 found several of the transplanted adult wild brook trout along with an impressive number of young-of-year (YOY) spawned in Fall 2014. With only a small number of adults used to found the population in 2014, it was prudent to diversify the brook trout genetics of this stream. In September 2017, another dozen adult wild brook trout were transferred from a second adjacent park stream. This year's survey was conducted both as an evaluation of the brook trout reintroduction effort and to evaluate the effects of a project that began in 2018 to improve fish passage through a road culvert $\frac{3}{4}$ miles above the stream's mouth. One site was sampled below the culvert and one above. Sites in similar locations had also been surveyed in 2017, 2018 and 2019.

In this year's survey, both sites sampled in 2017-2019 had to be altered due to the presence of large beaver ponds. Those sites were 400 feet and 500 feet in length with an eight-foot average width. The new sites lengths sampled in 2023 were 175 feet at the lower site and 500 feet at the upper site, which had to be shifted upstream 500 feet from 2017-2019. A total of five YOY wild brook trout were collected in the site below the culvert and three adult brook trout above the culvert. Adult trout ranged in length from 5.0 to 6.3 inches. Other fish species collected were blacknose dace, mottled sculpin, and creek chub. Habitat for adult trout at the sampling sites was good, consisting of large boulders along with natural undercut banks.

Adult brook trout abundance in 2023 decreased compared to 2018 (seven total adult fish) and was much lower than 2017 and 2019 (19 and 11 total adult fish, respectively). Survey results indicate that the reintroduced brook trout population appears to remain viable but does not have the expected abundance for the available habitat in similar ASP streams. A study conducted in 2018 found water temperatures that may become stressful for brook trout in Bova Creek, but did not indicate excessive water temperatures should be a major problem. The vast majority of the stream's watershed and riparian areas remain densely forested. However, since 2019, there are at least two active beaver colonies in the watershed, which may be negatively affecting the brook trout population through increased temperature, excessive siltation and being barriers to fish movement. Future monitoring should be done to monitor the viability of this stream's wild brook trout population, which appears to be vulnerable to extirpation again. This year's sampling could not determine the effectiveness of the culvert project to improve fish passage.