Bureau of Fisheries Technical Brief #tb521057

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Holmes Lake General Biological Survey (#521057)

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12/16/2021

Holmes Lake is a 16.8-acre pond located in the Shaker Mountain Wild Forest, town of Bleecker. The lake can be reached via a 1.1-mile hike from the Holmes Lake trailhead. The lake has historically been managed as a brook trout water, having been reclaimed with rotenone in 1950 to remove non-native competitive fish species. The pond was treated with agricultural limestone on multiple occasions between 1983 and 2007 to mitigate the impacts of acid precipitation. Water quality sampling has been conducted on the lake annually since the last liming treatment in 2007. pH and acid neutralizing capacity (ANC) values have stabilized above action thresholds, consequently the pond no longer requires liming to maintain a viable trout population. The Shaker Mountain Wild Forest Unit Management Plan states that Holmes Lake should be managed for brook trout and that a reclamation should be pursued if non-native or native-but-widely-introduced (NBWI) fish become established (NYSDEC, 2006). Holmes Lake was last surveyed in 1991 and 11 brook trout averaging 9.3 inches were captured (NYSDEC, 2021). The lake is stocked annually with 1,500 Temiscamie x domestic hybrid Fall fingerling brook trout to provide a fishery.

Two 150’ long, 6-panel experimental gill nets, one 30’ long monofilament minnow net and one minnow trap were set in the lake on August 1, 2021 and allowed to soak overnight. Temperature and dissolved oxygen profiles were obtained from the deepest area of the lake. Scales were retained from all trout for aging.

Four brook trout, three creek chub and one golden shiner were captured across all gear types (Table 1 & Figure 1). The lake had sufficient dissolved oxygen for trout from the surface to the bottom (18 feet), temperatures ranged from nearly 75.9°F at the surface to 71.5°F at the bottom.

Table 1. Number and total length ranges of fish captured from Holmes Lake in 2021.

Species	Number caught	Size range (inches)
Brook Trout	4	7.9-9.2
Golden Shiner	1	4.2
Creek Chub	3	7.0-9.1

Only four 1+ year old brook trout were caught during this survey. It is possible that during the time of the survey larger and/or older brook trout could have been concentrated in certain areas of the pond, seeking thermal refuge near cold groundwater springs; however, the capture of trout in water temperatures greater than 70°F suggests that optimal thermal habitat is limited during this time of the year. Furthermore, the minimum water temperature (68°F at 18’ deep) observed on June 19, 1991, when the previous survey was conducted was also suboptimal for trout growth.

SPORT FISH RESTORATION

This survey is the first official record of NBWI creek chubs and non-native golden shiners in the lake since it was reclaimed in 1950. The unit management plan states that this water should be reclaimed if non-native or NBWI species become established. Given the summertime temperature profile of this waterbody and apparent poor survival of stocked trout, management resources should not be invested in a reclamation here at this time.

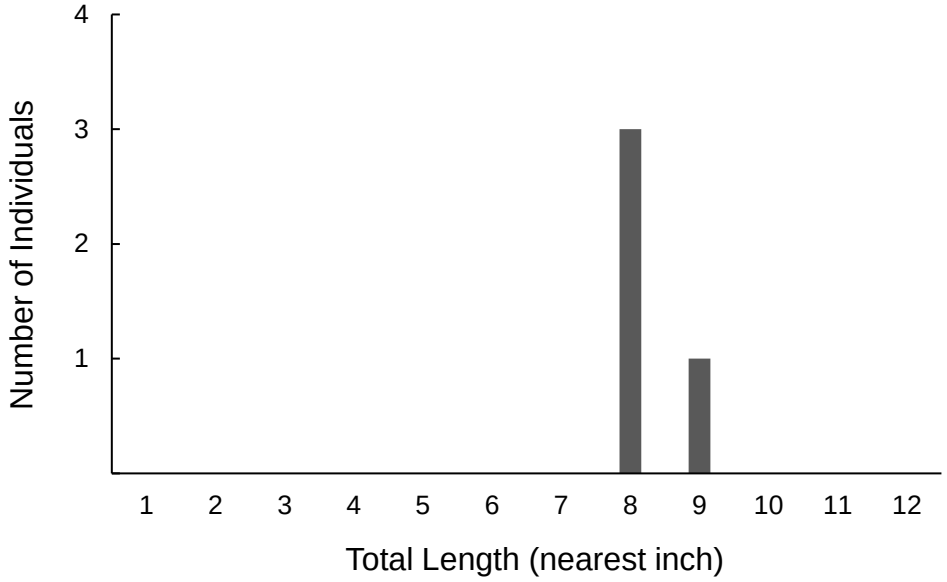

Figure 1. Brook trout length frequency distribution from Holmes Lake in 2021.

Holmes Lake continues to support brook trout however summertime water temperatures likely limit the growth and survival of stocked trout. It is unknown whether there are any naturally reproduced trout in Holmes Lake but if there is, they likely exist at low numbers. Evidence of at least some fishing pressure (boat & worm containers) has been observed at the lake over the past few years. Holmes Lake is currently stocked at a rate of 89 fall fingerlings per acre which is significantly higher than most stocked Adirondack brook trout waters. Stocking rates should be reduced to 600 (36/acre) Temiscamie x domestic Fall fingerling brook trout to continue to provide a recreational fishery.

Literature Cited

New York State Department on Environmental Conservation, 2006. Shaker Mountain Wild Forest and Northville Boat Launch Unit Management Plan Environmental Impact Statement. Pg., 137.

New York State Department of Environmental Conservation, 2021. Statewide Fisheries Database Version 75. 15 Dec 2021.