



Spring Fisheries Survey Summary Durphee Lake, Sawyer County, 2013

The Hayward DNR Fisheries Management Team conducted a fyke netting survey on Durphee Lake on May 5, 2013 to assess the adult walleye, northern pike, yellow perch, and black crappie populations in the lake. Six nets were set overnight for one night which resulted in six total net-nights of effort. An electrofishing survey conducted on May 24, 2013 documented the status of largemouth bass, smallmouth bass, and bluegill. The entire shoreline (two miles) was shocked. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

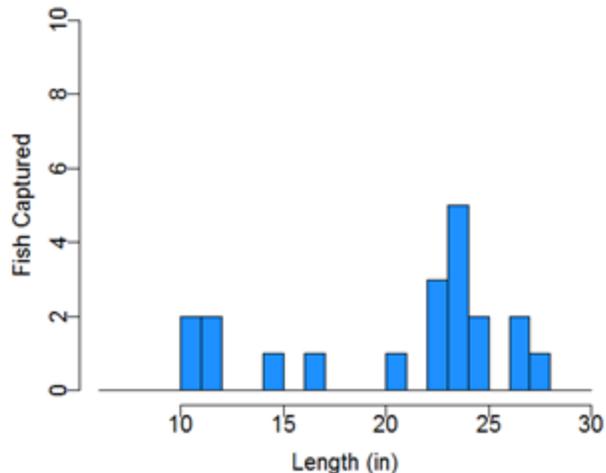
Habitat Characteristics

Durphee Lake is a relatively shallow 198-acre seepage lake with moderate water clarity (Secchi disk visibility 7-10 feet during recent surveys) and a maximum depth of 16 feet (average depth 10 feet). The substrate is predominantly sand with some rock and sparse vegetation with little woody cover. There is a public boat launch on the south end of the lake.

Walleye (Adult)



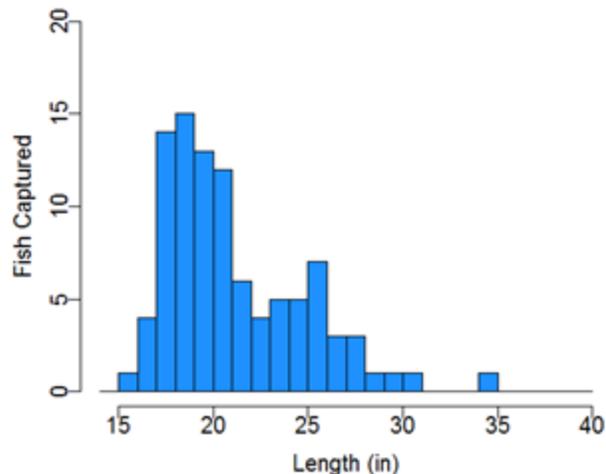
Captured 3.3 per net-night \geq 10 inches	
Quality Size \geq 15"	75%
Preferred Size \geq 20"	70%



Northern Pike



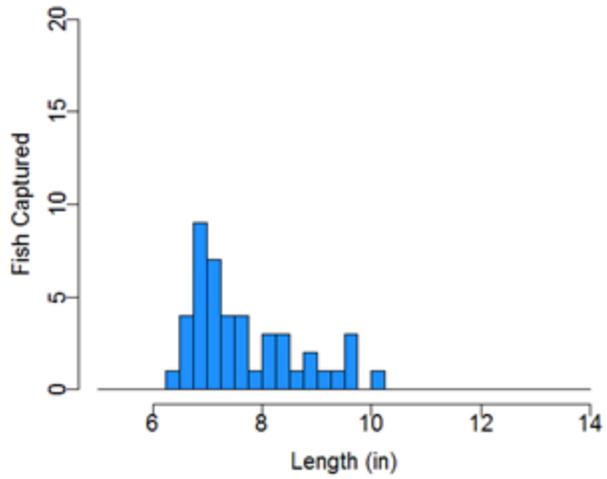
Captured 16 per net-night \geq 14 inches	
Quality Size \geq 21"	39%
Preferred Size \geq 28"	4.2%



Black Crappie



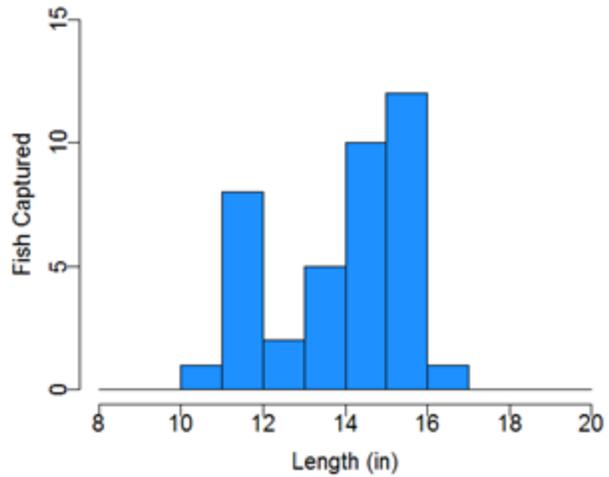
Captured 7.5 per net-night ≥ 5 inches	
Quality Size ≥ 8"	33%
Preferred Size ≥ 10"	2.2%



Largemouth bass



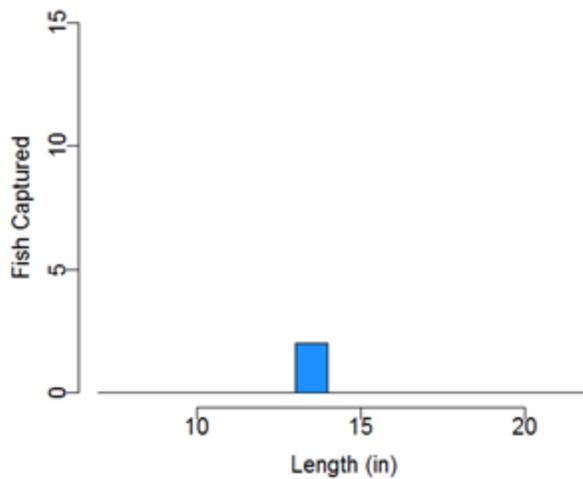
Captured 20 per mile ≥ 8 inches	
Quality Size ≥ 12"	77%
Preferred Size ≥ 15"	33%



Smallmouth bass



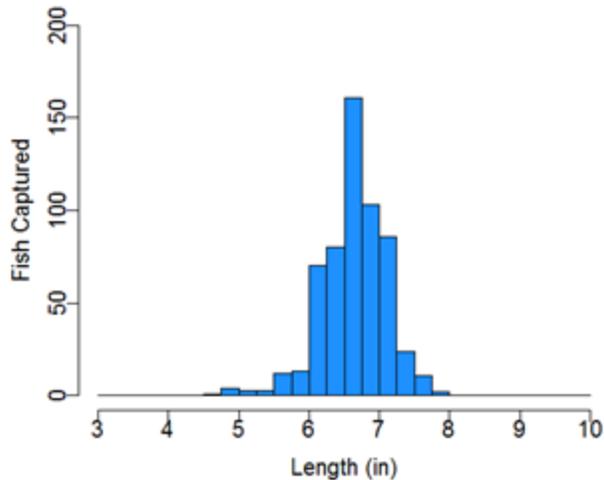
Captured 1 per mile ≥ 7 inches	
Quality Size ≥ 11"	100%
Preferred Size ≥ 14"	0%
Memorable Size ≥ 17"	0%



Bluegill



Captured 286 per mile \geq 3 inches	
Quality Size \geq 6"	94%
Preferred Size \geq 8"	0



Summary of Results

The 2013 netting and electrofishing surveys were both well timed for the target species.

Walleye were captured at a low rate, and the population was mostly made up of large, old adults. Duphee Lake was historically a walleye dominated lake with good natural reproduction. That does not appear to be the case any longer. Like many other lakes in the area this lake has shifted to a largemouth bass dominated fish community, and walleye recruitment (survival of young fish past their first birthday) has dropped to very low levels. Regulatory changes are needed if this lake is going to return to walleye dominance. Stocking of extended-growth walleyes (6-8 inches in the fall) is being requested until we can reestablish natural recruitment of walleye.

Northern pike were captured in relatively high numbers in comparison to other lakes in the area. However, pike size was poor and a low percentage of fish in this sample would be of interest to anglers. Yellow perch are a preferred prey item for pike, but perch are rare in Duphee Lake. Pike in this lake are probably competing heavily for the small amount of preferred prey, which leads to slow growth. Reducing density of pike in will be key to improving their growth and size.

The low capture rate of crappie in our netting sample is probably not representative of the density of small crappie in this lake. We observed huge schools of crappie in the 5-7 inch range in the open water parts of the lake. Walleye are an effective predator on crappie; and as walleye numbers have dropped, crappie numbers appear to have gone up. However, size of crappie is expected to remain poor going forward since there are so many fish now competing for a limited food supply. Restoring walleye as a top predator will be key to improving the size of crappie.

Largemouth bass have become abundant in Duphee Lake and are supplanting walleye as the dominant species. While size of largemouth here is fair to good, the presence of this many bass is likely limiting the recruitment of young walleye through predation and competition. New bass regulations are necessary in this lake if we are interested in managing it as a walleye fishery. Smallmouth bass are present in the lake but are less abundant than largemouth.

Bluegills were captured at a very high rate, and size was only fair. Many bluegills in the 6-inch range were present, but few "keeper" size fish were observed. Like crappie, control of bluegill numbers and satisfactory bluegill size is dependent on having an effective top predator in the lake.



Fisheries Technician Russ Warwick with a large Durphee Lake walleye. The population is currently made up of mostly old adults.

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Edited and Approved By: Dave Neuswanger, Fisheries Supervisor, Hayward Field Unit, 2/7/14