



Spring Fisheries Survey Summary Whitefish Lake, Sawyer County, 2013

The Hayward DNR Fisheries Management Team conducted a fyke netting survey at Whitefish Lake on May 12, 2013 to assess the adult walleye, muskellunge, northern pike, yellow perch, and black crappie populations. Six nets were set overnight for one night which resulted in five total net-nights of effort (one net was compromised by wind). An electrofishing survey conducted on June 7, 2013 along five miles of shoreline documented the status of largemouth bass, smallmouth bass, and bluegill (panfish were sampled for only one mile). 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.

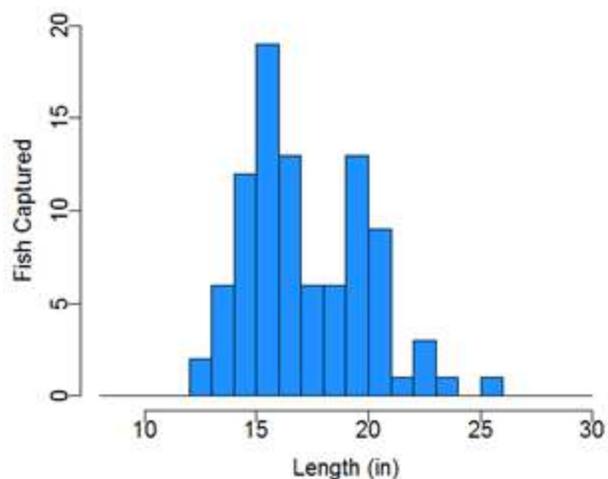
Habitat Characteristics

Whitefish Lake is 786 acres in area with a maximum depth of 105 feet and a mean depth of 45 feet. The lake is very clear (Secchi disk visibility 15-20 feet) and has steep rocky shorelines. Because of its depth, clarity, and other habitat features, Whitefish is the only lake in Sawyer County with a significant population of lake herring (ciscoes) and whitefish, which were not targeted by this survey. There are several shallow bays with fine sediments that allow growth of rooted aquatic vegetation. Sand Creek (inflowing) and Whitefish Creek (outflowing) connect Whitefish Lake to other lakes in the Lac Courte Oreilles Chain, but neither creek is navigable by motor boat. There is a public boat launch on the lake as well as two areas with public shoreline for fishing.

Walleye



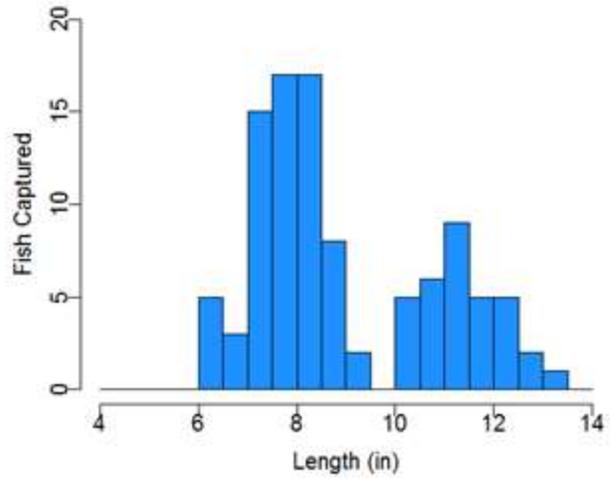
Captured 18 per net-night ≥ 10 inches	
Quality Size ≥ 15 "	78%
Preferred Size ≥ 20 "	16%



Walleye



Captured 14 per mile ≤ 10 inches

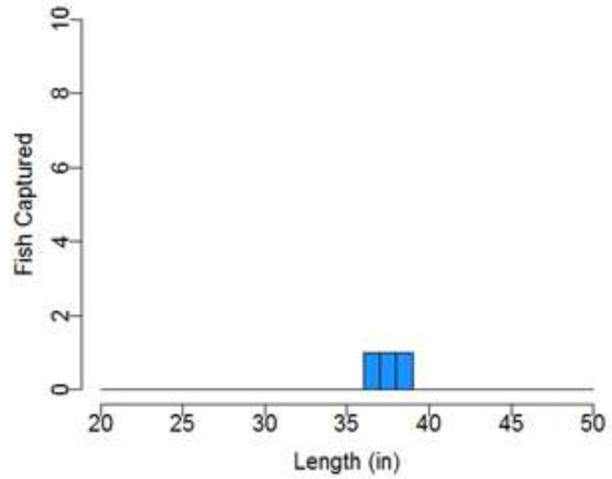


Muskellunge



Captured 0.6 per net-night ≥ 20 inches

Quality Size ≥ 30 "	100%
Memorable Size ≥ 42 "	0%

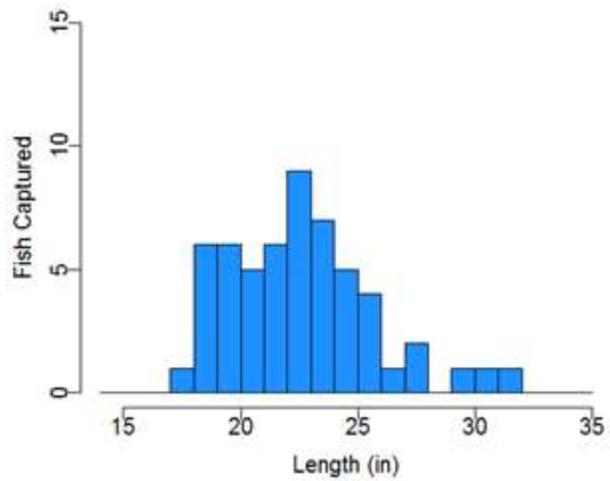


Northern Pike



Captured 11 per net-night ≥ 14 inches

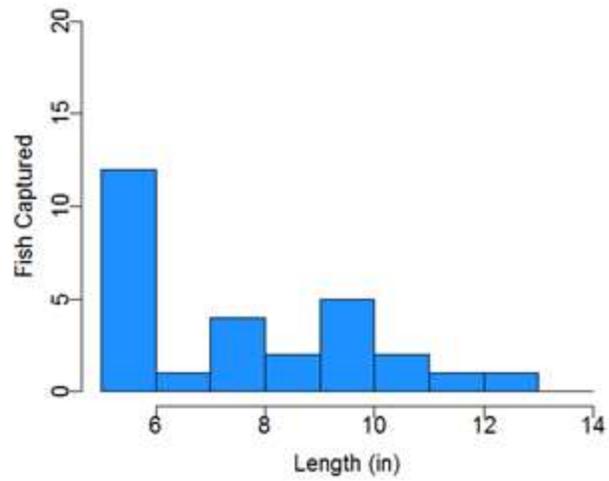
Quality Size ≥ 21 "	67%
Preferred Size ≥ 28 "	5%



Black Crappie



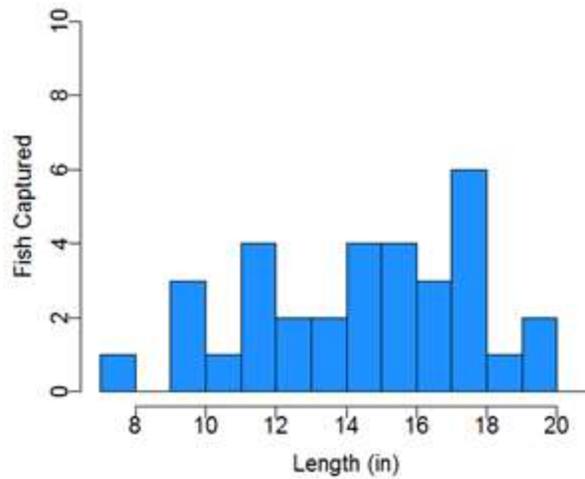
Captured 5.6 per net-night ≥ 5 inches	
Quality Size ≥ 8 "	39%
Preferred Size ≥ 10 "	14%



Smallmouth bass



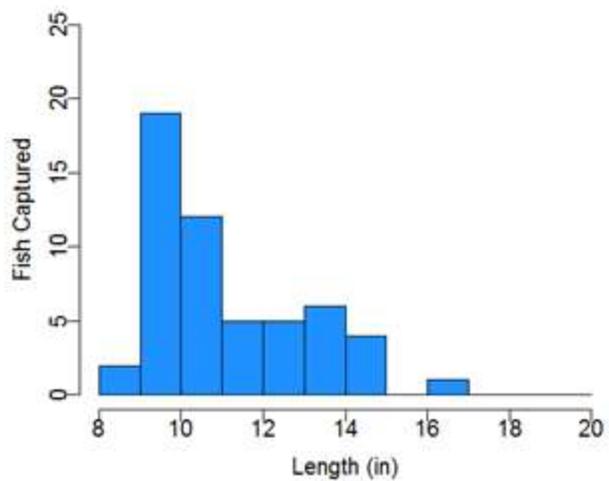
Captured 6.6 per mile ≥ 7 inches	
Quality Size ≥ 11 "	85%
Preferred Size ≥ 14 "	61%
Memorable Size ≥ 17 "	27%



Largemouth bass



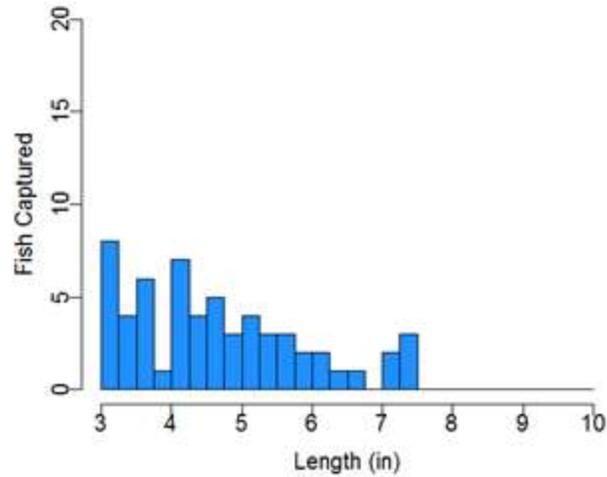
Captured 11 per mile ≥ 8 inches	
Quality Size ≥ 12 "	27%
Preferred Size ≥ 15 "	1.9%



Bluegill



Captured 59 per mile \geq 3 inches	
Quality Size \geq 6"	15%
Preferred Size \geq 8"	0%



Summary of Results

Our netting survey was very well timed to sample walleye during their spawning season but was a bit early for muskellunge. Electrofishing was effective for bluegill and both species of bass, and it enabled us to capture juvenile walleyes that had been stocked as extended-growth fingerlings in fall of 2011 and 2012.

Capture rate of adult walleye was higher than expected in Whitefish Lake given its history of low recruitment (no significant natural year classes detected during fall surveys in the last decade), which has been attributed in the past to competition for food between juvenile walleyes and ciscoes. The capture of numerous mid-sized adults during this survey is an encouraging sign for Whitefish Lake, which was targeted for walleye restoration in 2011 when the minimum length limit for walleye increased from 15 to 18 inches, the bass length limit was removed (to promote harvest of largemouths), and fishery management partners began stocking “extended-growth” (EG) walleye fingerlings in the fall that were deemed large enough (6-8”) to avoid competition with ciscoes and predation by most largemouth bass. Small fingerling walleye were stocked regularly up until 2010 and appear to have resulted in many successful year classes in the past.

Survival of young walleyes to their first birthday has always been difficult to detect in Whitefish Lake, but recently stocked extended-growth fingerlings have exhibited high overwinter survival. These EG walleyes were stocked at 7.2/acre in fall of 2011 (joint contribution of the Whitefish Lake Association and Lac Courte Oreilles Band of Lake Superior Chippewa) and 5.0/acre in fall of 2012 (Wisconsin DNR hatchery). In spring of 2013, we captured these cohorts of fish at rates of 6.6/mile (2011 year-class 10-14 inches long) and 13.4/mile (2012 year-class 6-9 inches long). A similar survey performed in spring of 2008 captured naturally produced fish of the 2006 and 2007 year-classes (no stocking those years) at rates of only 1.5 and 1.1 per mile, respectively. The lack of natural recruits found in fall surveys indicates that a large proportion of these juvenile walleye are likely the result of stocking. We are optimistic about the extent to which EG walleye stocking may supplement the Whitefish Lake population and improve the fishery.

Muskellunge were captured at a low rate, but sample timing was not ideal to capture this species. Regardless, the muskellunge population in Whitefish Lake is believed to be low in density but capable of producing fish much larger than we observed in this small sample.

Northern pike were captured at a moderate rate and included some quality-size fish. Harvest of small to medium sized pike is encouraged to keep this population at a low density which allows for faster growth of the remaining fish.

Capture rate of black crappie (netting) and bluegill (electrofishing) was relatively low, as expected in a fish community heavily influenced by walleye predation. If walleye dominance can be fully restored and maintained, panfish abundance and angler catch of preferred-size panfish might be increased with more restrictive harvest regulations (reduced bag limit, minimum length limit, or both).

Capture rate of smallmouth bass ≥ 7 inches was moderate to low (6.6 per mile) in comparison with similar lakes in the Hayward area, but a high proportion of memorable-size fish ≥ 17 inches indicates potential for a trophy fishery. The proportion of preferred-size smallmouth bass ≥ 14 inches increased significantly between 2008 (33%) and 2013 (61%), indicating that anglers were willing to voluntarily release larger smallmouths even after the 14-inch minimum length limit was removed in 2011. We continue to encourage voluntary release of smallmouth bass in order to sustain and improve a bass fishery that is compatible with walleye and other high-priority fisheries.

Largemouth bass were slightly more abundant than smallmouths in Whitefish Lake. Capture rate of largemouth bass ≥ 8 inches had not changed much between 2008 (10/mile) and 2013 (11/mile) – a five-year period when largemouth bass numbers increased in many other area lakes. However, unlike smallmouths, the proportion of largemouth bass ≥ 14 inches decreased markedly between 2008 (18%) and 2013 (9%), suggesting that anglers have not been taking advantage of the opportunity to harvest more abundant smaller largemouth bass since the 14-inch minimum length limit was removed in 2011.



Fisheries technician Russ Warwick with a plump Whitefish Lake walleye.

Report by Max Wolter – Fisheries Biologist, Sawyer County
Survey conducted by Max Wolter, Russ Warwick, and Scott Braden
Special thanks to volunteers Don Semler and Ken Zeroth
Edited by Dave Neuswanger – Fisheries Supervisor, Hayward Field Unit, 1/28/14
Approved for Posting by Steve Avelallemant – Fisheries Supervisor, Northern District,

