



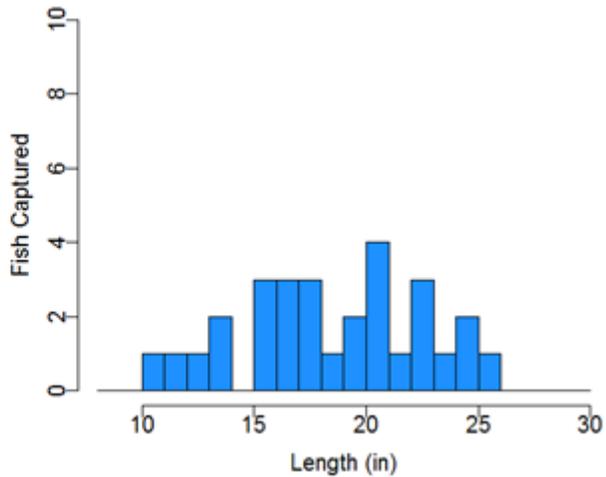
Spring Fisheries Survey Summary Black Dan Lake, Sawyer County, 2013

The Hayward DNR Fisheries Management Team conducted a fyke netting survey on Black Dan Lake on May 9, 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 six total net-nights of effort. An electrofishing survey conducted on May 27, 2013 documented the status of largemouth bass, pumpkinseed, bluegill, and juvenile walleye. The entire shoreline of the lake (3 miles) was shocked (panfish were sampled for 1.5 miles). 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.

Walleye (Adult)



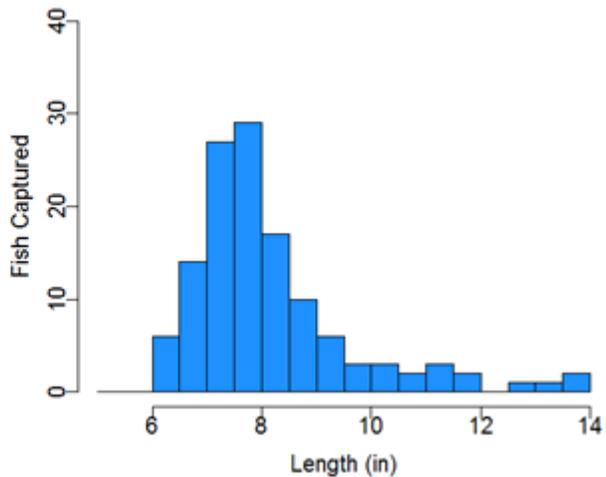
Captured 4.8 per net-night \geq 10 inches	
Quality Size \geq 15"	83%
Preferred Size \geq 20"	41%



Walleye (Juvenile)



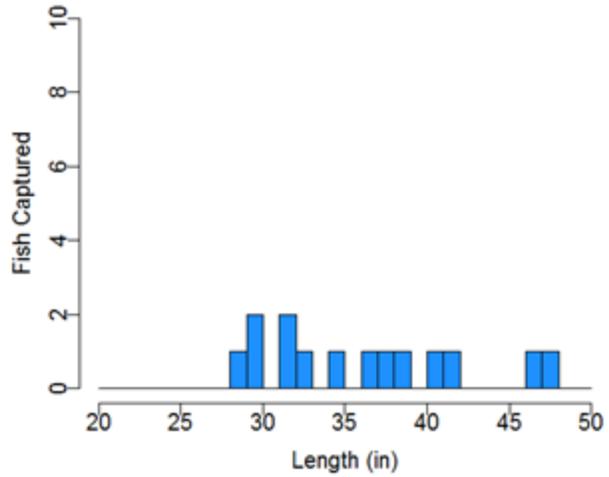
Captured 37 per mile \leq 10 inches



Muskellunge



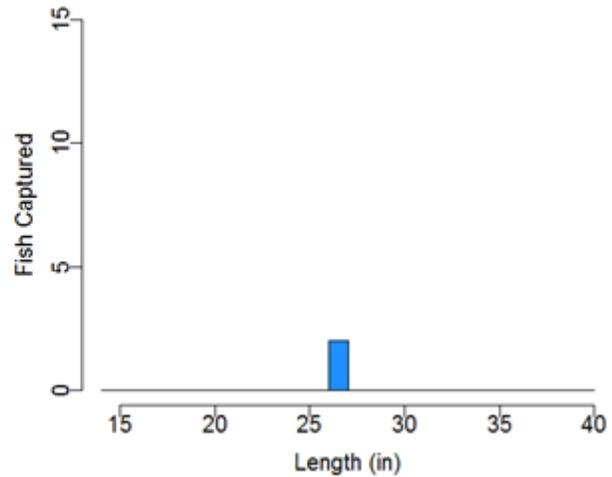
Captured 2.3 per net-night ≥ 20 inches	
Quality Size ≥ 30"	79%
Memorable Size ≥ 42"	14%



Northern Pike



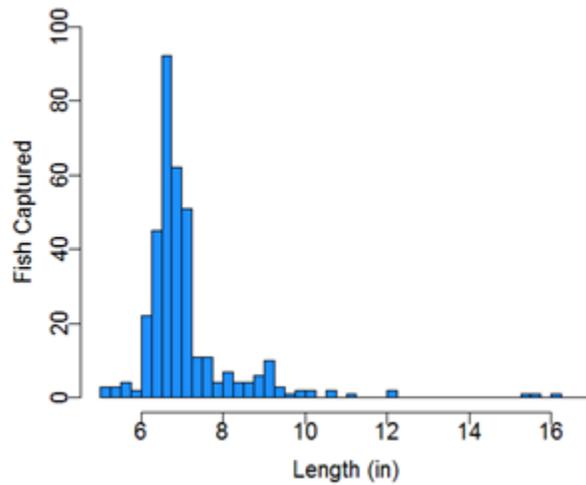
Captured 0.3 per net-night ≥ 14 inches	
Quality Size ≥ 21"	100%
Preferred Size ≥ 28"	0%



Black Crappie



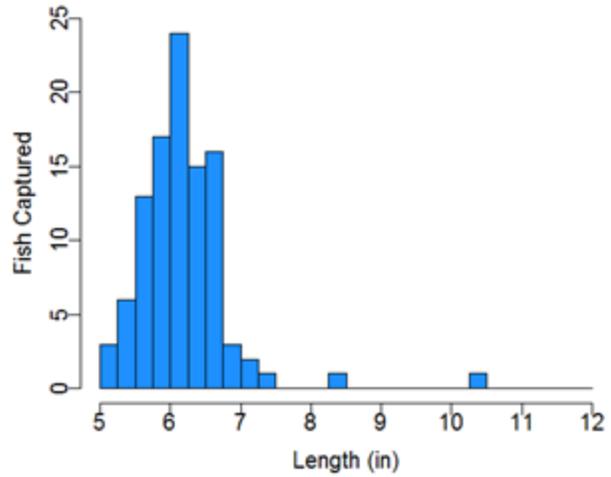
Captured 60 per net-night ≥ 5 inches	
Quality Size ≥ 8"	13%
Preferred Size ≥ 10"	2.8%



Yellow Perch



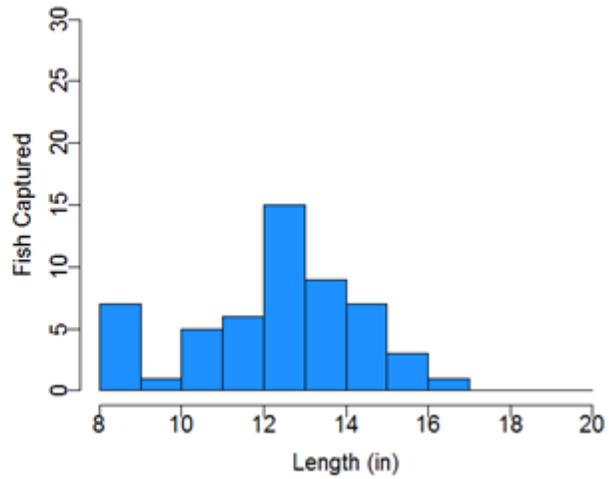
Captured 17 per net-night ≥ 5 inches	
Quality Size ≥ 8"	2%
Preferred Size ≥ 10"	1%



Largemouth bass



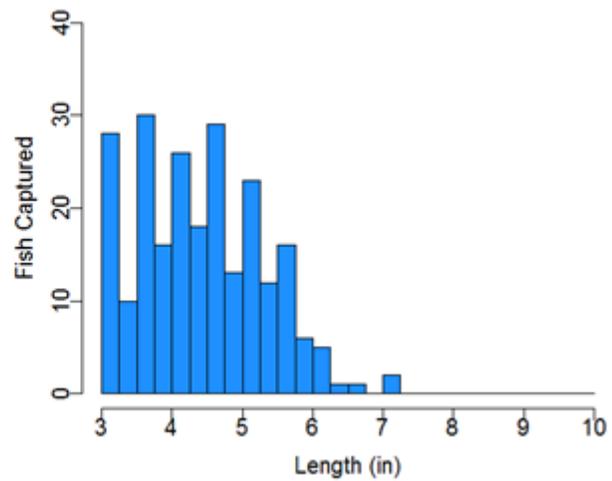
Captured 18 per mile ≥ 8 inches	
Quality Size ≥ 12"	65%
Preferred Size ≥ 15"	74%



Bluegill



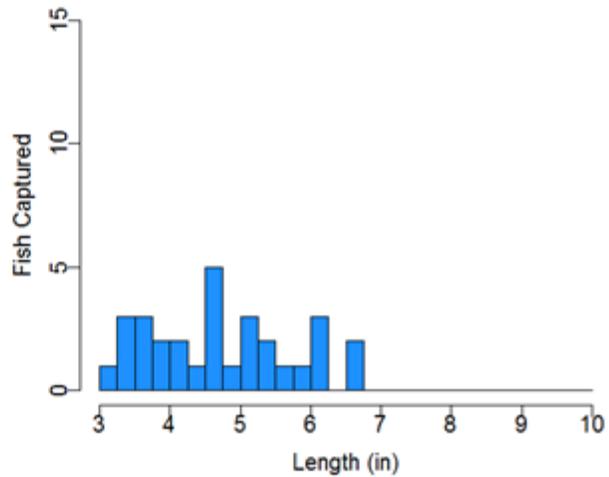
Captured 236 per mile ≥ 3 inches	
"Keeper" Size ≥ 7"	3.8%
Preferred Size ≥ 8"	0%



Pumpkinseed



Captured 30 per mile \geq 3 inches	
"Keeper" Size \geq 7"	2.1%
Preferred Size \geq 8"	0%



Habitat Characteristics

Black Dan is a 128-acre drainage lake with lightly stained water (Secchi disk visibility = 7-9 feet during recent surveys) and a maximum depth of 37 feet (average depth 13 feet). Submersed aquatic plants are common in bays and in a thin band along most shorelines but absent along others where the lake bottom slopes rapidly into deep water. Substrates are generally comprised of silt or sand, with very little gravel or cobble in the near-shore area.

Summary of Results

Both the netting and electrofishing efforts in 2013 were well timed for all targeted species. Walleye and muskellunge were actively spawning during our netting survey. By late May there was an abundance of new green aquatic vegetation that bass and bluegills were inhabiting, allowing us to effectively sample those species in our electrofishing survey.

During the netting survey, adult walleyes were captured at a rate that reflects relatively low adult density (fewer than 5 per net-night). This observation is consistent with indicators that small panfish are overabundant due to insufficient predation. Though natural reproduction of walleye is not likely to occur because of spawning habitat limitations, stocking of large, extended-growth fingerlings may help to bolster the walleye population and thereby help to control panfish. Extended-growth (6-8") walleye fingerlings stocked in fall of 2012 were captured at a high rate of 37/mile at lengths of 6-10 inches during our spring 2013 electrofishing survey, indicating good overwinter survival. DNR plans to continue to stock Black Dan Lake periodically in order to create and maintain a walleye population large enough to control panfish recruitment and hopefully increase the sizes of panfish caught by anglers.

Muskellunge capture rate was high (1 fish per net-night is average), and the range of sizes was quite impressive for a lake of this size. While muskellunge do spawn in Black Dan Lake, it is unclear how many of those fish survive. We suspect this fishery relies largely on stocking which has occurred periodically. Northern pike were scarce in this survey.

The crappie population in Black Dan Lake has several interesting characteristics. Density of crappie appears to be high relative to most other lakes in the area, and most fish are small (<8 inches). However, we did capture a few exceptionally large crappie that Black Dan is known to produce occasionally. We believe some crappie get large enough to utilize a different type of prey (possibly small bluegill) than the smaller crappie in the lake, causing a rapid increase in

growth rate. We also captured a small number of white crappie (a closely related cousin to the black crappie) for the first time in this lake. White crappies are rare in northern Wisconsin.

Perch were found in moderate to low abundance, and size was poor. While there may not be much of a perch fishery in Black Dan Lake, this species is likely an important diet item for many other species in the lake including walleye, muskellunge, and largemouth bass.

Largemouth bass were moderately abundant and capable of supporting a recreational fishery, but not abundant enough to control overabundant panfish (bluegills and crappies). In other area lakes where electrofishing capture rates approach or exceed 20 per mile, largemouth bass are thought to prey on young walleyes, thereby limiting the success of small (1-2") walleye fingerling stocking programs. At Black Dan Lake, the extended-growth walleye fingerlings being stocked at 6-8" in the fall seem to be large enough to escape predation by abundant 12-14" largemouth bass. Liberalizing the harvest of largemouth bass while stocking and protecting more large walleye fingerlings could result in a more balanced fish community comprised of fewer largemouth bass, more walleyes, and fewer but larger bluegills and crappies.

Bluegills and pumpkinseeds were abundant, and there were few "keeper" size fish. Black Dan has always been known for having stunted bluegills, likely a result of excessive recruitment of young bluegill (insufficient predation) which leads to high competition for scarce food. The abundance of shallow water vegetation assists bluegill in avoiding predation by largemouth bass, but they will have no place to hide from winter-active walleyes. It will be interesting to see if an increased number of walleyes can successfully control bluegills and other panfish.



A black crappie (left) and a white crappie (right) from Black Dan Lake.

Report by Max Wolter – Fisheries Biologist, Sawyer County (Survey by Max Wolter, Russ Warwick, and Scott Braden) Special thanks to volunteers Mike Cookas and Rick Olson
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Approved – Steve AveLallemant