



Spring Fisheries Survey Summary Chippewa Flowage (West), Sawyer County, 2013

The Hayward DNR Fisheries Management Team conducted a fyke netting survey on the Chippewa Flowage during May 12-14, 2013 to assess the adult walleye, muskellunge, northern pike, black crappie, and yellow perch populations on the west side of the lake. Ten nets were set overnight for two nights, resulting in 20 net-nights of effort. An electrofishing survey conducted on May 28, 2013 documented the status of smallmouth bass, largemouth bass, and bluegill. Seven and one-half miles were shocked throughout the western half of the lake (panfish were sampled in 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.

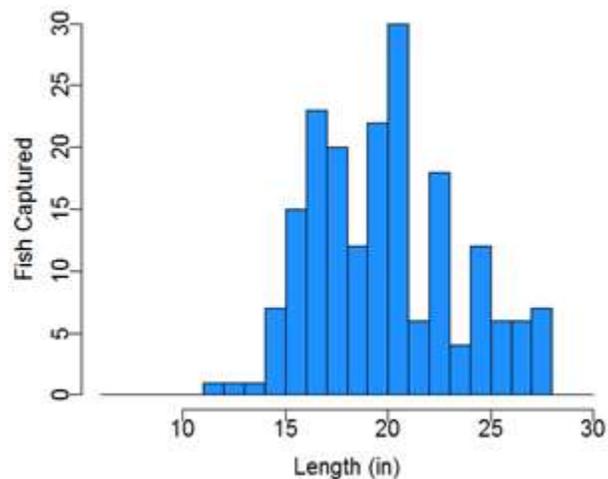
Habitat Characteristics

The Chippewa Flowage is a 15,300-acre reservoir situated at the confluence of the East and West Forks of the Chippewa River. The reservoir has a maximum depth of 92 feet but a mean depth of only 15 feet. The Chippewa Flowage contains a huge diversity of habitat from rocky points and islands, to shallow weedy bays. The east side of the reservoir is heavily influenced by inflowing river water and is typically stained brown by humic substances leached from wetlands upstream. Water on the west side is generally much clearer (no inflow from major rivers) and supports more aquatic plant growth. Over 90% of the shoreline is wild and undeveloped. In addition to 30 private resorts on the lake, DNR manages four public boat ramps and several island camp sites.

Walleye (Adult)



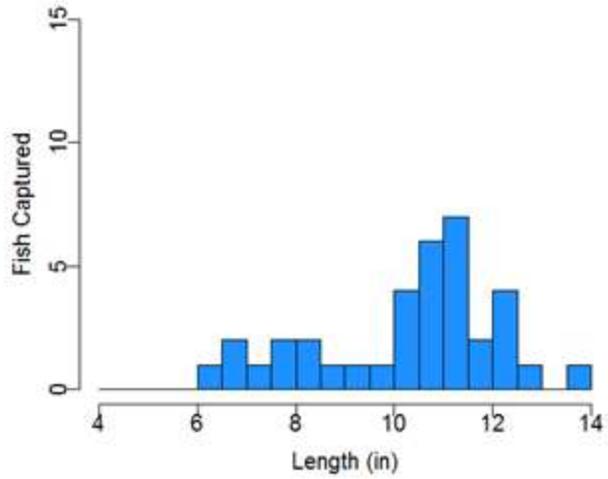
| | |
|---|------------|
| Captured 9.6 per net-night \geq 10 inches | |
| Quality Size \geq 15" | 95% |
| Preferred Size \geq 20" | 47% |



Walleye (Juvenile)



Captured 1.5 per mile ≤ 10 inches



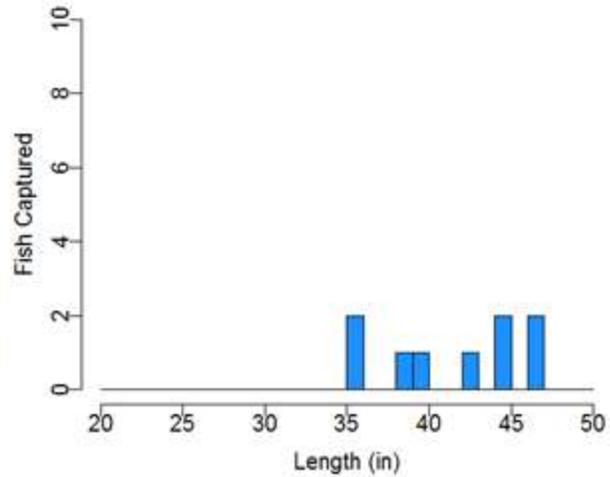
Muskellunge



Captured 0.5 per net-night ≥ 20 inches

| | |
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| Quality Size ≥ 30 " | 100% |
|--------------------------|------|

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| Memorable Size ≥ 42 " | 56% |
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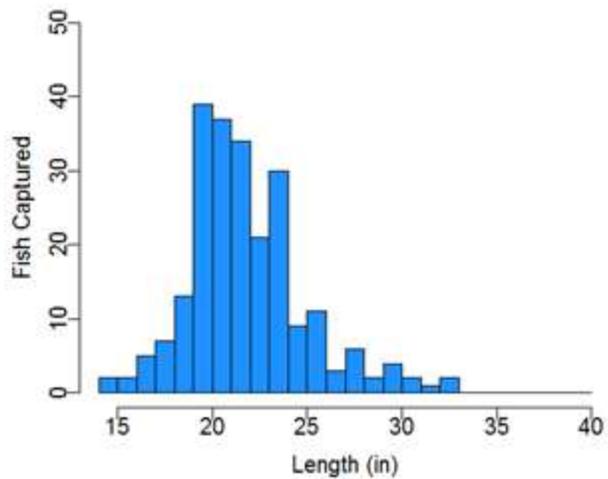
Northern Pike



Captured 12 per net-night ≥ 14 inches

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| Quality Size ≥ 21 " | 54% |
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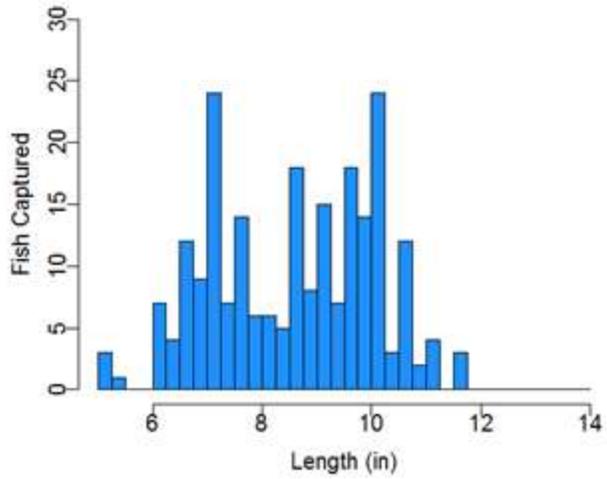
| | |
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| Preferred Size ≥ 28 " | 4.8% |
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Black Crappie



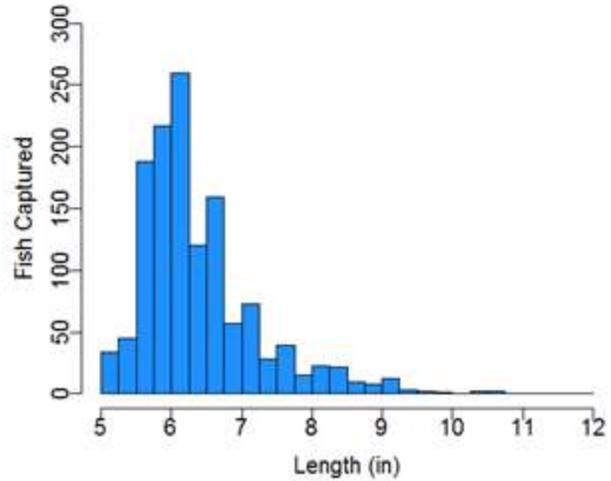
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| Captured 11.3 per net-night ≥ 5 inches | |
| Quality Size ≥ 8" | 62% |
| Preferred Size ≥ 10" | 21% |



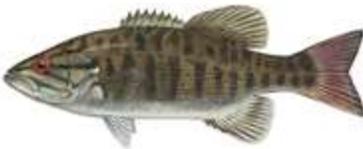
Yellow Perch



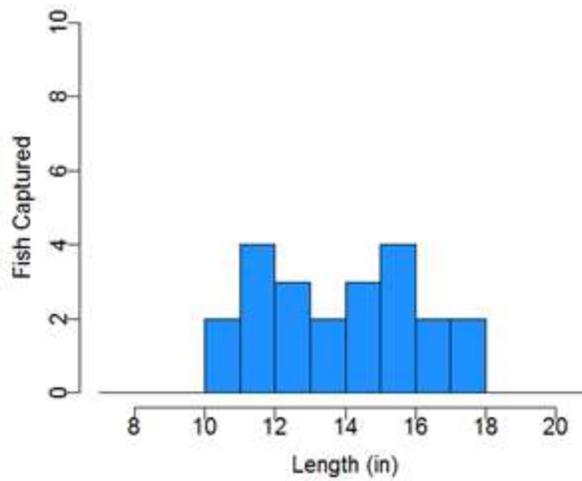
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| Captured 66 per net-night ≥ 5 inches | |
| Quality Size ≥ 8" | 6.4% |
| Preferred Size ≥ 10" | 0.3% |

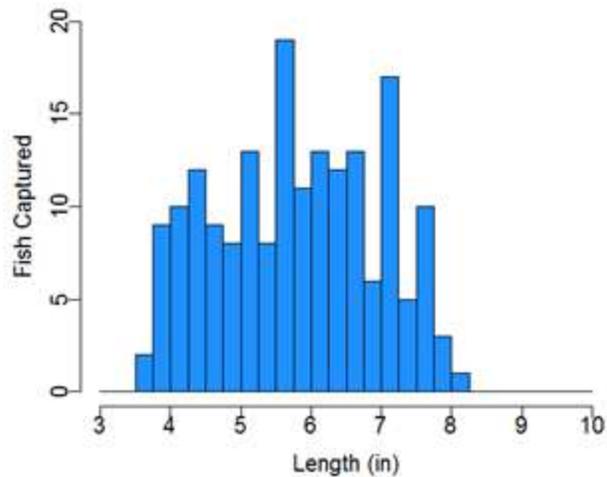
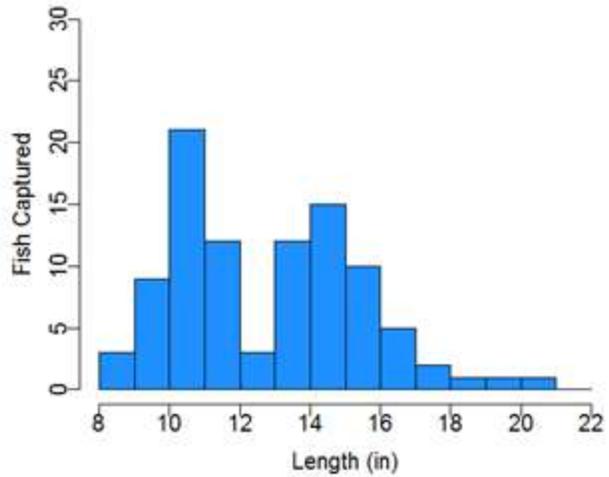


Smallmouth bass



| | |
|---|------------|
| Captured 2.9 per mile ≥ 7 inches | |
| Quality Size ≥ 11" | 91% |
| Preferred Size ≥ 14" | 50% |
| Memorable Size ≥ 17" | 9% |





Summary of Results

WDNR Fisheries survey efforts in 2013 focused on the west side of the Chippewa Flowage (west of County Highway CC). Netting surveys were well timed for walleye, muskellunge, and northern pike, all of which were spawning during our survey. Electrofishing was effective to sample the bass and bluegill populations.

Walleyes were captured at a moderate rate, and the average size of fish captured was higher than in the past because there are relatively few young fish in the system. Recruitment (survival past the first birthday) over the last decade has been weak, and so the population is comprised mostly of large, old fish (although we were pleased to see many fish around 15 inches in this sample). Recent stockings of extended-growth walleye fingerlings (6-8 inches long in the fall) by the Chippewa Flowage resort and property owners associations, Walleyes for Northwest Wisconsin, and the Lac Courte Oreilles Band of Lake Superior Chippewa have provided a welcome influx of young fish during recent years of low natural recruitment. Many of the juvenile and sub-adult fish appearing in this sample are believed to be a result of those stockings (capture rates of natural born recruits in fall surveys has been well below average for the last 6 years). Reducing the abundance of largemouth bass, which act as competitors with and predators on young walleye, will be key to restoring walleye as the dominant species in this system. Stocking of extended-growth walleye fingerlings appears to be helping to plug the hopefully temporary gap in natural recruitment (capture rate of age-1 walleye in years following stocking has been moderate to high). Until balance is restored, additional stocking by the WDNR is being

recommended to complement the fish being stocked (under permit or agreement) by private or tribal partners.

Muskellunge traditionally have been less abundant on the west side of the flowage than the east. Though capture rate is not necessarily a predictor of density, our spring 2013 fyke net capture rate on the west side of the Chippewa Flowage (0.5 fish/net-night) was well below the average (~0.9 fish/net-night) from 320 surveys of Wisconsin muskellunge populations completed between 1999 and 2009. Due to low natural recruitment, a high proportion of fish (56%) were of memorable size, exceeding the target range established in the 2007 Chippewa Flowage Fishery Management Plan (20-40% \geq 42 inches). Muskellunge recruitment may be suppressed as northern pike numbers continue to expand. Angler harvest of small pike, additional muskellunge stocking, and alternate stocking strategies are all being pursued as tactics aimed at increasing the muskellunge population in the Chippewa Flowage.

Northern pike were captured at a relatively high rate, and size structure was unsatisfactory. High numbers of fish in the low 20-inch range resulted in a low proportion (< 5%) of preferred-sized pike, failing to meet our Management Plan expectations (15-25% \geq 28 inches). Increasing fyke-net capture rate (12/net-night in 2013 compared with 5/net-night on the west side in 2006) suggests the pike population is increasing. Angler harvest of small pike will be necessary to achieve the Management Plan goal of a low-density pike population with a high proportion of preferred-size fish.

Black crappies were captured in moderate numbers, and size structure was good with many fish that would be considered “keepers” by anglers. Crappie has been one of the most consistent and popular species targeted by anglers in recent years, and the population currently meets both abundance and size structure objectives in the 2007 Management Plan. Management actions should be consistent with maintaining the crappie fishery in its current state.

Yellow perch were captured at a moderate to high rate but most fish in this sample were small. The current perch population does not meet size objectives (10-20% \geq 10 inches) and is probably not desirable to many anglers. However, perch still play an important role in the fishery as prey for other species of interest and as producers of perch fry that juvenile walleyes rely upon as food early in life. Reducing the number of pike may improve the size of perch in the lake since pike typically target larger perch as prey. Voluntary restraint by anglers in harvesting perch may also help to maximize the production of the perch fry important as food to young walleyes.

Smallmouth bass are abundant on the east side of the Chippewa Flowage, but we captured low numbers on the weedier west side. Size structure was good, with some fish approaching 18 inches. In general, the habitat on the west side is better suited to largemouth bass which were found in greater abundance. Objectives for largemouth bass in the Chippewa Flowage are a low-density population (electrofishing capture rate of 5-10 per mile) with 5-15% of memorable size (\geq 18 inches). These objectives have yet to be met. However, since our last survey in 2009 the largemouth bass population does not appear to have increased (14 per mile in 2009, 13 per mile in 2013). We strongly recommend continued angler harvest of small, slow-growing largemouth bass to help achieve all goals of the 2007 Management Plan that depend on maintenance of a walleye-dominated fishery. Such harvest should be facilitated by the 2012 removal of length restrictions on Chippewa Flowage largemouth bass and by opening the Northern Bass Zone in 2014 to largemouth bass harvest beginning the first weekend in May. Smallmouth bass continue to be protected by the North Zone catch-and-release-only season and the 14-inch minimum length limit during the harvest season.

Bluegills were captured at a moderate rate with many “keeper” size fish. Bluegills have likely benefited from the more stable water level management that has occurred in recent years which allows for more weed growth in shallow water areas. Also, juvenile bluegills are not as easy for predators to capture and eat during fall and winter seasons with small drawdowns. The shortage of young walleye (which can be very effective predators on small bluegill) is also responsible for greater numbers of bluegill than we have seen historically. The current bluegill population exceeds abundance objectives and does not meet size objectives. Increasing predation pressure on bluegill (by walleyes and adult perch) may be needed to accomplish these objectives.



Volunteer Ethan Rossing with a big Chippewa Flowage musky.

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