

1999 Lake Survey Summary - Ada Lake, Langlade County (T33N, R14E, sec. 3,4; WBIC - 0417300) Headwaters GMU

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BACKGROUND INFORMATION

Ada Lake is a 72.9-acre, softwater seepage lake in northeast Langlade County, approximately 6 miles southwest of the town of Wabeno. The lake has a maximum depth near 60 feet and a shoreline length of 1.56 miles, of which the U.S. Forest Service controls 38%. Water in the lake is clear, acidic, and very soft. The shoreline is almost entirely upland hardwoods and conifer. The main littoral bottom type was rubble (50%); with lesser amounts of muck/detritus (20%), boulder (10%), sand (10%), and gravel (10%). The north basin consists of a shallow muck/marl substrate and experiences some thick weed densities (especially water shield). Private development includes about 14 homes and cottages along the western shore. Public use facilities maintained by the USFS include an 18-unit campground, beach area, and a boat landing on the south end of the lake. The landing has a gravel ramp but is considered a difficult access due large rocks and shallow water. In addition, there is a town ordinance that prohibits the use of gasoline motors on the lake.

Past fish stocking on Ada Lake included the planting of smallmouth bass (1944 & 1947), splake (1959, 1963, 1965, 1967, and 1969), and various plants of brook, rainbow, and brown trout from 1961 to 1995. Fishery surveys have been conducted in 1969, 1978, 1980, and 1992-93. The splake (brook x lake trout hybrid) stocking program met with limited success. The Wisconsin State record splake (14 pounds 4 ounces) was caught from Ada Lake in 1967 and this set high expectations for most anglers coming to the lake. However, lake landowners, fishermen, and resort owners were generally disappointed with the splake fishing as they reported catching small fish frequently in stocked years and very few legal-size splake (> 17 inches). This prompted a splake stocking evaluation in 1969. The report concluded that limited habitat and inter/intra-specific competition caused the very poor condition (and survival) of the stocked fish. Splake management was then discontinued in Ada Lake after 1969.

The more recent 1992-93 survey consisted of 2 electrofishing runs in the fall of 1992 and 3 electrofishing runs during the summer of 1993. No summary report was available but it appeared that the survey was intended to provide a largemouth bass population estimate. No estimate was found in the data sheets but the shocker runs indicated that largemouth bass were the predominant gamefish and bluegill were the more numerous panfish. Other common panfish included green sunfish, yellow perch, and pumpkinseed. Species found in low numbers were rock bass, crappie, northern pike, brown trout, and walleye.

A fishery survey was initiated in 1999 on Ada Lake to inventory the fishery, identify management problems and provide future management direction. The survey was conducted through the Chequamegon and Nicolet National Forest contract fisheries program. To gather

fisheries data, the survey utilized electrofishing runs in May and September and 9 fyke-net lifts in July 1999. (In addition to the fishery sampling, dissolved oxygen levels and other water quality parameters were measured in March (ice cover) and July)???

RESULTS

The following fish species were collected during the 1999 survey on Ada Lake:

Largemouth bass	(<i>Micropterus salmoides</i>)
Smallmouth bass	(<i>Micropterus dolomieu</i>)
Northern pike	(<i>Esox lucius</i>)
White sucker	(<i>Catostomus commersoni</i>)
Bluegill	(<i>Lepomis macrochirus</i>)
Pumpkinseed	(<i>Lepomis gibbosus</i>)
Yellow perch	(<i>Perca flavescens</i>)
Rock bass	(<i>Ambloplites rupestris</i>)
Green sunfish	(<i>Lepomis cyanellus</i>)
Golden shiner	(<i>Notemigonus crysoleucas</i>)
Bluntnose minnow	(<i>Pimephales notatus</i>)
Mottled sculpin	(<i>Cottus bairdi</i>)

Largemouth bass were the predominant gamefish in 1999 with a total of 153 fish sampled during the various survey efforts. They ranged from 1.8 to 19.8 inches in length, with a fairly even distribution of fish within this range. The overall PSD₁₂ was 39%, which indicated a good size structure of the population. Growth rates were near the statewide average (Figure 1). Largemouth reached a mean length of 10.4 inches after 4 summers of growth and increased to 15.2 inches after 7 summers. Natural reproduction was evident and recruitment appeared to be adequate in sustaining the fishery.

The other gamefish were collected in relatively low numbers and included 9 smallmouth bass and 8 northern pike. The northern pike ranged from 16.5 to 27.9 inches long, with 3 of the total measuring greater than 24 inches. Northerns achieved average growth rates (Figure 2), with fish reaching a mean length of 22.3 inches after 5 summers of growth. The smallmouth bass ranged from 2.8 to 14.6 inches in length, with 2 of the 9 measuring greater than 12 inches. Growth rates were below the statewide average (Figure 3), with smallies reaching a mean length of 10.6 inches after 4 summers of growth.

The panfishery was dominated by bluegill, with much lower abundances of green sunfish, rock bass, pumpkinseed, and yellow perch. A total of 2,318 bluegill were sampled during the 1999 survey and ranged in length from 1.2 to 9.6 inches. The July fyke-net effort produced the bulk of the total, giving a catch-per-effort (CPE) of 240 fish per net-day with a PSD₆ of 29% and RSD₇ of 5%. Growth was below average for Wisconsin (Figure 4), as bluegill reached a mean length of 5.0 inches after 5 summers of growth.

The other panfish species were collected in relatively low numbers with totals of 76 green sunfish, 74 rock bass, 55 pumpkinseed, and 18 yellow perch sampled. The green sunfish ranged in length from 2.1 to 8.3 inches, with a PSD₆ of 11%. The rock bass measured from 3.8 to 9.3 inches long with a fairly even distribution of fish in between those sizes. The pumpkinseed ranged from 2.7 to 7.2 inches long and had an overall PSD₆ of 15%. The yellow perch were 2.4 to 6.4 inches long and most were in the 3 to 4 inch size. No age and growth data were collected from these latter 4 panfish species.

No trout were collected or observed during the survey efforts on Ada Lake in 1999. Forage fish species were found in generally low densities. Just 1 white sucker was sampled and golden shiner, bluntnose minnow, and mottled sculpin were considered 'present' (only a few individuals of each species were observed).

SUMMARY/DISCUSSION

The 1999 survey on Ada Lake found a fairly well balanced fishery. Largemouth bass were the primary gamefish, with much lower numbers of northern pike and smallmouth bass. The largemouth bass population was moderate in density, self-sustaining, fish experienced average growth rates, and fair numbers of quality and trophy sized fish were available to the angler. The northern pike and smallmouth bass were low density but their populations were considered self-sustaining and quality-size fish were present. Bluegill were the predominant panfish, with lower densities of green sunfish, rock bass, pumpkinseed, and yellow perch. Growth rates of the bluegill were below average, but fair numbers of quality size fish were found ($PSD_6 = 29\%$). The latter 4 panfish species were present in relatively low numbers and had generally poor size structures.

The fishery appeared to show little change in the last 20 years (Table 1). The survey in 1980 also found largemouth bass to be the predominant gamefish, with lower numbers of smallmouth bass and northern pike being collected. Bluegill and pumpkinseed were considered abundant and yellow perch were deemed common. A few general trends that were evident since 1980 (barring any sampling variability or bias) would include an overall increase in largemouth bass abundance and an associated decrease in both northern pike and smallmouth numbers. Bluegill also appeared to have increased significantly, with an associated decrease in both the pumpkinseed and perch populations. These slight shifts in abundance are likely the result of 'lake evolution' -- i.e. with no supplemental stocking of warmwater species for the past several decades, habitat and forage conditions simply favored the largemouth and bluegill and these were the species that gravitated toward dominance in the lake.

While no trout were found during the 1999 survey, sampling effort was not geared toward collecting these coldwater fish. As such, not much can be determined about past survival and growth of the stocked trout in the lake. It was obvious that deeper, cold water habitat was limited to one spot in the central part of the lake. Consequently, any future management for trout should take this into consideration as this would limit survival and carryover of stocked fish. However, trout stocking on small inland lakes does provide a very popular angling experience, especially for the first month or two of the season. Thus, if a two-story fishery is desired, a limited quota of spring holdover trout (about 500 fish) could be stocked to provide a short term fishery (with the expectation that survival and carryover past a couple of months would be minimal).

The main management goal for Ada Lake should be to maintain the balanced predator-prey relationship. The lake should be managed primarily as a largemouth bass and bluegill fishery, with secondary emphasis on smallmouth bass and northern pike. The northern pike were an integral part of the fishery but no extra protection or enhancement should be used to increase their numbers (with the small size of the lake and limited forage, there exists a chance to see a hammer-handle fishery if numbers become too high). The slow-growing bluegill do merit some concern and this should be monitored periodically in the future. If the situation worsens and a stunted, overabundant

bluegill population becomes apparent, remedial action should be initiated (i.e. supplemental stocking of predators, artificial feeding, restrictive harvest regs for gamefish, and/or mechanical removal of bluegill).

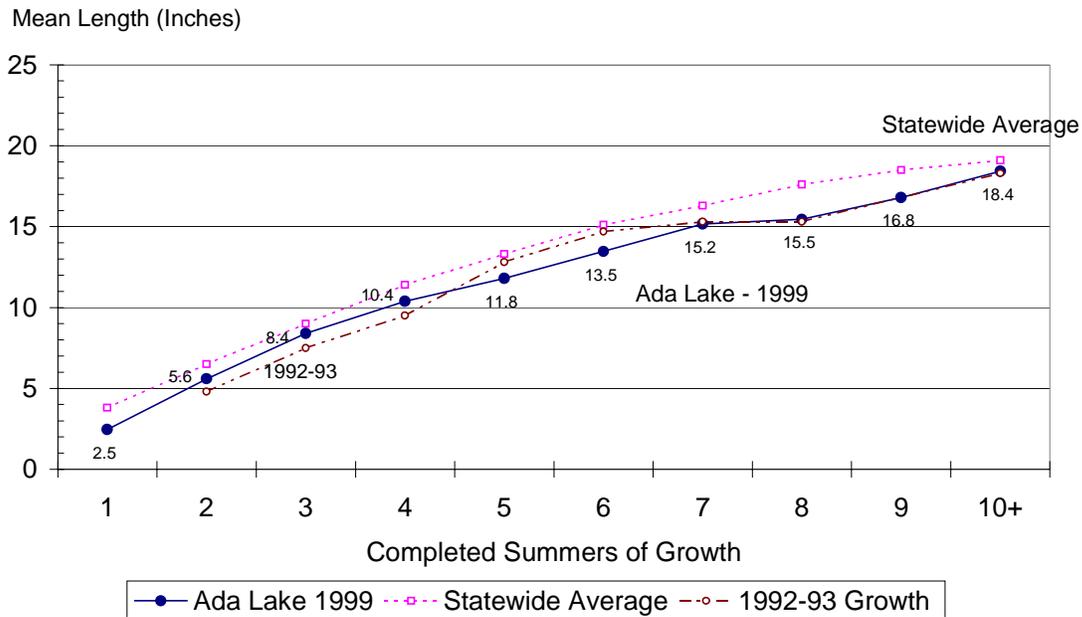
No other major management problems were evident and the current harvest regulations were considered sufficient to sustain a quality fishery. Shoreline and littoral habitat were adequate as there was a good mix of aquatic vegetation, woody structure, and rock/gravel substrate. A continuing management objective should be proper riparian management to ensure future natural tree-falls into the lake.

MANAGEMENT RECOMMENDATIONS

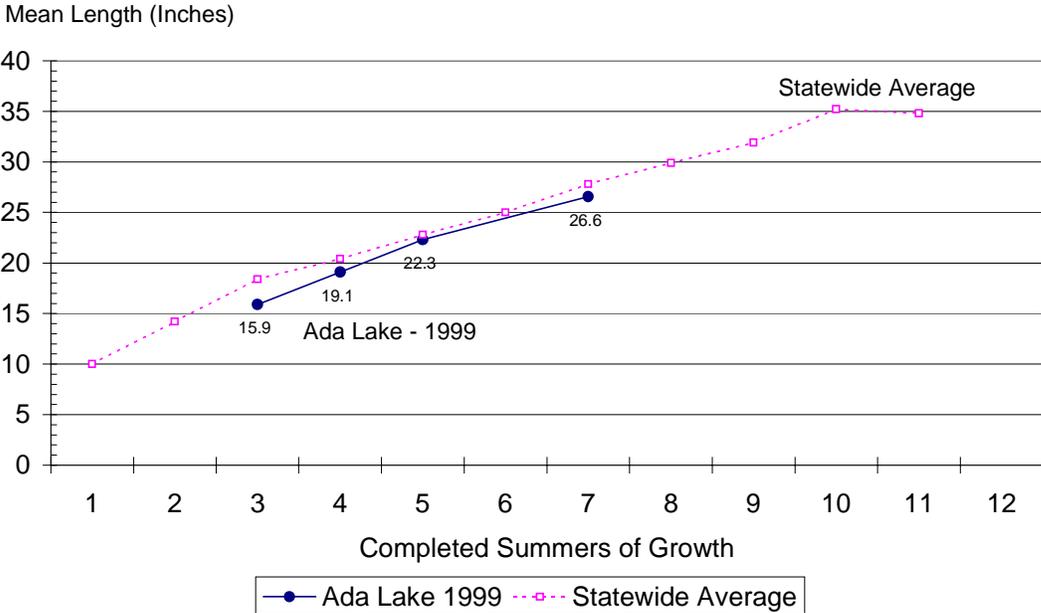
1. Manage Ada Lake primarily for largemouth bass and bluegill, with secondary emphasis on smallmouth bass and northern pike (meaning no stocking or special regulations to increase their numbers). Specific management objectives are as follows:
 - a. Largemouth bass - maintain a spring electrofishing CPE near 80 bass per hour (> 6") and a PSD₁₂ of greater than 40%.
 - b. Northern pike - maintain a spring electrofishing CPE of less than 6 pike per hour and the PSD₂₁ near 60%.
 - c. Smallmouth bass - maintain a spring electrofishing CPE near 10 bass per hour (> 6") and a PSD₁₂ of greater than 40%.
 - d. Bluegill - maintain a spring electrofishing CPE of less than 400 fish per hour with a PSD₆ of greater than 40%.
 - e. Other Panfish (green sunfish, rock bass, pumpkinseed, and yellow perch) - maintain a combined spring electrofishing CPE of less than 150 fish per hour and the PSD_x values near 40%.
2. The fishery was considered fairly well-balanced and no supplemental stocking of any warmwater or coolwater species was recommended at the present time. In addition, the current harvest regulation for bass of a 14-inch minimum and 5 daily bag should be adequate to maintain and enhance both the largemouth and smallmouth populations. The current regulation for northern pike (no minimum, 5 bag) was appropriate as well.
3. Should there be an angler demand for trout, a limited quota of 500 spring holdover fish could be stocked on an annual basis. This would provide a two story angling opportunity with good trout fishing to be expected for about 2 months following stocking (survival and carry-over past 2 months would be minimal). Brook or rainbow trout are recommended as they are more 'angler friendly' (easier to catch) than brown trout.
4. The current access (shallow and rocky) was adequate for a 73-acre lake with an 'electric motor only' ordinance. The electric-only ordinance added an extra aesthetic value to the wilderness character of the lake and continuation of this restriction is suggested.

5. Maintain the wild nature of the lake by limiting any further shoreline development and by following the guidelines for riparian management zones as described in "Wisconsin's Forestry Best Management Practices for Water Quality" (PUB-FR-093 95).
6. Conduct periodic monitoring of the fishery to assess its status and adherence to the above objectives (1.a to e). A spring electrofishing run every 3 years should be sufficient to keep abreast of the conditions in the lake. The USFS/WDNR contract fish program will incorporate this monitoring run into their work plans.

**Figure 1. Largemouth Bass Growth Rates
Ada Lake, Langlade Co.**



**Figure 2. Northern Pike Growth Rates
Ada Lake, Langlade Co.**



**Figure 3. Smallmouth Bass Growth Rates
Ada Lake, Langlade Co.**

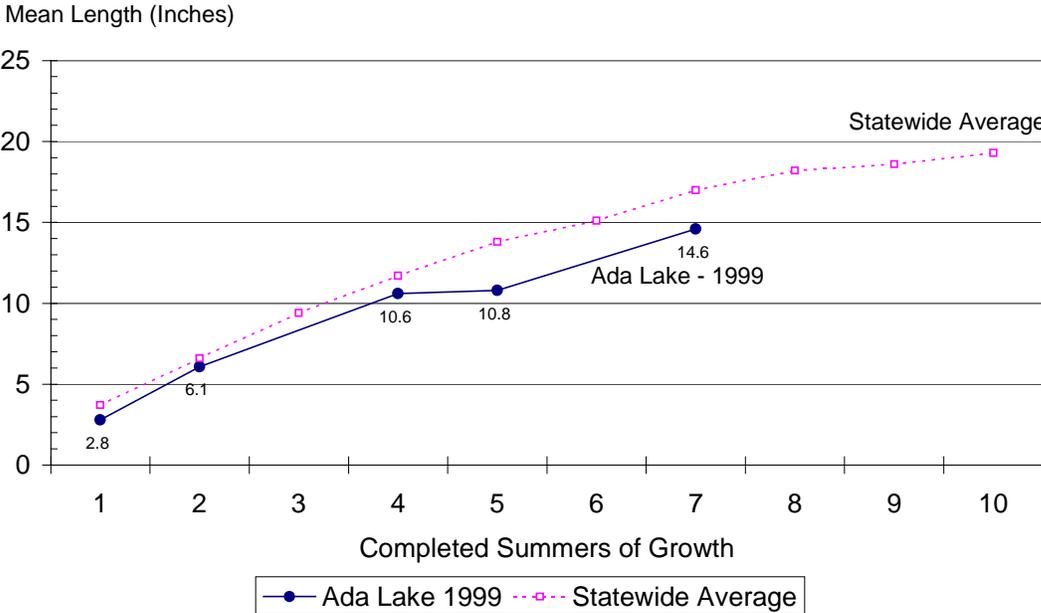
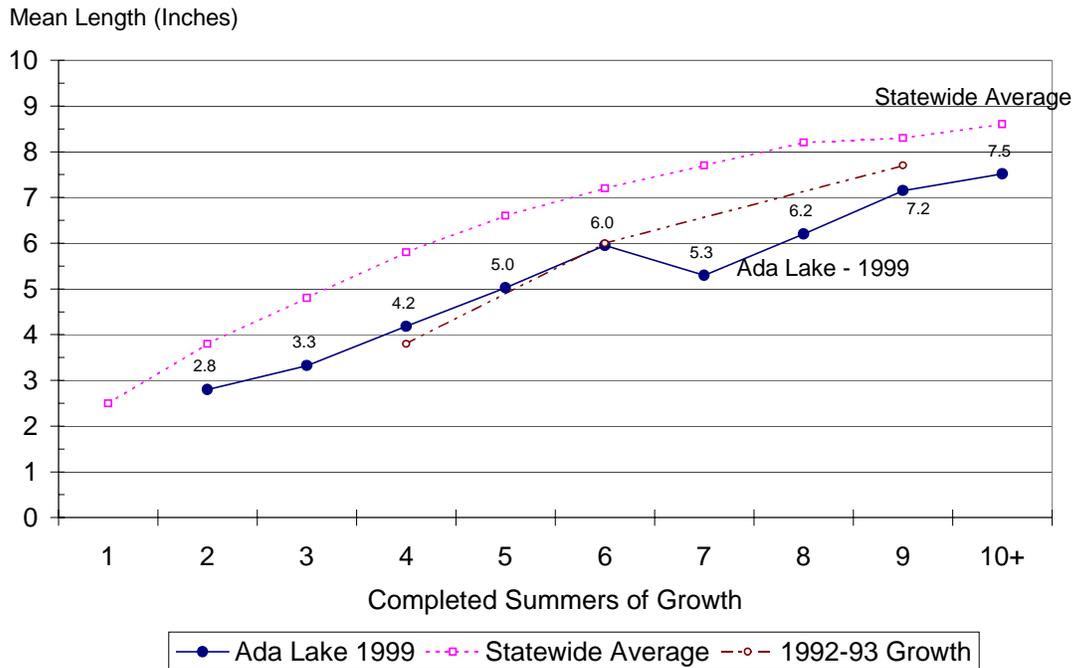


Figure 4. Bluegill Growth Rates - Ada L., Langlade Co.



**Table 1. Comparison of Fall Electrofishing Catch Statistics
1999 -- 1992 -- 1980 -- Ada Lake, Langlade Co.**

	LMB	SMB	N Pike	Bluegill	R. Bass	Green Sunf.
Sept. 15, 1999 (0.7/0.1 hr.)						
CPE	83/hr	5.7/hr	1.4/hr	590/hr	80/hr	300/hr
Size/PSDx	31% (>12")	1 of 3 (>11")	1 of 1 (>21")	5% (>6")		5% (>6")
Sept. 17, 1992 (1.7 hrs.)						
CPE	25/hr	0	0	64/hr	1/hr	15/hr
Size/PSDx	60%			36%		0
Sept. 30, 1980 (~1 hr.)						
CPE	37/hr	11/hr	4/hr	Not (Abund.)	Collected	>>>
Size/PSDx	41%	9%	25%			

Ada Lake, Langlade County -- 1999 Survey Pictures



Shallow landing at Ada Lake



Fyke net along south shore



Bluegill & Rock Bass from net