

ILLINOIS DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF FISHERIES

T 45N R 10E S 13

SUPPLEMENTAL SURVEY

Directions: Two miles north of  
Grayslake, west of Rt. 45

Date of inspection: 5/21/2002

Water (Name) Third Lake Owner Multiple

Address of Owner \_\_\_\_\_ Phone of owner \_\_\_\_\_

Lessee \_\_\_\_\_

Persons(s) contacted Marci Quigley Identification Village Manager, Third Lake

Address of contact \_\_\_\_\_ Phone of contact 847/223-8422

Water classification (check) State \_\_\_ Pub-Coop \_\_\_ Pub-Other XXXXX Organ \_\_\_ Commer \_\_\_ Stream \_\_\_

1. Survey initiated by: Frank Jakubicek

2. Water size: 155.4 Acres or \_\_\_\_\_ Miles.

3. Date of last inspection or work on water: Standard Survey 5/20/1998

4. Purpose of survey: Fish Population Survey

5. Observations, comments, recommendations:

During 60 minutes of electrofishing and overnight sets of one gill net (250') and two trap nets a total of 148 fish from 14 species (Table 1) were collected. Compared to the 1980 survey the number of fish collected was particularly small as 726 fish of 12 species were collected then. In 1998 the sample consisted of 120 fish from 11 species. As past reports stated a drastic decline in the yellow bass population changed the dynamics of Third Lake. There are still yellow bass in the lake which range from 3.5 to 11 inches with the majority of fish being on the smaller side (avg. 8.1", not including several schools small fish). We passed through 3 or 4 schools of 3.5 inch yellow bass which if dipped would have increased their abundance and which provide forage for most predatory species in the lake. Yellow bass continue to pose a threat to Third Lakes' species diversity and development because of their ability to reproduce profusely and if large numbers of fish mature, their ability to dominate the biomass of the lake. Comparatively, 1998 survey results revealed a lake consisting of bluegill (27.9%), yellow perch (22.1%), carp (18.9%), and largemouth bass (13.1%). Our catch was represented by bluegill (18.9%), yellow perch (14.2%), largemouth bass (13.5%), and black crappie (12.8%). Catch differences may be related to actual changes in the fishery or a matter of sampling error associated with the amount of vegetation present, water temperature, or seasonality of our sample.

Aquatic vegetation was present in Third Lake and consisted of a ring of vegetation surrounding the lake from between 3 and 7 feet of water. Most game species were collected near the vegetation which is important cover for larger predators and smaller fish. Interestingly, yellow bass were collected in turbid water areas and not necessarily near vegetation but largemouth bass were collected in or near both.

The electrofishing catch of 13 largemouth bass per hour was below the statewide goal of 60 fish per hour but similar to the previous survey (1998). Third Lake has a relatively high conductivity for the electrofishing gear we use so efficiency is reduced by both the gear type and very clear water. Population indices indicated that the sampled fish were mostly adult fish with the Proportional Stock Density value at 94, Relative Stock Density of 14 inch fish at 44, and RSD of 15 inch fish at 28.

6. Biologist: Frank Jakubicek  
F.M. 5.0

Date of Report: 1/9/2002

(Largemouth bass Cont.)

The sample was made up of a disproportionate number adult fish and indicated that spawning success and survival was likely reduced by the lack of very nearshore vegetation, where small bass like to live. Target goals for the above indices are as followed for a balanced fish population; PSD between 40 and 60, RSD14 between 30 and 40, RSD15 between 10 and 20.

Eight northern pike were collected between 24 and 31 inches long. Their CPE (catch per effort) of 7 fish per net night (1 fish was collected electrofishing) was above average (goal = 2 fish per net night). Only adult fish were collected resulting in above average population indices (PSD = 100, RSD 24 inches = 87, and RSD 28 inches = 37). For comparisons sake, goals shown for northerns should be similar to those mentioned above for largemouth bass. An established northern population should help control yellow bass and other panfish species. Oxygen concentrations of 4 to 5 ppm below the thermocline will provide thermal relief for these fish which will take advantage of the temperature differences and may grow to near trophy size.

Panfish species consisted of bluegill, yellow perch, and black crappie. Their average sizes were below those desired (Table 1) by many fishermen but quality size fish were collected of each species suggesting that larger fish are in the population and may just have been missed. A consistently strong predator base will, overtime, enhance the growth of panfish populations. Two things hinder the development of quality panfish populations: an overabundance of vegetation and high densities of yellow bass. The fishery of Third Lake appears to be on track to develop into a balanced fishery provided the above considerations are not grossly compromised.

Carp populations should be targeted for removal by fishermen whenever possible. They could be seen avoiding the electrofishing field and were not efficiently collected during the survey so our catch data is minimally comparable to their abundance. Their average size has remained relatively constant over the years at 20.1 inches. The population is sexually mature and capable of high levels of reproduction. This sort of event can occur if water quality decreases significantly and/or there is a significant reduction in the predator base.

In conclusion, I was happily surprised at the quality of fish collected in Third Lake during the survey. Previous reports indicated that the lake was difficult to survey due to conductivities and water clarity. These factors definitely impact the results, however we observed but failed to "dip" a fair number of quality size fish which would have influenced the results of this report and shown even more improvements in the fishery. The capture of a sauger was unusual in that they are almost never stocked in lakes by hatcheries but can be caught and moved by fishermen. This practice is likely how yellow bass became established in your lake and is one that should be frowned upon and discussed in newsletters. The largemouth bass and northern pike populations appear to be developing well and should maintain themselves through natural reproduction. If walleye are sought after by local fishermen they will need to be stocked at least every other year to develop and maintain their presence.

**Recommendations (in priority order):**

1. Stock 35 to 50 two inch walleye fingerlings per acre (usually available in June) every other year if a walleye population is desired (or fewer larger fingerlings in the fall - 25 to 35 per acre).
2. Encourage fishermen to keep and remove all carp and yellow bass they catch.
3. Treat aquatic vegetation when lake coverage exceeds 75% of the lakes shoreline surface, noting that 10 to 20% shoreline coverage is beneficial to developing and maintaining a quality fishery.
3. Establish a 15 inch minimum length limit and 1 per day catch limit on largemouth bass.
3. Establish a 24 inch minimum length limit and 1 per day catch limit on northern pike.

TABLE 1. THIRD LAKE SPECIES CATCH SUMMARY, 5/21/2002.

SPECIES	NUMBER	PERCENT	LENGTH (in.)		
			MINIMUM	AVERAGE	MAXIMUM
LARGEMOUTH BASS	20	13.5	3.9	11.4	18.9
SMALLMOUTH BASS		0.0			
BLUEGILL	28	18.9	1.2	4.9	7.5
PUMPKINSEED SUNFISH		0.0			
ORANGESPOT SUNFISH		0.0			
GREEN SUNFISH		0.0			
LONGEAR SUNFISH		0.0			
REDEAR SUNFISH		0.0			
SUNFISH HYBRID		0.0			
WARMOUTH		0.0			
ROCK BASS		0.0			
BLACK CRAPPIE	19	12.8	5.5	8.9	11.8
WHITE CRAPPIE		0.0			
YELLOW BASS	17	11.5	3.5	8.1	11.8
WHITE BASS		0.0			
WHITE PERCH		0.0			
SAUGER	1	0.7	19.4	19.4	19.4
YELLOW PERCH	21	14.2	2.4	3.4	7.9
LOGPERCH		0.0			
JOHNNY DARTER		0.0			
IOWA DARTER*		0.0			
MUSKELLUNGE		0.0			
TIGER MUSKIE		0.0			
NORTHERN PIKE	8	5.4	23.6	27.6	30.7
GRASS PICKERAL		0.0			
CHANNEL CATFISH	1	0.7			
FLATHEAD CATFISH		0.0	20.1	20.1	20.1
BLACK BULLHEAD	1	0.7	4.8	4.8	4.8
BROWN BULLHEAD		0.0			
YELLOW BULLHEAD	2	1.4	12.2	12.2	12.2
BOWFIN		0.0			
LONGNOSE GAR		0.0			
FRESHWATER DRUM		0.0			
CARP	16	10.8	13.8	20.1	24.4
GRASS CARP		0.0			
GOLDFISH		0.0			
GOLDEN SHINER	3	2.0	5.1	5.7	6.2
COMMON SHINER		0.0			
EMERALD SHINER		0.0			
SPOTFIN SHINER		0.0			
SPOTTAIL SHINER		0.0			
BIGEYE SHINER		0.0			
BLACKCHIN SHINER*		0.0			
BLACKNOSE SHINER*		0.0			
FATHEAD MINNOW		0.0			
BULLHEAD MINNOW		0.0			
BLUNTNOSE MINNOW	8	5.4	2.2	2.5	2.7
BROOK SILVERSIDE		0.0			
BANDED KILLIFISH*		0.0			
CENTRAL MUDMINNOW		0.0			
QUILLBACK CARPSUCKER		0.0			
WHITE SUCKER	3	2.0	13.1	14.7	16.3
SPOTTED SUCKER		0.0			
SHORTHEAD REDHORSE		0.0			
LAKE CHUBSUCKER		0.0			
GIZZARD SHAD		0.0			
ALEWIFE		0.0			
<b>SPECIES= 14</b>	<b>TOTAL= 148</b>	<b>100.0</b>			

\*ENDANGERED OR THREATENED SPECIES.