Illinois Department of Natural Resources
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One Natural Resources Way • Springfield, Illinois 62702-1271
www.dnr.illinois.gov

July 5, 2024

Sunset Lake Association
c/o Valerie Jagiela
30505 East Lake Drive
Girard, IL. 62640

Dear Valerie and Lake Association Members:

The purpose of this letter is to summarize the results of the electrofishing survey conducted on Sunset Lake May 30th, 2024. The water temperature was 74 degrees at the surface, and dissolved oxygen was 10.2 mg/L which is very good. The water was slightly turbid as shown by a Secchi Disk measurement of 24 inches, and water conductivity was 242 micromhos/cm. I also tested the water quality down to 12 feet below surface and it was normal. We electrofished for 1 hour in two separate 30-minute runs located in opposite arms of the lake to collect a representative sample of the fish population. We collected the following fish species and numbers:

Bluegill	128	Golden Shiner	9+
Yellow Bass	1	Redear sunfish	92
Gizzard Shad	72	Yellow Bullhead	2
Largemouth Bass	85+	Black Crappie	1
Green Sunfish	5	Common Carp	Saw 3

Largemouth Bass – We collected 85 Largemouth Bass in one hour of electrofishing which indicates a strong bass population. We expect to get 60 bass or more in well-balanced lakes. We also observed schools of 100's, perhaps 1000's, of bass fry that we did not collect or quantify.

Ample numbers of Largemouth Bass were collected in all size classes indicating a healthy population. In addition to the numerous bass fry we observed, 21% of the bass collected were less than 12 inches suggesting good reproduction. Thirty-nine percent of the bass were 12-15 inches, 31% were 15-18 inches, and 9% were over 18 inches. The longest bass we collected was 20 inches and the heaviest was 4.2 lbs.

Largemouth Bass Size	**Percent of Catch**
0-12 inches	**21%**
12-15 inches	**39%**
15-18 inches	**31%**
over 18 inches	**9%**

Bluegill – The lake has a quality Bluegill population. Bluegill were collected in good numbers and ranged in size from 1 to 9 inches. Eleven percent of the Bluegill were in the large, 7-9 inch range.

Redear Sunfish – The Redear Sunfish population looks great. Redear were collected in good numbers and ranged in size from 4 to 9 inches. Twenty-three percent of the Redear were in the large, 8-9 inch range.

Crappie – We collected only 1 Black Crappie measuring 10 inches. This was not surprising since they are in deeper water away from shore this time of year. Angler accounts suggest they are numerous.

Channel Catfish – We did not collect any Channel Catfish; however, angler accounts suggest they are present in the lake. It is common for us to not collect catfish even when present because our equipment is less effective at collecting catfish than other species.

Gizzard Shad – Gizzard Shad were numerous ranging from 5-13 inches.

Golden Shiners – We collected 9 Golden Shiners and observed swarms of newly hatched fry.

Other Species – We observed, but did not collect, 3 Common Carp. And we collected 2 Yellow Bullheads, 5 Green Sunfish, and 1 Yellow Bass.

Summary and Recommendations –

Condition of Fishery:
Overall, the fish population of the lake looks healthy and balanced. The Largemouth Bass numbers were well above our goal of 60 bass per hour of electrofishing, and 40% of the bass were keepers (15 inches or greater). The numbers of keeper-sized Bluegill and Redear Sunfish are also impressive in this lake. Gizzard shad are numerous which provides a good forage base for the bass population. Common Carp, Green Sunfish, Yellow Bass, and Yellow Bullheads are also present, and although these species can be a nuisance in degraded ponds and lakes, they should not pose a problem in this lake due to good levels of oxygen in the water and a strong Largemouth Bass population.

Stocking:
Continued stocking of Walleye and Channel Catfish makes sense because neither of these species is likely to have much natural reproduction in the lake. If you have had good success with the numbers you have been stocking then continue at those rates, but if you need recommended rates, you can call me. Your lake does not need any other stocking at this time: Largemouth Bass, Bluegill, and Redear Sunfish all appeared to be reproducing well naturally.

Harvest Regulations:
Current regulations per your website indicate unlimited harvest of Bluegill, Redear Sunfish, Crappie, and Catfish. These are all sound regulations, especially for the first three species listed. But since Channel Catfish must be stocked to maintain their populations in lakes of this size, you could consider a 6 catfish/day regulation if you ever think more are being harvested than you can afford to replace through stocking. This regulation is used in State lakes where the DNR maintains Channel Catfish populations by stocking.

I talked to several fishermen that were concerned that the number of large bass has diminished in the lake. In looking back at previous reports, there has been no substantial change in the number of keeper-sized bass (larger than 15") in the past 5 surveys dating back to 2005. However, the size of the very largest bass caught during each survey has declined just a little bit in each survey since 2005, for a total decline of 2 inches and about 1.5 lbs. over 19 years. Although looking at just these few fish does not justify major management actions, it does support the fishermen's concerns. Just to be clear, the bass population is still in great condition because there is good natural reproduction, bass of all sizes up to 20 inches are present, and 40% of the bass are over 15 inches. The only thing that has changed is that the size of the very largest bass appears to have decreased. This situation can be addressed in several ways: one option is to do nothing because the lake still has a strong bass population with many keeper-sized fish. But if you want to attempt to increase the number of larger bass in the population, I would start with

an education campaign to make everyone on the lake aware that there are limits to the number and size of bass that can be harvested. I would also post your regulations at the boat ramp as a refresher. And if you have the means to more strictly enforce your regulations you could do so. If you want to take more aggressive action, you could also change your bass regulation from 2 bass larger than 15" per day to 1 bass larger than 15" per day. Or if you want an even more aggressive approach, you could make the regulation 1 bass larger than 18" per day.

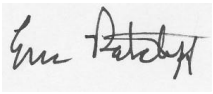
Although we only collected 1 crappie, angler accounts suggest you have crappie of all sizes but a lot of small ones. Continued unlimited harvest of crappie with no size restrictions is best for this situation.

Vegetation and Nutrients:
The main plants we observed in the lake were planktonic algae, algal mats, water willow, and duckweed. Water willow is a desirable native plant that grows along the edge of lakes and provides good fish habitat and can slow down waves to help prevent shoreline erosion. It should be left to grow as much as possible along the lake. Algae and duckweed are not problematic in lakes unless they grow out of control and cover too much of the water surface. Neither of these plants were at nuisance levels the day we visited, but if they do get out of control there are chemical treatment options that I can discuss with you. Their growth can also be reduced by limiting inputs of nutrients into the lake, especially phosphorus. When phosphorus enters a lake it makes plants grow just like it does in a farm field, lawn, or garden. Steps that individuals can take to reduce phosphorus inputs are: to not encourage geese and ducks to use the lake; to not fertilize lawns, especially near the lake; to use low or zero phosphorus fertilizers if fertilizing must be done; and to maintain septic systems diligently. If your lake community ever has the opportunity to connect to the city sewer it would help the longevity of your lake.

Another phosphorus reduction measure is to trap it in sediment retention basins before it enters the lake. Sediment retention basins are simply small ponds located in the backs of coves that receive runoff before it enters the lake. Some of the sediments and nutrients carried by the water settle to the bottom of the basin before the water overflows into the lake. Your lake already has some of these basins which I am sure have prevented a lot of sediment and phosphorus from entering the lake. To ensure that these basins continue to do their job, be sure to have them dug out when they start to get shallow, and place this phosphorus-rich sediment somewhere that it will not be washed back into the lake or retention basin. If these basins have not been dug out for a long time, they will be prone to growing duckweed because it thrives in shallow, nutrient rich environments. If duckweed becomes a problem in these basins you may want to kill it before it overflows into the lake. I can discuss chemical treatment options or provide the names of companies that can be hired to treat it.

It was a pleasure to meet you and several residents and fishermen.
If you have questions, please feel free to contact me.

Sincerely,



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