

Mr. Gary Wilke  
 Lake Summerset Association  
 1202 Lake Summerset Road  
 Davis, Il. 61019

Dear Gary,

On September 5, 2006 the lake was sampled by 48 minutes of electrofishing. The survey resulted in the collection of 687 fish representing 10 fish species. The survey resulted in the collection of 14.3 fish per minute of which largemouth bass and bluegill comprised 94.2 per cent of the collection. This is fairly normal for a lake in Illinois. There was some coontail in the bays and some water lotus up near the spillway at the time of the survey.

**LARGEMOUTH BASS:** 181 bass ranging from 3.0 to 16.9 inches long were collected in only 48 minutes or 226 per hour. The PSD was only 24.4 in 2007. I believe the PSD was lower in 2006 because the larger bass were still suspended off shore in deeper water. Bass of all sizes were collected in record numbers in 2006. The 2005 year-class was extremely strong. Some of these were just beginning to reach stock size and this also caused the PSD to be below the goal of 40-60. The lake has maintained a good bass population since 2000. The average Relative Weight or plumpness of the different sizes of bass would be rated as excellent since 2000. The lake has had 4 years in a row of excellent reproduction. The bass population should only get better especially in 2008 when the huge 2005 year-class starts to reach quality size. A strong bass population is essential in a lake. Bass are the main management species in a lake. They are the species that keep all the other fish species growing. Different size of bass feed on different sizes of prey, this is why you want to see all sizes of bass in a lake.

**FISHING INDICES FROM THE ELECTROFISHING SURVEYS:  
 LARGEMOUTH BASS**

YEAR	2000	2001	2002	2003	2004	2006	GOAL
STOCK #	54	53	40	92	35	45	100
YAR	.72	.79	2.6	3.6	2.2	1.8	1-5
PSD	26	85	48	56	77	24.4	40-60
RSD14	11	28	13	16	34	16	20-30
RSD16	5.5	15	2.5	20	5.7	2.2	10-20
RSD18	1.8	5.6	2.5	5.0	5.7	0.0	5-10
AVE. WR	105	108	100	105	109	98	90+
CPUE/MIN.	.90	.89	.67	1.84	.58	.94	
SAMPLE TIME	60	60	60	50	60	48	

**BLUEGILL:** 583 bluegill were sampled in 1 hour of electrofishing in 2006. This is slightly above the preferred 250 per hour we would like to see. A similar sample was obtained in 2004 although not all the little bluegill were collected for the entire hour. The number of bluegill greater than 6 inches has remained consistent the last 6 years. However the number of bluegill greater than seven inches has been down slightly the last two years. The carp population, lack of vegetation and interspecific competition will suppress the maximum growth of the bluegill. The body condition or plumpness of the bluegill has been excellent every year except 2002.

BLUEGILL	2000	2001	2002	2003	2004	2006	GOAL
NO. STOCKED	100	27	64	7	171	438	100-300
PSD	32	51	18	30	11	7	20-40
RSD6.7	27	42	10	45	8	5	10-20
RSD7.1	9	23	9	9	4	2	5-15
RSD7.5	2	2	2	5	1	2	5-10
CPUE ALL SIZES	579	125	416	187	313	583	200-300
AVERAGE WR	102	98	89	112	112	98	90+

**CHANNEL CATFISH:** 5 channel catfish ranging between 22 and 26 inches were collected in 2006. The catfish sample will vary greatly year to year depending on if the catfish are in the shallows feeding. The Relative Weight or body condition the last 3 years has been excellent. The lake seems to have very poor natural reproduction as we haven't sampled a catfish less than 17 inches since 2000.

CHANNEL CATFISH	2000	2001	2002	2003	2004	2006	GOAL
NO. SAMPLED	2	17	29	4	37	5	5+
PSD	100	100	100	100	100	100	40-60
RSD18	100	65	55	100	95	100	30-50
AVERAGE WR	92	89	88	101	98	105	90+

**SMALLMOUTH BASS:** The smallmouth bass results is going to vary a lot as to where and when you sample the lake. In 2006 we collected 4 the larger sample years seems to follow the year they were stocked in the lake. There appears to be very limited natural reproduction and recruitment in the lake. The body condition of the smallmouth bass was poor in 2006 compared to the other years. The only reason for this would be competition for food and space with the largemouth bass. The largemouth will normally out compete the smallmouth in most lake. Smallmouth are normally a bonus species which will normally remain at a very low density.

SMALLMOUTH BASS	2000	2001	2002	2003	2004	2006
NO. SAMPLED	4	6	24	6	15	4
PSD	50	20	8	33	21	50
RSD14	25	20	0	16	0	0
AVERAGE WR	104	100	96	106	100	85

**OTHER FISH SPECIES:** We sampled only 2 walleye in the day time survey in 2006. Only in 2004 were good numbers(23) collected. It is very difficult to collect walleye when it is sunny and the water is clear. We do much better at night for walleye. The body condition of the walleye has only been fair for the last few years. Also collected were 10 yellow perch between 6 and 10 inches. Two black crappie with excellent body condition. Crappie are easier to catch along the shoreline in early May. At this time of year they are normally in deeper water. Also collected were yellow bullheads, black bullheads and carp.

**MANAGEMENT RECOMMENDATIONS:**

Overall I would like to commend you on having an excellent sport fishery. The following recommendations are designed to maintain this fishery. I agree with many of Rob's recommendations in January of 2005. I am glad to see that you have lower the minimum size limit on largemouth bass from 24 to 21 inches.

1. You have had two incredible largemouth bass year-classes in 2005 and 2006. The bass population should only get stronger the next couple of years. So I wouldn't stock any largemouth bass in the near future. You are trying to maintain an ideal predatory - prey relation that will maximize growth each year yet maintain a sustainable level. Watch the body condition of all sizes of bass to make sure that you aren't getting a build up of any size group. Many times when you have a very restrictive regulation you can get a slowing of growth and a build up of bass especially in the 11-14 inch range.

2. The lake doesn't have ideal habitat for smallmouth bass reproduction and recruitment. This is a bonus species. It will have to be maintain by a stocking of 1,500, 5-8 inch fingerlings every other year. With a 21 inch minimum length limit this is going to be a catch and release program.

3. The channel catfish population seems to be dominated by big fish. There hasn't been a catfish less than 16 inches collected in 6 years. This species may have to be maintain by a periodical stocking program. Stock 2,000, 8-10 inch channel catfish every 3-4 years depending on the harvest rate.

4. Stock 1,500, 5-7 inch walleye fingerings every other year. This rate should maintain the population without adversely affecting the predator-prey population.

5. Stock 200, 8-10 inch muskie every 2 to 3 years. Leave the current fish regulation at 42 inches. This will permit someone to catch a trophy fish with very little impact to the overall fishery.

6. Structure is also fairly limited in the lake. I think I read where you were building a cinder block reef. Next winter you could also build some brush piles out of hard wood limbs bound together with cable and and sank with a couple cinder blocks. These should be placed in water that is deep enough or locations that don't interfere with boating or swimming.

7. Encourage anglers to remove any carp that they catch from the lake.

8. Don't stock gizzard shad or fathead minnows for additional forage. You can't stock enough minnows to have any effect. They will be eaten before they have a chance to reproduce. The gizzard shad while have an adverse affect on the bass fingerlings, bluegill and crappie by competing for the same food. Plus they grow so fast that they are only of forage size for the majority of the fish for a short period of time.

9. If vegetation becomes a problem spot treat as you have done in the past.

Remember these are only minor suggestions. Your lake will support the fish species I have mentioned. With a stocking rotation you should only have to two species a year. I hope these suggestions help you and if you have any questions feel free to call me . I will probably have the lake until someone is hired.

Sincerely

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## Explanation of Indices used to evaluate Fish populations

### Largemouth Bass

**Stock #**

The number of bass in the sample larger than 8 inches.

**YAR (Young/adult ratio)**

The number of bass less than 6 inches in the sample divided by the number of bass greater than 12 inches in the sample. Over 1 is desired.

**PSD (>12 in./ >8 in.)**

The number of bass over 12 inches divided by the number of bass over 8 inches. A range of 40 to 60 is a goal for balance.

**RSD14 (>14/>8 inches)**

The number of bass over 14 inches divided by the number of bass over 8 inches. A range of 20 to 30 is a goal.

**RSD16 (>16/>8 inches)**

The number of bass over 16 inches divided by the number of bass over 8 inches. A range of 10 to 20 is a goal.

**RSD18 (>18/>8 inches)**

The number of bass over 18 inches divided by the number of bass over 8 inches. A range of 5 to 10 is a goal.

**Ave Wr (Relative weight)**

A body condition table based on length and weight of bass has been developed and standardized. A 100 value is the ideal condition. A range of 90 to 110 for the average of all the bass over 6 inches is the goal.

**CPUE (catch per min.)**

The number of fish sampled per minute of the actual electrofishing unit in the power on mode. A goal of 1/Fish Minute is a standard. However the lake needs to be evaluated against its historical CPUE due to sampling factors for that lake or to sample conditions.

**Sample Time**

The number of minutes the electrofishing unit was in the power on mode to complete the sample. Based on lake size, shape, number of fish collected and/or historical collection time and locations.

### Bluegill

**Stock #**

The number of bluegill in the sample larger than 3 inches.

**PSD (>6/>3 inches)**

The number of bluegill in the sample larger than 6 inches divided by the number larger than 3 inches. A range of 20 to 40 is desired for a balance.

Bluegill

**RSD7 (>7/>3 inches)**

The number of fish larger than 7 inches divided by the number larger than 3 inches. 5 to 20 is desired.

**CPUE All sizes (catch per min.)**

The total number of bluegill of All sizes divided by the total minutes of electrofishing in the "on" power mode.

**Ave Wr (Relative weight)**

A body condition table based on length and weight of bluegill has been developed and standardized. A 100 value is the ideal condition. A range of over 90 the average of all the bluegill over 5 inches is the goal.

**Walleye**

**# sampled**

Total number of walleye sampled.

**PSD (>15/>10 inches)**

The number of walleye in the sample longer than 15 inches divided by the number longer than 10 inches.

**RSD18 (>18/>10 inches)**

The number of walleye in the sample longer than 18 inches divided by the number longer than 10 inches.

**Channel catfish**

**# sampled**

Total number of channel catfish sampled.

**PSD (>16/>11 inches)**

The number of channel catfish longer than 16 inches divided by the number longer than 11 inches.

**RSD18 (>18/>11 inches)**

The number of channel catfish longer than 18 inches divided by the number longer than 11 inches.

**Ave Wr (Relative weight)**

A body condition table based on length and weight of channel catfish has been developed and standardized. A 100 value is the ideal condition. A range of 90 to 110 is the goal.

**Smallmouth bass**

**# sampled**

Total number of smallmouth bass sampled.

**PSD (>11/>7 inches)**

The number of smallmouth longer than 11 inches divided by number longer than 7 inches.

**RSD14 (>14/>7 inches)**

The number of smallmouth longer than 14 inches divided by the number longer than 7 inches.

**Ave Wr (Relative weight)**

A body condition table based on length and weight of smallmouth has been developed and standardized. A value over 90 is the ideal condition.