SHABBONA LAKE

FISHERIES STATUS SUMMARY

LOCATION – Shabbona Lake is in Dekalb County approximately 2 miles south and 1 mile east of the city of Shabbona.

DESCRIPTION –Shabbona Lake was constructed in 1974 for recreational fishing. Shabbona Lake has 318 surface acres of water. The lake has an average depth of 17.5 feet deep and a max depth of 40 feet. The original river channel can still be found along with old roadbeds and standing timber creating a unique fishing experience. A two-lane concrete boat ramp with car/trailer parking is available. Boat rentals are available from the bait shop.

MANAGEMENT ACTIVITIES - The fishery is managed by annual species-specific surveys. Habitat structures or brush piles are completed annually when weather and conditions allow.

STATUS OF THE SPORT FISHERY – Shabbona Lake receives an annual stocking of Channel catfish and Walleye. Muskie will be stocked every third year starting in 2018. Hybrid striped bass are stocked when available. Largemouth and Smallmouth bass are stocked when available or when a poor year class has been identified. Below is a description of the fishery.

Muskie:

The Muskie population was sampled with 15 4X6 large mesh trap net on 4/9-11/2024. A total of 31 Muskie were sampled and implanted with PIT tags. Anal fin ray samples were removed for Age and growth data and are still being aged at this time and will be accessed with PIT tag data in the future. The Muskie sample shows decreasing CPUE rates with small improvements in the relative weights of Males in the 30–38-inch range. Changes in stocking numbers has not resulted in significant changes in Male or Female relative weights from previous years so stocking is planned to go back to the annual stocking in 2025. The 30–38-inch size group dominated the sample as it historically has. A Muskie rescue was completed in 2024 with 3 Muskie rescued, PIT tagged and returned to the Lake.

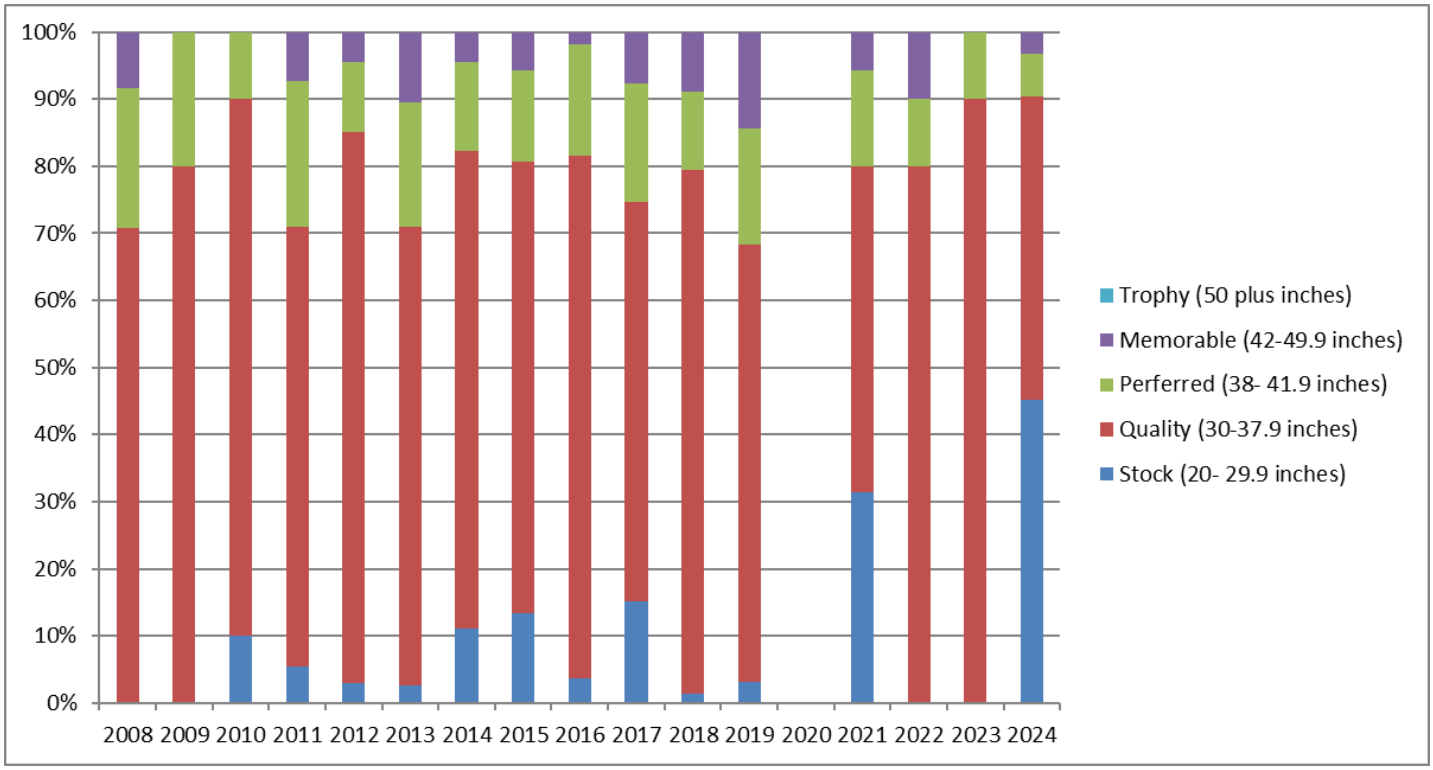
1.Management Plan:	2015	2016	2017	2018*	2019	2020	2021	2022	2023	2024
Net nights: (# nets)	1(6)	1(10)	1(10)	1(10)	1(10)	ns	1(10)	1(10)	2(5)	3(5)
CPUE (fish/nn)(n)	8.7(52)	5.3(53)	7.9(79)	7.9(79)	6.3(63)		3.5(35)	2.0(20)	1.0(10)	2.1(31)
CPUE 20.1-29.9	1.2	0.2	1.2	0.1	0.2		1.1	0.0	0.0	0.9
CPUE 30.0-38.2	5.8	4.3	4.6	6.1	4.3		1.7	1.5	0.9	1.0
CPUE 38.2-42.1	1.2	0.8	1.5	1.0	1.1		0.5	0.2	0.1	0.1
CPUE 42.1-50.0	0.5	0.1	0.5	0.6	0.9		0.2	0.2	0.0	0.1
CPUE 50+	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
RSD 42	6	2	8	8	14		6	11	0	3
RSD 48	0	0	0	0	0		0	0	0	0
Avg. Size mm	880	903	890	905	935		866	881	915	801

*Stocking change

Avg Wr by sex :	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
20.1-29.9							**ns**			
Avg Wr Female							116			
Avg Wr Male	94	108	95	112	101		91			88
30-38.0										
Avg Wr Female	126	97	93	103	105		104	108	98	102

Avg Wr Male	97	91	92	93	98	94	99	101	97
38.1-42.0									
Avg Wr Female	114	105	94	101	102	101	110	95	
Avg Wr Male	89	98	93	85	90	90	94		96
42.1-50									
Avg Wr Female	89	96	106	101	95	92	105		96
Avg Wr Male									
50+									

Figure 1. Yearly Musky sample composition percentage by length distribution groups



Largemouth Bass:

The Largemouth bass (LMB) population was sampled on 9/30/2024 by 2 DC electrofishing boat with 2 dippers. A total of 159 Largemouth bass were sampled. The population sample had a PSD of 86 and RSD 15 of 61. The 2024 survey resulted in a size distribution like the 2023 survey. Declines in the 8-12- and 12-15-inch groups since 2021 do indicate potential recruitment issues. Age data in 2023 does show a week 2022-year class. Age data will again be taken in 2027. Relative weights for all size classes sampled were good to excellent indicating adequate food and space resources.

The Largemouth population was also sampled in the spring, 5/16-17/2023 for age and growth data (Table 3,4, 5). The sample is like the Fall 2022 survey and indicates the week 2022-year class. 43 Largemouth were aged from this survey and result can be found in Table 3 and 5. Growth is good with fish reaching legal size in 3.8 years and a mean length at age 3 of 12.3 inches.

1.Management Plan Fall: Goal		2016	2017	2018	2019	2020	2021	2022	2023	2024
# Stock (200mm)	>100	65	142	85	79	56	60	38	20	28
PSD	40-60	80	75	75	80	59	70	82	80	86
RSD 14	10-20	55	61	53	55	43	32	66	70	79
RSD 15	10-40	34	54	44	41	29	27	42	50	61
RSD 18	0-10	0	7	7	9	4	2	6	15	4
Effort (Min)		120	120	120	120	120	120	120	120	120

2.Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Largemouth bass collected at Shabbona Lake

Year	<7.9	7.9-11.8	11.8-15	15-20.1	> 20	Total
2016	53.0	6.5	15.0	11.0	0.0	85.0
2017	101.5	18.0	15.0	37.0	1.0	172.5
Avg Wr	(111)	(104)	(102)	(105)	(96)	
2018	114.0	10.5	13.5	18.5	0.0	156.5
Avg Wr	(103)	(93)	(98)	(98)		
2019	156.5	8.0	15.5	15.5	0.5	196.0
Avg Wr	(100)	(98)	(100)	(96)	(121)	
2020	111.0	11.5	8.5	8.0	0.0	139.0
Avg Wr	(111)	(104)	(104)	(95)		
2021	121.0	9.0	12.5	8.0	0.5	151.0
Avg Wr	(121)	(122)	(96)	(94)	(93)	
2022	23.0	3.5	7.0	8.0	0.5	42.0
Avg Wr	(125)	(116)	(104)	(99)	(108)	
2023	62.5	2.0	3.0	5.0	0.0	72.5
Avg Wr	(126)	(112)	(102)	(90)		
2024	65.5	2.0	3.0	8.5	0.5	79.5
Avg Wr	(109)	(108)	(110)	(102)	(116)	

3.Spring Electrofishing Population assessment

Management Plan	: Goal	2023
# Stock (200mm)	>100	61
PSD (95% CI)	40-60	82 (13)
Mean length Age 3*	inches	12.3.”
	mm	(311.4)
Years to 14		3.8

*Average length of age 3 fish aged

4.Spring Electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Shabbona Lake

Year	<7.9	7.9-11.8	11.8-15	15-20.1	> 20	Total
2023	0.5	5.5	13.5	5.5	0.5	25.5

5. Age length key of Largemouth Bass collected from Shabbona Lake collected 5/16-17/2023

Length (mm)	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	Age 10	Age11	Age 12	Total
160	1												1
170													0
180													0
190													0
200													0
210		1											1
220													0
230													0
240		1											1
250		1											1
260			1										1
270		2											2

280			3										3
290		2											2
300			2										2
310			1										1
320				1									1
330			1	1									2
340			5										5
350				2									2
360				4	1								5
370				2			1						3
380				2	1								3
390													0
400				1	1		1						3
410							1						1
420									1			1	2
430						1							1
Total	1	7	13	13	3	1	3	0	1	0	0	1	43

Smallmouth Bass:

The Smallmouth bass population was sampled on 9/30/2024 a total of 120 minutes as part of the fall community sample. The Smallmouth bass population continues to be low density population. Habitat and competition with Largemouth bass will be the limiting factors for this population. Lower lake sample sites have the highest numbers of Smallmouth bass sampled. Relative weights in the 2024 survey were fair to poor, with larger fish having poor relative weights indicating food and space resource issues.

1.Management Plan Fall:	Goal:	2016	2017	2018	2019	2020	2021	2022	2023	2024
# Stock (180mm)	>100	13	9	4	1	19	13	5	11	7
PSD		39	33	100	0	94	85	80	9	100
RSD 14	8	11	50	0	5	23	60	0	43	
RSD 15	0	11	25	0	5	23	20	0	43	
RSD 18	0	0	0	0	0	0	0	0	0	

2.Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Smallmouth bass collected at Shabbona Lake

Year	<7.1	7.1-11	11.1-13.8	13.8-16.9	>16.9	Total
2022	1.0	0.5	0.5	1.5	0.0	3.5
Avg Wr		(99)	(99)	(99)		
2023	0.0	5.0	0.5	0.0	0.0	5.5
Avg Wr		(99)	(88)			
2024	0.0	0.0	2.0	0.0	1.5	3.5
Avg Wr			(91)		(75)	

Walleye:

The Walleye population was sampled on 4/10/2023 by nocturnal DC electrofishing for 1 run (30 min). The 2023 sample was a total of 172 individuals, manly males, which is to be expected when sampling the dam face during the spawn. The 2023 survey resulted in the highest overall CPUE at 344 fish per hour. The 15–20-inch size group was again the dominate size class sampled. The 20–25-inch group was the only size that declined from historical collection rates. 2024 should be an excellent year for harvestable size fish for fishermen from the large numbers of the 15–20-inch group that were just under the legal limit of 18".

1.Management Plan Spring: 2017 2019 2021 2023

# Stock(250mm)		125	99	105	169
PSD		90	68	82	65
RSD 18	37	29	25	8	

2.Spring nocturnal DC electrofishing CPUE (fish/hr) of each length group of Walleye collected at Shabbona Lake

Year	<9.8	9.8-15	15-20.1	20.1-24.8	> 24.8	Total
2017	0.0	24.0	198.0	26.0	0.0	248.0
2019	2.0	64.0	110.0	20.0	4.0	200.0
2021	18.0	38.0	144.0	28.0	0.0	228.0
2023	6.0	118.0	204.0	10.0	6.0	344.0

Crappie:

The Crappie population was sampled 10/24-26/2023. A total of 10 nets per day for a grand total of 30 net nights were completed. Otoliths were removed from 5-10 fish per species per cm group for age determination. A total of 61 crappie were sampled by trap nets. Black Crappie were the dominate species with 60 sampled. Only 1 White crappie was sampled in 2023. Black Crappie overall CPUE rates remained stable from the 2020 survey. Age data was also very similar to the 2020 survey with max age fish at 8 and 9 years old. Growth did slow in the 2023 survey and relative weights fell for larger individuals in the 2023 survey. The lack of White crappie in the 2023 survey will have to monitored in 2024.

Black crappie:

Management Plan		:Goal	2020	2023
# Stock (130mm)		>100	96	58
PSD		40-60	97	72
RSD 10	5-10	70	50	
Mean length Age 2+			9.6”	8.3”
CPUE ≥ 8.0 inches			3.1	1.4
CPUE age-1(fish/nn)			0.2	0.5
Net nights: (# nets)			3(30)	3(30)
CPUE (fish/nn) (n)			3.2(96)	2.0(60)

2.Fall trap netting CPUE (fish/nn) of each length group of Black crappie collected at Shabbona Lake

Year	<5	5.1-8	8.1-10	10.1-12	12.1-15	>15	Total
2020	0.0	0.1	1.1	1.7	0.3	0.0	3.2
Avg Wr		(99)	(105)	(99)	(96)		
2023	0.1	0.5	0.4	0.7	0.3	0.0	2.0
Avg Wr	(94)	(90)	(94)	(87)	(87)		

3a. Age length key of Black crappie collected from Shabbona Lake 10/24-26/2023

Length (mm)	Age 0	1	2	3	4	5	6	7	8	9	Total
70	1										1
80											0
90											0
100											0
110											0
120		2									2
130		5									5
140		5									5
150		3									3
160		1									1

170											0
180			1								1
190			1								1
200			6								6
210			2	1							3
220			2								2
230			1								1
240			1								1
250				1							1
260				1	1						2
270				4	1						5
280				6	2						8
290				2	2						4
300					2					1	3
310					1				1		2
320					1						1
330						1				1	2
Total	1	16	14	15	10	1	0	0	1	2	60

3b. Age length key of Black crappie collected from Shabbona Lake 10/27-29/2020.

Length (mm)	Age - 1	Age - 2	Age - 3	Age - 4	Age - 5	Age - 6	Age - 7	Age - 8	Total
160	1								1
170	1								1
180									0
190	1								1
200	1								1
210	1	1							2
220		3							3
230		5							5
240		15							15
250		8						2	10
260		3	7			1			11
270			4	2	6		3		15
280			2		2	8			12
290					3	5	5		13
300					1	3	1		5
310									0
320					1				1
Total	5	35	13	2	13	17	9	2	96

White crappie:

1.Management Plan	: Goal	2020	2023
# Stock (130mm)	>100	62	1
PSD	40-60	77	100
RSD 10 5-10	37	100	
Mean length Age 2+		9.4”	n/a
CPUE ≥ 8.0 inches		1.6	0.03
CPUE age-1(fish/nn)		0.8	0.0
Net nights: (# nets)		3(30)	3(30)

CPUE (fish/nn) (n) 2.0(63) 0.03(1)

2.Fall trap netting CPUE (fish/nn) of each length group of White crappie collected at Shabbona Lake

Year	<5	5.1-8	8.1-10	10.1-12	12.1-15	Total
2020	0.0	0.4	0.8	0.8	0.0	2.0
Avg Wr		(97)	(100)	(95)		
2023	0.0	0.0	0.0	0.03	0.0	0.03
Avg Wr				(94)		

3. Age length key of White crappie collected from Shabbona Lake 10/27-29/2020

Length (mm)	Age - 1	Age - 2	Age - 3	Age - 4	Total
160	1				1
170	1	1			2
180	4				4
190	7				7
200	6				6
210	6				6
220	2				2
230	2	1	1		4
240		4	3		7
250		7	2	2	11
260			6	2	8
270			2	1	3
280					0
290				1	1
Total	29	13	14	6	62

Bluegill:

The Bluegill population was sampled using DC electrofishing for 120 minutes as part of the fall community sample. A total of 222 Bluegill were sampled during the fall 2024 sample. Sample size distribution was like previous 3 years. The 2023 strong year class did help to boost catch rates of fish 3-6 inches. Continued every other year strong year class continued in the fall 2024 survey with a weak year class indicated in 2024. The 2023 year class should move into the 6-8 inch range in 2025 and provide good fishing. Relative weights continue to be good to excellent for all size classes sampled not indicating any resource issue.

A spring survey of Bluegill was completed in 2023. A total of 162 Bluegill were sampled. Spring and Fall size distributions were very similar. A total of 60 Bluegill were aged (Table 5.) Age data shows a population with excellent growth, fish reaching near 5 inches in 2 years (Table 4).

1.Management Plan:	Goal:	2016	2017	2018	2019	2020	2021	2022	2023	2024
#Stock(80mm)	>100	105	160	298	176	236	21	79	51	173
PSD(95% CI)	20-60	40	33	12	26	21	33(20)	4(4)	14(13)	4(3)
RSD 7	5-20	6	6	1	4	5	14	4	6	0
RSD 8	5-10	0	0	0	0	0	0	0	2	0
Effort		120	120	120	120	120	120	120	120	120

2.Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Bluegill collected at Shabbona Lake

Year	<3	3.1-5.9	6-7.9	8-9.8	Total
2016	27.1	10.3	6.7	0.0	44.1
2017	21.5	54.0	26.0	0.0	101.5
Avg Wr		(115)	(101)		
2018	133.0	130.0	18.5	0.0	281.5
Avg Wr		(104)	(89)		
2019	80.0	62.0	23.0	0.0	165.0
Avg Wr		(96)	(90)		
2020	143.0	63.5	24.5	0.0	231.0
Avg Wr		(97)	(94)		
2021	57.5	7.0	3.5	0.0	68.0
Avg Wr		(108)	(100)		
2022	26.0	38.0	1.0	0.5	65.5
Avg Wr		(106)	(91)	(94)	
2023	44.5	22.0	3.0	0.5	70.0
Avg Wr		(100)	(101)	(95)	
2024	24.5	83.0	3.5	0.0	111.0
Avg Wr		(105)	(98)		

3.Spring Bluegill Electrofishing Population assessment

Management Plan	: Goal	2023
# Stock (80mm) >100	61	
PSD (95% CI)	40-60	24 (10)
Mean length Age 2*		4.9” (125.5)
Years to 6 inches		2.4

*Average length of age 3 fish aged

4.Spring Electrofishing CPUE (fish/hr.) of each length group of Bluegill collected at Shabbona Lake

Year	<3	3.1-6	6.1-8	8.1-10	Total
2023	15.5	49.5	14.0	2.0	81.0

5. Age length key of Bluegill collected from Shabbona Lake 5/16-17/2023

Length (mm)	Age 1	2	3	4	5	6	Total
80	1						1
90	2	3					5
100	3	3					6
110		5					5
120		5					5
130		5					5
140		5					5
150		2					2
160		1					1
170			3	1			4
180			3				3
190				2	2		4
200				1	1		2
210						1	1
Total	6	29	6	4	3	1	49

Yellow Perch:

Yellow perch numbers are monitored as part of the Fall surveys to track population densities. Historically the size distribution of Yellow perch has been dominated by fish less than 5 inches. Fish over 5 inches typically have fair to poor relative weights indicating food or space resource issues as fish get larger. The 2024 survey indicated a very strong class of fish less than 5 inches with the highest catch per unit effort in the past 8 years. This class will have to be monitored in 2025.

1.Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Yellow perch collected at Shabbona Lake

Year	<5.1	5.1-7.9	8-9.8	9.8-11.8	>11.8	Total
2017	9.0	15.0	0.5	0.0	0.0	24.5
Avg Wr	(146)	(111)				
2018	4.0	8.5	1.0	0.5	0.0	14.0
Avg Wr		(77)	(67)			
2019	0.0	9.3	3.3	0.0	0.0	12.6
Avg Wr		(80)	(79)			
2020	16.5	2.0	0.5	0.0	0.0	19.0
Avg Wr		(97)	(81)			
2021	12.5	6.5	1.0	0.0	0.0	20.0
Avg Wr	(90)	(95)	(81)			
2022	48.0	15.0	1.0	0.0	0.0	64.0
Avg Wr	(119)	(91)	(98)			
2023	54.0	15.0	0.5	0.0	0.0	69.5
Avg Wr	(92)	(85)	(88)			
2024	163.5	43.5	1.0	0.0	0.0	208.0
Avg Wr	(97)	(86)				

Gizzard Shad:

Gizzard shad are the primary food for all the predators in Shabbona Lake. Small Gizzard shad are preferred for Walleye, Hybrids, intermediate Largemouth bass and larger Crappie species. Larger Gizzard shad are preferred for Muskie and larger Largemouth bass.

Management Plan:		2017	2018	2019	2020	2021	2022	2023	2024
CPUE (fish/hr) < 6inches	316.5	76.0	395.0	1834.0	531.0	6.0	312.0	339.0	
CPUE (fish/hr)	481.5	127.5	436.0	1886.0	556.0	72.0	319.0	390.0	

FISHING REGULATIONS – Statewide fishing regulations apply at this lake (see current Illinois Fishing Information booklet and IFISHILLINOIS website http://www.ifishillinois.org/ for specific details).

Additional Site Specific fishing regulations:

All Fish . . . . . 2 Pole and Line Fishing Only
Large or Smallmouth Bass . . . . . 1 Fish Daily Creel Limit (14″ Minimum Length Limit)
Bluegill or Redear Sunfish . . . . . 10 Fish Daily Creel Limit (No Minimum Length Limit)
Channel Catfish . . . . . 6 Fish Daily Creel Limit (No Minimum Length Limit)
Pure Muskellunge . . . . . 1 Fish Daily creel Limit (48″ Minimum Length Limit)
Striped, White, or Hybrid Striped Bass . . . 3 Fish Daily Creel Limit (17″ Minimum Length Limit)
Walleye, Sauger, or Hybrid Walleye. . . . . 6 Fish Daily Creel Limit (18″ Minimum Length Limit)
White, Black, or Hybrid Crappie . . . . . 10 Fish Daily Creel Limit (No Minimum Length Limit)

Boat motor: Unlimited HP, No wake

CONTACT INFORMATION – Shabbona Lake State Park: 815-824-2106

IDNR Fisheries County Biologist: 630-360-4185

Shabbona Lake Map