

LAKE MANAGEMENT STATUS REPORT

DATE OF REPORT: 6/24/2024 **FISHERIES MANAGER:** ROB HILSABECK
DISTRICT NO.: 4 **LAKE NAME:** CANTON LAKE **COUNTY:** FULTON
WATER NO.: 0027 **OWNERSHIP:** FULTON COUNTY **ACREAGE:** 250

1. Listing of the Sport Fish Regulations in Effect

All FISH - 2 pole and line fishing only

<u>Species</u>	<u>Size Limit</u>	<u>Creel Limit</u>
Largemouth bass & Smallmouth bass	15 inch minimum	3 fish/day*
Channel Catfish & Blue Catfish	None	6 fish/day
Tiger Muskie & Muskie	42 inch minimum	1 fish/day

*Daily limit includes all largemouth and smallmouth bass either singly or in the aggregate.

2. Listing of Fisheries Management Activities Completed with Evaluation of Success

1. Spring Trap net Survey completed on 4/25 and 4/26/2023.
2. Conducted Spring Population Survey using day D.C. electrofishing on 5/18/2023.
3. Conducted Blue Catfish and Flathead Catfish Surveys using low-pulse D.C. electrofishing on 5/18/2022 and on 8/7/2023.
4. Jake Wolf Fish hatchery stocked 1,015 largemouth bass at 4.0 inches on 8/9/2023.
5. Jake Wolf Fish hatchery stocked 252 muskie at 12.25 inches on 9/27/2023.

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Fish Collection Procedure & Success:

In 2023, the fish population in Canton Lake was surveyed by a 20 net night spring trap net survey and spring, DC boat electrofishing survey and a summer, DC boat electrofishing catfish survey.

The following table is the indices for selected species from 2013-2023:

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Largemouth Bass												
Stock Number		30	51	38	60	37	81	84	36	77	53	95
PSD		70	57	87	75	49	58	76	78	40	62	66
RSD14										31	45	41
RSD15		43	31	47	40	32	22	35	33	23	43	37
RSD16										17	34	32
RSD17										10	25	25
RSD18		17	10	13	12	5	12	5	6	9	6	8
RSD19										8	4	3
Wr > 8"		92	96	99	102	98	97	98	92	107	98	102
YAR										0.04	0.04	0.02
CPUE Stock		0.5	0.6	0.5	1	0.6	1.1	1.4	1.2	1.3	0.9	1.6
Effort												
EL		66	90	71	60	63	75	60	30	60	60	60
Effort												
NN										20	20	20
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Bluegill												
Stock #		164	96	91	209	209	128	30	36	99	131	217
PSD		7	18	23	83	35	20	7	17	9	7	4
RSD7		0.6	0	1	1	0.5	0.8	0	0	0	0	0
Wr > 5"		93	90	101	92	85	89	94	83	110	90	104
CPUE		2.5	1.1	1.3	3.5	3.3	2.1	1.8	1.2	1.7	2.2	3.6
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Black Crappie												
Stock#		133	49	120	410	165	161	18	10	17	95	278

PSD		17	22	18	35	76	74	83	20	35	32	67
RSD9		4	2	0	2	32	30	39	10	0	4	10
RSD10		2	2	0	2	15	16	33	10	0	0	5
RSD11										0	0	1
Wr > 8"		92	91	100	92	92	94	90	84	102	91	95
CPUE f/min										0.3	1.6	0.3
CPUE f/NN										1.2	1.4	13.9
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
White Crappie												
Stock #		198	68	176	173	282	61	28	6	37	30	55
PSD		21	44	43	40	100	98	100	50	97	93	100
RSD9		14	32	40	28	98	95	100	33	89	90	96
RSD10		11	31	40	25	95	92	100	17	68	77	73
RSD11										22	57	49
Wr		86	92	87	92	97	95	96	95	103	97	98
CPUE f/min										0.1	0.02	0.1
CPUE f/NN										1.9	1.5	2.8
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Channel Catfish												
Stock#		50	40	66	54	69	23	23	4	4	17	21
PSD		64	45	80	85	97	70	87	25	75	71	76
RSD18		42	38	58	61	94	44	61	0	50	35	67
RSD24										25	0	33
Wr		98	111	105	100	104	99	94	102	112	105	103
CPUE f/min										0.07	0.28	0.25
CPUE f/NN										0.2	1.6	1.1
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Carp												
Stock#		89	135	96	103	34	68	39	5	63	29	49
PSD		42	67	74	85	79	87	77	100	95	97	78
RSD18		16	20	30	42	53	31	33	80	29	52	43
RSD19		10	13	16	28	47	19	21	60	10	28	12
RSD22		2	2	1	17	24	2	3	0	0	0	12
Wr		74	83	84	84	86	76	76	79	86	85	88
CPUE f/min		0.9	0.7	1	1.2	0.5	1.1	0.4	0.2	1.1	0.5	0.8
CPUE f/NN										0.9	1.3	0.2
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023

Yellow Bass												
Stock#		129	107	239	245	32	69	115	1	225	354	480
PSD		5	13	9	65	28	51	1	100	36	41	29
RSD8		0.8	0.9	1	7	6	41	1	0	98	82	6
CPUE		1.9	1.2	3.3	3	0.5	0.7	5.8	0.03	3.8	5.9	8
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mue												
Stock#		12	5	6	6	4	11	12		1	8	7
PSD		17	60	100	83	0	100	67		100	100	57
RSD42		0	0	0	0	0	0	0		0	0	0
Wr		115	102	107	104	108	111	100		102	107	138
CPUE												
NN		0.7	0.5	0.3	0.3	0.4	1.5	1.3		0.05	0.4	0.4

Fish Population Analysis and Observed Trends:

The overall fish population had received 11 new introductions from 1992 to 2023. The yellow bass and gizzard shad have been unauthorized, while the flathead catfish have been intentionally stocked. The introduction of yellow bass to the lake occurred in approximately 1993 and has become a numerous and self-sustaining population. In 1998 the first gizzard shad were sampled, with their introduction probably in 1996. The 1998 population of gizzard shad was large enough in the spring to reproduce with an exponential increase in numbers and a very large year class. In 2021, the IDNR stocked 1,030 hybrid striped bass at 4 inches in length in August. This stocking will be evaluated for recruitment into the sport fishery in the future.

From 1997 to 1999, a total of 992 flathead catfish were stocked. By 2000, young flathead catfish from 1997 and 1998 spawns were sampled in the lake. In 2001 and 2002, 2 mature sauger and 3 mature white bass were sampled in the spring trap net survey. In 2009 and in 2014 mature walleye were collected in the spring trap nets. All these species are now common in the Illinois river and were almost certainly introduced into Canton Lake by anglers returning from the river. These species will not cause any serious effects to the fishery of Canton Lake.

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The white bass may have limited reproduction and recruitment, while the sauger and walleye will not in Canton Lake. In 2002, a pure muskie was sampled from the spring 2001 stocking completed by the IDNR. In 2003, 50 blue catfish were sampled from stockings in 1999, and 2001. In 2015, 3 northern pike were sampled in the spring trap net survey. These fish were recruitment from a fry stocking of surplus fry in 2013. In 2017, 1 walleye at 22 inches in length was sampled in the spring trap net survey.

Largemouth Bass - In 2023, the electrofishing catch per unit for bass over 8 inches was at 1.6 fish/minute which is above the minimum goal of at least 1 fish per minute. Maintaining a stable bass population density will require consistent recruitment at least every other year. The size distribution and the percentage of bass over 15 and 18 inches maintained a very good level in 2023. 37% were over 15 inches and 8% were over 18 inches. The body condition of bass at all sizes has remained good with the introduction of the gizzard shad. However, the recruitment of bass to the population is still low and this is probably the main factor limiting the bass density. In 2011 through 2013, no bass were stocked. In 2014, 208 bass at 8 inches long were stocked. In 2016, 2242 bass at 4.1 inches long were stocked on 8/22/2016. In 2017, no bass stocking occurred. In 2018, 236,250 largemouth bass at .3 inches were stocked on 6/1/2018. In 2019, no largemouth bass were stocked into Canton Lake. In 2020, 1,033 largemouth bass at 4 inches were stocked on 8/6/2020. In 2021, 805 largemouth bass at 8 inches were stocked on 5/6/2021, and 1,068 bass at 4 inches were stocked on 9/1/2021. And in 2022, 2,590 largemouth bass at 4 inches were stocked on 8/4/2022. And in 2023, 1,015 largemouth bass at 4 inches were stocked on 8/9/2023.

Food competition and/or the lack of desirable food (aquatic insects, larval fish) for young bass under nine inches is probably a major factor in poor recruitment of young bass to larger sizes in Canton Lake. Once reaching approximately nine inches the bass are able to eat larger food (small fish) and not have the food source competition with yellow bass, crappie, bluegill and carp. With the introduction of the gizzard shad, the larger bass over 9 inches may benefit, but research has shown that the overall population and recruitment will probably not improve.

However, since the 2017 survey, a good distribution of sizes and age groups, has been present. The big improvement since 2010 was the much higher number of bass from 4 to 8 inches and then 9 to 13 inches. This indicates recruitment and maybe the bass stocking has been very beneficial to the bass population. This trend will be followed to help evaluate the opportune bass stockings that have and may occur. Supplemental largemouth bass stocking may occur when surplus fish are available from the state hatchery.

The online IFISH tournament registration and result system was started in 2015. The tournament results showed these anglers spent 264 hours in 2016, 960 hours in 2017, 776 hours in 2018, 492 hours in 2019, and 593 hours in 2020 on Canton Lake. They reported 61 fish in 2016 for .23 fish per angler hour. They reported 248 fish in 2017 for .26 fish per angler hour. They reported 177 fish in 2018 for .23 fish per angler hour. They reported 79 fish in 2019 for .16 fish per angler hour. They reported 139 fish in 2020 for .23 fish per angler hour. They reported 83 fish in 2022 for .11 fish per angler hour.

Bluegill- The bluegill population, catch per unit of effort, was 3.6 fish per minute in 2023. The Proportional Stock Density (PSD) value was very low at 4, and the percentage of fish (RSD7) over 7 inches was awful at 0. The average body condition was an average rating at 104.

The bluegill population has been slow growing with stunting occurring before seven inches in length. This poor quality bluegill fishery is mainly due to severe food and space competition with the carp, yellow bass and now gizzard shad.

White Crappie & Black Crappie - In 2023, these populations were sampled by electrofishing and trap nets. The quality of the crappie populations had improved dramatically over the past 10 years up to 2020. Now the white crappie population is doing very good, while the black crappie population has a decreased size structure.

The white crappie are present in a much higher density of quality fish. The white crappie population values showed 73% of the fish over 10 inches and the black crappie values showed 5%

of the fish over 10 inches. The WR (Relative weight) values were at 98 for white crappie and 95 for black crappie.

In 2024, a moderate density of the fish will be available from 9 to 12 inches in length and in good body condition with the larger fish being white crappie.

Carp - Overall, the carp population has remained at a moderate density of slowing growing fish in poor body condition over the last 10 years. The electro-fishing catch per unit of effort has ranged from .2 to 1.2 fish per minute.

The WR (Relative weight) values have averaged from 74 to 88 since 1995, and this is reflected in the poor body condition and growth. A high-density carp population directly competes with the sport fish population for food and space. Without control, this carp population will continue to adversely affect the water quality by increasing turbidity and thus eliminating aquatic plants. There are no good options to reduce the carp population currently.

Channel Catfish - The population has continued to improve in body condition and population levels since 1992. The Relative weight (WR) has improved from poor condition in 1992 to excellent condition by 1999. The gizzard shad forage base is probably responsible for the body condition improvement. In 2023, 15 fish were collected by the electrofishing survey and 21 fish in the spring trap net survey. The body condition was excellent at a 109 average, and 50% of the fish were over 18 inches in length. The turbid water conditions have permitted natural reproduction and recruitment to maintain the channel catfish population.

Yellow Bass - The yellow bass population was first collected in the 1995 survey. The population has bounced from very high densities (10.9 fish/minute in 1998) to no fish collected in 2009 after the bacterial fish kill in 2008.

The 2023 level of 8.0 fish per minute reveals a high yellow bass density in Canton Lake. This species is an undesirable addition to the lake, which most likely will continue further adverse competition for food and space for young largemouth

bass, crappie and bluegill. Yellow bass are very prolific and typically become stunted at five to seven inches in length.

Muskie - Pure muskie were first stocked into Canton Lake in 2001. Since 2006 the muskie stocking has occurred almost annually. In 2023, 252 muskie at 12.25 inches long were stocked on 9/27/2023.

In 2023, 7 muskie were sampled in the spring trap net survey. They ranged from 24 to 36.6 inches in length and were in excellent body condition with an average Wr of 138. The shad forage base will provide fast growth in Canton Lake. The main mortality in Canton Lake for muskie will probably be escapement over the spillway during annual high-water events.

Other Fish Species - The following species have been historically collected in limited numbers: Golden Shiner, Black Bullhead, White Sucker, Green Sunfish, Yellow Bullhead, Northern Pike and White Catfish.

Flathead Catfish Stocking and Management:

The overall sport fishery of Canton Lake had been below a quality level since the 1992 survey. This decline was the result of inter-related fish and environmental problems. The high density carp population and sedimentation problem have a direct negative effect on the rooted, submerged aquatic plants. With turbid water conditions the carp thrive and continue the poor water quality, thus, affecting the food chain and sport fish population. The addition of yellow bass may make Canton Lake very difficult to manage for quality largemouth bass, bluegill, and crappie.

In 1997, 1998 and 1999 a total of 990 flathead catfish were stocked into Canton Lake from the Illinois River periodically from June until January.

In 1998, Jeremiah Haas, a graduate student at Western Illinois University began working on the Flathead stocking project for his master's thesis. This work has involved tagging the Flatheads with PIT tags, growth, food habits, sampling techniques, reproduction and impacts upon the other fish species in the lake. The completed study found flatheads can be a good sportfish introduction into a lake, but they will not immediately control carp. Flathead catfish showed no indication

they prey upon young largemouth bass or channel catfish, which allows the co-habitation of these species in medium sized bodies of water.

A high percent of the flathead catfish's diet in Canton Lake shifted to gizzard shad after their introduction. Flathead catfish is a large predator fish that can consume gizzard shad that are too large for other gamefish. And the flatheads were able to reproduce and recruit young fish to the population, thus maintaining a self-sustaining sport fishery when subjected to limited harvest.

Flathead catfish have been annually sampled in Canton Lake since 2001 during the annual spring boat electrofishing survey or during targeted summer boat electrofishing surveys. The current flathead catfish population is present in a moderate density with natural reproduction and recruitment occurring.

In 2023, 50 flathead catfish were sampled by low pulse D.C. electrofishing surveys. The size range was from 5.3 to 40.7 inches in length. The body condition was very good at an average Wr of 99.

Blue Catfish

In 1999 and 2001, blue catfish were stocked into Canton Lake in three stockings with a total of 15,200 fish stocked. At stocking these fish averaged 4" to 8.5" in length. In 2003, 50 blue catfish were sampled by D.C. electrofishing. These fish ranged in size from 8.7 to 17.7 inches. Blue catfish have been collected annually during targeted low pulse electrofishing surveys. Young of the Year fish were collected in 2012 and 2018. This showed natural reproduction and recruitment has been occurring in Canton Lake. In 2023, 8 blue catfish from 16.6 to 37.6 inches were collected by low pulse D.C. boat electrofishing. The present blue catfish population in Canton Lake is at a low density with large individuals present. The body condition was very high at an average Wr of 122.

4. Recommended Lake Management Activities with Rationale for Implementation:

1. The District Fisheries Biologist should continue the annual spring population surveys, utilizing trap nets and boat electrofishing. The flathead catfish and blue catfish population should continue to be evaluated as time permits.

2. Continue the Largemouth bass regulation of 15-inch minimum size and 3 fish per day/angler harvest limit. And if available from the state hatchery, stock advanced largemouth bass to improve recruitment into the population. Fish regulation signs should be posted by the City of Canton at both boat access points.

3. If available from the state hatchery, stock pure muskie up to a rate of 3 per acre and 10 inches in length.

4. Evaluate the 2021 Hybrid Striped bass stocking for survival into the Canton Lake fishery.

5. Support the city council in their efforts to improve fishing and boating access and obtain IDNR funding.

Fish Stocking Record 2012-2022:

Waterbody	Species	Size (in)	Count	Delivery Date	Source
Canton Lake (00027)	Muskellunge	12.5	252	9/29/2022	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	4	2590	8/4/2022	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	13	255	9/10/2021	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	4	1068	9/1/2021	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Striped Bass x White Bass (Wiper)	4	1030	8/4/2021	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	8	805	5/6/2021	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	4	1033	8/6/2020	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	13.5	257	9/17/2019	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	12.5	250	9/13/2018	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	0.3	236250	6/1/2018	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	12.5	255	8/31/2017	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	4.1	2242	8/22/2016	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	11.9	252	9/3/2015	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Largemouth Bass	8	208	9/26/2014	#2 Jake Wolf Hatchery (09000)
Canton Lake (00027)	Muskellunge	11	250	8/23/2012	#2 Jake Wolf Hatchery (09000)

Canton Lake Fish Tournament Results 2022:

Start Date	ID	Fish Hours	Total Boats	Total Anglers	Species 1	Total Fish	Total Pounds			
08-03-2022	22129	3	12	21	LMB	8	19.06			
07-30-2022	20352	5	8	16	LMB	6	16.50			
07-23-2022	21171	8	5	9	LMB	5	12.25			
07-16-2022	19979	6	11	17	LMB	14	34.33			
07-06-2022	22127	3	16	31	LMB	10	32.25			
06-12-2022	21173	8	11	22	LMB	8	20.40			
06-09-2022	21476	7	14	14	LMB	19	53.74			
06-08-2022	22125	3	16	32	LMB	6	18.06			
05-11-2022	21647	3	13	26	LMB	7	21.75			

Total: Angler hours: 762 Fish: 83 .11 fish/hr

