



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023 Winnebago System Lake Sturgeon Spearing Summary September 2023

Introduction

The 2023 spearing season was punctuated by warm weather, rain and inconsistent ice conditions. Warm weather opening weekend followed by rain mid-week forced many spearers to temporarily remove their shacks but returned to the ice after colder weather returned. The weather likely prevented many spearers from even taking to the ice this year.

The harvest caps for the 2023 spearing season were determined using the 2022 abundance estimates for the Winnebago System lake sturgeon population (about 24,000 males and 12,300 females). The 2023 system-wide harvest caps were 350 juvenile females (<55"), 793 adult females (>55"), and 1,231 males. The Upriver Lakes fishery was allocated 10% (79 fish) of the adult female harvest cap and 20% of the juvenile females (70 fish) and male (246 fish) harvest caps. The remaining fish within the system-wide harvest caps were allocated to the Lake Winnebago fishery.

Water clarity was good in 2023 with an average clarity of 13 feet around Lake Winnebago. Water clarity was better on the north, south, and east shores. The western shore likely had significant input from rain run off during January causing poor water clarity.

DNR Contact

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Lake Information

Winnebago: 131,939 acres
Butte des Morts: 8,581 acres
Poygan: 14,024 acres
Winneconne: 4,553 acres

Regulations

Daily Bag and Size Limit:
Harvest only occurs during the February Spearing Season
One lake sturgeon per season
36 inch minimum length

Survey Method

- During the lake sturgeon spearing season, all lake sturgeon harvested are registered at DNR designated registration station.
- During registration, lake sturgeon are weighed (lbs.) and measured (inches to the nearest tenth). Sex and stage of maturity is also recorded. Any external or internal tags are recorded.

Metric Descriptions

- **Length frequency distribution (LFD)** is a graphical representation of the number of fish captured by five-inch size intervals. Fish smaller than 36 inches are not represented in the length frequency due to minimum length requirement during spearing season.

LAKE STURGEON HARVEST FOR LAKE WINNEBAGO AND UPRIVER LAKES					
System	Site Location	Juv. Fem	Adult Fem	Male	Total
Lake Winnebago	Area 1	21	74	57	152
	Area 2	10	71	42	123
	Area 3	8	59	65	132
	Area 4	26	92	72	190
	Area 5	12	41	56	109
	Area 6	48	187	179	414
	Total		125	524	471
Upriver Lakes	L. Butte des Morts	4	4	11	19
	L. Poygan	27	70	158	255
	L. Winneconne	2	0	9	11
	Total	33	74	178	285
System Total		158	598	649	1,405



The three O'Connell brothers, Riley, Jack, and Evan (left to right), all successfully speared lake sturgeon opening day on Lake Poygan. Photo Credit: Lynn O'Connell.

NUMBER OF LAKE STURGEON REGISTERED AT DNR STATION IN 2023				
Registration Location	Juv. Fem	Adult Fem	Male	Total
North Winnebago	16	64	51	131
Stockbridge	23	104	67	194
Quinney	9	32	23	64
Pipe	47	189	163	399
Southwest Winnebago	19	81	114	214
Downtown Oshkosh	3	27	31	61
Neenah	8	27	22	57
Winneconne	18	36	79	133
Indian Point	12	27	68	107
Poygan	3	11	31	45



Left: Waiting for 7am. Photo Credit: Emily Lingbretson



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2023 Winnebago System Lake Sturgeon Spearing Summary The Winnebago System

2023 Season Summary

- The Lake Winnebago season lasted the full 16-days with 1,120 fish harvested. This was the 8th consecutive full-length season on Lake Winnebago. The rate of successful spearkers was 8.8%. It should be noted the success rate is based on the number spearing licenses purchased as opposed to the number of spearkers on the ice. The success rate is likely higher as fewer individuals took to the ice this year due to poor ice conditions.
- The Upriver Lakes season lasted 8 days with 285 sturgeon harvested. The adult female 90% harvest cap was triggered on day 7. The success rate on the Upriver Lakes was 57.8% this year, the lowest success rate in 10 years.
- Gizzard Shad values were still suppressed during the 2022 Lake Winnebago trawl. Despite this, spearkers and registration staff were reporting gizzard shad in many of the lake sturgeon stomachs on both Lake Winnebago and the Upriver Lakes.

2023 SIZE STRUCTURE METRICS

System	Sex	Ave. Weight (lbs.)	Weight Range	Ave. Length (in)	Length Range
Lake Winnebago	Juv. Fem	23.7	9.3—41.3	49.0	38.0—54.6
	Adult Fem	61.0	28.6—177.3	65.1	55.0—80.5
	Male	37.0	9.4—114.1	56.0	37.8—72.8
Upriver Lakes	Juv. Fem	24.5	12.8—48.5	48.1	40.3—54.7
	Adult Fem	69.4	31.0—162.6	64.0	55.0—79.9
	Male	38.8	9.7—89.2	53.5	37.9—70.0
System Wide	Juv. Fem	23.9	9.3—48.5	48.8	38.0—54.7
	Adult Fem	62.1	28.6—177.3	65.0	55.0—80.5
	Male	37.5	9.4—114.1	55.3	37.8—72.8

LAKE WINNEBAGO COUNTS

	2023	2022	2021
Shanty Count	3,148	5,986	4,326
License Sales	13,246	12,694	12,200
Upriver Applicants	9,474	8,655	7,694

Lake Winnebago Summary

- 1,120 lake sturgeon were harvested on Lake Winnebago. The average length and weight of fish harvested from Lake Winnebago was 59.5 inches and 46.8 pounds.
- The Pipe registration station registered the most fish with 399 fish. This is also reflected in the percent of lake sturgeon harvested from eastern side of Lake Winnebago (65% from the eastern shore; 35% from the western shores).
- Forty-six fish were speared over 100 pounds, 37 of which were from Lake Winnebago. One was over 170 pounds. The 177.3-pound, 79.9-inch, F4 female was speared by James Gishkowsky and was the 7th largest fish speared on the Winnebago System since 1941.
- There was another 100 pound male that was speared this year. A 114.1-pound, 72.8-inch, M2 male was speared by Ryan Fett. While it is not uncommon to see females growing to over 100 pounds, it is exciting to continue to see males growing to this size. This is likely an indication that the decades of hard work to protect and conserve this species is working. Males have the resources and time necessary to grow to these large sizes.



Above: Abby Derksen's first year spearing was successful with this lake sturgeon on opening day. Awesome job Abby! Photo Credit: Adam Derksen.

Lake Winnebago System Length Frequency

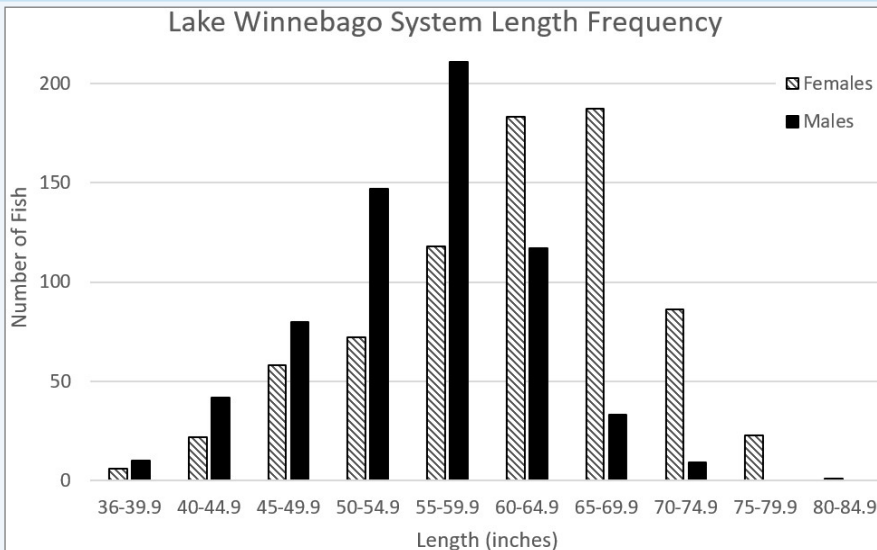


Figure 1. Length frequency histogram of lake sturgeon harvested on the Lake Winnebago System during the 2023 spearing season.



Above: Success on Lake Winnebago. Photo Credit: Joe Miller.



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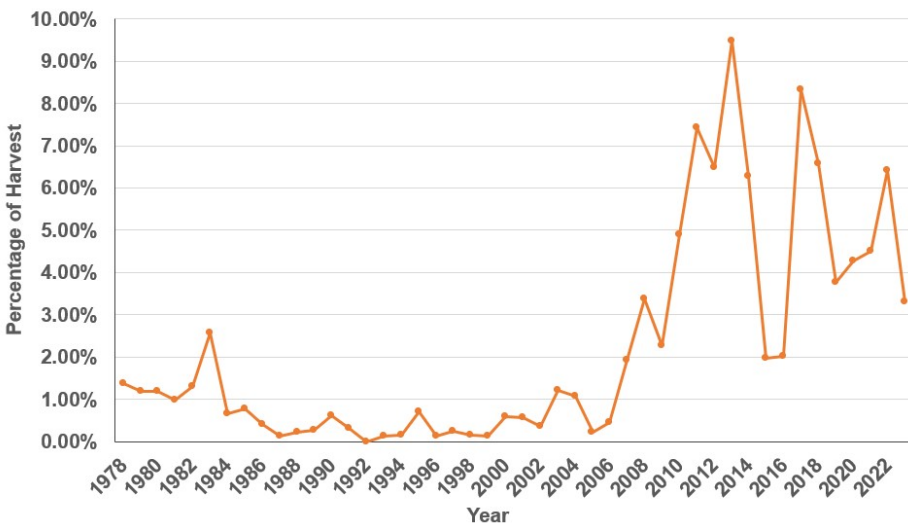
The Winnebago System

Upriver Lakes Summary

- A total of 285 lake sturgeon were harvested on the Upriver Lakes. The average length and weight of fish harvested from the Upriver Lakes was 55.6 inches and 45.1 pounds.
- Nine fish over 100 pounds were speared on the Upriver Lakes this year. The largest was a 162.6-pounds, 76.1-inch, F4, female. This is only the 10th fish over 150 lbs. ever speared on the Upriver Lakes.
- The number of applicants for Upriver tag continues to increase with 9,747 applicants. Spearers awarded an Upriver License had a minimum of 8 preference points. Applicants with greater than 8 points were not selected in the drawing if they had applied in a group with a group member having fewer preference points.

# of Preference Points	# of Applicants for Lottery	# of Winners	# Purchased Preference Points Only
13	1	1	1
12	0	0	2
11	4	4	4
10	27	20	21
9	165	137	81
8	606	338	187
7	468	0	348
6	386	0	510
5	325	0	722
4	273	0	813
3	247	0	845
2	292	0	1,144
1	425	0	1,577
Total	3,219	500	6,255

Lake Winnebago Sturgeon Spearing: % Fish ≥100 lbs. (1978-2023)



Number of applicants at each preference point level for the 2023 lake sturgeon spearing season.



Above: Tyler and Kayla Jackson of Van Dyne, WI, successful 103.7 and 75.5 pound sturgeons, respectively. Photo credit: Tyler and Kayla Jackson

"Heavy Hitters Club" STURGEON

Largest on Lake Winnebago System
1941 to Present
(170 lbs & over)

Rank	Weight	Length	Year
1st	212.2	84.2	2010
2nd	188.0	79.5	2004
3rd	185.0	80.2	2011
4th	180.0	79.0	1953
5th	179.8	79.6	2012
6th	179.0	80.0	2013
7th	177.3	79.9	2023
8th	175.3	78.5	2012
9th	174.3	82.4	2022
10th	172.7	76.9	2011
11th	172.0	78.0	2008
12th	171.3	83.0	2010
13th	171.3	75.6	2011
14th	171.1	83.2	2022
15th	171.0	85.5	2019

Above: The percent of lake sturgeon harvested over 100 pounds from 1978-2023.

Left: Top 15 heaviest lake sturgeon (≥170 pound) on record as harvested from the Lake Winnebago System during the sturgeon spearing seasons dating back to 1941.



Left: Lots of excitement on Lake Poygan opening day as these five all speared their fish within an hour of each other. Photo credit: Emily McParlane