

History of the Upriver Lakes Sturgeon Spear Fishery and Trends in the Modern Era

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Winnebago System sturgeon spearers are likely aware of the format for the current lottery fishery held annually on the Upriver Lakes (Lakes Butte des Morts, Winneconne, and Poygan), but may not know the history behind the fishery and events that transpired to create the fishery that is enjoyed today. There has been an annual sturgeon spearing season on Lake Winnebago since the winter of 1932, but it wasn't until 1952 that the first spearing season occurred on the Upriver Lakes (harvest of 200 fish). There was a setline fishery that preceded the spear fishery from 1932-1951; however, that fishery was abandoned due to concerns of overharvest on younger, immature fish.

Annual spear fisheries on the Upriver Lakes occurred from 1952-1957 with harvests ranging from 200-879 fish per year (average of 578 fish). Spearing seasons were then periodically held every 2-5 years between 1958-2005. The current harvest cap system was implemented in 1999 and established a system-wide harvest cap for the first time. The 2000 spearing season was the first trial run at an Upriver Lakes season under the harvest cap system, and the season lasted only two days with a total harvest of 2,516 sturgeon (347 from Lake Winnebago and 2,169 from the Upriver Lakes). Due to concerns of potential overharvest, a 1 day season was set for the Upriver Lakes in 2005. There were 345 fish harvested during the 2005 season and that was the last spearing season on the Upriver Lakes before the lottery fishery was implemented in 2007.

The lottery fishery on the Upriver Lakes was designed to offer an annual spearing season, while still maintaining harvest rates at or below sustainable levels. Interested spearers can either purchase a preference point or apply for a license on the Upriver Lakes. A total of 500 applicants are awarded a permit to purchase an Upriver Lakes spearing license based on the number of preference points they have (priority given to applicants with the most points). Spearers that are chosen in the lottery lose their preference points, while spearers who are not drawn or choose to purchase the preference point maintain their preference points to be used in future drawings. For example, Figure 1 displays that both applicants with 10 preference points were drawn for an Upriver Lakes permit and that 3 spearers chose to purchase their 10th preference point rather than entering the lottery. Further, 431 of the 542 applicants with 7 preference points were awarded an Upriver Lakes permit for the 2019 season. Any applicant with 8 or more points that was not drawn in the lottery would have been part of a group application with one group member having 7 or fewer points.

No. of Preference Points	11	10	9	8	7	6	5	4	3	2	1	Total
applicants	1	2	11	68	542	701	621	527	510	594	820	4396
winners	0	2	10	57	431	0	0	0	0	0	0	500
Purchased Pref. Point		3	8	24	101	234	323	453	569	756	1246	3717

Figure 1. Number of applicants, number of winners and number of spearers who purchased a preference point categorized by the number of preference points they had for the 2019 drawing on the Upriver Lakes.

Interest in the fishery on the Upriver Lakes has grown by leaps and bounds since implementation in 2007 (Figure 2). A record 8,113 spearers either applied for a permit (4,396) or purchased a preference point (3,717) for the 2019 spearing season on the Upriver Lakes (Figure 2). The increased success rate relative to Lake Winnebago has been the main reason for the increased interest in the Upriver Lakes spear fishery. This season marked the 13th lottery fishery on the Upriver Lakes (2007-2019), and the average success rate for those seasons has been 61.3% of license holders harvesting a fish, compared to 9.1% on Lake Winnebago during that same time frame. One reason for the higher success rate is the shallower water on the Upriver Lakes. Lakes Butte des Morts, Poygan, and Winneconne are composed mostly of shallow water habitat, 4-7 feet deep with some areas being slightly deeper, relative to Lake Winnebago. Thus, water clarity doesn't play as much of a factor on the Upriver Lakes.

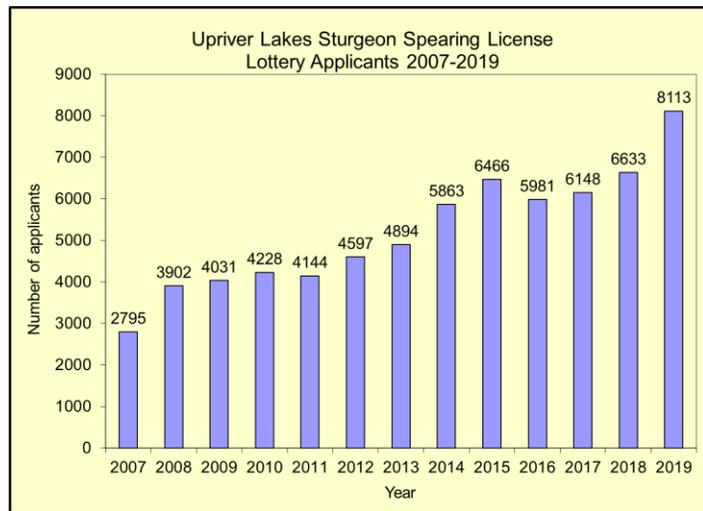


Figure 2. The number of applicants for the lottery sturgeon spear fishery on the Upriver Lakes (2007-2018).

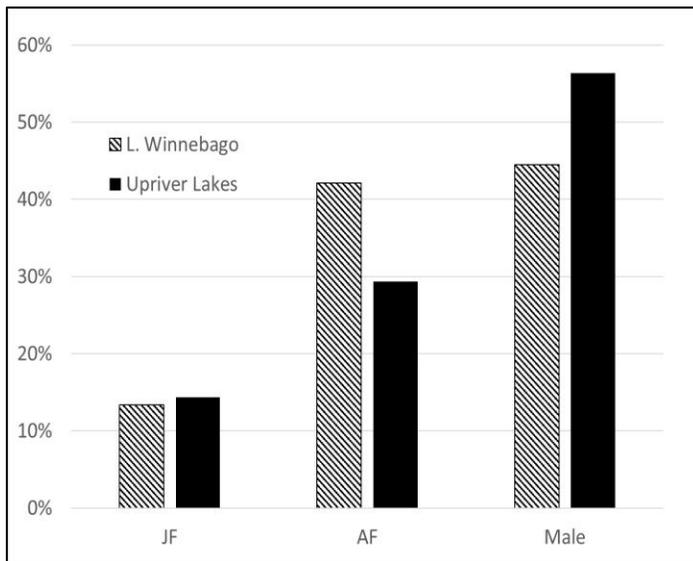


Figure 3. Percentage of the Lake Winnebago (hashed bars) and Upriver Lakes (solid bars) harvest that were juvenile female, adult female and males during the 2019 spearing season.

The Upriver Lakes also serve as an overwintering area for gravid fish that would spawn that spring and are nursery areas for immature fish. Thus, the Upriver Lakes harvest contains a higher percentage of smaller fish and adult fish with black eggs (females) or fully developed testes (males) relative to Lake Winnebago. Due to spawning periodicity (males every 1-2 years; females every 3-5), there is a higher concentration of adult males in the Upriver Lakes during winter months relative to Lake Winnebago. This is apparent in the harvest as males are taken at a higher rate on the Upriver Lakes (Figure 3).

The 2019 spearing season on the Upriver Lakes lasted 10 days, which is tied for the 2nd longest season since the lottery format was implemented. Prior to this season, only the 2017 and 2011 seasons went through the second weekend lasting 16 and 10 days respectively. Of the 486 spearers that purchased licenses for the 2019 Upriver Lakes season, 307 were able to tag out during the 10-day season. This represents a 63.2% success rate, which is very similar to the average (61.3%) success rate over the 13-year span the lottery fishery has been in place. The 307 fish registered exceeds the average harvest of 298 fish/season and is tied for the 5th largest harvest since 2007.

Hopefully this information sheds some light on the history that has brought us to the current spear fishery format on the Upriver Lakes. This fishery continues to grow in popularity due to the unique harvest opportunity that it provides. However, with the growing interest comes a longer wait between drawing licenses. Through the years, the seasons on the Upriver Lakes have been fairly short, but expect to see more of these longer seasons if harvest caps remain stable or increase for future spearing seasons.

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