



2021 Fisheries Survey Summary Report

Mason Lake

Adams & Marquette County, WI

WBIC: 175700

Introduction and Survey Objectives

In 2021, the Department of Natural Resources (DNR) conducted a spring electrofishing survey to assess the largemouth bass and panfish populations. The fish population demographics (size structure, relative abundance) were compared to fish populations in similar lakes of Wisconsin and past surveys for Mason Lake. The following report is a brief summary of the activities conducted and general status of fish populations.

Acres: 882 Shoreline Miles: 7.5 Maximum Depth (feet): 9
 Lake Type: Flowage/Shallow Lake Public Access: 3 Boat Launches Lake Class: Complex warm dark
 Fishing Regulations: Northern Pike: 32" minimum length limit and a daily bag limit of 1; Largemouth bass: 14-18" protected slot, daily bag limit of 5 and only one fish over 18" is allowed; Panfish: daily bag of 25.

Wisconsin DNR Contact Info.

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Survey Methods

Spring electrofishing survey protocols as outlined in the statewide fisheries management handbook were used to survey the fishery. Electrofishing took place at night and covered shockable areas of the shoreline. This survey targets largemouth bass and bluegill. All gamefish and panfish were measured in length to the nearest 0.1 in. Adult carp and gizzard shad were counted. Yearling carp were counted for one station after noting they were abundant. Other species were noted as present, common or abundant.

Fish Metric Descriptions

Proportional Stock Density (PSD) and Relative Stock Density (RSD) are indices used to describe size structure of fish and are a percentage. PSD and RSD is calculated by dividing the number of quality, preferred, memorable or a defined size fish by the number of stock size fish for a given species.

Catch per unit effort (CPE) is an index used to measure fish population relative abundance which is the number of fish captured per unit of effort. CPE indexes are compared to statewide data.

Length frequency distribution (LFD) is a graphical representation of the percentage of fish captured by one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or gear sampling limitations.

Abundance Metric: Catch per Effort (number per mile)

Year	Bluegill	Yellow Perch	Pumpkinseed	Largemouth Bass
2002	92	2	25	10
2012	10	3	6	18
2015	33	7	9	28
2017	38	14	8	25
2021	47	31	3	23

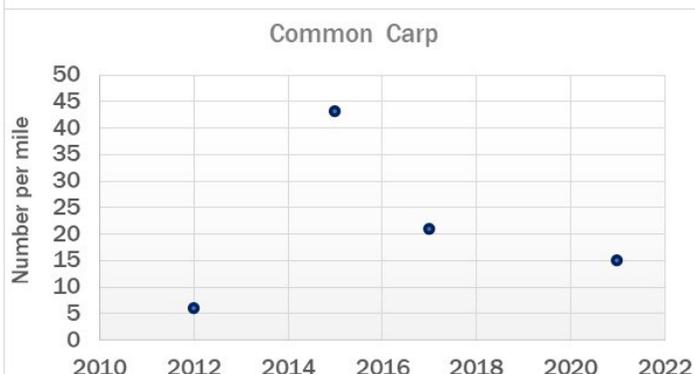
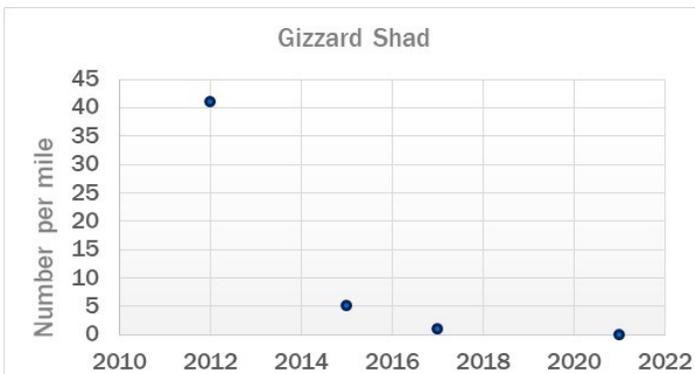
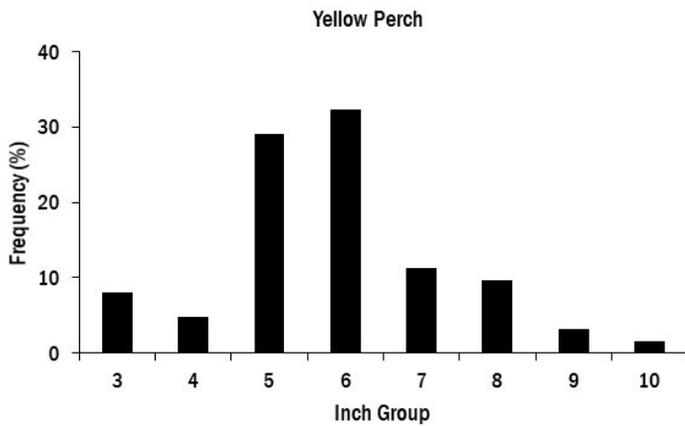
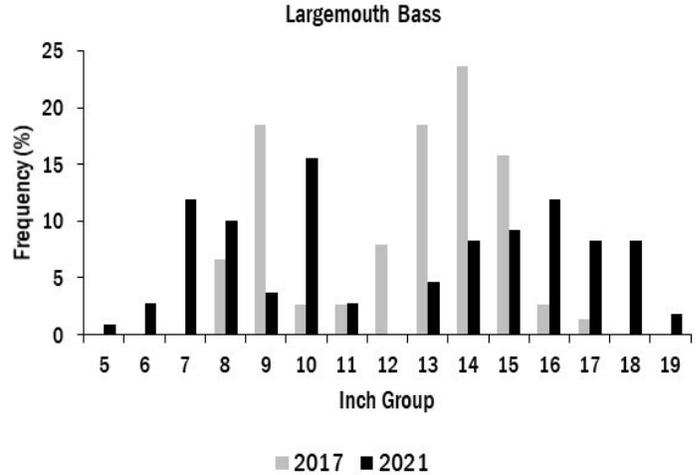
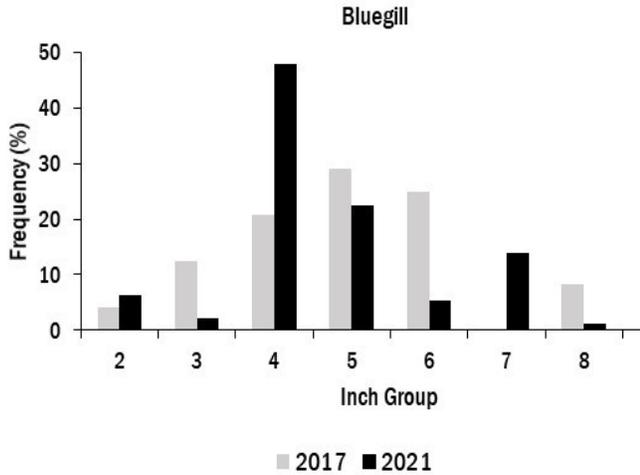
Size Structure Metrics

BLUEGILL: Stock; Quality; Preferred; Sizes (inches) 3.0, 6.0, 8.0	PSD	RSD-P
	(6")	(8")
YEAR		
2002	56	0
2012	80	0
2015	80	0
2017	35	9
2021	23	2



Size Structure Metrics

LARGEMOUTH BASS: Stock ; Quality; Preferred; Memorable Sizes (inches) 8.0, 12.0, 15.0, 20.0	PSD	RSD-P	RSD-14"	RSD-M
	(12")	(15")	(14")	(20")
YEAR				
2002	62	21	24	3
2012	69	4	10	1
2015	69	3	11	0
2017	72	43	43	0
2021	62	47	57	0



Summary

- Bluegill relative abundance in 2021 was 47 per mile, which is within the range of CPE values observed in the past. Bluegill ranged in length from 2.2” to 9.1” with an average length of 5.2”. 4.8” was the most often observed length group. 23% of the bluegills were 6 inches or greater, which is the lowest observed for Mason Lake compared to past surveys and shows how that 4-5” fish are driving the population. 2% of the bluegills were 8 inches or greater.
- Largemouth bass relative abundance was 23 per mile which is normal to above the median for catch rates of bass in lakes similar to Mason Lake. Largemouth bass ranged in length from 5.9”-19.7” with an average length of 12.7”, the most observed length was 14.0”. 62% of the bass were 12” or larger which is within the range observed in the past yet, 57% of the bass were 14” or greater and is the highest ever observed. A special regulation went into effect with the 2018 fishing season, a 14”-18” protected slot with a daily bag limit of 5 fish. An improvement in size structure occurred prior to the new regulation, sometime between the 2015 survey and 2017 survey, due to unknown dynamics.
- Overtime the fishery in Mason Lake has shifted from a bluegill to a big bass fishery. The special regulation is promoting big bass, yet the change in the fishery occurred prior to the regulation change.
- In past electrofishing surveys, yellow perch were not common. In 2021, relative abundance was 31 per mile. Yellow perch ranged in length from 3.0”-10.1” with an average length of 6.0”.
- Adult carp relative abundance was 15 per mile in 2021. Age-1 carp were considered abundant during the survey and were counted for one transect at 187 per mile, so a strong carp yearclass for 2020. The Easton Lake District removed approximately 100,000 age-1 carp in the spring of 2021 and many age-1 carp died from Amey Pond’s output of water with low dissolved oxygen. These carp were 4”-6” and could be consumed by largemouth, how much mortality will occur is unknown. A carp survey is planned for the summer-fall of 2021 to estimate the abundance and biomass of carp in Mason Lake.
- Adult gizzard shad were not observed during the survey.
- Age-1 gizzard shad, age-1 yellow perch and age-1 bluegill were considered abundant during the survey.
- Golden shiner and white sucker were present during the survey.
- Water clarity was clear and curly leaf pondweed was in large masses near the middle and edges of the lake for the area that we traversed.
- Electrofishing surveys in the past have not been effective for sampling the black crappie and northern pike populations, fyke netting is the gear type for surveying those species.