



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2024 Fall Walleye Recruitment Survey Summary Report Langlade and Lincoln Counties

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Introduction And Objectives

In 2024, the Department of Natural Resources Antigo Fisheries Staff conducted electrofishing surveys on 11 Langlade and Lincoln County lakes and reservoirs managed, in part, for walleye. Nine of these lakes and reservoirs are part of the Wisconsin Walleye Initiative and receive stockings of large fingerling walleye on an every other year schedule (if needed and if available). Primary sampling objectives of these surveys are to evaluate natural reproduction of walleye and year class strength to help determine if stocking is needed and to assess one-year survival and growth of stocked large fingerlings. The other 2 lakes/reservoirs have naturally reproducing walleye populations that we survey to assess walleye reproduction and recruitment. The Spirit River Flowage has had annual fall walleye recruitment surveys done the last 23 years and in 33 of the 39 years since 1986. It is a good naturally reproducing walleye system and is a good regional indicator of relative walleye year class strength from year-to-year, which can then be used to help shed light on walleye reproduction trends on other nearby lakes. The following report also includes all gamefish (walleye, northern pike, smallmouth bass, largemouth bass, and muskellunge) captured during these fall electrofishing surveys.

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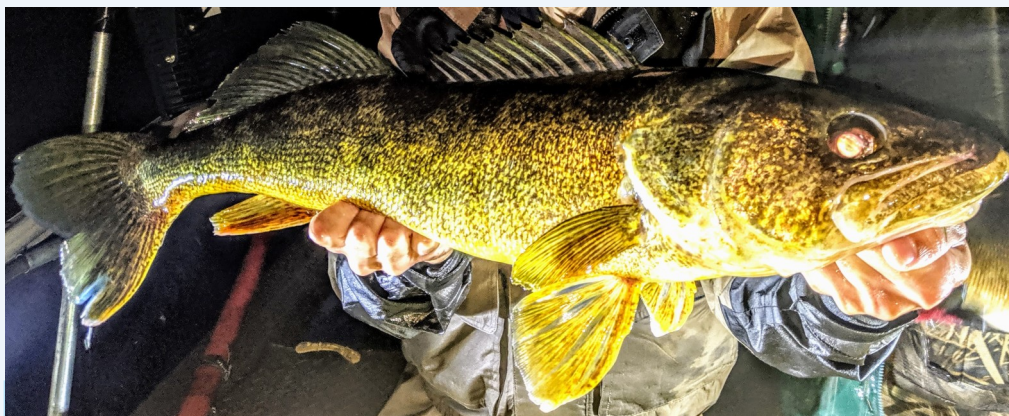
Langlade and Lincoln County Lakes

Langlade County Lakes & Reservoirs: 843

Lincoln County Lakes & Reservoirs: 726

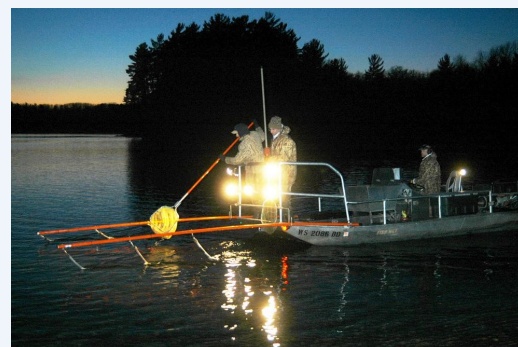
Langlade County Lakes & Reservoirs
Managed In Part For Walleye: **12**

Lincoln County Lakes & Reservoirs
Managed In Part For Walleye: **21**



Survey Methods

- All lakes and reservoirs are sampled according to DNR lake survey protocols.
- Preferred water temperature range for walleye recruitment surveys is from 55 to 65° F
- All lakes and reservoirs are electrofished with a boom electrofishing boat, with 2 dipnetters **EXCEPT** for 2020, when COVID protocols limited us to 1 dipnetter.
- The entire shoreline was electrofished each fall on most of these surveys. On larger lakes with more shoreline, index stations are established.
- Unless noted, surveys are done prior to any stocking that year.
- All gamefish are identified to species and measured for length.
- A subsample of walleye scales are collected from fish < 12" to determine age and growth.
- Scale samples are also collected from muskellunge < 20" to determine age and growth.
- All muskellunge captured are weighed and scanned for PIT (Passive Integrated Transponder) tags and if not already tagged, given a PIT tag. If PIT tagged, the tag number is recorded and previous data on this fish is checked (length, weight, age, capture date history, etc.)
- Metrics used to describe fish populations include length range, catch per effort (CPE), young-of-the-year (YOY) walleye, age 1 walleye, and juvenile and adult gamefish.



Metric Descriptions

- **Catch Per Effort (CPE):** an index of relative abundance. We typically quantify CPE by the number and size of fish captured per mile of shoreline electrofishing or per hour of electrofishing.
- **Young-of-the-Year Walleye (YOY):** walleye hatched this year in spring which are not yet one year old.
- **Age 1 Walleye:** juvenile walleye that were hatched the spring prior to this survey.
- **Gamefish Size Breakdowns:** northern pike less than 12", muskellunge less than 20", and smallmouth and largemouth bass less than 8" are considered juveniles. Gamefish over those sizes are considered adults.



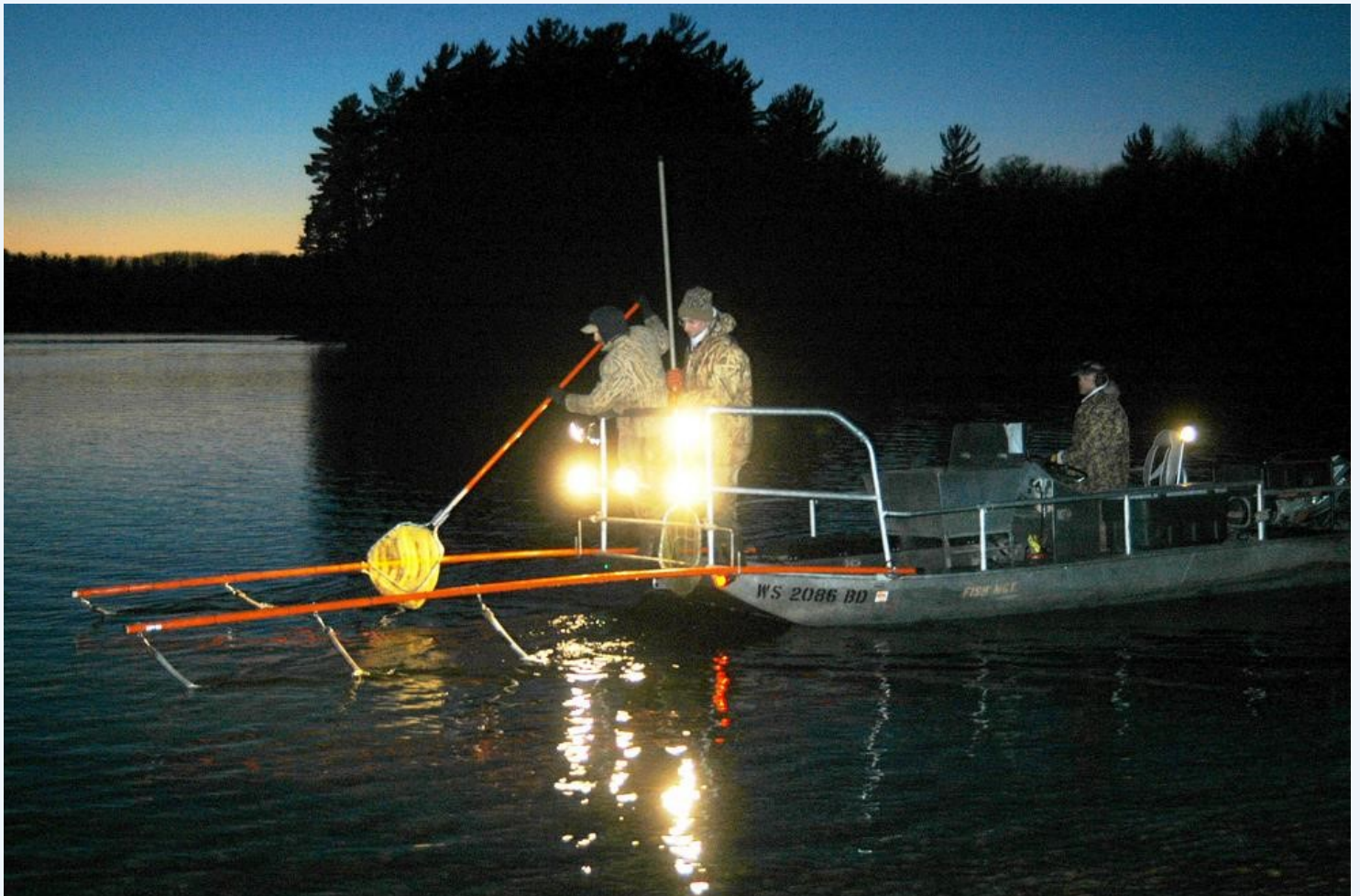
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Lake Survey Information

Lake Name	County	Surface Acres	Shoreline Length (Miles)	Survey Type	Survey Date	Entire Shoreline or Index Stations	Shocker Type	Netters	Water Temp (°F)
Crystal Lake	Langlade	75	1.8	Walleye Recruitment	9-19-24	Entire Shoreline	Boom EF	2	72.5
Otter Lake	Langlade	83	2.4	Walleye Recruitment	9-25-24	Entire Shoreline	Boom EF	2	68.5
Summit Lake	Langlade	282	3.3	Walleye Recruitment	9-23-24	Entire Shoreline	Boom EF	2	68.5
Upper Post Lake	Langlade	757	7.6	Walleye Recruitment	9-26-24	3 Index Stations	Boom EF	2	68
Pine Lake	Lincoln	134	2.7	Walleye Recruitment	9-4-24	Entire Shoreline	Boom EF	2	71.5
Seven Island Lake	Lincoln	132	4.0	Walleye Recruitment	10-1-24	Entire Shoreline	Boom EF	2	66.5
Silver Lake	Lincoln	82	2.1	Walleye Recruitment	9-10-24	Entire Shoreline	Boom EF	2	68.5
Somo Lake	Lincoln	472	14.2	Walleye Recruitment	9-11-24	2 Index Stations	Boom EF	2	72
Spirit River Flowage	Lincoln	1,664	50.3	Walleye Recruitment	10-3-24	3 Index Stations	Boom EF	2	62
Tug Lake	Lincoln	151	2.3	Walleye Recruitment	9-24-24	Entire Shoreline	Boom EF	2	69.5
Wisconsin (Squaw) Lake	Lincoln	79	2.3	Walleye Recruitment	9-9-24	Entire Shoreline	Boom EF	2	73





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Walleye Data Summary

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Walleye Data Summary

Catch Per Mile - Walleye							
Lake Name	Entire Shoreline or Index Stations	Survey Miles	Length Range (Inches)	Young of Year (YOY)	Age 1	Older Than Age 1	Total Walleye
Crystal Lake	Entire Shoreline	1.8	20.5 - 20.9	0	0	0.6	0.6
Otter Lake	Entire Shoreline	2.4	6.4 - 28.1	51.3	0	9.2	60.4
Summit Lake	Entire Shoreline	3.3	-	0	0	0	0
Upper Post Lake	Index Station 1	2.1	8.2 - 20.9	0	4.3	17.6	21.9
Upper Post Lake	Index Station 3	0.8	11.5 - 19.9	0	0	29.1	29.1
Upper Post Lake	Index Station 2	1.8	8.2 - 20.9	0	5.7	18.2	23.9
Upper Post Lake	Index Stations 1-3	4.7	8.2 - 20.9	0	4.0	19.6	23.6
Pine Lake	Entire Shoreline	2.7	12.7 - 23.9	0	0	1.5	1.5
Seven Island Lake	Entire Shoreline	4.0	5.4 - 16.9	14.0	2.8	5.5	22.3
Silver Lake	Entire Shoreline	2.1	4.2 - 20.4	4.8	0	3.3	8.1
Somo Lake	Index Station 1	2.0	8.5 - 25.4	0	7.5	2.0	9.5
Somo Lake	Index Station 2	2.0	8.7 - 12.1	0	5.5	0.5	6.0
Somo Lake	Index Stations 1-2	4.0	8.5 - 25.4	0	6.5	1.3	7.8
Spirit River Flowage	Index Station 2	0.7	4.7 - 9.6	8.2	5.5	0	13.7
Spirit River Flowage	Index Station 1	1.5	5.4 - 25.4	3.9	13.2	2.0	19.1
Spirit River Flowage	Index Station 3	2.0	4.7 - 27.4	4.5	7.5	3.0	15.0
Spirit River Flowage	Index Stations 1-3	4.3	4.7 - 27.4	4.9	9.1	2.1	16.0
Tug Lake	Entire Shoreline	2.3	8.3 - 22.9	0	2.6	1.7	4.3
Wisconsin (Squaw) Lake	Entire Shoreline	2.3	9.1 - 19.4	0	0	7.4	7.4





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Northern Pike & Muskellunge Data Summary

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Northern Pike & Muskellunge Data Summary

Catch Per Mile - Northern Pike (NP) & Muskellunge (MU)								
Lake Name	Entire Shoreline or Index Stations	Survey Miles	NP Length Range (Inches)	≥ 12"	Total NP	MU Length Range (Inches)	≥ 20"	Total MU
Crystal Lake	Entire Shoreline	1.8	-	0	0	-	0	0
Otter Lake	Entire Shoreline	2.4	13.0 - 34.4	3.3	3.3	-	0	0
Summit Lake	Entire Shoreline	3.3	-	0	0	-	0	0
Upper Post Lake	Index Station 1	2.1	18.5 - 26.4	3.8	3.8	-	0	0
Upper Post Lake	Index Station 3	0.8	19.5 - 23.4	3.8	3.8	-	0	0
Upper Post Lake	Index Station 2	1.8	16.5 - 25.4	5.1	5.1	-	0	0
Upper Post Lake	Index Stations 1-3	4.7	16.5 - 26.4	4.3	4.3	-	0	0
Pine Lake	Entire Shoreline	2.7	10.5 - 23.4	1.1	1.5	-	0	0
Seven Island Lake	Entire Shoreline	4.0	-	0	0	9.7 - 41.3	1.3	1.8
Silver Lake	Entire Shoreline	2.1	-	0	0	-	0	0
Somo Lake	Index Station 1	2.0	20.5 - 20.9	0.5	0.5	-	0	0
Somo Lake	Index Station 2	2.0	-	0	0	-	0	0
Somo Lake	Index Stations 1-2	4.0	20.5 - 20.9	0.3	0.3	-	0	0
Spirit River Flowage	Index Station 2	0.7	8.0 - 8.9	0	2.7	-	0	0
Spirit River Flowage	Index Station 1	1.5	6.0 - 10.9	0	5.9	-	0	0
Spirit River Flowage	Index Station 3	2.0	7.5 - 10.9	0	1.0	-	0	0
Spirit River Flowage	Index Stations 1-3	4.3	6.0 - 10.9	0	3.1	-	0	0
Tug Lake	Entire Shoreline	2.3	-	0	0	-	0	0
Wisconsin (Squaw) Lake	Entire Shoreline	2.3	12.5 - 17.9	0.9	0.9	-	0	0





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2024 Fall Walleye Recruitment Survey Summary Report

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Smallmouth & Largemouth Bass Data Summary

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Smallmouth Bass & Largemouth Bass Data Summary

Catch Per Mile - Smallmouth Bass (SMB) & Largemouth Bass (LMB)

Lake Name	Entire Shoreline or Index Stations	Survey Miles	SMB Length Range (Inches)	≥ 8"	Total SMB	LMB Length Range (Inches)	≥ 8"	Total LMB
Crystal Lake	Entire Shoreline	1.8	-	0	0	5.5 - 16.4	6.1	9.4
Otter Lake	Entire Shoreline	2.4	2.0 - 17.9	5.8	44.2	3.0 - 17.4	3.3	4.6
Summit Lake	Entire Shoreline	3.3	-	0	0	3.5 - 12.9	0.6	0.9
Upper Post Lake	Index Station 1	2.1	11.5 - 17.9	3.3	3.3	5.5 - 13.9	1.9	7.6
Upper Post Lake	Index Station 3	0.8	-	0	0	6.0 - 16.9	7.6	8.9
Upper Post Lake	Index Station 2	1.8	6.5 - 16.9	2.3	2.8	6.0 - 13.9	0.6	2.8
Upper Post Lake	Index Stations 1-3	4.7	6.5 - 17.9	2.4	2.6	5.5 - 16.9	2.4	6.0
Pine Lake	Entire Shoreline	2.7	-	0	0	3.0 - 18.4	6.3	8.5
Seven Island Lake	Entire Shoreline	4.0	3.5 - 13.9	5.0	7.3	2.0 - 14.4	4.8	7.8
Silver Lake	Entire Shoreline	2.1	2.0 - 14.9	3.8	5.7	2.5 - 17.9	7.1	8.6
Somo Lake	Index Station 1	2.0	-	0	0	6.0 - 16.4	3.0	3.5
Somo Lake	Index Station 2	2.0	9.0 - 15.9	2.0	2.0	10.5 - 14.4	3.0	3.0
Somo Lake	Index Stations 1-2	4.0	9.0 - 15.9	1.0	1.0	6.0 - 16.4	3.0	3.3
Spirit River Flowage	Index Station 2	0.7	-	0	0	3.5 - 21.4	2.7	9.6
Spirit River Flowage	Index Station 1	1.5	6.0 - 16.9	1.3	2.6	3.0 - 8.9	3.3	14.5
Spirit River Flowage	Index Station 3	2.0	6.5 - 18.9	2.0	2.5	3.5 - 16.9	0.5	3.5
Spirit River Flowage	Index Stations 1-3	4.3	6.0 - 18.9	1.4	2.1	3.0 - 21.4	1.9	8.5
Tug Lake	Entire Shoreline	2.3	-	0	0	2.5 - 14.4	2.2	3.5
Wisconsin (Squaw) Lake	Entire Shoreline	2.3	-	0	0	7.5 - 15.4	7.8	8.3



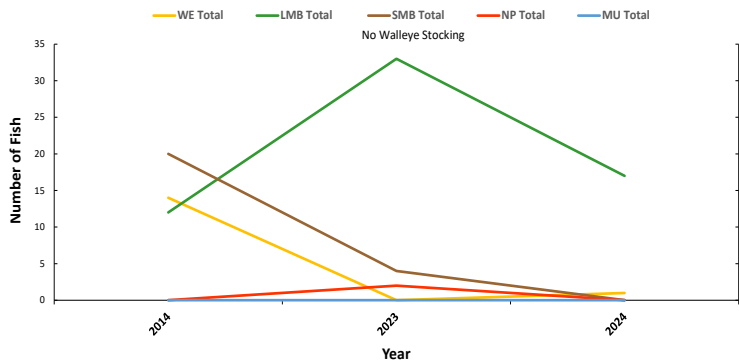


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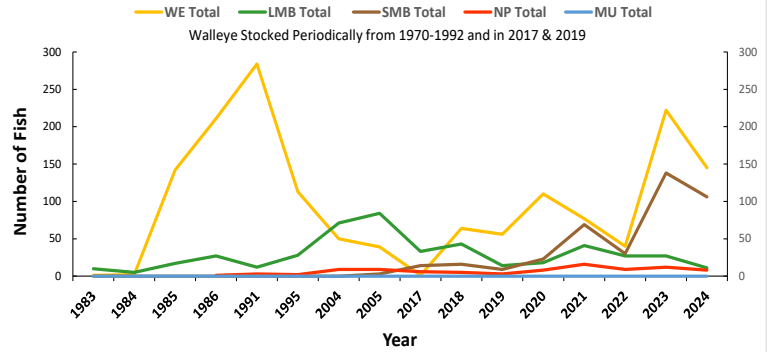
2024 Fall Walleye Recruitment Survey Summary Report Langlade and Lincoln Counties Gamefish Catch History - Fall Survey Lakes

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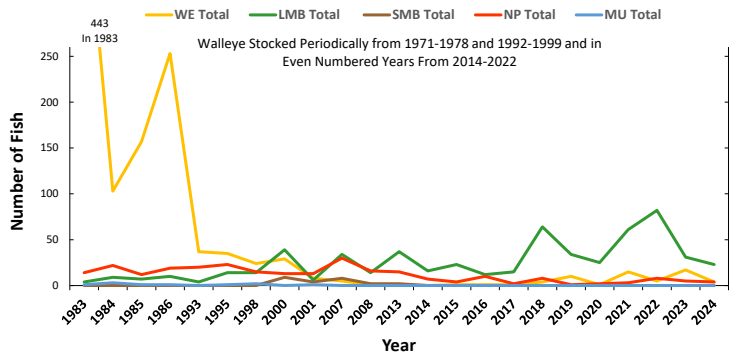
Crystal Lake Fall Electrofishing Gamefish Catch



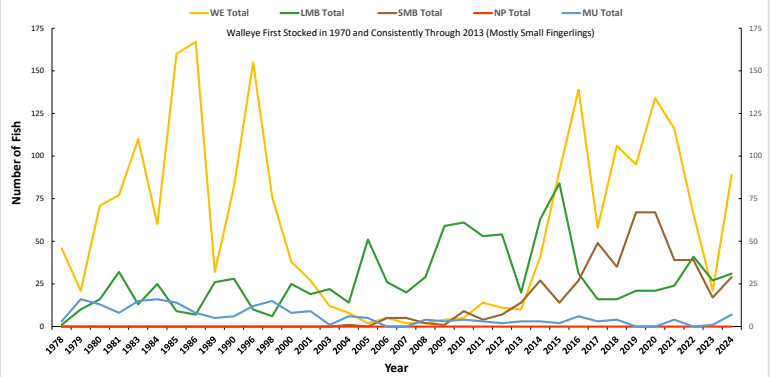
Otter Lake Fall Electrofishing Gamefish Catch



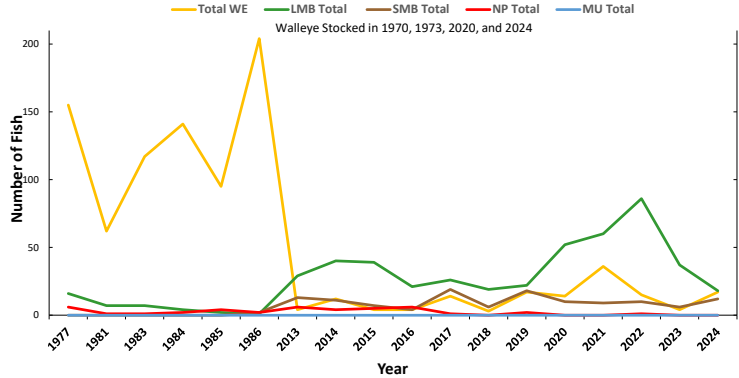
Pine Lake Fall Electrofishing Gamefish Catch



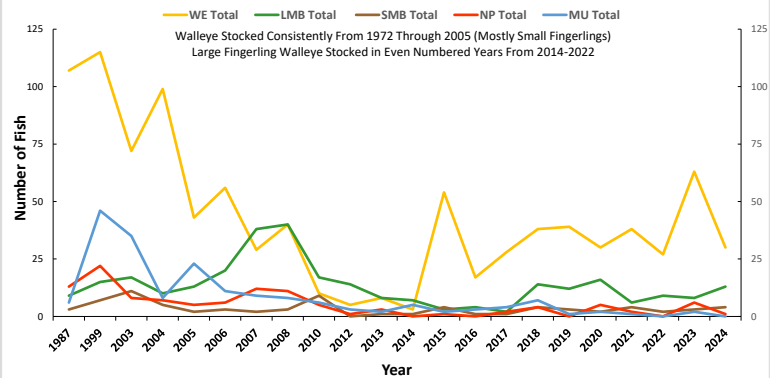
Seven Island Lake Fall Electrofishing Gamefish Catch



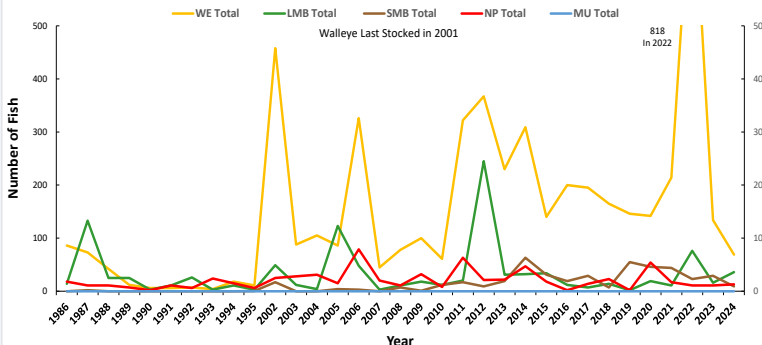
Silver Lake Fall Electrofishing Gamefish Catch



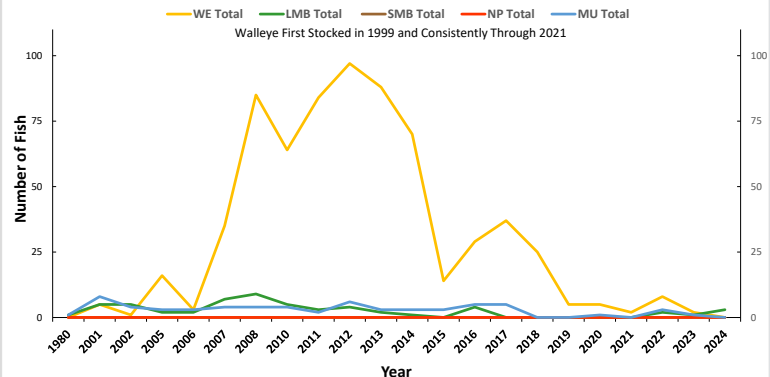
Somo Lake Fall Electrofishing Gamefish Catch



Spirit River Flowage Fall Electrofishing Gamefish Catch



Summit Lake Fall Electrofishing Gamefish Catch





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Gamefish Catch History - Fall Survey Lakes

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