Lake Albert

Lake Albert, located 1-1/2 miles east and 1 mile north of Badger, SD, is managed as a walleye and yellow perch fishery. Other fish species (e.g., channel catfish, northern pike, white bass) provide additional angling opportunities.

- **Walleye**. Walleye abundance decreased to 0.6 fish per gill net in 2023, which is the lowest catch rate recorded in the past seven years. Catches first declined after the 2018 sample year (CPUE = 17.9 fish per net) and then again after the 2021 sample year (CPUE = 3.4 fish per net). The dramatic decline in catches is likely the result of several winterkill events. Sampled fish ranged from 13 to 24 inches long with approximately (40%) measuring greater than 15 inches in length. Fisheries staff stocked 3.9 million walleye fry into Lake Albert in 2023 to provide future angling opportunity.

- **Yellow Perch.** Yellow perch catches increased substantially from the previous sample year (CPUE = 0.8 and 9.1 fish per net in 2021 and 2023, respectively). This is the highest abundance observed in the past five years resulting in one of the highest catch rates in the southeast region. Sampled fish were generally small, however, with most measuring in the 5 to 6 inch length range while a small proportion (6%) measured >8 inches in length. These fish should provide good angling opportunities in the future if they can avoid the frequent winterkill events that Lake Albert experiences.

For more detailed results see the computer-generated South Dakota Statewide Fisheries Survey for Lake Albert (below).

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Albert, Kingsbury County
MBS-Lake-176-000
2023

Lake Information

Name:	Albert	**Maximum Depth:**	13 Feet
County:	Kingsbury	**Mean Depth:**	9 Feet
Legal Description:	T112-R53W-Sec. 1-3, 10-12, 14-15, 22	**OHWM Elevation:**	1,653
Surface Area:	3,672 Acres	**Outlet Elevation:**	1,650

Surveys and Investigations

Survey methods used by gear type, date, and effort.

Gear	Date	Effort
AFS std gill net	Jul 05, 2023	8 net-nights

Common Fish Species Present

Walleye

Yellow Perch

White Sucker

Northern Pike

Bigmouth Buffalo

Common Carp

Catfish

Terminology

Catch per unit effort (**CPUE**) refers to the relative abundance of a species. It is defined as the number of fish captured per unit of effort (i.e., number of fish captured per net-night or number of fish captured per hour electrofishing). In this report CPUE is typically given for only stock-length fish (see length categories table for stock lengths).

A statewide effort to help make netting efforts comparable to all waters sampled across the state, occurred in 2017, with a switch to American Fisheries Society gill nets. Past gill netting efforts were completed with different style/types of nets and are not comparable side by side.

- **AFS std gill net** – 80 ft experimental gill net containing eight panels (10 ft each) of varying monofilament meshes of 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25 and 2.50 inches.
- **std experimental gill net for non-Missouri River waters** - 150 ft experimental gill net containing six panels (25 ft each) of varying monofilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.
- s**td experimental gill net for Missouri River reservoirs** – 300 ft experimental gill net containing six panels (50 ft each) of varying multifilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.

$$CPUE = \frac{number\ of\ fish}{effort}$$

Population size structure is quantified using the indices proportional size distribution of quality-length fish (**PSD**) and proportional size distribution of preferred-length fish (**PSD-P**). These indices indicate the proportion of stock-length fish that are equal to or greater than a given length. Minimum lengths for stock, quality and preferred length fish are given in the length categories table.

$$PSD = \left(\frac{number\ of\ fish \geq quality\ length}{number\ of\ fish \geq stock\ length}\right) \text{x } 100$$

$$PSD - P = \left(\frac{number\ of\ fish \geq preferred\ length}{number\ of\ fish \geq stock\ length}\right) \text{x } 100$$

Relative weight (**Wr**) is used to quantify fish plumpness. Relative weight is the ratio of what a fish weighs (W) compared to a length-specific standard weight (Ws) multiplied by 100. Relative weight values of 95-105 are commonly cited as optimum values, but values in the 80s are common during summer sampling in South Dakota.

$$Wr = \left(\frac{W}{Ws}\right) \text{x } 100$$

Confidence intervals (**CI**) are provided for many of the estimates calculated in this report. The confidence interval provides a range in which the true mean is expected to fall. For example, with an 80% CI we are 80% confident that the interval contains the true value.

Length categories include stock (**S**), quality (**Q**), preferred (**P**), memorable (**M**) and trophy (**T**). Length categories for most species have been defined based on a percentage of the world record length for that species. Some species mentioned in this report do not have defined length categories. Length categories for species used in this report are provided in the following table. Measurements are the minimum total length for each category and are reported in inches (in) and centimeters (cm).

	Stock		Quality		Preferred		Memorable		Trophy	
Species Name	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)
Black Bullhead	6	15	9	23	12	30	15	38	18	46
Black Crappie	5	13	8	20	10	25	12	30	15	38
Bluegill	3	8	6	15	8	20	10	25	12	30
Brown Trout	8	20	12	30	16	40	20	50	18	46
Channel Catfish	11	28	16	41	24	61	28	71	36	91
Freshwater Drum	8	20	12	30	15	38	20	51	25	63
Lake Trout	12	30	20	50	26	65	31	80	39	100
Largemouth Bass	8	20	12	30	15	38	20	51	25	63
Muskellunge	20	51	30	76	38	97	42	107	50	127
Northern Pike	14	35	21	53	28	71	34	86	44	112
Pumpkinseed	3	8	6	15	8	20	10	25	12	30
Rainbow Trout	10	25	16	40	20	50	26	65	31	80
Rudd	6	15	10	25	12	30	15	38	19	48
Sauger	8	20	12	30	15	38	20	51	25	63
Smallmouth Bass	7	18	11	28	14	35	17	43	20	51
Walleye	10	25	15	38	20	51	25	63	30	76
White Bass	6	15	9	23	12	30	15	38	18	46
White Crappie	5	13	8	20	10	25	12	30	15	38
Yellow Bullhead	4	10	7	18	9	23	11	28	14	36
Yellow Perch	5	13	8	20	10	25	12	30	15	38

Catch Summary of Stock Length Fish

Catch per unit effort (CPUE), proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) for species sampled in survey with 80% confidence interval (CI-80).

*** Methods/Species that ignore stock length**

			Abundance		Stock Density Indices				Condition	
Gear	Species	Sample Size (n)	CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
AFS std gill net	Bigmouth Buffalo	2	0.3	0.2	100		50			
	Catfish	1	0.0	0.0						
	Common Carp	4	0.1	0.2	100		100			
	Northern Pike	3	0.4	0.5	100		0		86	9
	Walleye	5	0.6	0.5	40		20		94	3
	White Sucker	4	0.5	0.4	100		75			
	Yellow Perch	73	9.1	2.5	5		3		106	1

10-Year Catch Per Unit Effort by Gear and Species

Catch per unit effort (CPUE) and average (Avg) of species across 10 years using different gear types.

*** Methods/Species that ignore stock length**

		CPUE										
Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
AFS std gill net	Bigmouth Buffalo				4.3	1.3	0.1	0.0	2.6		0.3	1.43
	Black Bullhead				1.3	1.1	0.3	0.5	0.3		0.0	0.58
	Black Crappie				0.5	0.3	0.0	0.0	0.0		0.0	0.13
	Catfish				0.0	0.0	0.0	0.0	0.0		0.0	0.00
	Channel Catfish				0.0	0.1	0.0	2.3	4.1		0.0	1.08
	Common Carp				0.3	1.0	0.1	0.3	1.3		0.1	0.52
	Northern Pike				0.7	0.3	0.5	1.0	0.9		0.4	0.63
	Walleye				8.5	17.9	2.1	2.5	3.4		0.6	5.83
	White Bass				0.5	0.5	0.6	0.5	0.5		0.0	0.43
	White Sucker				1.2	1.0	1.0	1.1	0.4		0.5	0.87
	Yellow Perch				14.5	9.3	5.0	1.5	0.8		9.1	6.70
std exp gill net	Bigmouth Buffalo	0.0	0.0	10.7								3.57
	Black Bullhead	1.7	15.3	4.3								7.10
	Channel Catfish	0.0	0.0	0.0								0.00
	Common Carp	1.0	0.0	0.0								0.33
	Northern Pike	2.0	1.0	1.0								1.33
	Orangespotted Sunfish	0.0	0.0	0.0								0.00
	Spottail Shiner	0.0	0.0	0.0								0.00
	Walleye	7.3	17.0	9.0								11.10
	White Bass	0.0	0.0	0.7								0.23
	White Sucker	1.3	6.3	3.3								3.63
	Yellow Perch	22.0	17.3	114.0								51.10

10-Year Size Structure and Condition Statistics by Gear and Species

Species proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) collected by different gear types across 10 years.

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AFS std gill net	Bigmouth Buffalo	PSD				15	20	0		81		100
		PSD-P				4	0	0		14		50
	Common Carp	PSD				100	100	100	100	100		100
		PSD-P				100	100	100	50	20		100
	Northern Pike	PSD				100	100	100	50	100		100
		PSD-P				75	50	100	38	29		0
		Wr				87	96	97	90	83		86
	Walleye	PSD				67	91	76	80	100		40
		PSD-P				39	14	6	5	22		20
		Wr				86	90	86	90	89		94
	White Sucker	PSD				100	100	100	78	100		100
		PSD-P				100	100	100	78	100		75
	Yellow Perch	PSD				71	38	43	75	17		5
		PSD-P				16	22	5	42	17		3
		Wr				98	104	110	110	118		106
std exp gill net	Bigmouth Buffalo	PSD		0	0							
		PSD-P		0	0							
	Common Carp	PSD	100									
		PSD-P	100									
	Northern Pike	PSD	83	100	67							
		PSD-P	17	33	33							
		Wr	91	106	89							
	Walleye	PSD	91	94	41							
		PSD-P	0	24	11							
		Wr	96	102	96							
	White Sucker	PSD	25	26	90							
		PSD-P	25	16	90							
	Yellow Perch	PSD	18	96	13							
		PSD-P	15	25	11							
		Wr	106	121	110							

Length at Capture

Mean length at capture by age across years sampled, sample size (N).

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2019	18	173 (1)	320 (1)	411 (3)	395 (8)	467 (5)					
2018	141		371 (9)	432 (97)	468 (13)	499 (3)		554 (3)		640 (12)	623 (4)

Species: Yellow Perch

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2018	76	143 (48)	227 (12)	269 (15)		327 (1)					

Fish Condition

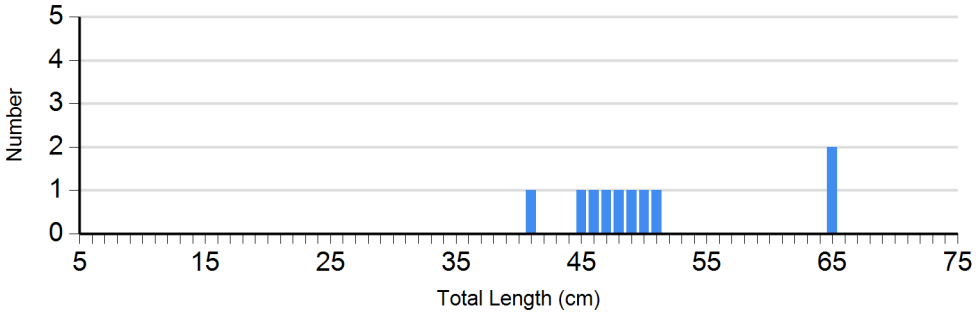
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Northern Pike Gill Net	2019	0		0		4	97 (9.5)	0	
	2020	4	86 (2.4)	1	99	3	92 (6.3)	0	
	2021	0		5	77 (4.2)	1	84	1	115
	2023	0		3	86 (6.9)	0		0	
Walleye Gill Net	2019	4	87 (3.4)	12	86 (1.9)	1	79	0	
	2020	4	90 (2.6)	15	89 (1.3)	1	102	0	
	2021	0		21	90 (1.5)	4	85 (0.8)	2	85 (6.4)
	2023	3	91 (1.7)	1	103	1	92	0	
Yellow Perch Gill Net	2019	23	111 (2.1)	15	110 (1.8)	1	99	1	90
	2020	3	116 (3.0)	4	109 (1.3)	4	111 (3.0)	1	95
	2021	5	121 (7.2)	0		1	107	0	
	2023	69	106 (1.0)	2	111	2	96 (0.2)	0	

Length Frequency Distribution

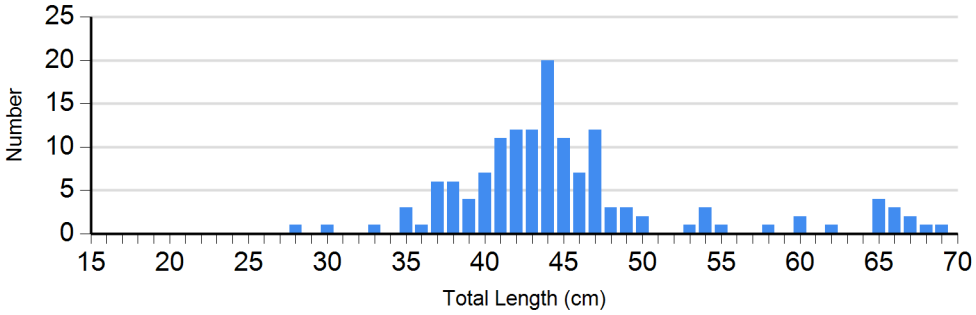
Length frequency histogram of species sampled by year.

Species: Common Carp
Gear: AFS std gill net

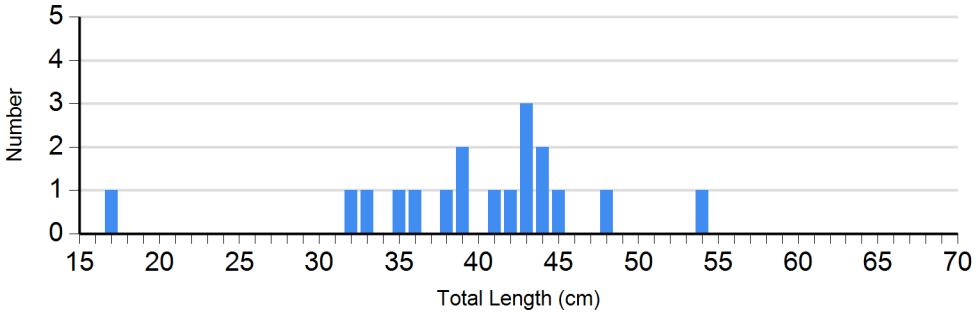


2021

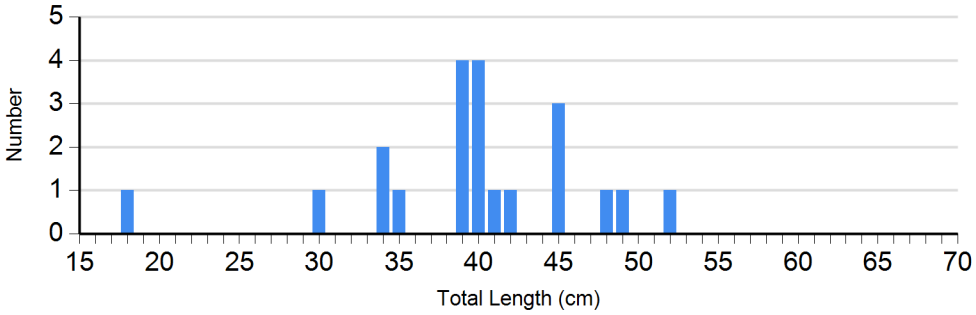
Species: Walleye
Gear: AFS std gill net



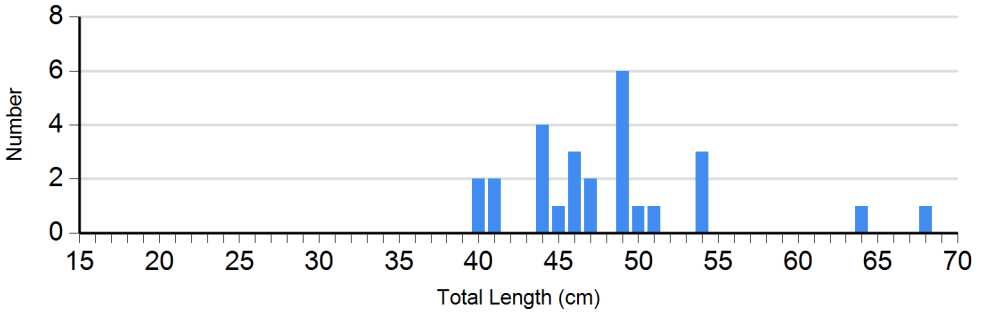
2018



2019

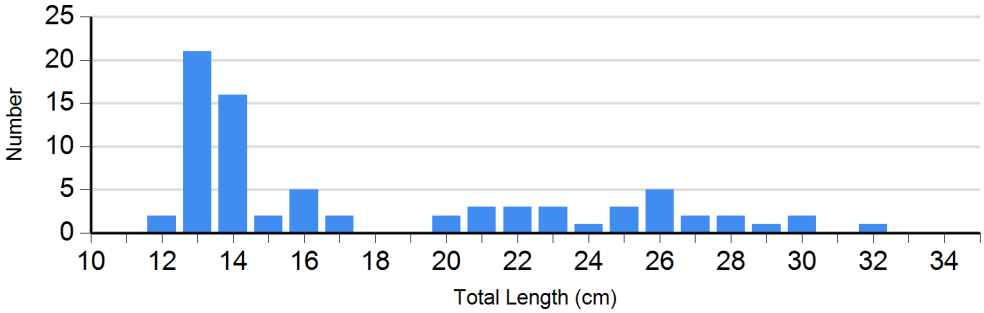


2020

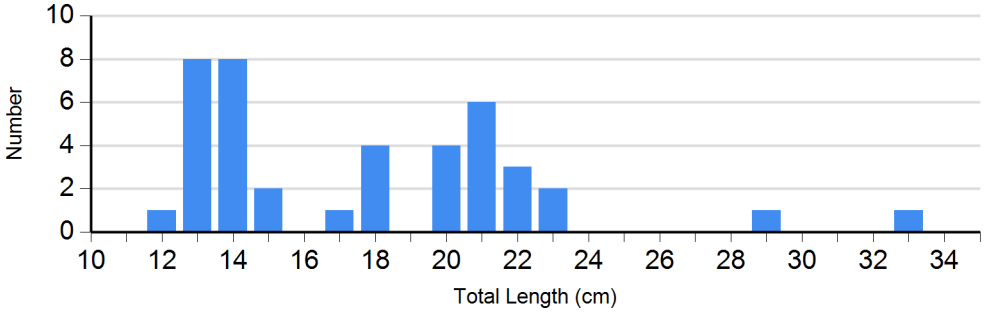


2021

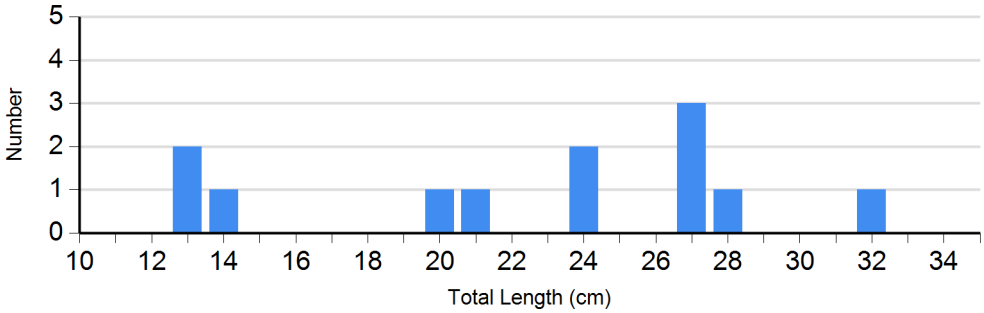
Species: Yellow Perch
Gear: AFS std gill net



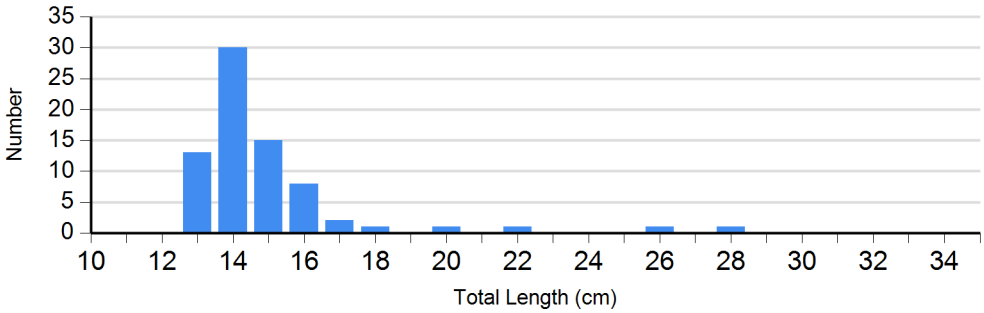
2018



2019



2020

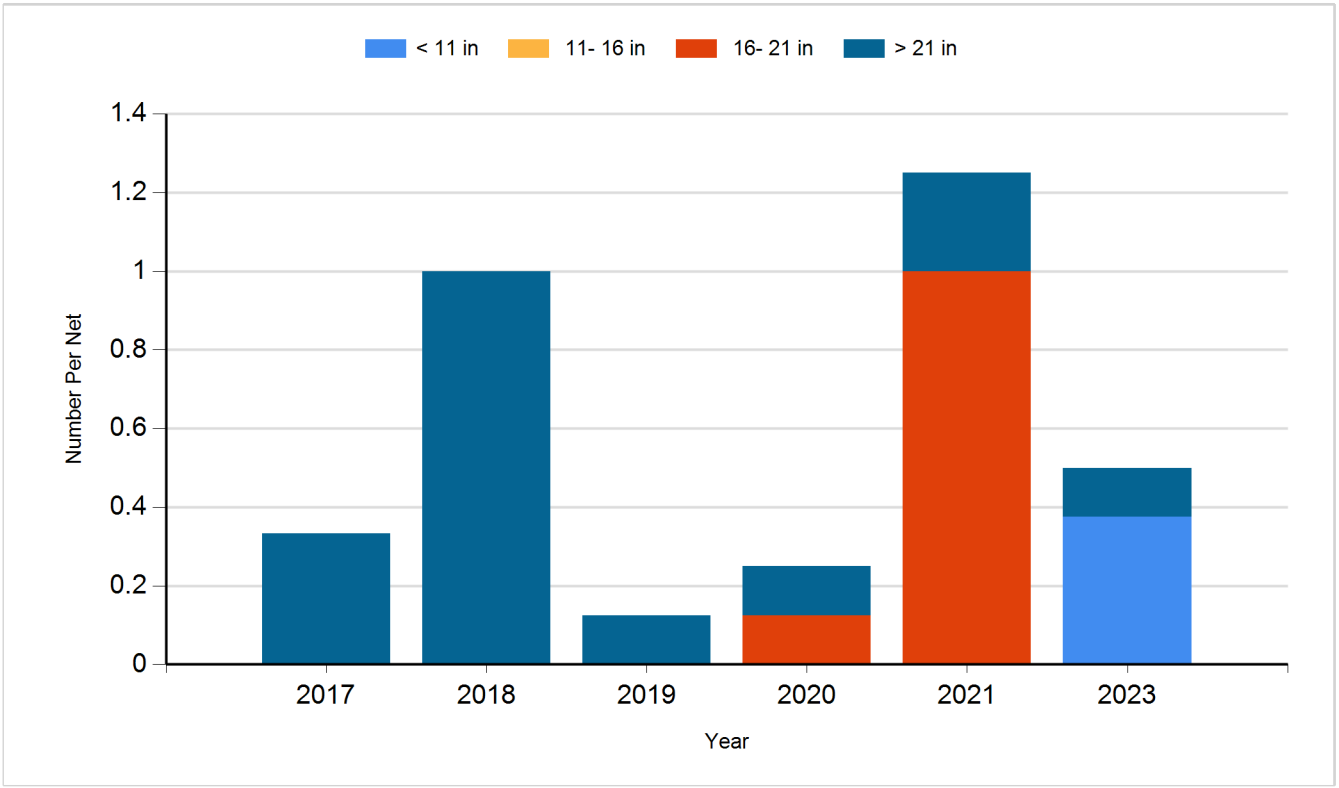


2023

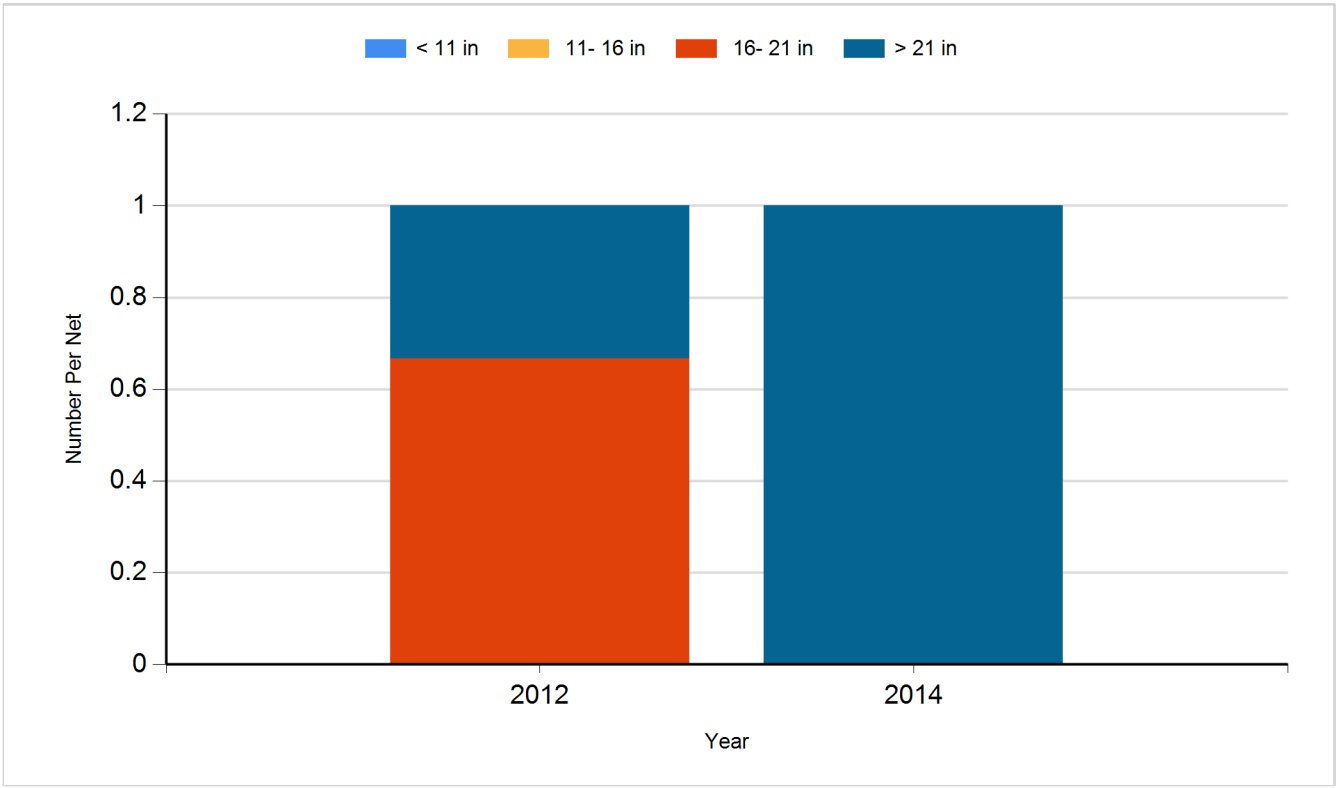
Historic Fish Sizes and Relative Abundance

Size distribution per net by color for species sampled by year.

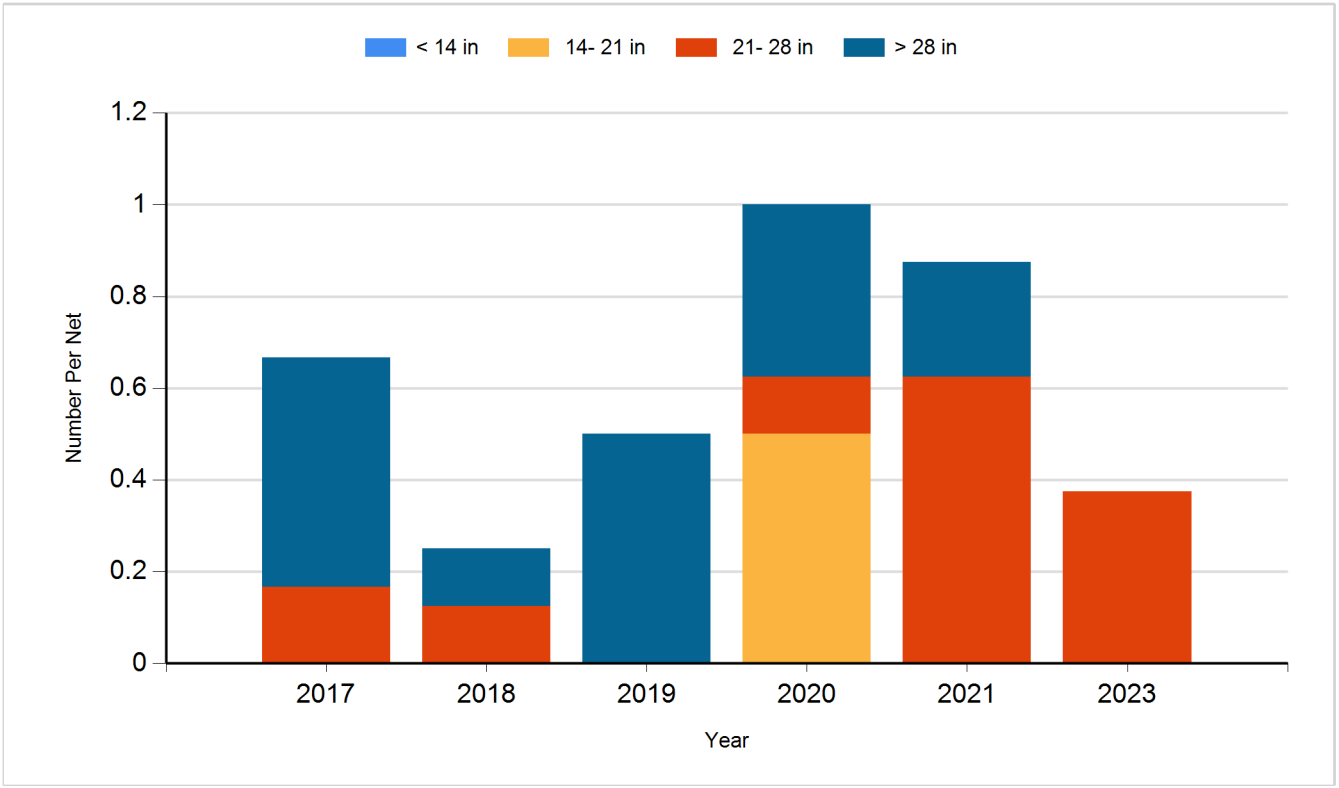
Species: Common Carp
Gear: AFS std gill net



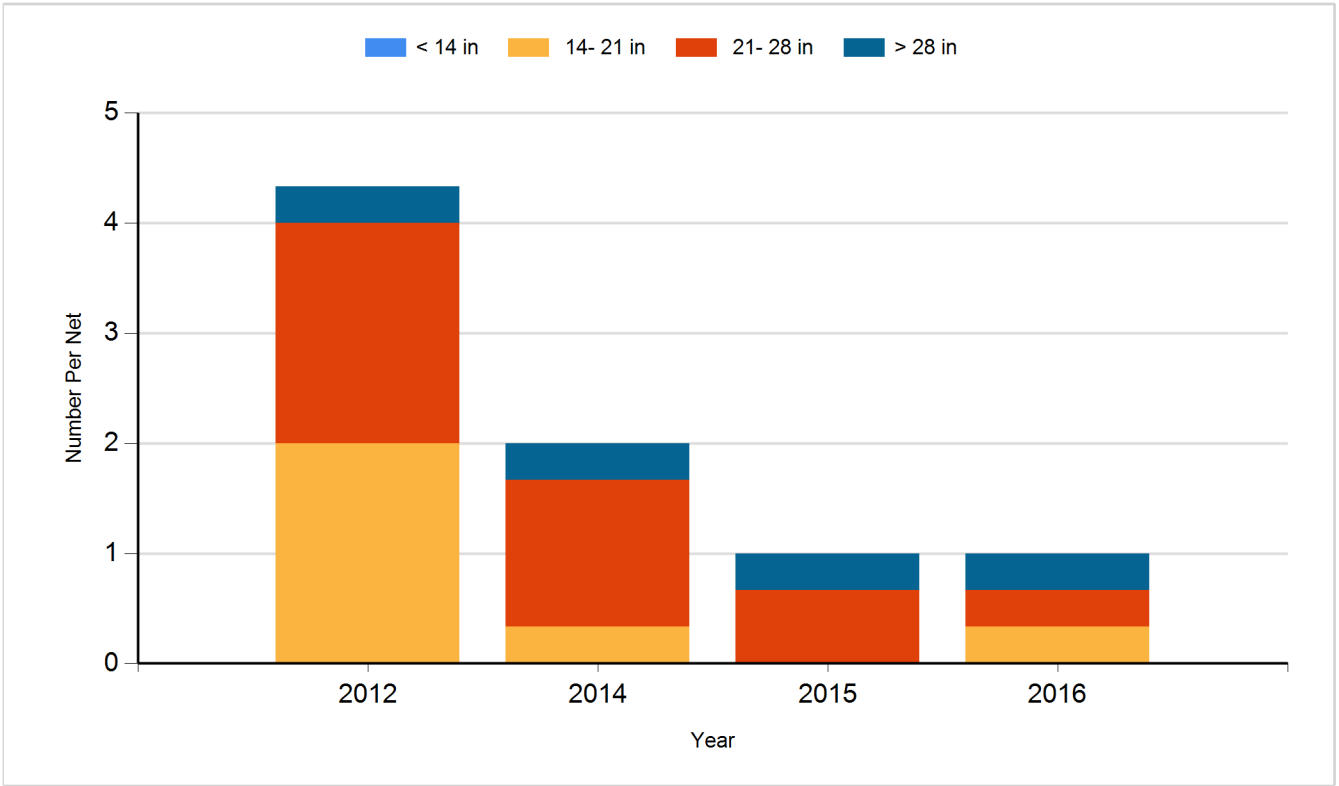
Species: Common Carp
Gear: std exp gill net



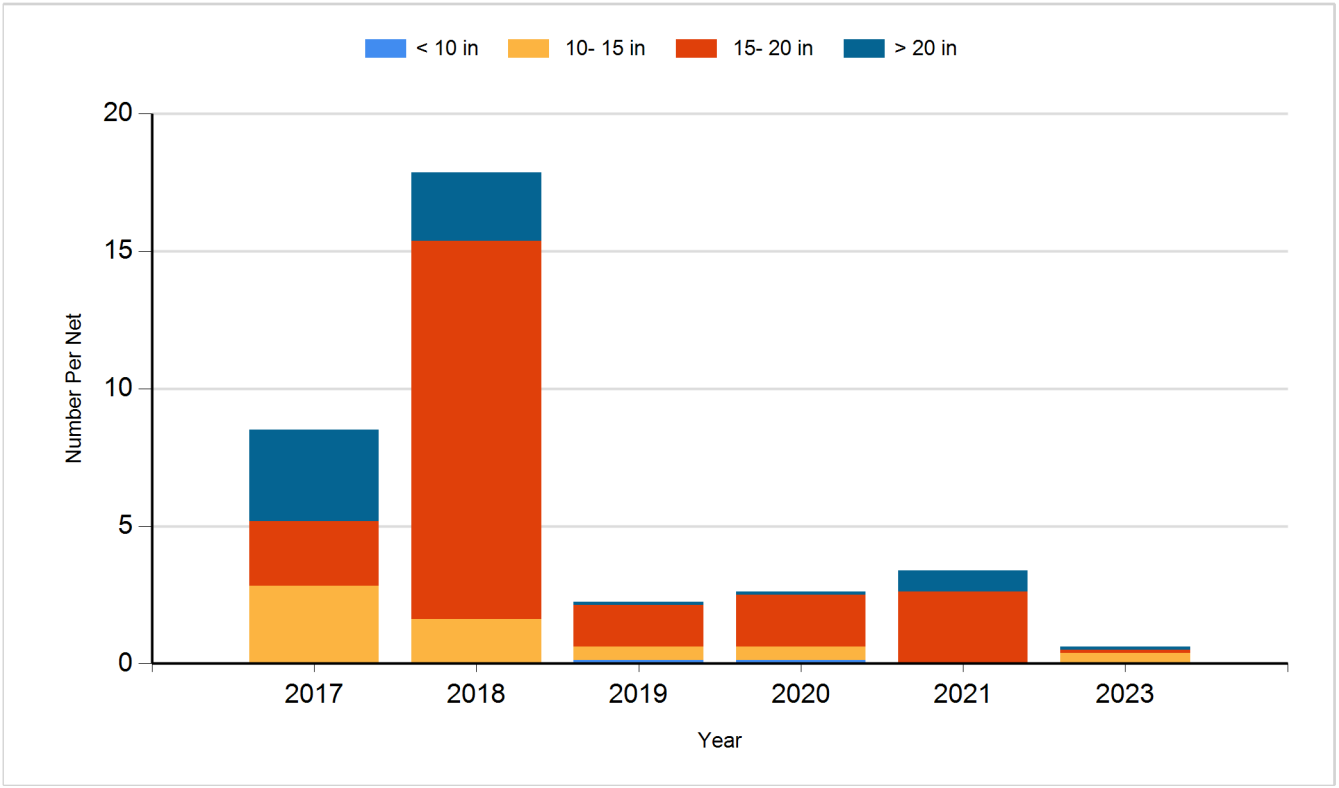
Species: Northern Pike
Gear: AFS std gill net



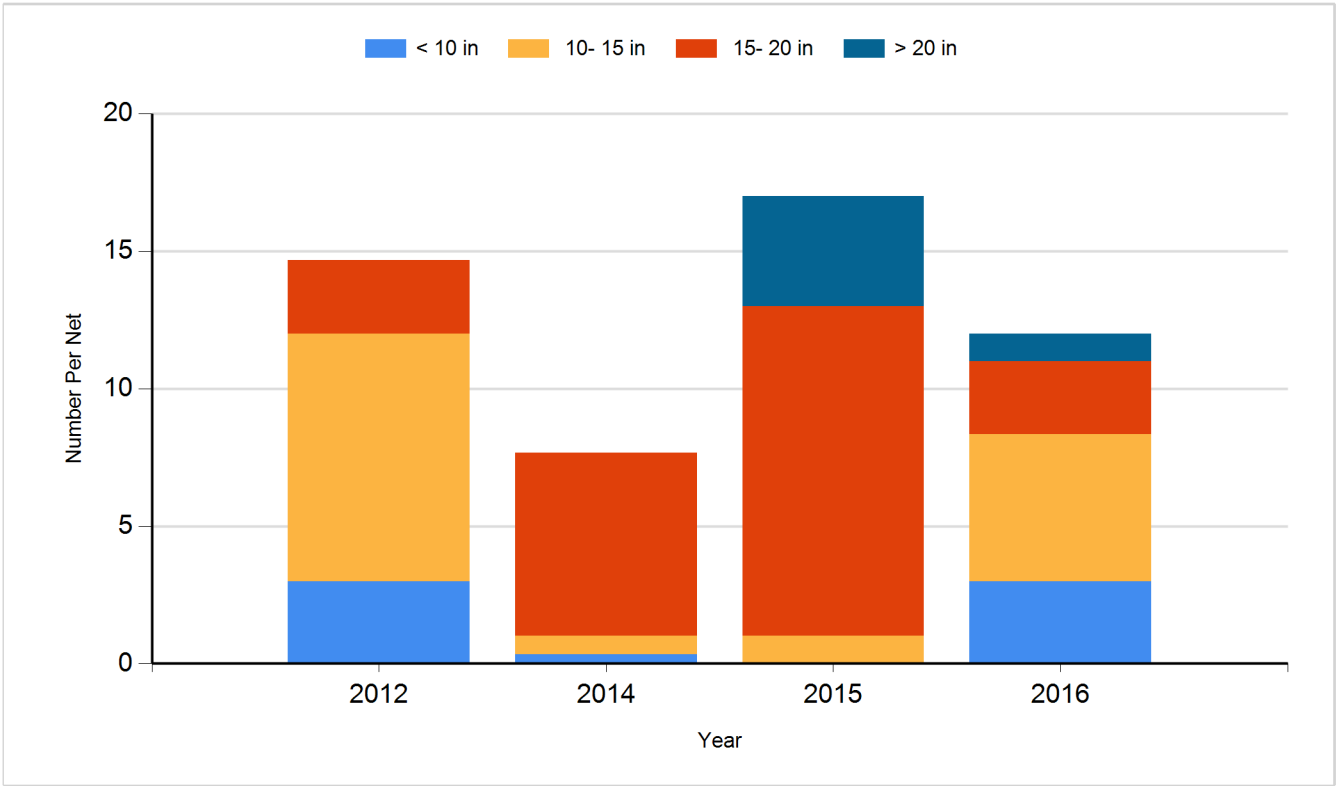
Species: Northern Pike
Gear: std exp gill net



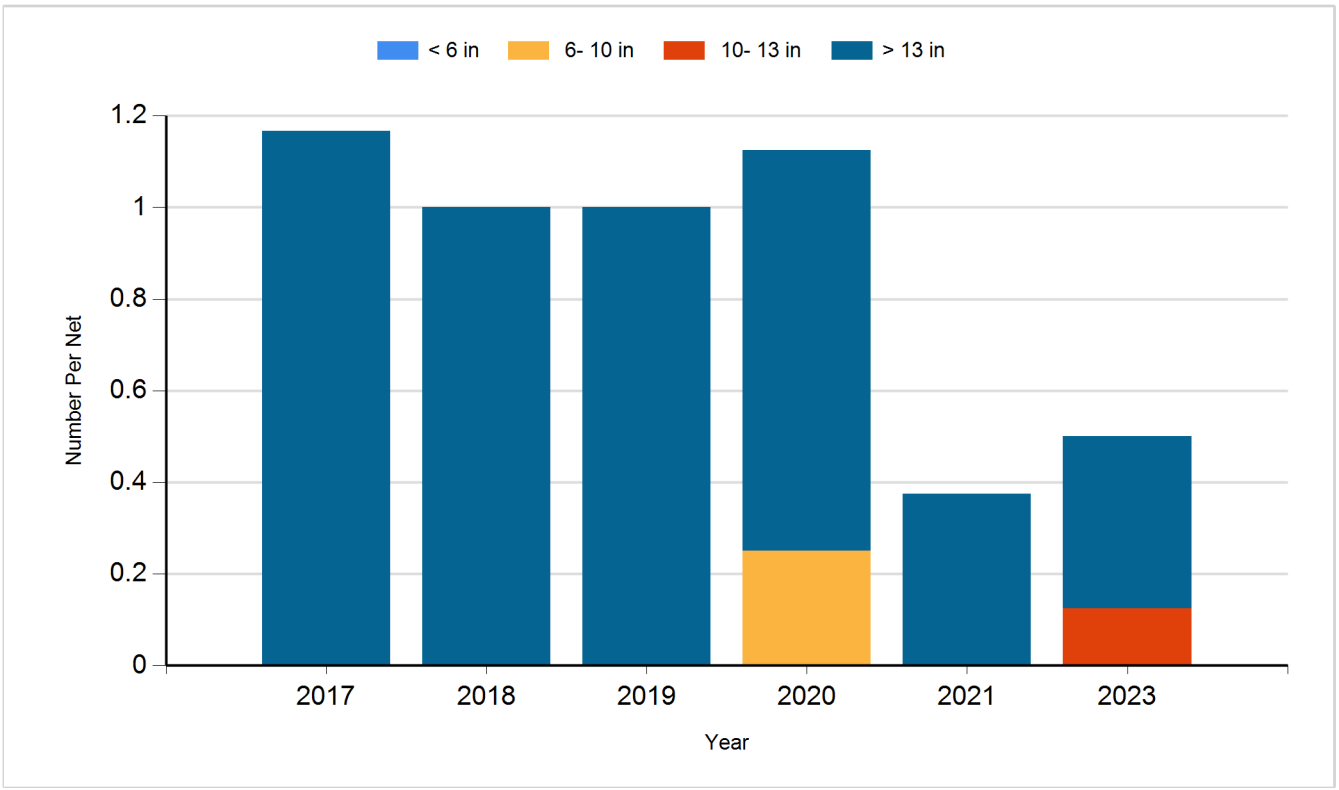
Species: Walleye
Gear: AFS std gill net



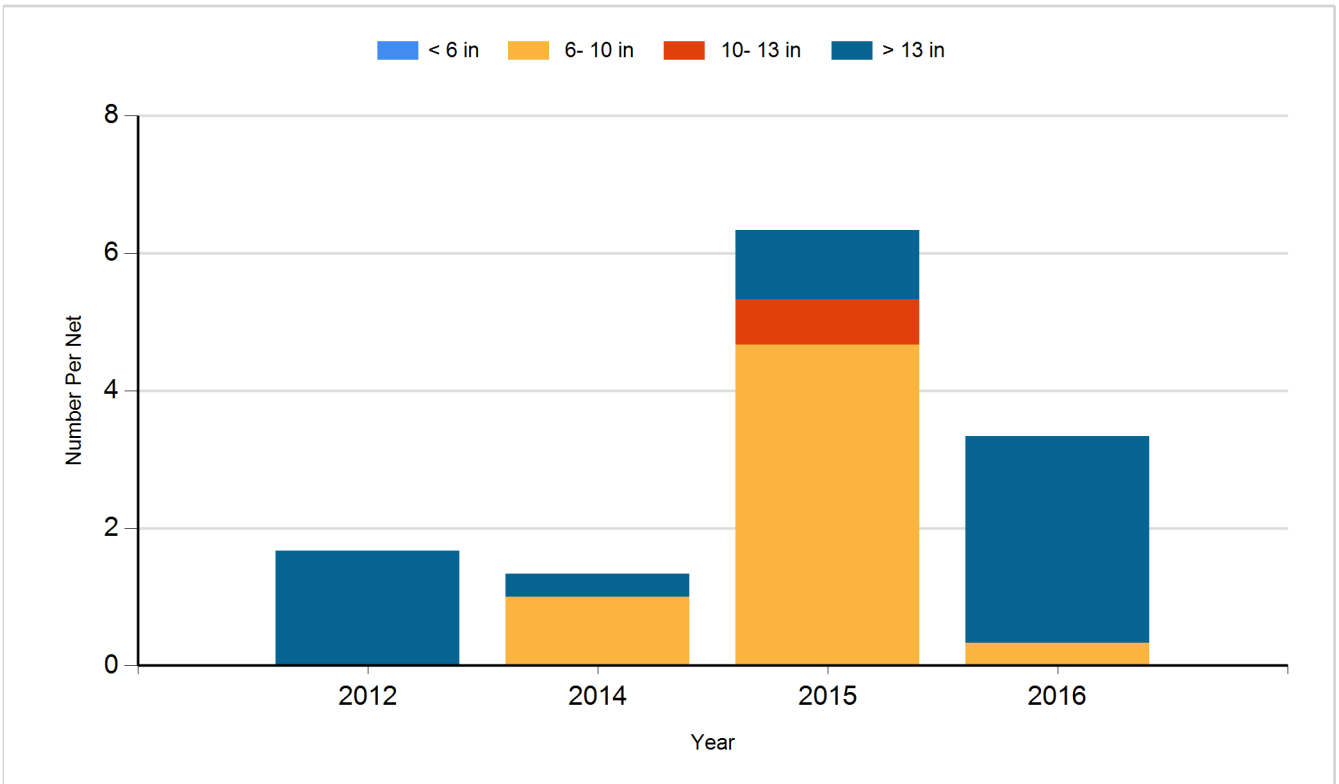
Species: Walleye
Gear: std exp gill net



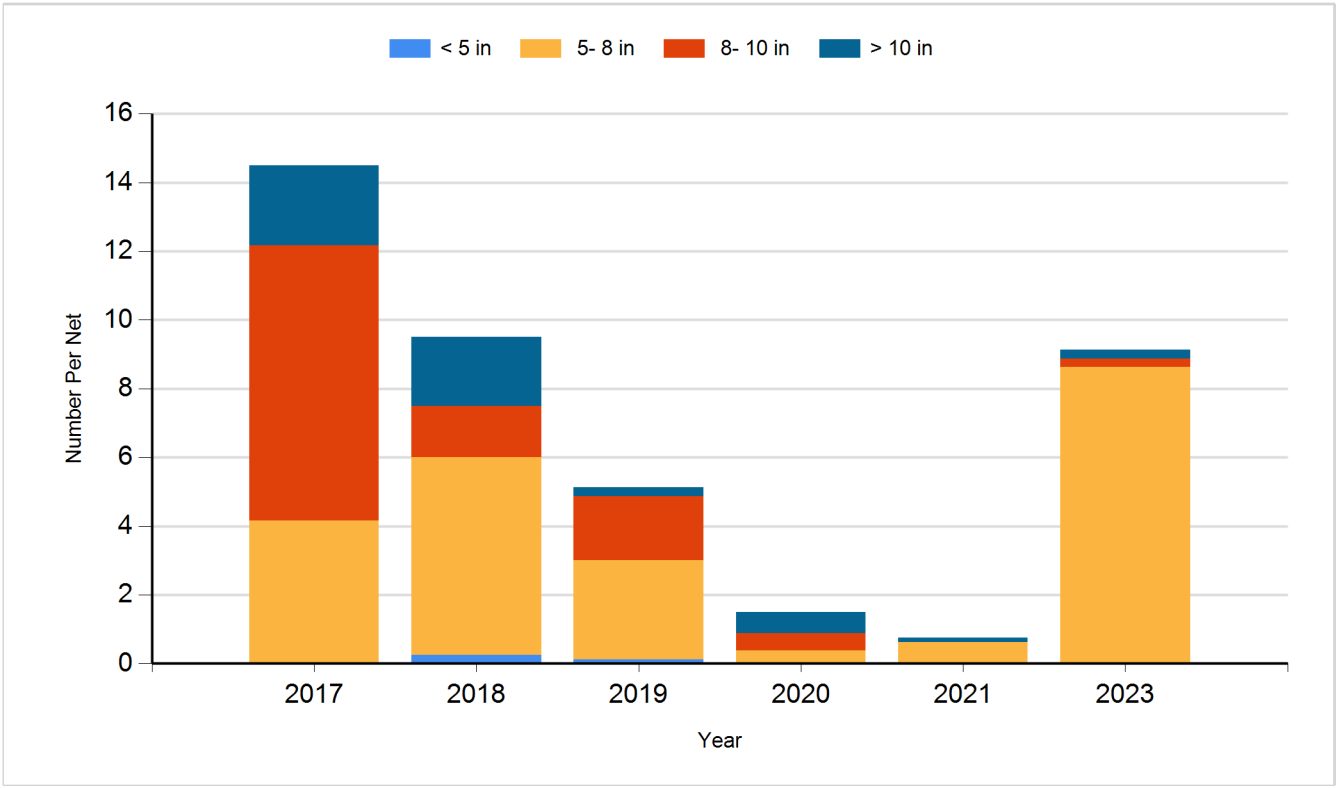
Species: White Sucker
Gear: AFS std gill net



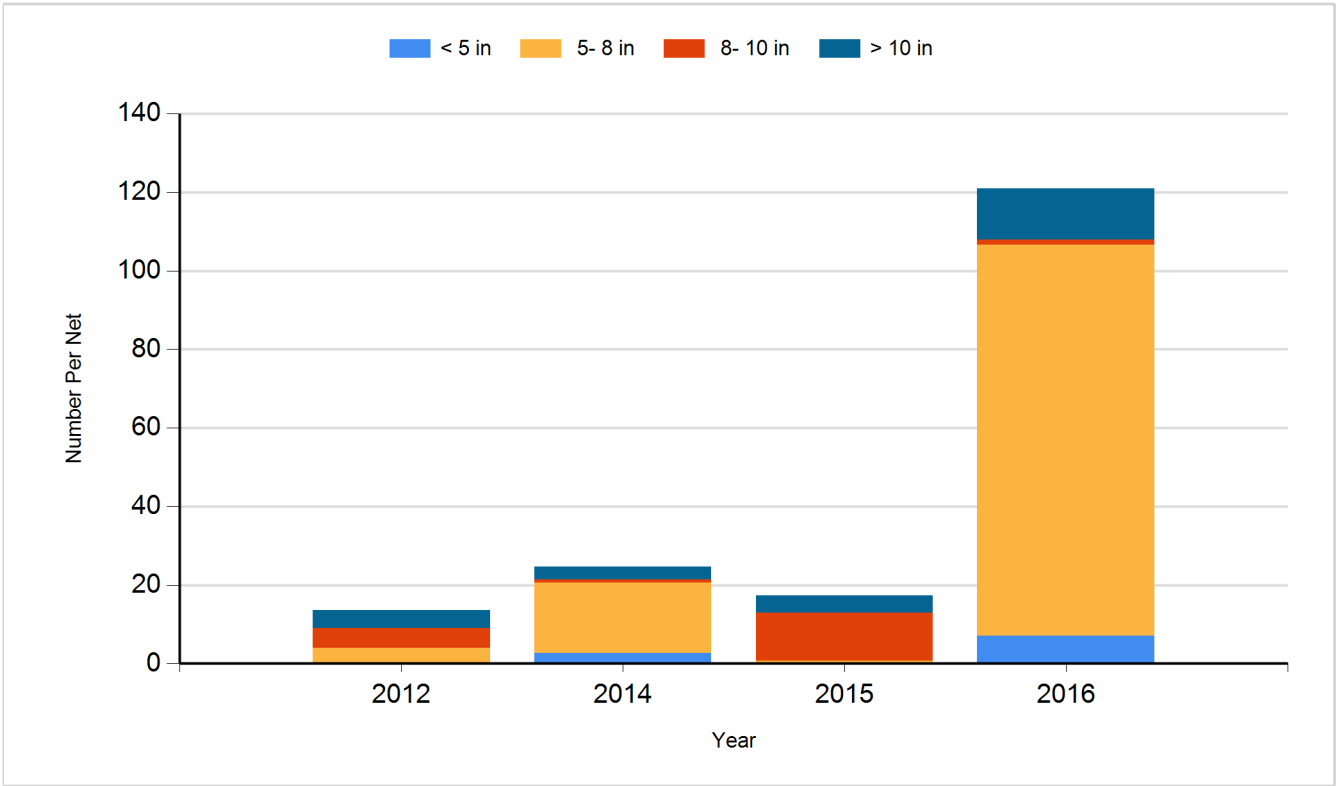
Species: White Sucker
Gear: std exp gill net



Species: Yellow Perch
Gear: AFS std gill net



Species: Yellow Perch
Gear: std exp gill net



Fish Stocking

Number of fish stocked by year, species, and size.

Year	Species	Size	Number
2014	Walleye	Fry	1,850,000
2015	Walleye	Fry	1,850,000
2018	Walleye	Fry	3,700,000
2021	Walleye	Fry	7,500,000
2022	Walleye	Fry	3,700,000
2022	Walleye	Juvenile	363,840
2023	Walleye	Fry	3,900,000