SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Reid, Clark County
UBS-Lake-76-000
2024

Lake Information

Name: Reid

County: Clark

Surface Area: 1,215 Acres

Maximum Depth: 18 Feet

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Aug 06, 2024	4 net-nights
AFS std gill net	Aug 07, 2024	4 net-nights
AFS std gill net	Aug 08, 2024	4 net-nights

Common Fish Species Present

Northern Pike

Yellow Perch

Walleye

Rock Bass

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	Northern Pike	9	0.8	0.3	100		33		85	4
	Rock Bass	7	0.6	0.4	86		71		119	3
	Walleye	150	11.5	2.4	51	6	37	6	88	1
	Yellow Perch	368	30.7	4.9	19	3	7	2	107	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	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Avg
AFS std gill net	Black Bullhead				0.1			0.0			0.0	0.03
	Northern Pike				0.1			0.9			0.8	0.60
	Rock Bass				0.0			1.5			0.6	0.70
	Walleye				13.1			10.7			11.5	11.77
	Yellow Perch				14.5			15.3			30.7	20.17
std exp gill net	Black Bullhead	13.8										13.80
	Northern Pike	0.2										0.20
	Rock Bass	0.2										0.20
	Walleye	16.2										16.20
	Yellow Perch	61.2										61.20

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	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFS std gill net	Northern Pike	PSD				100			70			100
		PSD-P				100			20			33
		Wr				76			94			85
	Rock Bass	PSD							88			86
		PSD-P							63			71
		Wr							121			119
	Walleye	PSD				22			89			51
		PSD-P				10			15			37
		Wr				86			93			88
	Yellow Perch	PSD				95			7			19
		PSD-P				67			4			7
		Wr				108			105			107
std exp gill net	Northern Pike	PSD	100									
		PSD-P	100									
		Wr	92									
	Rock Bass	PSD	0									
		PSD-P	0									
		Wr	111									
	Walleye	PSD	47									
		PSD-P	19									
		Wr	92									
	Yellow Perch	PSD	80									
		PSD-P	7									
		Wr	107									

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+
2024	150	237 (17)	309 (61)	408 (13)	480 (4)	534 (12)	547 (17)	607 (5)	621 (4)		655 (17)
2021	118	324 (11)	408 (36)	464 (55)	538 (5)	553 (7)		563 (1)		642 (1)	667 (2)
2018	157	299 (115)	383 (17)	430 (8)	468 (1)	493 (1)	587 (2)	583 (2)	633 (2)	620 (4)	669 (5)
2015	131	256 (76)	373 (13)	452 (25)		572 (4)	568 (5)	620 (3)	615 (1)		622 (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+
2024	368	166 (306)	237 (44)	266 (15)	254 (3)						
2021	168	148 (156)	227 (4)	279 (8)							
2018	174	195 (17)	255 (117)	286 (37)		323 (3)					
2015	366		219 (355)		288 (7)	311 (3)	342 (1)				

Fish Condition

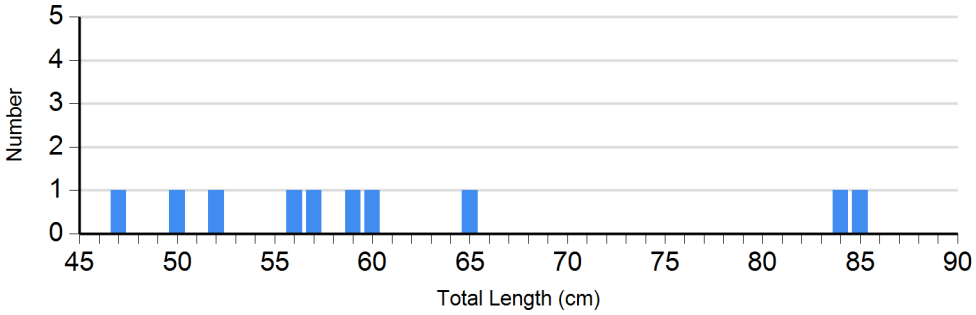
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		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	2021	3	97 (1.4)	5	96 (2.9)	2	85 (2.6)	0	
	2024	0		6	83 (3.3)	3	89 (4.9)	0	
Walleye Gill Net	2021	13	93 (1.2)	87	94 (0.6)	15	93 (2.0)	3	81 (0.8)
	2024	68	89 (0.7)	19	93 (1.7)	34	87 (1.0)	17	79 (1.5)
Yellow Perch Gill Net	2021	156	106 (0.6)	5	102 (2.1)	5	101 (3.1)	2	98 (2.9)
	2024	299	106 (0.5)	42	111 (1.2)	27	106 (1.9)	0	

Length Frequency Distribution

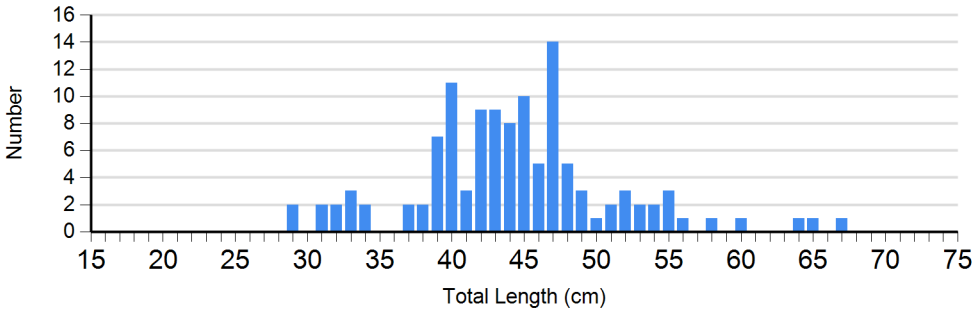
Length frequency histogram of species sampled by year.

Species: Northern Pike
Gear: AFS std gill net

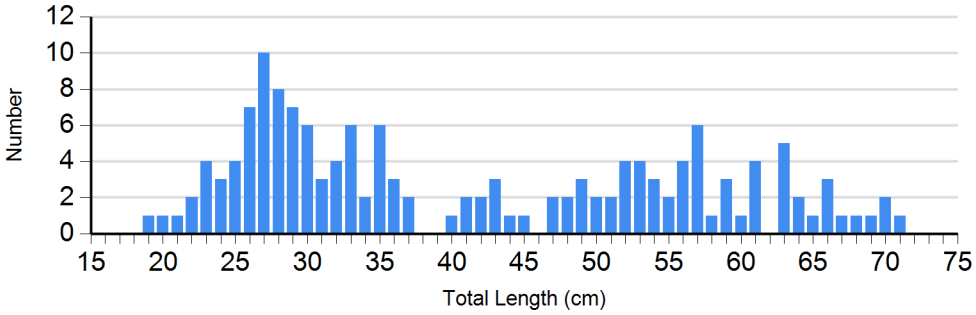


2021

Species: Walleye
Gear: AFS std gill net

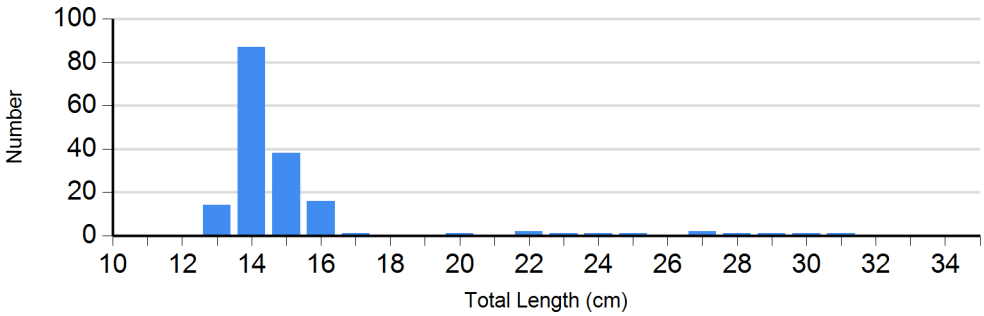


2021

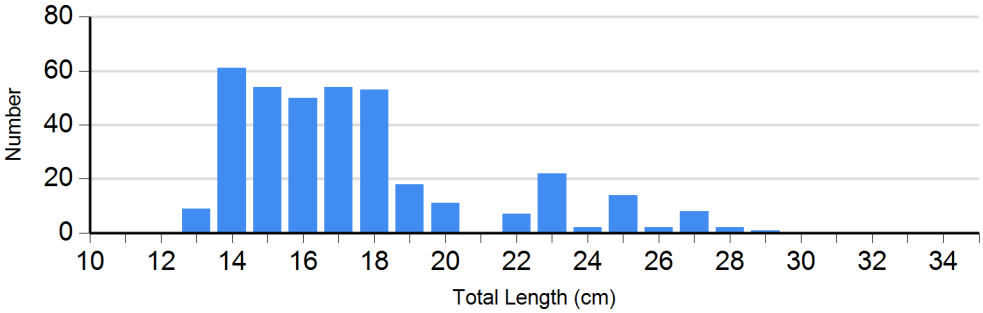


2024

Species: Yellow Perch
Gear: AFS std gill net



2021

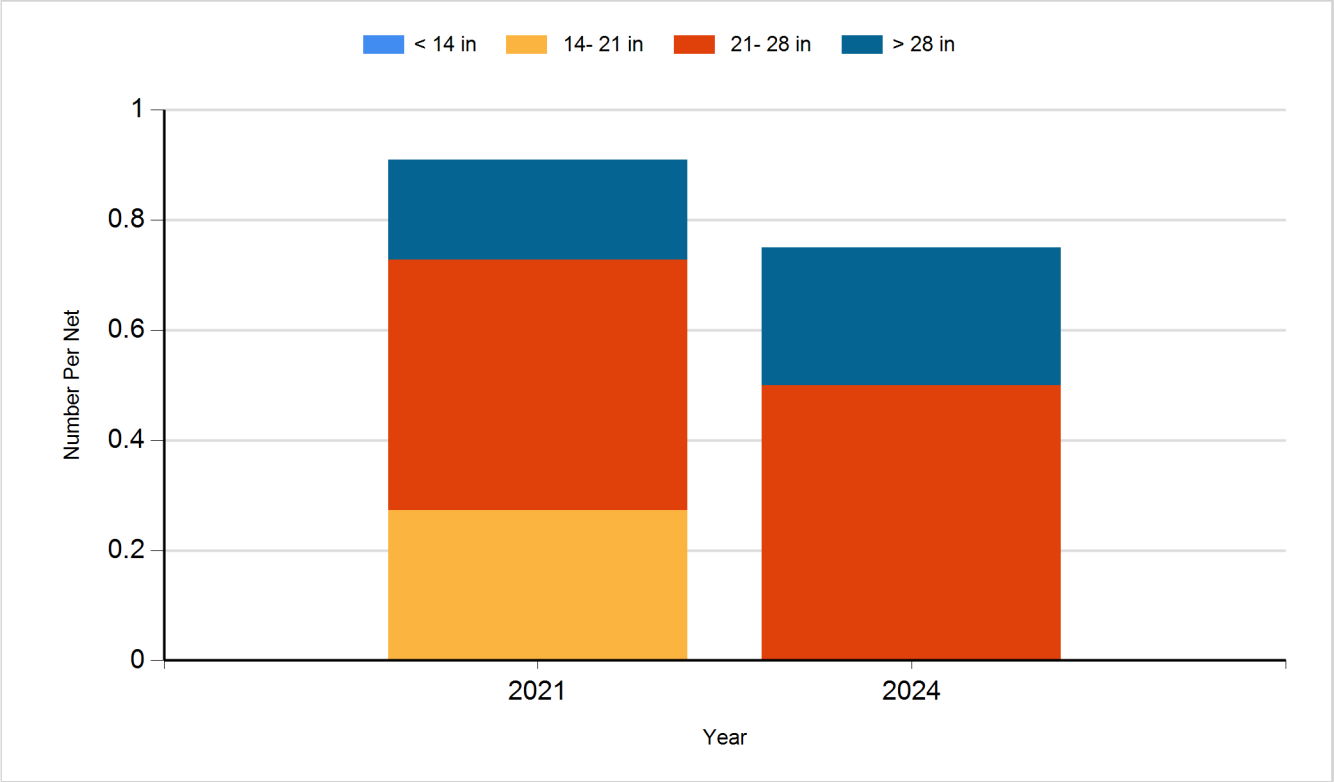

80
60
40
20
0
Number
10
12
14
16
18
20
22
24
26
28
30
32
34
Total Length (cm)

2024

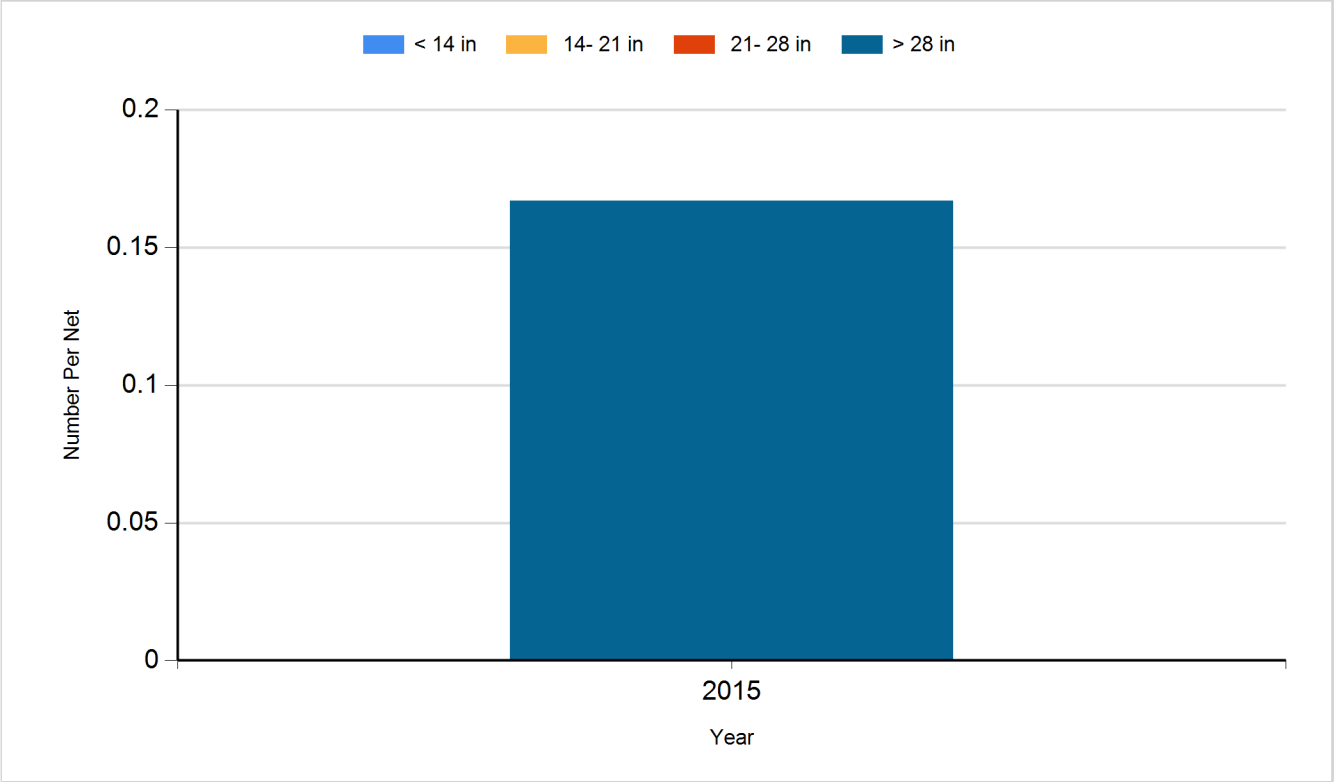
Historic Fish Sizes and Relative Abundance

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

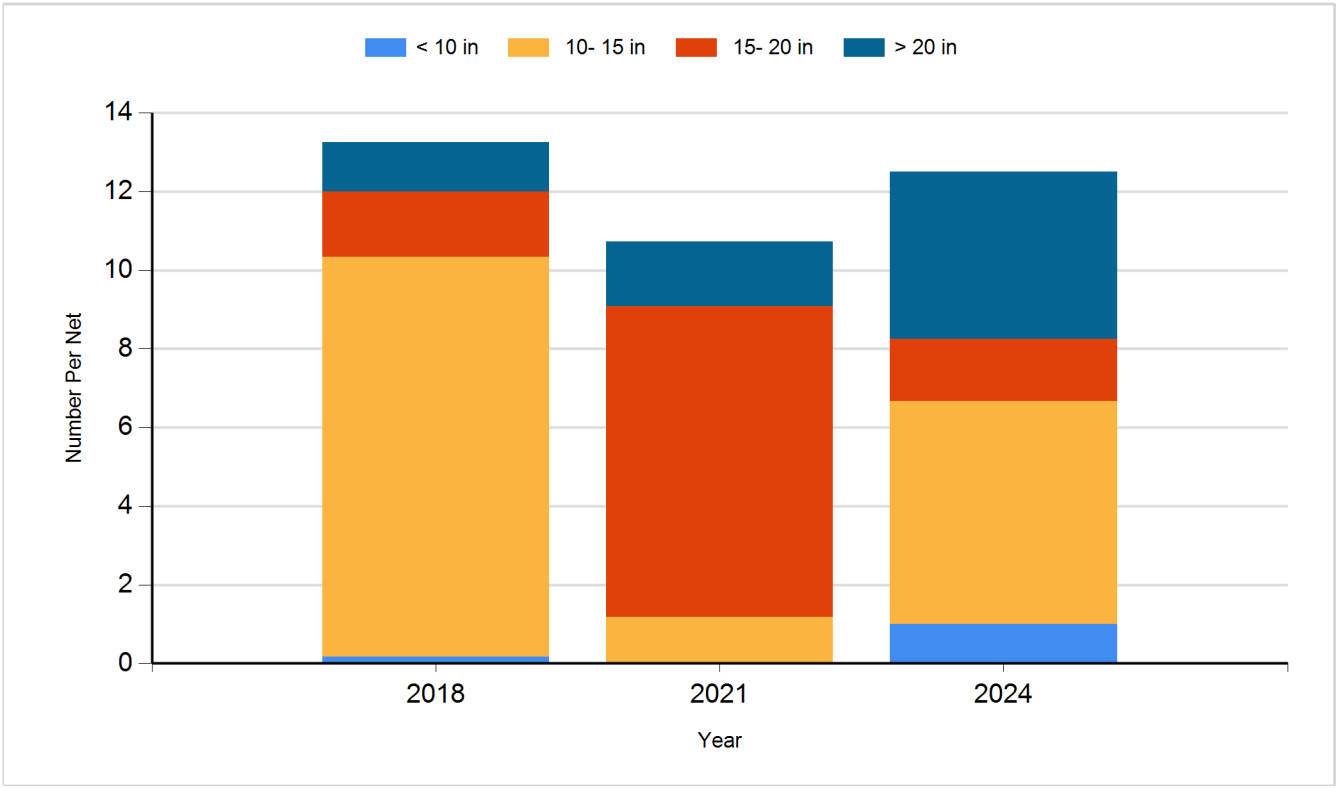
Species: Northern Pike
Gear: AFS std gill net



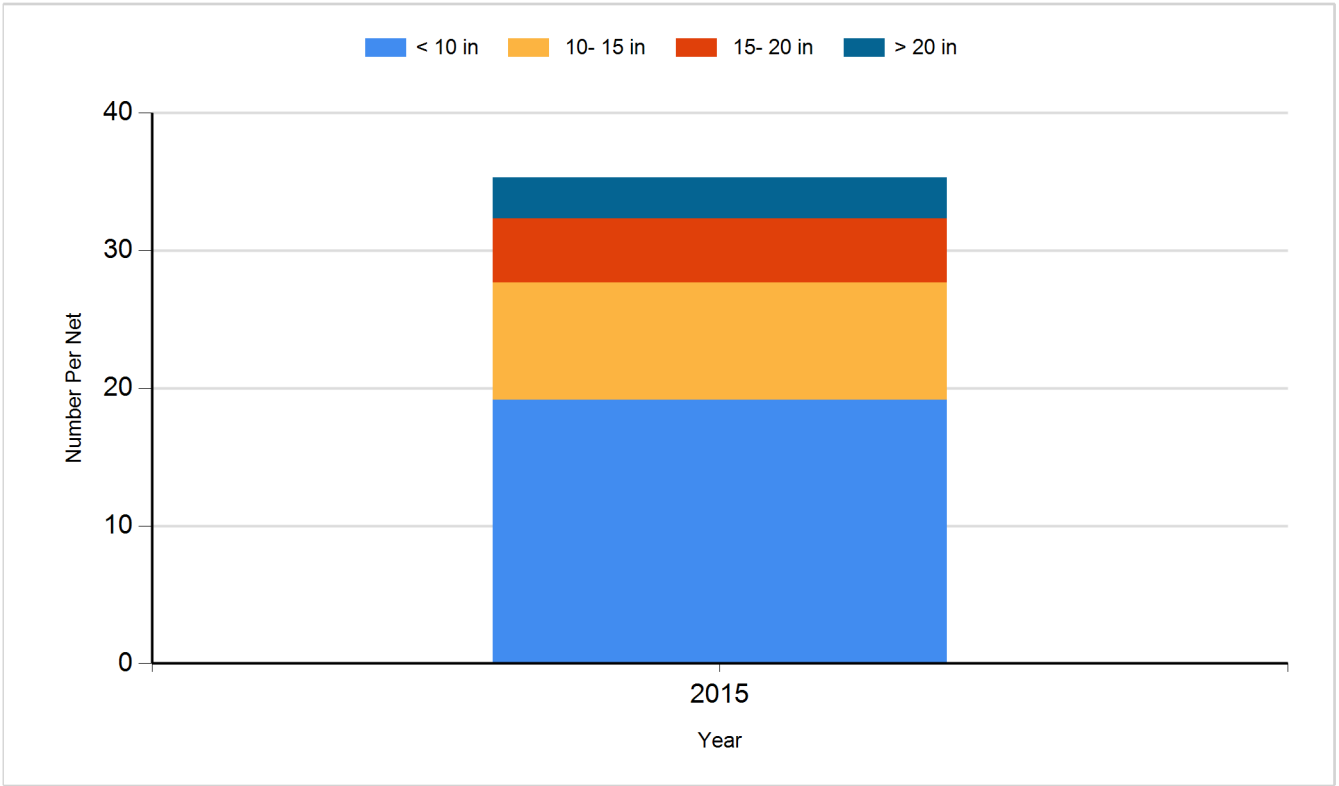
Species: Northern Pike
Gear: std exp gill net



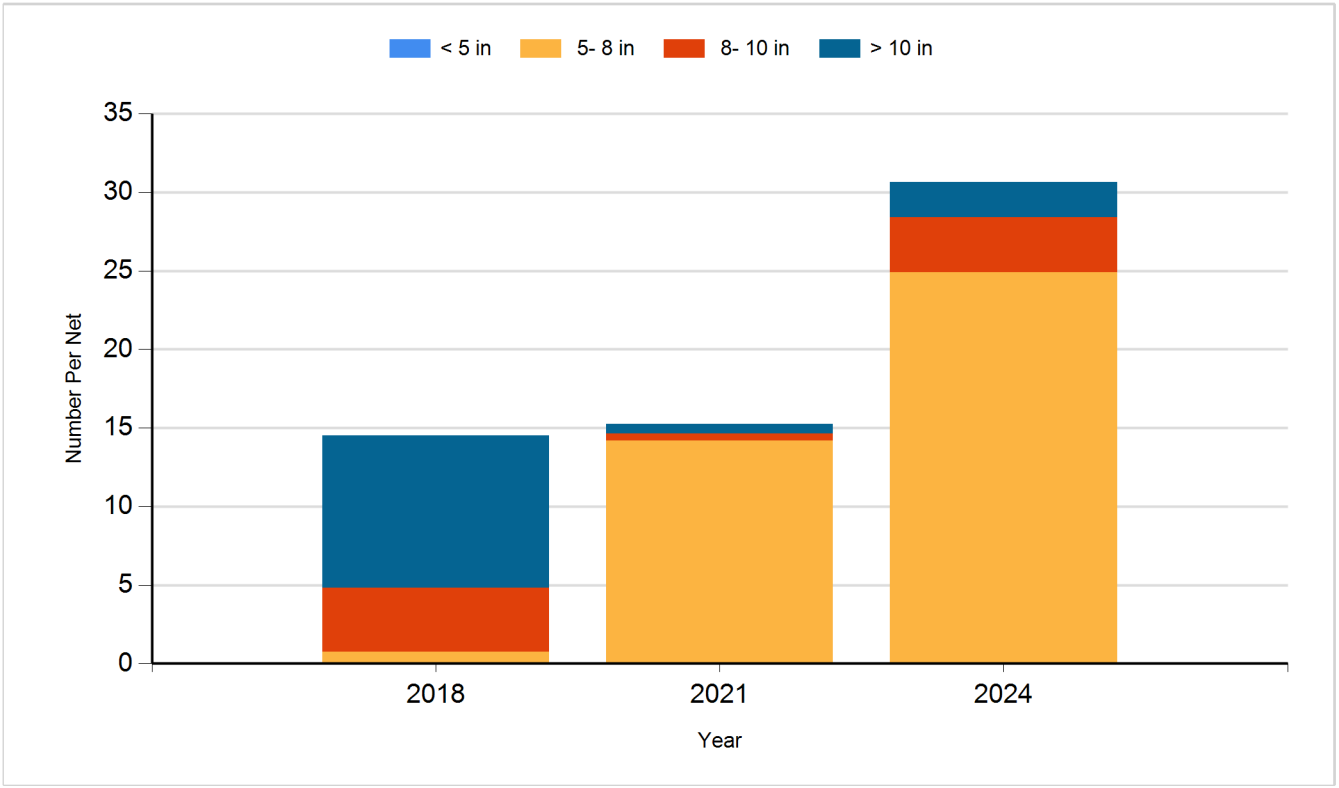
Species: Walleye
Gear: AFS std gill net



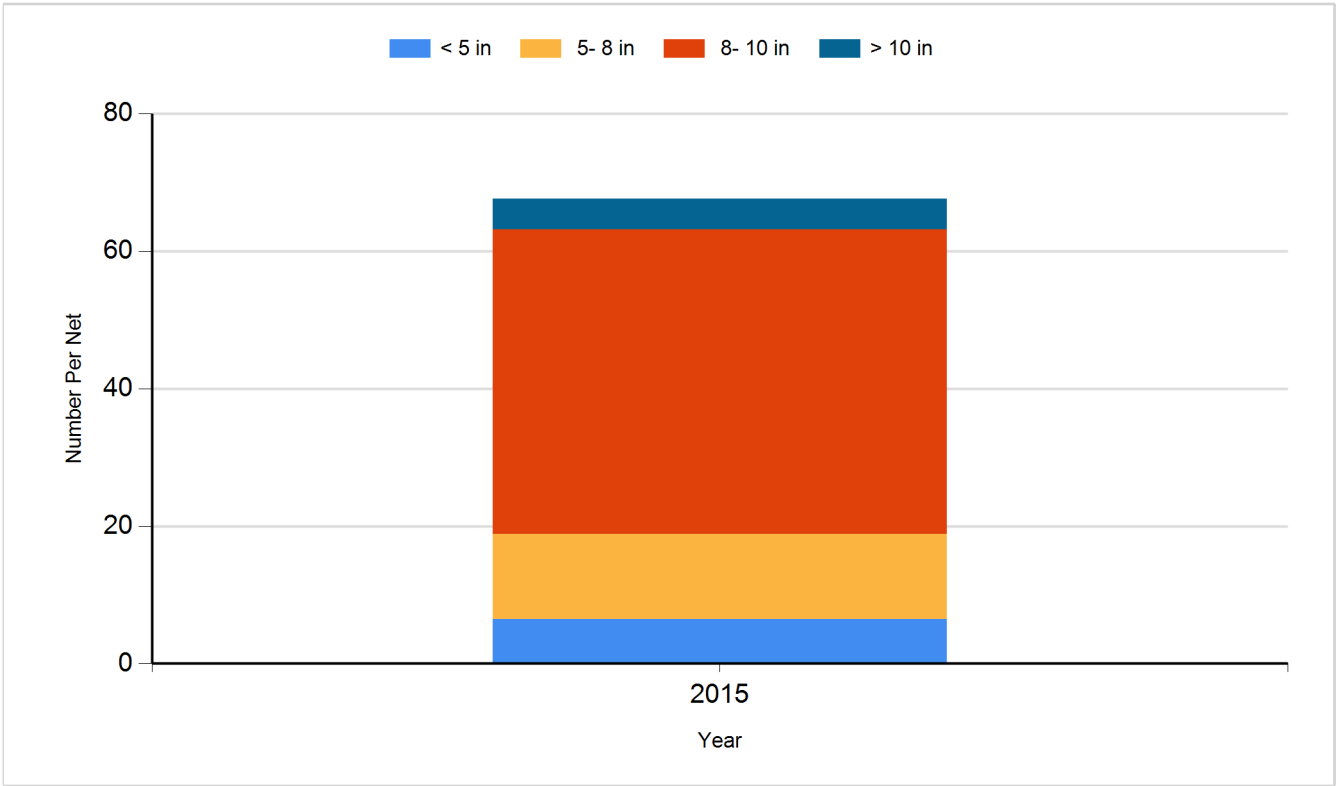
Species: Walleye
Gear: std exp gill net



Species: 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	600,000
2016	Walleye	Fry	600,000
2018	Walleye	Fry	600,000
2021	Walleye	Fry	600,000
2022	Walleye	Fry	600,000
2024	Walleye	Fry	750,000