Note: Zebra mussels are present in Clear Lake. Care should be taken by all user groups to prevent their spread. For more information regarding aquatic invasive species please visit https://sdleastwanted.sd.gov/

Clear Lake Survey Summary

Clear Lake, located 6.0 miles southeast of Lake City, is managed as a multiple-species fishery including panfish (i.e., bluegill and yellow perch), black bass (i.e., largemouth and smallmouth bass) and walleye. Other fish species (e.g., black crappie, northern pike, etc.) are present and contribute to the fishery.

- **Bluegill.** Although fewer bluegills were sampled in 2024 than in 2023, relative abundance remained high (42.0 per frame net). Sampled bluegills ranged in length from 3.1 to 8.3 inches, 71% were ≥ 6.0 inches and 8% were ≥ 8.0 inches. Five year classes contributed to the catch. Cohorts produced in 2017 (age 7), 2018 (age 6), 2020 (age 4), and 2021 (age 3) were all well represented and accounted for more than 95% of bluegills in the sample. Since 2015, mean length at captures at age 6 have ranged from 7.1 to 8.9 inches. In 2024, the mean length at capture of age-6 fish was 7.4 inches.

- **Largemouth bass.** Fewer largemouth bass were sampled by electrofishing in 2024 (36.0 per hour) than in 2020 (88.0 per hour). Largemouth bass in the 2024 electrofishing catch ranged in length from 7.9 to 18.9 inches, 61% were ≥ 12.0 inches and 31% were ≥ 15.0 inches.

- **Northern pike.** Northern pike are not a primary management species at Clear Lake, but they tend to be abundant during most years. In 2024, relative abundance was moderate to high (2.3 per gill net). Northern pike from 17.7 to 34.6 inches were netted, 46% were ≥ 21.0 inches and 14% were ≥ 28.0 inches.

- **Walleye.** Walleye numbers were higher in 2024 than in 2022. At 3.8 per gill net, relative abundance was considered moderate. Gill net captured walleyes ranged in length from 11.8 to 28.3 inches, 74% were ≥ 15.0 inches and 22% were ≥ 20.0 inches. Individuals from eight year classes were present; those from the 2019 (age-5) cohort, which coincided with a large fingerling stocking, were the most abundant accounting for 67% of fish in the sample. The oldest walleye sampled was from the 2008 (age-16) year class. Growth of the 2019 year class has been slow with a mean length at capture of 11.2 inches at age 3, 13.1 inches at age 4, and 15.7 inches at age 5.

- **Yellow perch**. Yellow perch were not abundant (0.9 per gill net). In 2024, gill nets collected 11 yellow perch from 5.1 to 8.7 inches, 27% were ≥ 8.0 inches.

For more detailed results see the computer-generated South Dakota Statewide Fisheries Survey for Clear (Marshall; below).

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Clear, Marshall County
UJA-Lake-917-001
2024

Lake Information

Name:	Clear	**Maximum Depth:**	20 Feet
County:	Marshall	**Mean Depth:**	12 Feet
		OHWM Elevation:	1,824
Surface Area:	1,217 Acres	**Outlet Elevation:**	1,823

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Jun 18, 2024	4 net-nights
AFS std gill net	Jun 19, 2024	4 net-nights
AFS std gill net	Jun 20, 2024	4 net-nights
fall night EF-WAE	Sep 10, 2024	2400 seconds
frame net (std 3/4 in)	Jun 18, 2024	6 net-nights
frame net (std 3/4 in)	Jun 19, 2024	6 net-nights
frame net (std 3/4 in)	Jun 20, 2024	6 net-nights
spring night EF-LMB	Jun 12, 2024	3600 seconds

Common Fish Species Present

Walleye

Smallmouth Bass

Northern Pike

Largemouth Bass

Yellow Perch

Bluegill

Black Crappie

Black Bullhead

White Sucker

Yellow Bullhead

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	Black Bullhead	60	5.0	2.5	100		33	9	97	2
	Black Crappie	19	1.4	0.6	65	19	47	20	103	3
	Bluegill	118	9.8	2.4	95	3	25	6	114	1
	Largemouth Bass	1	0.1	0.1	100		100		105	
	Northern Pike	28	2.3	0.5	46	15	14		87	2
	Smallmouth Bass	35	2.9	1.1	89		77	11	95	2
	Walleye	46	3.8	1.4	74	10	22	9	90	1
	White Sucker	6	0.5	0.5	100		100		112	5
	Yellow Perch	11	0.9	0.6	27		0		97	4
frame net (std 3/4 in)	Black Bullhead	183	10.2	2.4	100		46	5	106	12
	Black Crappie	9	0.4	0.2	75		75		93	3
	Bluegill	756	42.0	9.2	71	2	8	1	110	1
	Common Carp	1	0.0	0.0	0		0			
	Northern Pike	15	0.6	0.3	50	28	10		89	2
	Smallmouth Bass	11	0.5	0.3	56		33		98	3
	Walleye	22	0.9	0.5	35	19	18		82	5
	Yellow Bullhead	2	0.1	0.1	100		0			
	Yellow Perch	16	0.8	0.4	47	21	0		84	2
spring night EF-LMB	Largemouth Bass	36	36.0	7.9	61	12	31	12	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.

***SDGFP standard gill net used in 2015 (Avg excludes 2015); **Methods/Species that ignore stock length; ***AFS standard frame nets used in 2016 and 2017 (Avg excludes 2016 and 2017)**

		CPUE										
Gear	Species	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Avg
AFS std gill net*	Black Bullhead	10.3	15.0	9.8	6.4	5.8		9.9	8.8	9.3	5.0	8.75
	Black Crappie	1.5	1.3	1.3	3.1	1.9		4.9	13.1	10.1	1.4	4.64
	Bluegill	1.5	2.0	1.5	0.8	3.8		5.8	13.0	11.8	9.8	6.06
	Channel Catfish	0.0	0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.01
	Common Carp	0.0	0.1	0.1	0.2	0.1		0.1	0.2	0.3	0.0	0.14
	Largemouth Bass	0.0	0.1	0.1	0.1	0.3		0.3	0.3	0.1	0.1	0.18
	Northern Pike	5.5	2.2	3.5	1.2	2.2		3.1	2.9	1.7	2.3	2.39
	Smallmouth Bass	3.0	1.5	1.9	2.4	2.9		2.8	1.9	3.4	2.9	2.46
	Walleye	10.8	5.1	2.6	2.8	2.8		3.6	2.7	2.8	3.8	3.28
	White Sucker	1.3	0.8	2.3	0.3	0.2		0.6	1.6	0.5	0.5	0.85
	Yellow Perch	7.0	7.5	0.5	4.5	24.9		1.5	2.1	0.6	0.9	5.31
boat shocker	Smallmouth Bass	28.0							6.0			17.00
fall night EF-WAE**	Walleye	17.0	1.5	0.0	0.0	40.0		0.0	0.0	1.5	0.0	6.67
frame net (std 3/4 in)***	Black Bullhead		7.8	3.6	9.1	3.5		4.1	7.8	11.3	10.2	7.67
	Black Crappie		1.9	2.3	3.6	1.2		2.8	1.2	1.6	0.4	1.80
	Bluegill		15.2	19.9	67.8	95.3		51.3	45.8	66.6	42.0	61.47
	Common Carp		0.6	0.9	0.1	0.0		0.1	0.0	0.0	0.0	0.03
	Largemouth Bass		0.0	0.2	0.1	0.1		0.2	0.0	0.0	0.0	0.07
	Northern Pike		0.8	0.8	0.6	0.7		1.9	0.9	0.3	0.6	0.83
	Smallmouth Bass		0.1	0.3	0.2	0.8		1.8	0.9	1.4	0.5	0.93
	Walleye		0.0	0.2	0.0	0.5		0.2	0.3	0.2	0.9	0.35
	White Sucker		0.0	0.0	0.1	0.0		0.2	0.2	0.0	0.0	0.08
	Yellow Bullhead		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.1	0.02
	Yellow Perch		9.9	1.3	6.0	2.1		0.4	0.9	0.9	0.8	1.85
spring night EF-LMB	Largemouth Bass						88.8				36.0	62.40

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. ***SDGFP standard gill net used in 2015; **AFS standard frame nets used in 2016 and 2017**

			Year									
Gear	Species	Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFS std gill net*	Northern Pike	PSD	55	69	76	71	92		86	77	60	46
		PSD-P	3	0	5	7	8		5	43	10	14
		Wr	84	90	85	91	90		84	86	86	87
	Walleye	PSD	37	70	84	73	82		67	41	27	74
		PSD-P	5	11	16	24	33		49	41	21	22
		Wr	88	93	87	91	90		83	86	86	90
	Yellow Perch	PSD	24	9	17	4	1		0	16	0	27
		PSD-P	0	2	0	0	0		0	0	0	0
		Wr	93	94	90	90	102		91	88	197	97
frame net (std 3/4 in)**	Bluegill	PSD		25	8	20	23		77	81	73	71
		PSD-P		3	2	4	4		5	4	6	8
		Wr		108	104	99	103		105	105	107	110
spring night EF-LMB	Largemouth Bass	PSD						61				61
		PSD-P						32				31
		Wr						114				106

Length at Capture

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

Species: Bluegill

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2024	751			120 (193)	163 (230)		187 (185)	199 (120)	196 (24)		
2023	1197		103 (122)	129 (198)	164 (12)	174 (203)	181 (505)	192 (158)			
2022	825		101 (34)	118 (76)	155 (129)	176 (387)	190 (157)	190 (37)	213 (4)	223 (1)	
2021	905		106 (45)	135 (96)	166 (433)	184 (289)	193 (35)	216 (4)	217 (5)	222 (1)	245 (1)
2019	1714		93 (374)	119 (823)	151 (346)	181 (92)	204 (56)	205 (14)		224 (9)	
2018	1084		101 (555)	138 (395)	162 (48)	192 (66)	216 (15)	218 (5)			
2017	369	95 (154)	111 (165)	144 (28)	178 (12)	198 (9)	213 (3)				
2016	611	61 (362)	97 (98)	138 (108)	177 (27)	191 (12)	227 (6)				

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2024	46			322 (1)		399 (31)		446 (5)		523 (1)	655 (8)
2023	37	225 (2)	225 (2)	285 (1)	332 (23)		427 (2)				637 (7)
2022	32			284 (15)		334 (4)		555 (1)		604 (3)	632 (9)
2021	51	271 (1)	240 (13)	311 (3)	393 (11)		559 (2)	511 (3)	556 (1)	551 (2)	625 (15)
2019	34		291 (7)		425 (6)	473 (2)	462 (4)		523 (9)	627 (2)	550 (4)
2018	33		325 (1)	354 (10)	406 (4)	434 (5)	522 (1)	506 (10)		668 (1)	656 (1)
2017	31		301 (2)	370 (4)	420 (6)	435 (1)	498 (15)	582 (1)	493 (1)		582 (1)
2016	61		277 (2)	339 (16)	384 (4)	456 (36)	505 (1)			639 (1)	693 (1)
2015	70	149 (1)	241 (5)	324 (7)	373 (52)	420 (1)	481 (3)	575 (1)			

Fish Condition

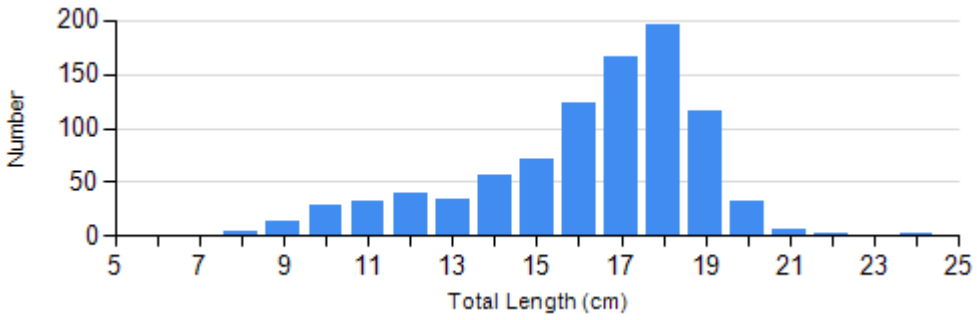
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Bluegill Frame Net	2021	210	105 (0.5)	672	105 (0.7)	42	96 (0.6)	0	
	2022	159	102 (0.6)	632	105 (0.5)	34	103 (1.0)	0	
	2023	318	112 (0.6)	814	104 (0.4)	66	98 (1.2)	0	
	2024	216	108 (1.1)	481	112 (0.7)	59	108 (1.3)	0	
Largemouth Bass Electro Fishing	2020	29	115 (1.1)	21	114 (1.3)	24	113 (1.6)	0	
	2024	14	110 (1.5)	11	103 (1.6)	11	104 (2.0)	0	
Northern Pike Gill Net	2021	5	80 (1.9)	30	84 (1.2)	2	85	0	
	2022	8	81 (3.6)	12	83 (1.8)	14	91 (1.9)	1	97
	2023	8	90 (0.8)	10	82 (2.0)	2	86 (0.3)	0	
	2024	15	85 (1.0)	9	88 (2.7)	3	91 (2.2)	1	99
Walleye Gill Net	2021	14	83 (1.4)	8	81 (1.9)	12	82 (2.0)	9	85 (1.4)
	2022	19	85 (1.1)	0		6	87 (2.2)	7	89 (2.5)
	2023	24	88 (1.2)	2	82 (2.3)	2	85 (4.2)	5	80 (2.7)
	2024	12	88 (1.8)	24	91 (1.6)	4	96 (3.0)	6	91 (2.9)
Yellow Perch Gill Net	2021	18	91 (1.4)	0		0		0	
	2022	21	89 (1.1)	4	83 (2.5)	0		0	
	2023	7	197 (107.2)	0		0		0	
	2024	8	100 (3.9)	3	90 (2.3)	0		0	

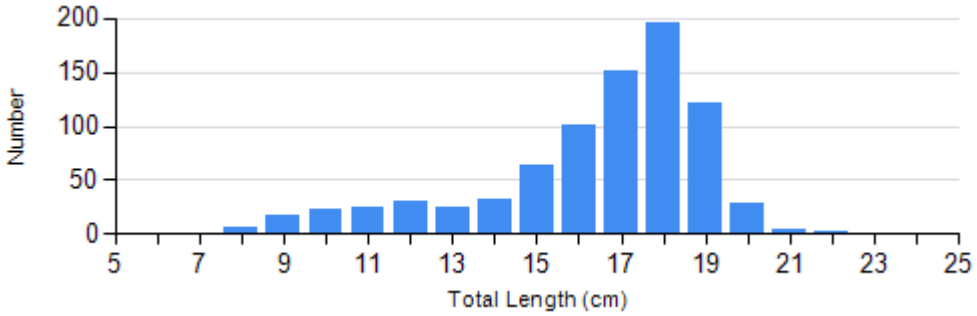
Length Frequency Distribution

Length frequency histogram of species sampled by year.

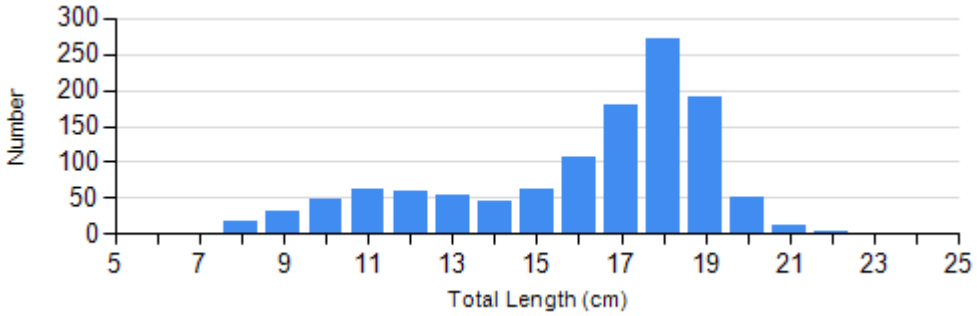
Species: Bluegill
Gear: frame net (std 3/4 in)



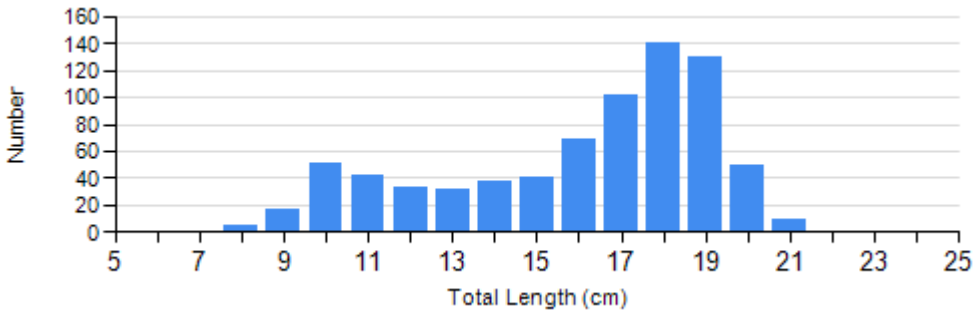
2021



2022

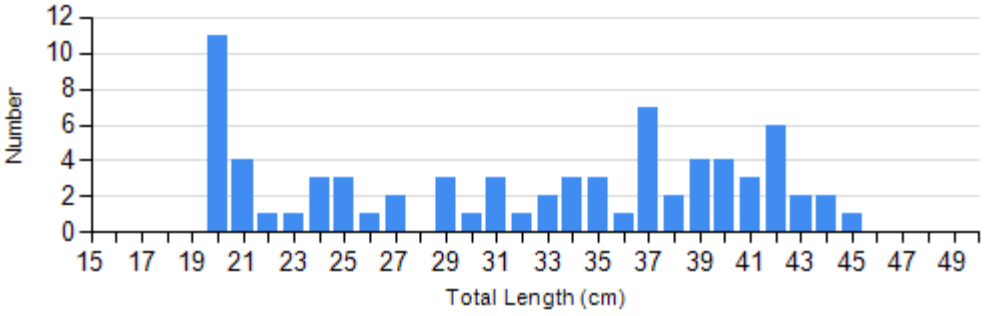


2023

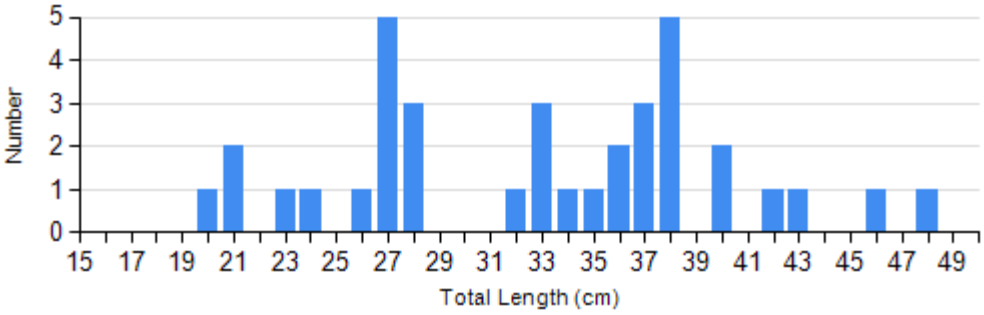


2024

Species: Largemouth Bass
Gear: spring night EF-LMB

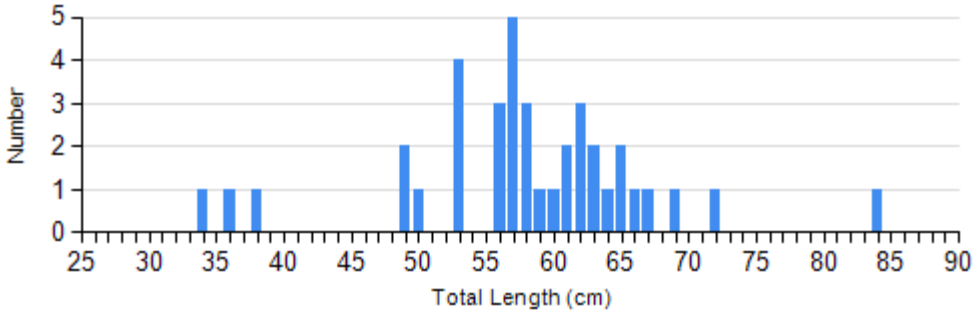


2020

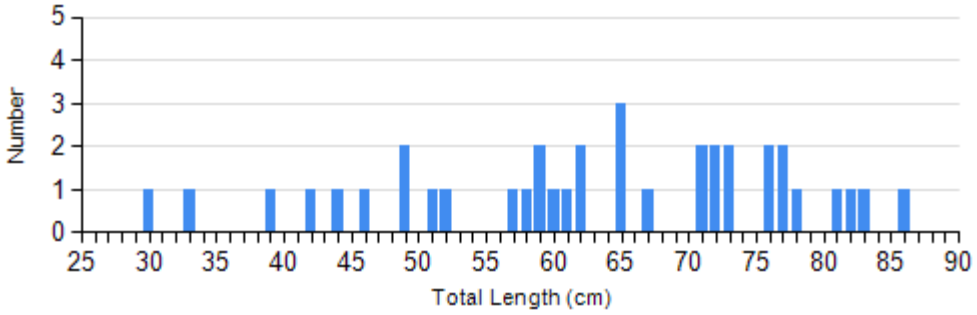


2024

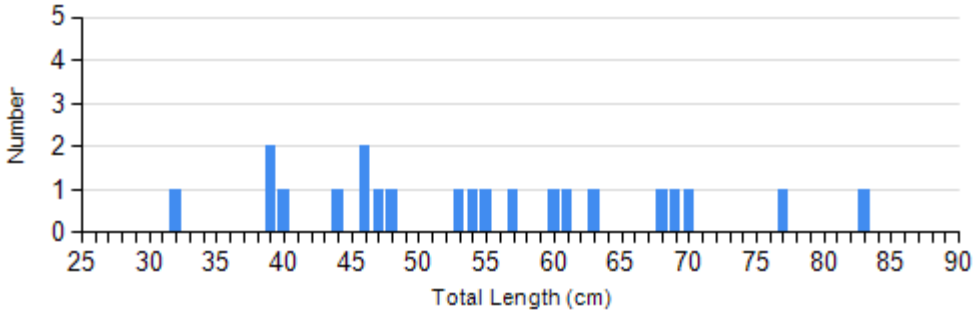
Species: Northern Pike
Gear: AFS std gill net



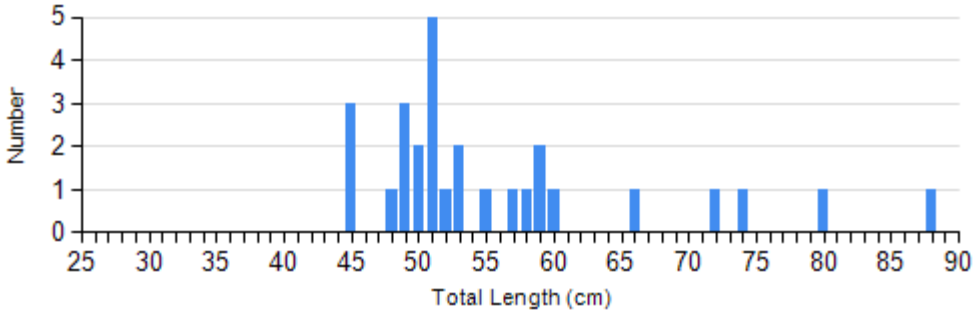
2021



2022

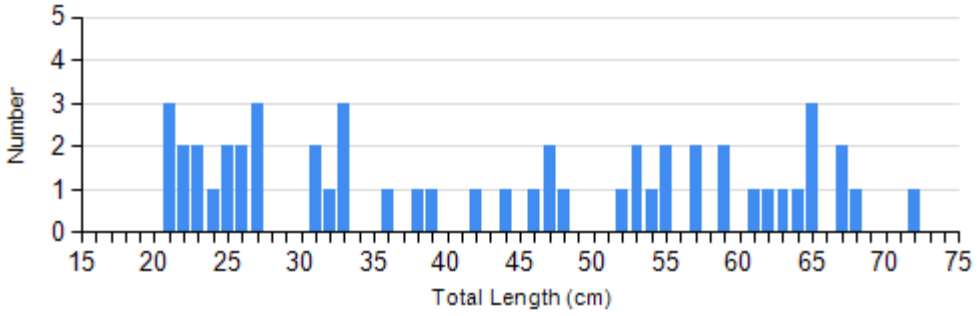


2023

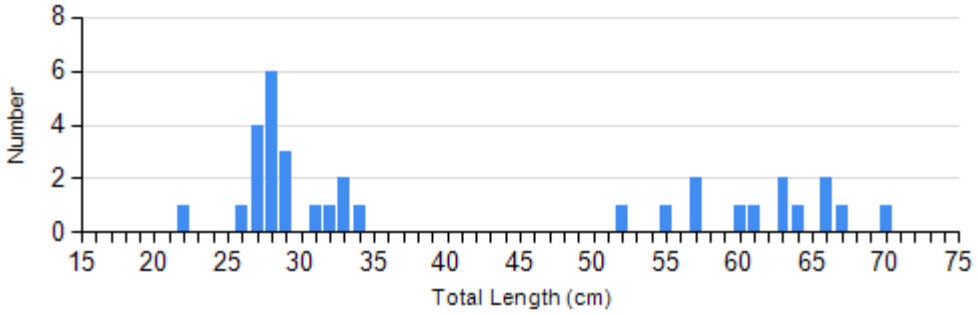


2024

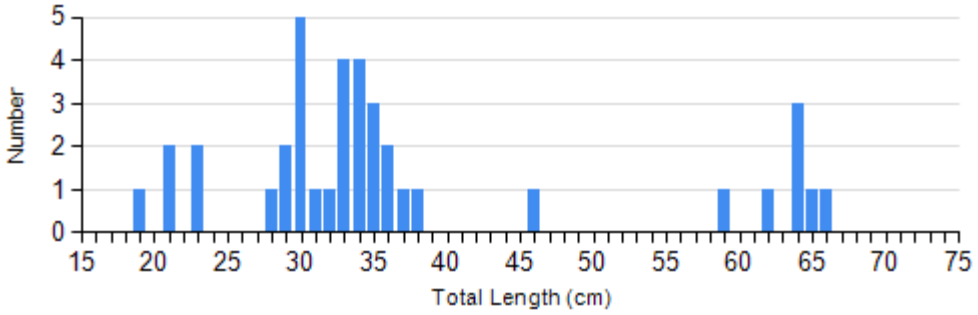
Species: Walleye
Gear: AFS std gill net



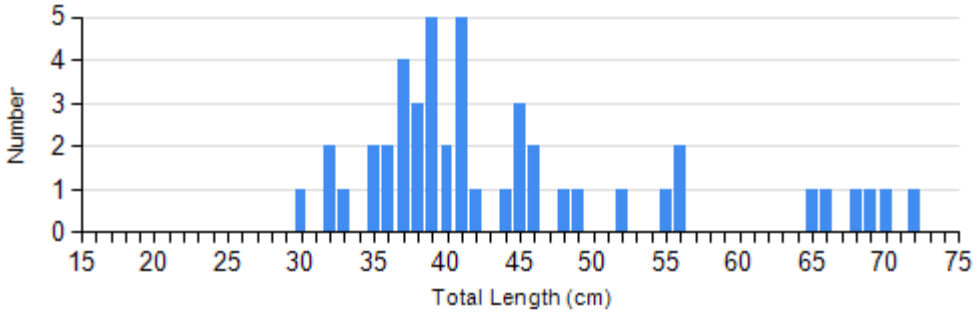
2021



2022

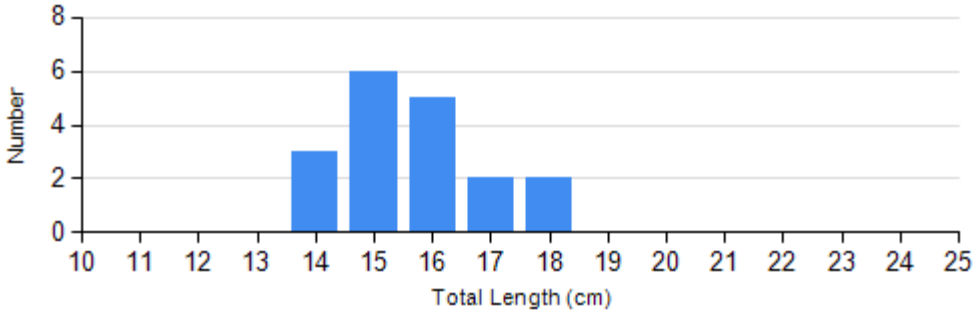


2023

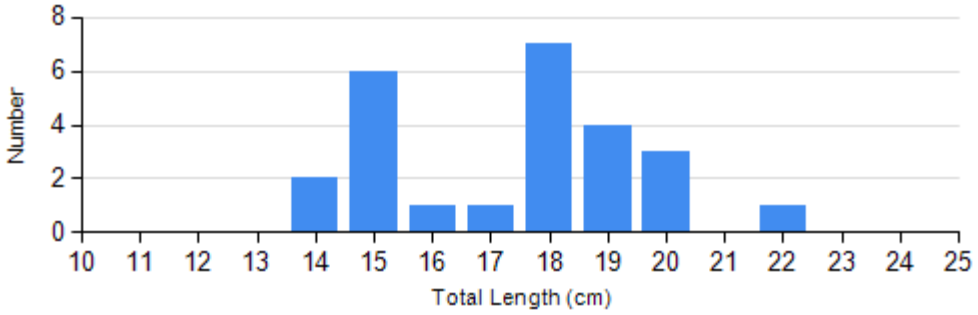


2024

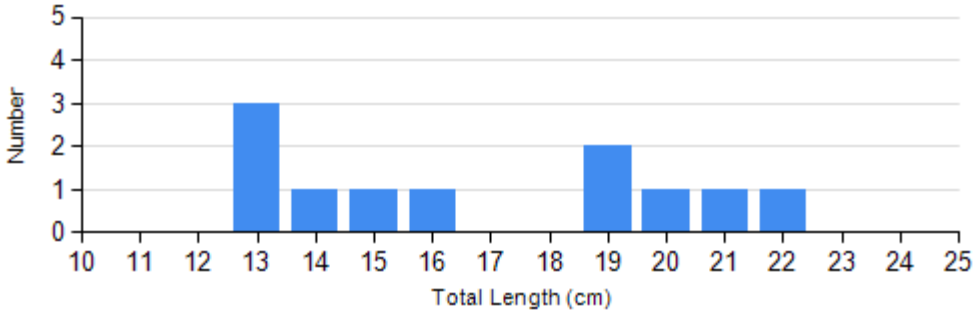
Species: Yellow Perch
Gear: AFS std gill net



2021



2022

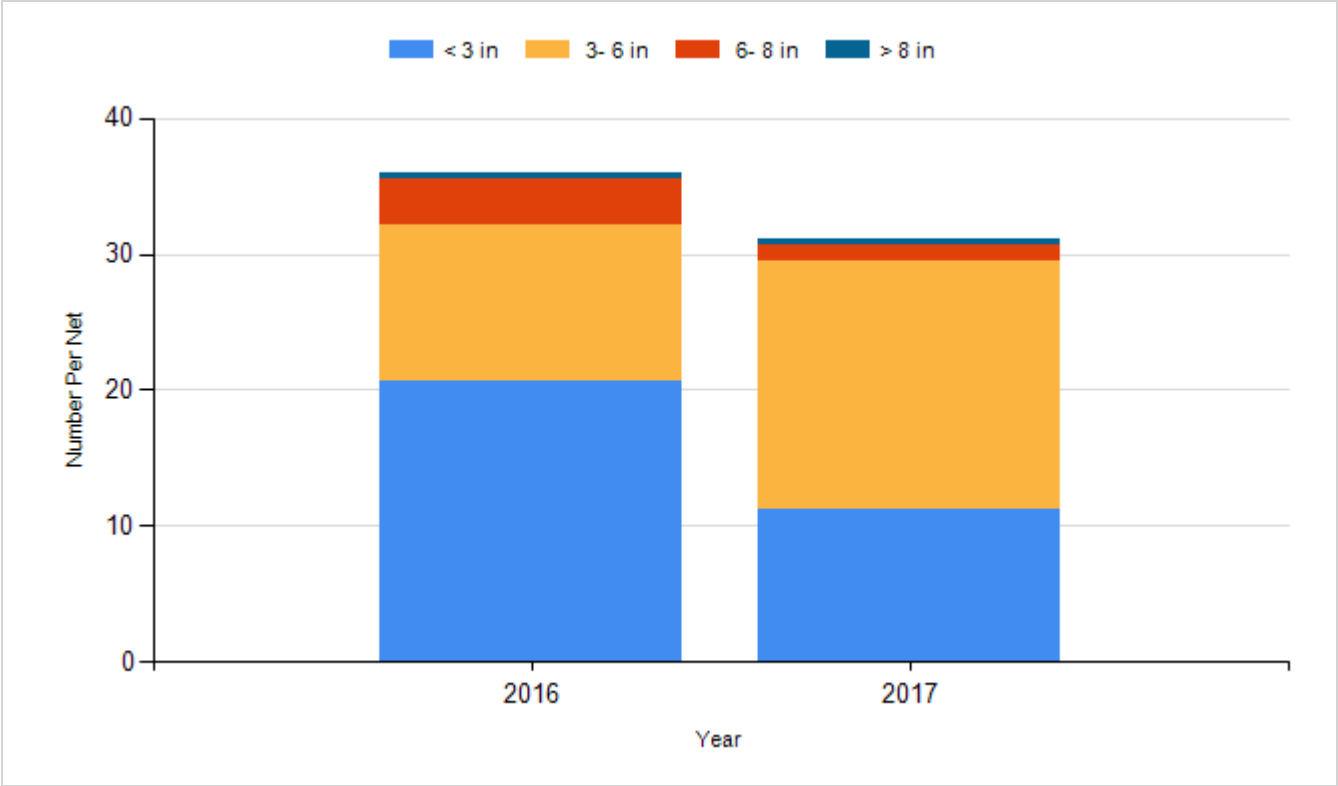


2024

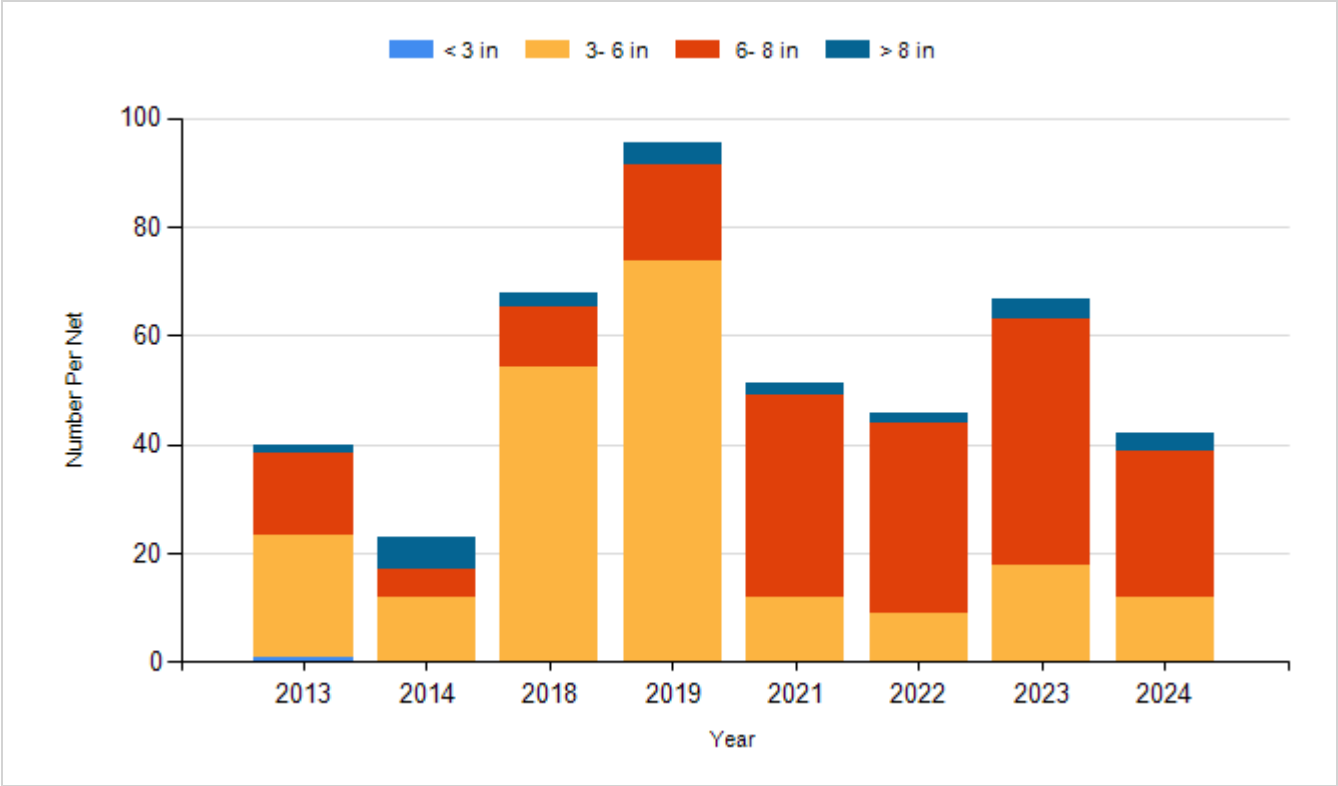
Historic Fish Sizes and Relative Abundance

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

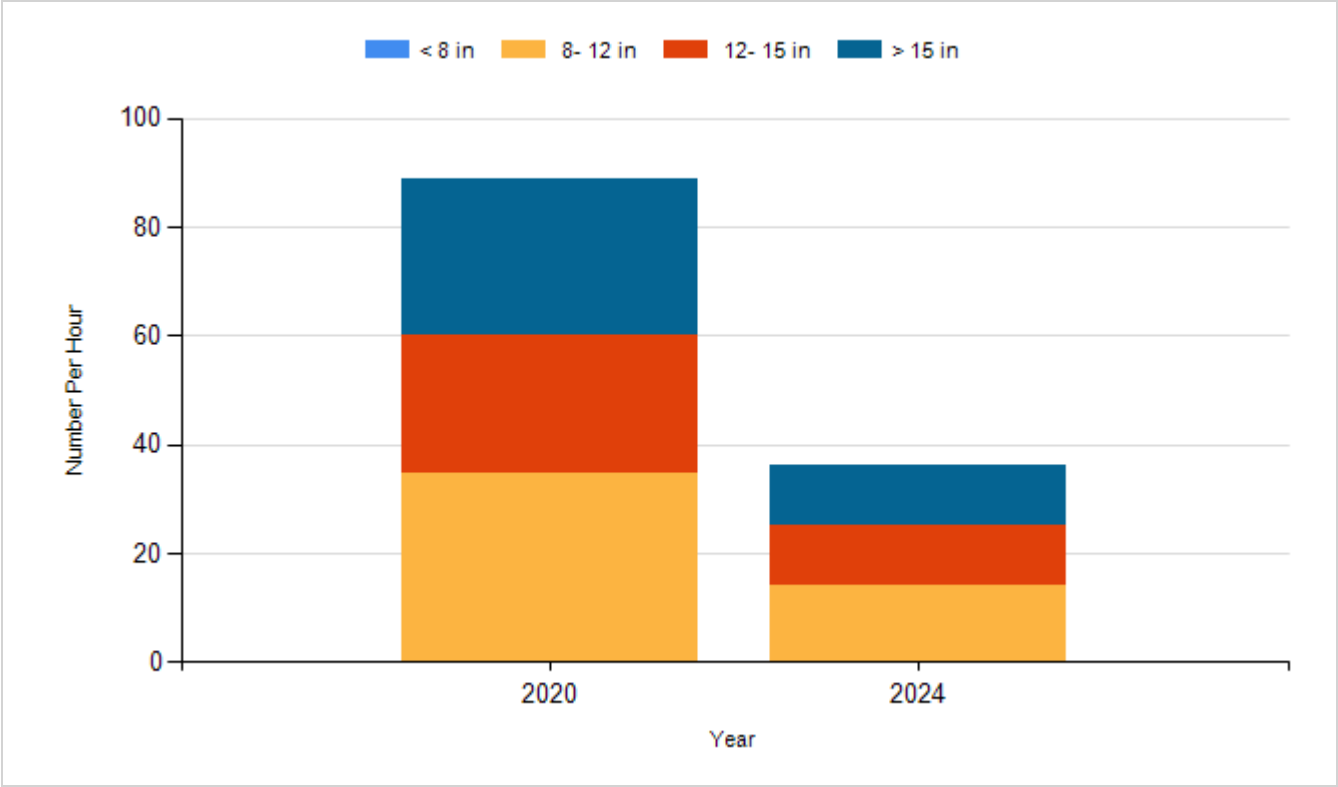
Species: Bluegill
Gear: AFS std frame net



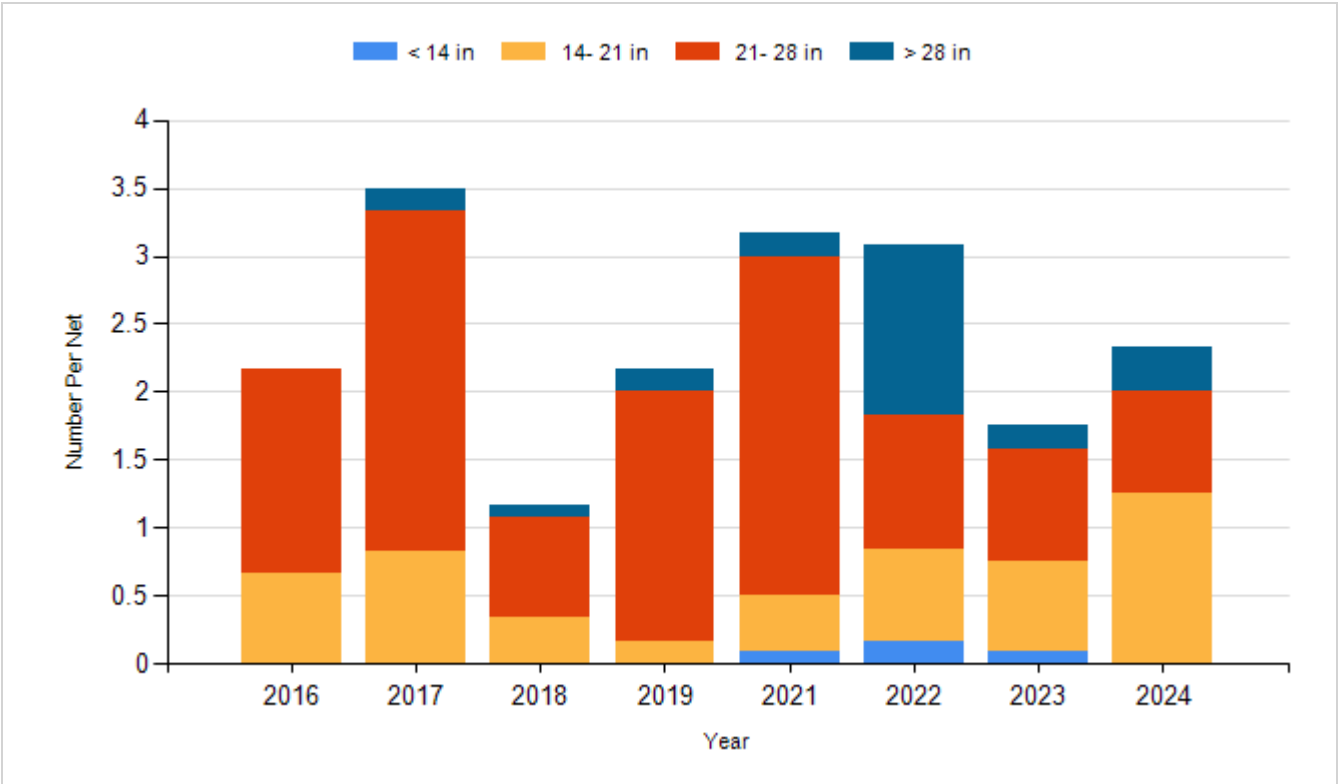
Species: Bluegill
Gear: frame net (std 3/4 in)



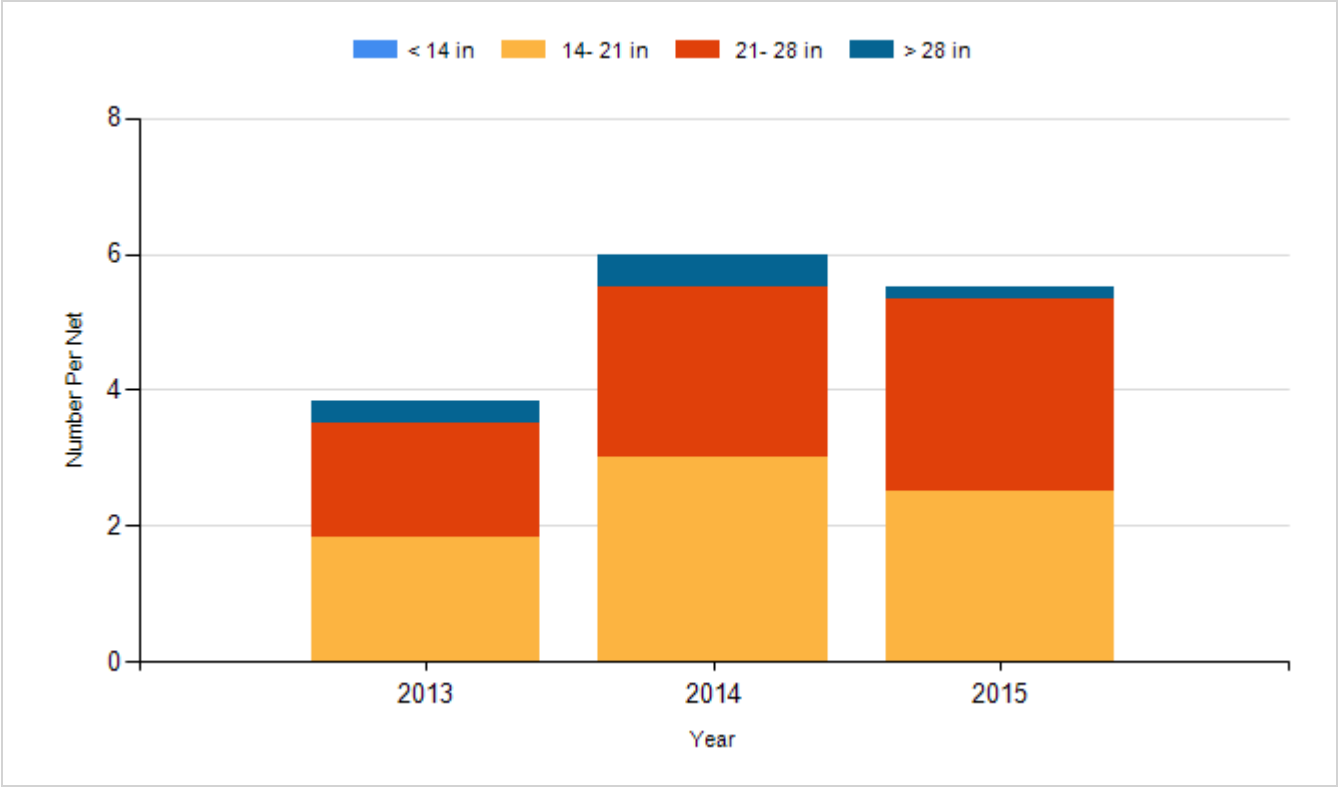
Species: Largemouth Bass
Gear: spring night EF-LMB



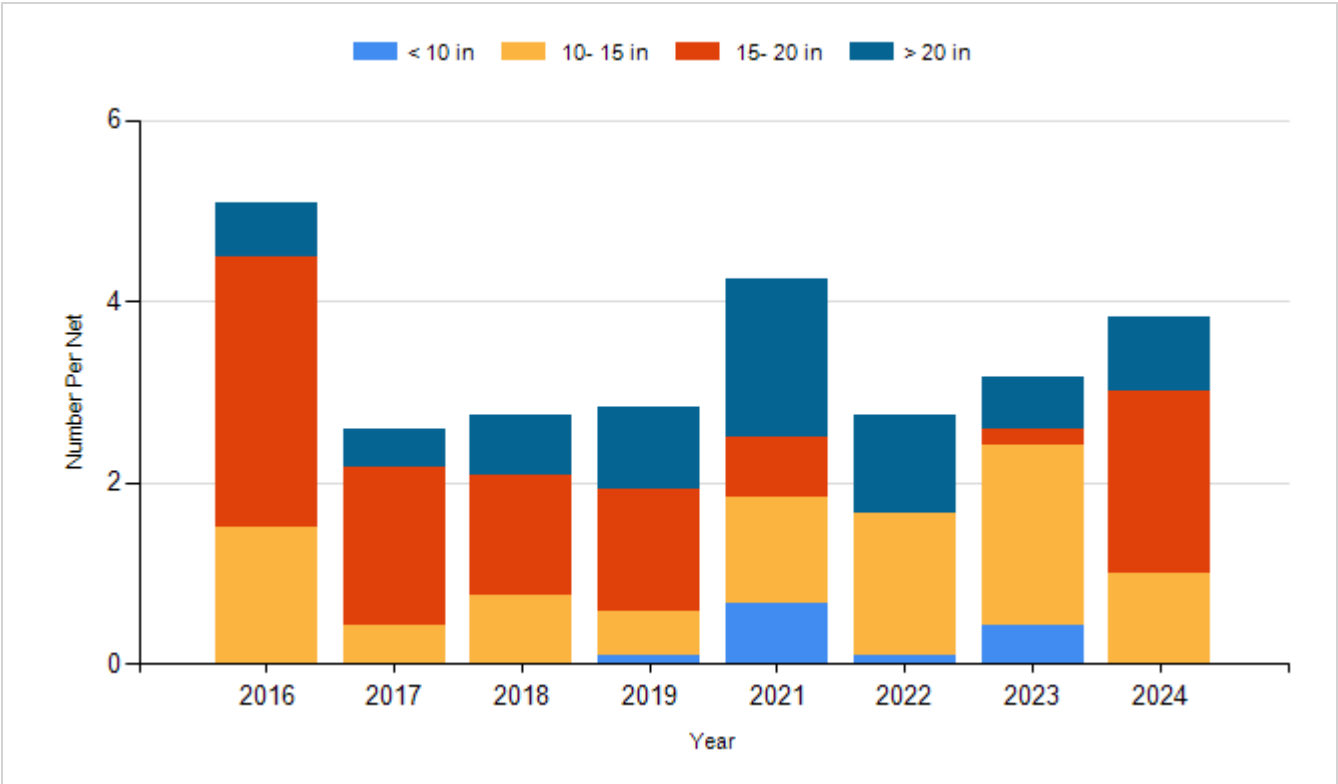
Species: Northern Pike
Gear: AFS std gill net



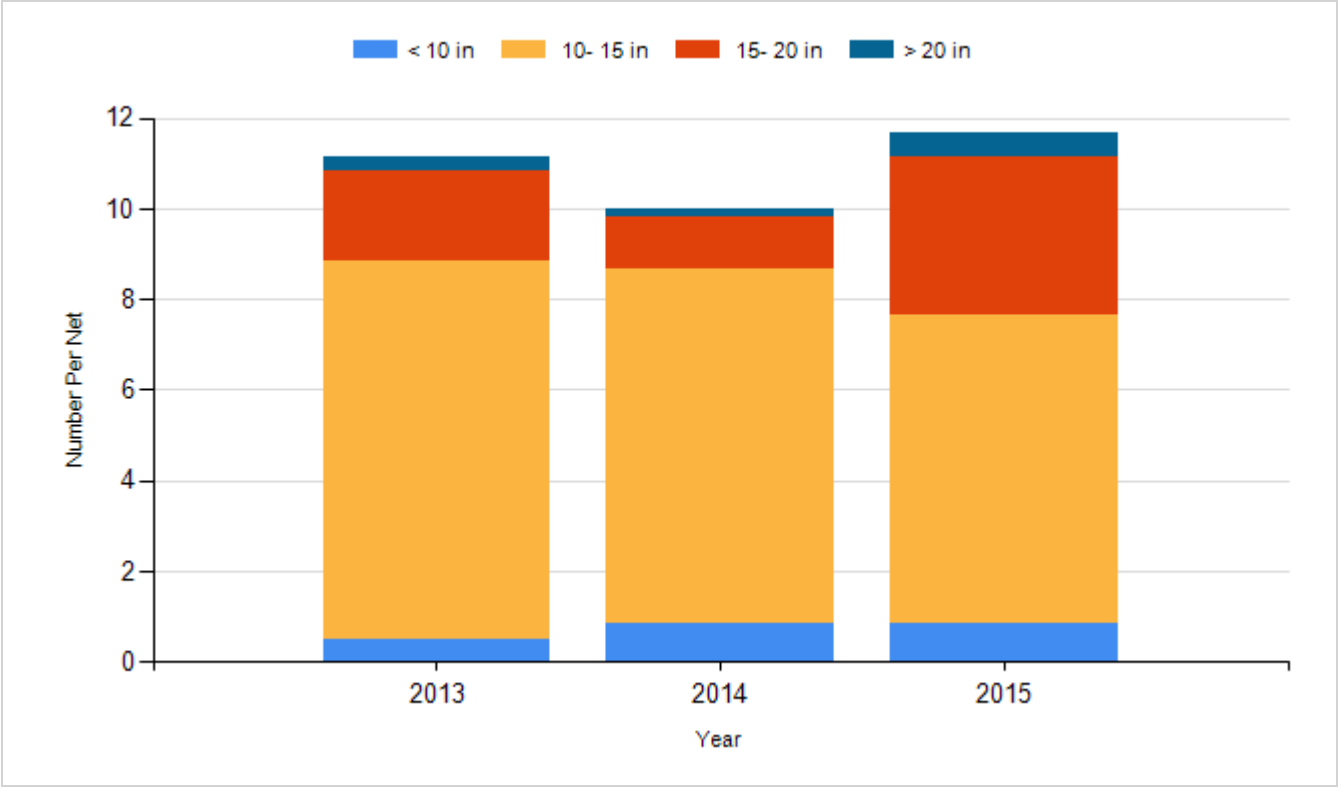
Species: Northern Pike
Gear: std exp gill net



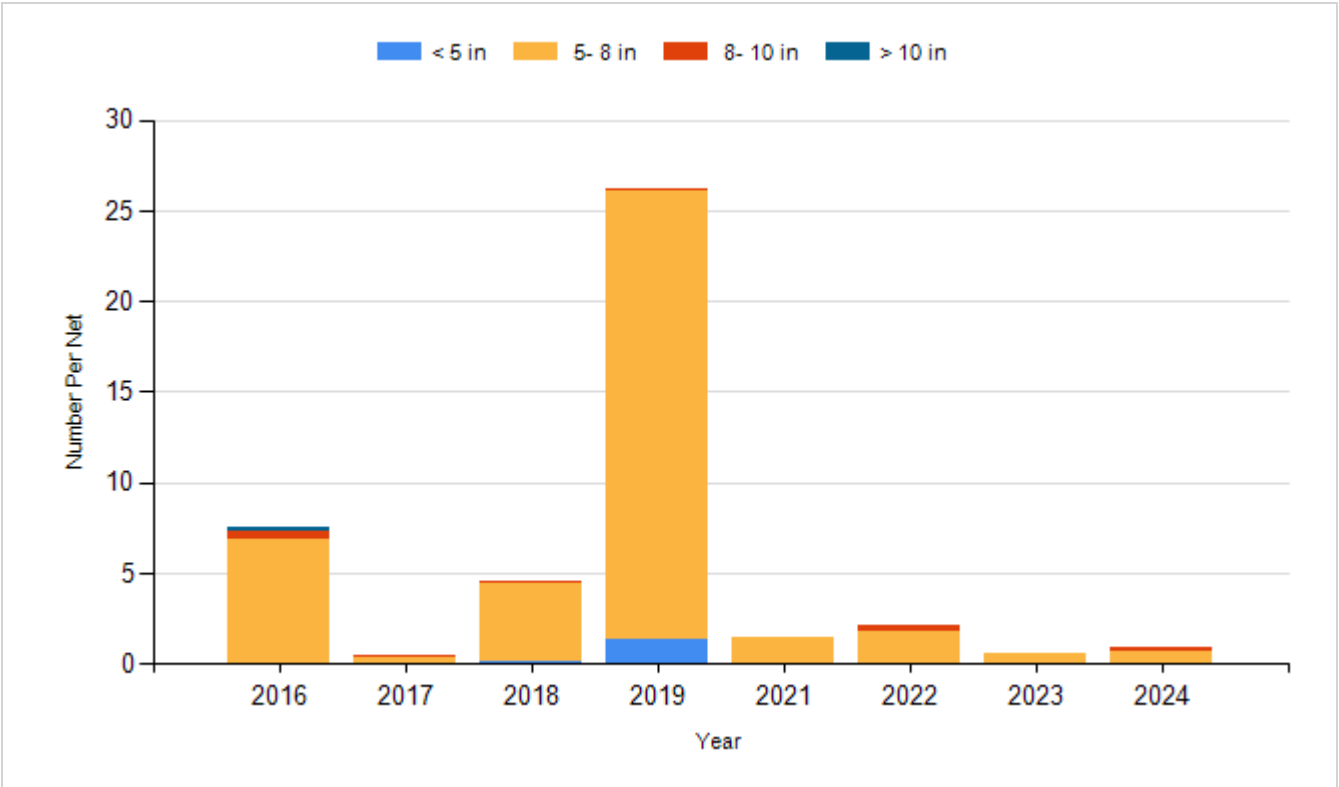
Species: Walleye
Gear: AFS std gill net



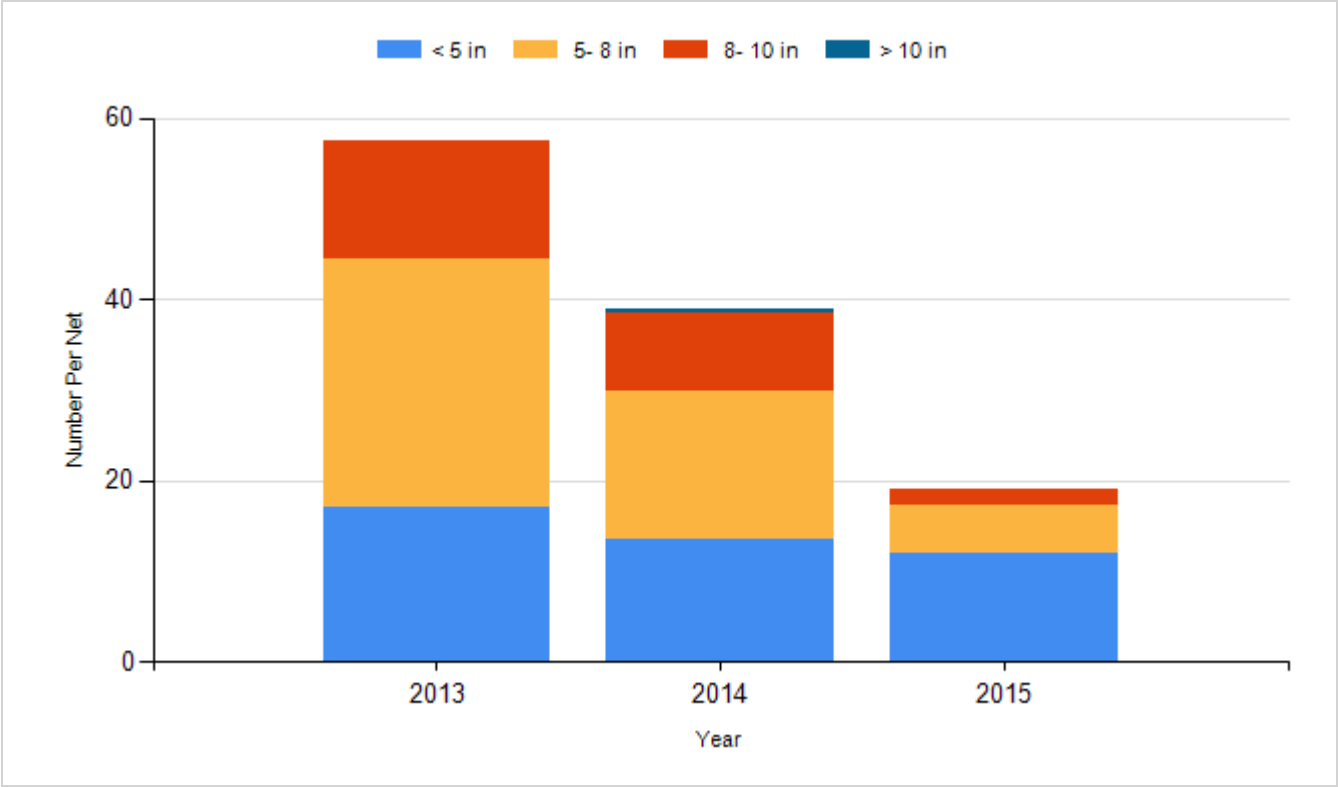
Species: Walleye
Gear: std exp gill net



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
2013	Walleye	Fry	600,000
2014	Walleye	Fry	542,000
2014	Walleye	Large Fingerling	24,879
2015	Walleye	Fry	550,000
2016	Walleye	Fry	550,000
2017	Walleye	Large Fingerling	48,564
2019	Walleye	Large Fingerling	18,798
2021	Walleye	Juvenile	11,768
2022	Walleye	Juvenile	33,056
2023	Walleye	Fry	600,000
2024	Walleye	Juvenile	26,779