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.

Spring electrofishing, which is used to monitor black bass populations, was not conducted in 2023. Thus, the following summary focuses on those fish species assessed using frame nets (i.e., bluegill) and gill nets (i.e., northern pike, walleye, and yellow perch).

- **Bluegill.** More bluegills were sampled in 2023 than in 2022. At 66.7 per frame net, relative abundance was high. Sampled bluegills ranged in length from 3.1 to 8.7 inches, 76% were ≥6.0 inches and 4% were ≥8.0 inches. Six consecutive year classes (2016 – 2021) contributed to the catch. Individuals from the 2017 (age-6) cohort were more abundant than those from other cohorts accounting for 44% of bluegills in the sample. Meanwhile fish from year classes produced in 2016 (age 7), 2018 (age 5), and 2020 (age 3) accounted for an additional 50%. Since 2014, the mean length at capture of age-5 fish has ranged from 6.8 to 7.8 inches, while age-6 fish had mean length at capture values from 7.1 to 9.1 inches. In 2023, the mean length at capture of age-5 and age-6 fish was 6.8 and 7.1 inches.

- **Northern pike.** Northern pike are not a primary management species at Clear Lake, but they tend to be abundant during most years. In 2023, relative abundance was moderate to high (1.7 per gill net). Northern pike from 12.6 to 32.7 inches were netted, of those that were at least 14.0 inches 60% were ≥21.0 inches and 10% were ≥28.0 inches.

- **Walleye.** Walleye numbers were similar to those observed in 2022. At 2.8 per gill net, relative abundance was considered low to moderate for Clear Lake. Gill net captured walleyes ranged in length from 7.5 to 26.0 inches, of those that were at least 10.0 inches 27% were ≥15.0 inches and 21% were ≥20.0 inches. Individuals from eight year classes produced between 2009 and 2022 were present; those from the 2019 (age-4) cohort, which coincided with a large fingerling stocking, were the most abundant accounting for 62% of fish in the sample. The oldest walleye sampled was from the 2009 (age-14) year class. The 2023 sample suggests slow walleye growth with a mean length at capture at age 4 of 13.1 inches.

- **Yellow perch**. Yellow perch were not abundant (0.6 per gill net). In 2023, gill nets collected seven yellow perch that ranged in length from 5.5 to 7.5 inches and represented four cohorts (2017, 2018. 2019, and 2021).

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
2023

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 20, 2023	4 net-nights
AFS std gill net	Jun 21, 2023	4 net-nights
AFS std gill net	Jun 22, 2023	4 net-nights
fall night EF-WAE	Oct 24, 2023	2400 seconds
frame net (std 3/4 in)	Jun 20, 2023	6 net-nights
frame net (std 3/4 in)	Jun 21, 2023	6 net-nights
frame net (std 3/4 in)	Jun 22, 2023	6 net-nights

Common Fish Species Present

Walleye

Smallmouth Bass

Northern Pike

Largemouth Bass

Yellow Perch

Bluegill

Black Crappie

Black Bullhead

White Sucker

Common Carp

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	111	9.3	3.1	97		16	5	98	2
	Black Crappie	126	10.1	2.4	95	3	79	5	97	1
	Bluegill	141	11.8	6.6	81	5	14	4	110	1
	Common Carp	4	0.3	0.3	75		0		111	7
	Largemouth Bass	4	0.1	0.1	100		100		111	
	Northern Pike	21	1.7	0.6	60	18	10		86	2
	Smallmouth Bass	42	3.4	1.1	88		66	11	95	2
	Walleye	38	2.8	1.0	27	12	21	11	86	1
	White Sucker	6	0.5	0.3	100		100		105	4
	Yellow Perch	7	0.6	0.3	0		0		197	137
frame net (std 3/4 in)	Black Bullhead	203	11.3	4.1	97	2	50	5	90	1
	Black Crappie	29	1.6	0.6	55	14	38	14	103	4
	Bluegill	1201	66.7	17.6	76	2	4	1	107	1
	Largemouth Bass	1	0.0	0.0	0		0			
	Northern Pike	6	0.3	0.2	17		0		79	0
	Smallmouth Bass	28	1.4	0.4	73	14	65	15	85	3
	Walleye	8	0.2	0.1	33		0		94	6
	Yellow Perch	18	0.9	0.8	56	20	0		81	

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 nets used 2014 - 2015; avg calculated on data from 2016 – 2023; ** May include day and night samples; *** Methods/Species that ignore stock length; ****AFS standard frame nets used in 2016 and 2017**

		CPUE										
Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
AFS std gill net*	Bigmouth Buffalo	0.2	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.00
	Black Bullhead	21.7	10.3	15.0	9.8	6.4	5.8		9.9	8.8	9.3	9.29
	Black Crappie	11.7	1.5	1.3	1.3	3.1	1.9		4.9	13.1	10.1	5.10
	Bluegill	2.5	1.5	2.0	1.5	0.8	3.8		5.8	13.0	11.8	5.53
	Channel Catfish	0.0	0.0	0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.01
	Common Carp	0.0	0.0	0.1	0.1	0.2	0.1		0.1	0.2	0.3	0.16
	Largemouth Bass	0.0	0.0	0.1	0.1	0.1	0.3		0.3	0.3	0.1	0.19
	Northern Pike	6.0	5.5	2.2	3.5	1.2	2.2		3.1	2.9	1.7	2.40
	Smallmouth Bass	3.3	3.0	1.5	1.9	2.4	2.9		2.8	1.9	3.4	2.40
	Walleye	9.2	10.8	5.1	2.6	2.8	2.8		3.6	2.7	2.8	3.20
	White Sucker	2.2	1.3	0.8	2.3	0.3	0.2		0.6	1.6	0.5	0.90
	Yellow Perch	25.5	7.0	7.5	0.5	4.5	24.9		1.5	2.1	0.6	5.94
boat shocker**	Smallmouth Bass		28.0							6.0		17.00
	Largemouth Bass							88.8				88.00
fall night EF-WAE***	Walleye	3.0	17.0	1.5	0.0	0.0	40.0		0.0	0.0	1.5	7.00
frame net (std 3/4 in)****	Black Bullhead	26.4		7.8	3.6	9.1	3.5		4.1	7.8	11.3	9.20
	Black Crappie	2.4		1.9	2.3	3.6	1.2		2.8	1.2	1.6	2.13
	Bluegill	22.9		15.2	19.9	67.8	95.3		51.3	45.8	66.7	48.11
	Common Carp	0.0		0.6	0.9	0.1	0.0		0.1	0.0	0.0	0.21
	Largemouth Bass	0.0		0.0	0.2	0.1	0.1		0.2	0.0	0.0	0.08
	Northern Pike	1.1		0.8	0.8	0.6	0.7		1.9	0.9	0.3	0.89
	Smallmouth Bass	1.1		0.1	0.3	0.2	0.8		1.8	0.9	1.4	0.83
	Walleye	0.5		0.0	0.2	0.0	0.5		0.2	0.3	0.2	0.24
	White Sucker	0.0				0.1	0.0		0.2	0.2	0.0	0.08
	Yellow Perch	1.8		9.9	1.3	6.0	2.1		0.4	0.9	0.9	2.91

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 nets used 2014 - 2015; **AFS standard frame nets used in 2016 and 2017**

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AFS std gill net*	Northern Pike	PSD	50	55	69	76	71	92		86	77	60
		PSD-P	8	3	0	5	7	8		5	43	10
		Wr	87	84	90	85	91	90		84	86	86
	Walleye	PSD	15	37	70	84	73	82		67	41	27
		PSD-P	2	5	11	16	24	33		49	41	21
		Wr	86	88	93	87	91	90		83	86	86
	Yellow Perch	PSD	36	24	9	17	4	1		0	16	0
		PSD-P	2	0	2	0	0	0		0	0	0
		Wr	92	93	94	90	90	102		91	88	197
frame net (std 3/4 in)**	Bluegill	PSD	48		25	8	20	23		80	83	76
		PSD-P	26		3	2	4	4		3	3	4
		Wr	111		108	104	99	103		105	105	107

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+
2023	1199		102 (99)	130 (192)	164 (13)	173 (220)	180 (528)	191 (150)			
2022	824		101 (34)	120 (59)	156 (133)	176 (411)	189 (149)	190 (36)	213 (2)	223 (1)	
2021	904		107 (26)	136 (93)	167 (463)	183 (283)	193 (31)	216 (3)	218 (4)	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)				
2014	413	91 (84)	109 (80)	142 (45)	189 (135)	195 (59)	230 (10)	255 (1)			

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
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)			
2014	60	187 (5)		345 (51)	394 (1)	461 (2)				589 (1)	

Species: Yellow Perch

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2023	7		171 (1)		145 (1)	172 (2)	181 (3)				
2022	25				169 (10)	184 (14)	185 (1)	220 (1)			
2021	18			151 (4)	166 (13)	148 (1)					
2019	315		138 (262)	157 (39)	182 (14)						
2018	55		149 (5)	157 (38)	160 (9)	187 (2)			243 (1)		
2017	6		142 (1)	151 (2)	165 (1)	187 (1)	230 (1)				
2016	90		134 (2)	153 (69)	178 (11)	215 (1)	235 (6)	235 (1)			
2015	114	93 (3)	115 (72)	151 (27)		210 (11)	237 (1)				
2014	233	98 (13)	125 (101)	159 (14)	192 (53)	208 (28)	230 (18)	221 (7)			

Fish Condition

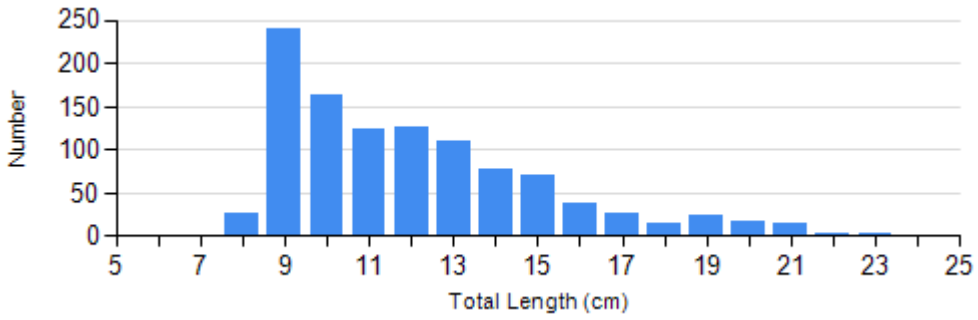
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		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	2019	1326	101 (0.6)	321	106 (1.0)	68	107 (1.6)	0	
	2021	187	105 (0.5)	710	105 (0.7)	27	96 (0.6)	0	
	2022	139	102 (0.6)	662	105 (0.5)	23	103 (1.1)	0	
	2023	286	112 (0.6)	868	104 (0.4)	47	98 (1.2)	0	
Northern Pike Gill Net	2019	2	91 (1.4)	22	91 (1.3)	2	88 (2.8)	0	
	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	
Walleye Gill Net	2019	6	87 (2.6)	16	90 (1.2)	10	90 (2.3)	1	96
	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)
Yellow Perch Gill Net	2019	297	103 (0.6)	2	85	0		0	
	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	

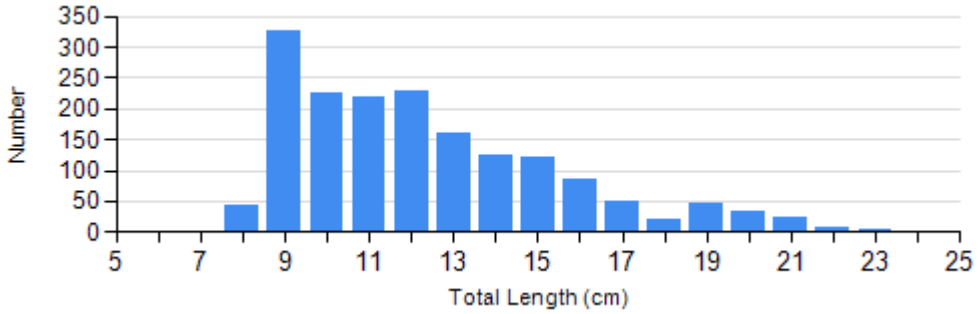
Length Frequency Distribution

Length frequency histogram of species sampled by year.

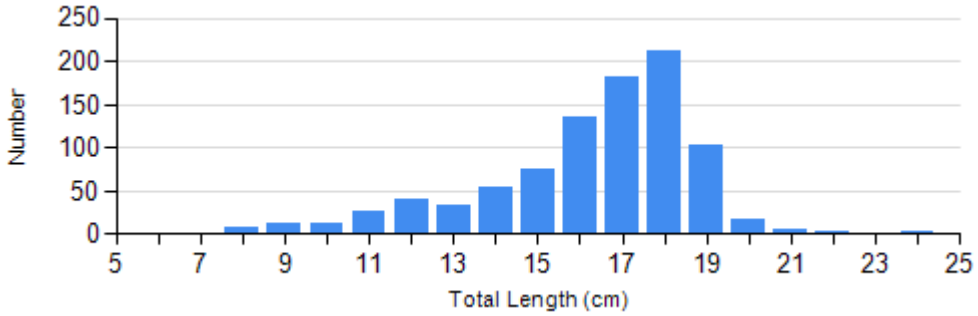
Species: Bluegill
Gear: frame net (std 3/4 in)



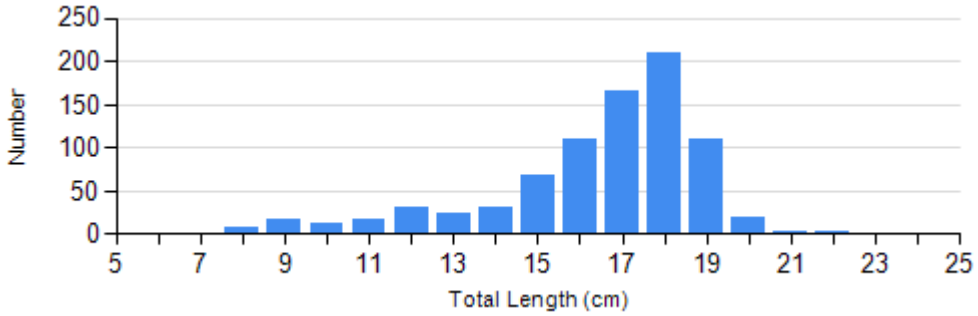
2018



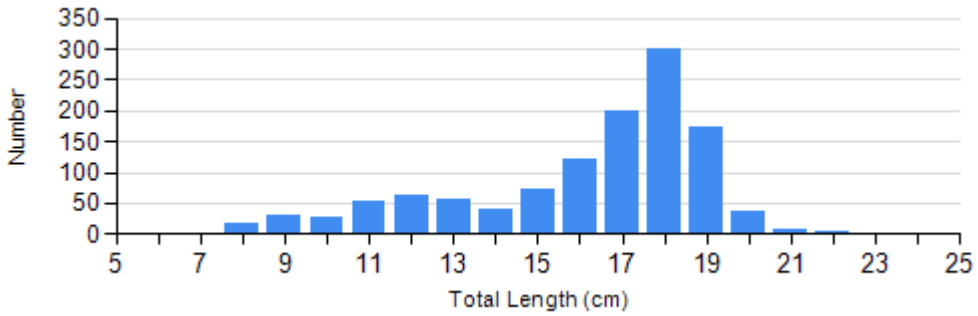
2019



2021

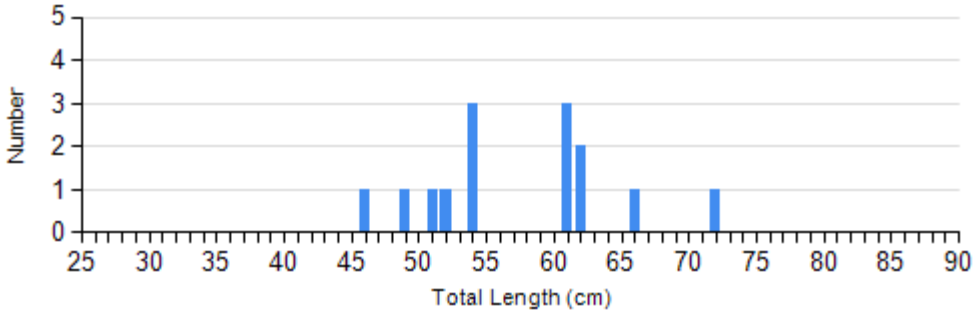


2022

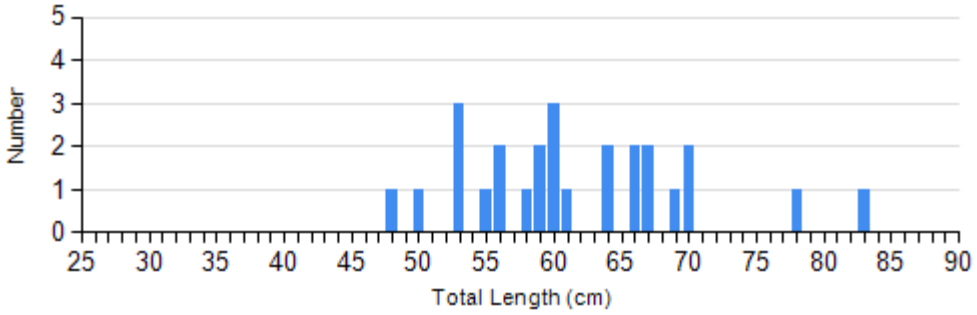


2023

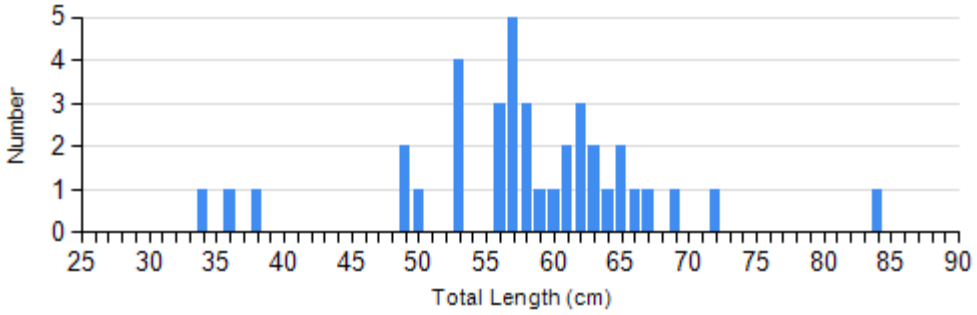
Species: Northern Pike
Gear: AFS std gill net



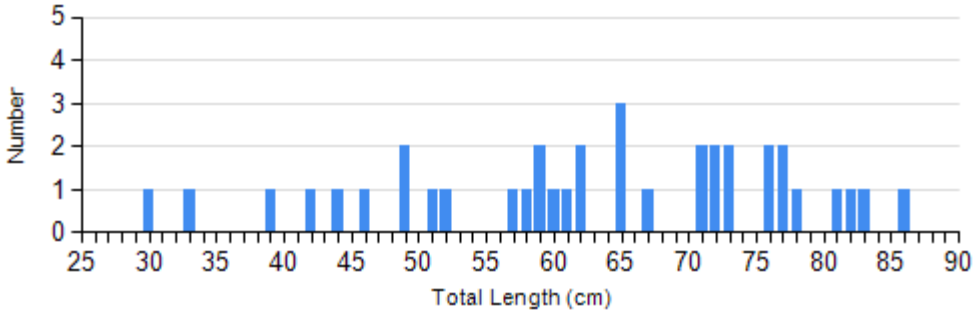
2018



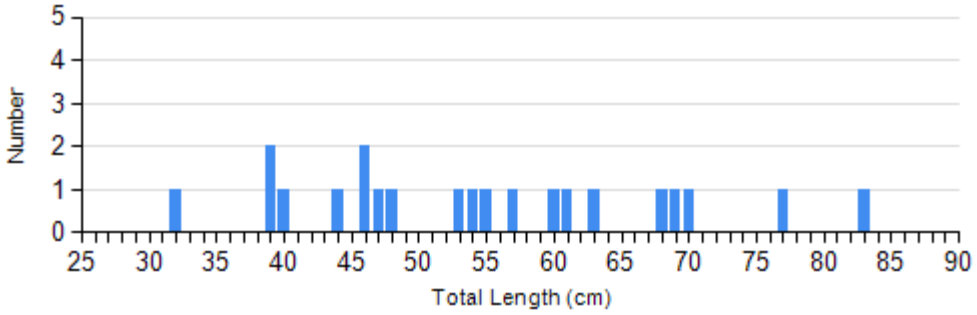
2019



2021



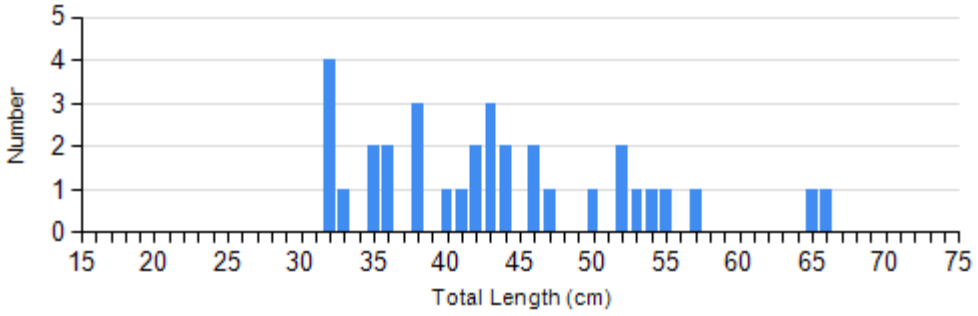
2022



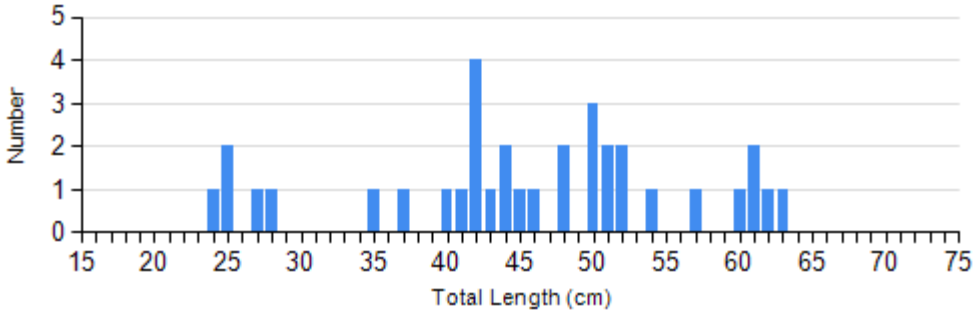
2023

Species: Walleye
Gear: AFS std gill net

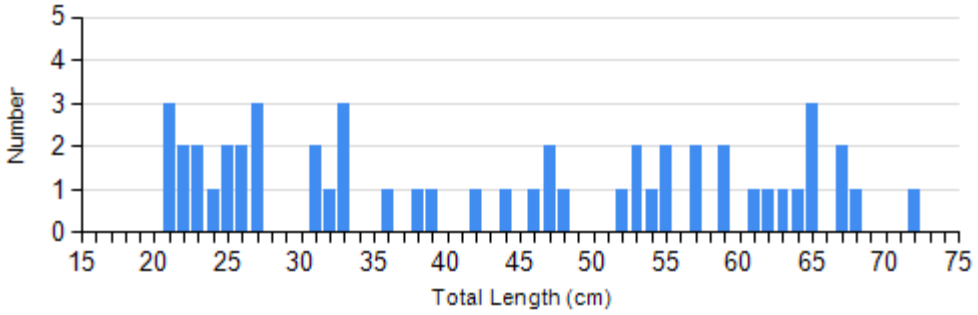
2018



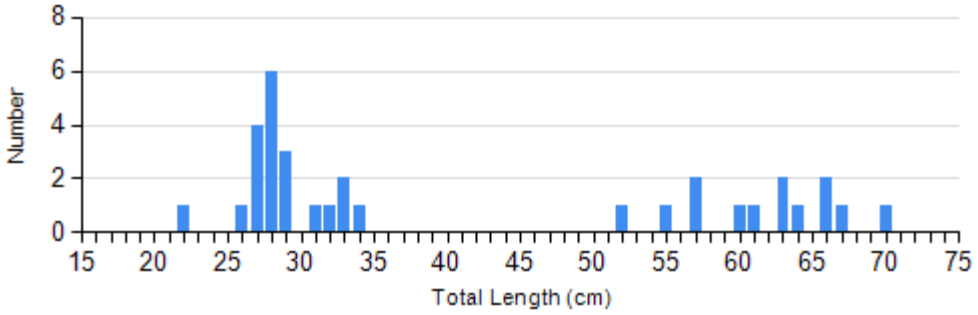
2019



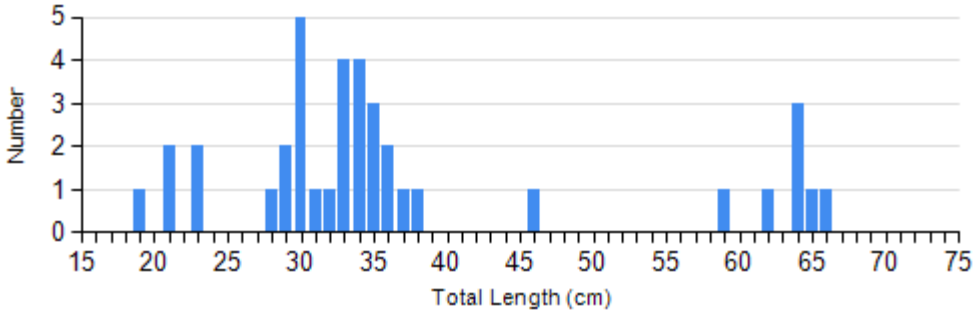
2021



2022

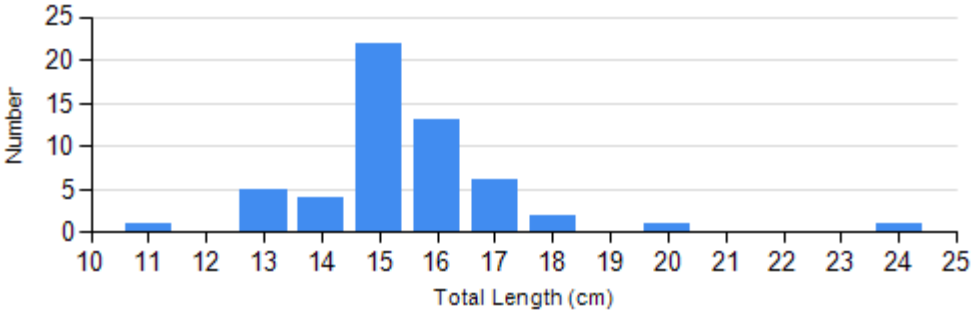


2023



Species: Yellow Perch
Gear: AFS std gill net

2018



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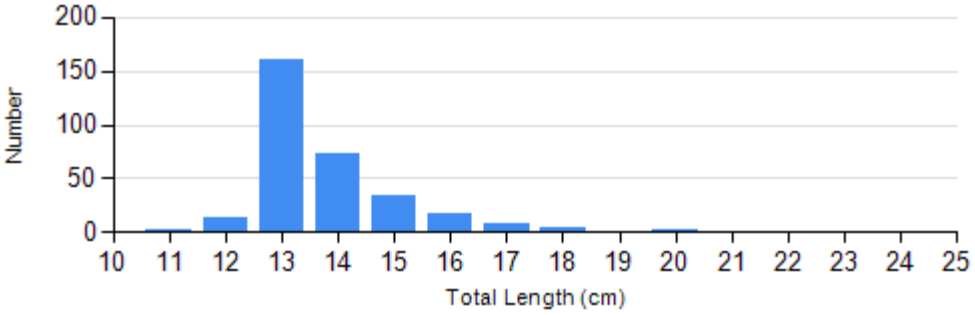

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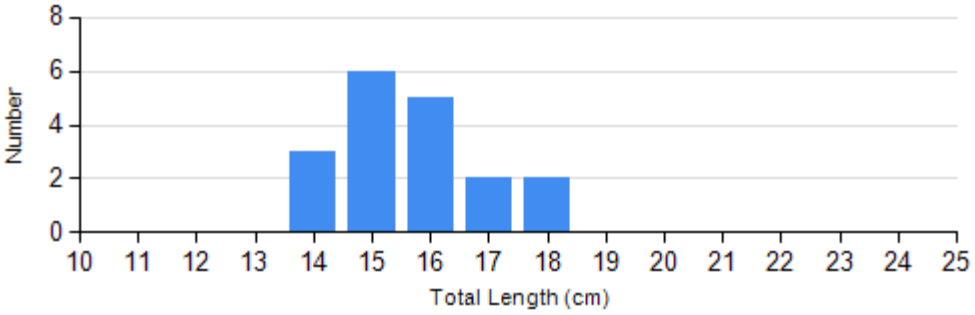

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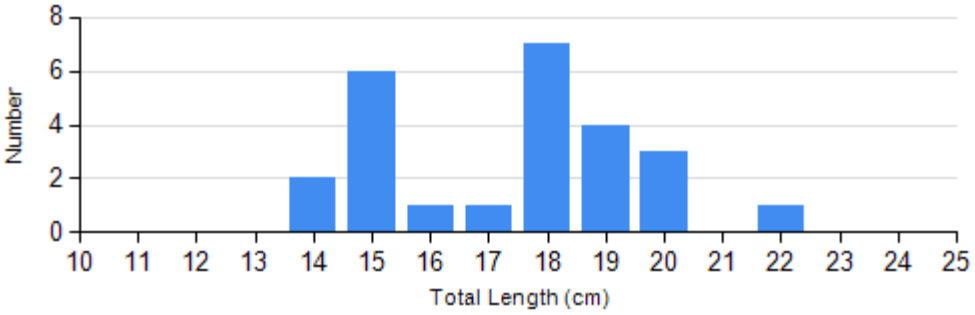
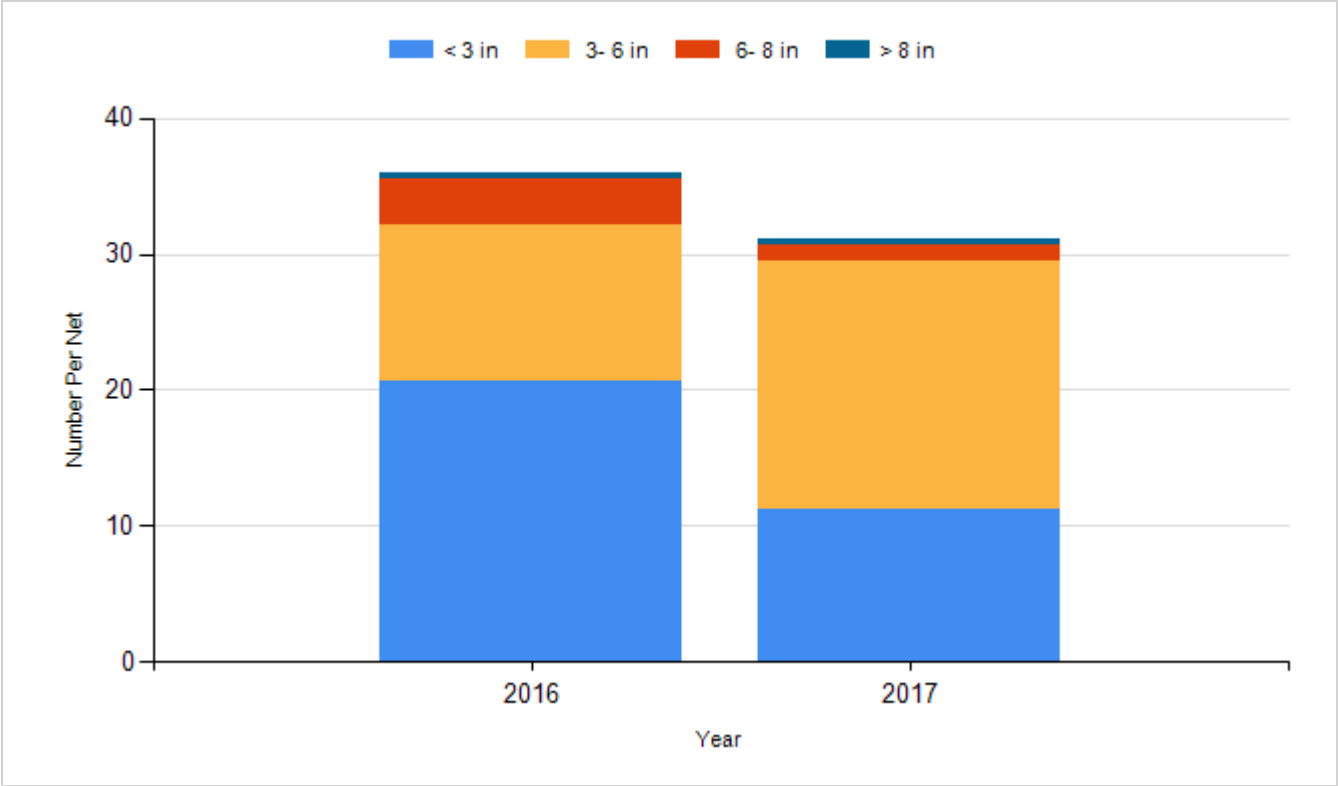


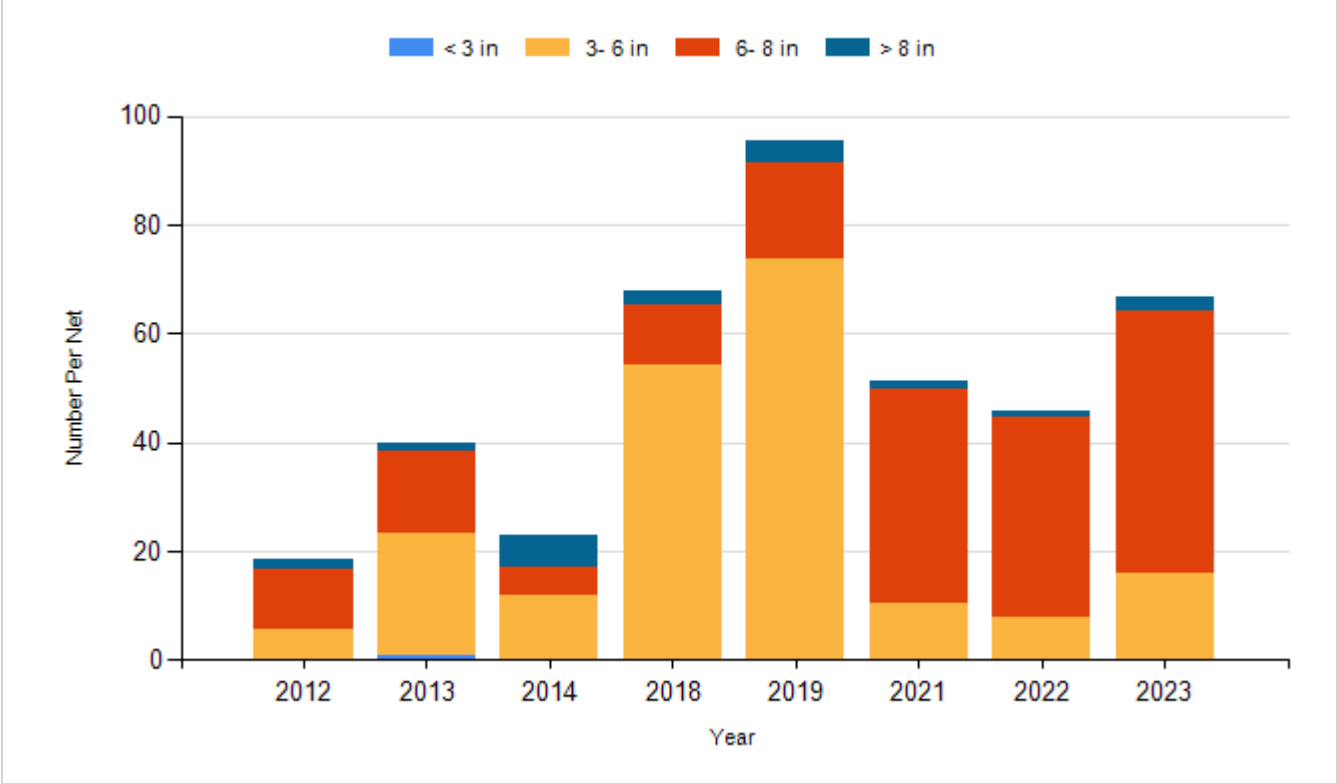
Historic Fish Sizes and Relative Abundance

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

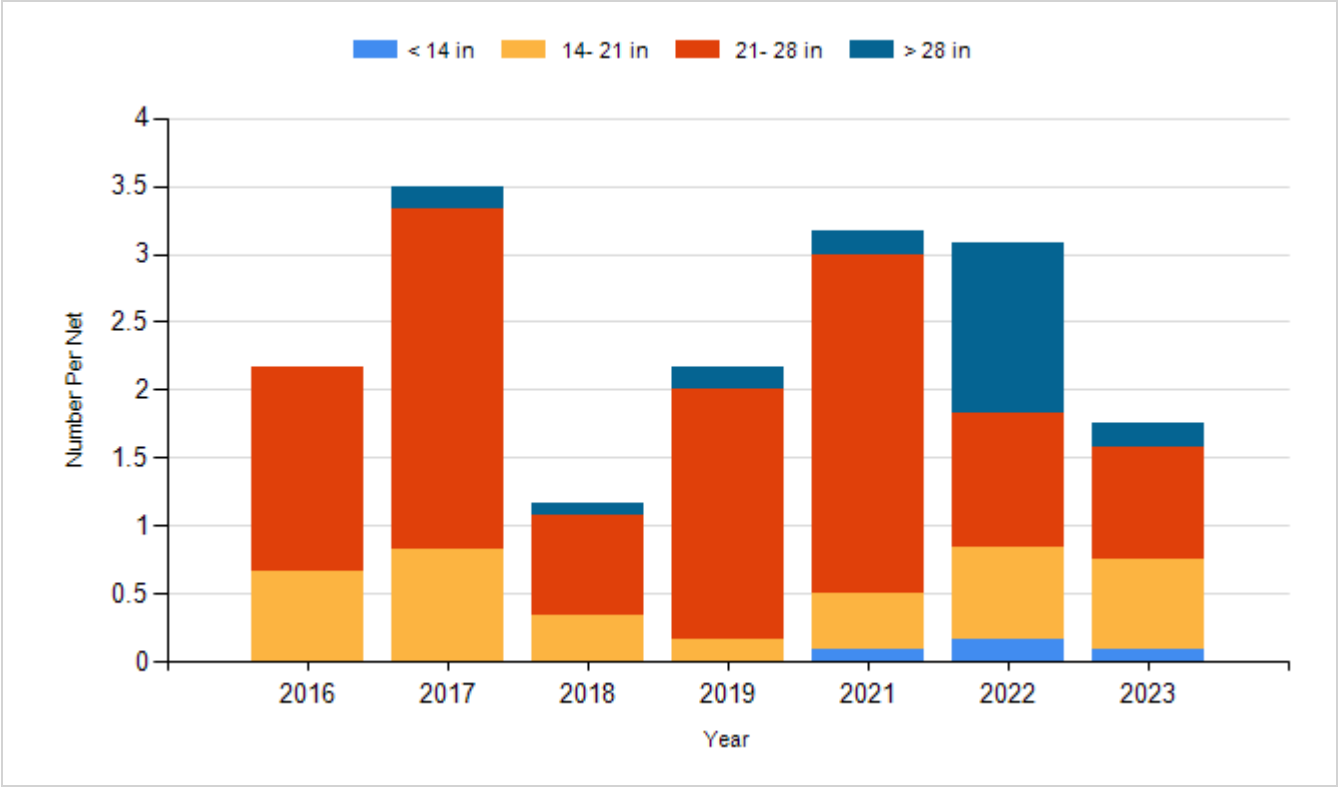
Species: Bluegill
Gear: AFS std frame net



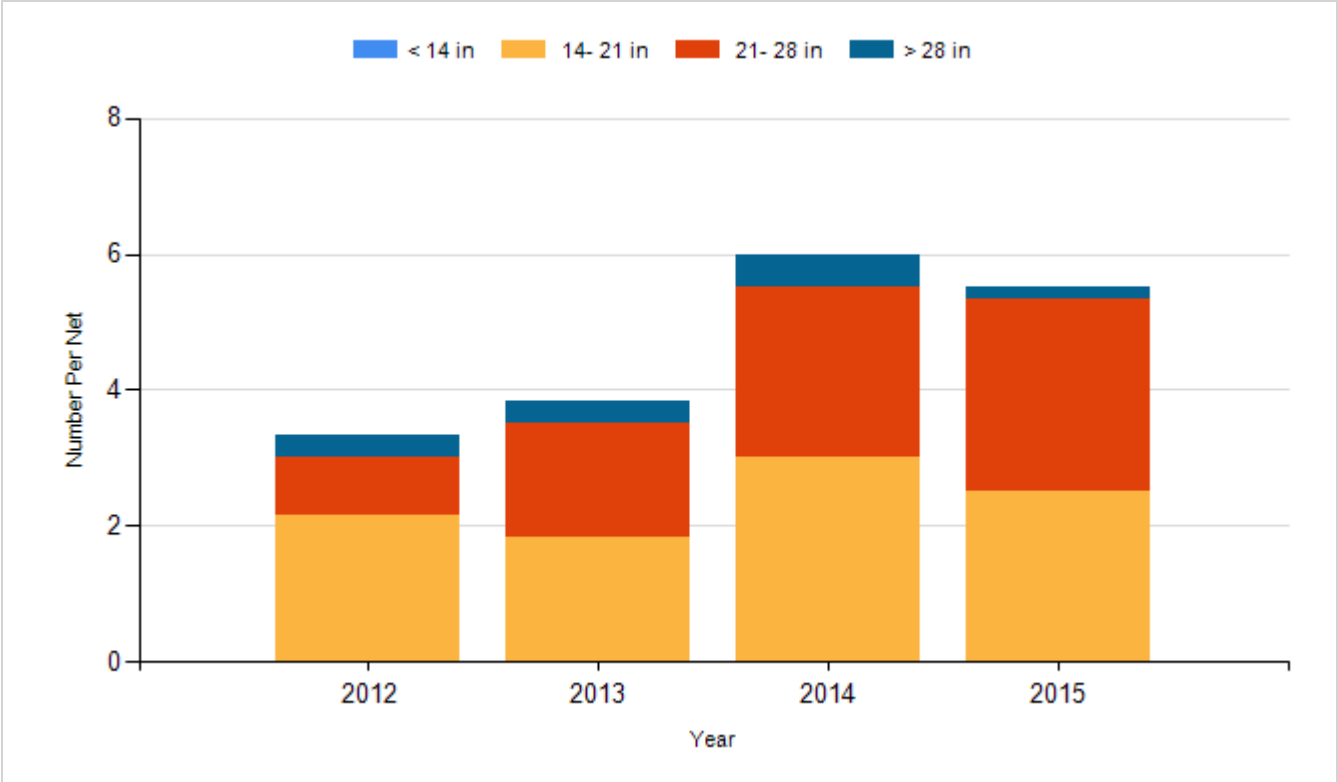
Species: Bluegill
Gear: frame net (std 3/4 in)



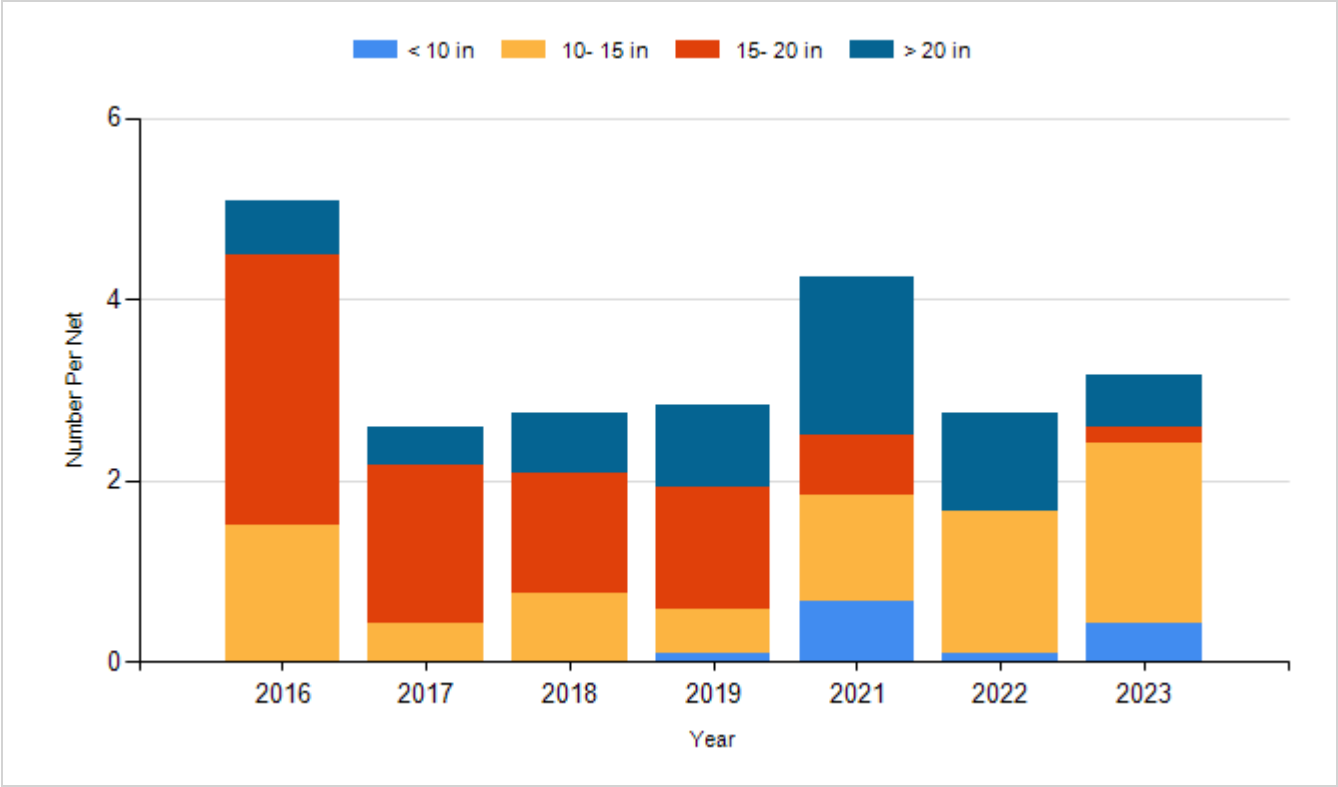
Species: Northern Pike
Gear: AFS std gill net



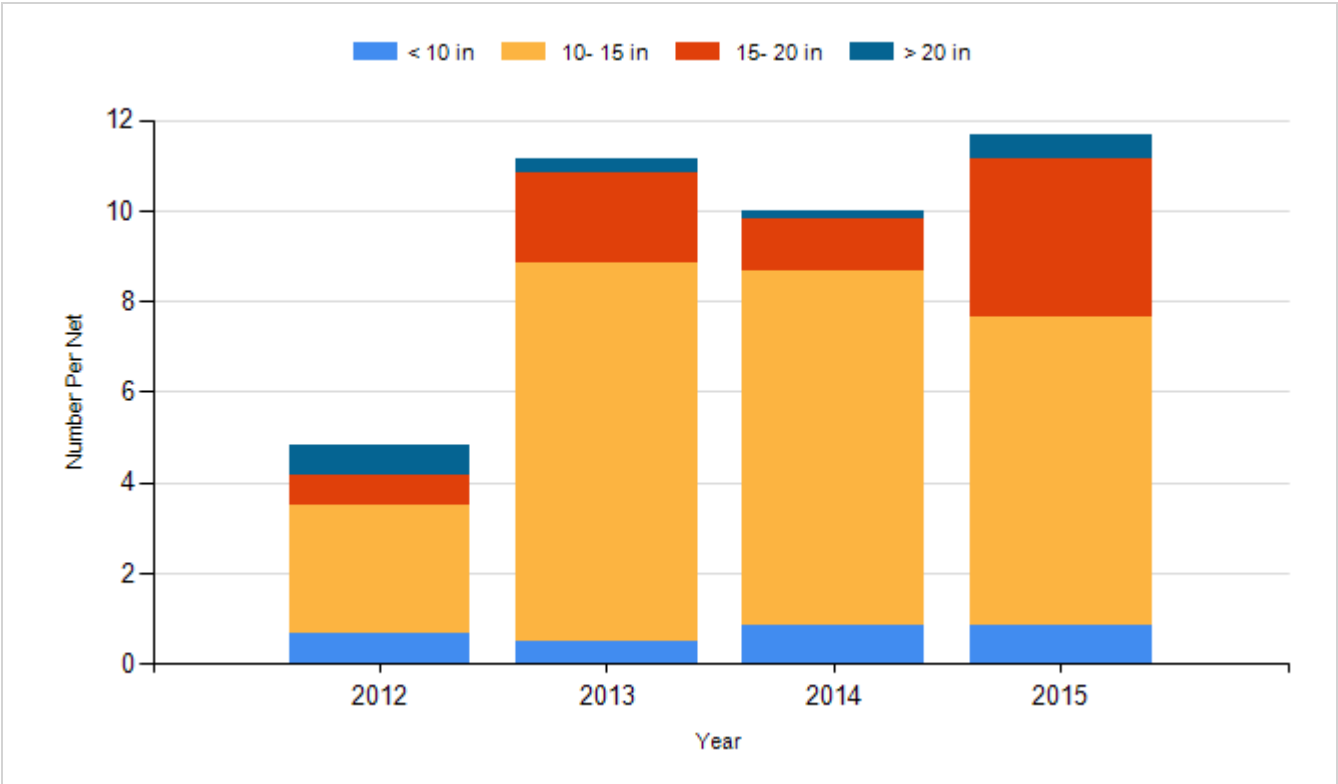
Species: Northern Pike
Gear: std exp gill net



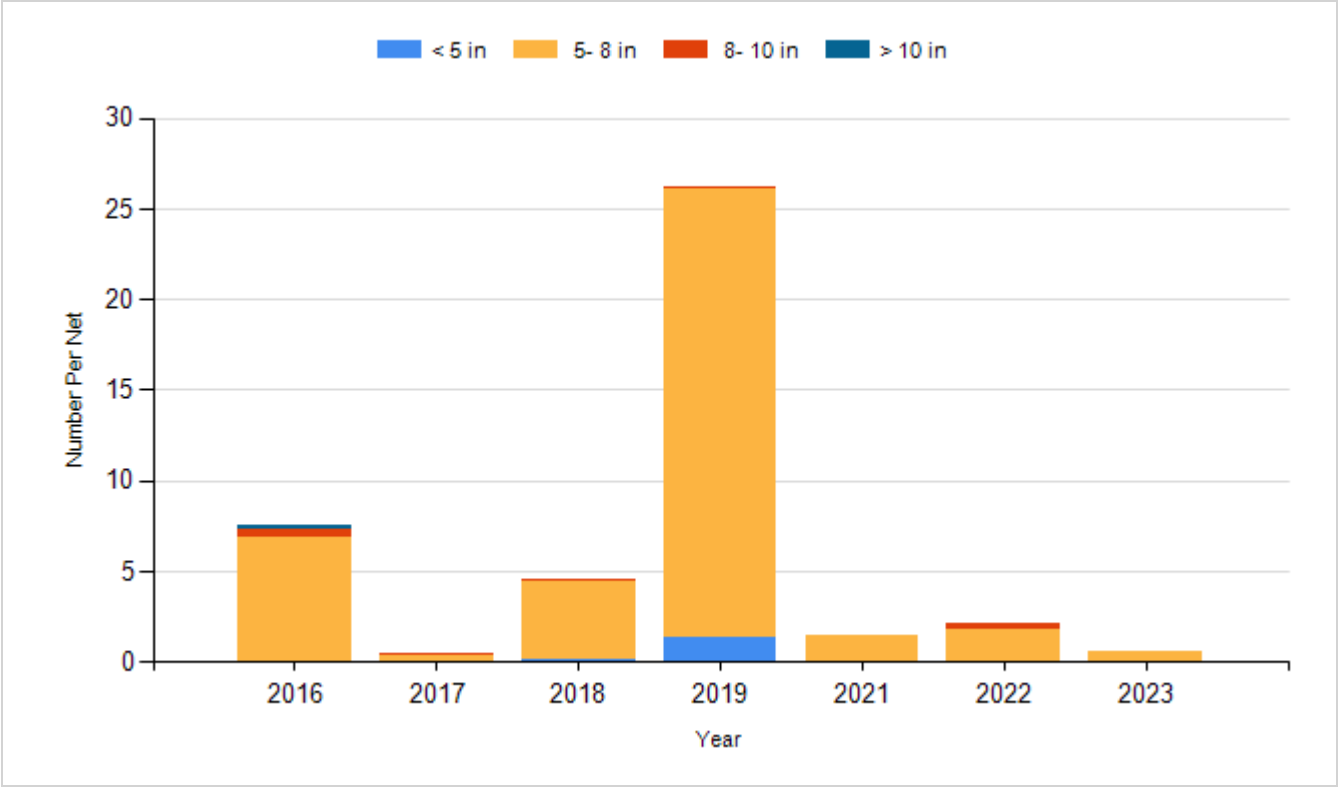
Species: Walleye
Gear: AFS std gill net



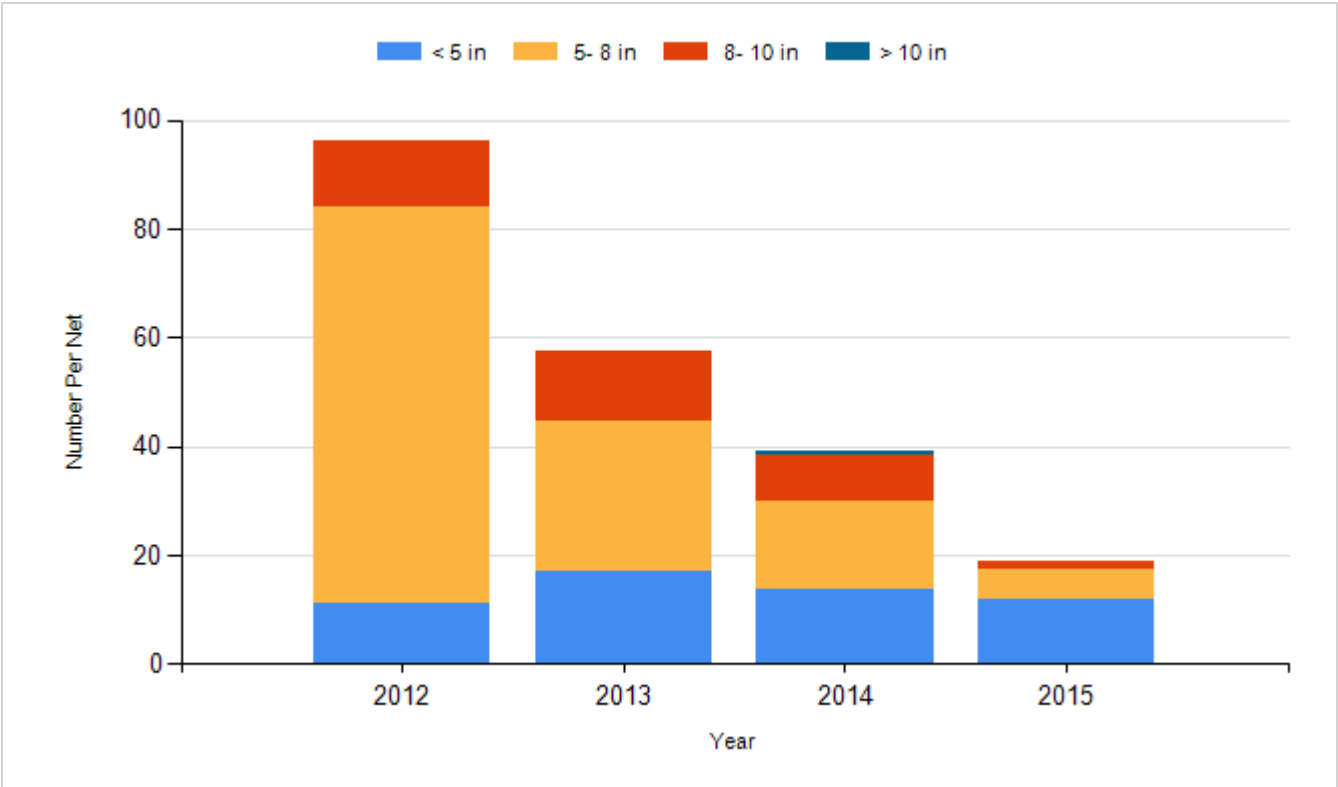
Species: Walleye
Gear: std exp gill net



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
2012	Walleye	Fry	600,000
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

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Clear, Minnehaha County
LBS-Lake-232-000
2023

Lake Information

Name:	Clear	**Maximum Depth:**	11 Feet
County:	Minnehaha	**Mean Depth:**	4 Feet
Legal Description:	T103-R51-Sec. 6; T103-R52-Sec. 1; T104-R52-Sec. 36		
Surface Area:	506 Acres		

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Jun 15, 2023	4 net-nights

Common Fish Species Present

Yellow Perch

Walleye

Black 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	1	0.3	0.4	100		0			

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	Black Bullhead								10.8		0.3	5.55
	Common Carp								8.3		0.0	4.15
	Walleye								28.0		0.0	14.00
	White Sucker								1.7		0.0	0.85
	Yellow Bullhead								0.2		0.0	0.10
std exp gill net	Black Bullhead	30.3										30.30
	Common Carp	12.0										12.00
	Northern Pike	0.0										0.00
	Walleye	2.3										2.30

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	Black Bullhead	PSD								49		100
		PSD-P								11		0
	Walleye	PSD								61		
		PSD-P								1		
		Wr								104		
std exp gill net	Black Bullhead	PSD	4									
		PSD-P	0									
	Walleye	PSD	100									
		PSD-P	0									
		Wr	92									

Fish Condition

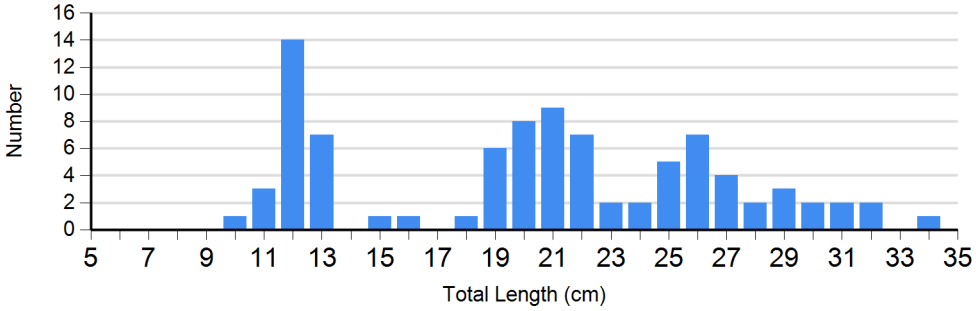
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Walleye Gill Net	2021	66	105 (0.8)	101	104 (0.7)	0		1	97

Length Frequency Distribution

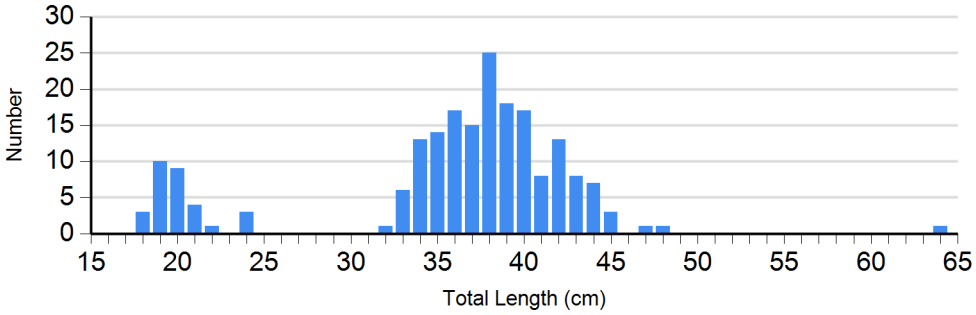
Length frequency histogram of species sampled by year.

Species: Black Bullhead
Gear: AFS std gill net



2021

Species: Walleye
Gear: AFS std gill net

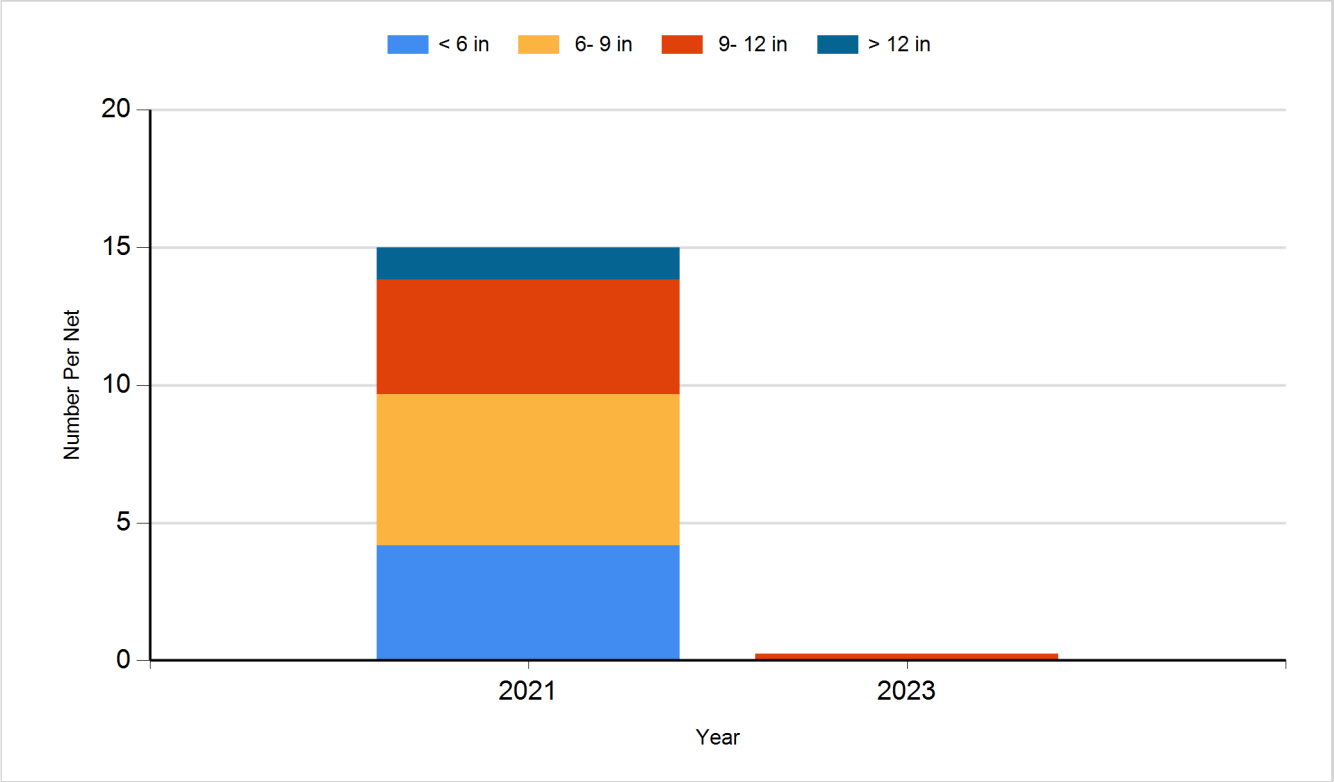


2021

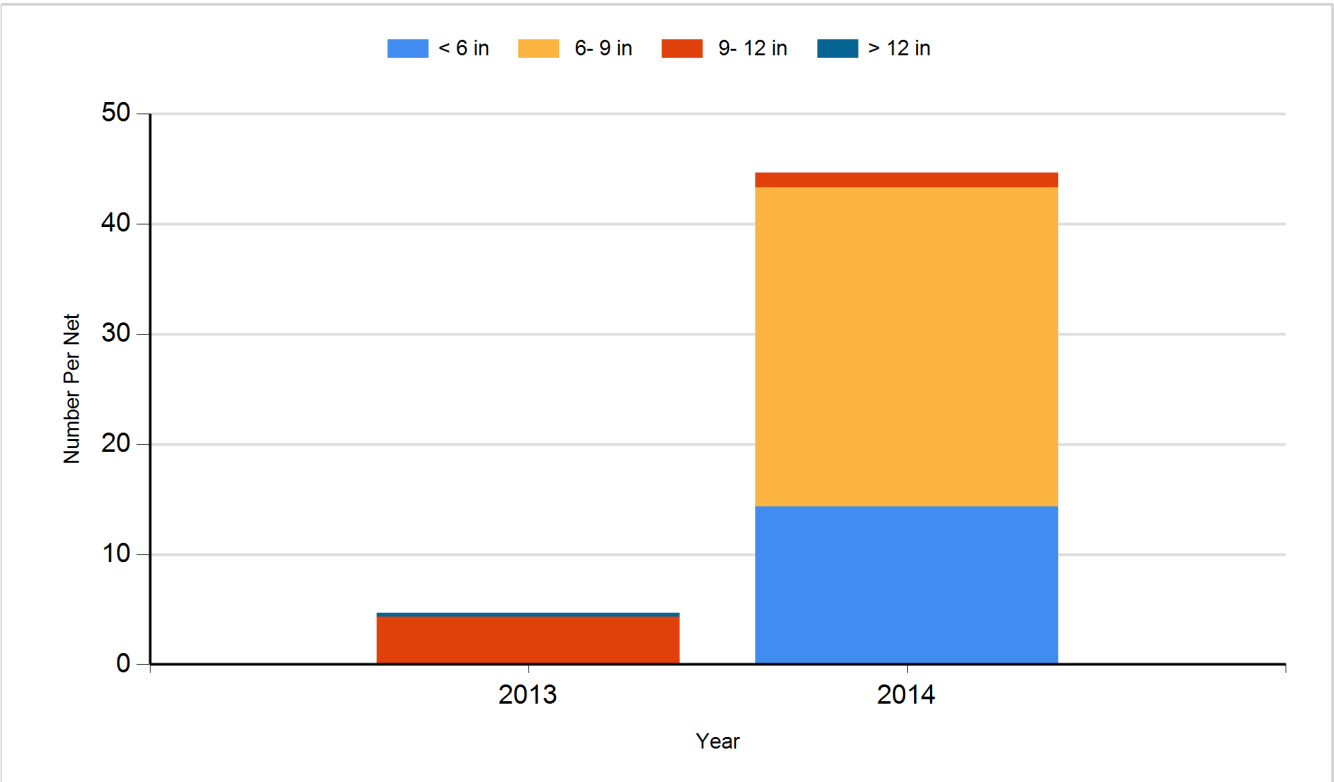
Historic Fish Sizes and Relative Abundance

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

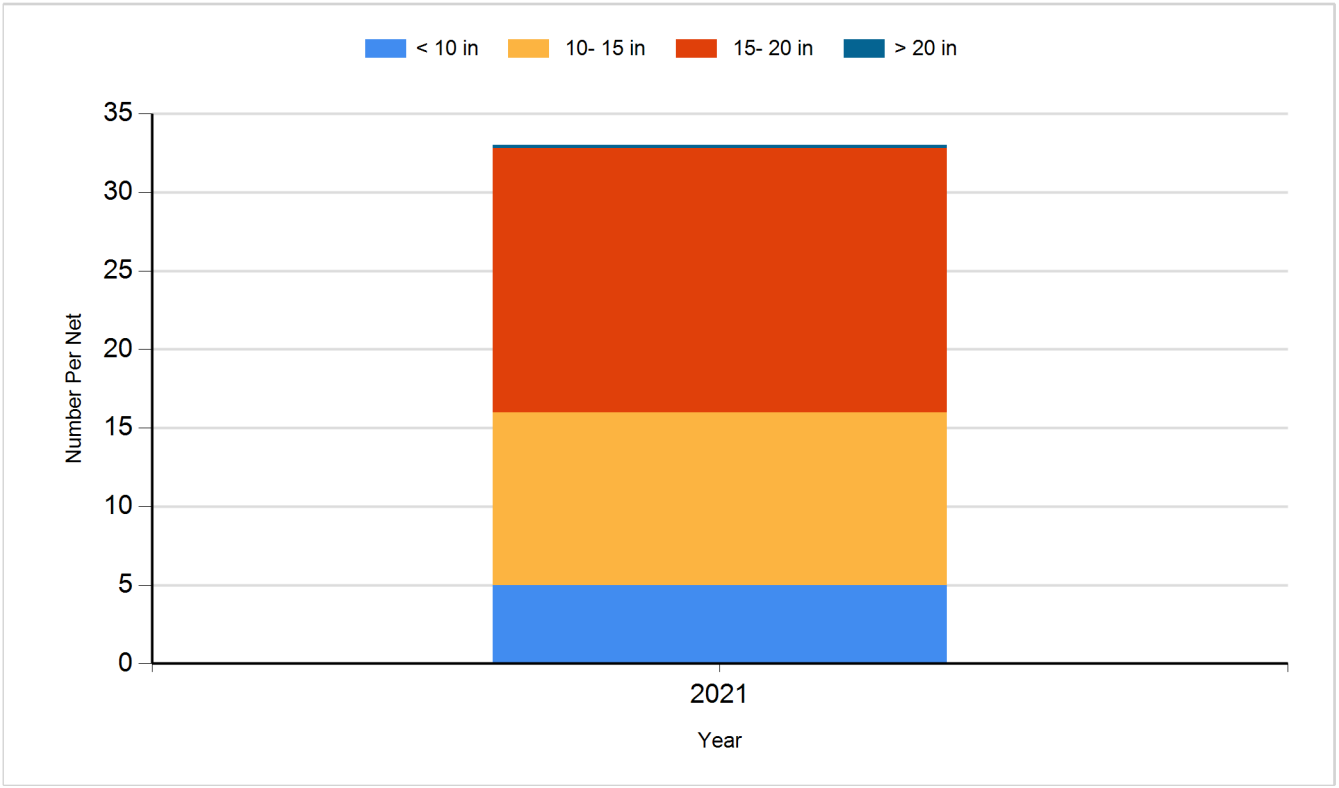
Species: Black Bullhead
Gear: AFS std gill net



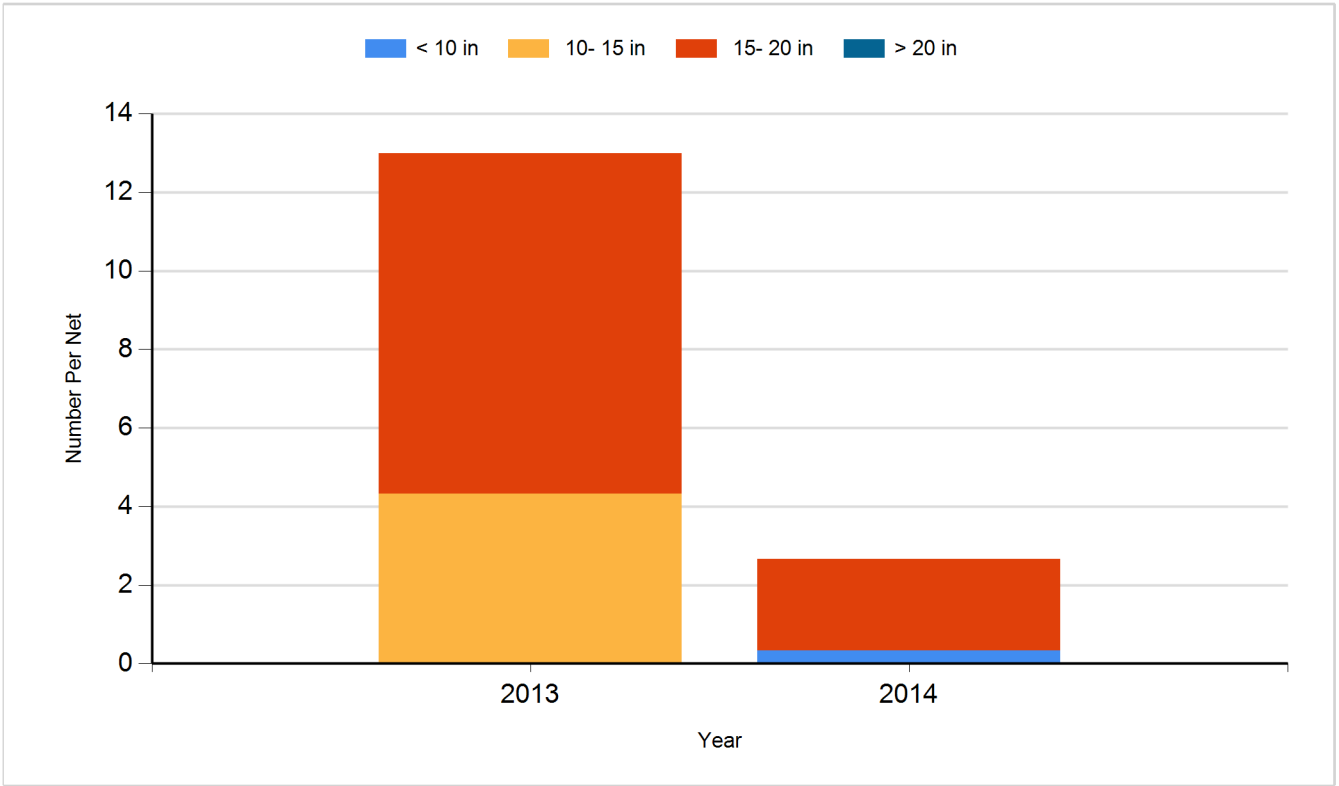
Species: Black Bullhead
Gear: std exp gill net



Species: Walleye
Gear: AFS std gill net



Species: Walleye
Gear: std exp gill net



Fish Stocking

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

Year	Species	Size	Number
2012	Walleye	Fry	627,694
2012	Yellow Perch	Juvenile	2,750
2014	Walleye	Fry	475,000
2016	Walleye	Fry	470,000
2017	Walleye	Fry	470,000
2018	Walleye	Fry	1,200,000
2019	Walleye	Fry	1,200,000
2021	Walleye	Fry	1,200,000
2023	Walleye	Fry	550,000