Note: Zebra mussels are present in Enemy Swim 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/

Enemy Swim Lake Survey Summary

Enemy Swim, located 1.5 miles east and 6.5 miles north of Waubay, is managed as a multiple-species fishery including panfish (i.e., black crappie, bluegill, and yellow perch), black bass (largemouth and smallmouth) and walleye.

- **Black crappie.** Black crappies were not abundant (0.3 per frame net) in 2023; those sampled ranged in length from 4.7 to 7.5 inches.

- **Bluegill.** The 2023 mean frame net CPUE of 121.3 was the highest CPUE observed from 2014 – 2023. Sampled bluegills ranged in length from 2.4 to 9.8 inches of those that were at least 3.0 inches 41% were ≥6.0 inches and 15% were ≥8.0 inches. Individuals from seven consecutive year classes (2015 – 2022) contributed to the catch. Bluegills from the 2020 (age-3) cohort were the most abundant accounting for 36% of fish in the sample. Meanwhile, those from the 2019 (age-4) and 2016 (age-7) year classes made up an additional 21% and 17%, respectively. Since 2014, mean length at capture values for age-5 bluegills have ranged from 5.4 to 7.8 inches. In 2023, age-5 bluegills had a mean length of 6.5 inches.

- **Largemouth/Smallmouth bass.** Spring electrofishing was not completed in 2023.

- **Walleye.** Walleye numbers were higher in 2023 than in 2022. At 3.8/gill net, relative abundance was considered moderate for Enemy Swim Lake. Sampled walleyes ranged in length from 7.5 to 27.2 inches of those that were at least 10.0 inches 89% were ≥15.0 inches and 30% were ≥20.0 inches. Eleven cohorts produced between 2005 and 2022 contributed to the catch, none were particularly strong. Individuals from the 2019 (age-4) and 2018 (age-5) year classes were the most abundant accounting for 23 of the 43 walleyes sampled. Although sample sizes are low, the 2023 sample seems to suggest good walleye growth with mean length at captures at age 3 and age 4 of 16.0 and 18.1 inches.

- **Yellow perch**. Although yellow perch numbers were higher in 2023 than in 2022, relative abundance remained low (4.5/gill net). Sampled yellow perch ranged in length from 5.1 to 9.4 inches, 41% were 8.0 inches or longer. The entire sample was comprised of fish from five consecutive cohorts (2016 – 2020). Individuals from the 2018 (age-5) year class, which had a mean length at capture of 7.9 inches, were the most numerous accounting for 52% of yellow perch in the sample.

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

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Enemy Swim, Day County
UBS-Lake-196-000
2023

Lake Information

Name:	Enemy Swim	**Maximum Depth:**	26 Feet
County:	Day	**Mean Depth:**	16 Feet
		OHWM Elevation:	1,854
Surface Area:	2,186 Acres	**Outlet Elevation:**	1,854

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Jun 13, 2023	4 net-nights
AFS std gill net	Jun 14, 2023	3 net-nights
AFS std gill net	Jun 15, 2023	5 net-nights
fall night EF-WAE	Sep 25, 2023	3600 seconds
frame net (std 3/4 in)	Jun 13, 2023	8 net-nights
frame net (std 3/4 in)	Jun 14, 2023	8 net-nights
frame net (std 3/4 in)	Jun 15, 2023	8 net-nights

Common Fish Species Present

Largemouth Bass

Bluegill

Black Crappie

Walleye

Smallmouth Bass

Yellow Perch

Rock Bass

White Bass

Northern Pike

White Sucker

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	7	0.6	0.5	100		100		96	7
	Black Crappie	15	1.2	0.6	93		93		94	2
	Bluegill	26	2.2	1.0	46	15	31	14	109	2
	Common Carp	3	0.3	0.2	100		100		86	2
	Largemouth Bass	3	0.3	0.3	100		33		109	6
	Northern Pike	14	1.2	0.5	100		7		86	2
	Pumpkinseed	2	0.2	0.2	50		0		103	3
	Rock Bass	12	1.0	1.1	58	24	33		109	3
	Smallmouth Bass	37	3.1	1.5	95		65	12	94	1
	Walleye	48	3.8	1.1	89	7	30	10	87	1
	White Bass	36	3.0	1.3	100		100		85	1
	White Sucker	14	1.2	0.5	100		100		109	3
	Yellow Perch	54	4.5	3.9	41	10	0		85	1
frame net (std 3/4 in)	Black Bullhead	3	0.1	0.1	100		67		86	5
	Black Crappie	9	0.3	0.2	57		43		93	4
	Bluegill	2924	121.3	39.3	41	1	15	1	105	0
	Common Carp	1	0.0	0.1	100		100			
	Northern Pike	5	0.2	0.1	75		0		88	4
	Pumpkinseed	22	0.9	0.4	38	17	0		109	2
	Rock Bass	290	11.7	6.4	52	4	16	3	102	1
	Smallmouth Bass	175	3.8	1.4	21	6	10	5	94	1
	Walleye	10	0.3	0.2	86		86		84	2
	White Bass	6	0.3	0.2	100		100		90	4
	White Sucker	4	0.2	0.1	100		100		96	7
	Yellow Perch	2	0.1	0.1	0		0		83	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.

***SDGFP standard gill nets used 2014 - 2015; avg calculated on data from 2016 – 2023; ** Includes 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*	Black Bullhead	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.3	0.0	0.6	0.16
	Black Crappie	3.5	1.3	0.8	0.3	0.1	0.2	0.3	3.0	0.2	1.2	0.76
	Bluegill	10.3	15.5	3.8	0.9	6.5	3.5	15.9	15.5	0.9	2.2	6.15
	Common Carp	0.2	0.2	0.8	0.3	0.1	0.6	0.7	0.4	0.0	0.3	0.40
	Largemouth Bass	0.0	0.0	0.1	0.3	0.0	0.1	0.0	0.2	0.1	0.3	0.14
	Northern Pike	1.7	0.2	1.2	1.3	0.3	0.3	0.4	1.1	1.5	1.2	0.91
	Pumpkinseed	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.08
	Rock Bass	2.0	0.7	0.2	0.1	0.6	0.5	0.1	0.3	0.4	1.0	0.40
	Smallmouth Bass	5.3	1.5	2.4	0.9	2.8	2.3	3.8	4.4	2.1	3.1	2.73
	Walleye	8.5	8.7	7.2	1.3	3.8	1.5	1.8	3.4	1.2	3.8	3.00
	White Bass	1.3	2.0	7.6	3.0	2.1	3.9	1.4	3.4	1.9	3.0	3.29
	White Sucker	4.7	1.8	2.2	3.5	1.6	1.1	0.6	1.3	1.8	1.2	1.66
	Yellow Perch	1.7	0.0	4.9	0.9	1.0	4.8	13.2	18.9	2.9	4.5	6.39
boat shocker**	Largemouth Bass	224.3				21.2				51.2		98.90
boat shocker**	Smallmouth Bass	82.0		86.0			32.0					66.67
fall night EF-WAE***	Walleye	8.0	20.0	38.5	9.0	11.0	15.0			182.0	59.0	42.81
frame net (std 3/4 in)****	Black Bullhead	0.7	0.2	0.1	0.3	0.3	0.3	0.3	0.2	0.5	0.1	0.30
	Black Crappie	1.2	0.3	2.6	0.2	4.1	0.6	2.2	0.7	0.2	0.3	1.24
	Bluegill	31.5	26.1	62.7	39.2	119.1	62.8	46.0	85.4	43.2	121.3	66.73
	Channel Catfish	0.0	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	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.05
	Northern Pike	0.3	0.6	0.5	0.2	0.3	0.1	0.3	0.3	0.3	0.2	0.31
	Pumpkinseed	0.4	1.5	1.1	0.3	0.5	0.4	0.5	1.4	1.9	0.9	0.89
	Rock Bass	5.3	6.4	0.8	2.3	4.5	3.0	5.4	6.9	4.4	11.7	5.07
	Smallmouth Bass	3.3	2.0	0.6	0.5	0.8	2.6	5.2	5.3	3.0	3.8	2.71
	Walleye	0.8	0.8	1.0	0.6	0.1	0.1	0.2	0.1	0.1	0.3	0.41
	White Bass	0.2	0.3	0.3	0.0	0.5	0.4	0.7	0.1	0.0	0.3	0.28
	White Sucker	0.0	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.11
	Yellow Perch	0.5	0.3	1.4	0.1	3.8	0.7	1.0	1.6	0.5	0.1	1.00

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*	Walleye	PSD	16	10	52	81	70	83	73	63	79	89
		PSD-P	4	2	1	6	4	11	27	29	36	30
		Wr	82	83	86	83	90	86	85	86	89	87
	Yellow Perch	PSD	10	0	7	18	0	0	0	7	23	41
		PSD-P	0	0	0	0	0	0	0	0	0	0
		Wr	92		95	87	94	97	100	93	93	85
frame net (std 3/4 in)**	Bluegill	PSD	46	42	43	3	20	17	19	51	52	41
		PSD-P	27	21	18	1	5	3	2	17	20	15
		Wr	103	105	104	107	104	103	110	105	103	105

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	2921		83 (27)	105 (1059)	132 (613)	165 (246)	194 (398)	191 (493)	219 (83)		
2022	1035		87 (6)	102 (159)	116 (212)	161 (192)	182 (309)	200 (156)	154 (4)		241 (2)
2021	1707			100 (238)	132 (572)	170 (565)	200 (294)	203 (23)	244 (7)	234 (10)	
2020	1003		91 (22)	117 (339)	126 (505)	158 (135)	201 (4)				
2019	1438		94 (21)	100 (455)	127 (917)	150 (20)	205 (24)				
2018	2513		85 (42)	110 (1952)	146 (208)	186 (252)	223 (16)	237 (16)	241 (19)		250 (11)
2017	2228		75 (1923)	123 (74)	125 (158)	136 (66)	204 (1)	249 (1)		245 (4)	242 (2)
2016	2140	68 (636)	100 (206)	95 (582)	161 (338)	198 (248)	215 (85)	243 (8)	233 (17)	256 (8)	246 (14)
2015	636	77 (6)	77 (3)	93 (327)	163 (122)	187 (61)	205 (22)	224 (81)	226 (10)	224 (5)	242 (1)
2014	757		96 (125)	109 (209)	144 (101)	196 (92)	200 (155)	198 (76)	234 (1)	234 (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	48	198 (2)	332 (4)	407 (3)	460 (13)	486 (10)	515 (3)	458 (1)			580 (12)
2022	15	211 (2)		368 (4)	426 (1)		545 (1)	520 (1)		496 (1)	532 (5)
2021	43	223 (4)	319 (12)	404 (7)	456 (3)	556 (1)	527 (3)		556 (2)		527 (11)
2020	28	214 (6)	322 (6)	420 (1)	447 (2)	477 (5)	485 (1)			528 (2)	575 (5)
2019	21	233 (4)	325 (2)	424 (2)	479 (3)		480 (4)		524 (1)	456 (1)	500 (4)
2018	47	218 (1)	316 (5)	366 (10)	380 (2)	434 (7)		443 (8)	420 (2)	462 (11)	672 (1)
2017	17		281 (2)	151 (1)	410 (4)		392 (3)		438 (7)		
2016	88	248 (2)	281 (4)	331 (11)	366 (1)	381 (28)	398 (7)	386 (36)			625 (1)
2015	54		256 (6)		329 (7)	360 (3)	354 (37)				681 (1)
2014	55	187 (4)		278 (4)		356 (45)					584 (2)

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	54			157 (5)	172 (14)	201 (28)	218 (5)	203 (1)			
2022	36		114 (1)	152 (9)	188 (21)	212 (5)					
2021	227		139 (14)	167 (146)	175 (67)						
2020	158		148 (118)	170 (40)							
2019	57		147 (57)								
2017	11			161 (4)	192 (2)	189 (3)		197 (1)	206 (1)		
2016	59	136 (1)	147 (40)	171 (13)	199 (2)		222 (1)	205 (1)	240 (1)		
2015	11	100 (10)	97 (1)								
2014	19	97 (7)	110 (2)		155 (1)	184 (3)	195 (6)				

Fish Condition

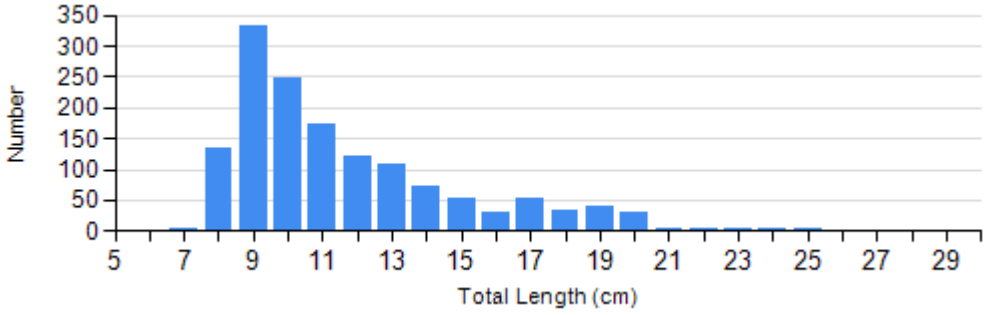
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		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	1195	101 (0.5)	208	113 (0.8)	40	114 (1.4)	1	
	2020	814	109 (0.6)	180	113 (1.7)	16	108 (1.2)	1	124
	2021	837	100 (0.7)	584	108 (0.4)	286	103 (0.5)	0	
	2022	495	100 (1.0)	336	102 (0.8)	204	108 (1.2)	1	123
	2023	1704	103 (0.4)	781	108 (0.7)	424	109 (0.8)	2	
Walleye Gill Net	2019	3	85 (2.1)	13	87 (1.5)	2	81 (5.9)	0	
	2020	6	83 (1.3)	10	86 (1.8)	5	86 (3.3)	1	68
	2021	15	89 (2.7)	14	85 (1.3)	12	84 (1.4)	0	
	2022	3	94 (1.4)	6	88 (1.2)	5	88 (4.6)	0	
	2023	5	91 (2.1)	27	87 (1.3)	12	85 (1.9)	2	75 (0.4)
Yellow Perch Gill Net	2019	57	97 (0.8)	0		0		0	
	2020	158	100 (0.6)	0		0		0	
	2021	211	93 (0.5)	16	93 (1.2)	0		0	
	2022	27	94 (1.1)	8	91 (1.2)	0		0	
	2023	32	86 (1.2)	22	83 (0.9)	0		0	

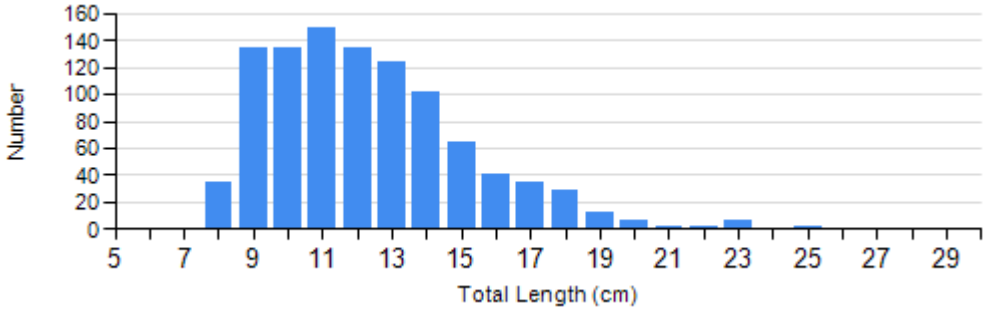
Length Frequency Distribution

Length frequency histogram of species sampled by year.

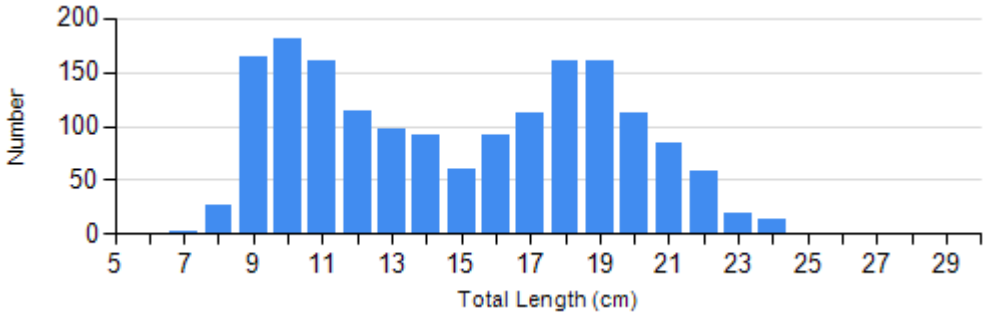
Species: Bluegill
Gear: frame net (std 3/4 in)



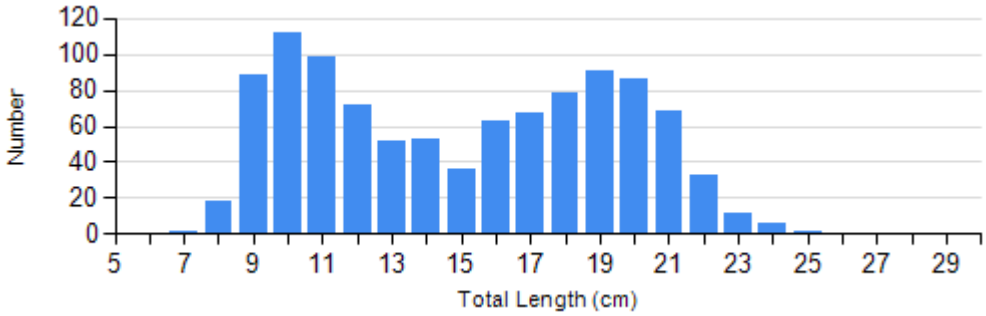
2019



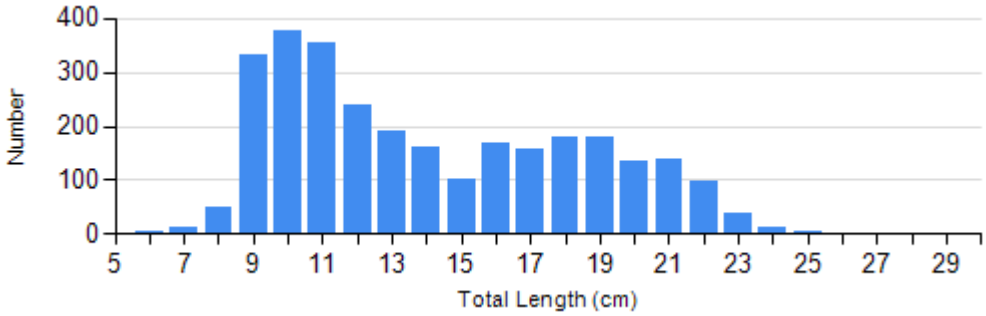
2020



2021



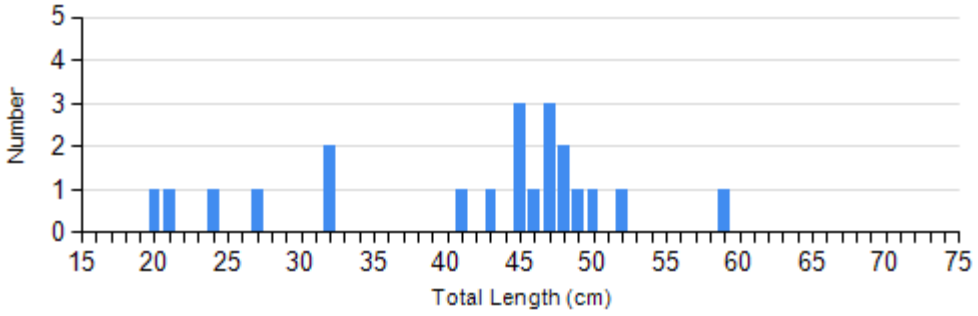
2022



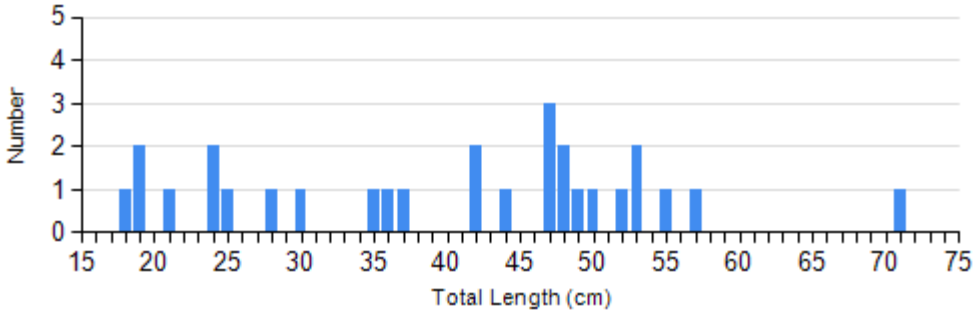
2023

Species: Walleye
Gear: AFS std gill net

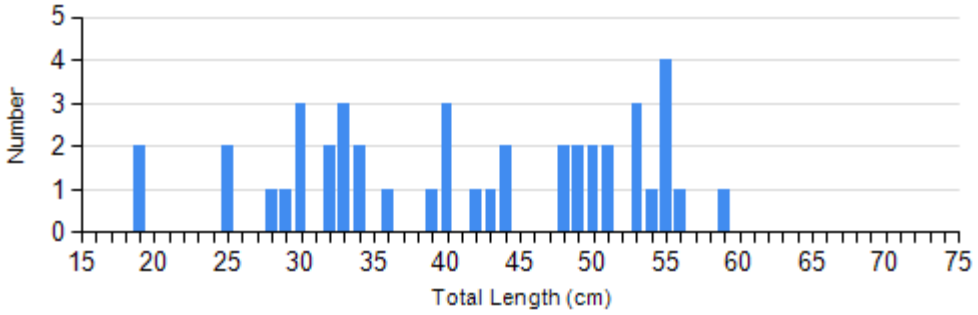
2019



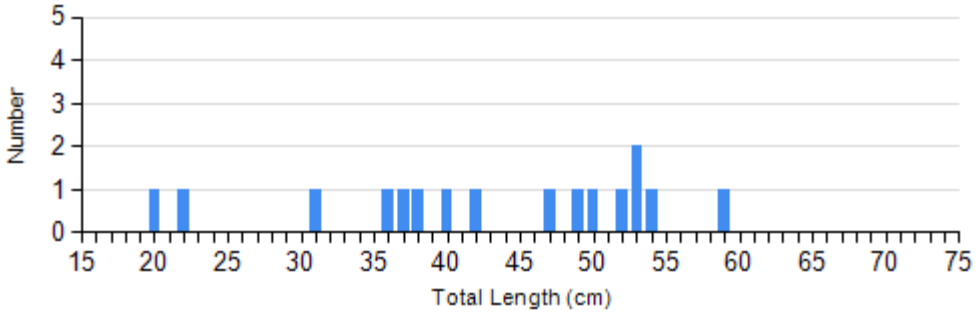
2020



2021



2022



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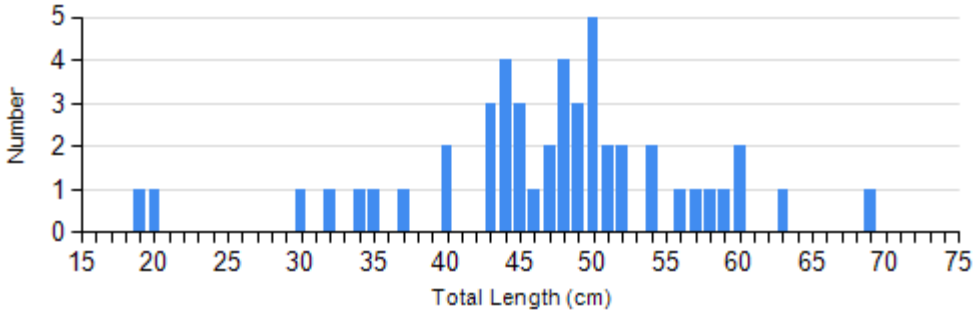
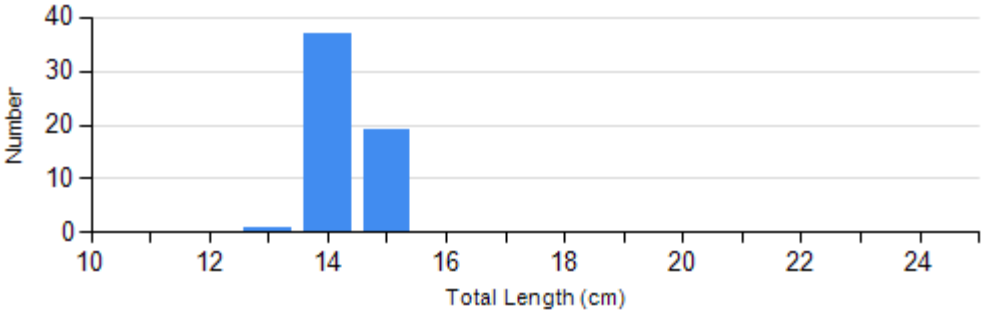
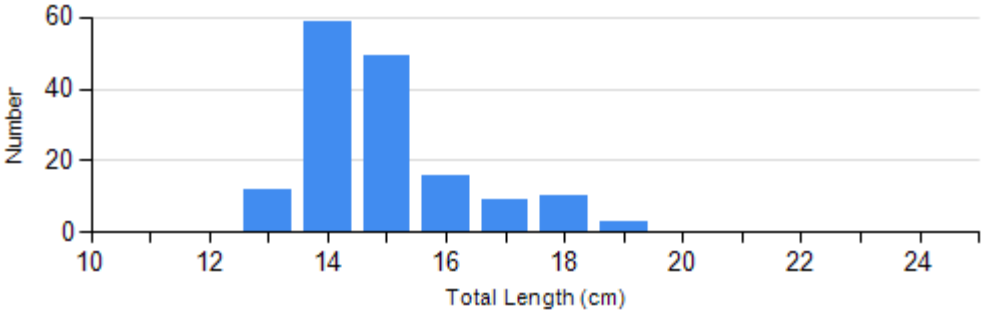


Species: Yellow Perch
Gear: AFS std gill net



2019



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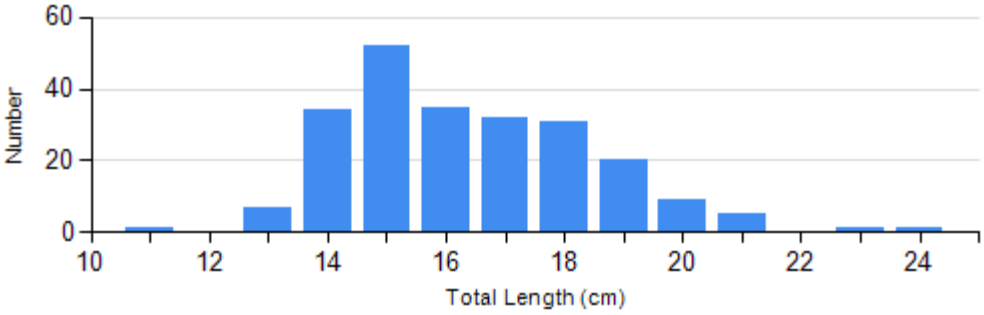

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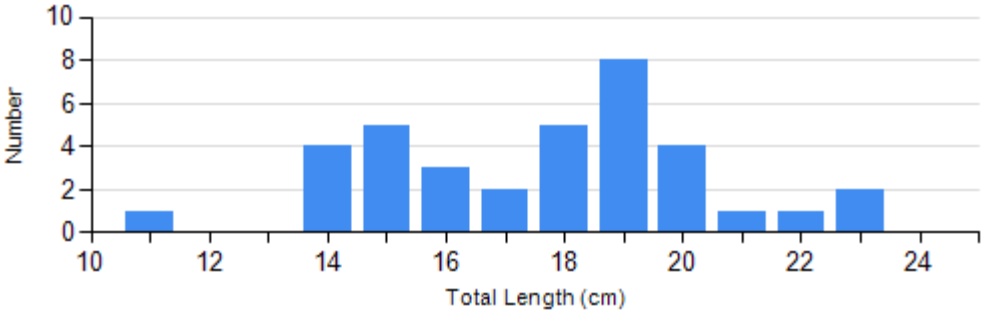

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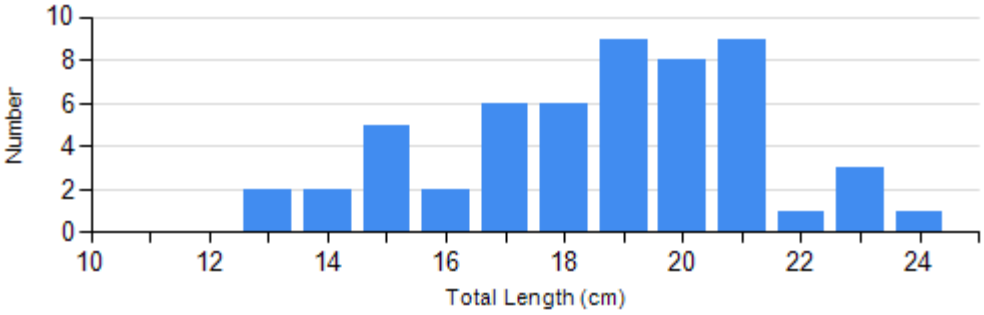
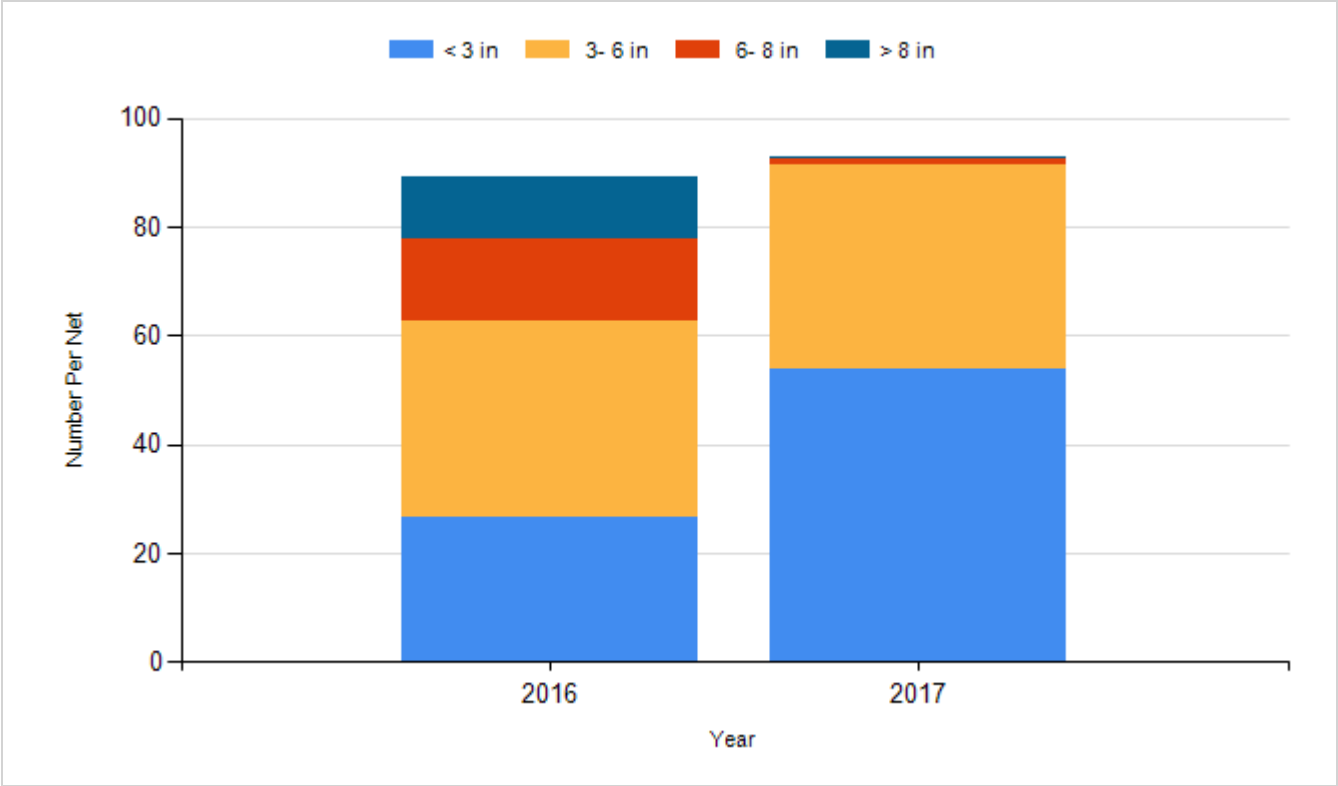


2023

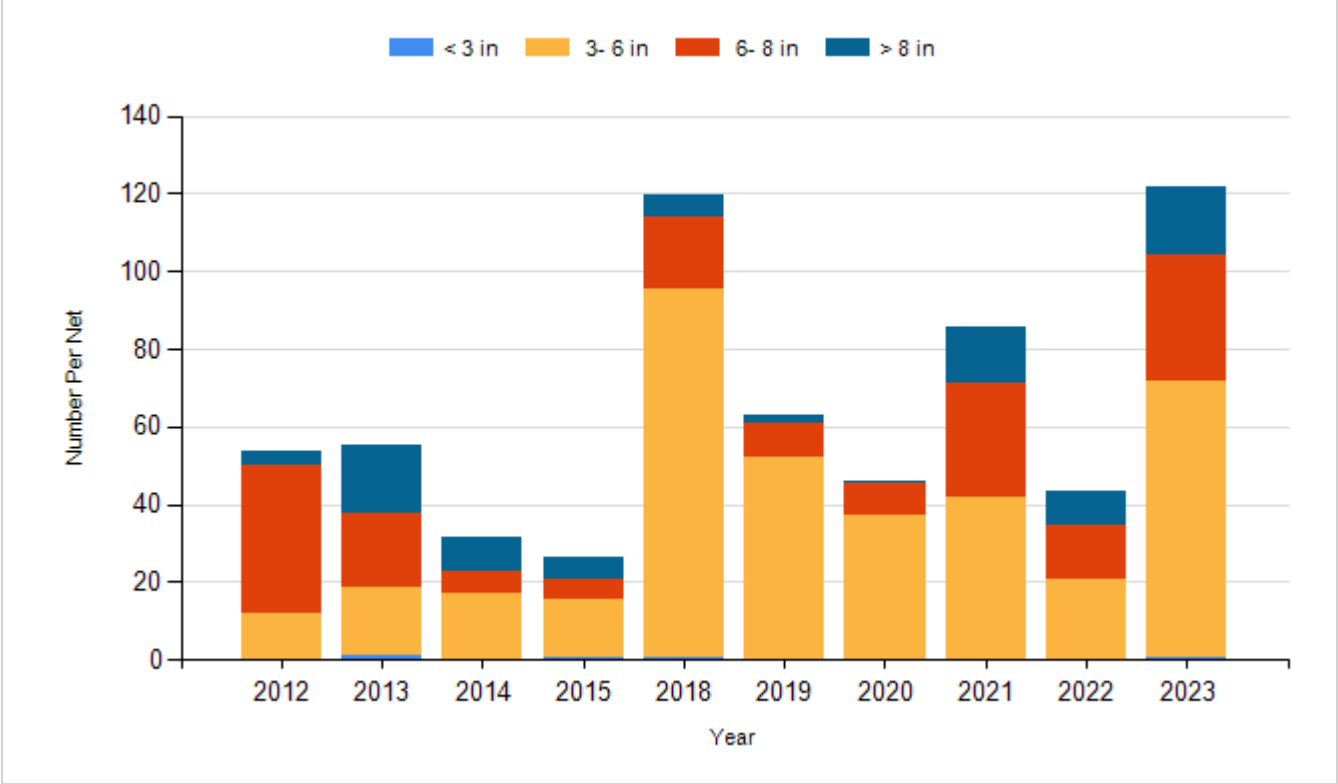
Historic Fish Sizes and Relative Abundance

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

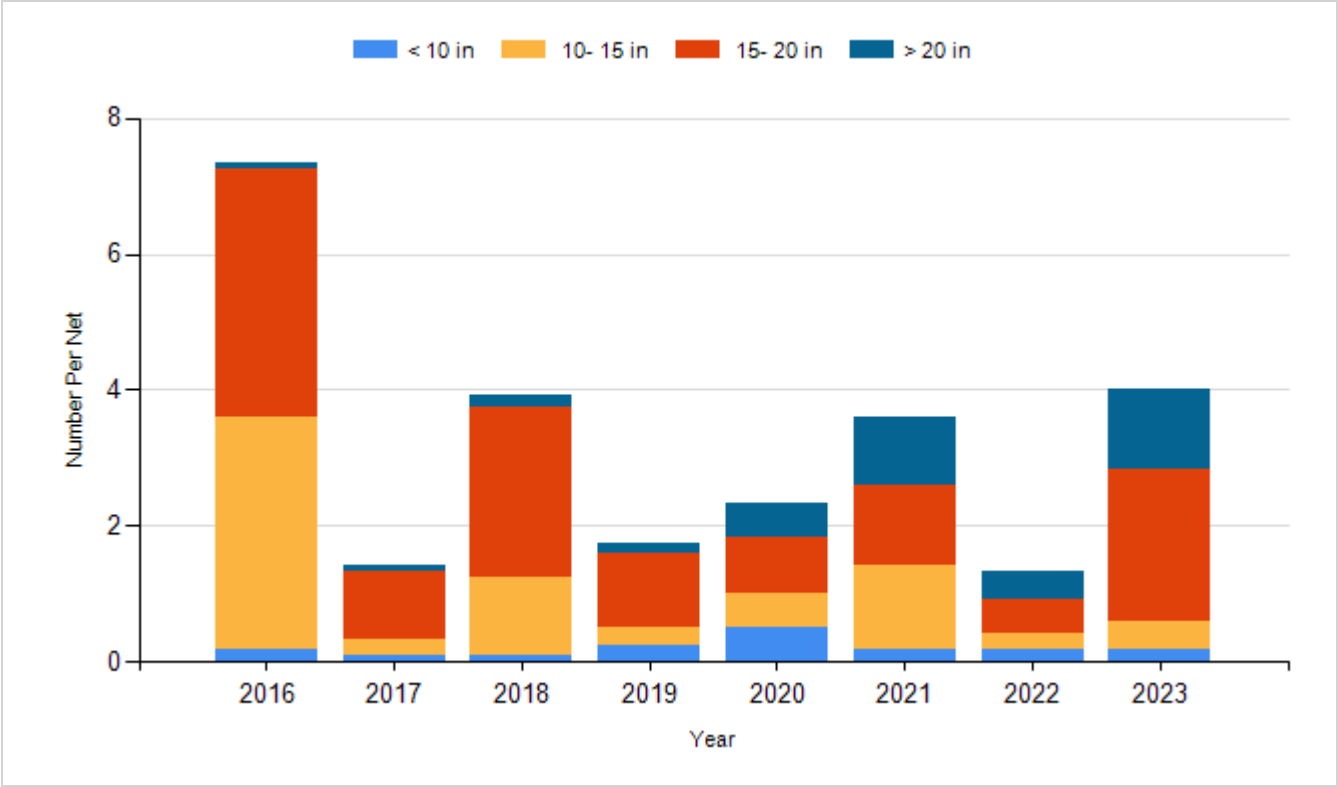
Species: Bluegill
Gear: AFS std frame net



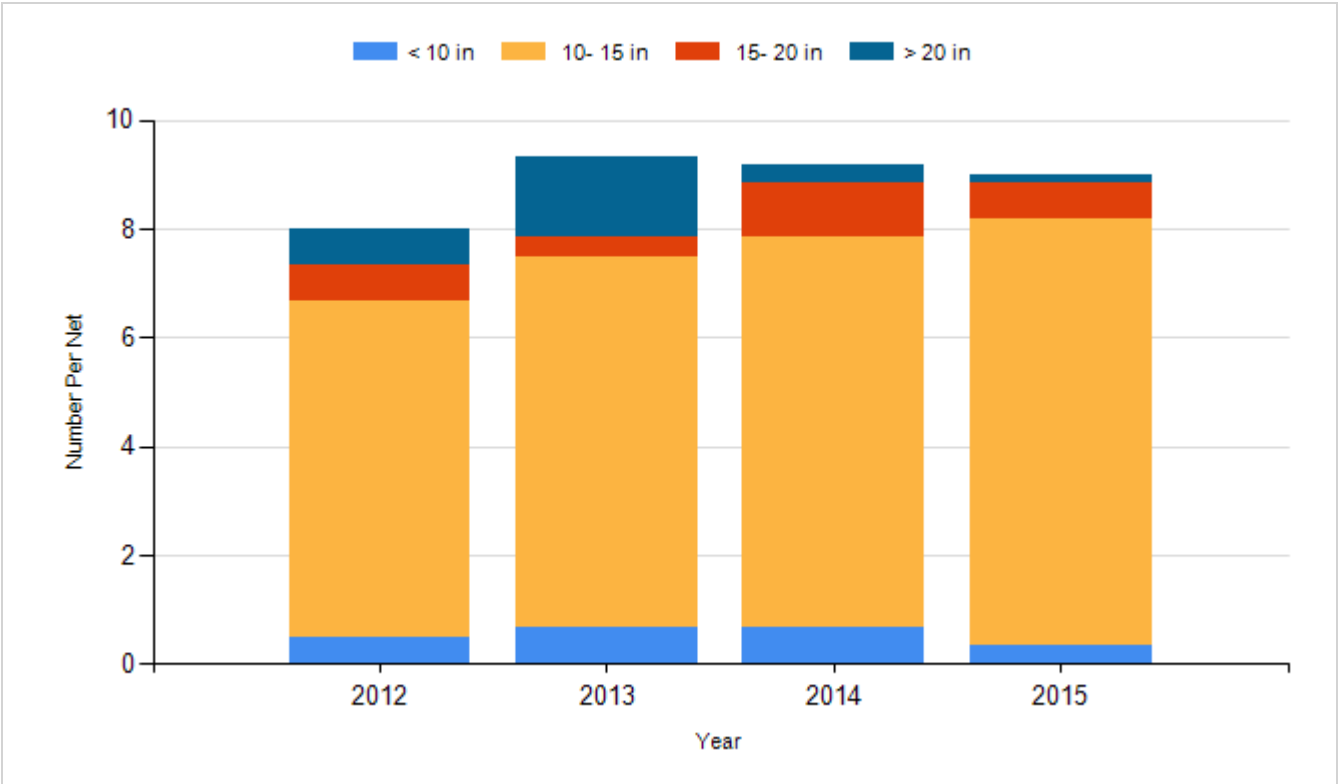
Species: Bluegill
Gear: frame net (std 3/4 in)



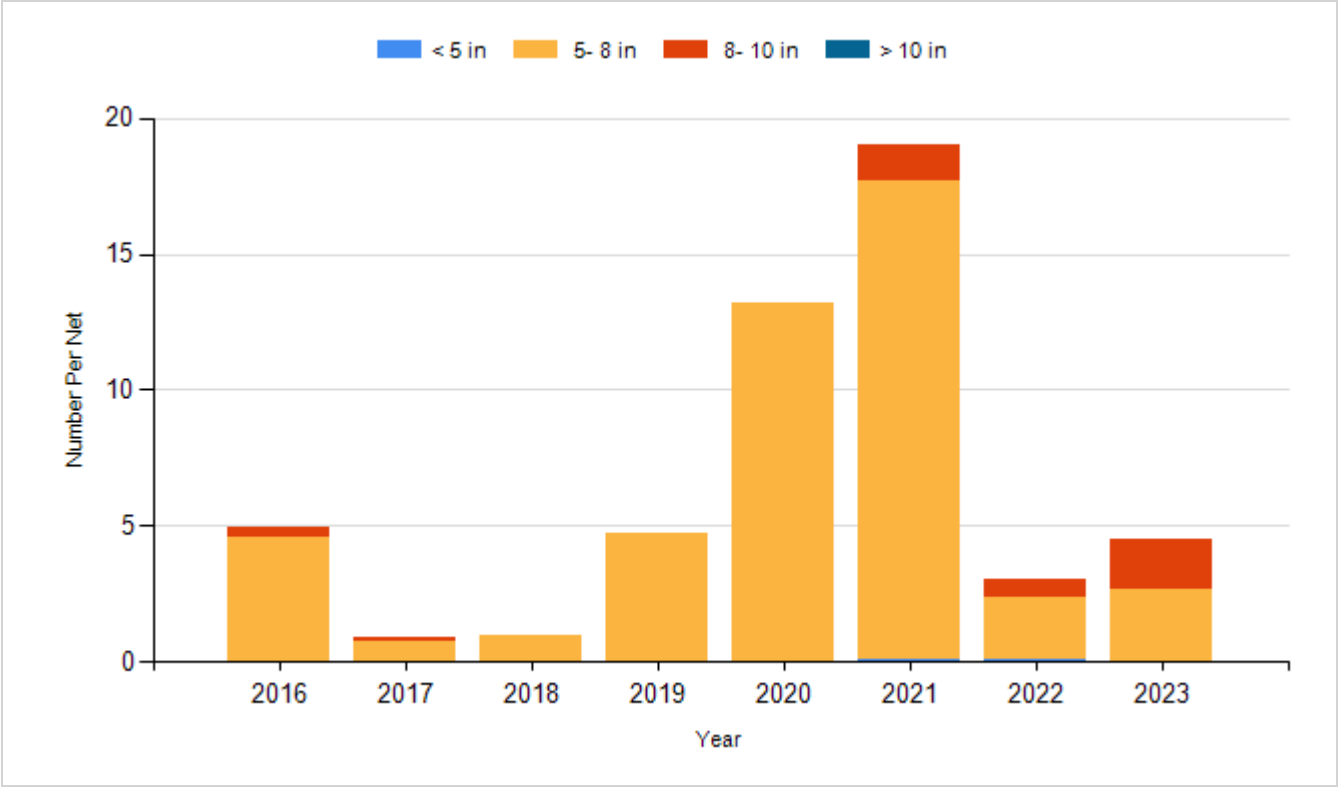
Species: Walleye
Gear: AFS std gill net



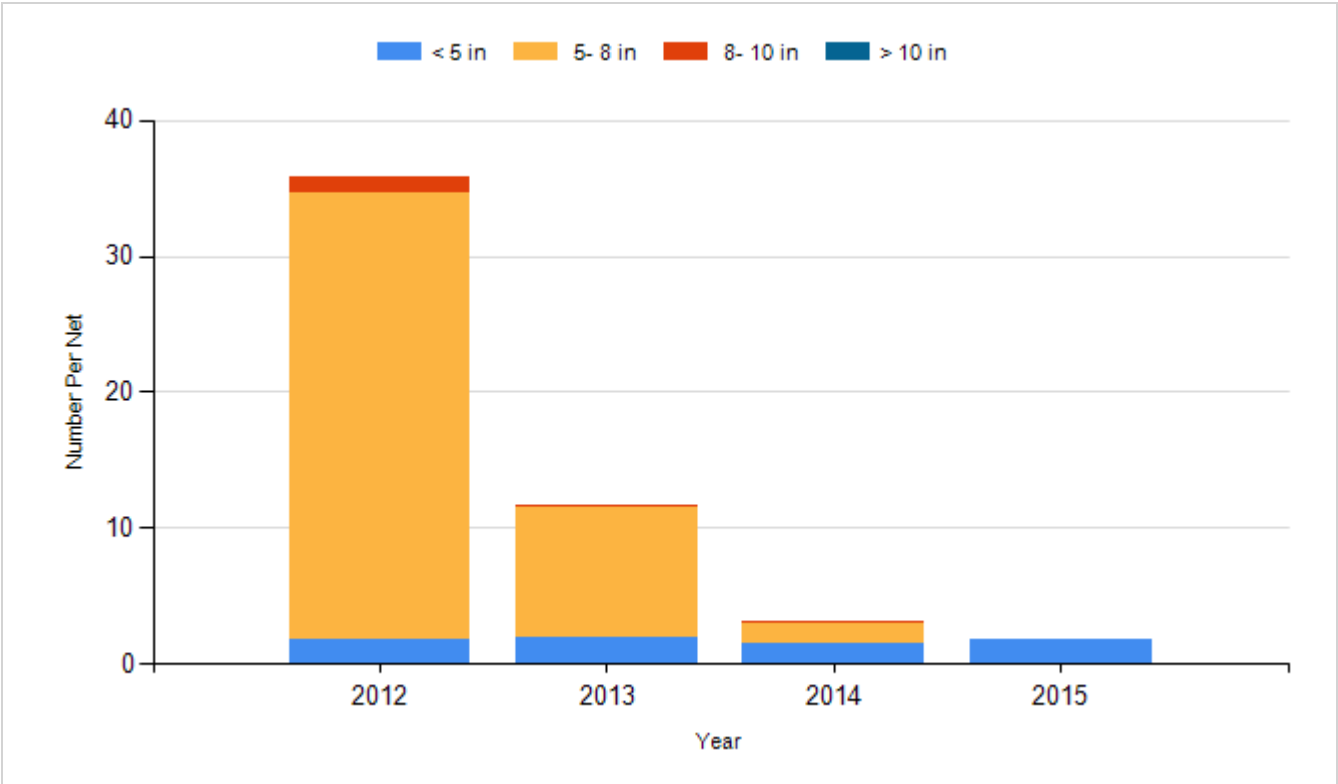
Species: Walleye
Gear: std exp gill net



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	Small Fingerling	217,450
2015	Walleye	Large Fingerling	13,264
2017	Walleye	Large Fingerling	900
2018	Walleye	Large Fingerling	48,484
2019	Walleye	Large Fingerling	3,800
2020	Walleye	Large Fingerling	4,610
2021	Walleye	Adult	42
2021	Walleye	Large Fingerling	22,819
2022	Walleye	Small Fingerling	226,640

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Enemy Swim, Day County
UBS-Lake-196-000
2023

Lake Information

Name:	Enemy Swim	**Maximum Depth:**	26 Feet
County:	Day	**Mean Depth:**	16 Feet
		OHWM Elevation:	1,854
Surface Area:	2,186 Acres	**Outlet Elevation:**	1,854

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Jun 13, 2023	4 net-nights
AFS std gill net	Jun 14, 2023	3 net-nights
AFS std gill net	Jun 15, 2023	5 net-nights
fall night EF-WAE	Sep 25, 2023	3600 seconds
frame net (std 3/4 in)	Jun 13, 2023	8 net-nights
frame net (std 3/4 in)	Jun 14, 2023	8 net-nights
frame net (std 3/4 in)	Jun 15, 2023	8 net-nights

Common Fish Species Present

Largemouth Bass

Bluegill

Black Crappie

Walleye

Smallmouth Bass

Yellow Perch

Rock Bass

White Bass

Northern Pike

White Sucker

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	7	0.6	0.5	100		100		96	7
	Black Crappie	15	1.2	0.6	93		93		94	2
	Bluegill	26	2.2	1.0	46	15	31	14	109	2
	Common Carp	3	0.3	0.2	100		100		86	2
	Largemouth Bass	3	0.3	0.3	100		33		109	6
	Northern Pike	14	1.2	0.5	100		7		86	2
	Pumpkinseed	2	0.2	0.2	50		0		103	3
	Rock Bass	12	1.0	1.1	58	24	33		109	3
	Smallmouth Bass	37	3.1	1.5	95		65	12	94	1
	Walleye	48	3.8	1.1	89	7	30	10	87	1
	White Bass	36	3.0	1.3	100		100		85	1
	White Sucker	14	1.2	0.5	100		100		109	3
	Yellow Perch	54	4.5	3.9	41	10	0		85	1
frame net (std 3/4 in)	Black Bullhead	3	0.1	0.1	100		67		86	5
	Black Crappie	9	0.3	0.2	57		43		93	4
	Bluegill	2925	121.3	39.3	39	1	13	1	105	0
	Common Carp	1	0.0	0.1	100		100			
	Northern Pike	5	0.2	0.1	75		0		88	4
	Pumpkinseed	22	0.9	0.4	38	17	0		109	2
	Rock Bass	287	11.7	6.3	46	4	13	3	102	1
	Smallmouth Bass	172	3.9	1.4	22	6	11	5	94	1
	Walleye	10	0.3	0.2	86		86		84	2
	White Bass	6	0.3	0.2	100		100		90	4
	White Sucker	4	0.2	0.1	100		100		96	7
	Yellow Perch	2	0.1	0.1	0		0		83	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 frame net	Black Bullhead			0.1	0.3							0.20
	Black Crappie			2.6	0.2							1.40
	Bluegill			62.7	39.2							50.95
	Common Carp			0.2	0.2							0.20
	Largemouth Bass			0.0	0.0							0.00
	Northern Pike			0.5	0.2							0.35
	Pumpkinseed			1.1	0.3							0.70
	Rock Bass			0.8	2.3							1.55
	Smallmouth Bass			0.6	0.5							0.55
	Walleye			1.0	0.6							0.80
	White Bass			0.3	0.0							0.15
	White Sucker			0.1	0.1							0.10
	Yellow Perch			1.4	0.1							0.75
AFS std gill net	Black Bullhead			0.1	0.2	0.1	0.0	0.0	0.3	0.0	0.6	0.16
	Black Crappie			0.8	0.3	0.1	0.2	0.3	3.0	0.2	1.2	0.76
	Bluegill			3.8	0.9	6.5	3.5	15.9	15.5	0.9	2.2	6.15
	Common Carp			0.8	0.3	0.1	0.6	0.7	0.4	0.0	0.3	0.40
	Largemouth Bass			0.1	0.3	0.0	0.1	0.0	0.2	0.1	0.3	0.14
	Northern Pike			1.2	1.3	0.3	0.3	0.4	1.1	1.5	1.2	0.91
	Pumpkinseed			0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.08
	Rock Bass			0.2	0.1	0.6	0.5	0.1	0.3	0.4	1.0	0.40
	Smallmouth Bass			2.4	0.9	2.8	2.3	3.8	4.4	2.1	3.1	2.73
	Walleye			7.2	1.3	3.8	1.5	1.8	3.4	1.2	3.8	3.00
	White Bass			7.6	3.0	2.1	3.9	1.4	3.4	1.9	3.0	3.29
	White Sucker			2.2	3.5	1.6	1.1	0.6	1.3	1.8	1.2	1.66
	Yellow Perch			4.9	0.9	1.0	4.8	13.2	18.9	2.9	4.5	6.39
boat shocker (day)	Smallmouth Bass						32.0					32.00
boat shocker (night)	Walleye*	8.0	20.0	38.5	9.0							18.88
boat shocker (night, AC)	Largemouth Bass	224.3										224.30
boat shocker (night, DC)	Smallmouth Bass	82.0		86.0								84.00
fall night EF-WAE*	Walleye					11.0	15.0			182.0	59.0	66.75

		CPUE										
Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
frame net (std 3/4 in)	Black Bullhead	0.7	0.2			0.3	0.3	0.3	0.2	0.5	0.1	0.33
	Black Crappie	1.2	0.3			4.1	0.6	2.2	0.7	0.2	0.3	1.20
	Bluegill	31.5	26.1			119.1	62.8	46.0	85.4	43.5	121.3	66.96
	Channel Catfish	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	0.0	0.0	0.0	0.0	0.0	0.01
	Largemouth Bass	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Northern Pike	0.3	0.6			0.3	0.1	0.3	0.3	0.3	0.2	0.30
	Pumpkinseed	0.4	1.5			0.5	0.4	0.5	1.4	1.9	0.9	0.94
	Rock Bass	5.3	6.4			4.5	3.0	5.4	7.1	4.4	11.7	5.98
	Smallmouth Bass	3.3	2.0			0.8	2.6	5.2	5.2	3.0	3.9	3.25
	Sunfish Family	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Walleye	0.8	0.8			0.1	0.1	0.2	0.1	0.1	0.3	0.31
	Western Painted Turtle	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.00
	White Bass	0.2	0.3			0.5	0.4	0.7	0.1	0.0	0.3	0.31
	White Sucker	0.0	0.2			0.0	0.1	0.2	0.1	0.1	0.2	0.11
	Yellow Perch	0.5	0.3			3.8	0.7	1.0	1.6	0.5	0.1	1.06
rod and reel	Bluegill							4,260.0				4260.00
spring night EF-LMB*	Largemouth Bass					21.2				51.2		36.20
std exp gill net	Black Crappie	3.5	1.3									2.40
	Bluegill	10.3	15.5									12.90
	Common Carp	0.2	0.2									0.20
	Northern Pike	1.7	0.2									0.95
	Pumpkinseed	0.2	0.3									0.25
	Rock Bass	2.0	0.7									1.35
	Smallmouth Bass	5.3	1.5									3.40
	Walleye	8.5	8.7									8.60
	White Bass	1.3	2.0									1.65
	White Sucker	4.7	1.8									3.25
	Yellow Perch	1.7	0.0									0.85

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 frame net	Black Crappie	PSD			37	40						
		PSD-P			34	20						
		Wr			94	101						
	Bluegill	PSD			43	3						
		PSD-P			18	1						
		Wr			104	107						
	Largemouth Bass	PSD			100	0						
		PSD-P			100	0						
		Wr			109							
	Northern Pike	PSD			64	100						
		PSD-P			9	0						
		Wr			83	71						
	Rock Bass	PSD			55	48						
		PSD-P			10	6						
		Wr			105	101						
	Smallmouth Bass	PSD			29	25						
		PSD-P			14	8						
		Wr			99	103						
	Walleye	PSD			30	79						
		PSD-P			0	0						
		Wr			86	91						
	White Bass	PSD			100	100						
		PSD-P			100	100						
		Wr			86	94						
	White Sucker	PSD			100	100						
		PSD-P			100	100						
		Wr			80	96						
	Yellow Perch	PSD			6	0						
		PSD-P			0	0						
		Wr			82	89						
AFS std gill net	Black Crappie	PSD			90	100	100	50	75	97	100	93
		PSD-P			80	100	100	50	25	42	50	93
		Wr			98	98	93	100	104	104	96	94

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AFS std gill net	Bluegill	PSD			71	82	72	98	77	86	91	46
		PSD-P			38	82	15	21	11	14	64	31
		Wr			110	108	119	116	123	108	114	109
	Largemouth Bass	PSD			100	50		100		100	100	100
		PSD-P			0	0		100		100	100	33
		Wr			121	114		110		108	107	109
	Northern Pike	PSD			71	67	100	100	80	62	89	100
		PSD-P			7	13	0	33	20	8	17	7
		Wr			85	86	77	84	90	87	84	86
	Rock Bass	PSD			50	100	71	100	100	100	60	58
		PSD-P			50	0	14	50	100	67	40	33
		Wr			100	103	105	112	105	109	108	109
	Smallmouth Bass	PSD			69	73	74	50	24	43	96	95
		PSD-P			24	45	65	25	11	23	64	65
		Wr			94	95	97	97	95	96	90	94
	Walleye	PSD			52	81	70	83	73	63	79	89
		PSD-P			1	6	4	11	27	29	36	30
		Wr			86	83	90	86	85	86	89	87
	White Bass	PSD			100	100	100	100	100	100	100	100
		PSD-P			100	100	100	100	82	100	100	100
		Wr			89	92	88	86	87	86	86	85
	White Sucker	PSD			100	100	100	100	100	100	100	100
		PSD-P			100	100	100	100	100	93	100	100
		Wr			98	102	103	95	98	102	106	109
	Yellow Perch	PSD			7	18	0	0	0	7	23	41
		PSD-P			0	0	0	0	0	0	0	0
		Wr			95	87	94	97	100	93	93	85
boat shocker (day)	Smallmouth Bass	PSD						63				
		PSD-P						38				
		Wr						93				
boat shocker (night)	Walleye	PSD	0	0	0	0						
		PSD-P	0	0	0	0						
		Wr	89	98	96	92						
boat shocker (night, AC)	Largemouth Bass	PSD	71									
		PSD-P	32									
		Wr	107									

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
boat shocker (night, DC)	Smallmouth Bass	PSD	71		50							
		PSD-P	12		10							
		Wr	86		92							
frame net (std 3/4 in)	Black Crappie	PSD	100	100			10	15	35	85	100	57
		PSD-P	93	100			1	8	0	38	80	43
		Wr	95	98			104	105	107	102	96	93
	Bluegill	PSD	46	42			20	17	19	49	51	39
		PSD-P	27	21			5	3	2	15	18	13
		Wr	103	105			104	103	110	105	103	105
	Largemouth Bass	PSD					0					
		PSD-P					0					
	Northern Pike	PSD	50	64			83	100	57	40	75	75
		PSD-P	13	0			0	0	14	0	25	0
		Wr	81	81			76	81	89	86	79	88
	Rock Bass	PSD	51	25			41	51	61	60	61	46
		PSD-P	11	5			13	14	8	10	25	13
		Wr	102	105			101	102	103	107	105	102
	Smallmouth Bass	PSD	41	33			41	14	6	15	19	22
		PSD-P	18	14			24	5	4	2	3	11
		Wr	93	97			100	100	99	98	91	94
	Walleye	PSD	44	58			100	100	100	0	67	86
		PSD-P	17	21			100	50	100	0	33	86
		Wr	83	80			83	90	83	83		84
	White Bass	PSD	100	100			100	100	100	100		100
		PSD-P	100	100			100	100	94	100		100
		Wr	88	85			89	84	83	82		90
	White Sucker	PSD	100	100				100	100	100	100	100
		PSD-P	100	100				100	100	100	100	100
		Wr		92				87	92	94		96
	Yellow Perch	PSD	33	0			3	0	0	0	23	0
		PSD-P	0	0			0	0	0	0	0	0
		Wr	81	88			84	83	97	83	81	83
rod and reel	Bluegill	PSD							100			
		PSD-P							52			
spring night EF-LMB	Largemouth Bass	PSD					82				90	
		PSD-P					23				41	

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
spring night EF-LMB	Largemouth Bass	Wr					105				100	
std exp gill net	Black Crappie	PSD	100	100								
		PSD-P	90	100								
		Wr	101	101								
	Bluegill	PSD	97	94								
		PSD-P	47	73								
		Wr	107	113								
	Northern Pike	PSD	70	0								
		PSD-P	10	0								
		Wr	82	87								
	Rock Bass	PSD	83	75								
		PSD-P	8	25								
		Wr	102	108								
	Smallmouth Bass	PSD	28	56								
		PSD-P	19	0								
		Wr	96	94								
	Walleye	PSD	16	10								
		PSD-P	4	2								
		Wr	82	83								
	White Bass	PSD	100	100								
		PSD-P	100	100								
		Wr	88	89								
	White Sucker	PSD	100	100								
		PSD-P	100	100								
		Wr	102	101								
	Yellow Perch	PSD	10	0								
		PSD-P	0	0								
		Wr	92									

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	2923		84 (35)	105 (1057)	132 (672)	163 (260)	191 (370)	190 (459)	219 (71)		
2022	1042		87 (9)	102 (164)	117 (211)	160 (198)	180 (306)	199 (148)	154 (5)		241 (2)
2021	1708			99 (242)	132 (576)	167 (587)	198 (270)	202 (21)	244 (6)	234 (8)	
2020	1003		91 (22)	117 (339)	126 (505)	158 (135)	201 (4)				
2019	1438		94 (21)	100 (455)	127 (917)	150 (20)	205 (24)				
2018	2513		85 (42)	110 (1952)	146 (208)	186 (252)	223 (16)	237 (16)	241 (19)		250 (11)
2017	2228		75 (1923)	123 (74)	125 (158)	136 (66)	204 (1)	249 (1)		245 (4)	242 (2)
2016	2140	68 (636)	100 (206)	95 (582)	161 (338)	198 (248)	215 (85)	243 (8)	233 (17)	256 (8)	246 (14)
2015	636	77 (6)	77 (3)	93 (327)	163 (122)	187 (61)	205 (22)	224 (81)	226 (10)	224 (5)	242 (1)
2014	757		96 (125)	109 (209)	144 (101)	196 (92)	200 (155)	198 (76)	234 (1)	234 (1)	

Species: Largemouth Bass

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2022	18			270 (3)	319 (14)	344 (1)					
2018	22			208 (2)	249 (2)	327 (7)	363 (1)	366 (4)	380 (5)		420 (1)
2014	223			246 (26)	304 (97)	315 (8)	337 (22)	381 (3)	405 (10)	426 (32)	427 (25)

Species: Smallmouth Bass

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2019	22		191 (5)	255 (7)	318 (6)	346 (3)	355 (1)				
2016	86		181 (1)	221 (30)	258 (13)	299 (20)	327 (10)	359 (6)	401 (6)		
2014	82			202 (2)	264 (15)	293 (17)	304 (36)	332 (8)	403 (4)	460 (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	48	198 (2)	332 (4)	407 (3)	460 (13)	486 (10)	515 (3)	458 (1)			580 (12)
2022	15	211 (2)		368 (4)	426 (1)		545 (1)	520 (1)		496 (1)	532 (5)
2021	43	223 (4)	319 (12)	404 (7)	456 (3)	556 (1)	527 (3)		556 (2)		527 (11)
2020	28	214 (6)	322 (6)	420 (1)	447 (2)	477 (5)	485 (1)			528 (2)	575 (5)
2019	21	233 (4)	325 (2)	424 (2)	479 (3)		480 (4)		524 (1)	456 (1)	500 (4)
2018	47	218 (1)	316 (5)	366 (10)	380 (2)	434 (7)		443 (8)	420 (2)	462 (11)	672 (1)
2017	17		281 (2)	151 (1)	410 (4)		392 (3)		438 (7)		
2016	88	248 (2)	281 (4)	331 (11)	366 (1)	381 (28)	398 (7)	386 (36)			625 (1)
2015	54		256 (6)		329 (7)	360 (3)	354 (37)				681 (1)
2014	55	187 (4)		278 (4)		356 (45)					584 (2)

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	54			157 (5)	172 (14)	201 (28)	218 (5)	203 (1)			
2022	36		114 (1)	152 (9)	188 (21)	212 (5)					
2021	227		139 (14)	167 (146)	175 (67)						
2020	158		148 (118)	170 (40)							
2019	57		147 (57)								
2017	11			161 (4)	192 (2)	189 (3)		197 (1)	206 (1)		
2016	59	136 (1)	147 (40)	171 (13)	199 (2)		222 (1)	205 (1)	240 (1)		
2015	11	100 (10)	97 (1)								
2014	19	97 (7)	110 (2)		155 (1)	184 (3)	195 (6)				

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).

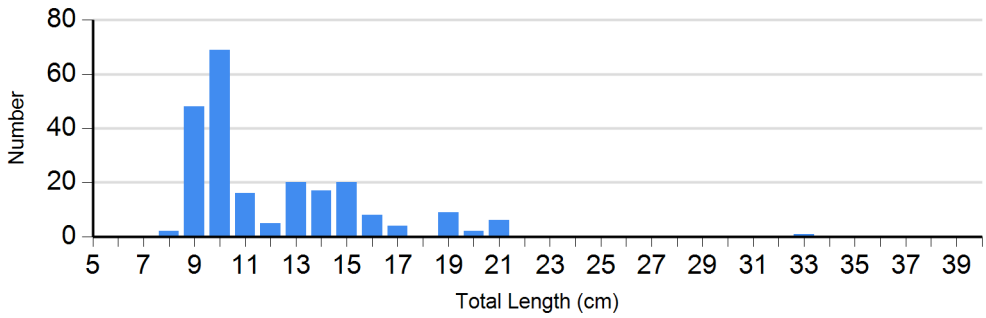
		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Crappie Frame Net	2019	11	107 (2.4)	1	105	0		1	84
	2020	31	108 (1.3)	17	105 (1.8)	0		0	
	2021	2	105 (1.4)	6	105 (1.3)	5	99 (3.8)	0	
	2022	0		1	112	3	96	1	80
	2023	3	99 (1.6)	1	93	0		3	88 (4.0)
Bluegill Frame Net	2019	1195	101 (0.5)	208	113 (0.8)	40	114 (1.4)	1	
	2020	814	109 (0.6)	180	113 (1.7)	16	108 (1.2)	1	124
	2021	876	100 (0.7)	583	108 (0.4)	249	103 (0.5)	0	
	2022	515	100 (1.0)	336	102 (0.8)	191	108 (1.2)	1	123
	2023	1772	103 (0.4)	772	108 (0.7)	367	109 (0.8)	1	
Largemouth Bass Electro Fishing	2022	5	111 (6.5)	25	101 (1.6)	21	97 (1.5)	0	
Northern Pike Gill Net	2019	0		2	80 (0.4)	1	93	0	
	2020	1	93	3	92 (9.2)	1	85	0	
	2021	5	87 (2.7)	7	87 (1.6)	1	91	0	
	2022	2	90 (0.9)	13	83 (1.5)	3	86 (2.6)	0	
	2023	0		13	86 (1.4)	1	91	0	
Smallmouth Bass Electro Fishing	2019	12	91 (1.7)	8	92 (1.4)	12	96 (1.6)	0	
Walleye Gill Net	2019	3	85 (2.1)	13	87 (1.5)	2	81 (5.9)	0	
	2020	6	83 (1.3)	10	86 (1.8)	5	86 (3.3)	1	68
	2021	15	89 (2.7)	14	85 (1.3)	12	84 (1.4)	0	
	2022	3	94 (1.4)	6	88 (1.2)	5	88 (4.6)	0	
	2023	5	91 (2.1)	27	87 (1.3)	12	85 (1.9)	2	75 (0.4)

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
White Bass Gill Net	2019	0		0		2	90 (2.1)	45	86 (0.6)
	2020	0		3	100 (3.0)	0		14	84 (1.0)
	2021	0		0		2	97 (0.2)	39	85 (0.8)
	2022	0		0		2	95 (3.3)	21	85 (1.0)
	2023	0		0		3	97 (2.3)	33	84 (0.9)
White Sucker Gill Net	2019	0		0		0		13	95 (1.5)
	2020	0		0		3	104 (2.2)	4	94 (3.5)
	2021	0		1	98	0		14	102 (1.9)
	2022	0		0		4	99 (4.0)	18	108 (2.2)
	2023	0		0		0		14	109 (2.2)
Yellow Perch Gill Net	2019	57	97 (0.8)	0		0		0	
	2020	158	100 (0.6)	0		0		0	
	2021	211	93 (0.5)	16	93 (1.2)	0		0	
	2022	27	94 (1.1)	8	91 (1.2)	0		0	
	2023	32	86 (1.2)	22	83 (0.9)	0		0	

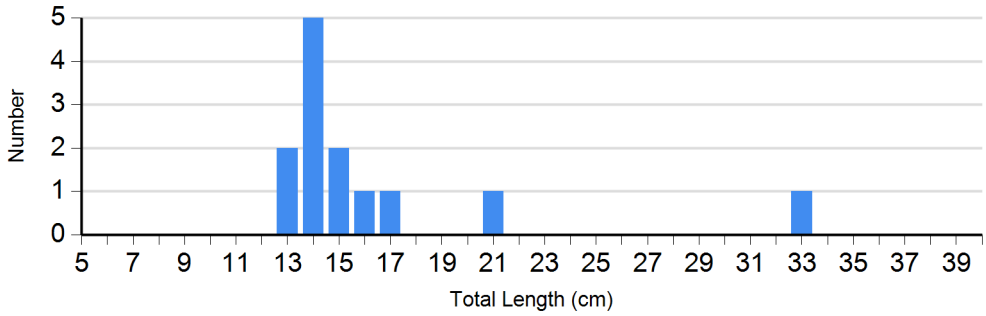
Length Frequency Distribution

Length frequency histogram of species sampled by year.

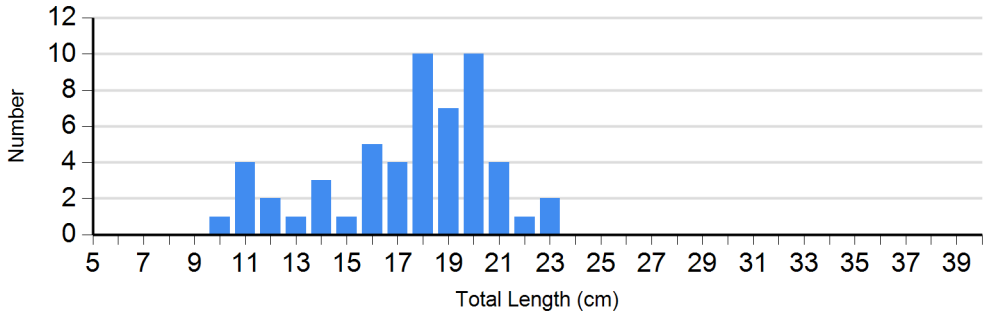
Species: Black Crappie
Gear: frame net (std 3/4 in)



2018



2019



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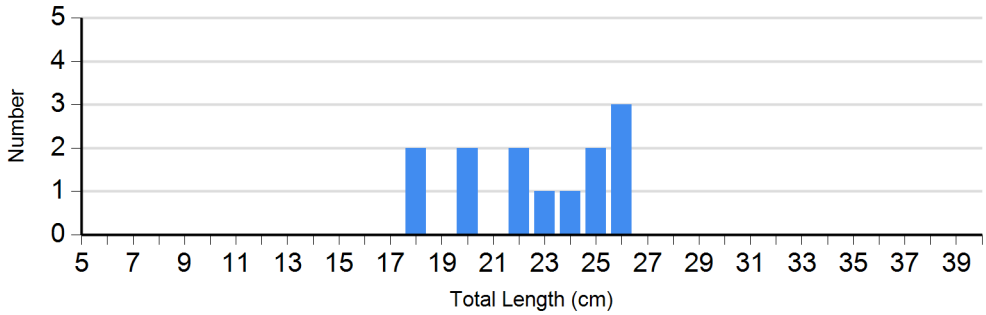
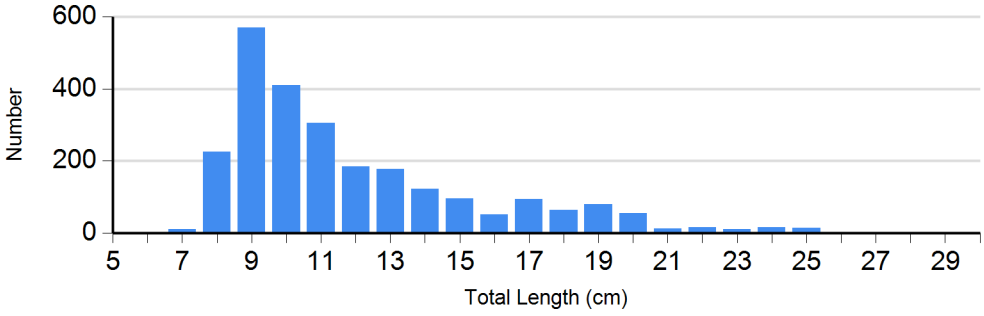


2021

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



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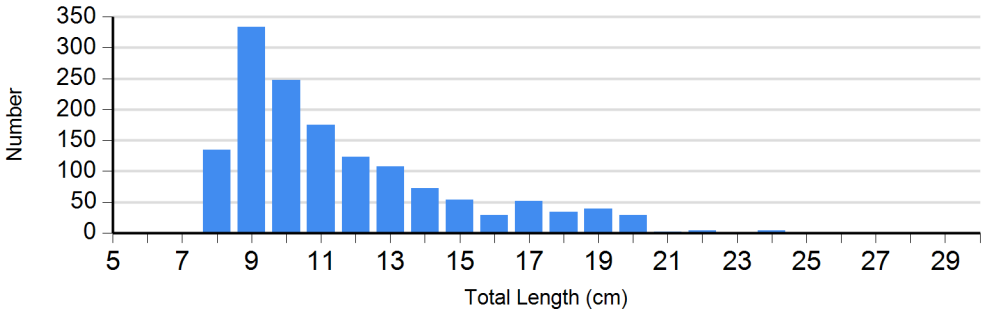

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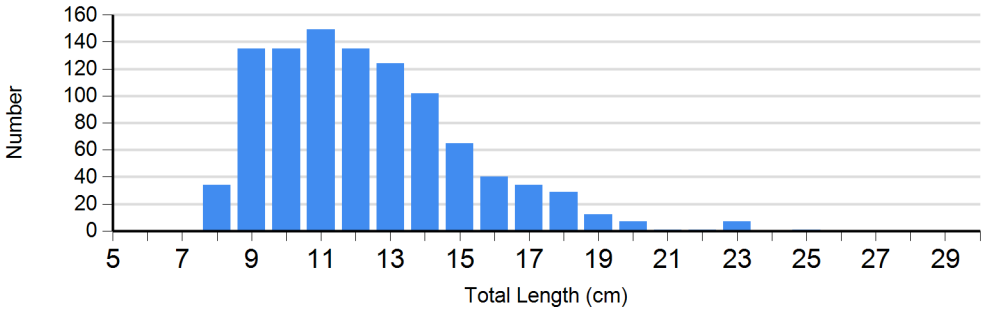

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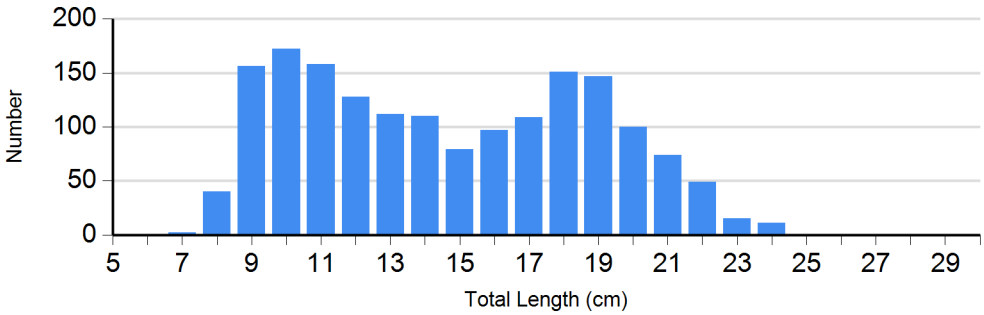

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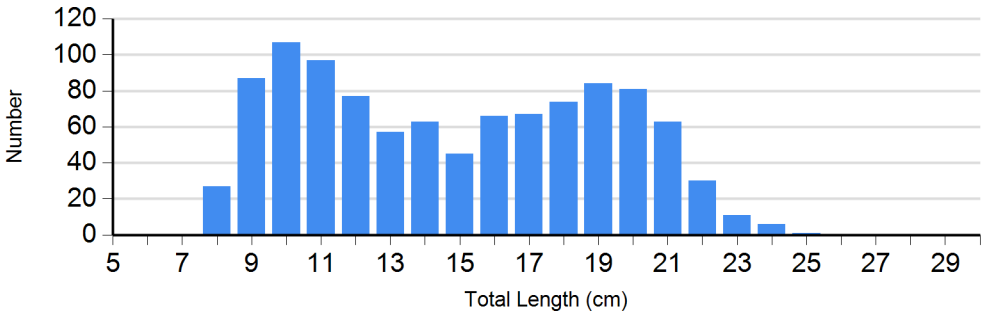

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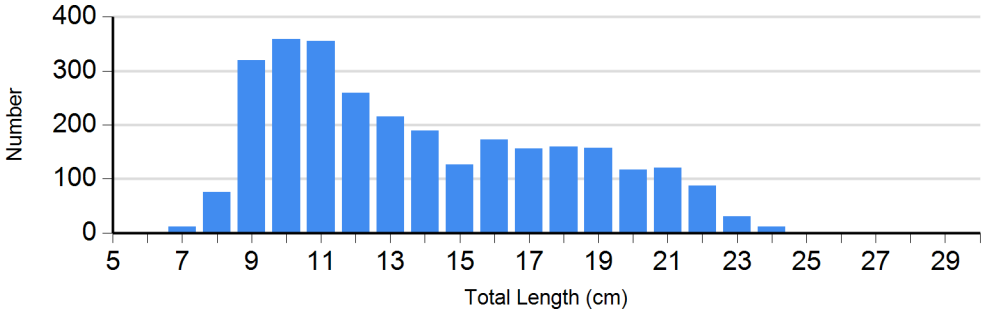
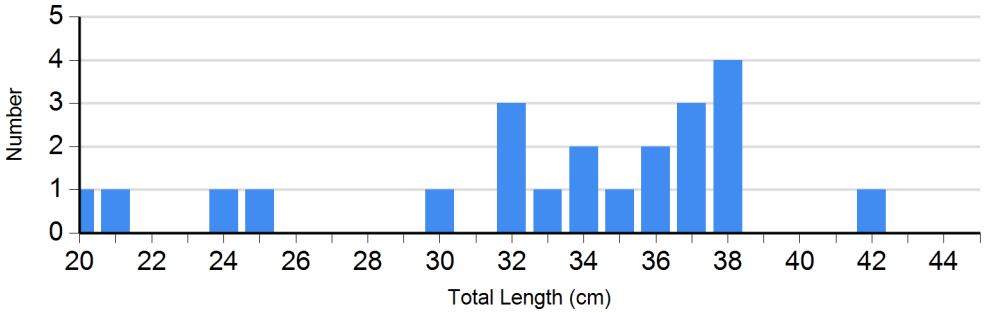


2023

Species: Largemouth Bass
Gear: spring night EF-LMB



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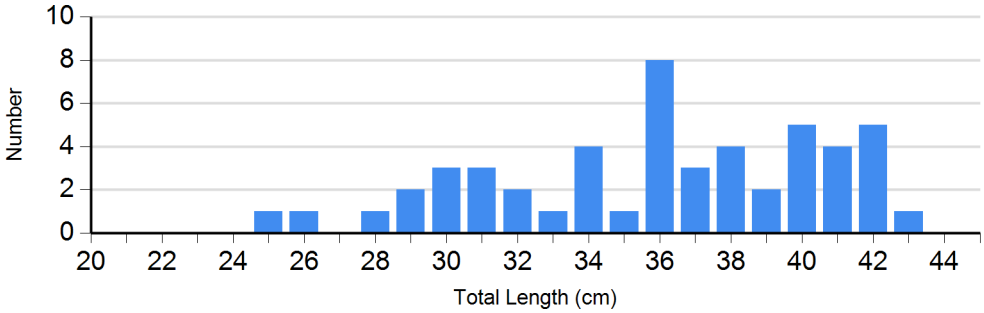
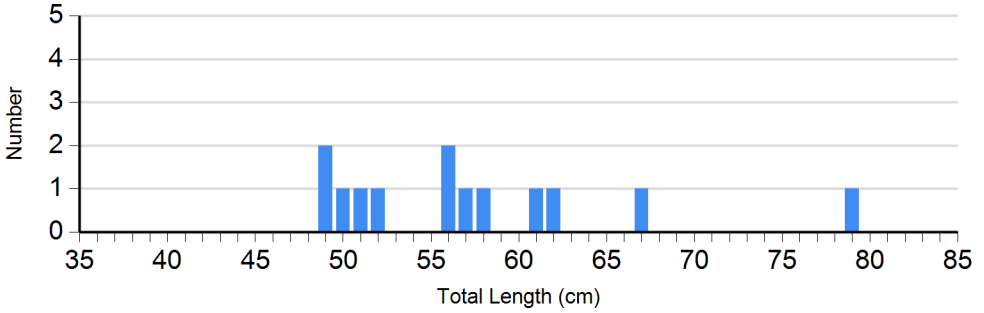


2022

Species: Northern Pike
Gear: AFS std gill net



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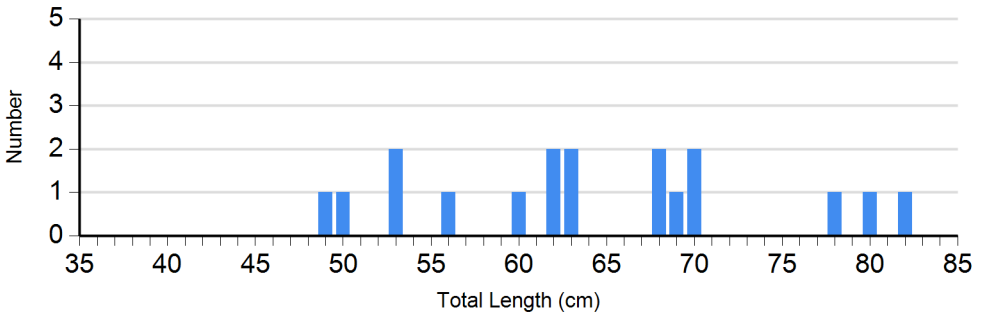

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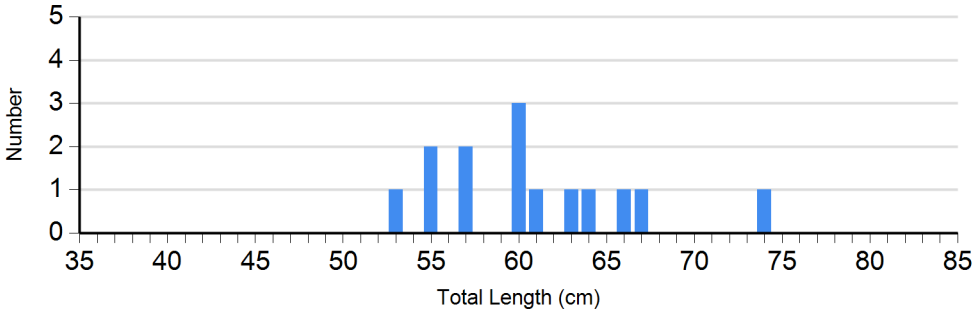
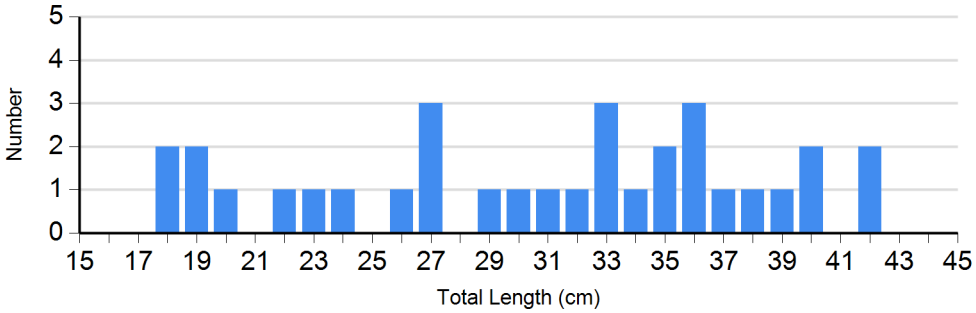


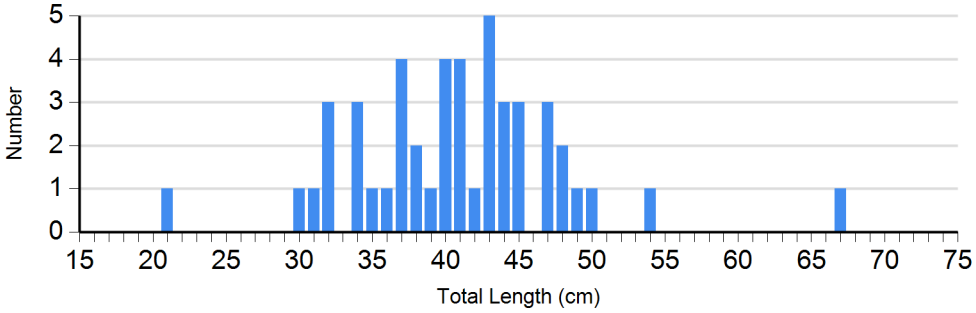
2023

Species: Smallmouth Bass
Gear: boat shocker (day)



2019

Species: Walleye
Gear: AFS std gill net



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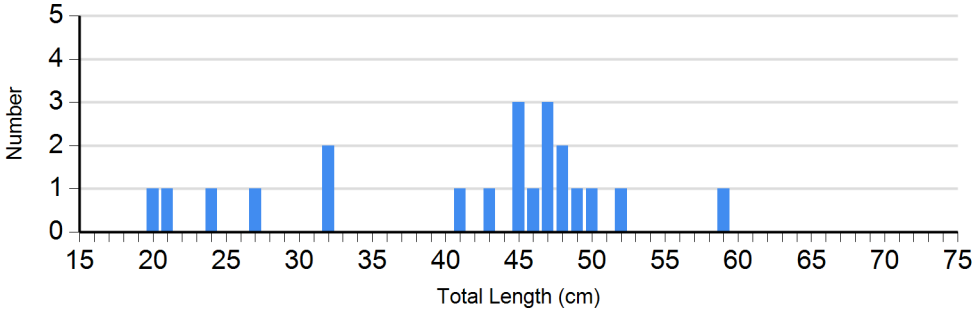

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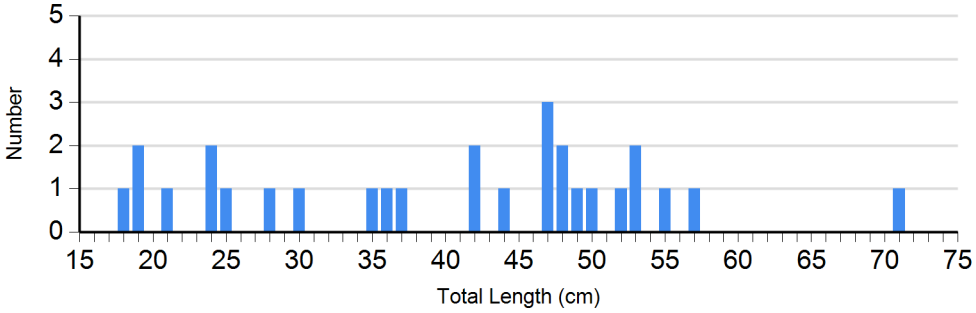

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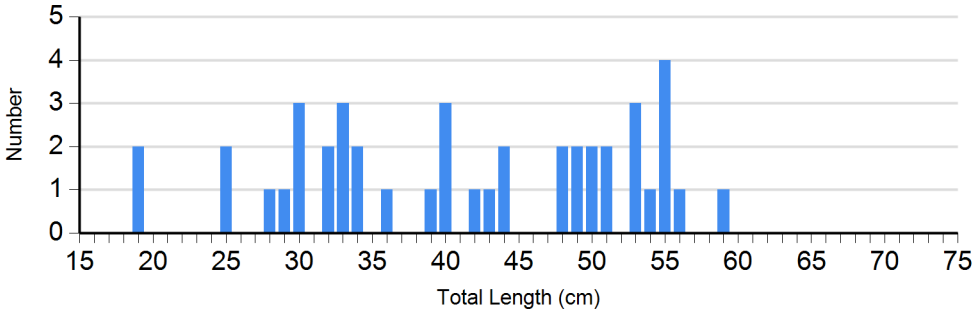
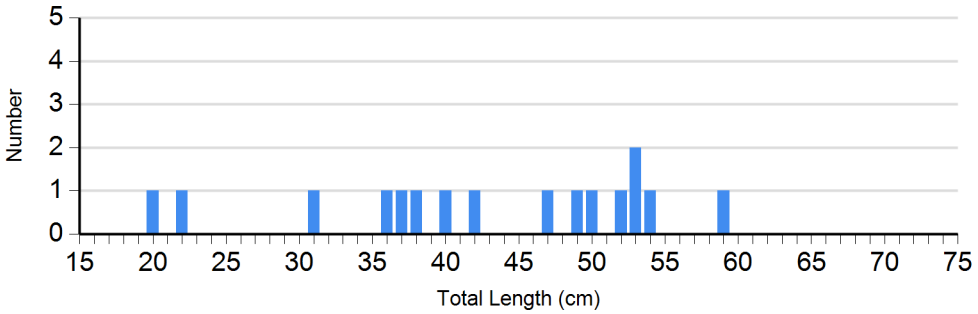


2021



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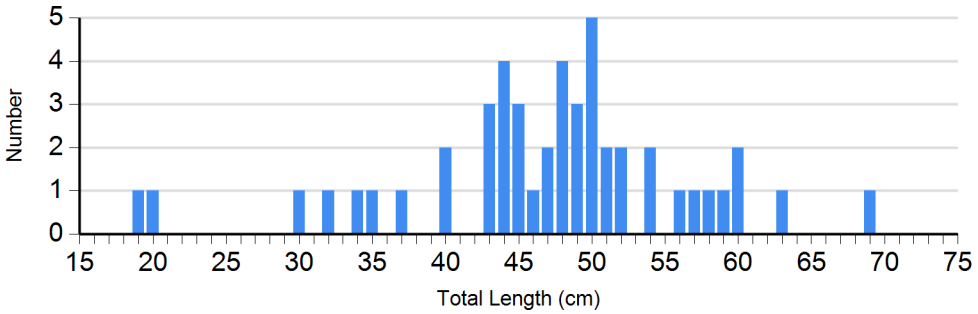
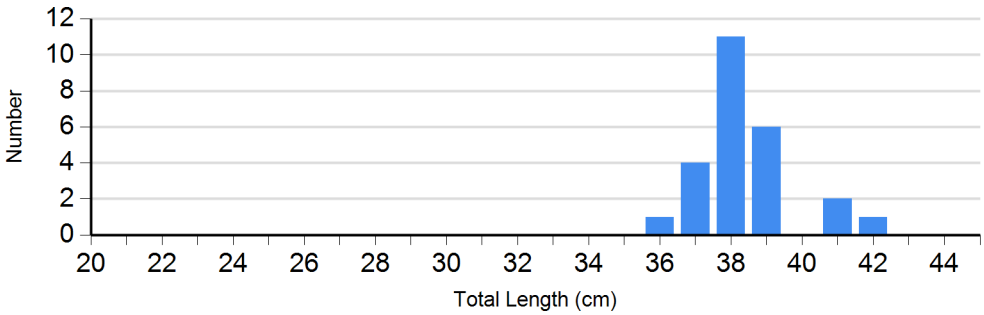


2023

Species: White Bass
Gear: AFS std gill net



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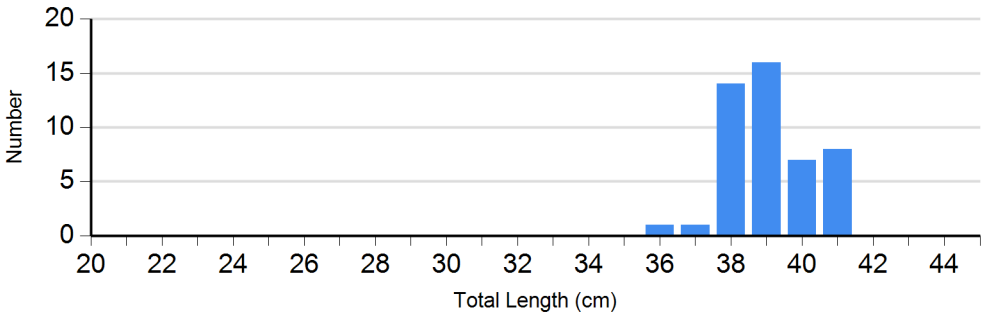

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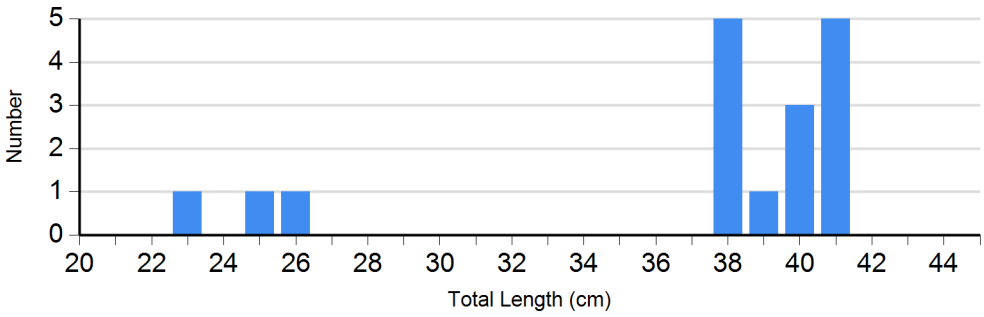

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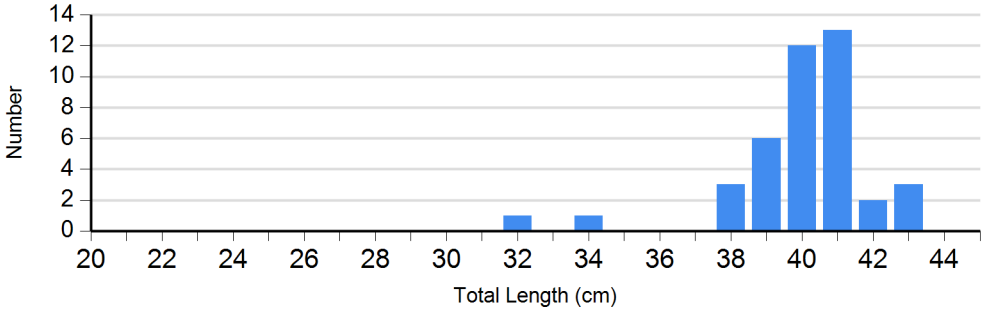

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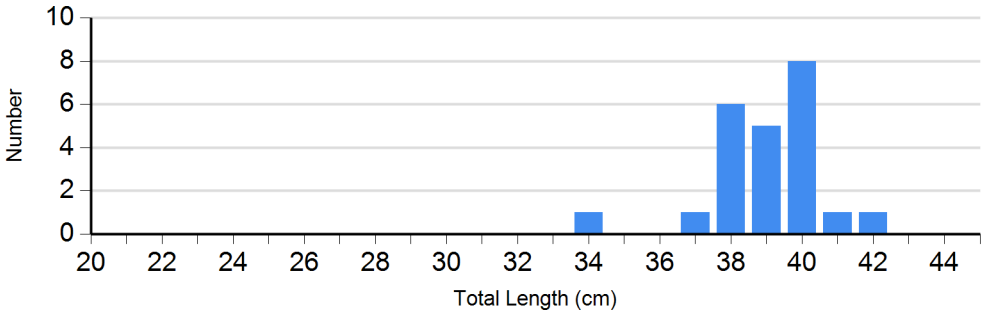
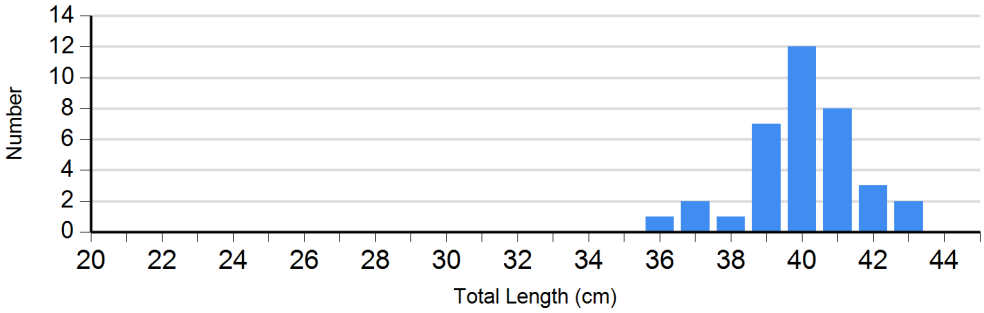
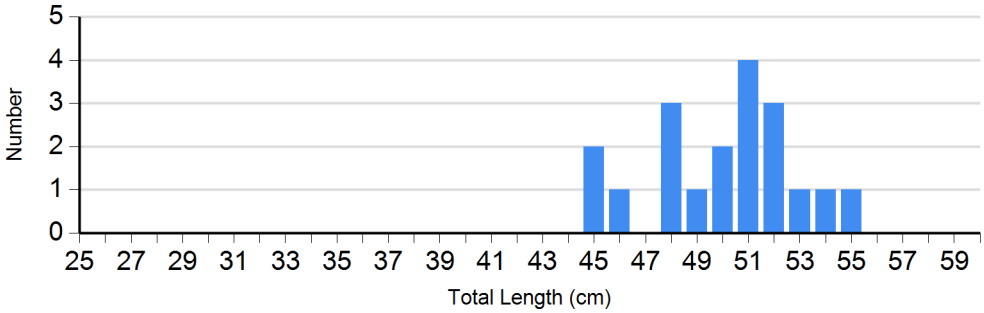


2022

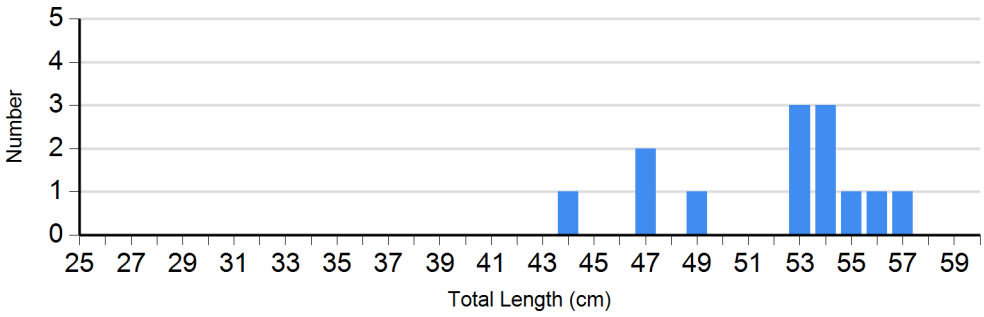


2023

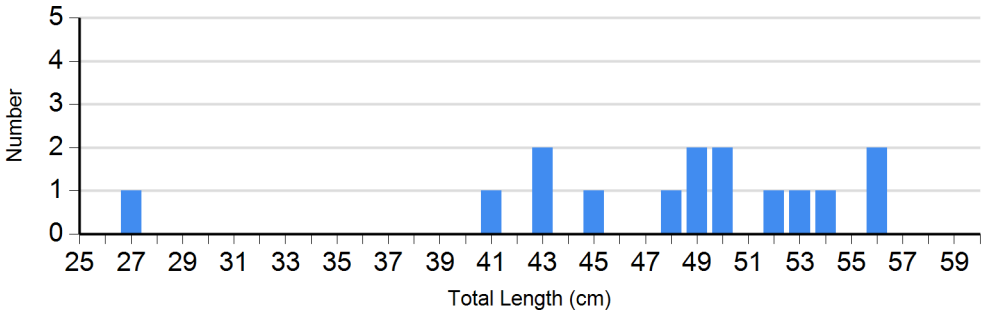
Species: White Sucker
Gear: AFS std gill net



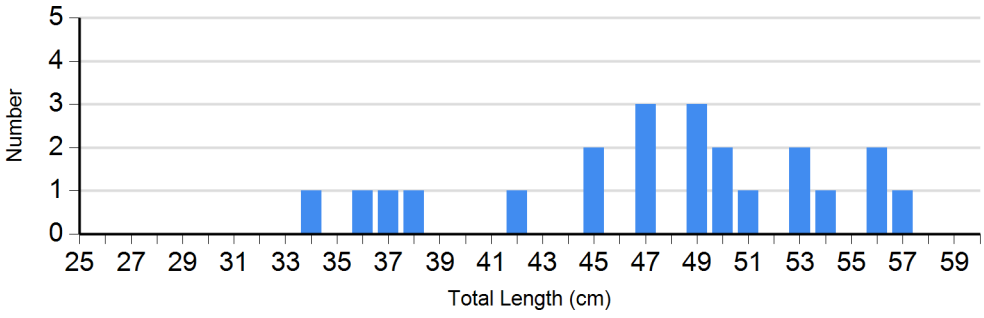
2018



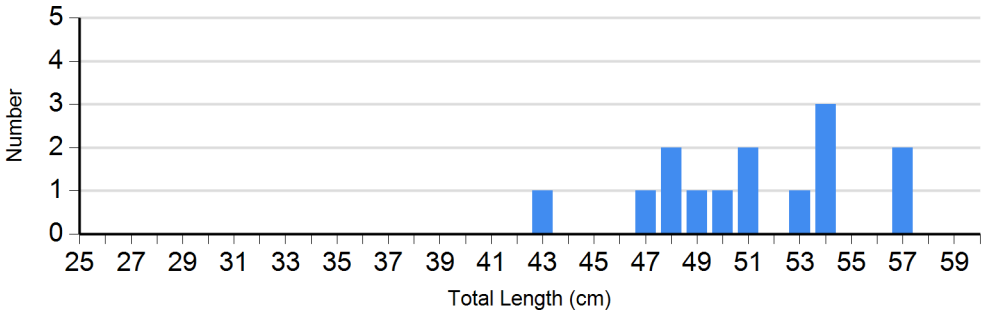
2019



2021

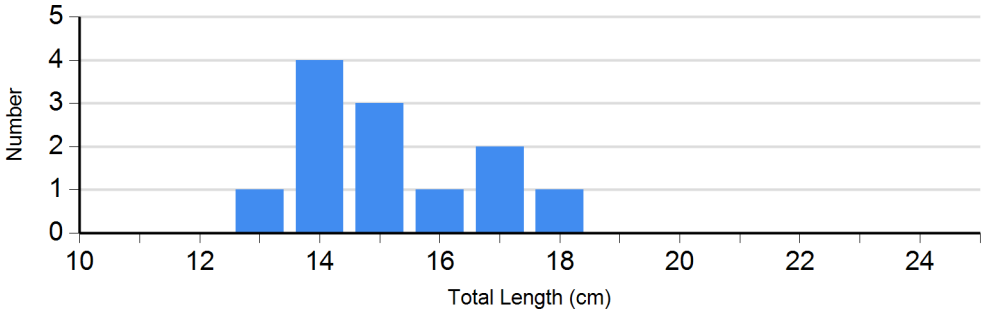


2022

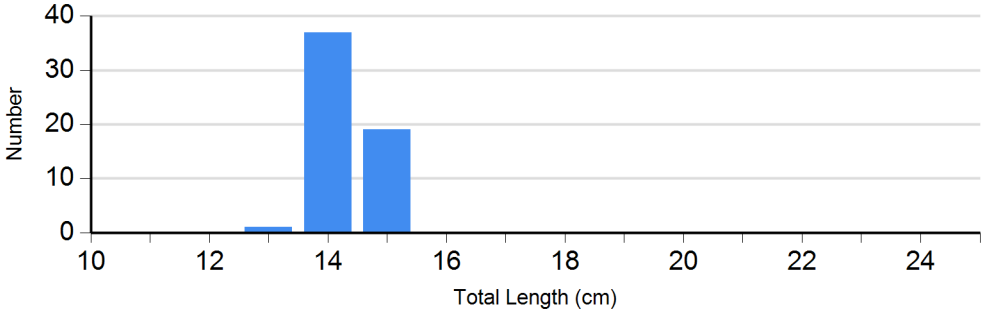


2023

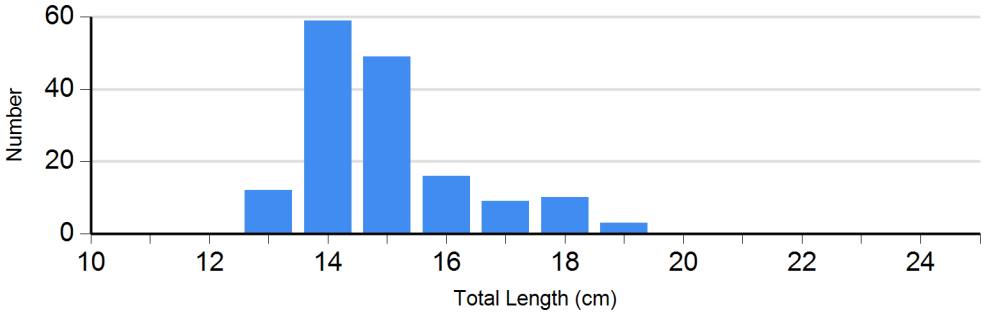
Species: Yellow Perch
Gear: AFS std gill net



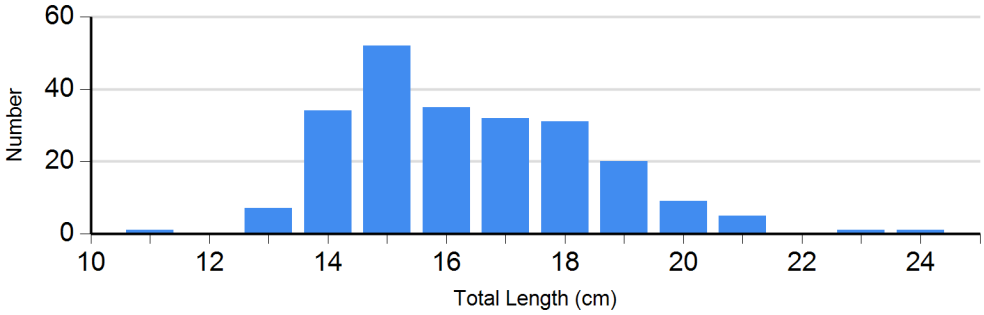
2018



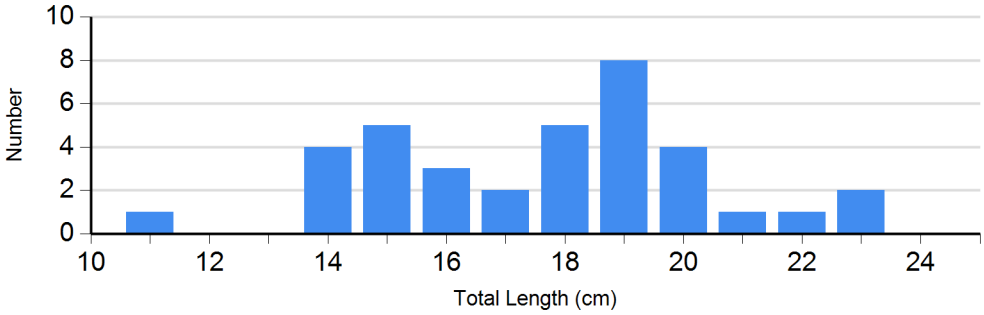
2019



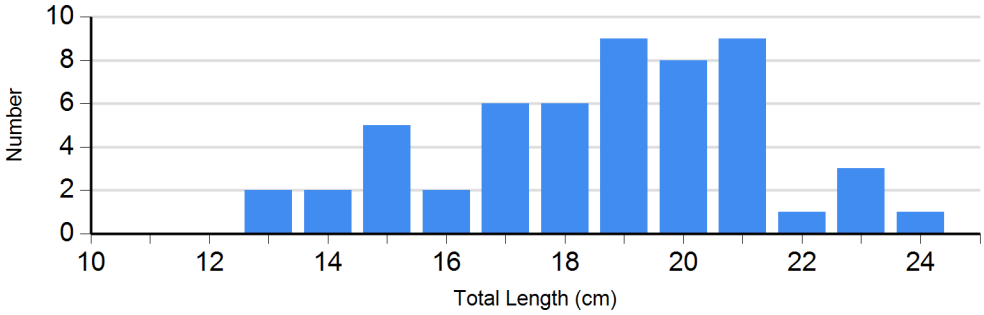
2020



2021



2022

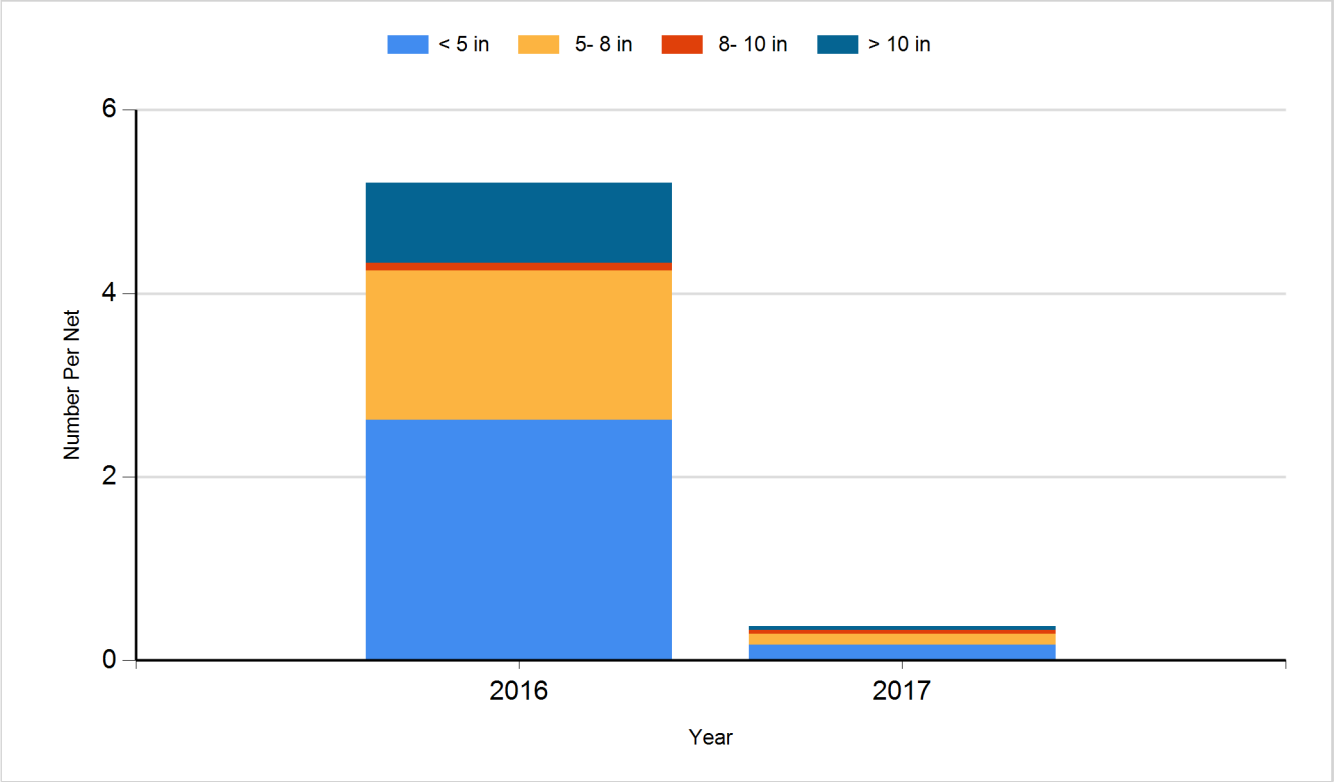


2023

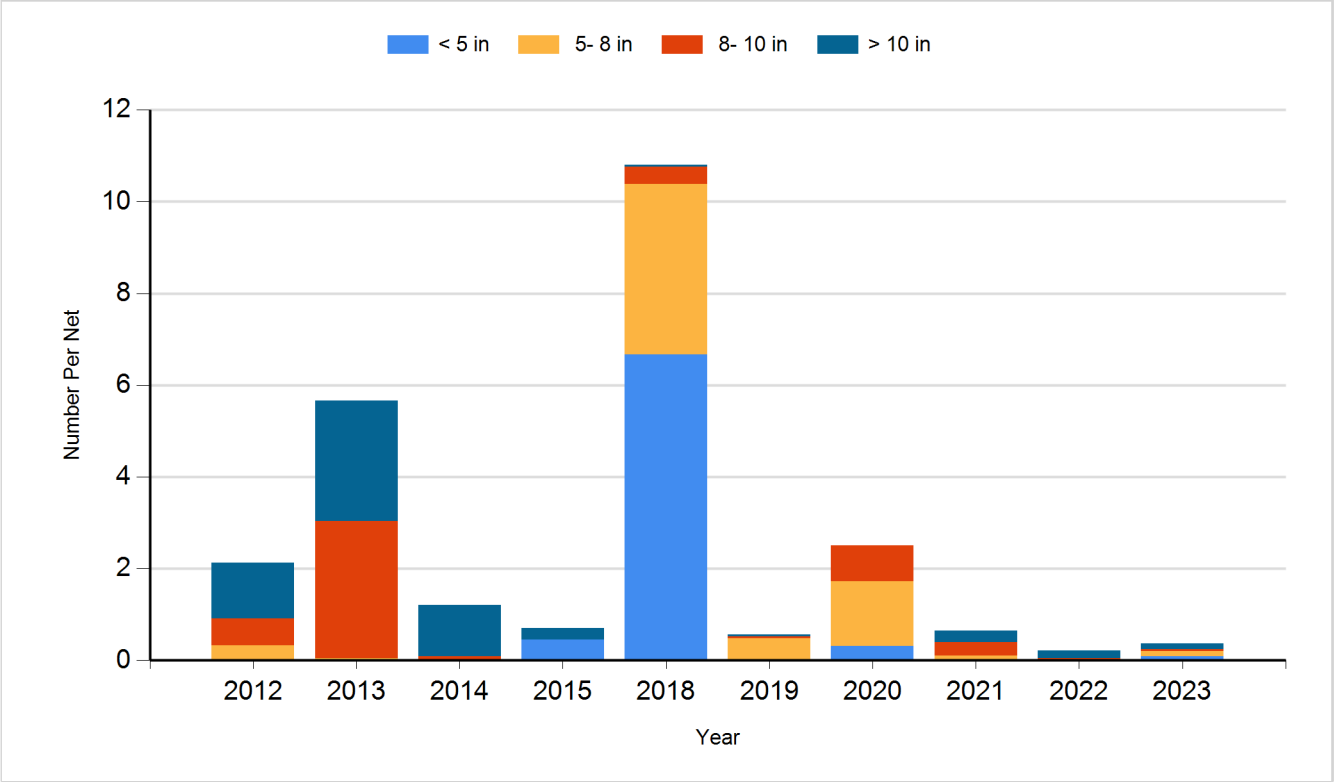
Historic Fish Sizes and Relative Abundance

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

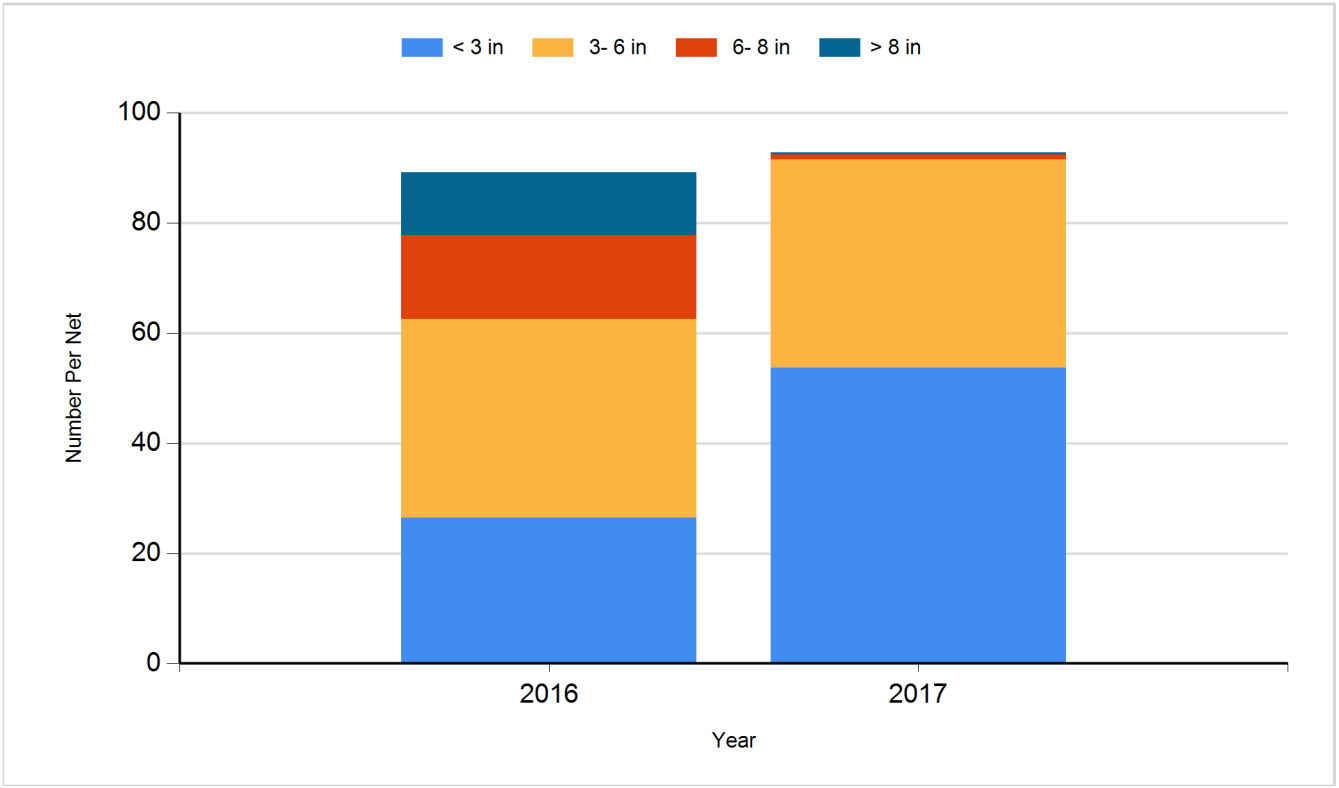
Species: Black Crappie
Gear: AFS std frame net



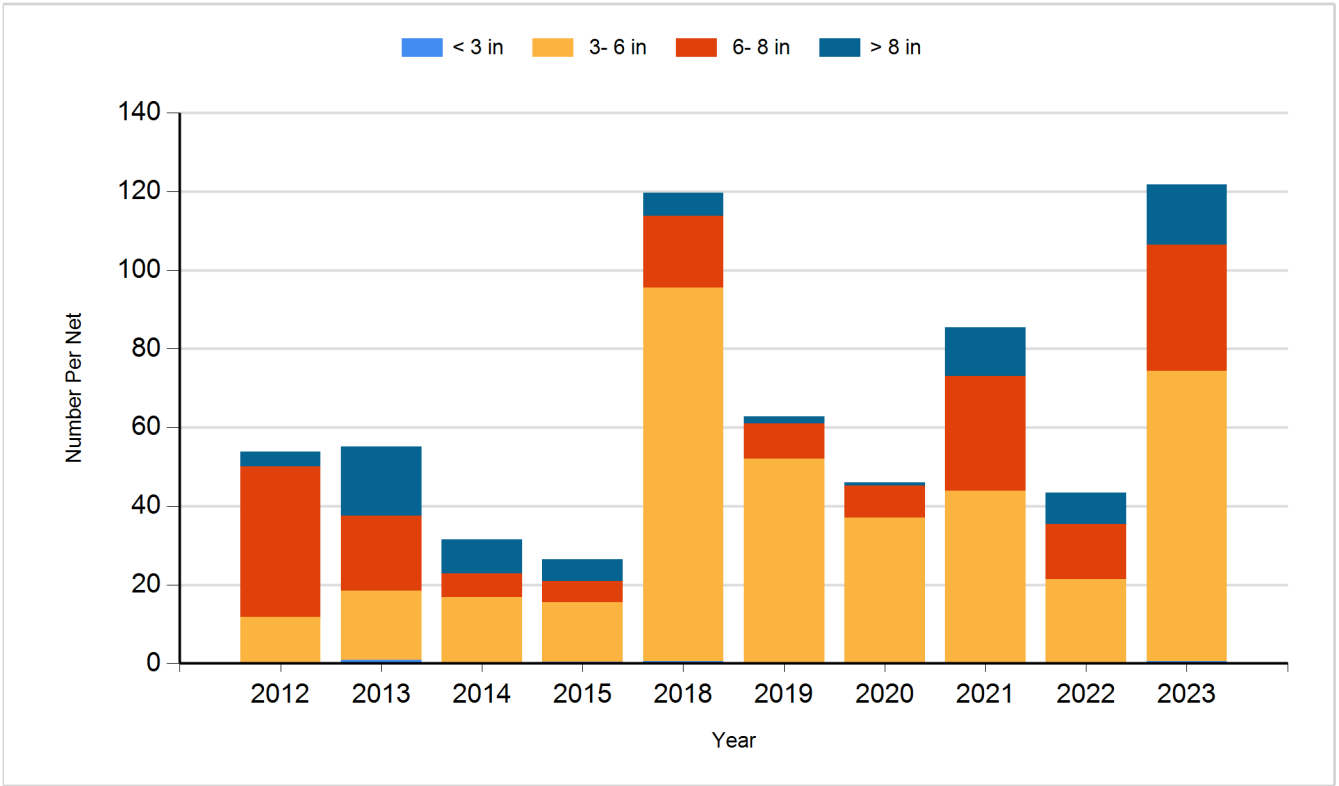
Species: Black Crappie
Gear: frame net (std 3/4 in)



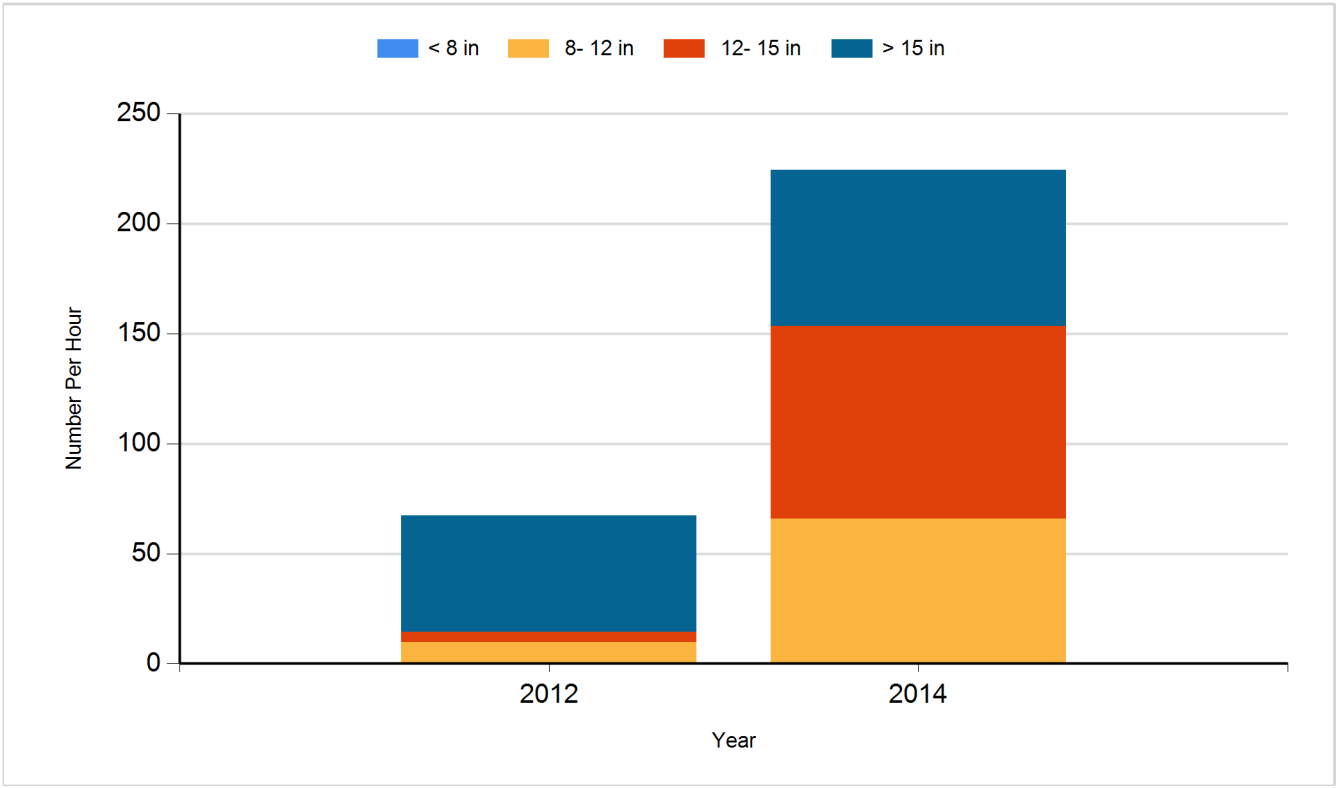
Species: Bluegill
Gear: AFS std frame net



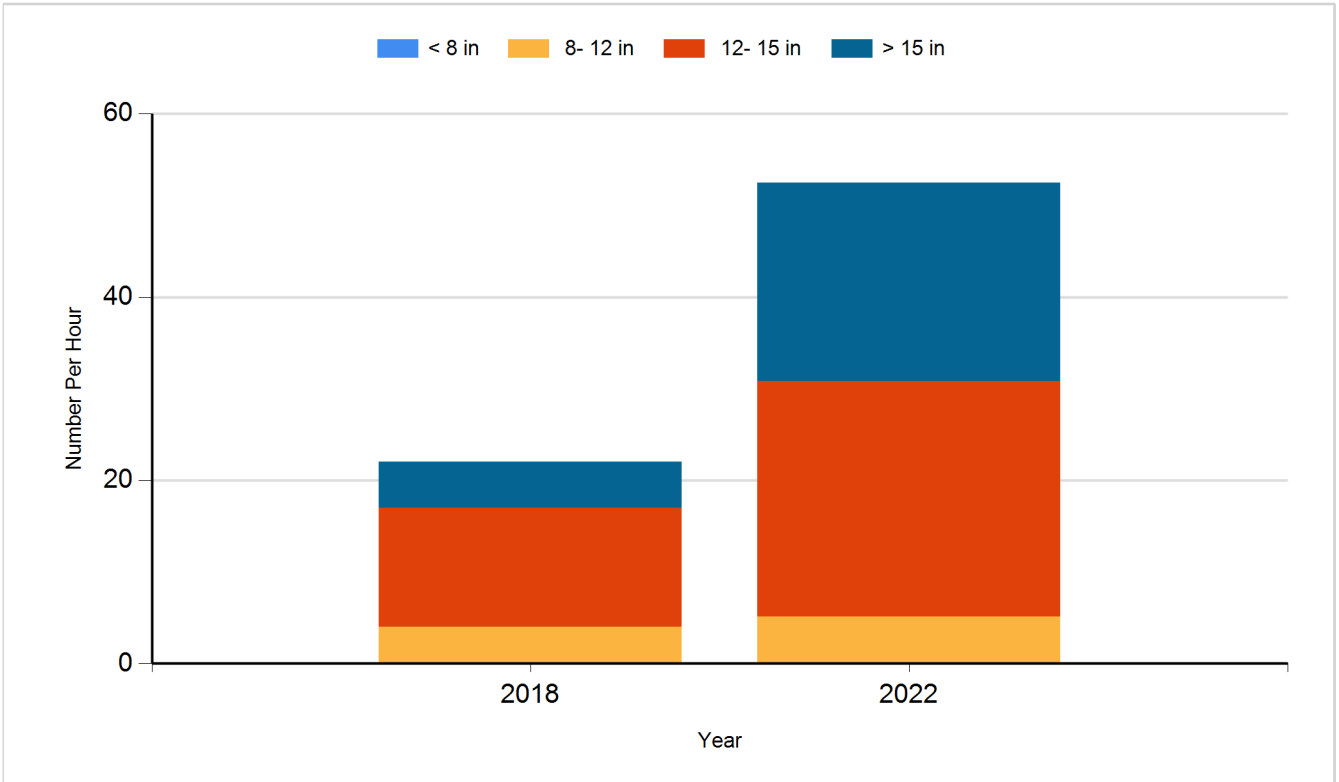
Species: Bluegill
Gear: frame net (std 3/4 in)



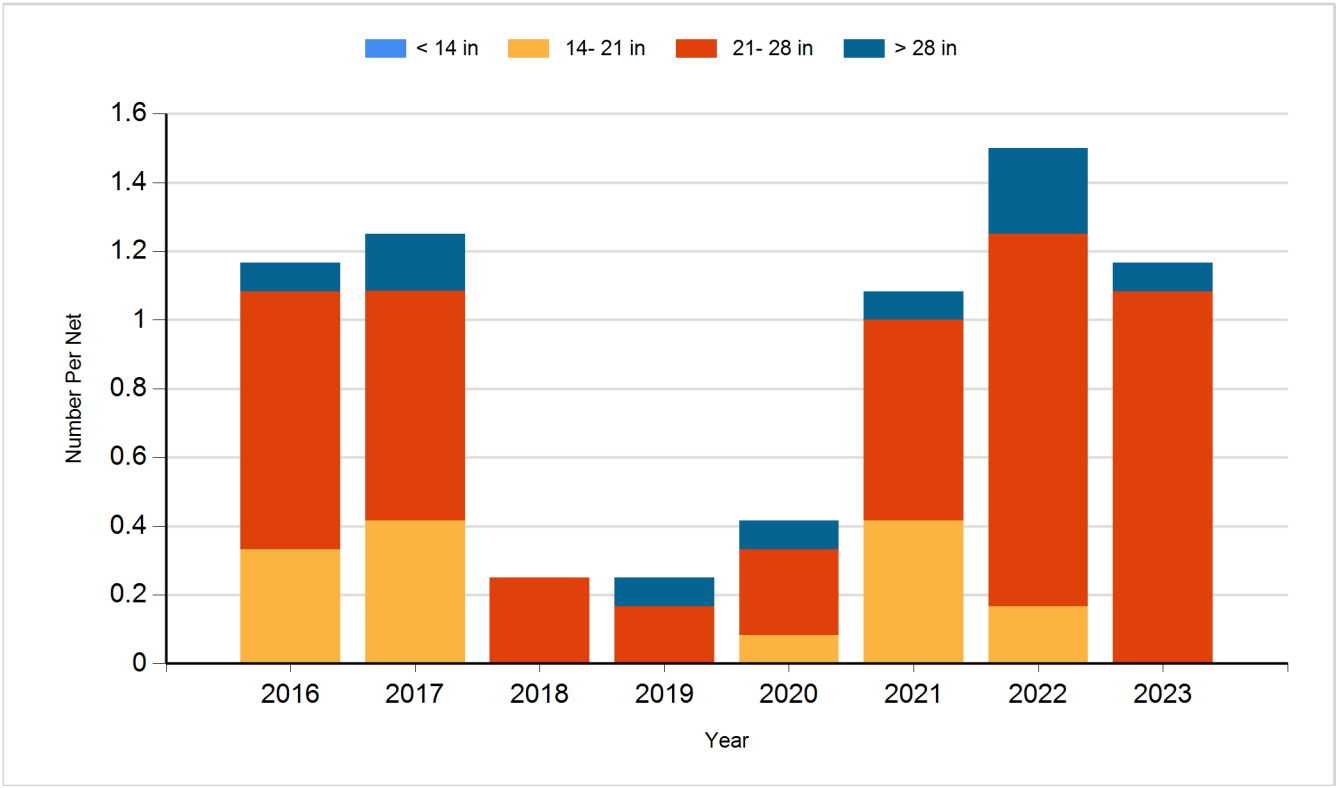
Species: Largemouth Bass
Gear: boat shocker (night, AC)



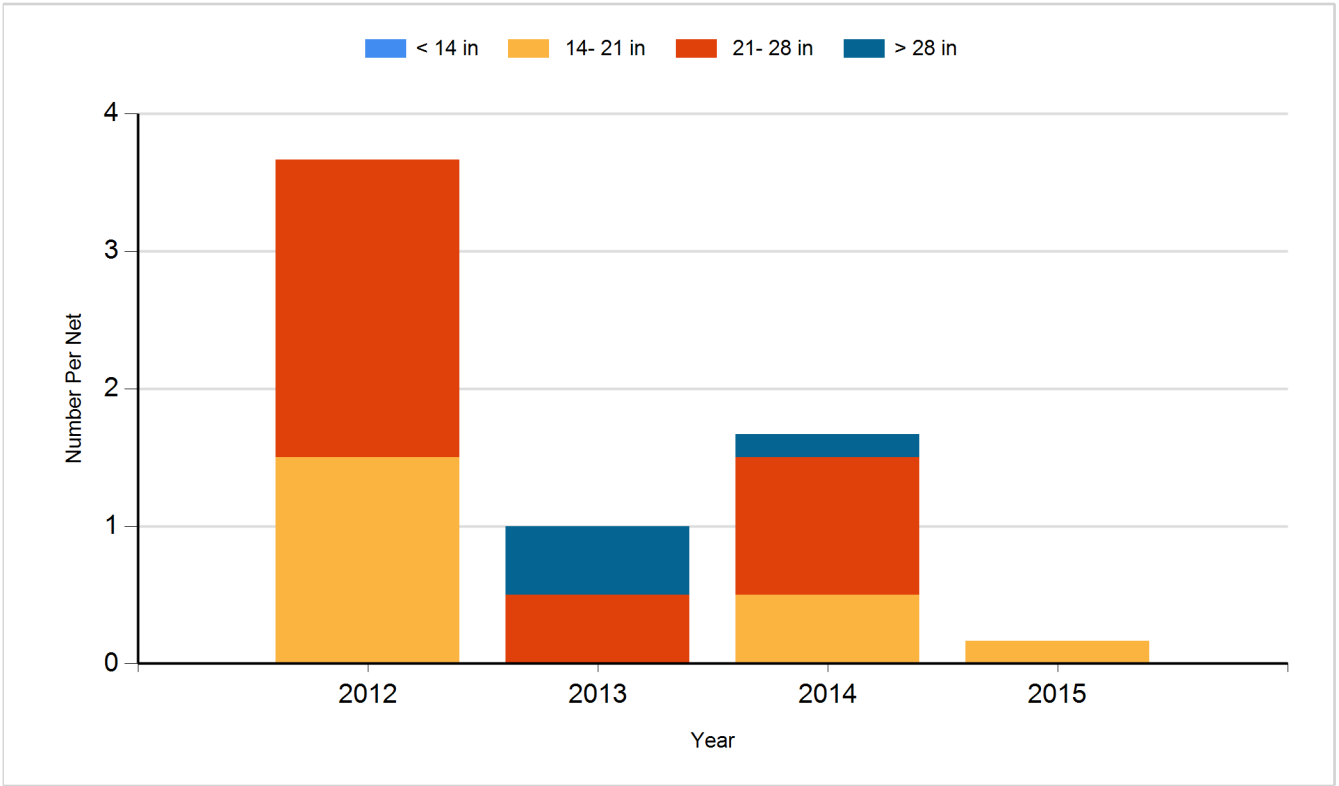
Species: Largemouth Bass
Gear: spring night EF-LMB



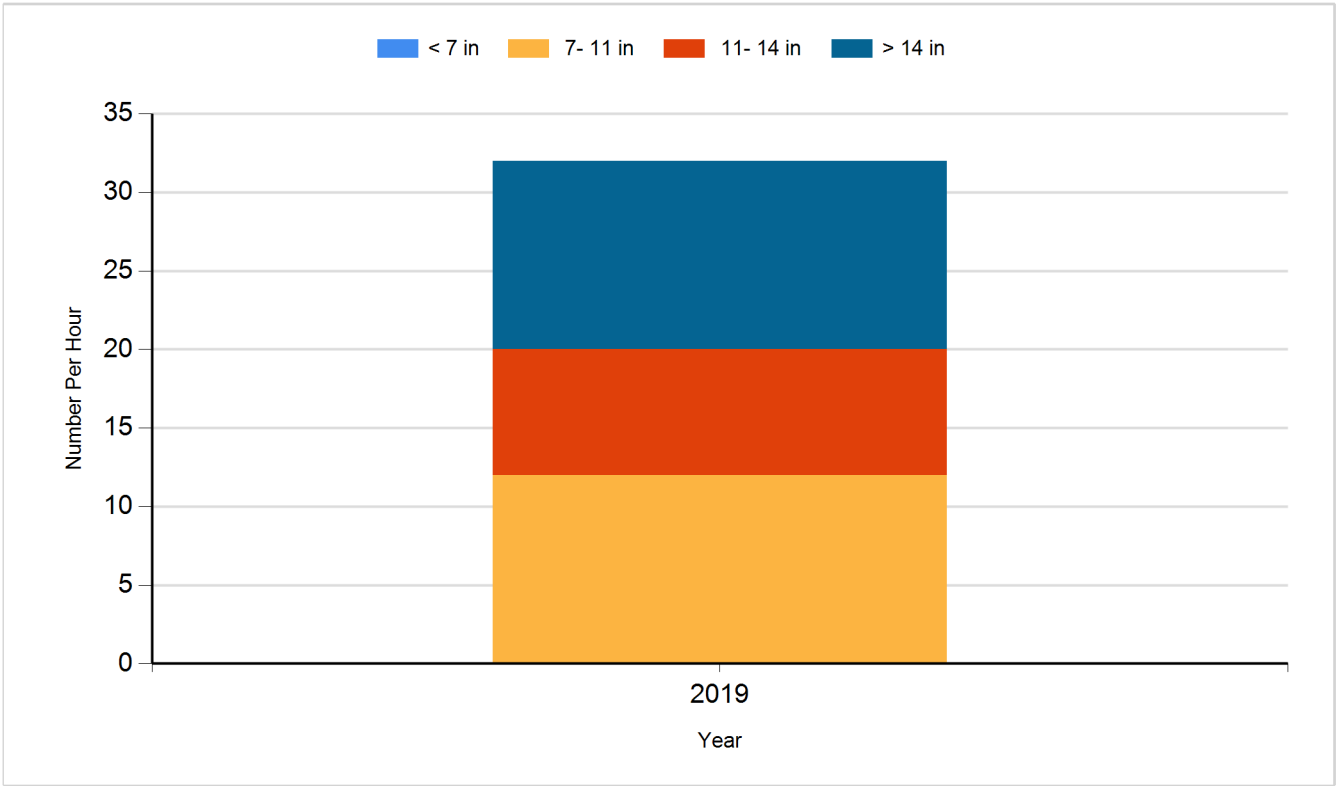
Species: Northern Pike
Gear: AFS std gill net



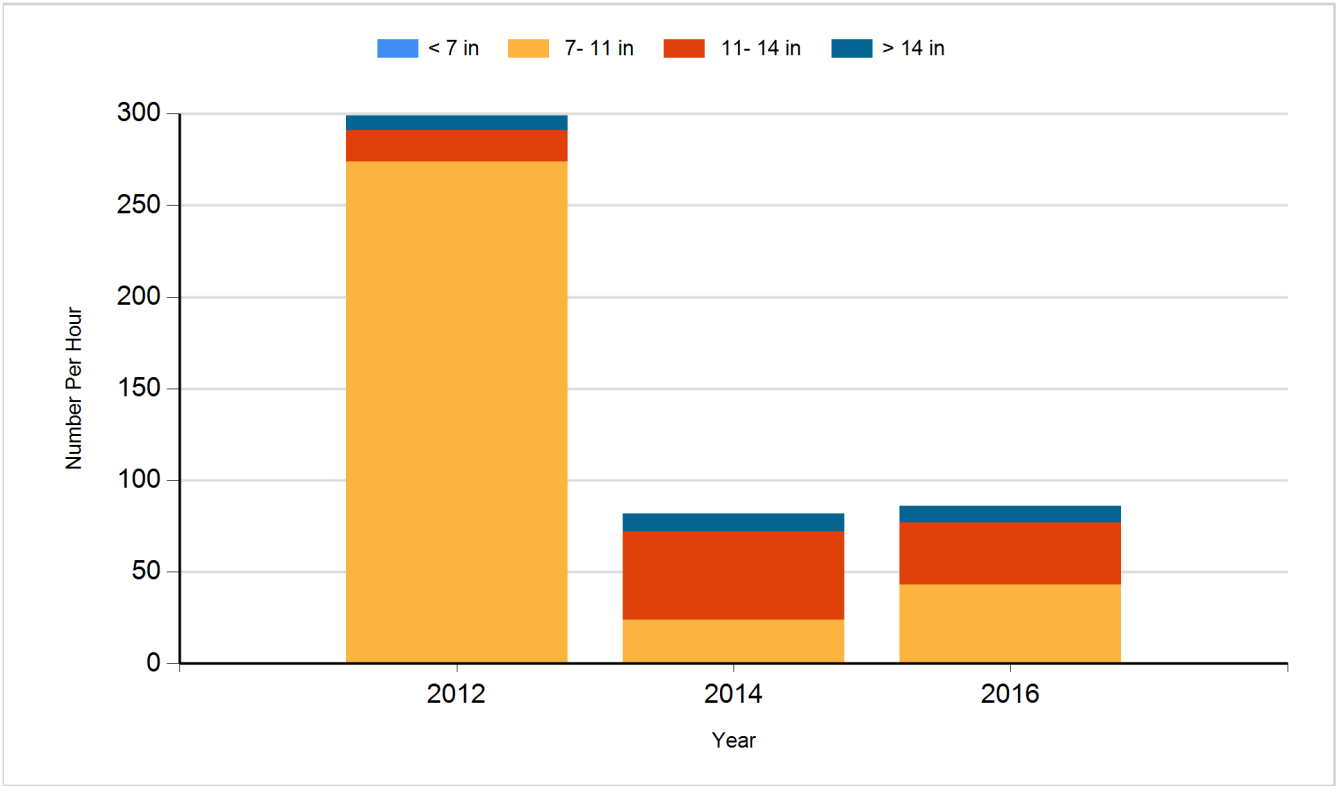
Species: Northern Pike
Gear: std exp gill net



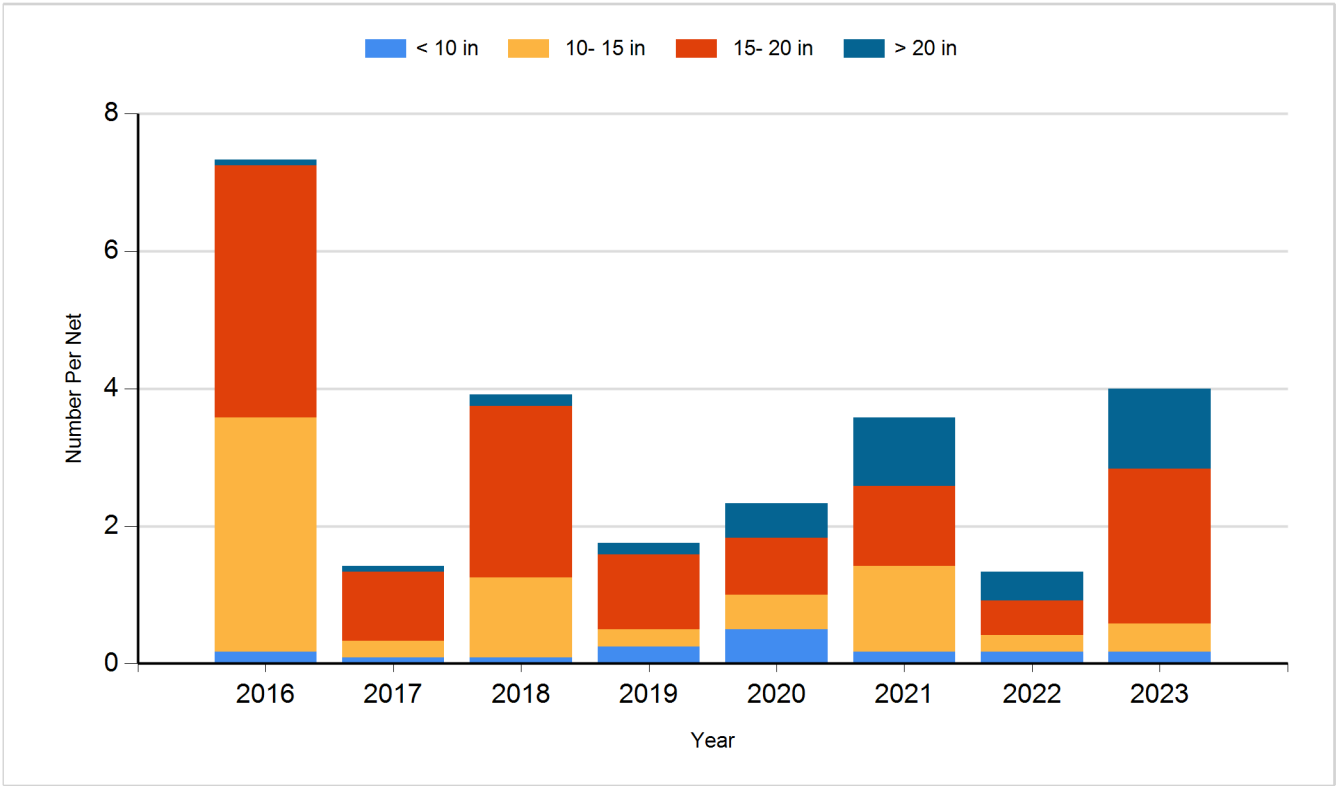
Species: Smallmouth Bass
Gear: boat shocker (day)



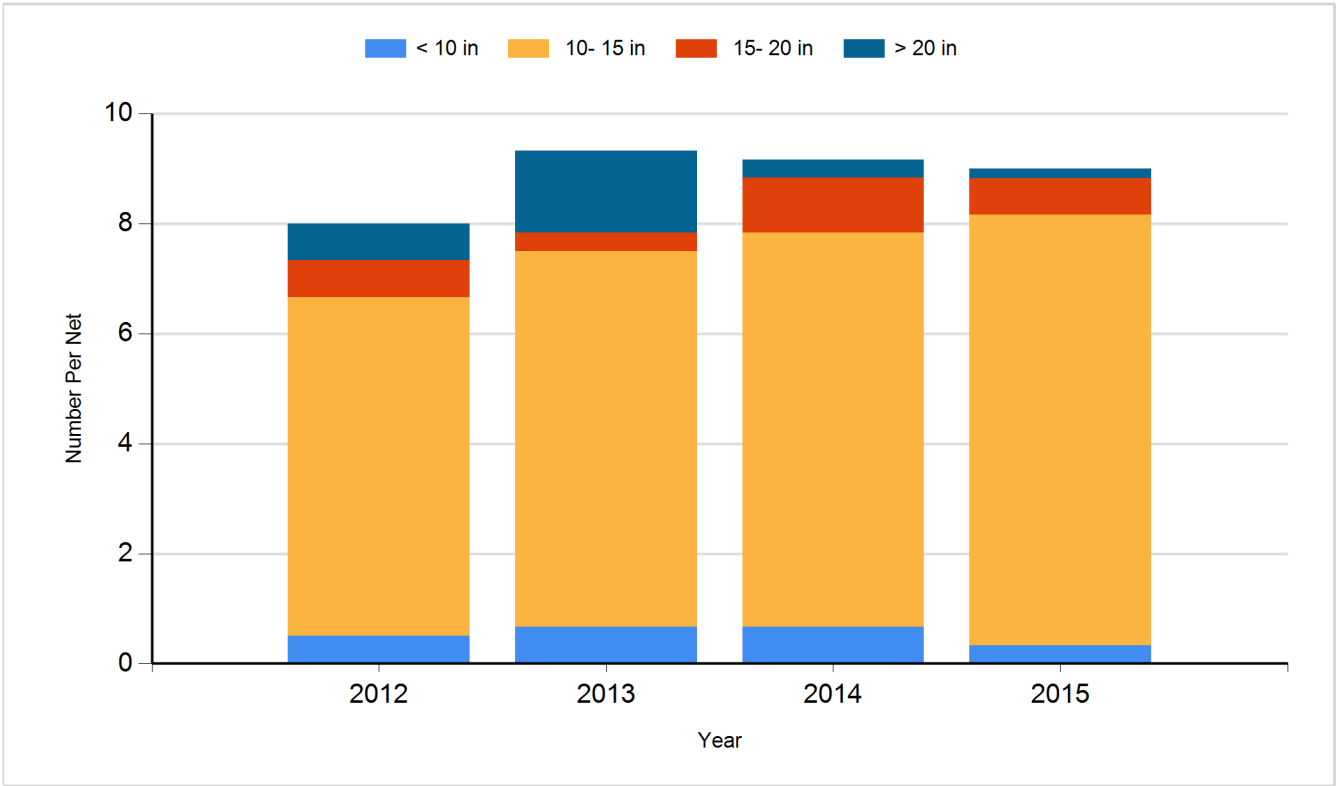
Species: Smallmouth Bass
Gear: boat shocker (night, DC)



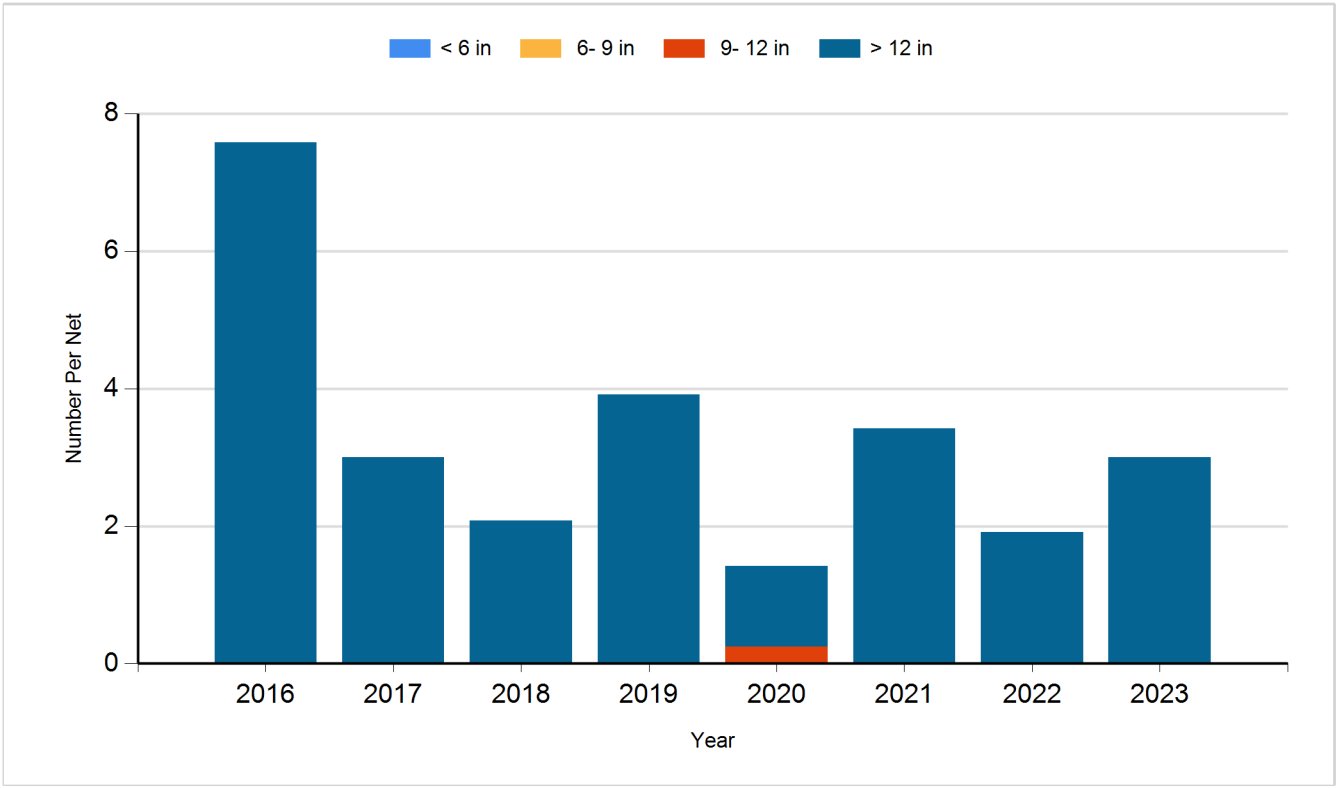
Species: Walleye
Gear: AFS std gill net



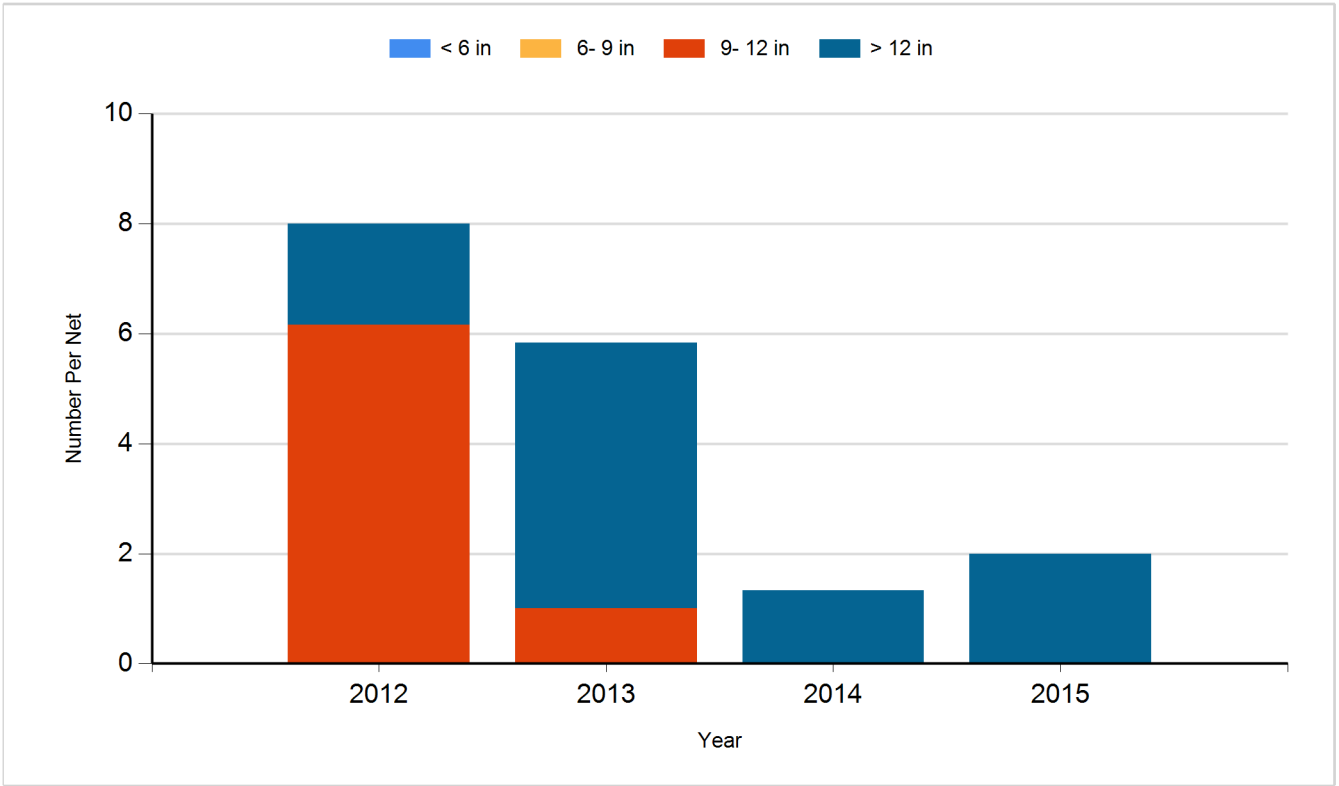
Species: Walleye
Gear: std exp gill net



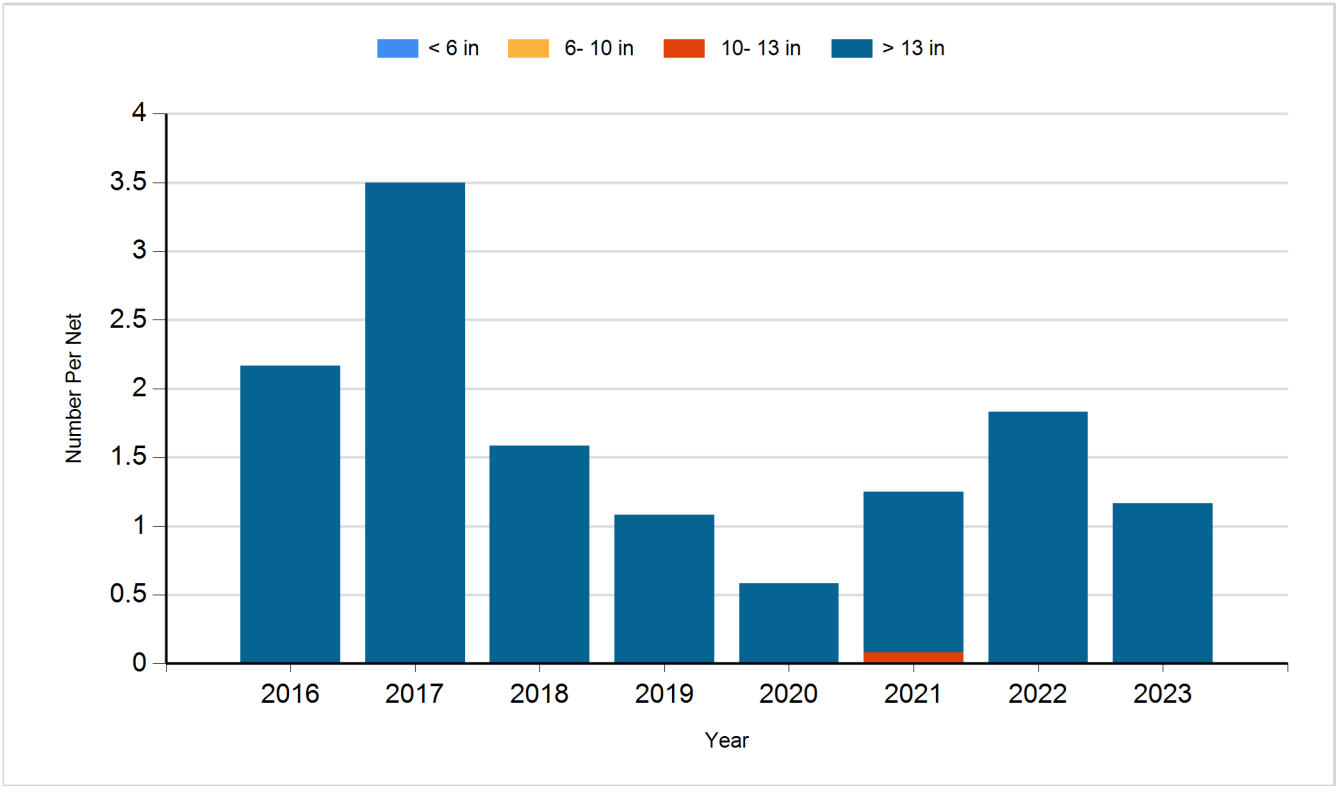
Species: White Bass
Gear: AFS std gill net



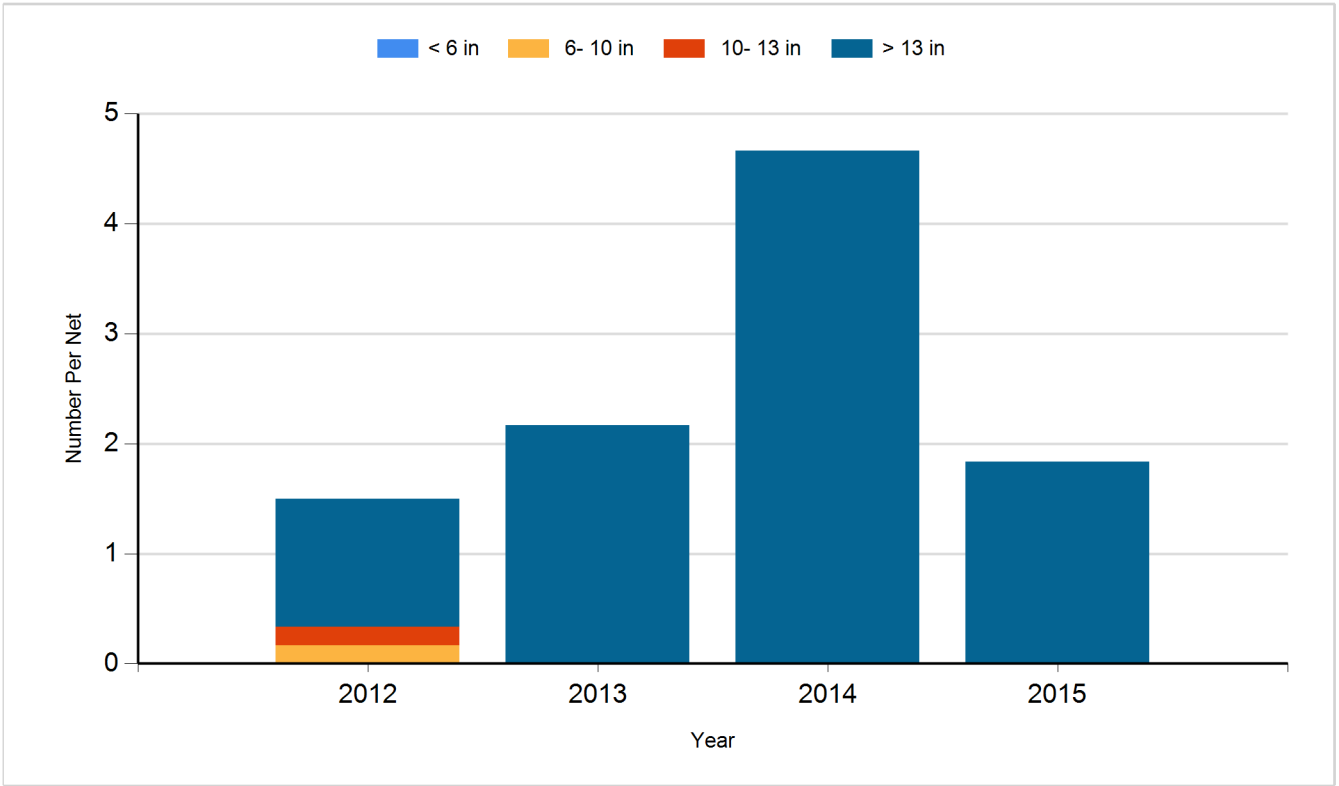
Species: White Bass
Gear: std exp gill net



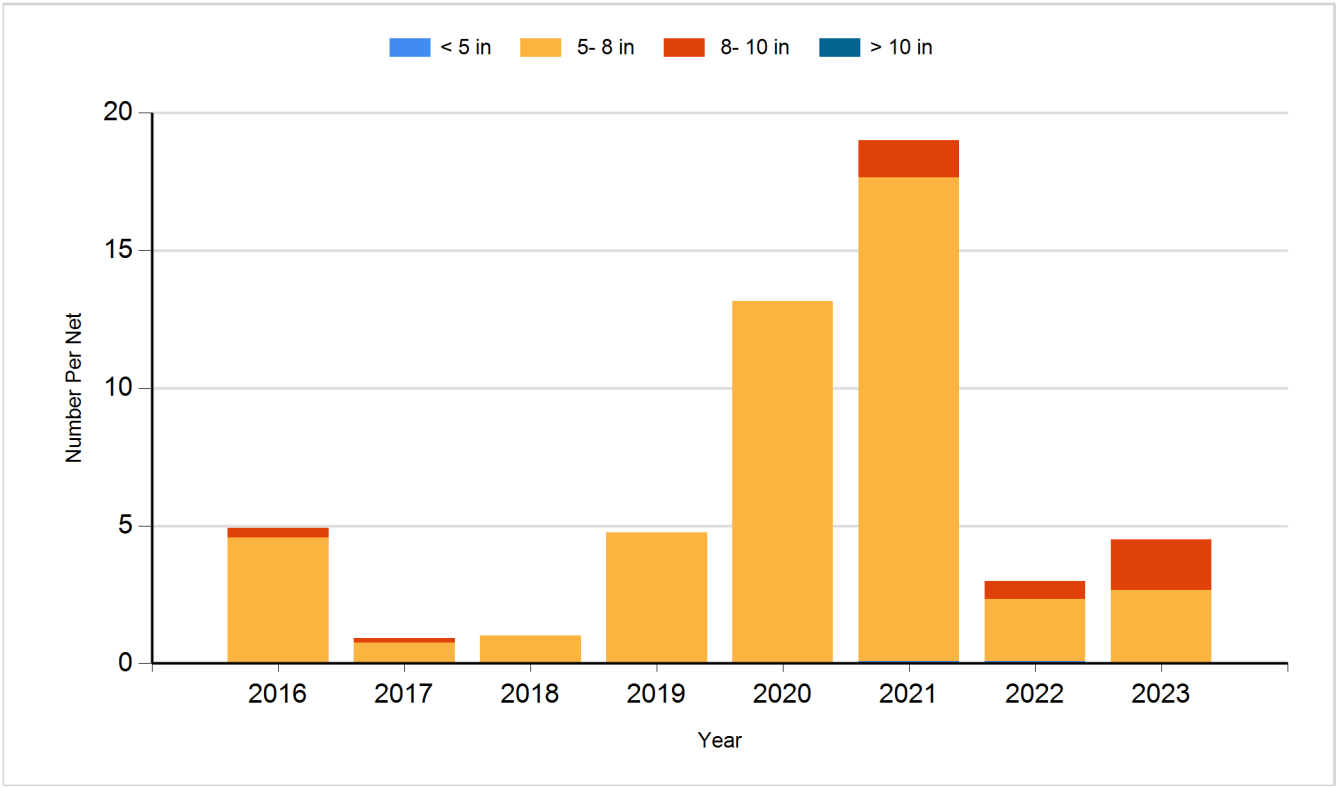
Species: White Sucker
Gear: AFS std gill net



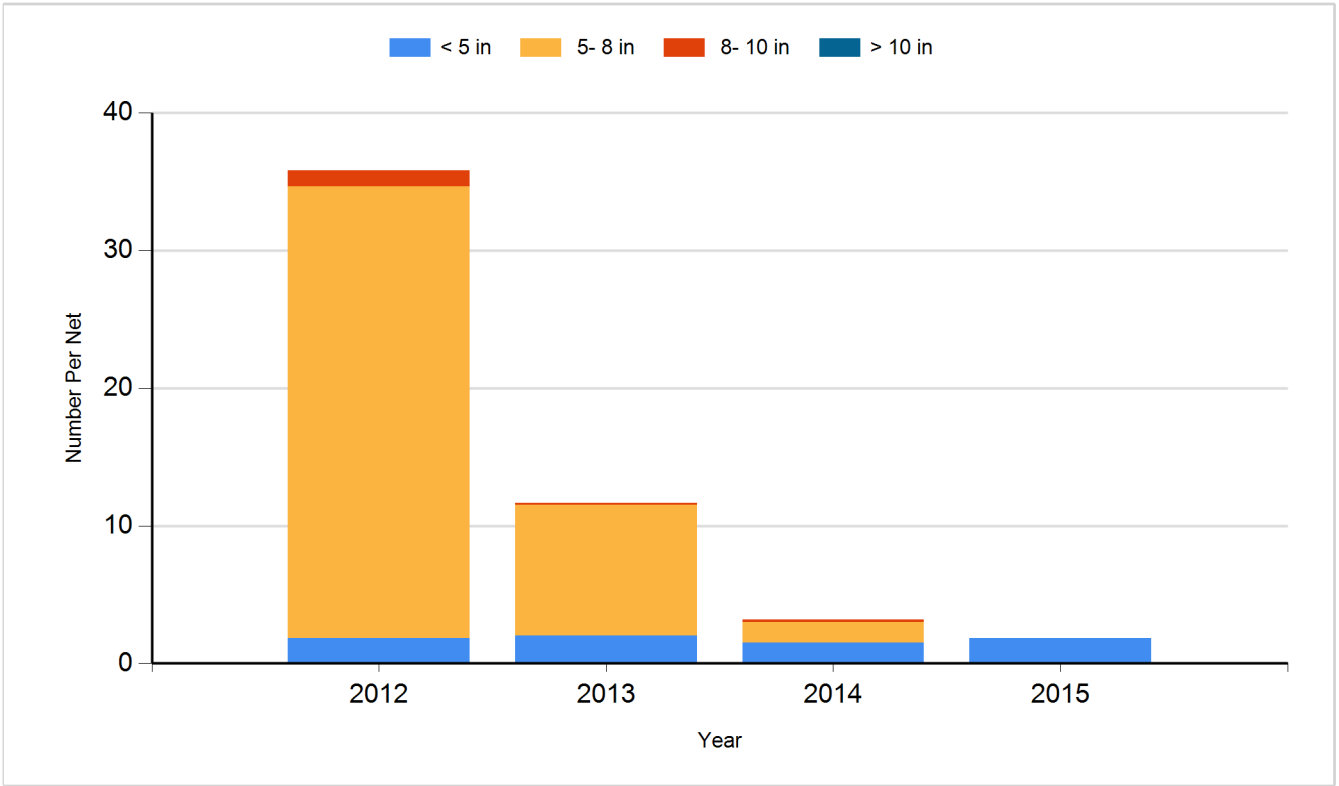
Species: White Sucker
Gear: std exp gill net



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
2013	Walleye	Small Fingerling	217,450
2015	Walleye	Large Fingerling	13,264
2017	Walleye	Large Fingerling	900
2018	Walleye	Large Fingerling	48,484
2019	Walleye	Large Fingerling	3,800
2020	Walleye	Large Fingerling	4,610
2021	Walleye	Adult	42
2021	Walleye	Juvenile	22,819
2022	Walleye	Juvenile	226,640