Note: Zebra mussels are present in Lake Kampeska. 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/

Lake Kampeska Survey Summary

Lake Kampeska, located within the city limits of Watertown, is primarily managed as a walleye fishery; however, a variety of other fish species (e.g., bluegill, northern pike, smallmouth bass, white bass, yellow perch, etc.) contribute to the fishery.

- **Channel catfish.** In 2024, channel catfish were the second most abundant fish species sampled by gill nets (3.0 per net), behind only yellow perch. Thirty-six individuals from 17.7 to 26.4 inches were netted.

- **Walleye.** Walleye numbers were similar to those observed in 2023. At 2.3 per gill net, relative abundance was considered low in 2024. Sampled walleyes ranged in length from 8.7 to 20.9 inches, of those that were at least 10.0 inches 32% were ≥ 15.0 inches and 4% were ≥ 20.0 inches. Six year classes contributed to the catch, none were particularly strong. Fish from 2021 (age-3) cohort, which coincided with a fry stocking, were more numerous than those from other cohorts and accounted for 15 of 29 walleyes in the sample. Since 2015, the mean length at capture of age-3 fish has ranged from 10.9 to 15.6 inches, while age-4 fish had mean length at capture values from 12.3 to 19.3 inches. In 2024, the mean length at capture of age-3 and age-4 fish was 13.4 and 14.7 inches.

- **White bass.** Relative abundance of white bass has remained low (i.e., < 2.5 per gill net) from 2016 to 2024. In 2024, 27 white bass from 5.9 to 15.0 inches were netted; most (85%) were ≥ 12.0 inches.

- **Yellow perch**. More yellow perch were sampled in 2024 than in 2023. The 2024 mean gill net CPUE of 5.1 suggested low to moderate relative abundance for Lake Kampeska. Sampled yellow perch ranged in length from 5.5 to 10.6 inches, most (69%) were ≥ 8.0 inches and 21% were ≥ 10.0 inches. Fish from five year classes contributed to the catch. The 2022 (age-2) and 2020 (age-4) cohorts were the most represented accounting for 67% of yellow perch in the sample. Growth appears to be moderate with mean length at capture values at age 3 from 8.0 to 9.8 inches since 2015. In 2024, the mean length at capture at age 3 was 9.2 inches.

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

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Kampeska, Codington County
UBS-Lake-171-000
2024

Lake Information

Name:	Kampeska	**Maximum Depth:**	16 Feet
County:	Codington	**Mean Depth:**	7 Feet
		OHWM Elevation:	1,718
Surface Area:	4,987 Acres	**Outlet Elevation:**	1,718

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Jul 16, 2024	4 net-nights
AFS std gill net	Jul 17, 2024	4 net-nights
AFS std gill net	Jul 18, 2024	4 net-nights
fall night EF-WAE	Oct 02, 2024	3600 seconds

Common Fish Species Present

White Crappie

Walleye

Smallmouth Bass

Black Crappie

Yellow Perch

Channel Catfish

Bigmouth Buffalo

White Bass

Yellow Bullhead

Northern Pike

Terminology

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

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

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

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

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

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

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

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

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

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

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

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

Catch Summary of Stock Length Fish

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

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

			Abundance		Stock Density Indices				Condition	
Gear	Species	Sample Size (n)	CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
AFS std gill net	Bigmouth Buffalo	33	2.8	1.3	94		3		88	1
	Bluegill	1	0.1	0.1	100		0		128	
	Channel Catfish	36	3.0	0.8	100		19	10	100	2
	Common Carp	4	0.3	0.3	100		75		102	7
	Northern Pike	4	0.3	0.3	100		100		86	6
	Shorthead Redhorse	1	0.1	0.1	100		100		109	
	Smallmouth Bass	12	1.0	0.4	58	24	33		92	4
	Walleye	29	2.3	0.6	32	14	4		80	1
	White Bass	27	2.3	0.8	85		85		75	3
	White Sucker	3	0.3	0.2	100		100		108	7
	Yellow Bullhead	9	0.8	0.6	100		100		94	2
	Yellow Perch	61	5.1	1.3	69	9	21	8	101	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 nets used in 2015 (Avg excludes 2015); **Methods/Species that ignore stock length; ***AFS standard frame nets used in 2017 (Avg excludes 2017)**

		CPUE										
Gear	Species	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Avg
AFS std gill net*	Bigmouth Buffalo	0.0	0.0	0.0	8.3	5.6		6.1	3.6	1.5	2.8	3.49
	Black Bullhead	2.3	0.4	0.4	0.3	0.0		0.8	0.0	0.0	0.0	0.24
	Black Crappie	0.0	0.0	0.1	0.0	0.0		0.1	0.0	0.0	0.0	0.03
	Bluegill	0.0	0.0	0.1	0.0	0.0		0.0	0.1	0.0	0.1	0.04
	Channel Catfish	0.2	1.0	0.9	0.3	0.4		1.8	3.1	2.3	3.0	1.60
	Common Carp	0.0	0.1	0.0	0.3	0.6		0.1	0.0	0.3	0.3	0.21
	Northern Pike	1.0	0.5	0.2	0.7	0.8		0.9	0.6	0.6	0.3	0.58
	Rock Bass	0.0	0.0	0.0	0.0	0.0		0.0	0.1	0.1	0.0	0.03
	Shorthead Redhorse	0.3	0.2	0.0	0.1	0.2		0.0	0.0	0.2	0.1	0.10
	Smallmouth Bass	1.2	0.8	1.3	0.6	0.0		1.2	1.9	0.8	1.0	0.95
	Walleye	11.5	4.6	2.7	2.6	4.0		3.3	2.1	2.8	2.3	3.05
	White Bass	4.7	1.8	1.5	1.4	2.0		1.7	1.8	1.0	2.3	1.69
	White Crappie	0.3	1.1	0.5	0.2	2.6		0.9	0.6	0.2	0.0	0.76
	White Sucker	2.2	0.6	0.6	0.8	0.3		0.0	0.4	0.1	0.3	0.39
	Yellow Bullhead	0.8	1.1	0.7	0.6	0.3		6.6	0.3	0.1	0.8	1.31
	Yellow Perch	13.0	5.3	5.3	3.3	4.3		2.3	4.7	4.4	5.1	4.34
fall night EF-WAE**	Walleye	7.0	7.0	41.0	75.0	54.2	0.0	36.6	0.0	126.0	2.0	34.88
frame net (std 3/4 in)***	Bigmouth Buffalo			0.6						5.6		5.60
	Black Bullhead			0.7						0.1		0.10
	Black Crappie			1.2						0.0		0.00
	Bluegill			0.5						1.3		1.30
	Channel Catfish			0.1						0.1		0.10
	Common Carp			0.1						0.2		0.20
	Northern Pike			0.2						0.5		0.50
	Rock Bass			0.0						0.1		0.10
	Smallmouth Bass			0.4						2.7		2.70
	Walleye			0.1						0.3		0.30
	White Bass			3.1						0.4		0.40
	White Crappie			0.1						0.0		0.00
	White Sucker			0.0						0.2		0.20
	Yellow Bullhead			1.6						1.2		1.20
	Yellow Perch			0.1						0.1		0.10

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

Species proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) collected by different gear types across 10 years. *** SDGFP standard gill nets used in 2015**

			Year									
Gear	Species	Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFS std gill net	Channel Catfish	PSD	100	100	100	100	100		33	92	96	100
		PSD-P	100	42	70	67	80		0	0	0	19
		Wr	102	101	100	112	114		95	107	110	100
	Walleye	PSD	12	18	7	3	69		51	40	21	32
		PSD-P	1	2	3	0	2		3	0	9	4
		Wr	82	79	75	85	88		84	81	85	80
	White Bass	PSD	96	48	94	100	92		90	100	100	85
		PSD-P	93	48	50	88	92		80	81	83	85
		Wr	84	86	80	88	85		87	81	89	75
	Yellow Perch	PSD	65	90	97	92	81		96	68	74	69
		PSD-P	41	40	48	67	73		26	14	23	21
		Wr	109	108	109	105	100		99	106	106	101

Length at Capture

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

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2024	29		266 (5)	341 (15)	373 (4)	386 (1)	470 (3)				478 (1)
2023	38	193 (2)	258 (18)	329 (8)	371 (4)	463 (2)				598 (1)	539 (3)
2022	26	222 (1)	296 (8)	376 (9)	418 (3)	446 (1)			462 (3)	466 (1)	
2021	40	217 (1)	326 (8)	384 (24)	490 (1)	474 (1)		503 (2)	466 (3)		
2019	67	211 (20)	348 (8)	396 (1)	367 (2)	410 (23)	426 (6)	446 (1)	463 (6)		
2018	38	232 (7)		324 (2)	319 (14)	325 (10)	354 (2)	367 (2)			
2017	30			276 (12)	313 (10)		359 (7)			659 (1)	
2016	58	205 (1)	260 (14)	305 (19)		365 (20)		480 (1)	608 (1)	404 (1)	432 (1)
2015	88	198 (17)	264 (35)		334 (29)	351 (2)	555 (1)	432 (2)	422 (1)	414 (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+
2024	61	145 (6)	200 (25)	234 (8)	248 (16)		257 (7)				
2023	53	142 (7)	198 (11)	220 (19)	232 (1)	260 (13)	293 (2)				
2022	56		184 (16)	203 (6)	241 (33)			316 (1)			
2021	27		191 (2)	219 (16)	242 (3)	282 (1)	291 (3)		299 (2)		
2019	53	120 (1)	187 (13)	234 (1)	278 (17)		294 (13)	293 (1)	304 (4)	313 (1)	304 (2)
2018	38	138 (2)	214 (2)	249 (14)	274 (4)	271 (13)	287 (3)				307 (1)
2017	58	138 (1)	215 (22)	237 (4)	264 (22)	303 (5)	289 (3)	256 (1)			
2016	63	142 (3)	187 (3)	234 (31)		274 (11)	277 (11)	279 (3)	255 (1)		
2015	78		191 (33)	242 (7)	253 (22)	261 (7)	270 (9)	296 (1)			

Fish Condition

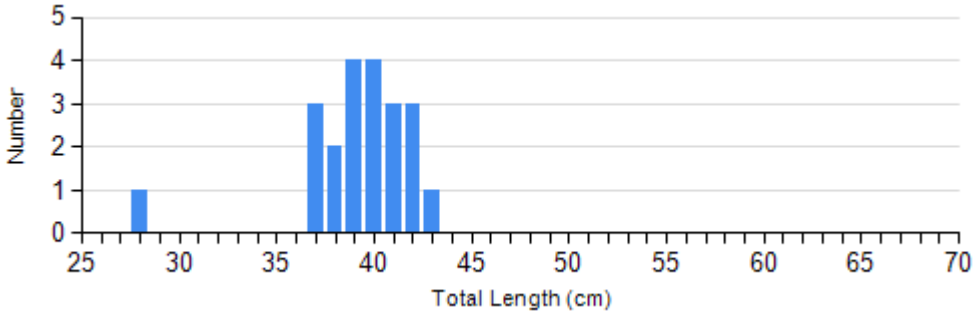
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Channel Catfish Gill Net	2021	14	97 (2.1)	7	90 (3.0)	0		0	
	2022	3	103 (0.7)	34	107 (2.2)	0		0	
	2023	1	100	27	110 (2.4)	0		0	
	2024	0		29	101 (2.1)	7	96 (2.9)	0	
Walleye Gill Net	2021	19	84 (1.1)	19	83 (0.7)	1	84	0	
	2022	15	82 (1.5)	10	79 (1.5)	0		0	
	2023	26	86 (1.2)	4	79 (1.5)	3	80 (4.1)	0	
	2024	19	80 (0.8)	8	80 (1.5)	1	80	0	
White Bass Gill Net	2021	2	96 (0.2)	2	89 (2.7)	15	85 (0.9)	1	84
	2022	0		4	90 (1.8)	17	79 (1.1)	0	
	2023	0		2	94 (5.5)	9	89 (1.2)	1	80
	2024	4	85 (6.0)	0		20	77 (0.8)	3	50 (15.3)
Yellow Perch Gill Net	2021	1	115	19	101 (1.3)	5	93 (3.2)	2	87 (4.6)
	2022	18	106 (1.6)	30	108 (1.0)	7	100 (2.3)	1	90
	2023	14	105 (1.9)	27	106 (1.0)	12	106 (2.0)	0	
	2024	19	101 (1.9)	29	102 (1.3)	13	98 (1.7)	0	

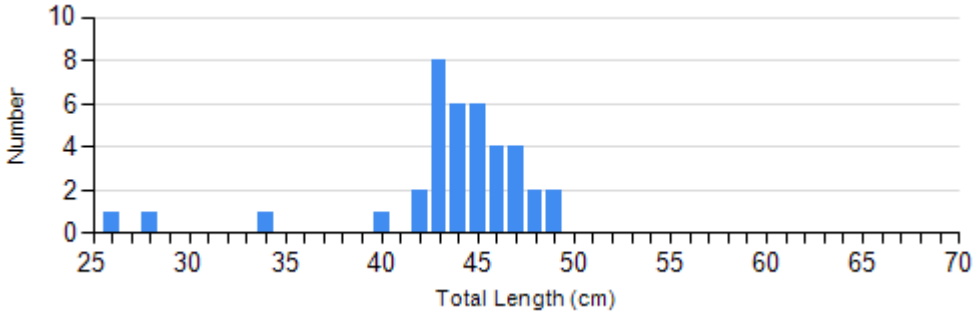
Length Frequency Distribution

Length frequency histogram of species sampled by year.

Species: Channel Catfish
Gear: AFS std gill net



2021



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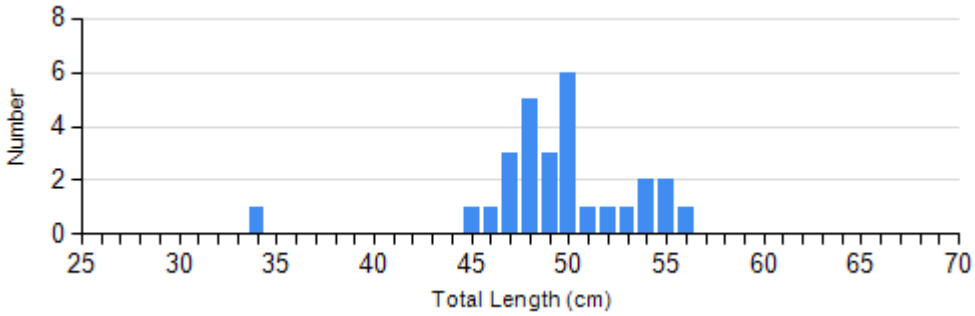

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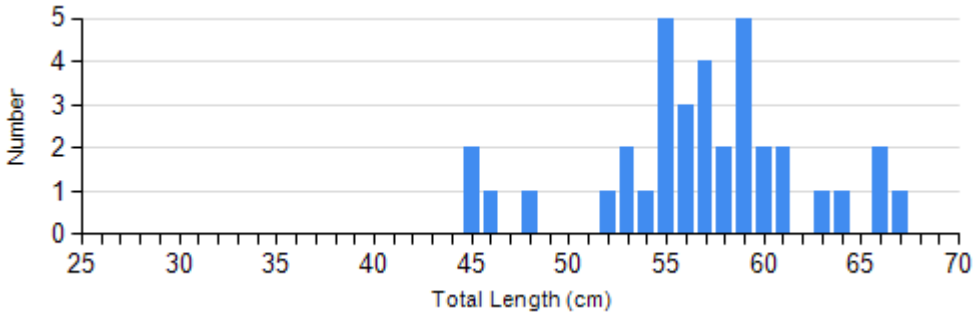
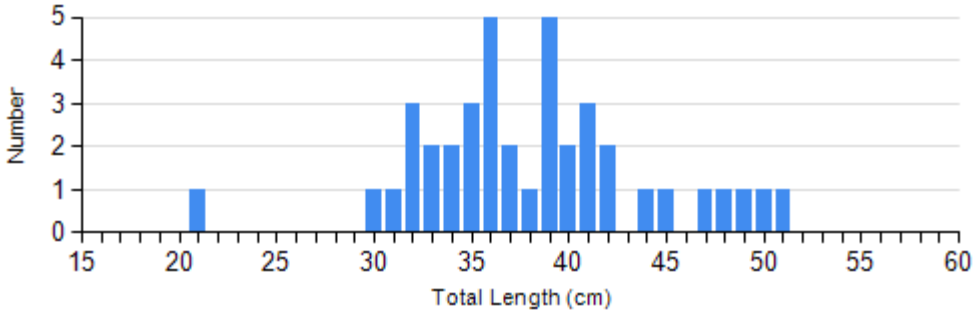
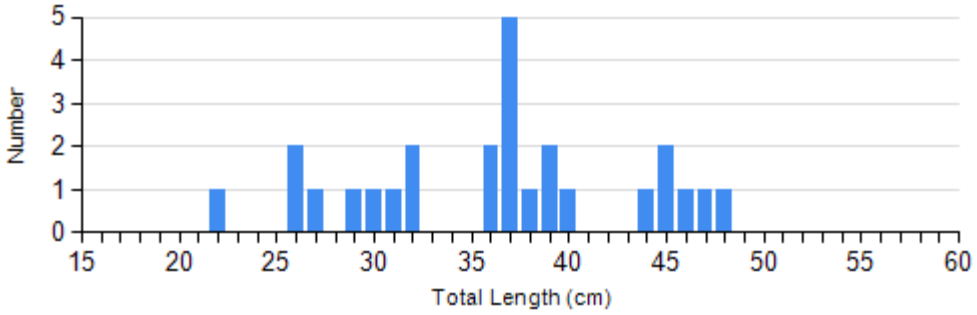


2024

Species: Walleye
Gear: AFS std gill net



2021



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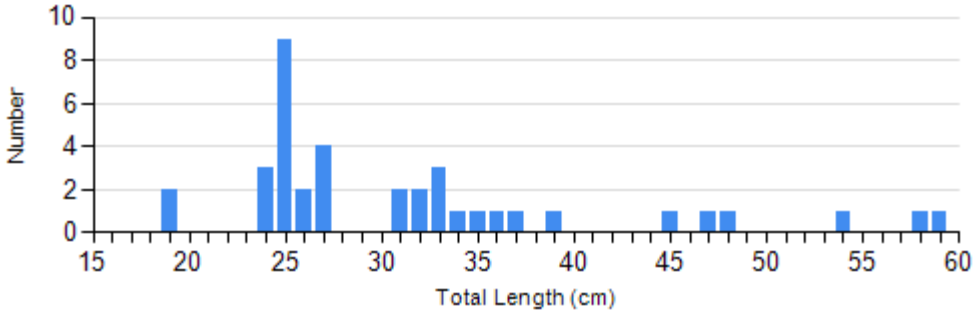
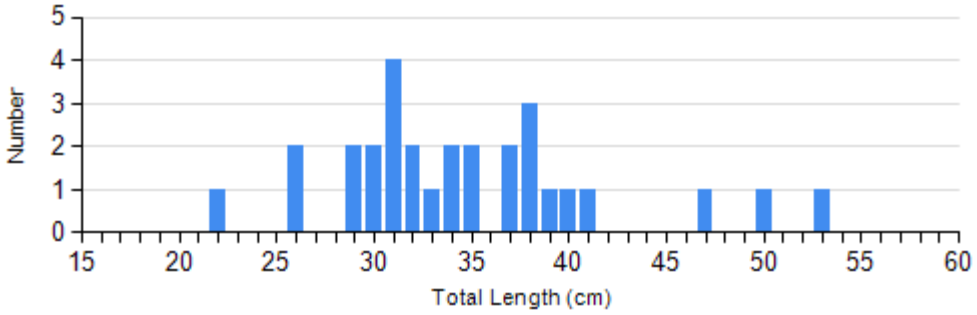
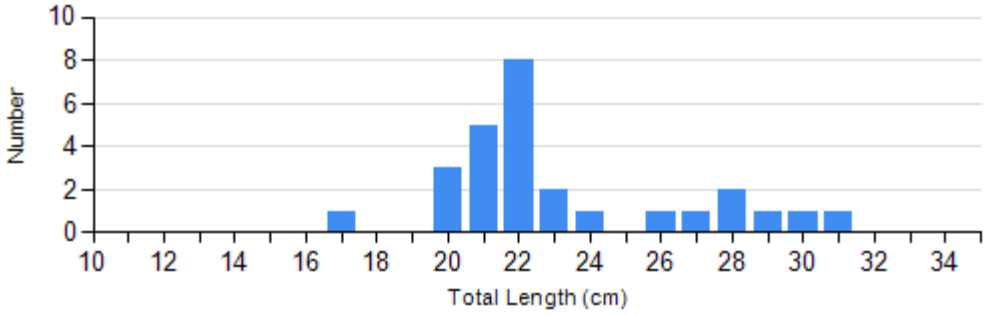


2023

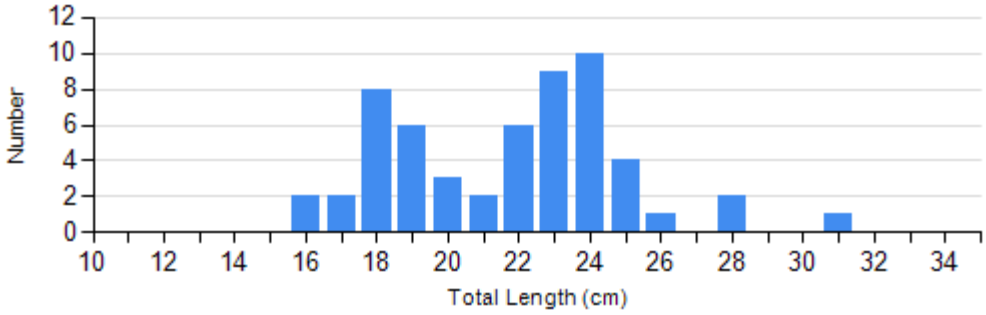


2024

Species: Yellow Perch
Gear: AFS std gill net



2021



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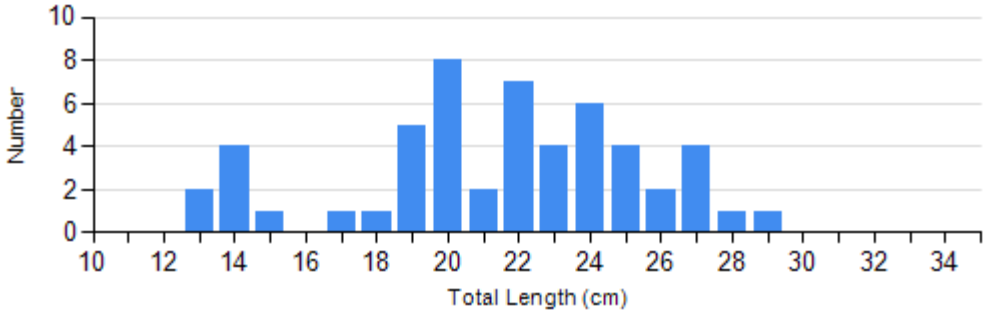
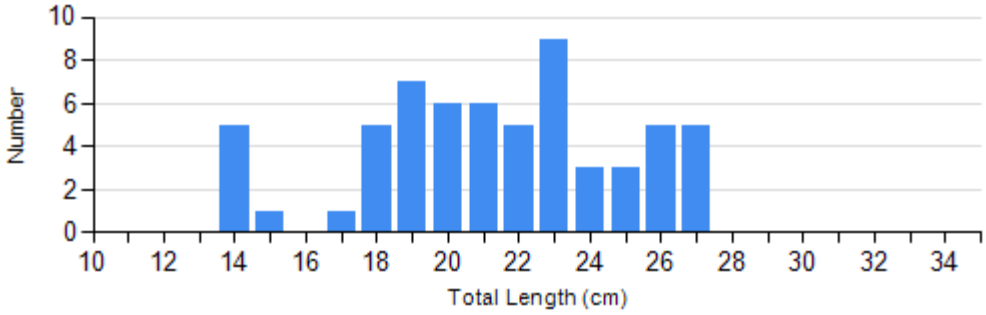


2023

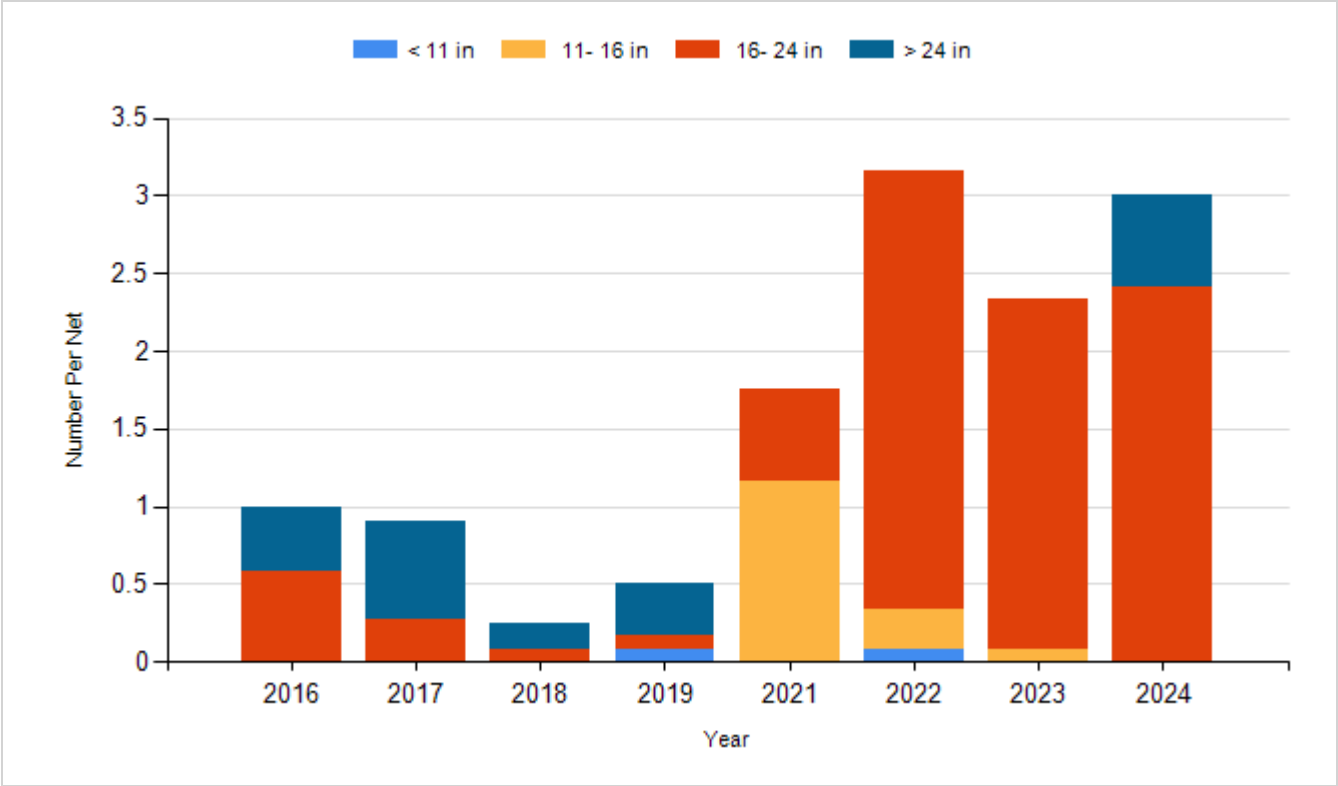


2024

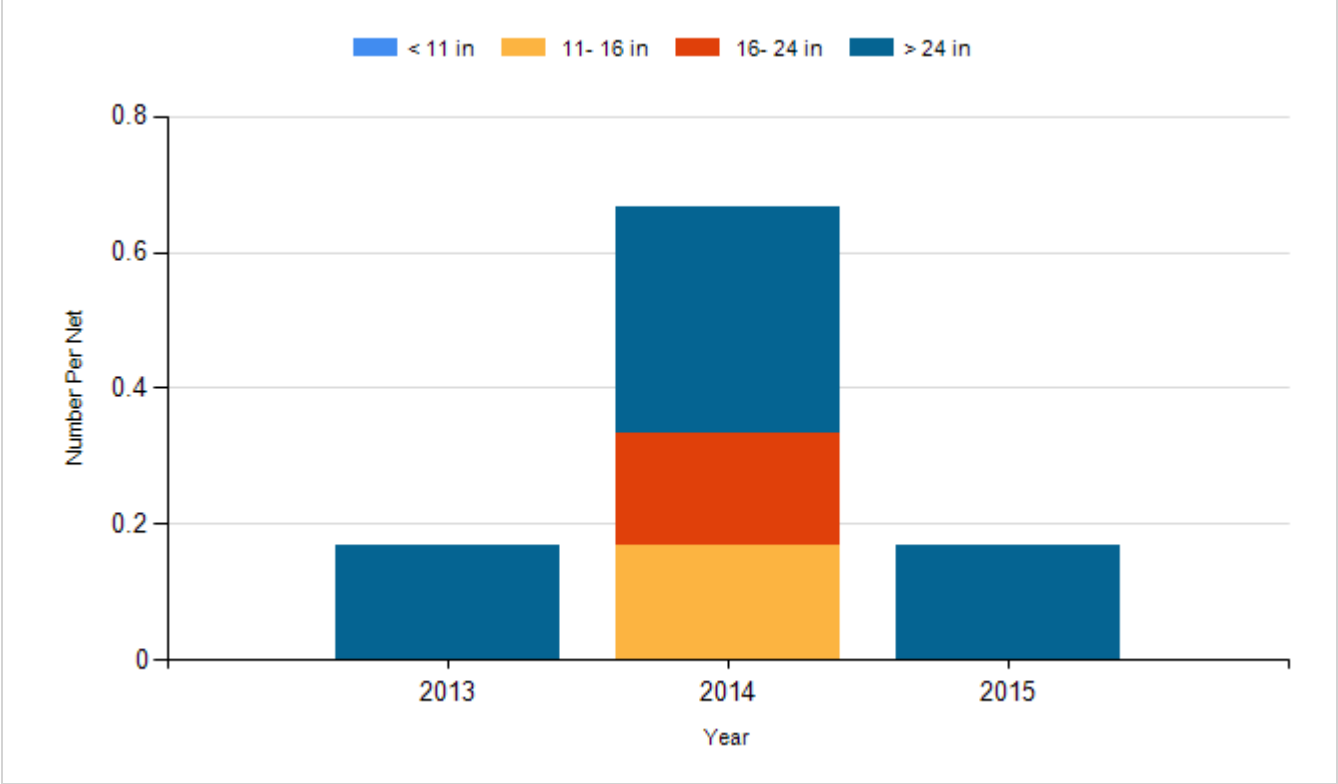
Historic Fish Sizes and Relative Abundance

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

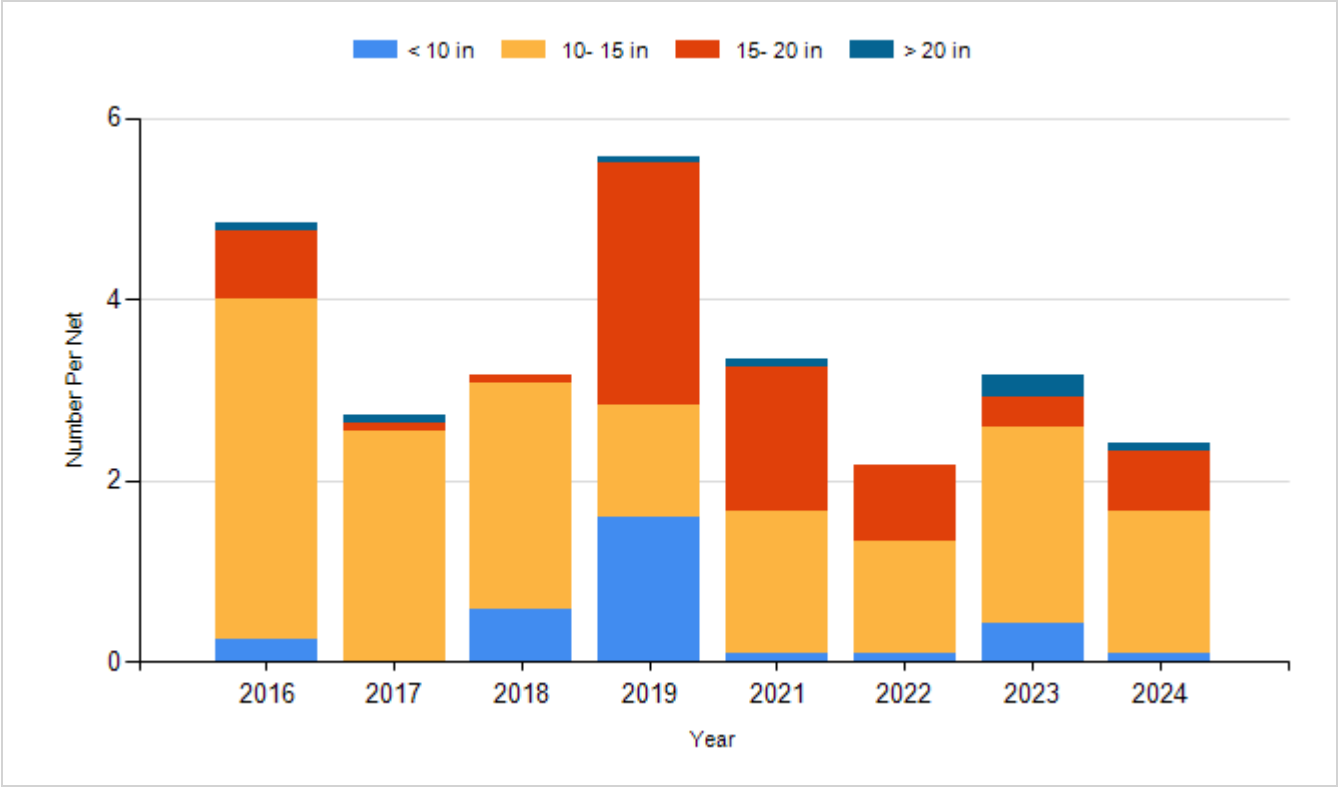
Species: Channel Catfish
Gear: AFS std gill net



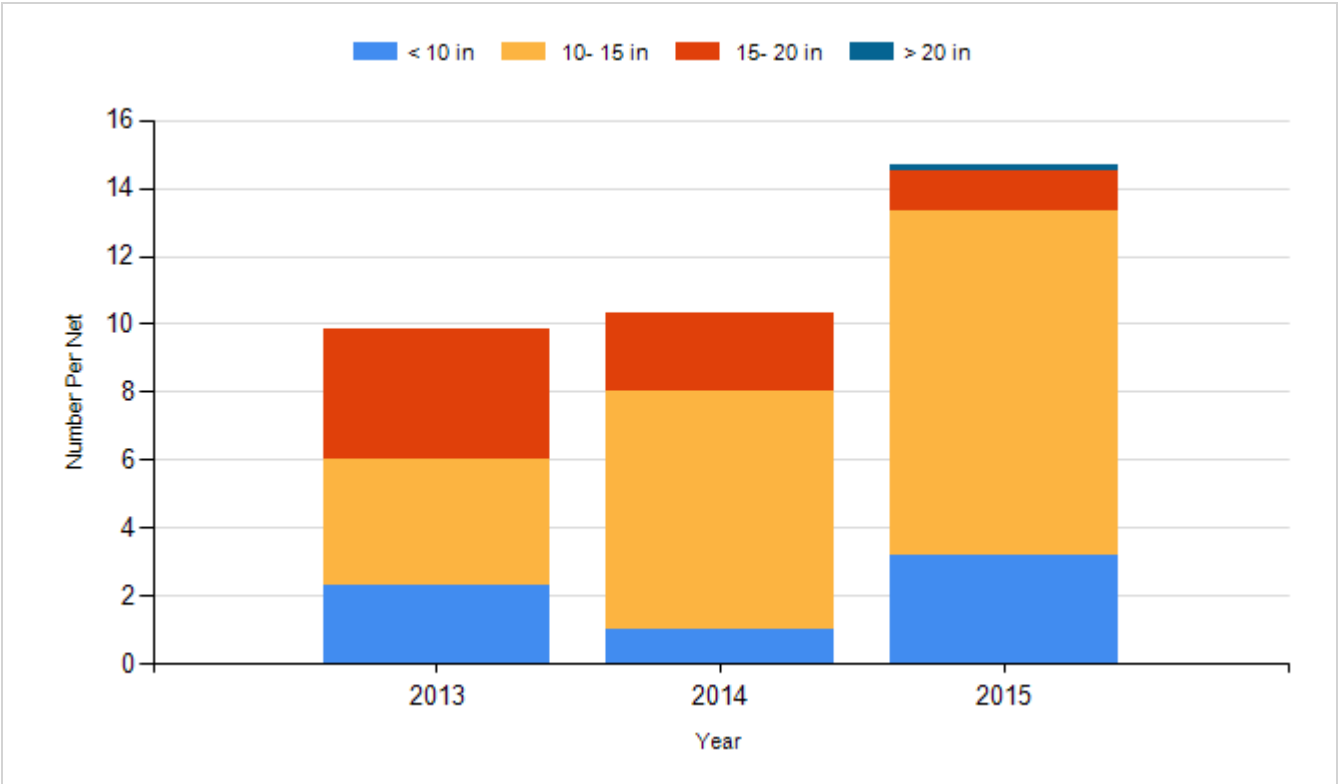
Species: Channel Catfish
Gear: std exp gill net



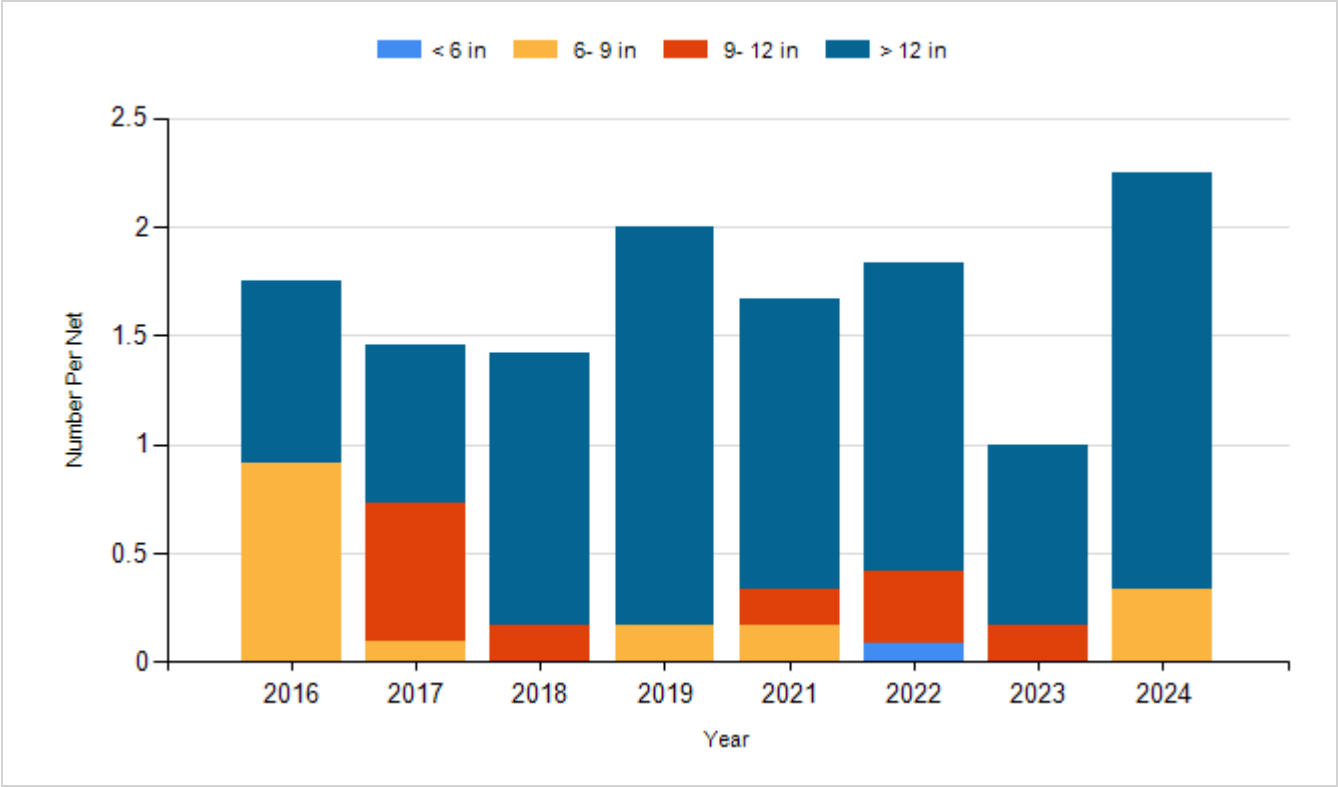
Species: Walleye
Gear: AFS std gill net



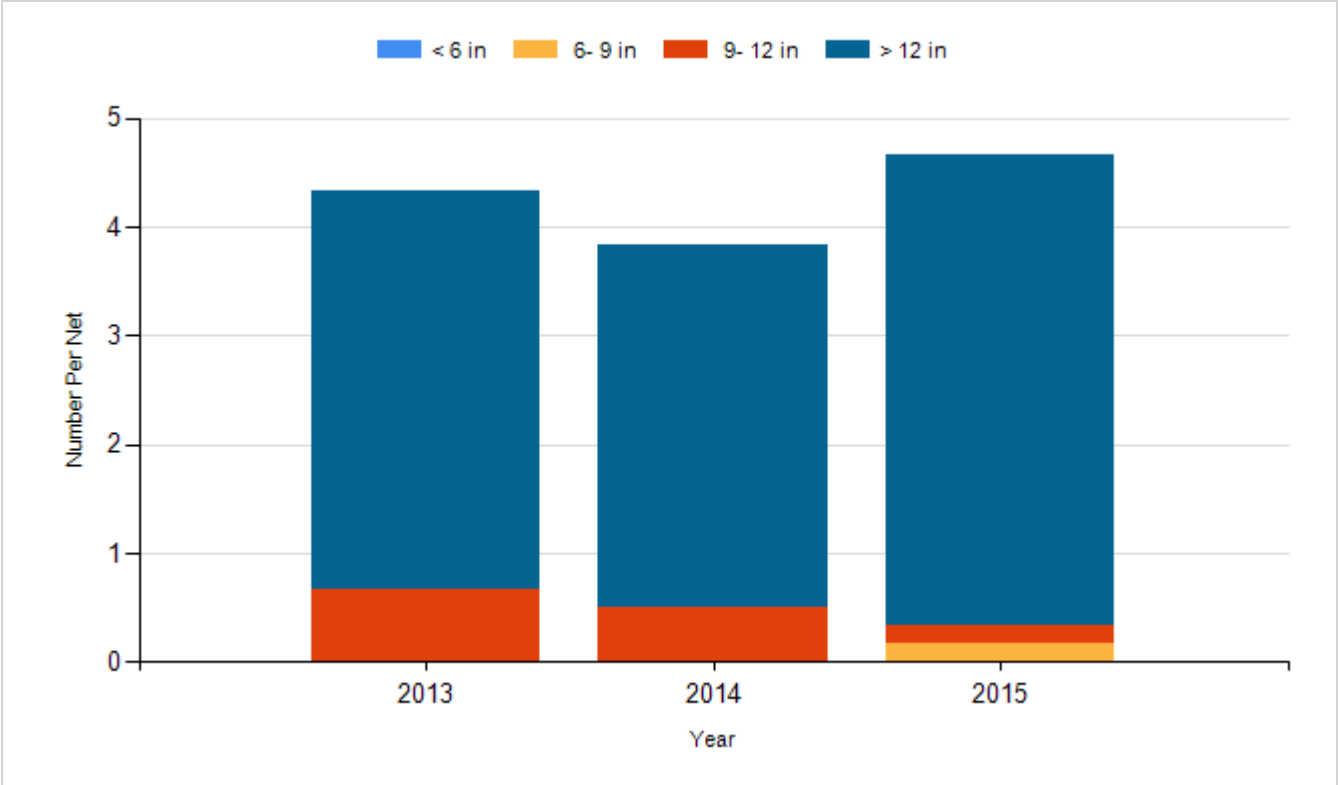
Species: Walleye
Gear: std exp gill net



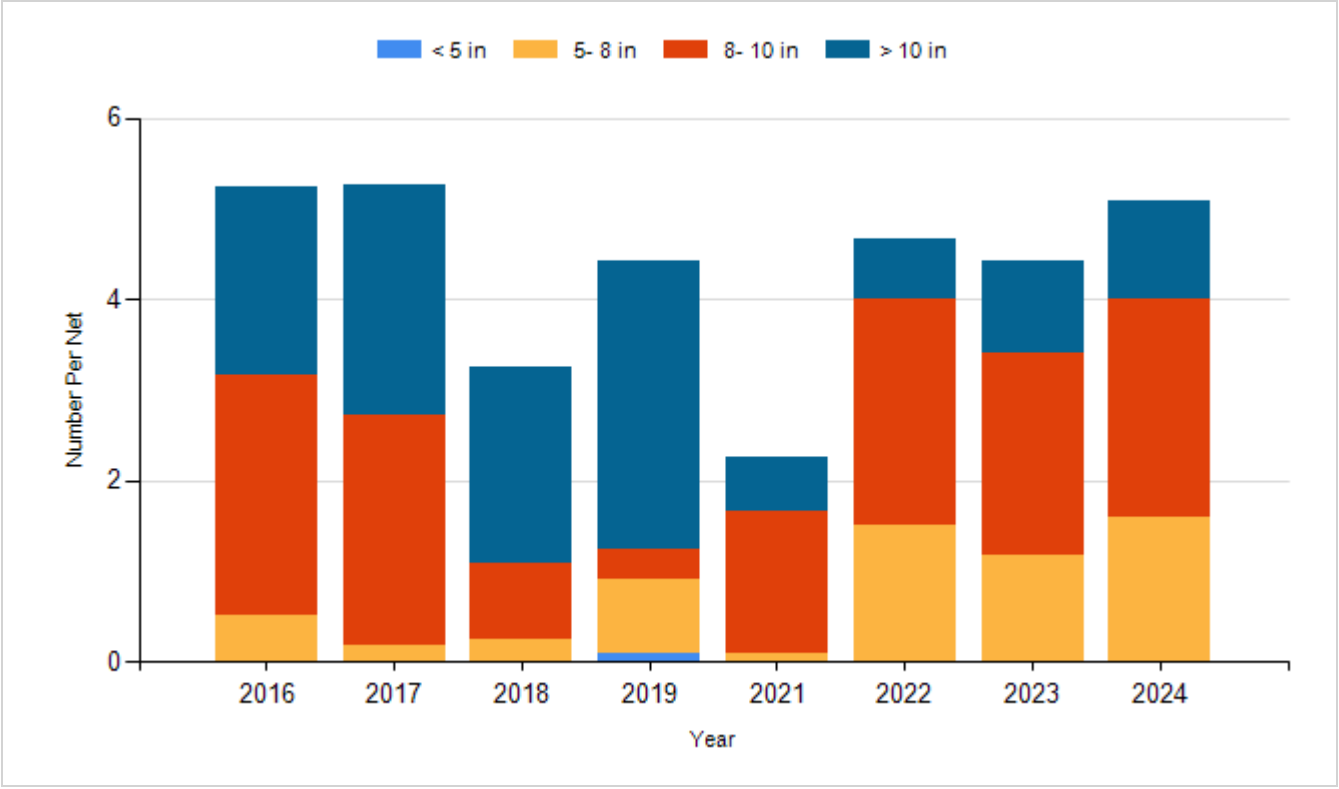
Species: White Bass
Gear: AFS std gill net



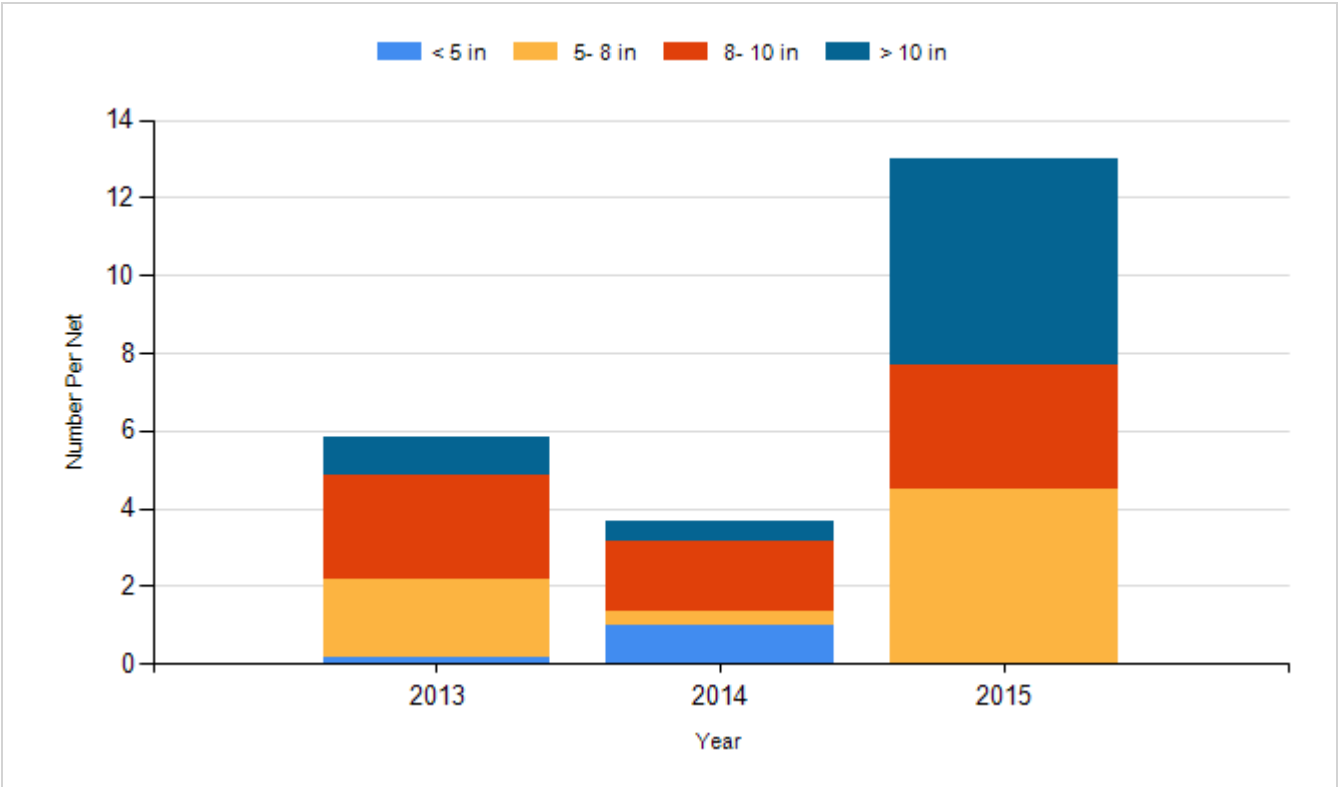
Species: White Bass
Gear: std exp gill net



Species: 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	2,400,000
2014	Walleye	Fry	2,500,000
2016	Walleye	Fry	2,400,000
2017	Walleye	Fry	2,400,000
2018	Walleye	Fry	2,400,000
2019	Walleye	Fry	2,400,000
2021	Walleye	Fry	2,400,000
2022	Walleye	Fry	2,500,000
2023	Walleye	Fry	5,100,000