Lake Poinsett Survey Summary

Lake Poinsett, located 7.0 miles west of Estelline, is primarily managed as a walleye and yellow perch fishery but the lake supports a diverse fish community, and a variety of species contribute to the fishery.

- **Channel catfish.** Channel catfish numbers were similar to those observed in 2022. The 2023 mean gill net CPUE of channel catfish was 1.8. Fish from 15.4 to 31.1 inches contributed to the catch, most (95%) were ≥16.0 inches and 41% were ≥24.0 inches.

- **Walleye.** Walleye numbers were lower in 2023 than in 2022. At 3.3 per gill net, relative abundance of walleyes ≥ 10.0 inches was considered low to moderate in 2023. Sampled walleyes ranged in length from 7.9 to 28.0 inches of those that were at least 10 inches 38% were ≥15.0 inches and 8% were ≥20.0 inches. Eight year classes (2009, 2014, 2015, and 2018 – 2022) contributed to the catch, none were particularly strong. Individuals from natural produced cohorts in 2022 (age-1), 2021 (age-2), and 2020 (age-3) were the most abundant accounting for 78% of walleyes in the sample. The oldest walleye sampled was from the 2014 (age-14) year class. Growth has been variable, with mean length at captures for age-3 fish from 12.3 to 17.2 inches since 2014. In 2023, the mean length at capture of age-3 fish was 14.5 inches.

- **White bass.** White bass were not abundant (2.8/gill net). The 2023 gill net catch included 33 white bass from 9.1 to 15.7 inches, most (88%) were ≥12.0 inches.

- **Yellow perch**. Yellow perch numbers were lowest reported in surveys conducted from 2014 – 2023. At 4.2 per gill net, relative abundance was considered low. Sampled yellow perch ranged in length from 5.1 to 13.4 inches, 38% were ≥8.0 inches and 14% were ≥10.0 inches. Individuals from six cohorts (2015, 2016, 2018, 2019, 2021, and 2022) contributed to the catch, those from the 2022 (age-1) cohort were the most numerous accounting for 58% of fish in the sample. Yellow perch growth appears to be good with age-3 yellow perch mean length at capture values ≥9.6 inches in survey conducted since 2014.

For more detailed results see the computer-generated South Dakota Statewide Fisheries Survey for Poinsett (Hamlin, Brookings; below).

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Poinsett, Hamlin County
MBS-Lake-405-000
2023

Lake Information

Name:	Poinsett	**Maximum Depth:**	22 Feet
County:	Hamlin	**Mean Depth:**	17 Feet
		OHWM Elevation:	1,652
Surface Area:	7,978 Acres	**Outlet Elevation:**	1,651

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Aug 01, 2023	6 net-nights
AFS std gill net	Aug 02, 2023	6 net-nights
fall night EF-WAE	Sep 26, 2023	3600 seconds

Common Fish Species Present

Walleye

Smallmouth Bass

Northern Pike

Yellow Perch

Bigmouth Buffalo

White Bass

Channel Catfish

White Sucker

Common Carp

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	Bigmouth Buffalo	66	5.5	1.9	91	6	41	9	98	1
	Black Bullhead	3	0.3	0.2	100		100		88	20
	Black Crappie	1	0.1	0.1	100		100		120	
	Channel Catfish	22	1.8	0.6	95		64	16	110	4
	Common Carp	11	0.9	0.8	91		64		98	4
	Northern Pike	1	0.1	0.1	100		100		77	
	Smallmouth Bass	6	0.5	0.3	67		17		93	4
	Walleye	46	3.3	0.9	38	12	8		87	1
	White Bass	33	2.8	0.7	100		88		98	1
	White Sucker	14	1.2	0.4	93		86		106	2
	Yellow Bullhead	2	0.2	0.2	100		100		103	2
	Yellow Perch	50	4.2	2.4	38	10	14	8	109	2

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

		CPUE										
Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
AFS std gill net*	Bigmouth Buffalo	0.5	0.3	2.8	0.4	0.3	2.4		1.0	1.0	5.5	1.91
	Black Bullhead	0.5	3.2	0.4	0.3	0.4	0.6		0.5	0.3	0.3	0.40
	Black Crappie	0.3	2.0	3.9	0.8	1.3	1.1		1.5	0.3	0.1	1.29
	Channel Catfish	0.7	0.7	1.1	0.8	0.5	1.1		5.3	1.6	1.8	1.74
	Common Carp	0.8	0.5	0.2	0.4	1.7	0.8		1.0	0.8	0.9	0.83
	Northern Pike	1.2	0.0	0.0	0.1	0.2	0.3		0.8	0.4	0.1	0.27
	Shorthead Redhorse	0.0	0.2	0.0	0.0	0.2	0.0		0.0	0.0	0.0	0.03
	Smallmouth Bass	0.7	0.0	0.6	0.6	0.6	0.1		1.2	0.4	0.5	0.57
	Spottail Shiner	8.8	0.7									
	Walleye	11.7	15.3	8.9	12.4	8.8	5.3		4.4	6.0	3.3	7.01
	White Bass	0.8	2.2	7.3	6.2	5.8	1.8		6.1	3.8	2.8	4.83
	White Sucker	3.5	3.0	4.5	3.0	2.3	3.1		2.8	5.7	1.2	3.23
	Yellow Bullhead	0.0	0.3	0.2	0.4	0.0	0.0		0.3	0.2	0.2	0.19
	Yellow Perch	40.5	124.2	25.1	14.3	22.1	9.3		8.0	7.3	4.2	12.90
boat shocker	Smallmouth Bass			73.5						49.0		61.25
fall night EF-WAE**	Walleye	992.2	1,722.0	335.0	49.7	29.8	86.9	526.0	217.0	400.0	70.0	442.86
frame net (std 3/4 in)	Bigmouth Buffalo	0.5										0.50
	Black Bullhead	10.2										10.20
	Black Crappie	1.5										1.50
	Bluegill	0.0										0.00
	Channel Catfish	0.0										0.00
	Common Carp	0.2										0.20
	Northern Pike	1.0										1.00
	Shorthead Redhorse	0.0										0.00
	Smallmouth Bass	1.4										1.40
	Walleye	2.4										2.40
	White Bass	0.8										0.80
	White Sucker	0.4										0.40
	Yellow Bullhead	6.3										6.30
	Yellow Perch	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.

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AFS std gill net	Channel Catfish	PSD			79	100	100	100		100	100	95
		PSD-P			57	67	100	38		28	32	64
		Wr			124	118	101	108		112	107	110
	Walleye	PSD			18	7	19	22		51	50	38
		PSD-P			5	1	4	5		8	14	8
		Wr			82	79	84	91		85	86	87
	White Bass	PSD			98	99	100	100		100	100	100
		PSD-P			96	99	99	100		90	100	88
		Wr			102	100	103	103		95	98	98
	Yellow Perch	PSD			99	99	96	87		97	51	38
		PSD-P			84	57	58	69		65	46	14
		Wr			115	115	110	113		111	114	109
std exp gill net	Channel Catfish	PSD	100	75								
		PSD-P	75	75								
		Wr	117	110								
	Walleye	PSD	44	30								
		PSD-P	4	1								
		Wr	91	88								
	White Bass	PSD	100	62								
		PSD-P	100	23								
		Wr	104	102								
	Yellow Perch	PSD	26	92								
		PSD-P	11	14								
		Wr	115	110								

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+
2023	46	251 (13)	319 (11)	369 (12)	414 (1)	453 (2)			435 (2)	553 (4)	715 (1)
2022	87	206 (16)	295 (13)	359 (23)	421 (11)			465 (9)	517 (13)		594 (1)
2021	62	225 (9)	310 (20)	382 (13)		396 (2)	435 (12)	481 (5)			724 (1)
2019	70	216 (8)	314 (4)	379 (2)	341 (38)	391 (16)					655 (2)
2018	110	233 (5)	304 (2)	313 (78)	390 (21)			631 (1)		662 (3)	
2017	140	201 (3)	272 (79)	361 (55)					522 (3)		
2016	203	229 (74)	355 (121)	436 (1)	476 (2)	463 (3)		599 (1)			628 (1)
2015	125	255 (97)		408 (12)	451 (8)		462 (7)				540 (1)
2014	70	264 (1)	317 (12)	361 (32)	422 (2)	458 (22)	581 (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	50	158 (29)	225 (15)		310 (1)	309 (2)		329 (2)	341 (1)		
2022	88	145 (44)	223 (3)	268 (16)	274 (5)	300 (8)	300 (9)	351 (2)	334 (1)		
2021	96	168 (3)	229 (30)	260 (15)	279 (13)	297 (13)	298 (14)		310 (9)		
2019	112	158 (3)	203 (23)	262 (47)	300 (10)	291 (5)	292 (22)		335 (1)		
2018	265	132 (1)	223 (105)	271 (101)	288 (32)	309 (27)					
2017	157		229 (65)	279 (10)	280 (79)		317 (3)				
2016	326	143 (3)	234 (24)	272 (282)	284 (16)			337 (1)			
2015	745	153 (16)	224 (570)	252 (146)	295 (13)						
2014	246	154 (140)	180 (56)	244 (41)	234 (2)	306 (8)					

Fish Condition

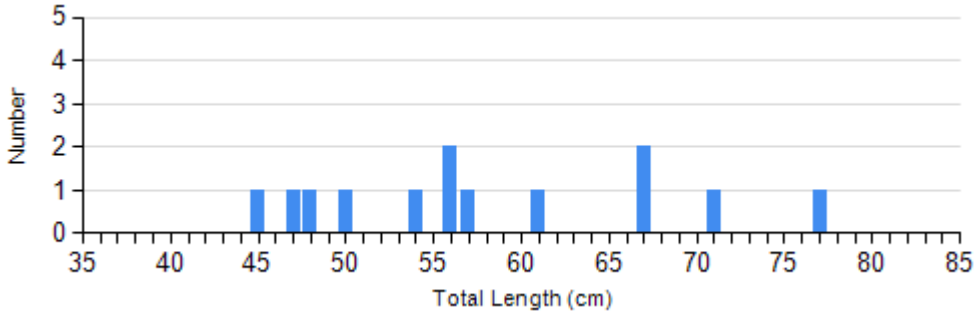
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		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	2019	0		8	103 (2.6)	3	108 (7.5)	2	126 (6.1)
	2021	0		46	111 (1.6)	12	114 (1.5)	6	115 (5.3)
	2022	0		13	107 (2.7)	4	108 (1.8)	2	104 (6.9)
	2023	1	150	7	107 (2.9)	12	109 (2.6)	2	104 (15.7)
Walleye Gill Net	2019	49	91 (0.8)	11	92 (2.3)	1	97	2	90 (0.4)
	2021	26	85 (1.2)	23	85 (1.1)	3	88 (2.7)	1	82
	2022	36	86 (0.9)	26	85 (1.1)	9	89 (2.4)	1	80
	2023	25	87 (0.9)	12	89 (1.6)	1	87	2	77 (5.8)
White Bass Gill Net	2019	0		0		17	103 (1.1)	4	104 (1.4)
	2021	0		7	94 (2.4)	47	96 (0.8)	19	95 (1.2)
	2022	0		0		35	100 (1.0)	10	93 (1.2)
	2023	0		4	100 (2.6)	21	100 (1.3)	8	94 (1.4)
Yellow Perch Gill Net	2019	15	119 (3.5)	20	111 (2.1)	58	114 (1.1)	19	109 (1.5)
	2021	3	117 (7.1)	31	115 (1.8)	42	110 (1.7)	20	105 (1.8)
	2022	43	114 (1.3)	4	115 (7.1)	29	116 (1.8)	11	114 (2.4)
	2023	31	109 (1.9)	12	114 (3.6)	2	106 (5.3)	5	97 (3.8)

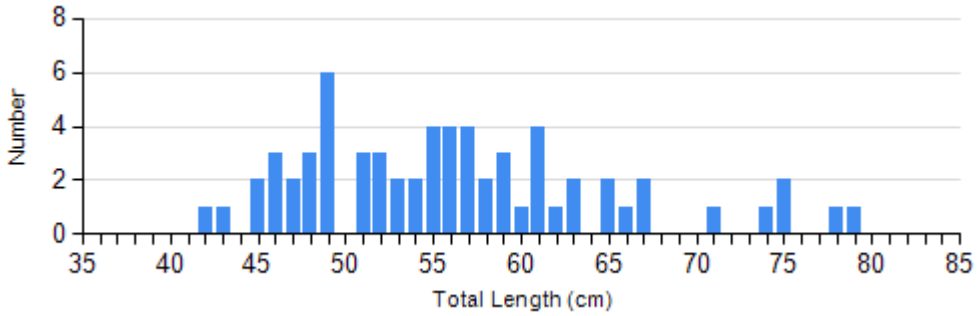
Length Frequency Distribution

Length frequency histogram of species sampled by year.

Species: Channel Catfish
Gear: AFS std gill net



2019



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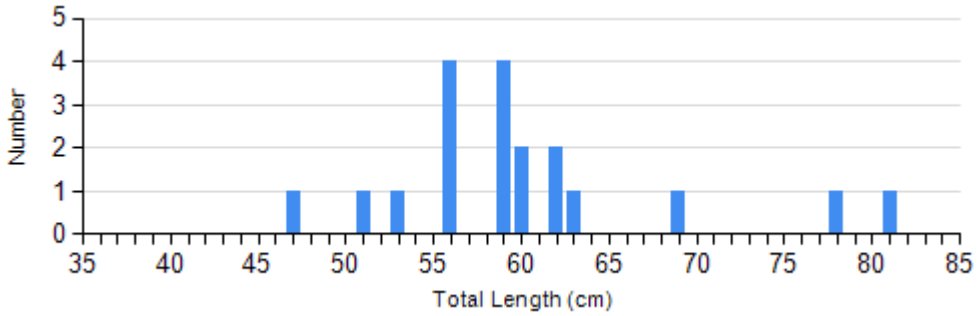

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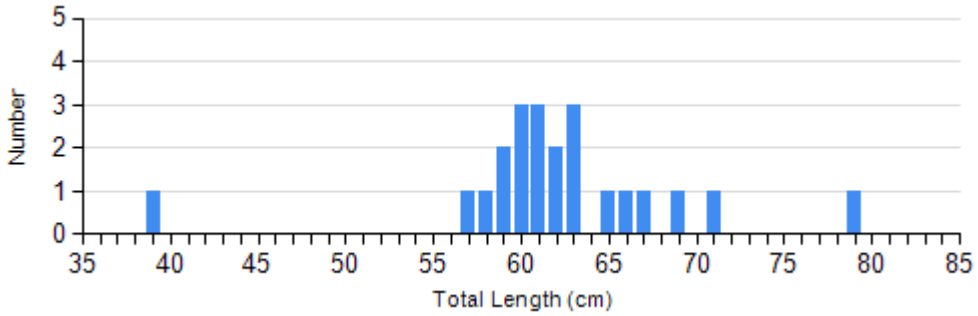
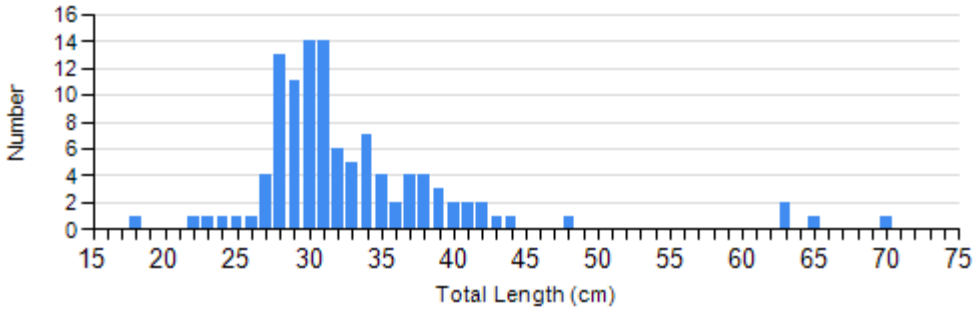


2023

Species: Walleye
Gear: AFS std gill net

2018



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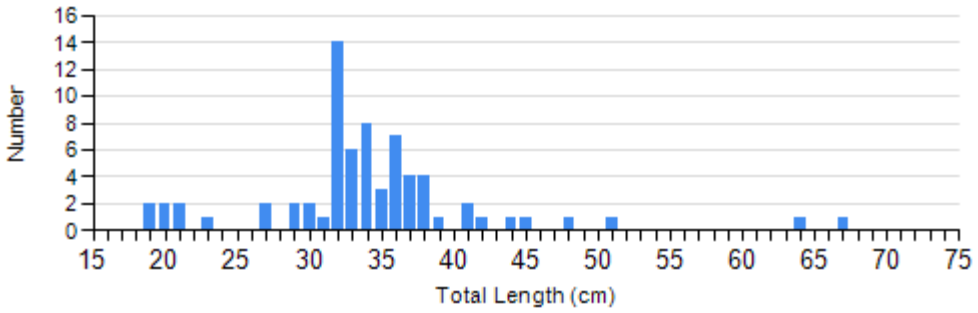

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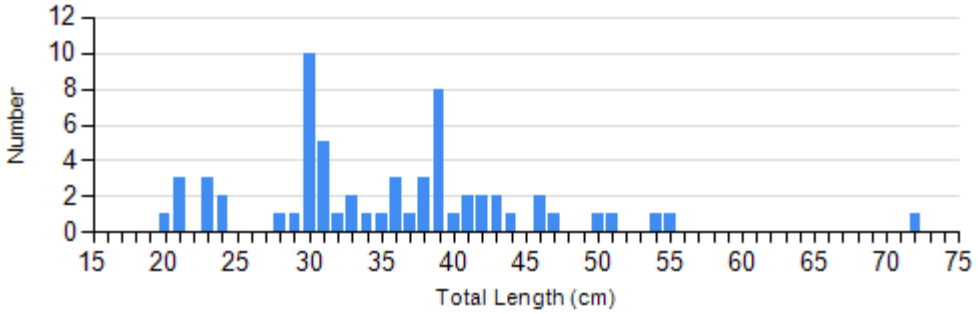

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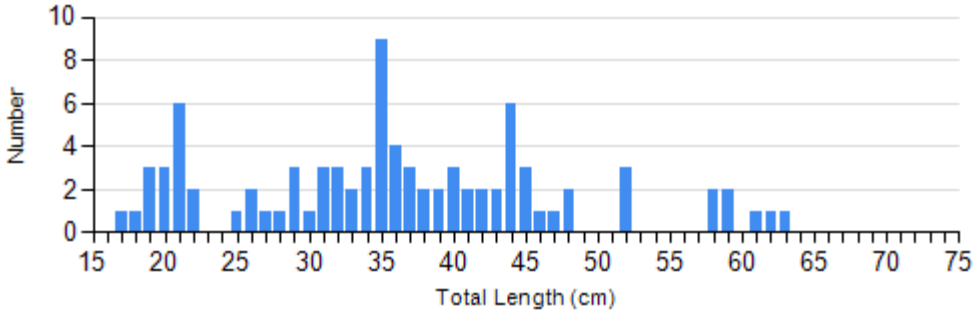
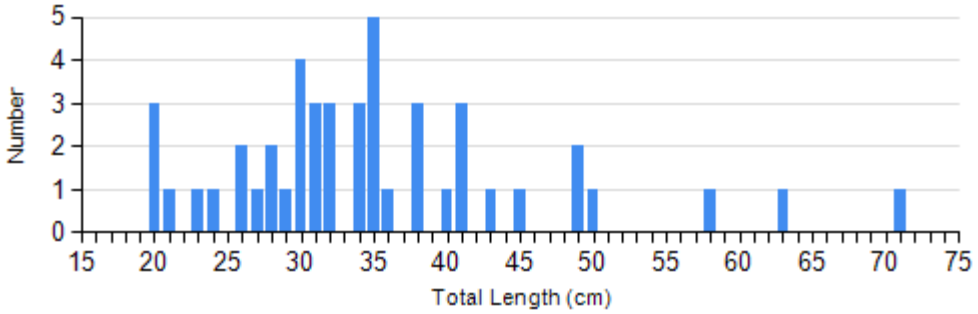
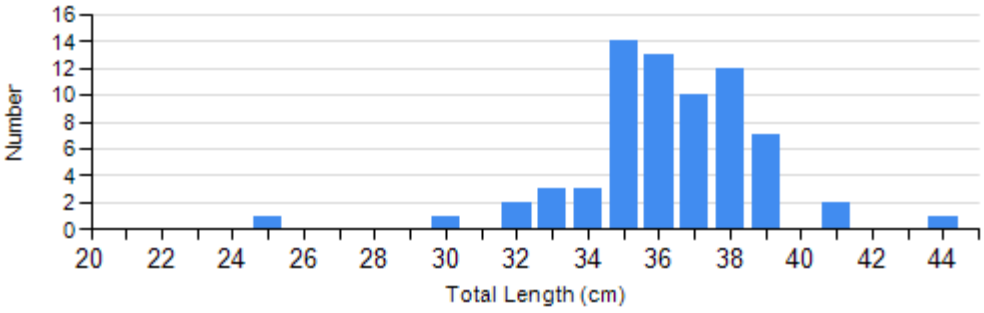


2023



Species: White Bass
Gear: AFS std gill net

2018



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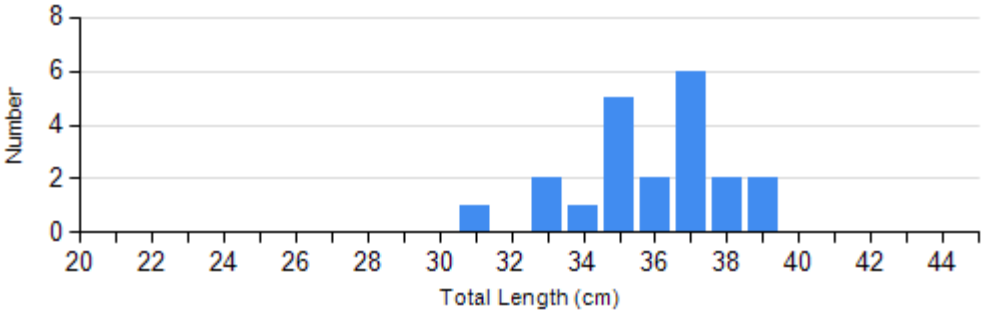

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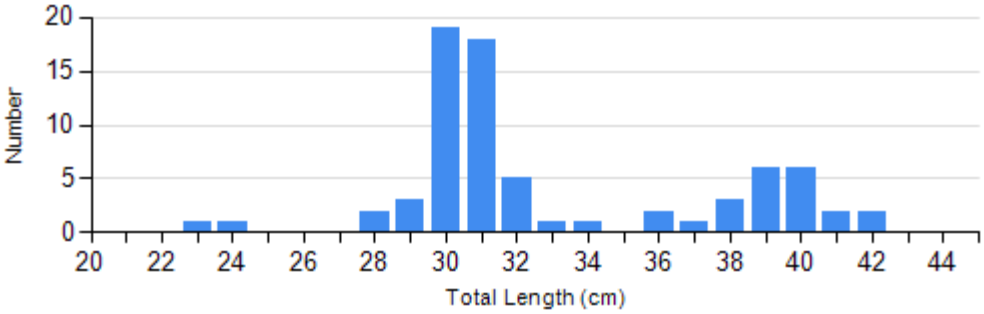

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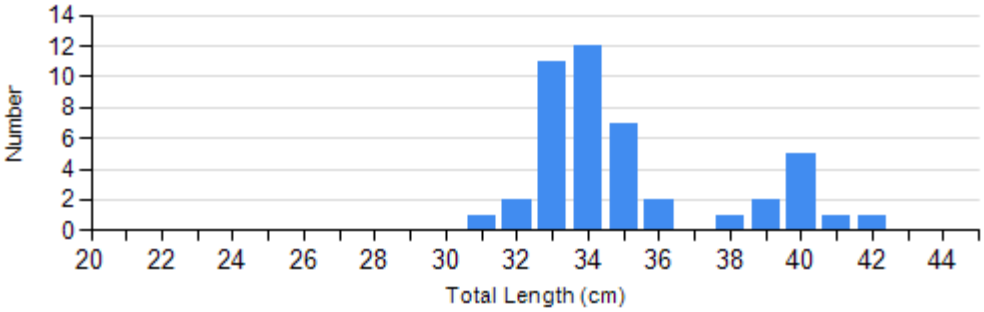
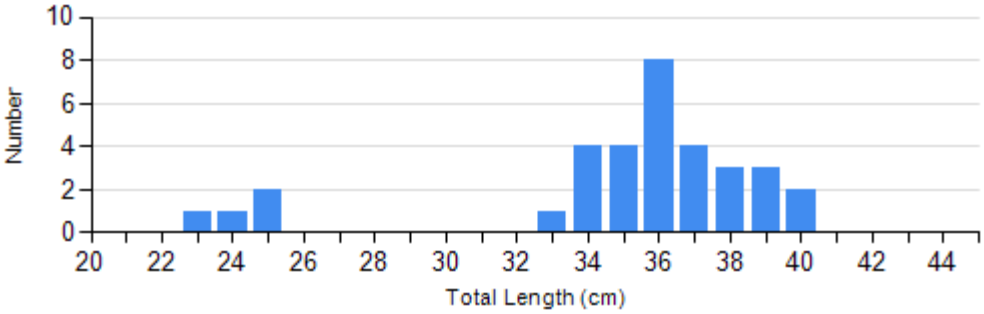
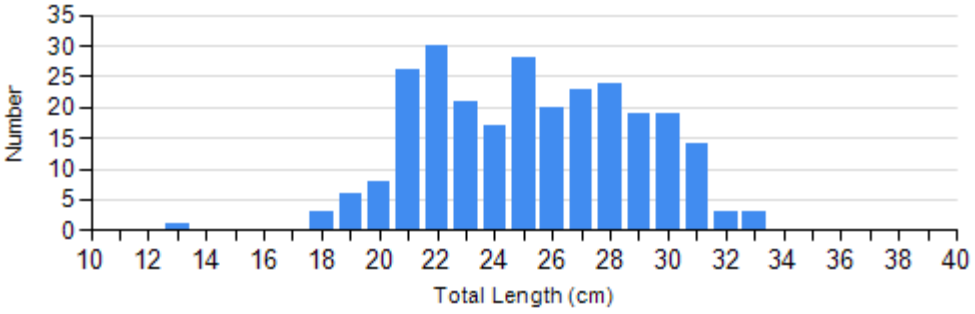


2023



Species: Yellow Perch
Gear: AFS std gill net

2018



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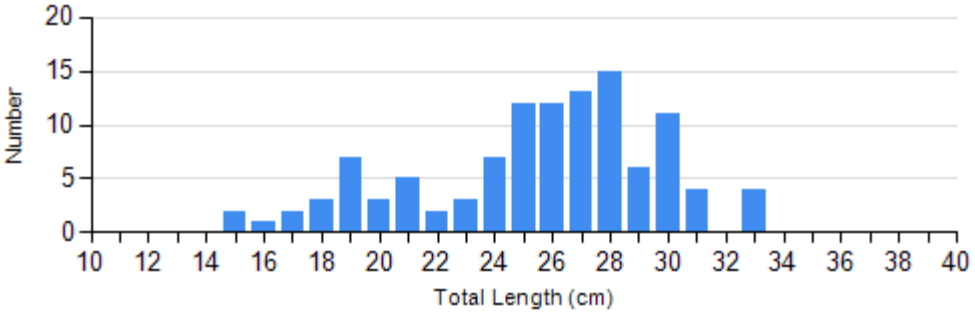
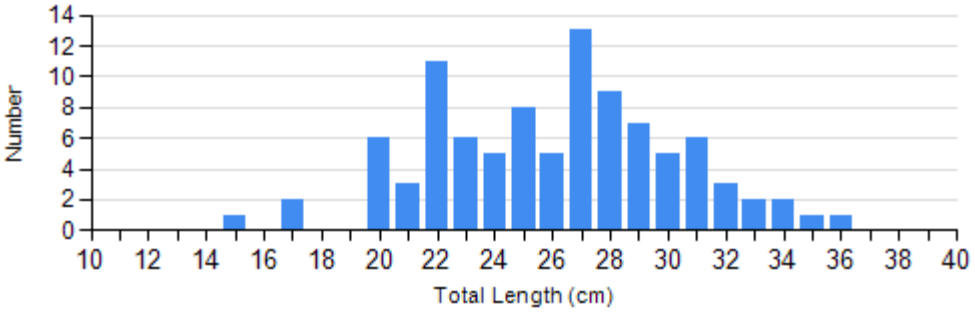
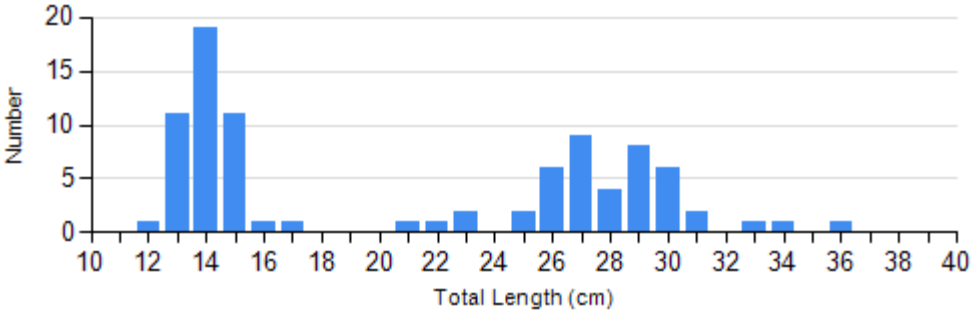


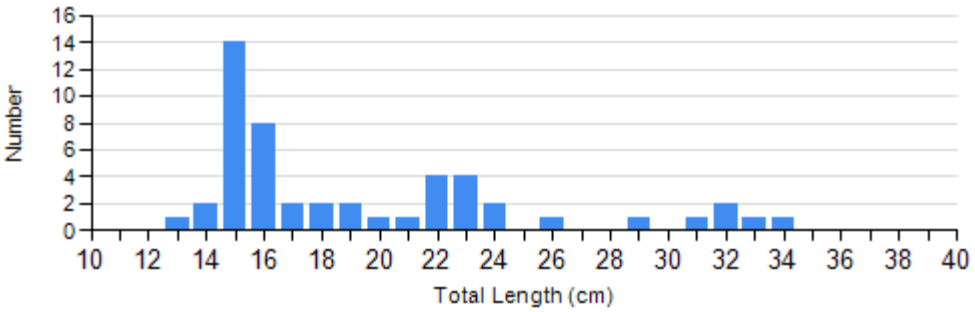
2021



2022



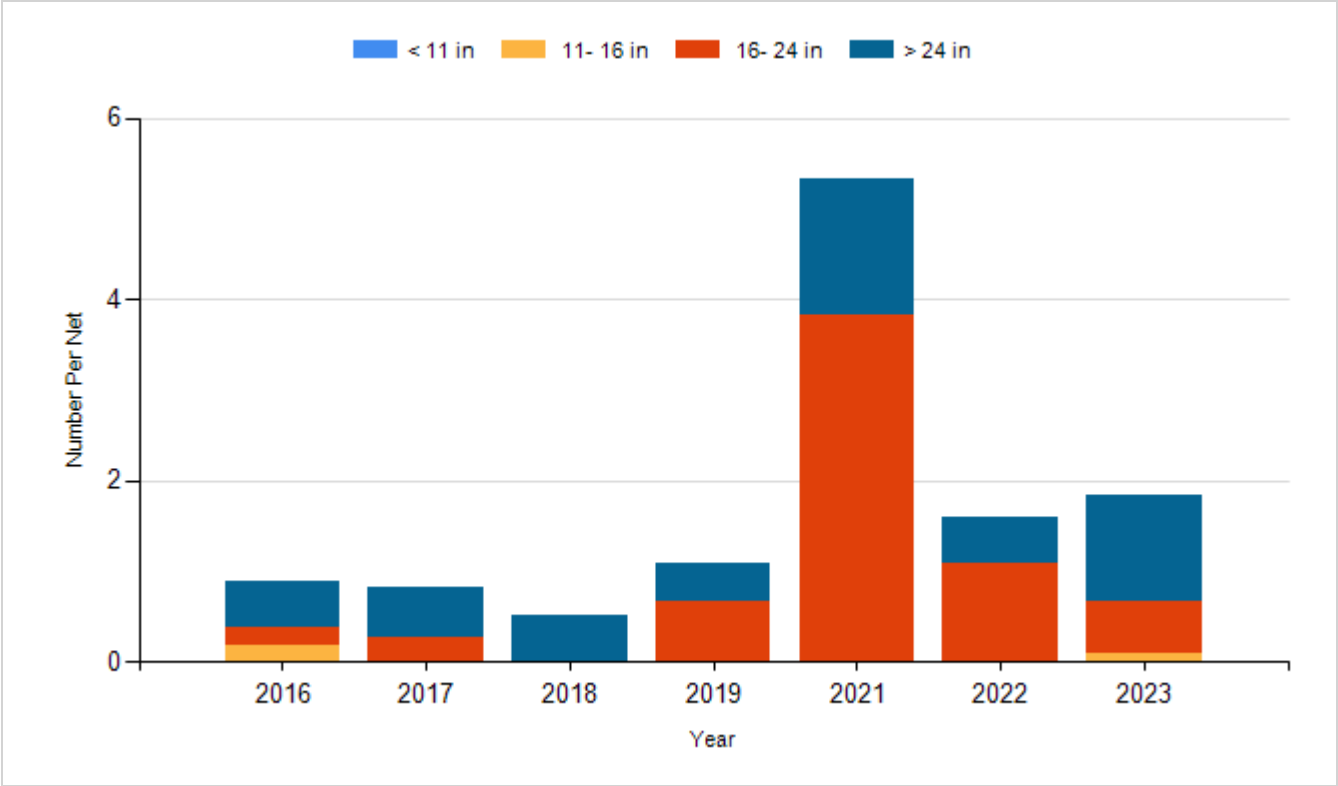
2023



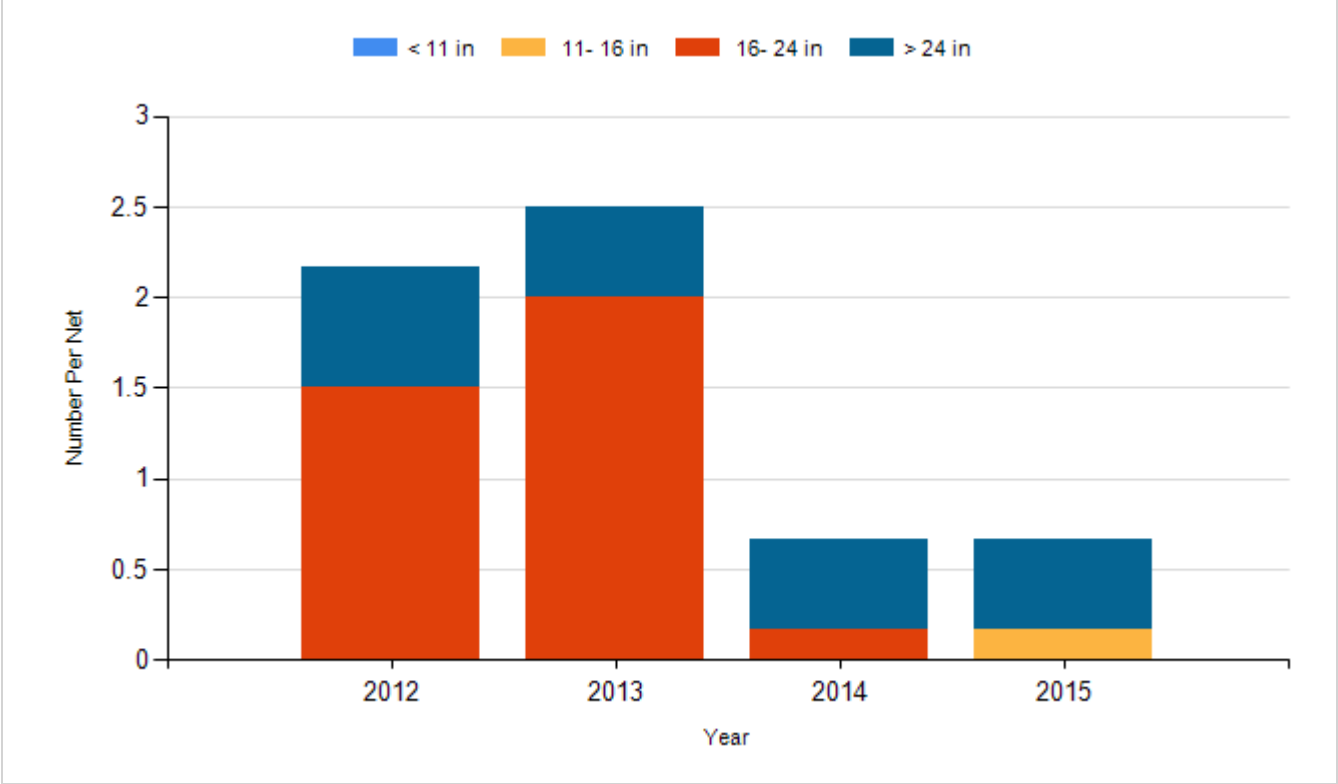
Historic Fish Sizes and Relative Abundance

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

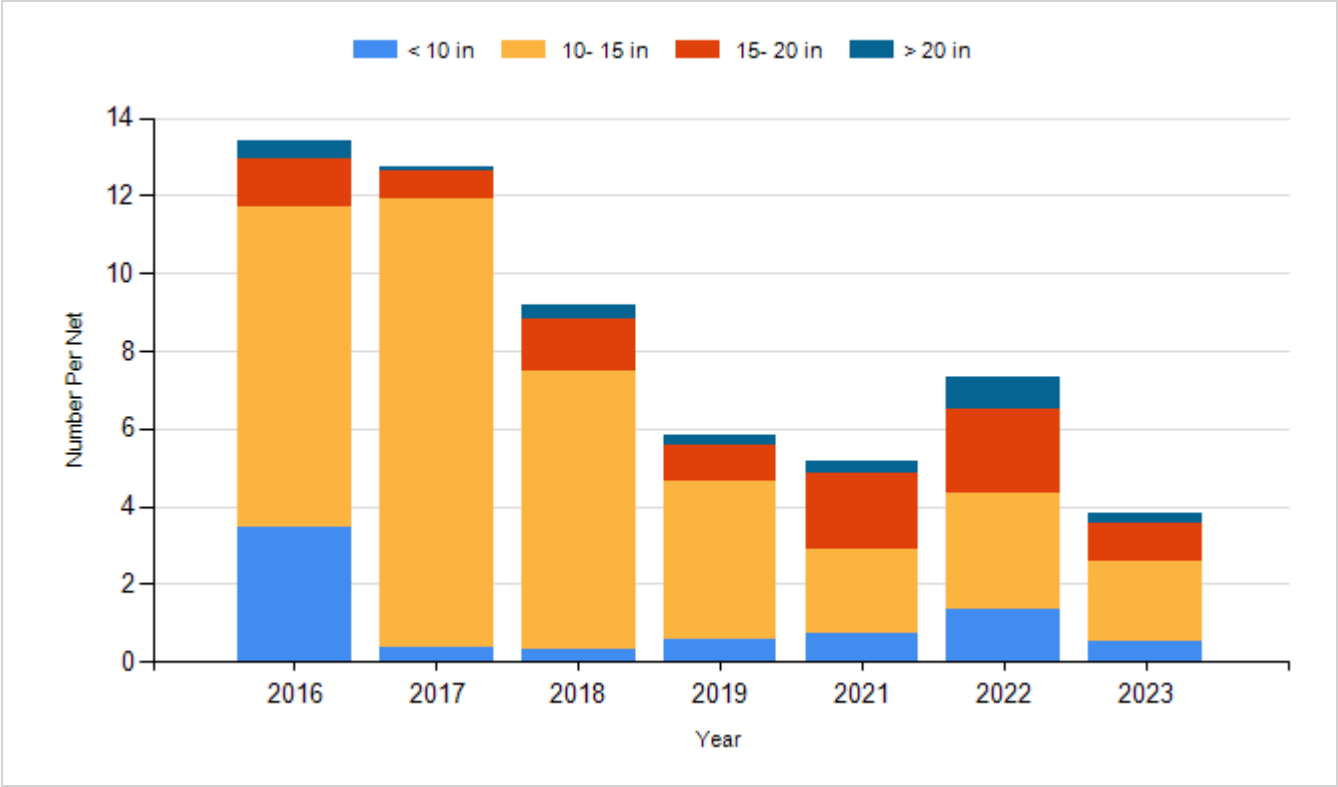
Species: Channel Catfish
Gear: AFS std gill net



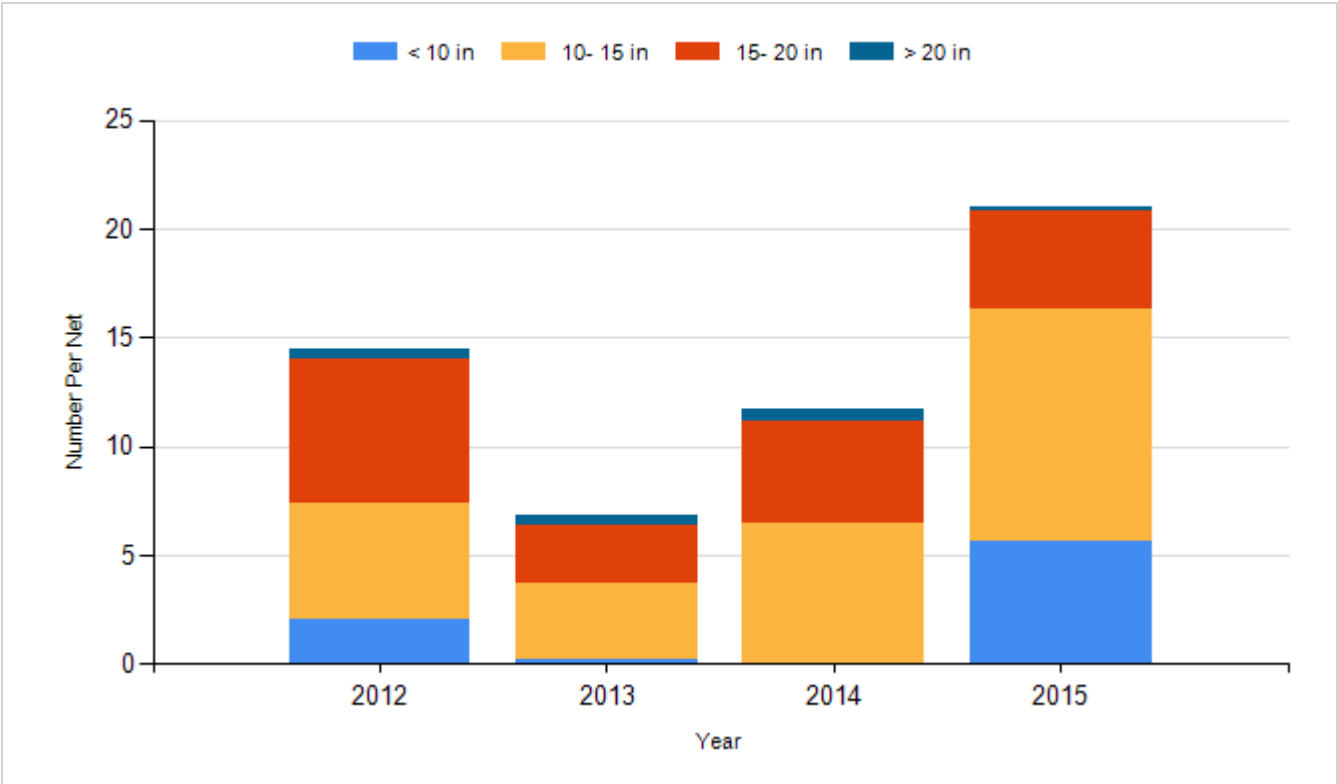
Species: Channel Catfish
Gear: std exp gill net



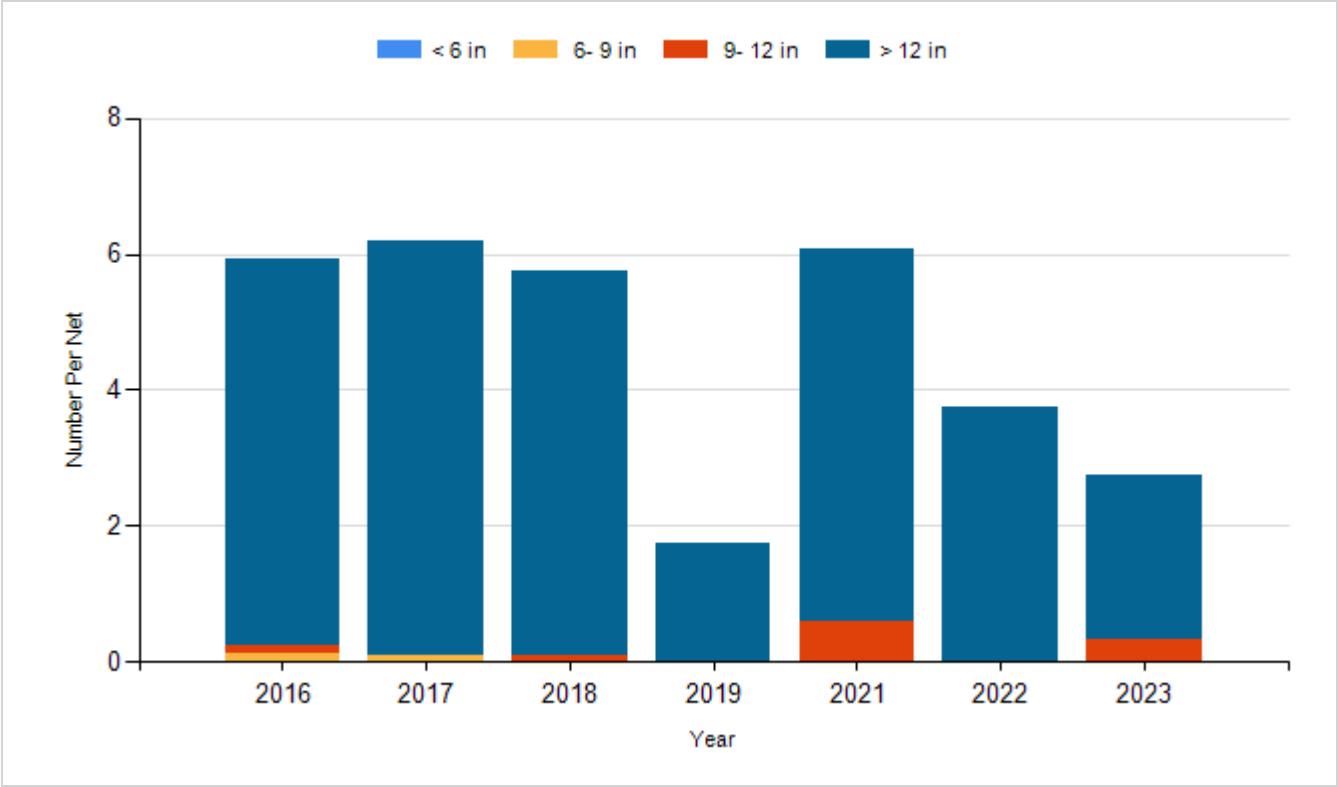
Species: Walleye
Gear: AFS std gill net



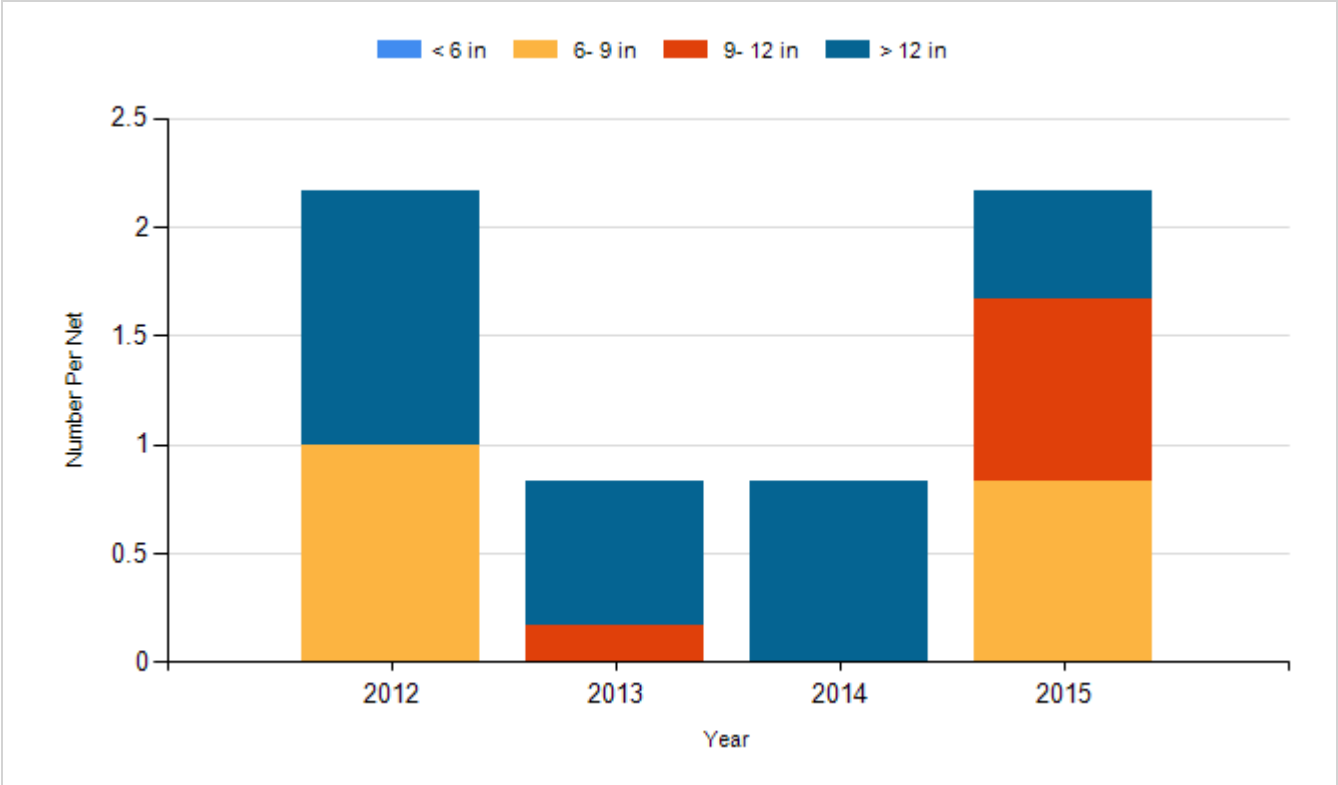
Species: Walleye
Gear: std exp gill net



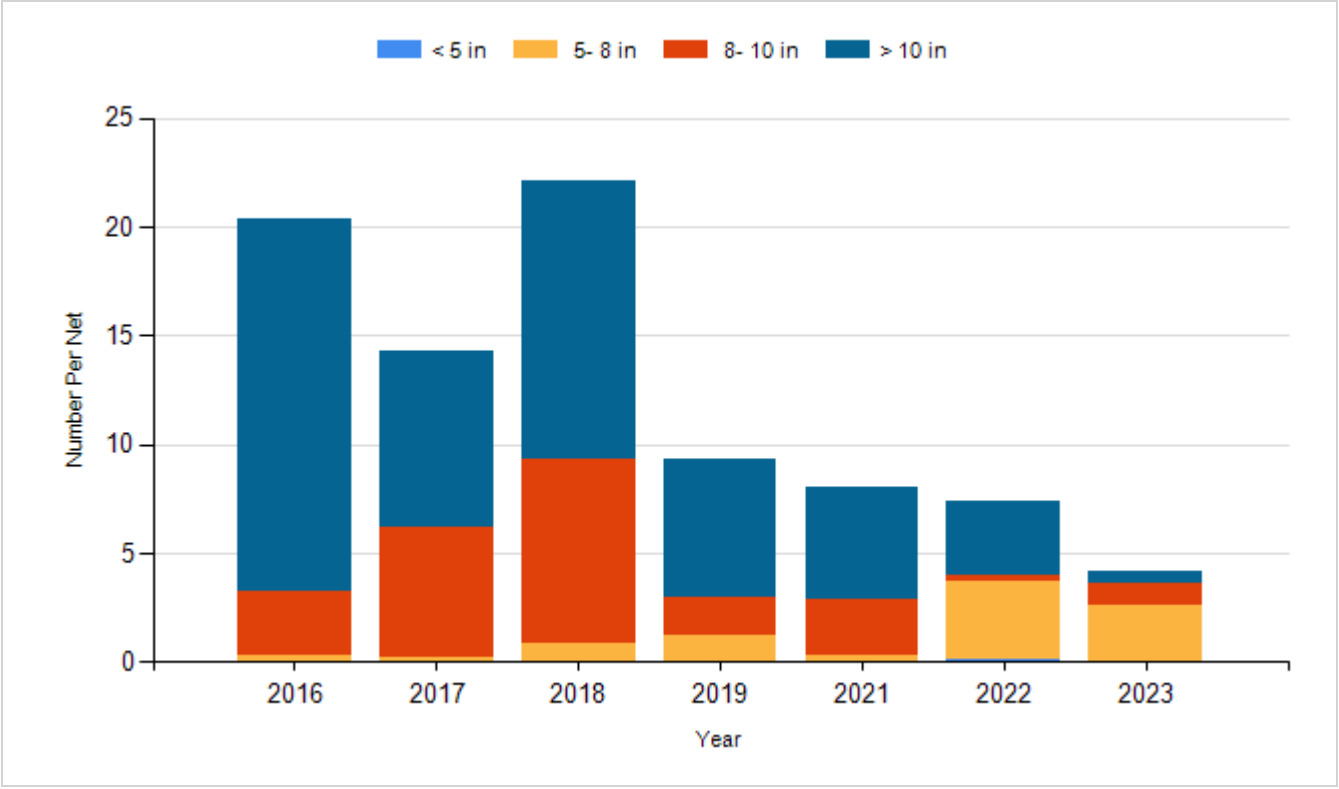
Species: White Bass
Gear: AFS std gill net



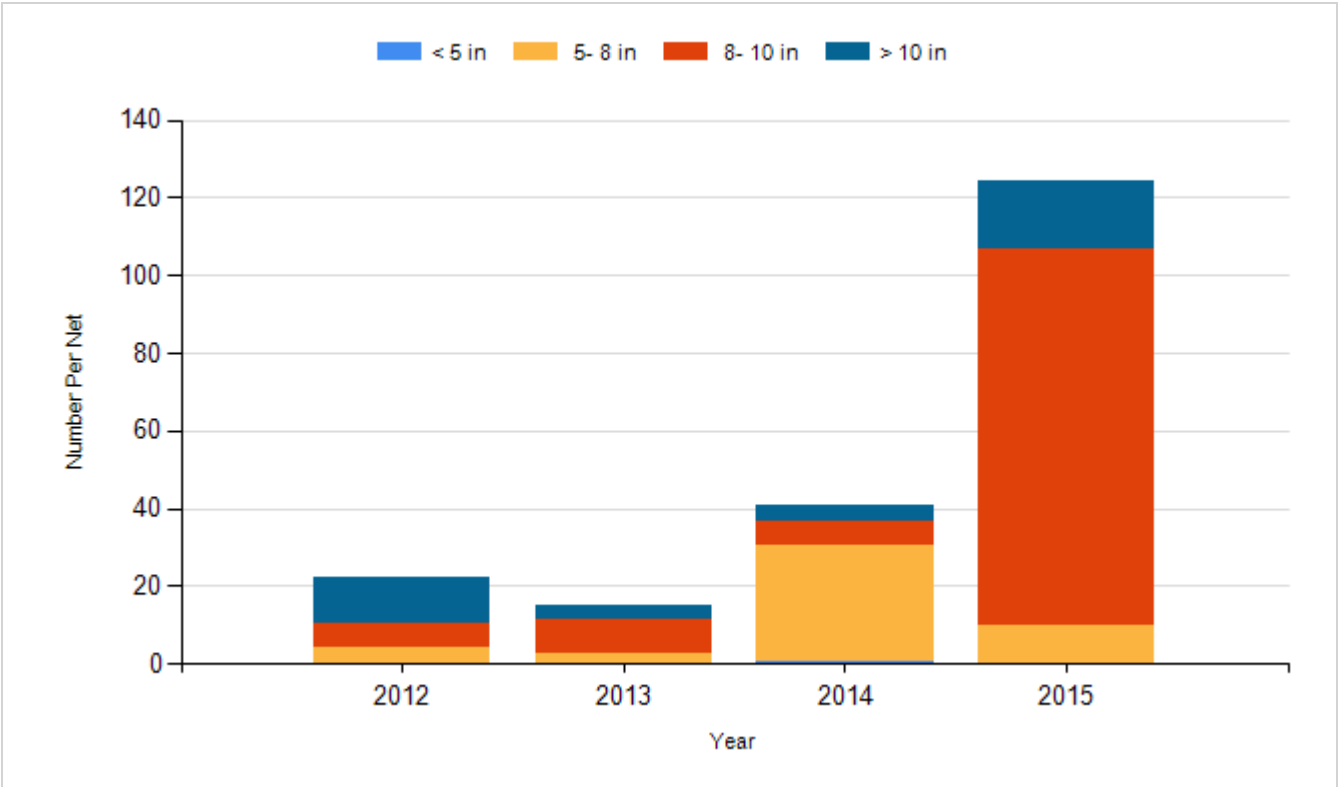
Species: White Bass
Gear: std exp gill net



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
2012	Walleye	Fry	4,000,000
2014	Walleye	Fry	4,000,000
2019	Walleye	Fry	2,000,000

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Poinsett, Hamlin County
MBS-Lake-405-000
2023

Lake Information

Name:	Poinsett	**Maximum Depth:**	22 Feet
County:	Hamlin	**Mean Depth:**	17 Feet
		OHWM Elevation:	1,652
Surface Area:	7,978 Acres	**Outlet Elevation:**	1,651

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Aug 01, 2023	6 net-nights
AFS std gill net	Aug 02, 2023	6 net-nights
fall night EF-WAE	Sep 26, 2023	3600 seconds

Common Fish Species Present

Walleye

Smallmouth Bass

Northern Pike

Yellow Perch

Bigmouth Buffalo

White Bass

Channel Catfish

White Sucker

Common Carp

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	Bigmouth Buffalo	66	5.5	1.9	91	6	41	9	98	1
	Black Bullhead	3	0.3	0.2	100		100		88	20
	Black Crappie	1	0.1	0.1	100		100		120	
	Channel Catfish	22	1.8	0.6	95		64	16	110	4
	Common Carp	11	0.9	0.8	91		64		98	4
	Northern Pike	1	0.1	0.1	100		100		77	
	Smallmouth Bass	6	0.5	0.3	67		17		93	4
	Walleye	46	3.3	0.9	38	12	8		87	1
	White Bass	33	2.8	0.7	100		88		98	1
	White Sucker	14	1.2	0.4	93		86		106	2
	Yellow Bullhead	2	0.2	0.2	100		100		103	2
	Yellow Perch	50	4.2	2.4	38	10	14	8	109	2

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	Bigmouth Buffalo			2.8	0.4	0.3	2.4		1.0	1.0	5.5	1.91
	Black Bullhead			0.4	0.3	0.4	0.6		0.5	0.3	0.3	0.40
	Black Crappie			3.9	0.8	1.3	1.1		1.5	0.3	0.1	1.29
	Channel Catfish			1.1	0.8	0.5	1.1		5.3	1.6	1.8	1.74
	Common Carp			0.2	0.4	1.7	0.8		1.0	0.8	0.9	0.83
	Northern Pike			0.0	0.1	0.2	0.3		0.8	0.4	0.1	0.27
	Shorthead Redhorse			0.0	0.0	0.2	0.0		0.0	0.0	0.0	0.03
	Smallmouth Bass			0.6	0.6	0.6	0.1		1.2	0.4	0.5	0.57
	Walleye			8.9	12.4	8.8	5.3		4.4	6.0	3.3	7.01
	White Bass			7.3	6.2	5.8	1.8		6.1	3.8	2.8	4.83
	White Sucker			4.5	3.0	2.3	3.1		2.8	5.7	1.2	3.23
	Yellow Bullhead			0.2	0.4	0.0	0.0		0.3	0.2	0.2	0.19
	Yellow Perch			25.1	14.3	22.1	9.3		8.0	7.3	4.2	12.90
boat shocker (night)	Walleye*	992.2	1,722.0	335.0	49.7							774.73
boat shocker (night, DC)	Smallmouth Bass			73.5								73.50
fall night EF-WAE*	Walleye					29.8	86.9	526.0	218.0	397.0	70.0	221.28
frame net (std 3/4 in)	Bigmouth Buffalo	0.5										0.50
	Black Bullhead	10.2										10.20
	Black Crappie	1.5										1.50
	Bluegill	0.0										0.00
	Channel Catfish	0.0										0.00
	Common Carp	0.2										0.20
	Northern Pike	1.0										1.00
	Shorthead Redhorse	0.0										0.00
	Smallmouth Bass	1.4										1.40
	Walleye	2.4										2.40
	White Bass	0.8										0.80
	White Sucker	0.4										0.40
	Yellow Bullhead	6.3										6.30
	Yellow Perch	0.1										0.10
spring day EF*	Smallmouth Bass									49.0		49.00
std exp gill net	Bigmouth Buffalo	0.5	0.3									0.40

		CPUE										
Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
std exp gill net	Black Bullhead	0.5	3.2									1.85
	Black Crappie	0.3	2.0									1.15
	Channel Catfish	0.7	0.7									0.70
	Common Carp	0.8	0.5									0.65
	Northern Pike	1.2	0.0									0.60
	Shorthead Redhorse	0.0	0.2									0.10
	Smallmouth Bass	0.7	0.0									0.35
	Spottail Shiner	0.0	0.0									0.00
	Walleye	11.7	15.3									13.50
	White Bass	0.8	2.2									1.50
	White Sucker	3.5	3.0									3.25
	Yellow Bullhead	0.0	0.3									0.15
	Yellow Perch	40.5	124.2									82.35

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	Bigmouth Buffalo	PSD			3	50	100	14		83	100	91
		PSD-P			0	0	0	3		8	25	41
		Wr			98	99	92	103		98	92	98
	Black Bullhead	PSD			100	100	80	100		100	100	100
		PSD-P			80	100	80	71		83	100	100
		Wr			96	86	85	94		92	95	88
	Channel Catfish	PSD			79	100	100	100		100	100	95
		PSD-P			57	67	100	38		28	32	64
		Wr			124	118	101	108		112	107	110
	Common Carp	PSD			100	100	35	100		100	44	91
		PSD-P			33	100	35	20		50	22	64
		Wr			95	98	105	107		96	102	98
	Northern Pike	PSD				100	100	100		100	100	100
		PSD-P				100	100	100		22	20	100
		Wr				80	83	87		78	74	77
	Smallmouth Bass	PSD			38	43	86	100		43	40	67
		PSD-P			25	43	43	0		14	0	17
		Wr			101	101	89	103		99	96	93
	Walleye	PSD			18	7	19	22		51	50	38
		PSD-P			5	1	4	5		8	14	8
		Wr			82	79	84	91		85	86	87
	White Bass	PSD			98	99	100	100		100	100	100
		PSD-P			96	99	99	100		90	100	88
		Wr			102	100	103	103		95	98	98
	White Sucker	PSD			100	100	100	100		97	100	93
		PSD-P			100	100	100	97		97	100	86
		Wr			108	111	104	107		106	107	106
	Yellow Perch	PSD			99	99	96	87		97	51	38
		PSD-P			84	57	58	69		65	46	14
		Wr			115	115	110	113		111	114	109
boat shocker (night)	Walleye	PSD	0	0	0	0						
		PSD-P	0	0	0	0						

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
boat shocker (night)	Walleye	Wr	87	97	96	93						
boat shocker (night, DC)	Smallmouth Bass	PSD			18							
		PSD-P			13							
		Wr			112							
frame net (std 3/4 in)	Bigmouth Buffalo	PSD	100									
		PSD-P	44									
		Wr	83									
	Black Bullhead	PSD	25									
		PSD-P	22									
		Wr	91									
	Common Carp	PSD	100									
		PSD-P	100									
		Wr	87									
	Northern Pike	PSD	100									
		PSD-P	88									
		Wr	81									
	Smallmouth Bass	PSD	83									
		PSD-P	39									
		Wr	107									
	Walleye	PSD	32									
		PSD-P	5									
		Wr	88									
	White Bass	PSD	100									
		PSD-P	100									
		Wr	103									
	White Sucker	PSD	100									
		PSD-P	100									
		Wr	97									
	Yellow Perch	PSD	0									
		PSD-P	0									
		Wr	112									
spring day EF	Smallmouth Bass	PSD									65	
		PSD-P									4	
std exp gill net	Bigmouth Buffalo	PSD	67	50								
		PSD-P	67	50								

			Year									
Gear	Species	Index	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
std exp gill net	Bigmouth Buffalo	Wr	101	100								
	Black Bullhead	PSD	0	95								
		PSD-P	0	26								
		Wr	101	93								
	Channel Catfish	PSD	100	75								
		PSD-P	75	75								
		Wr	117	110								
	Common Carp	PSD	100	100								
		PSD-P	100	33								
		Wr	103	104								
	Northern Pike	PSD	100									
		PSD-P	43									
		Wr	87									
	Smallmouth Bass	PSD	100									
		PSD-P	75									
		Wr	100									
	Walleye	PSD	44	30								
		PSD-P	4	1								
		Wr	91	88								
	White Bass	PSD	100	62								
		PSD-P	100	23								
		Wr	104	102								
	White Sucker	PSD	95	94								
		PSD-P	71	78								
		Wr	104	101								
	Yellow Perch	PSD	26	92								
		PSD-P	11	14								
		Wr	115	110								

Length at Capture

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

Species: Smallmouth Bass

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2016	70		239 (59)	338 (5)	375 (1)		433 (1)	440 (4)			

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2023	46	251 (13)	319 (11)	369 (12)	414 (1)	453 (2)			435 (2)	553 (4)	715 (1)
2022	87	206 (16)	295 (13)	359 (23)	421 (11)			465 (9)	517 (13)		594 (1)
2021	62	225 (9)	310 (20)	382 (13)		396 (2)	435 (12)	481 (5)			724 (1)
2019	70	216 (8)	314 (4)	379 (2)	341 (38)	391 (16)					655 (2)
2018	110	233 (5)	304 (2)	313 (78)	390 (21)			631 (1)		662 (3)	
2017	140	201 (3)	272 (79)	361 (55)					522 (3)		
2016	203	229 (74)	355 (121)	436 (1)	476 (2)	463 (3)		599 (1)			628 (1)
2015	125	255 (97)		408 (12)	451 (8)		462 (7)				540 (1)
2014	70	264 (1)	317 (12)	361 (32)	422 (2)	458 (22)	581 (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	50	158 (29)	225 (15)		310 (1)	309 (2)		329 (2)	341 (1)		
2022	88	145 (44)	223 (3)	268 (16)	274 (5)	300 (8)	300 (9)	351 (2)	334 (1)		
2021	96	168 (3)	229 (30)	260 (15)	279 (13)	297 (13)	298 (14)		310 (9)		
2019	112	158 (3)	203 (23)	262 (47)	300 (10)	291 (5)	292 (22)		335 (1)		
2018	265	132 (1)	223 (105)	271 (101)	288 (32)	309 (27)					
2017	157		229 (65)	279 (10)	280 (79)		317 (3)				
2016	326	143 (3)	234 (24)	272 (282)	284 (16)			337 (1)			
2015	745	153 (16)	224 (570)	252 (146)	295 (13)						
2014	246	154 (140)	180 (56)	244 (41)	234 (2)	306 (8)					

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).

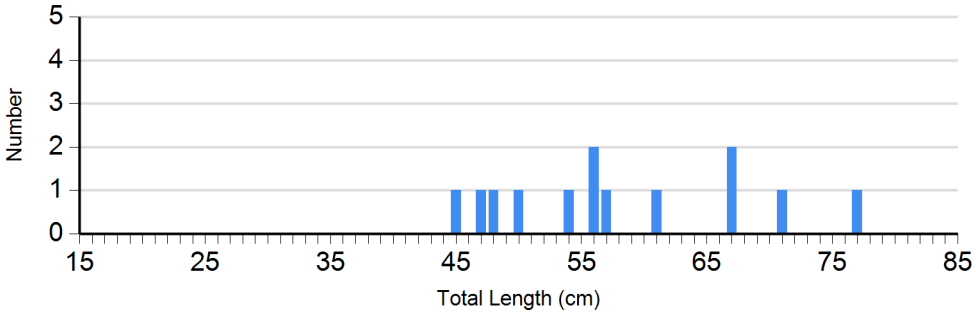
		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Bullhead Gill Net	2019	0		2	106 (2.6)	1	91	4	89 (4.8)
	2021	0		1	82	5	94 (3.0)	0	
	2022	0		0		3	94 (1.9)	1	96
	2023	0		0		2	103 (8.4)	1	59
Channel Catfish Gill Net	2019	0		8	103 (2.6)	3	108 (7.5)	2	126 (6.1)
	2021	0		46	111 (1.6)	12	114 (1.5)	6	115 (5.3)
	2022	0		13	107 (2.7)	4	108 (1.8)	2	104 (6.9)
	2023	1	150	7	107 (2.9)	12	109 (2.6)	2	104 (15.7)
Common Carp Gill Net	2019	0		8	110 (2.8)	1	95	1	97
	2021	0		6	95 (1.2)	5	99 (2.4)	1	92
	2022	5	105 (1.6)	2	106 (3.8)	1	95	1	92
	2023	1	119	3	97 (7.1)	5	96 (2.7)	2	96 (5.2)
Northern Pike Gill Net	2019	0		0		2	87 (13.3)	1	
	2021	0		7	77 (1.5)	2	83 (3.8)	0	
	2022	0		4	73 (3.3)	1	77	0	
	2023	0		0		1	77	0	
Walleye Gill Net	2019	49	91 (0.8)	11	92 (2.3)	1	97	2	90 (0.4)
	2021	26	85 (1.2)	23	85 (1.1)	3	88 (2.7)	1	82
	2022	36	86 (0.9)	26	85 (1.1)	9	89 (2.4)	1	80
	2023	25	87 (0.9)	12	89 (1.6)	1	87	2	77 (5.8)
White Bass Gill Net	2019	0		0		17	103 (1.1)	4	104 (1.4)
	2021	0		7	94 (2.4)	47	96 (0.8)	19	95 (1.2)

		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	2022	0		0		35	100 (1.0)	10	93 (1.2)
	2023	0		4	100 (2.6)	21	100 (1.3)	8	94 (1.4)
White Sucker Gill Net	2019	0		1	104	9	106 (3.3)	27	107 (1.8)
	2021	1		0		8	106 (3.4)	25	106 (1.8)
	2022	0		0		5	112 (3.4)	63	107 (1.4)
	2023	1	100	1	112	1	106	11	106 (1.7)
Yellow Perch Gill Net	2019	15	119 (3.5)	20	111 (2.1)	58	114 (1.1)	19	109 (1.5)
	2021	3	117 (7.1)	31	115 (1.8)	42	110 (1.7)	20	105 (1.8)
	2022	43	114 (1.3)	4	115 (7.1)	29	116 (1.8)	11	114 (2.4)
	2023	31	109 (1.9)	12	114 (3.6)	2	106 (5.3)	5	97 (3.8)

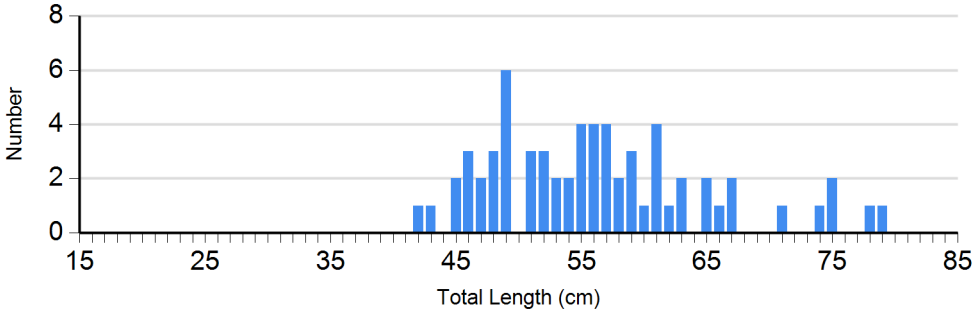
Length Frequency Distribution

Length frequency histogram of species sampled by year.

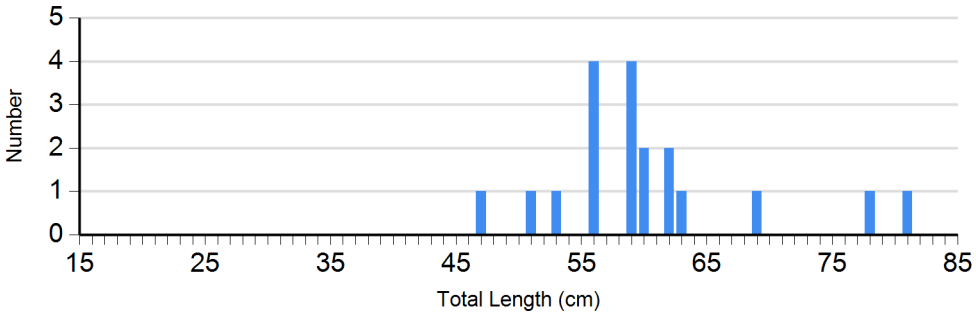
Species: Channel Catfish
Gear: AFS std gill net



2019



2021



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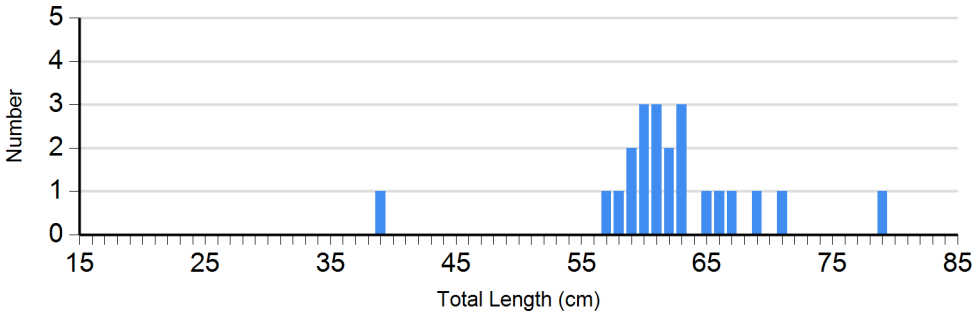
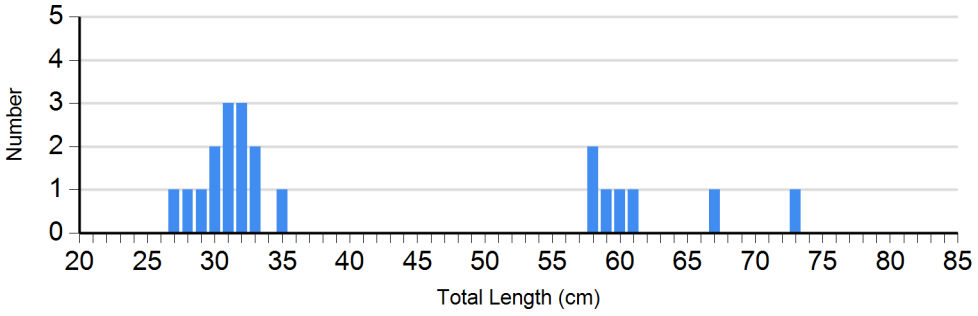


2023

Species: Common Carp
Gear: AFS std gill net

2018



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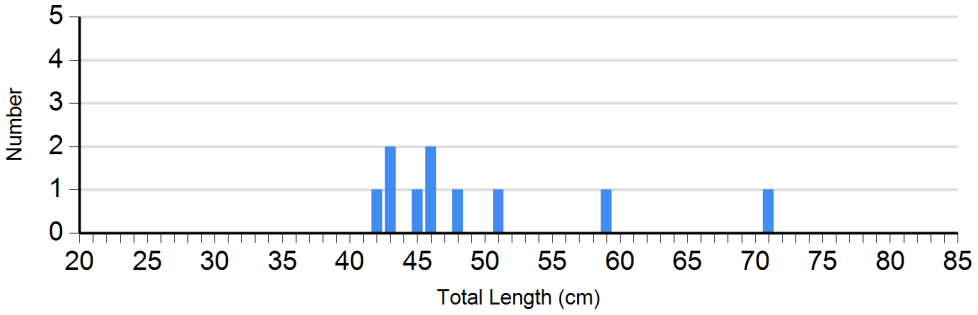

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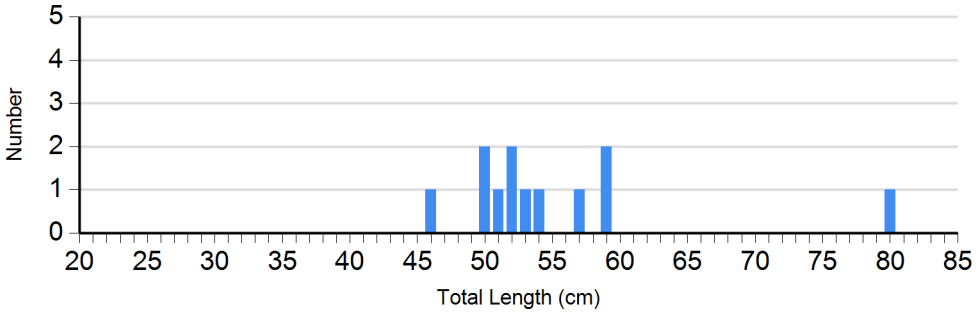

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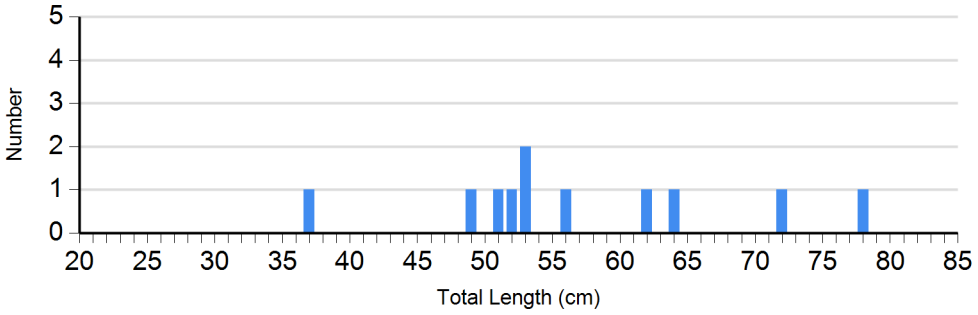
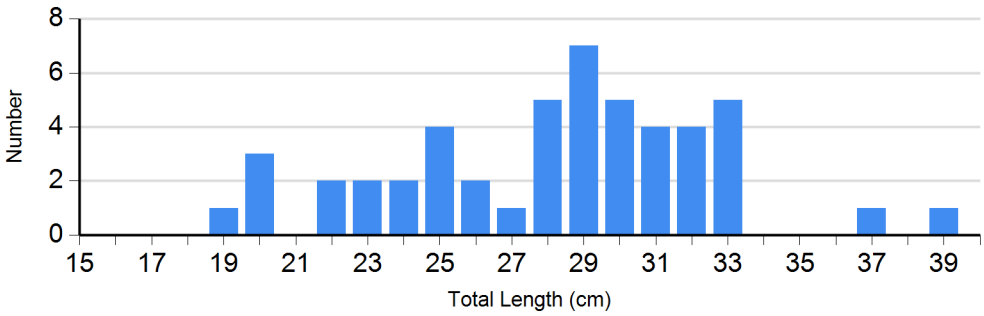
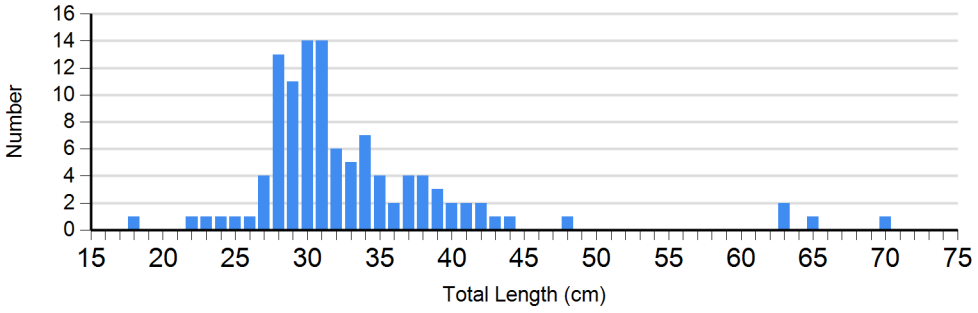


Species: Smallmouth Bass
Gear: spring day EF

2022



Species: Walleye
Gear: AFS std gill net



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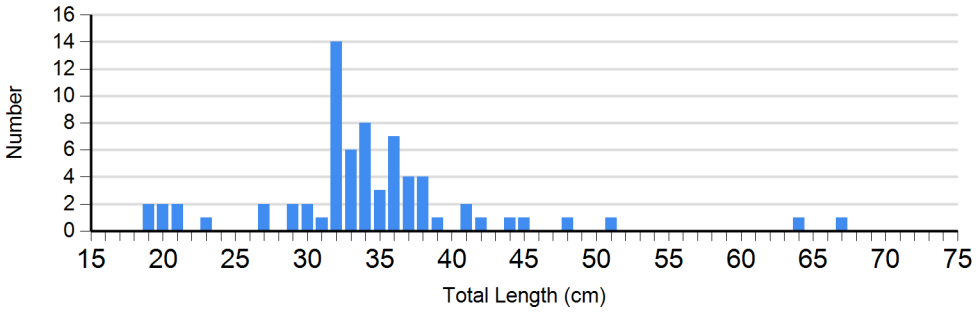

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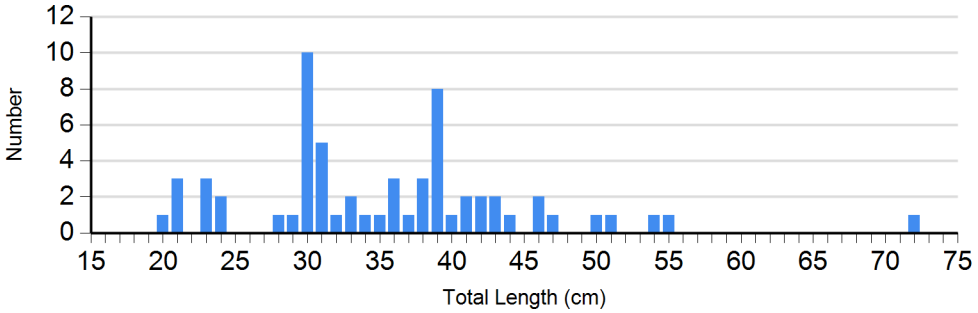

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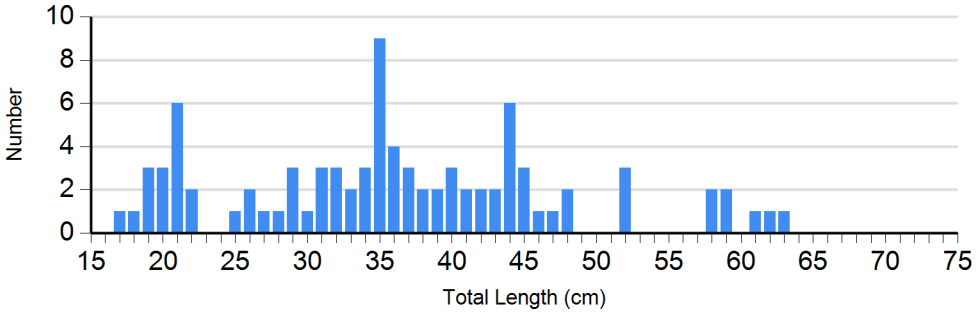
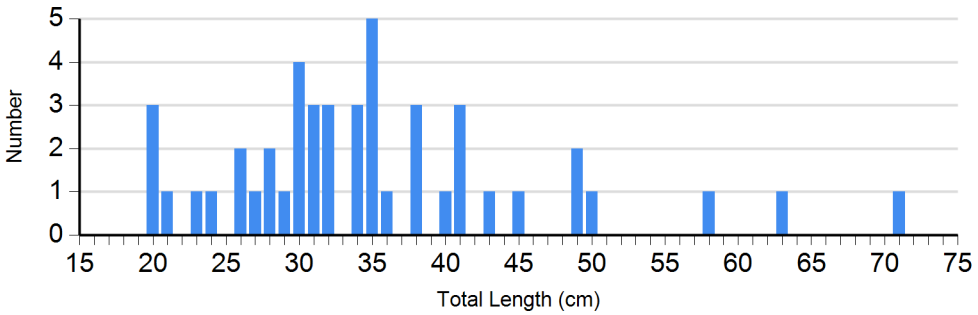
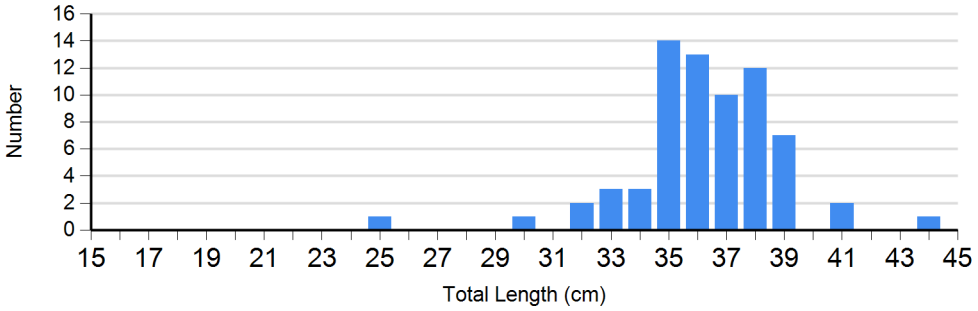


2022

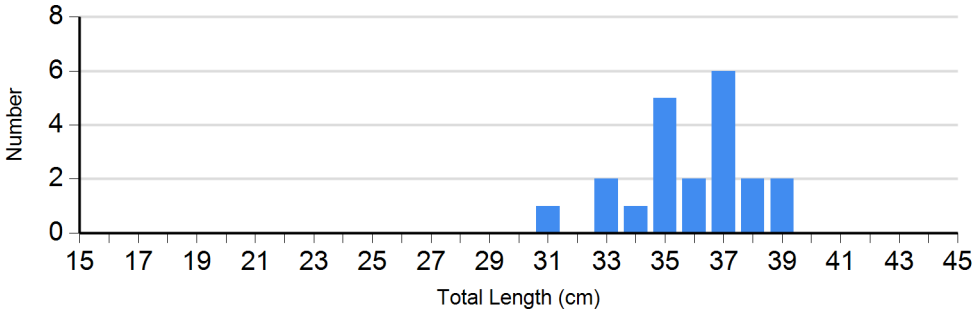


2023

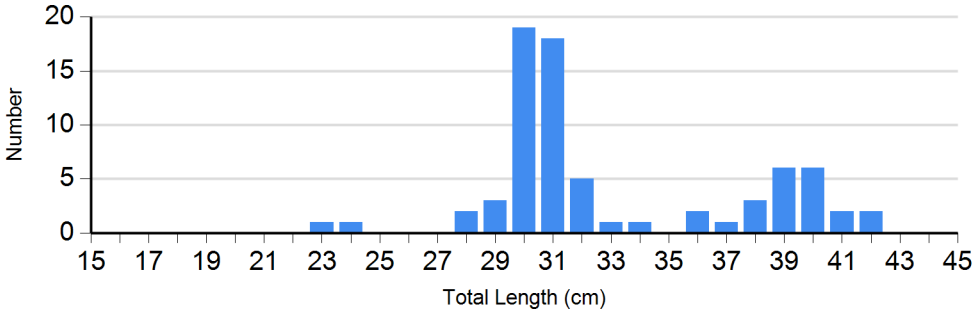
Species: White Bass
Gear: AFS std gill net



2018



2019



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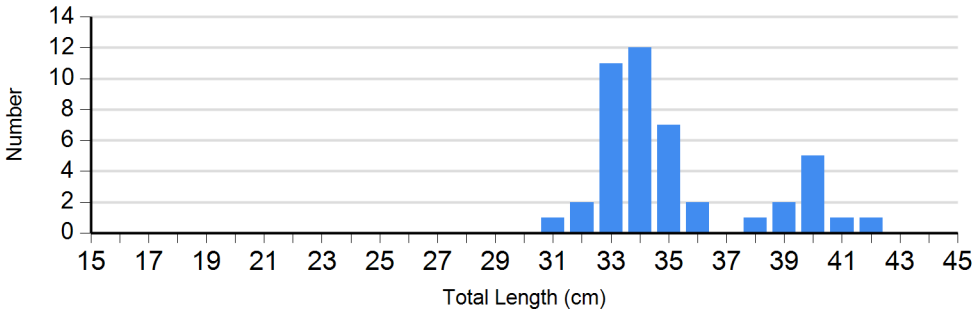

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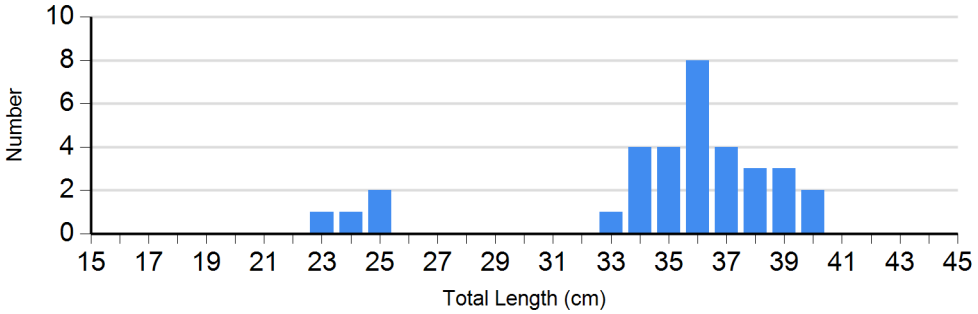
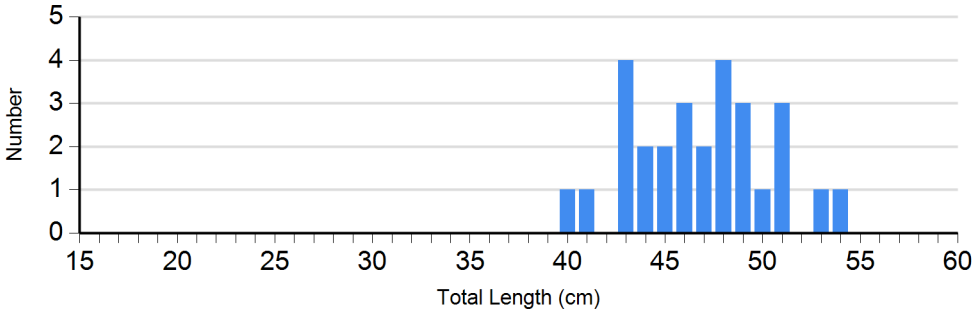
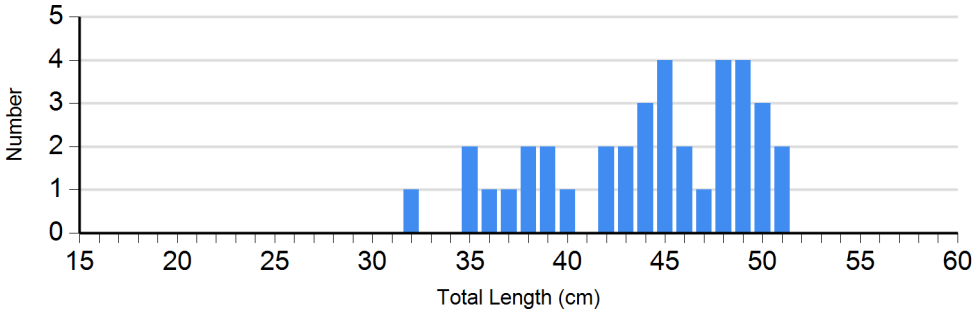
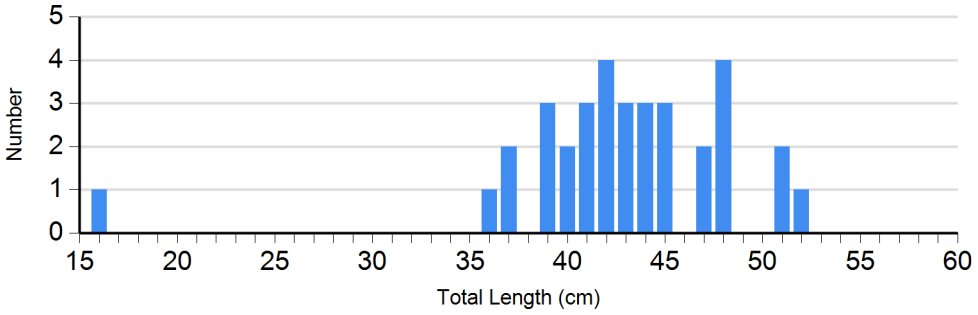


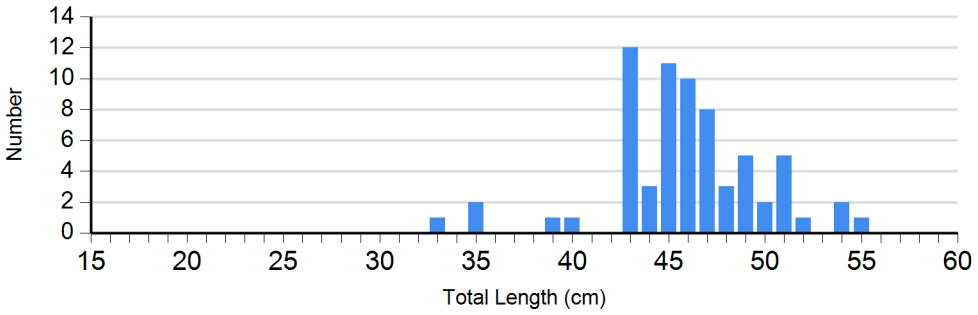
2023

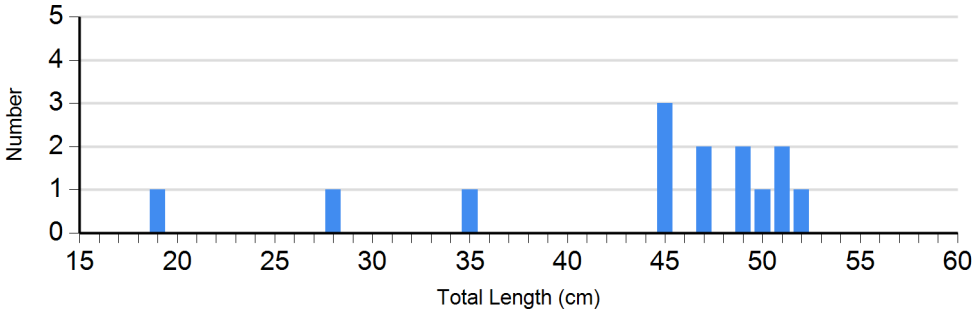
Species: White Sucker
Gear: AFS std gill net



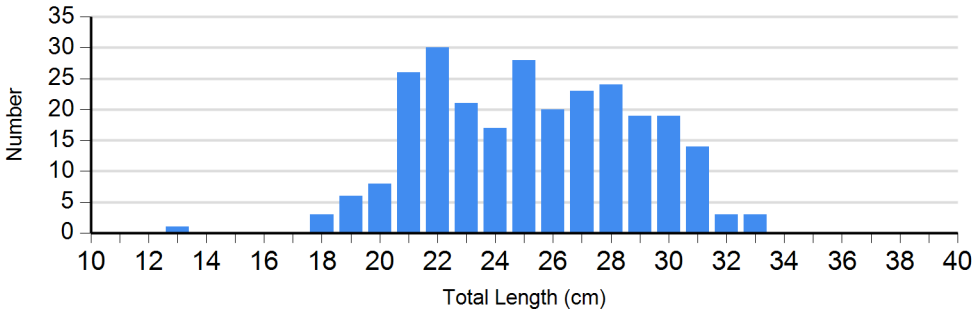








Species: Yellow Perch
Gear: AFS std gill net



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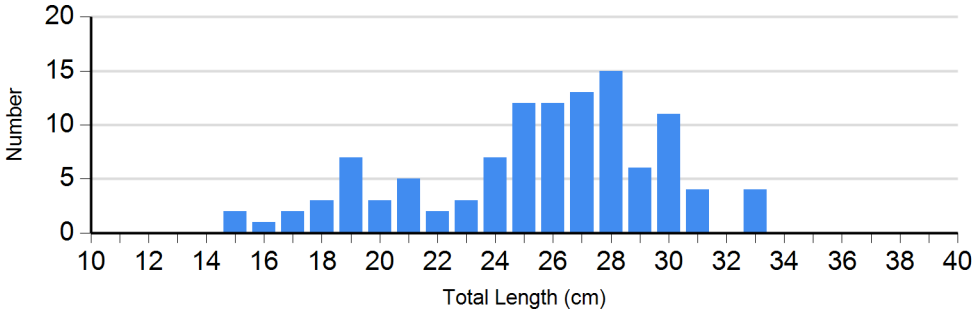
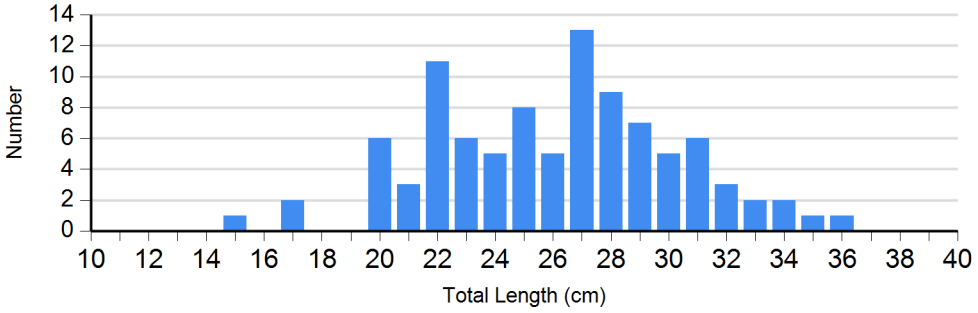


2019



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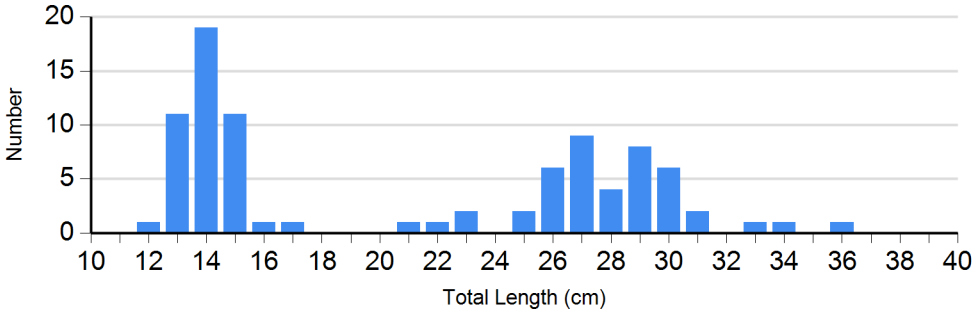

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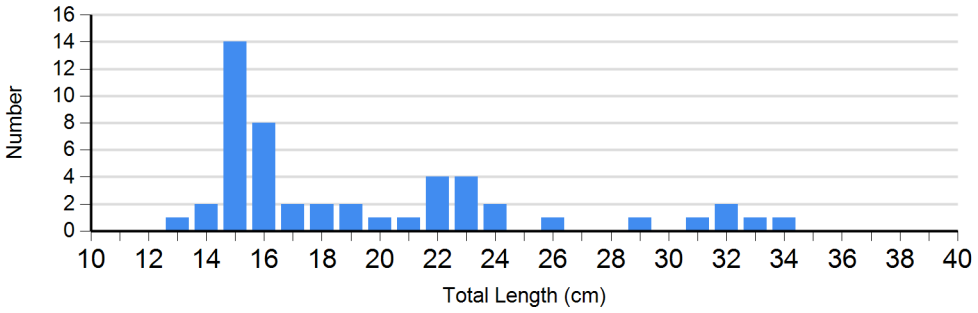
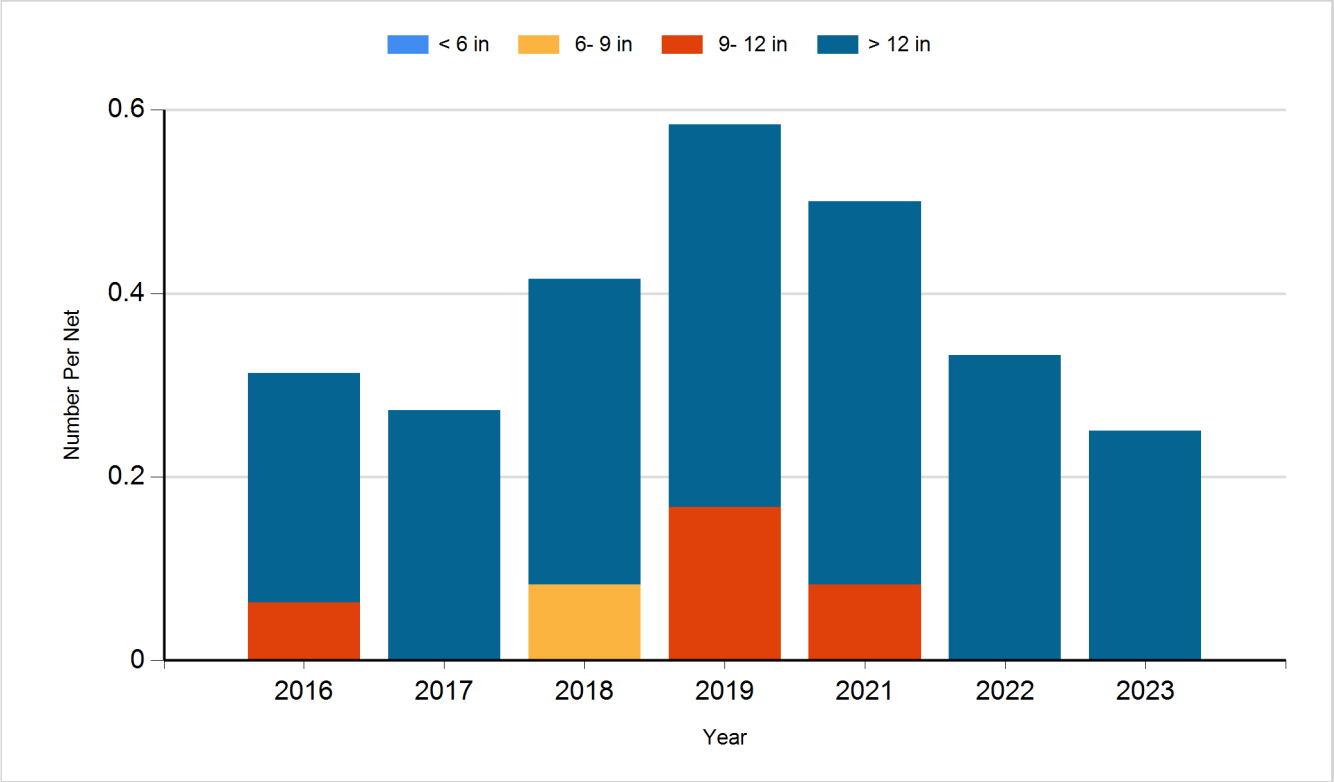


2023

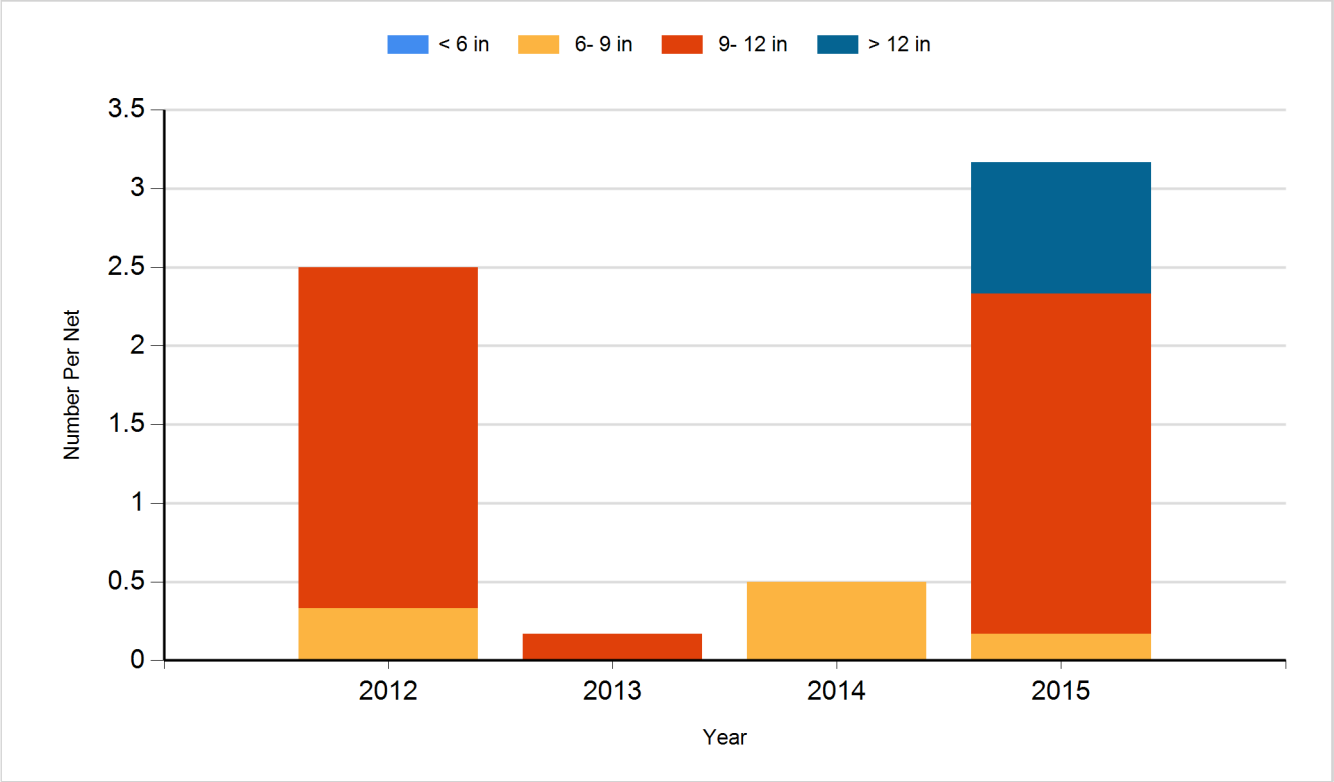
Historic Fish Sizes and Relative Abundance

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

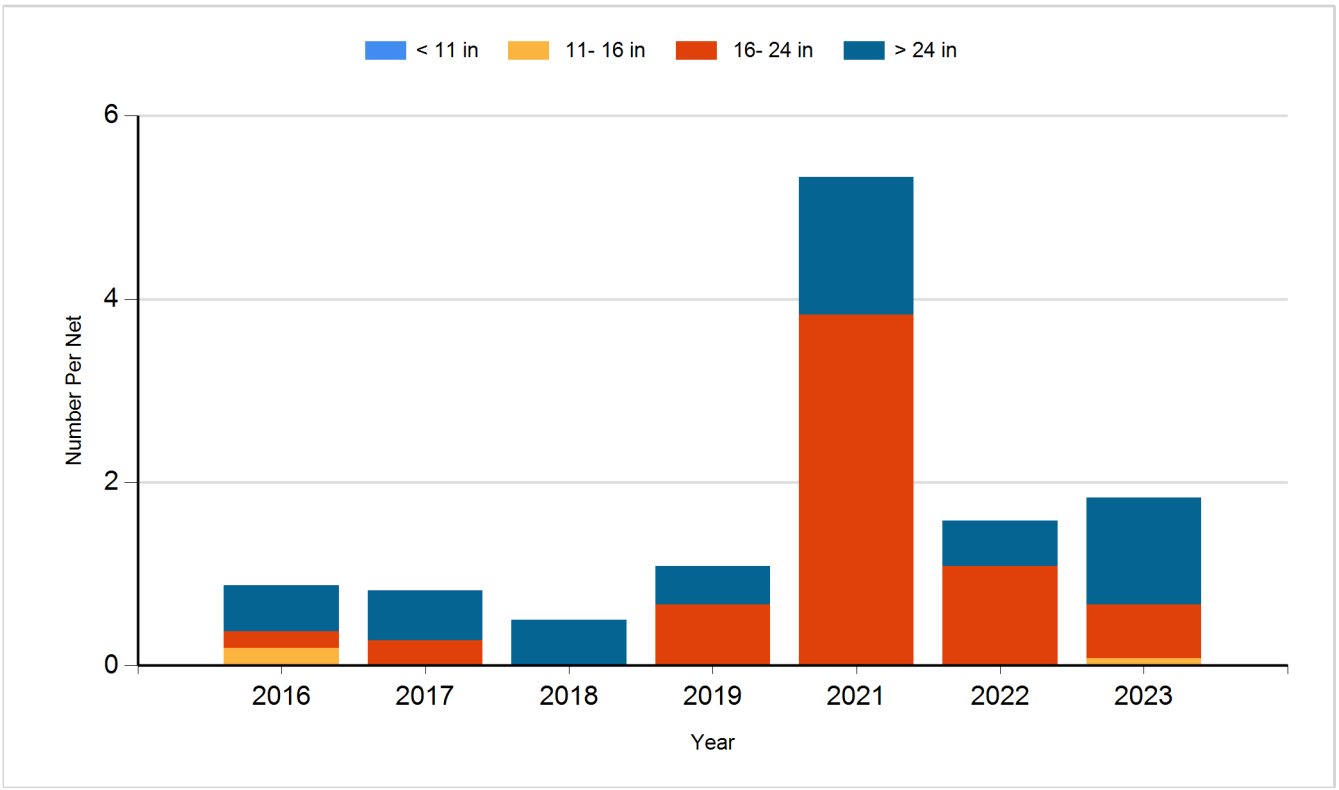
Species: Black Bullhead
Gear: AFS std gill net



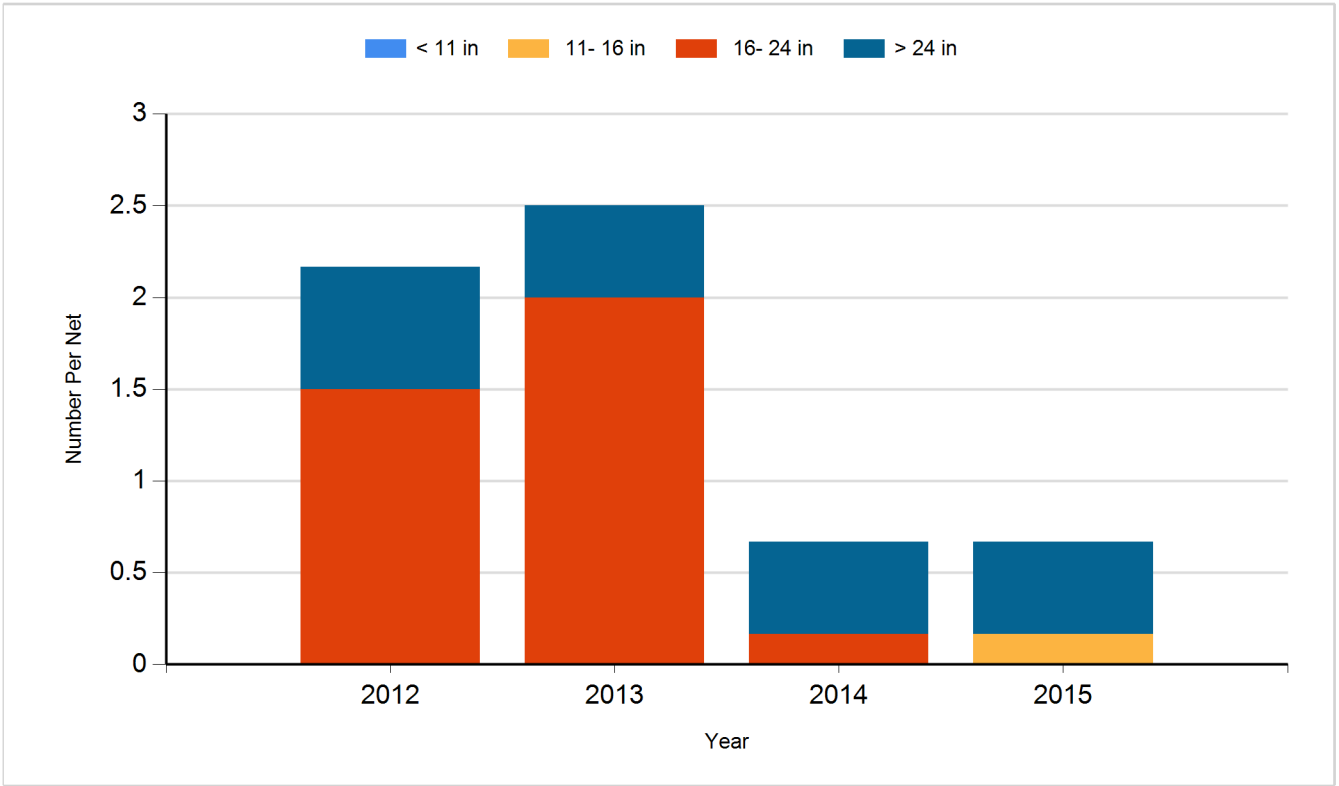
Species: Black Bullhead
Gear: std exp gill net



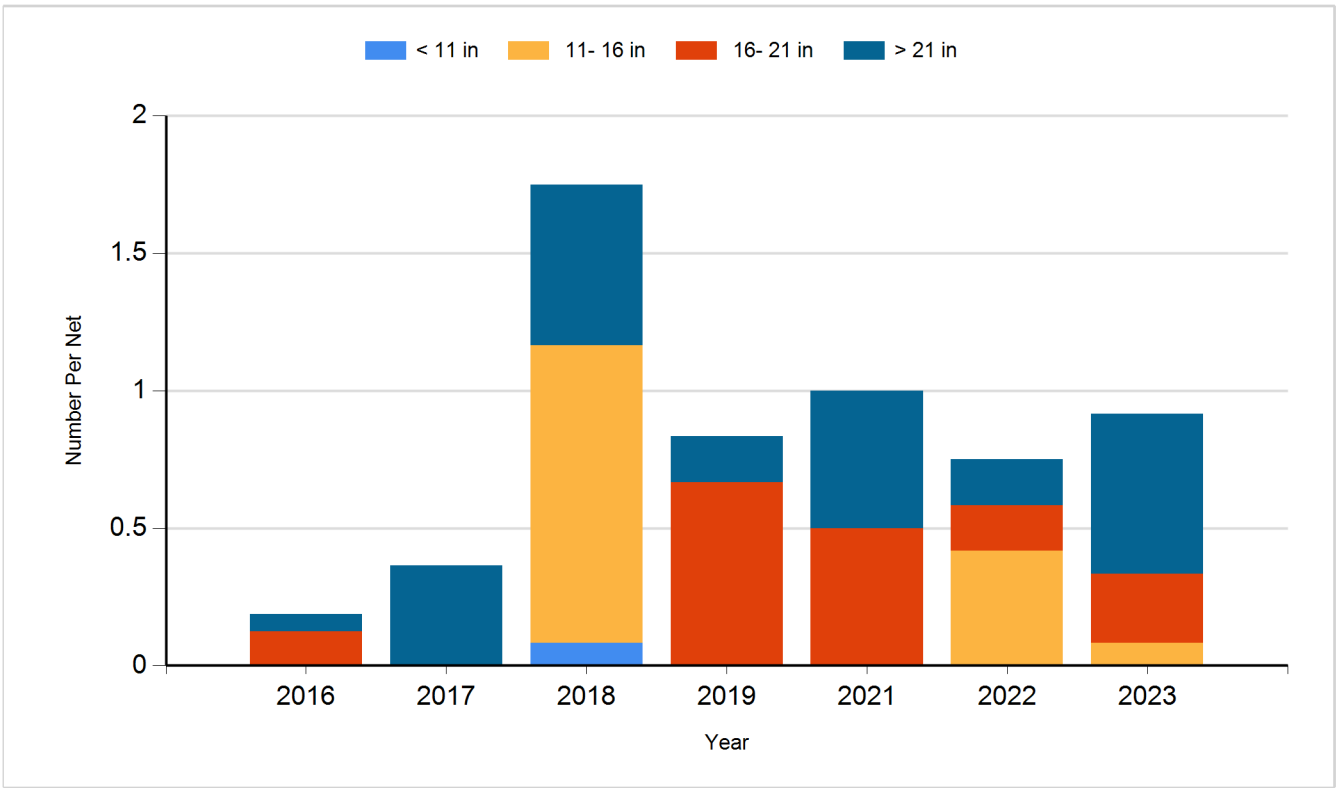
Species: Channel Catfish
Gear: AFS std gill net



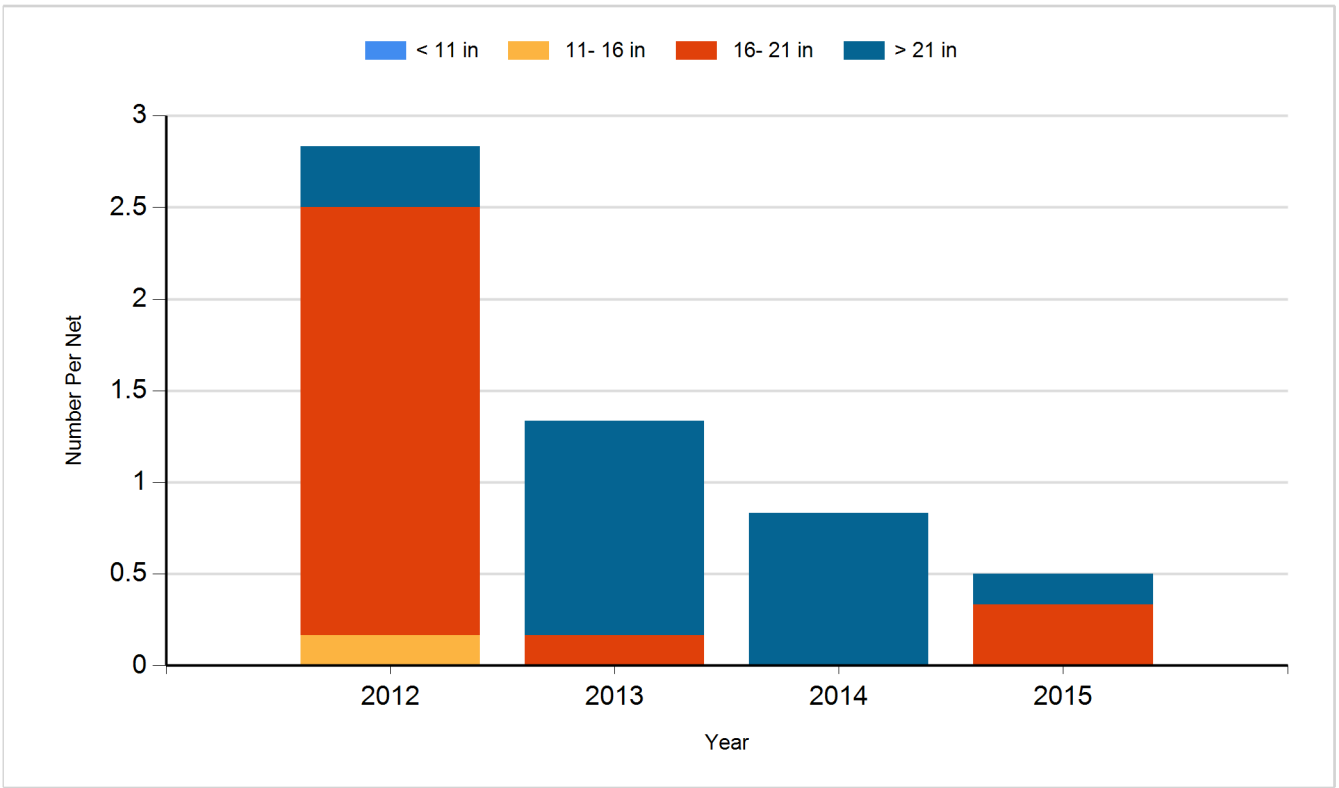
Species: Channel Catfish
Gear: std exp gill net



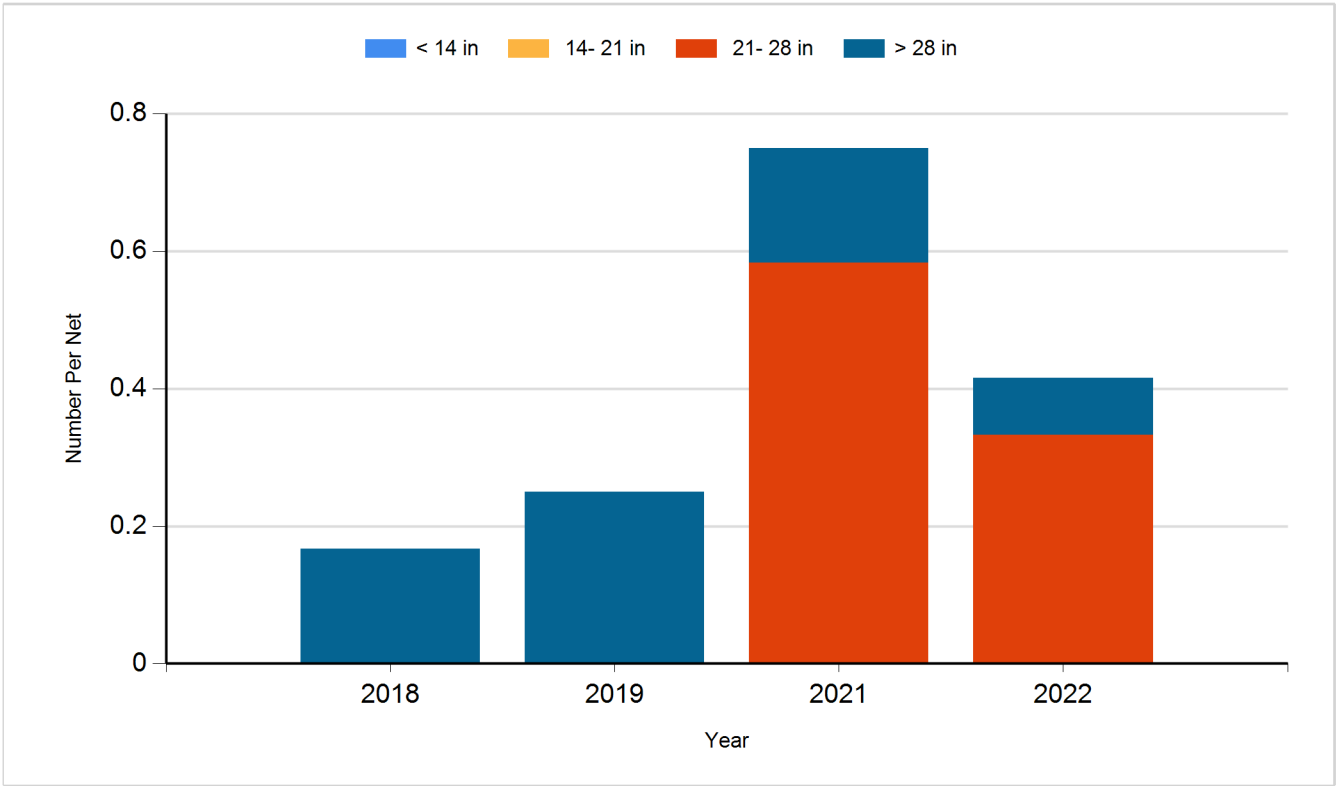
Species: Common Carp
Gear: AFS std gill net



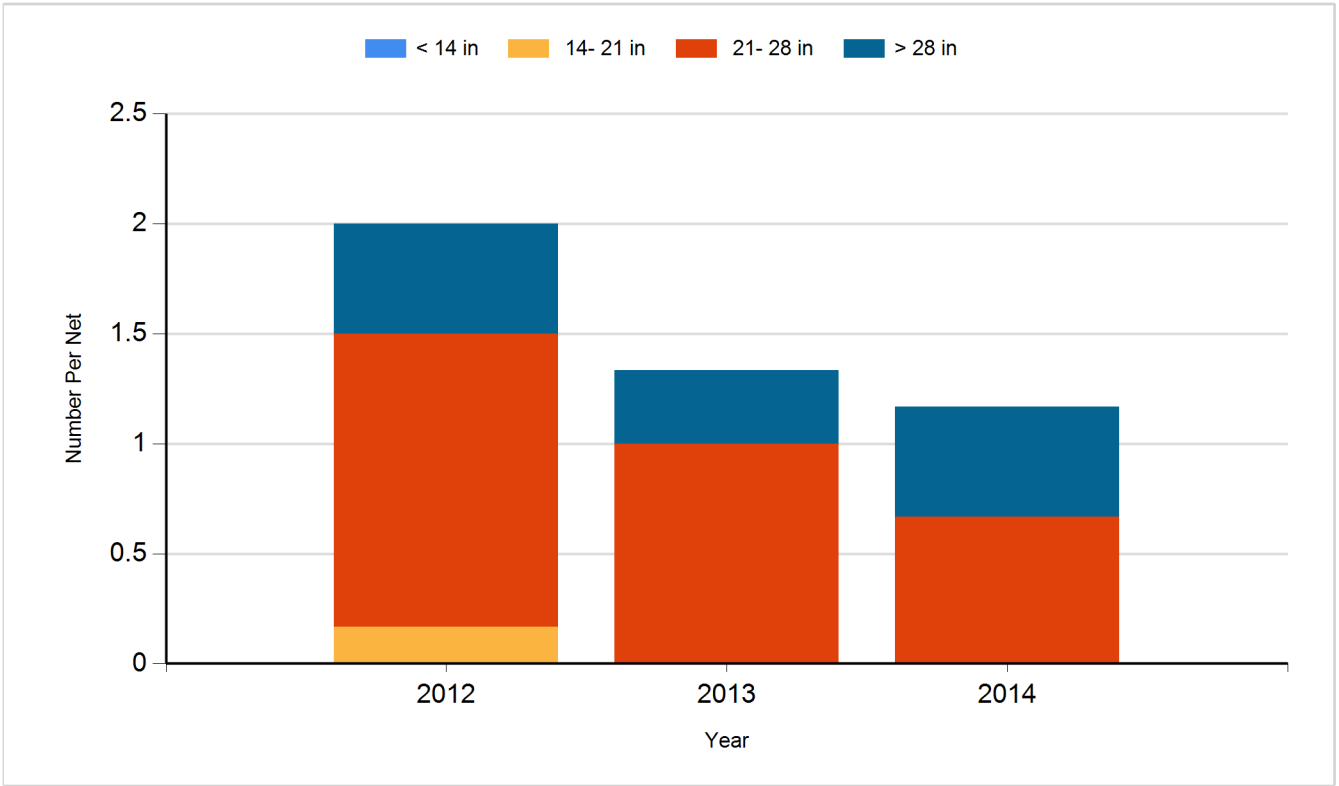
Species: Common Carp
Gear: std exp gill net



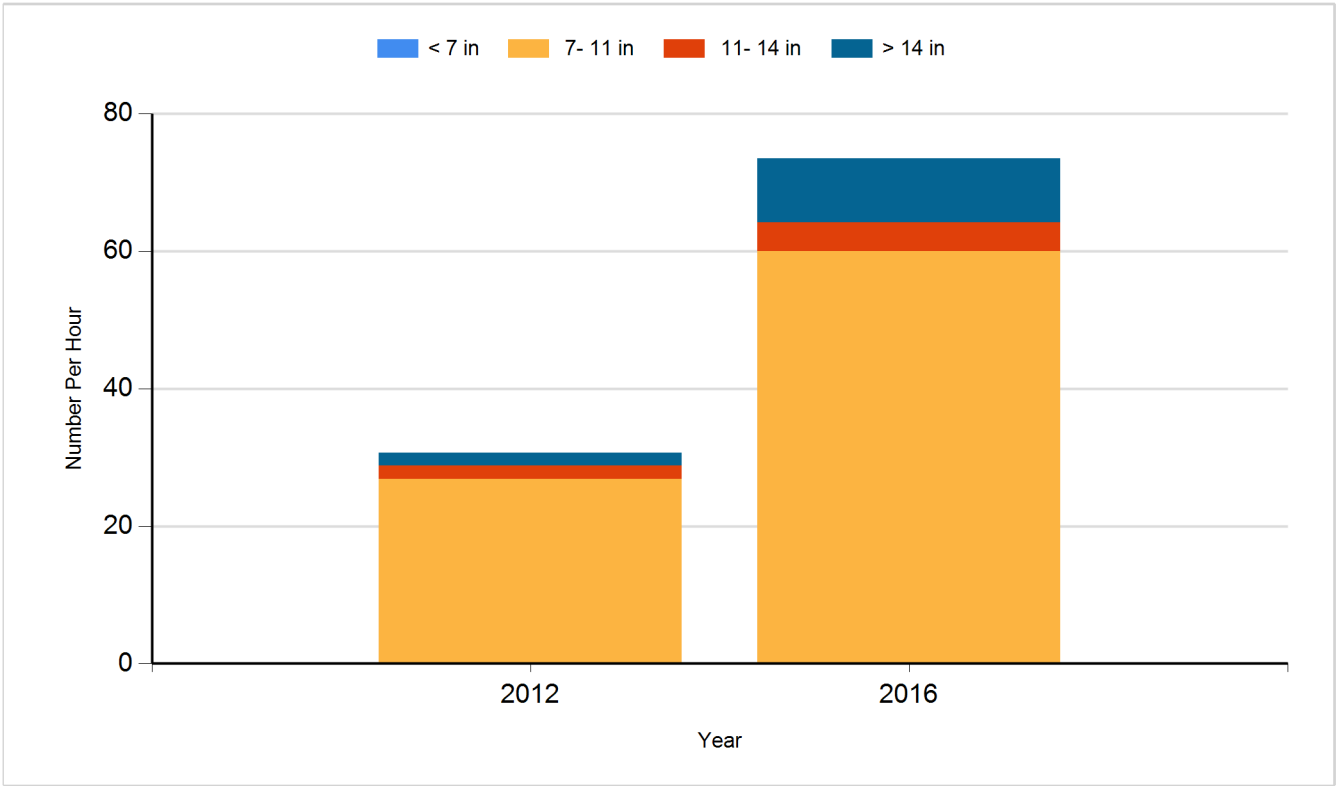
Species: Northern Pike
Gear: AFS std gill net



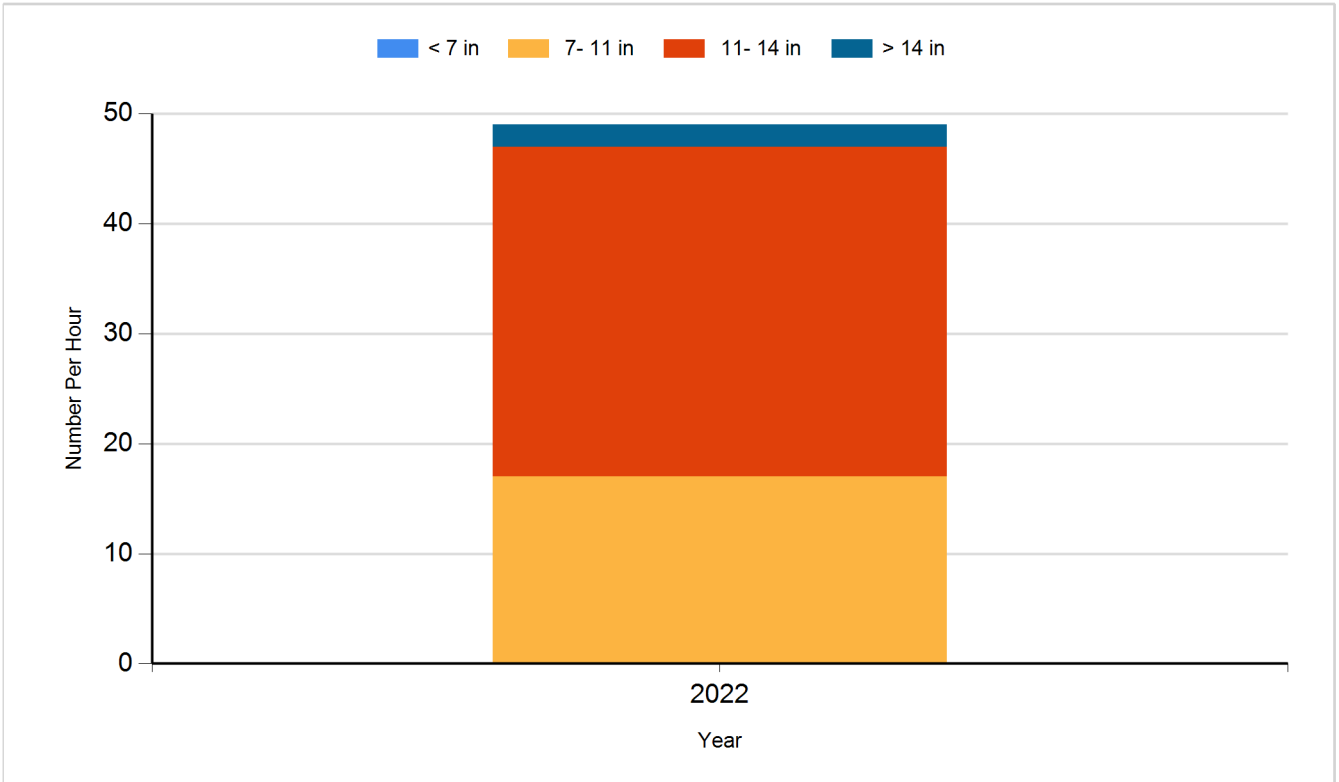
Species: Northern Pike
Gear: std exp gill net



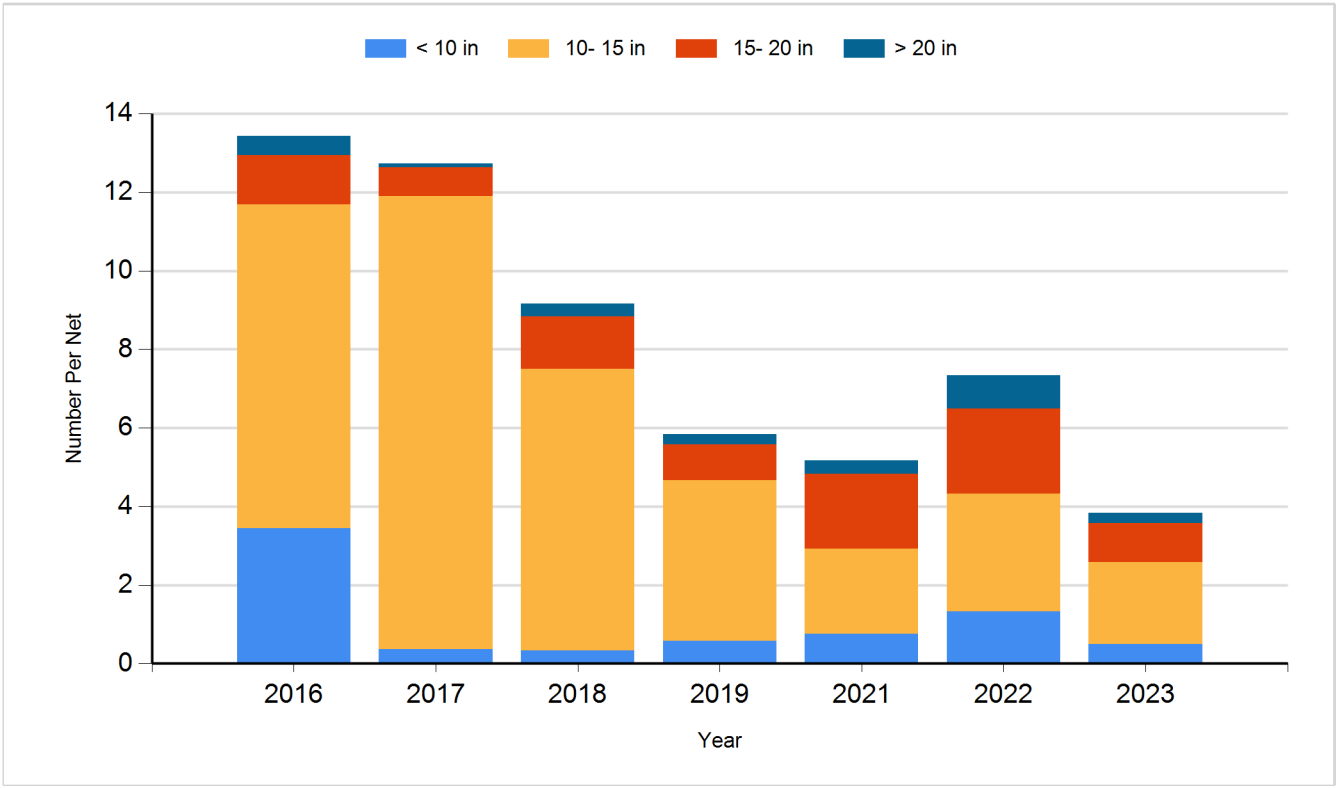
Species: Smallmouth Bass
Gear: boat shocker (night, DC)



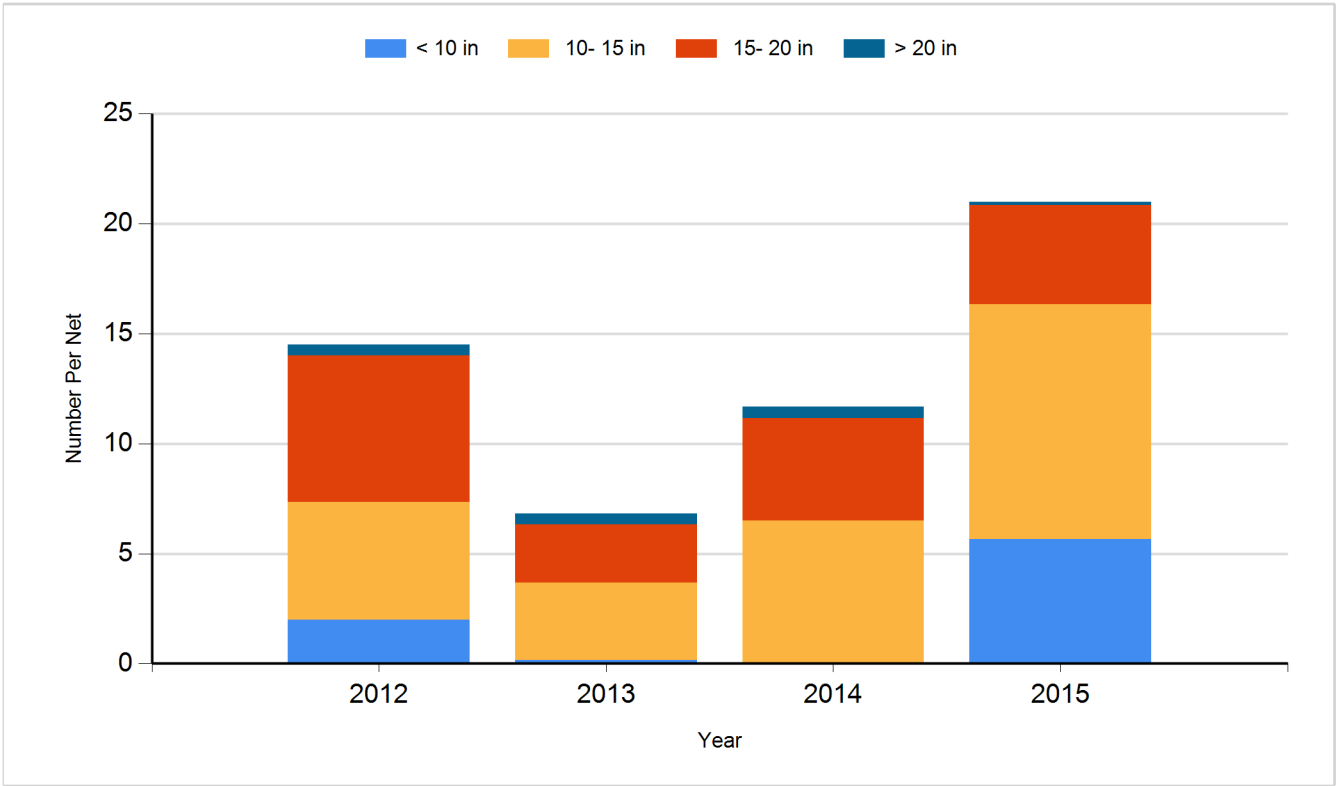
Species: Smallmouth Bass
Gear: spring day EF



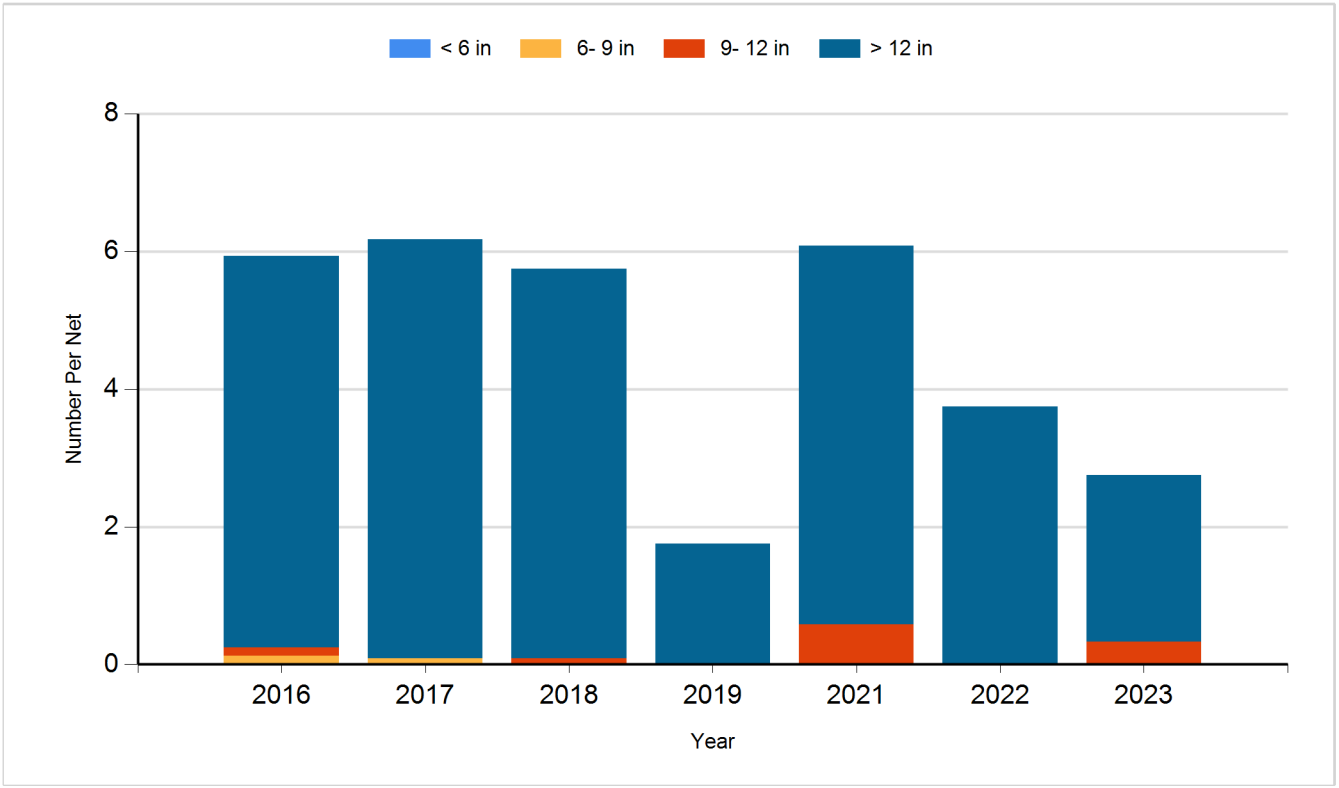
Species: Walleye
Gear: AFS std gill net



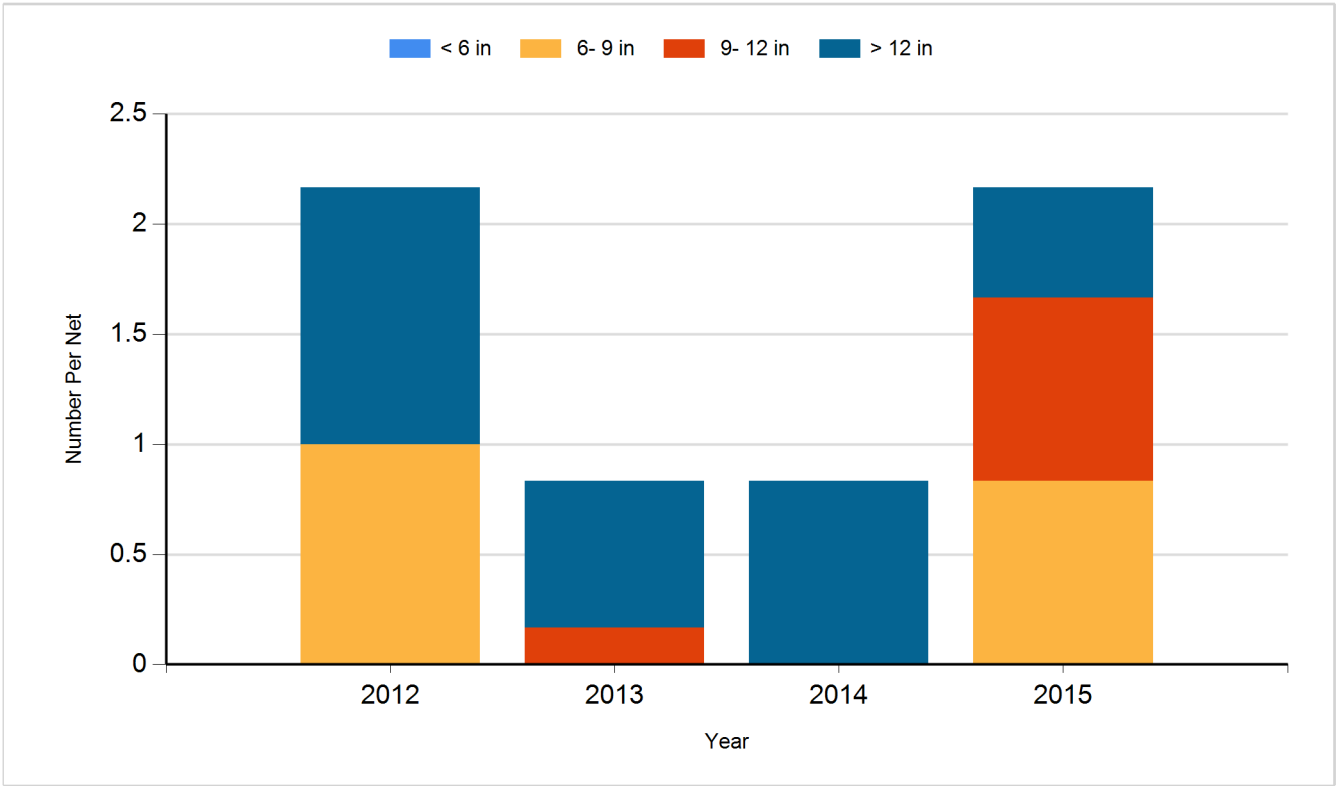
Species: Walleye
Gear: std exp gill net



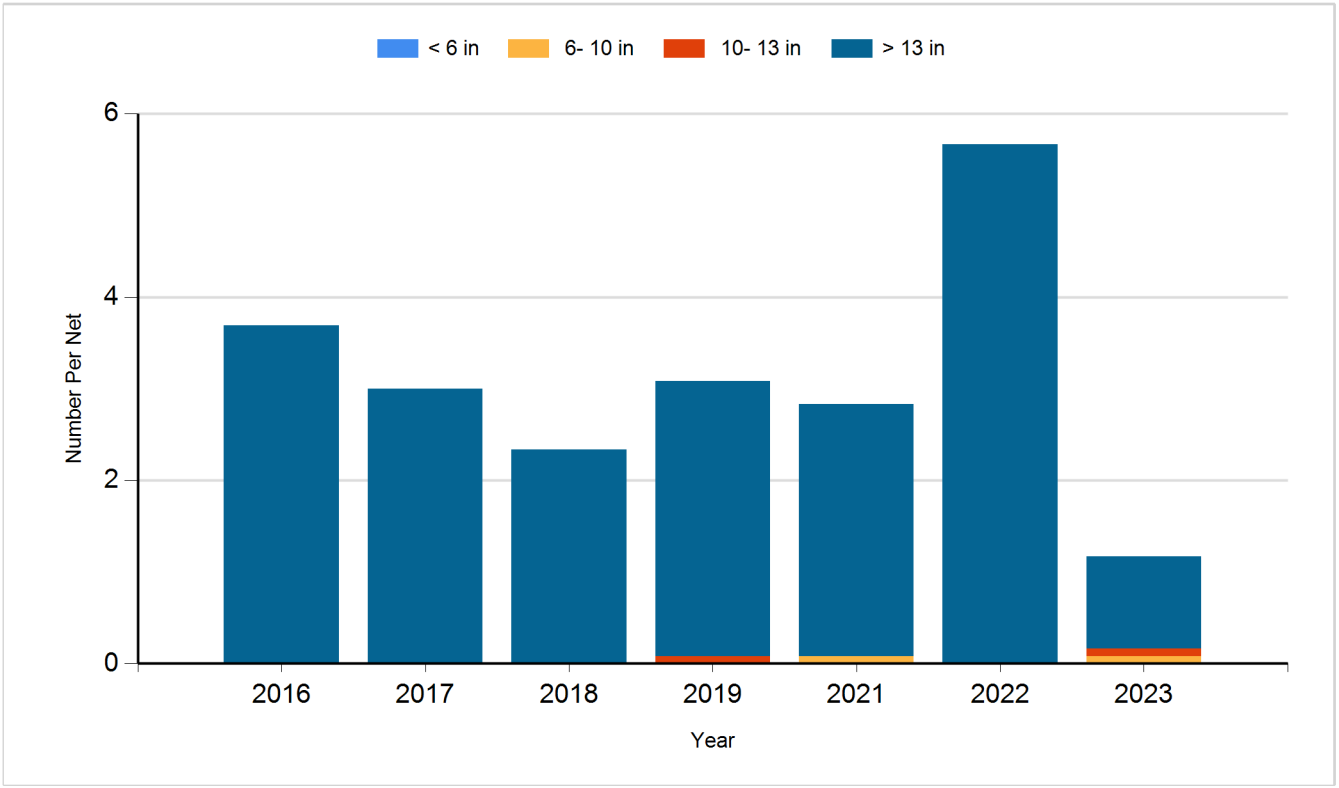
Species: White Bass
Gear: AFS std gill net



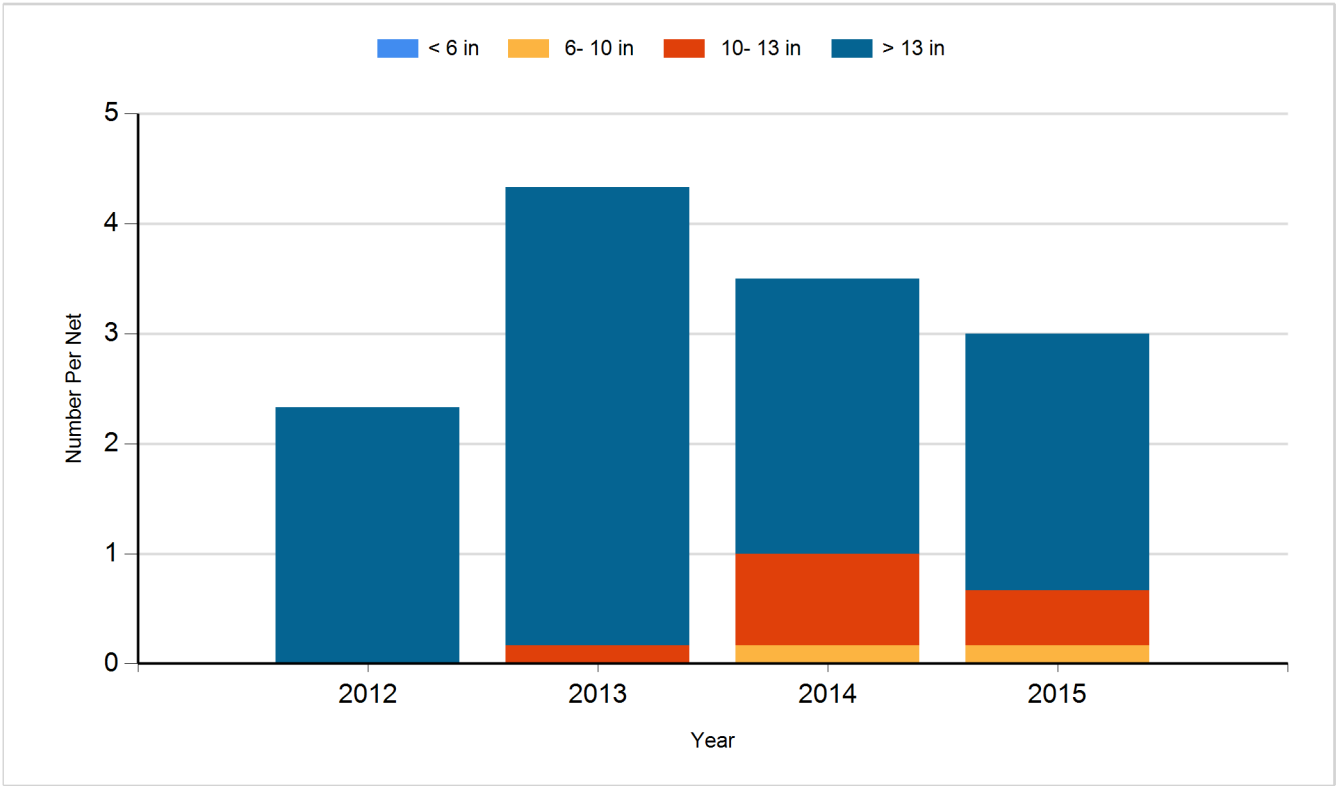
Species: White Bass
Gear: std exp gill net



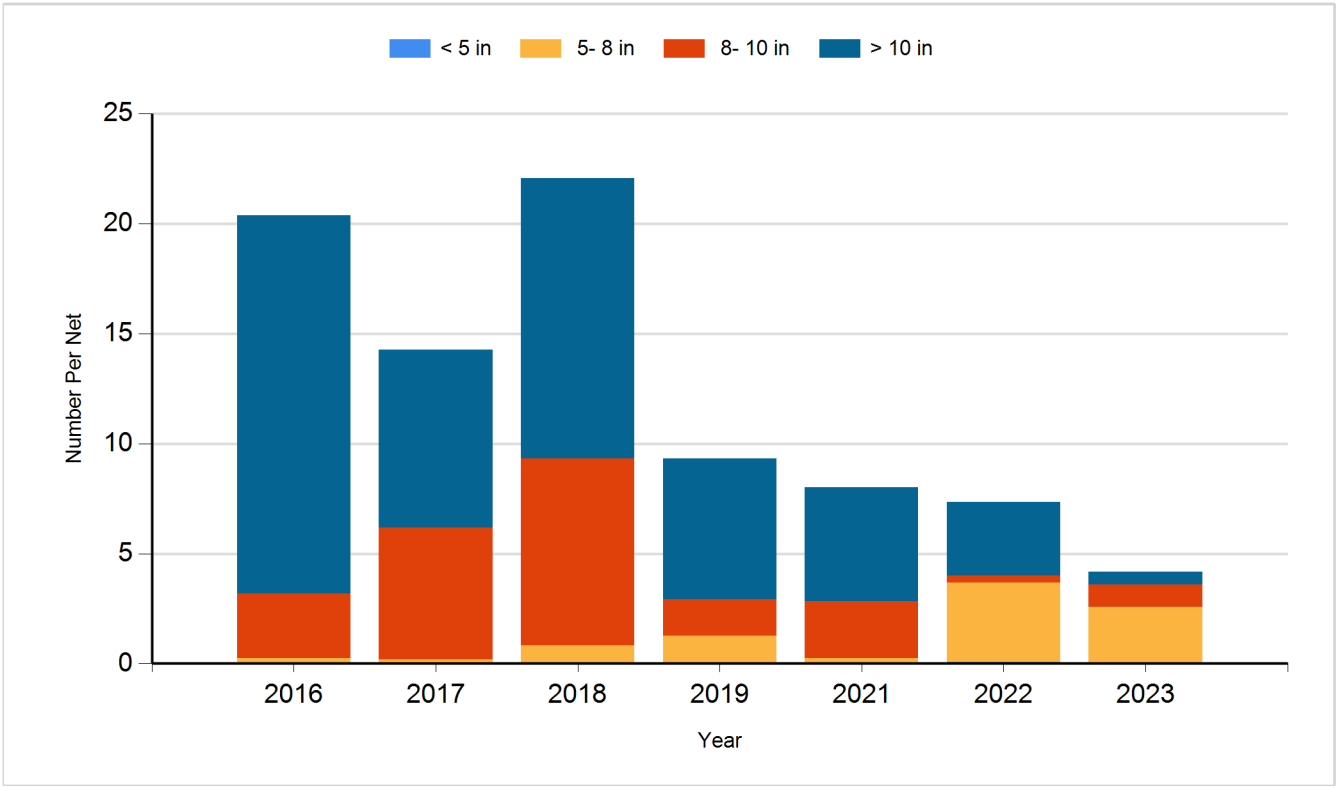
Species: White Sucker
Gear: AFS std gill net



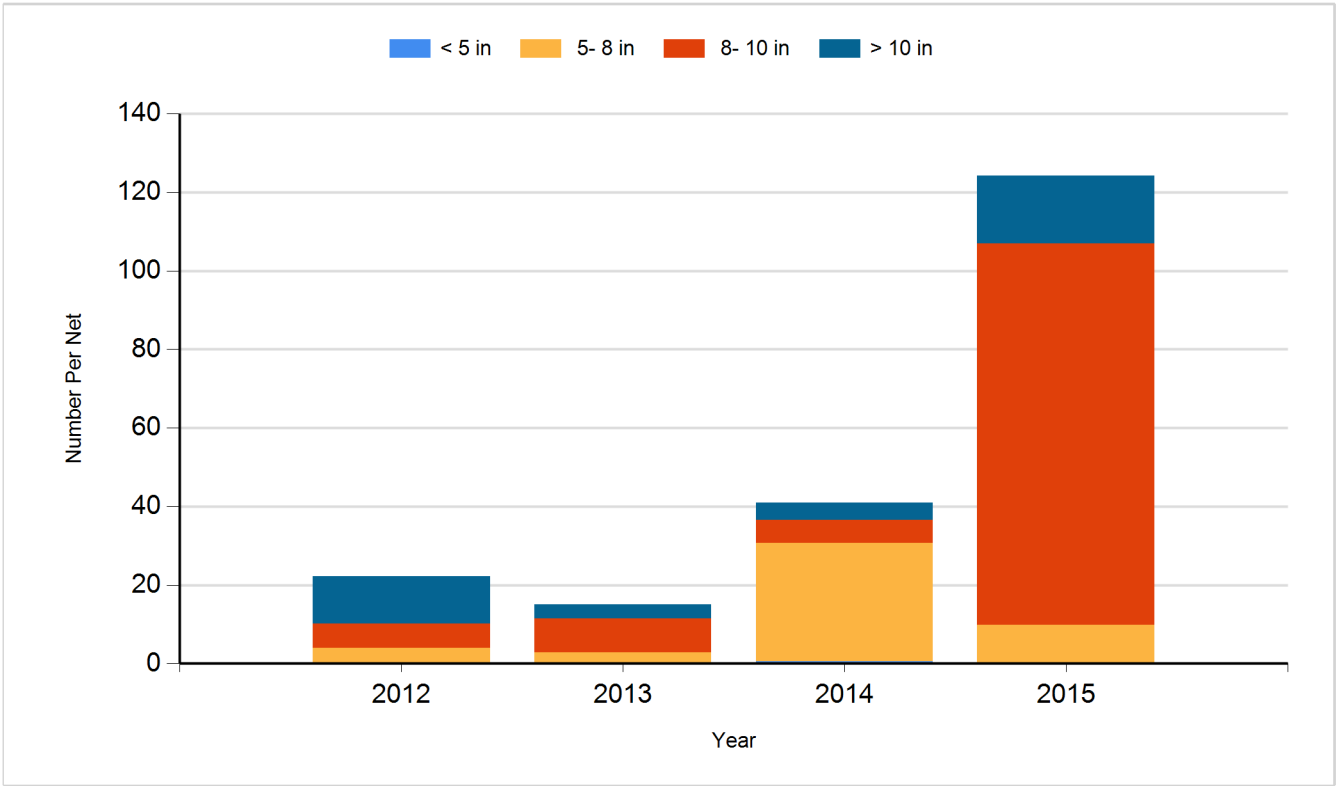
Species: White Sucker
Gear: std exp gill net



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
2012	Walleye	Fry	4,000,000
2014	Walleye	Fry	4,000,000
2019	Walleye	Fry	2,000,000