SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Poinsett, Hamlin County
MBS-Lake-405-000
2024

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, 2024	4 net-nights
AFS std gill net	Jul 30, 2024	4 net-nights
AFS std gill net	Jul 31, 2024	4 net-nights
fall night EF-WAE	Sep 25, 2024	3530 seconds

Common Fish Species Present

Yellow Perch

Walleye

Smallmouth Bass

Northern Pike

White Bass

Common Carp

White Sucker

Black Bullhead

Channel Catfish

Black Crappie

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	20	0.3	0.2	100		67		90	3
	Black Bullhead	16	1.3	0.5	94		69		85	4
	Black Crappie	5	0.4	0.3	40		20		122	12
	Channel Catfish	18	1.3	0.5	93		60	21	101	4
	Common Carp	39	3.2	1.2	24	11	24	11	96	2
	Northern Pike	16	1.3	0.8	100		6		84	4
	Smallmouth Bass	10	0.8	0.4	56		44		94	3
	Walleye	75	5.0	1.1	57	9	30	9	86	1
	White Bass	62	5.2	1.6	92		68	9	98	4
	White Sucker	20	1.7	0.6	100		100		106	2
	Yellow Perch	110	9.1	2.1	70	6	28	6	114	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.

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

		CPUE										
Gear	Species	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Avg
AFS std gill net	Bigmouth Buffalo		2.8	0.4	0.3	2.4		1.0	1.0	5.5	0.3	1.71
	Black Bullhead		0.4	0.3	0.4	0.6		0.5	0.3	0.3	1.3	0.51
	Black Crappie		3.9	0.8	1.3	1.1		1.5	0.3	0.1	0.4	1.18
	Channel Catfish		1.1	0.8	0.5	1.1		5.3	1.6	1.8	1.3	1.69
	Common Carp		0.2	0.4	1.7	0.8		1.0	0.8	0.9	3.2	1.13
	Northern Pike		0.0	0.1	0.2	0.3		0.8	0.4	0.1	1.3	0.40
	Shorthead Redhorse		0.0	0.0	0.2	0.0		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	0.8	0.60
	Walleye		8.9	12.4	8.8	5.3		4.4	6.0	3.3	5.0	6.76
	White Bass		7.3	6.2	5.8	1.8		6.1	3.8	2.8	5.2	4.88
	White Sucker		4.5	3.0	2.3	3.1		2.8	5.7	1.2	1.7	3.04
	Yellow Bullhead		0.2	0.4	0.0	0.0		0.3	0.2	0.2	0.0	0.16
	Yellow Perch		25.1	14.3	22.1	9.3		8.0	7.3	4.2	9.1	12.43
boat shocker (night)	Walleye*	1,722.0	335.0	49.7								702.23
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	182.4	215.73
spring day EF*	Smallmouth Bass								49.0			49.00
std exp gill net	Bigmouth Buffalo	0.3										0.30
	Black Bullhead	3.2										3.20
	Black Crappie	2.0										2.00
	Channel Catfish	0.7										0.70
	Common Carp	0.5										0.50
	Northern Pike	0.0										0.00
	Shorthead Redhorse	0.2										0.20
	Smallmouth Bass	0.0										0.00
	Spottail Shiner	0.0										0.00
	Walleye	15.3										15.30
	White Bass	2.2										2.20
	White Sucker	3.0										3.00
	Yellow Bullhead	0.3										0.30
	Yellow Perch	124.2										124.20

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	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFS std gill net	Black Bullhead	PSD		100	100	80	100		100	100	100	94
		PSD-P		80	100	80	71		83	100	100	69
		Wr		96	86	85	94		92	95	88	85
	Black Crappie	PSD		100	100	13	69		100	100	100	40
		PSD-P		39	67	7	31		78	100	100	20
		Wr		112	102	123	121		110	108	120	122
	Channel Catfish	PSD		79	100	100	100		100	100	95	93
		PSD-P		57	67	100	38		28	32	64	60
		Wr		124	118	101	108		112	107	110	101
	Common Carp	PSD		100	100	35	100		100	44	91	24
		PSD-P		33	100	35	20		50	22	64	24
		Wr		95	98	105	107		96	102	98	96
	Northern Pike	PSD			100	100	100		100	100	100	100
		PSD-P			100	100	100		22	20	100	6
		Wr			80	83	87		78	74	77	84
	Smallmouth Bass	PSD		38	43	86	100		43	40	67	56
		PSD-P		25	43	43	0		14	0	17	44
		Wr		101	101	89	103		99	96	93	94
	Walleye	PSD		18	7	19	22		51	50	38	57
		PSD-P		5	1	4	5		8	14	8	30
		Wr		82	79	84	91		85	86	87	86
	White Bass	PSD		98	99	100	100		100	100	100	92
		PSD-P		96	99	99	100		90	100	88	68
		Wr		102	100	103	103		95	98	98	98
	White Sucker	PSD		100	100	100	100		97	100	93	100
		PSD-P		100	100	100	97		97	100	86	100
		Wr		108	111	104	107		106	107	106	106
	Yellow Perch	PSD		99	99	96	87		97	51	38	70
		PSD-P		84	57	58	69		65	46	14	28
		Wr		115	115	110	113		111	114	109	114
boat shocker (night)	Walleye	PSD	0	0	0							
		PSD-P	0	0	0							

			Year									
Gear	Species	Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
boat shocker (night)	Walleye	Wr	97	96	93							
boat shocker (night, DC)	Smallmouth Bass	PSD		18								
		PSD-P		13								
		Wr		112								
spring day EF	Smallmouth Bass	PSD								65		
		PSD-P								4		
std exp gill net	Black Bullhead	PSD	95									
		PSD-P	26									
		Wr	93									
	Black Crappie	PSD	58									
		PSD-P	0									
		Wr	113									
	Channel Catfish	PSD	75									
		PSD-P	75									
		Wr	110									
	Common Carp	PSD	100									
		PSD-P	33									
		Wr	104									
	Walleye	PSD	30									
		PSD-P	1									
		Wr	88									
	White Bass	PSD	62									
		PSD-P	23									
		Wr	102									
	White Sucker	PSD	94									
		PSD-P	78									
		Wr	101									
	Yellow Perch	PSD	92									
		PSD-P	14									
		Wr	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+
2024	75	210 (16)	312 (21)	377 (10)	456 (5)	470 (2)	543 (4)		496 (1)	592 (6)	617 (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)

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	110	160 (36)	240 (63)	241 (5)	285 (2)	314 (1)		336 (1)	336 (1)		300 (1)
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)						

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).

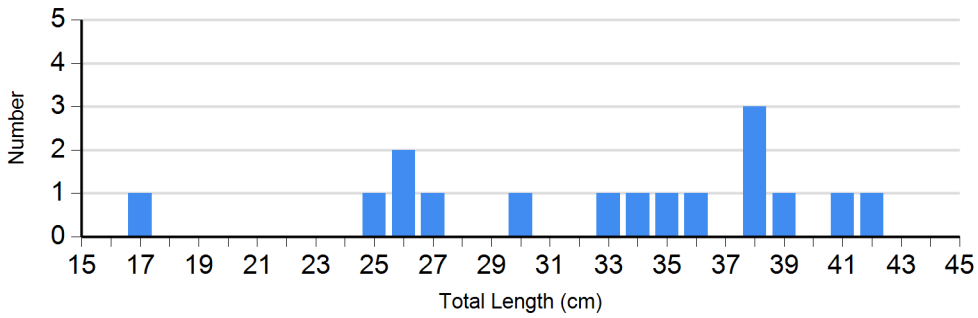
		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Bullhead Gill Net	2021	0		1	82	5	94 (3.0)	0	
	2022	0		0		3	94 (1.9)	1	96
	2023	0		0		2	103 (8.4)	1	59
	2024	1	101	4	91 (1.4)	5	83 (6.1)	6	80 (5.6)
Channel Catfish Gill Net	2021	0		46	111 (1.6)	12	114 (1.5)	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)
	2024	1	92	5	95 (4.0)	7	102 (5.0)	2	113 (10.4)
Common Carp Gill Net	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)
	2024	29	97 (1.4)	0		3	94 (2.1)	6	93 (2.6)
Northern Pike Gill Net	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	
	2024	0		15	84 (3.0)	1	90	0	
Walleye Gill Net	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)
	2024	26	81 (0.9)	16	86 (1.8)	9	89 (2.1)	9	95 (2.2)
White Bass Gill Net	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)

		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	2023	0		4	100 (2.6)	21	100 (1.3)	8	94 (1.4)
	2024	5	99 (3.5)	15	111 (12.5)	19	95 (1.4)	23	93 (1.2)
White Sucker Gill Net	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)
	2024	0		0		3	97 (4.5)	17	107 (1.4)
Yellow Perch Gill Net	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)
	2024	33	115 (1.5)	46	117 (1.9)	26	111 (1.4)	4	104 (2.2)

Length Frequency Distribution

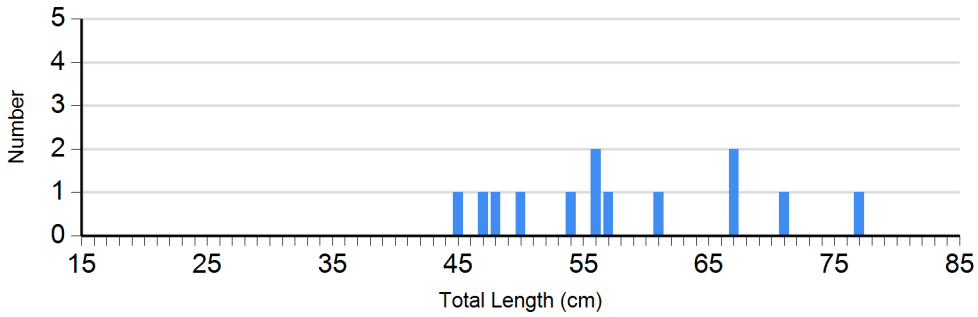
Length frequency histogram of species sampled by year.

Species: Black Bullhead
Gear: AFS std gill net



2024

Species: Channel Catfish
Gear: AFS std gill net



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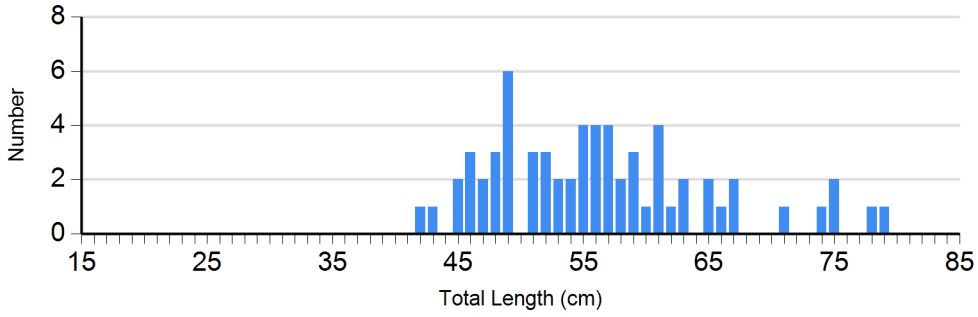

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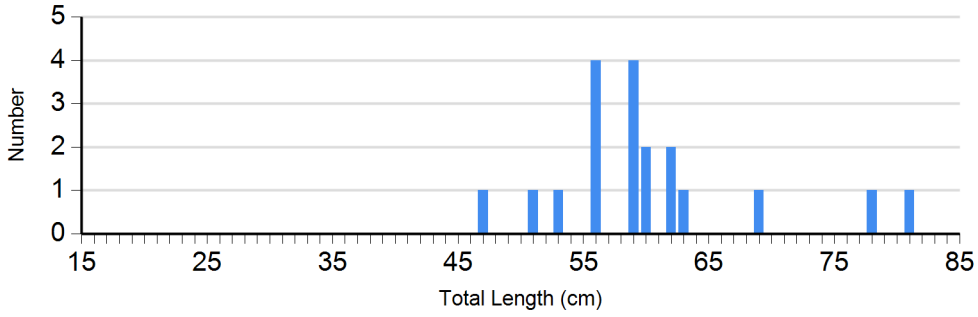
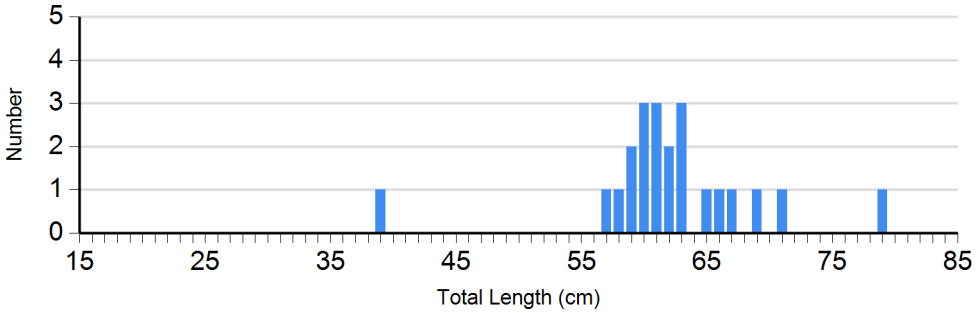
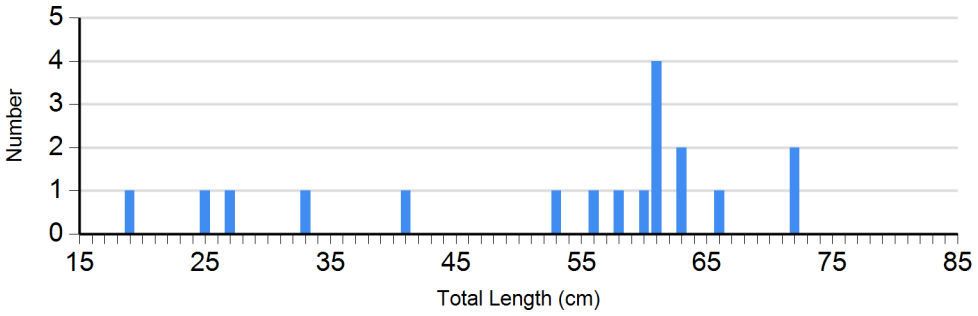


2022

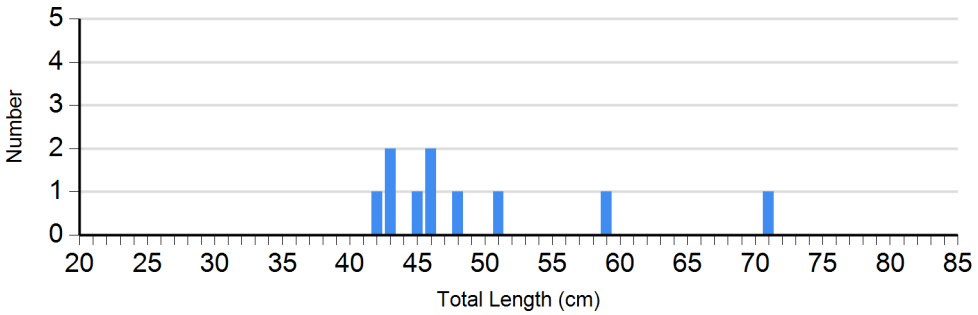


2023

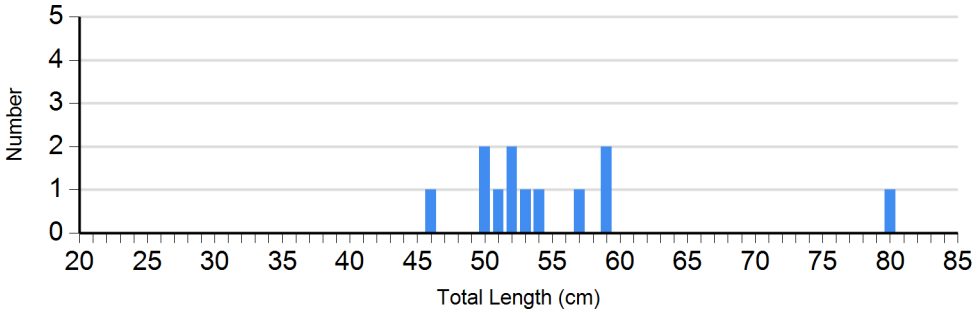


2024

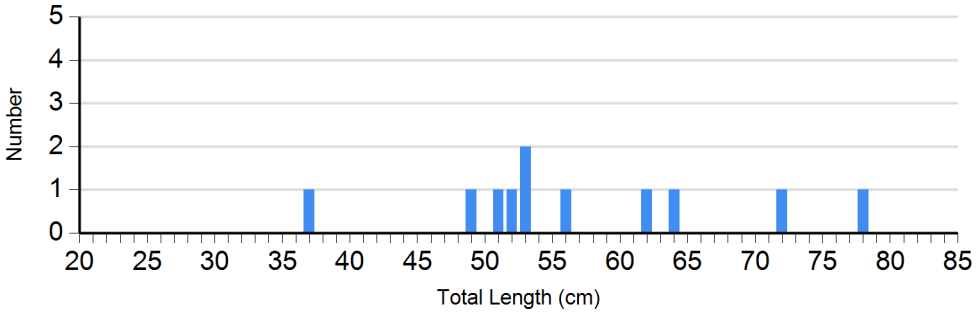
Species: Common Carp
Gear: AFS std gill net



2019



2021



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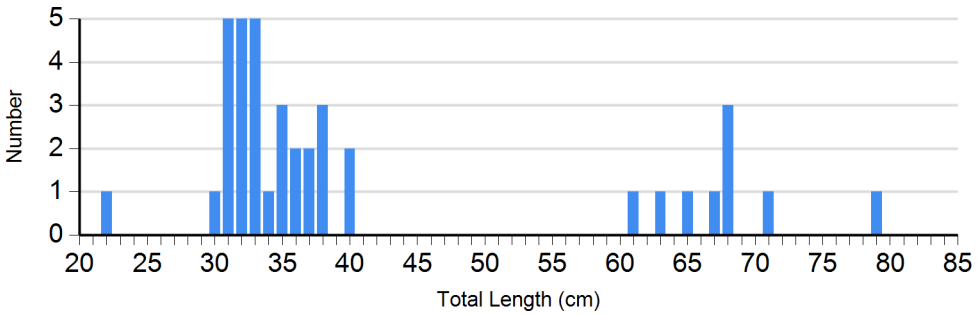
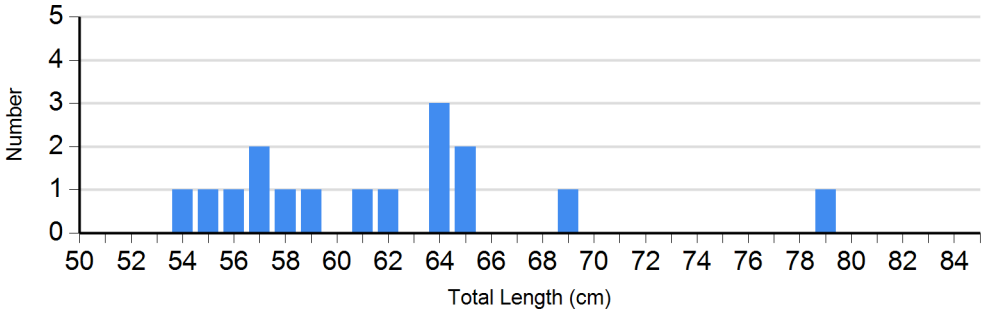


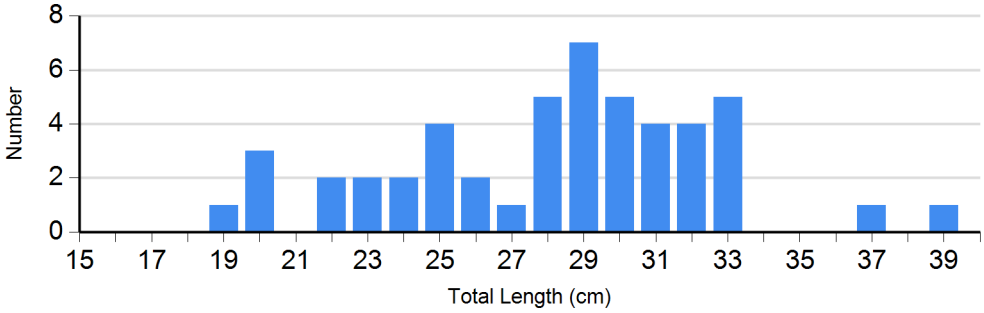
2024

Species: Northern Pike
Gear: AFS std gill net



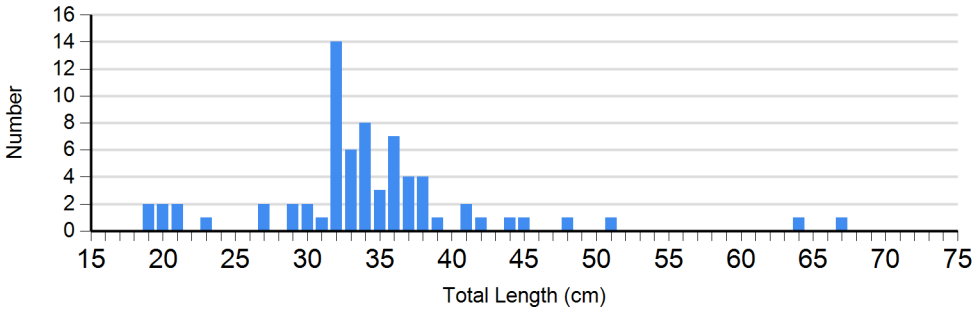
2024

Species: Smallmouth Bass
Gear: spring day EF

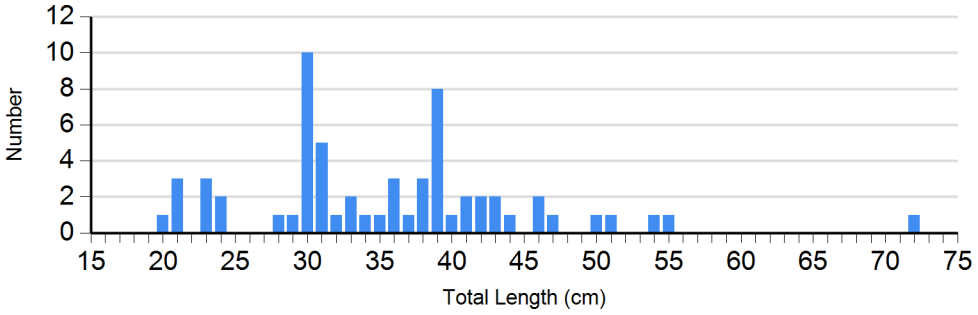


2022

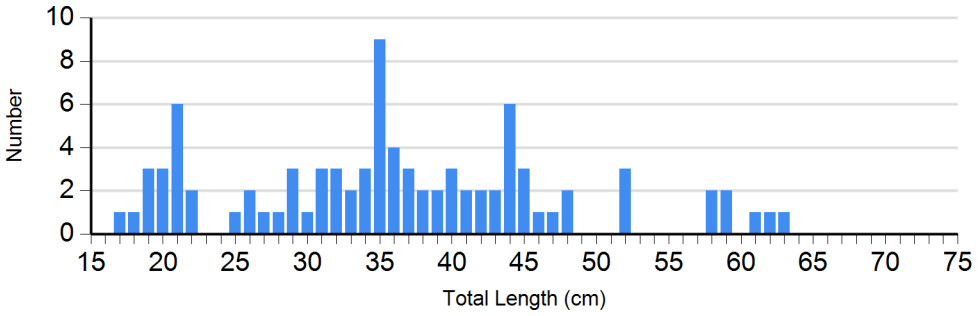
Species: Walleye
Gear: AFS std gill net



2019



2021



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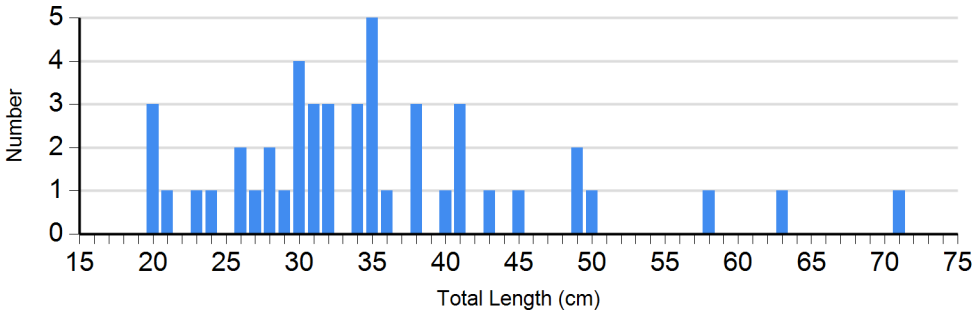

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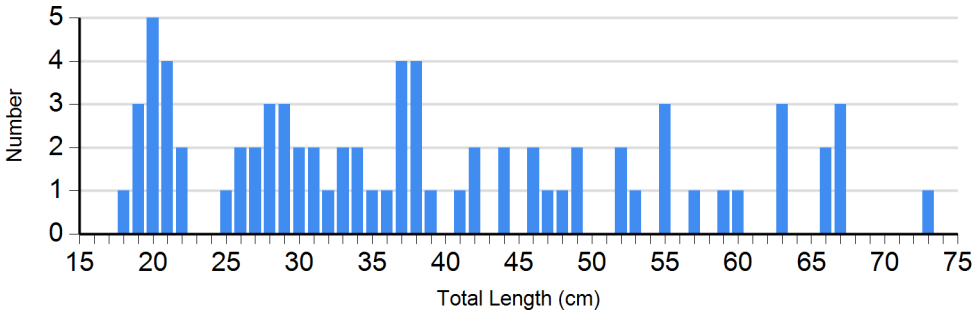
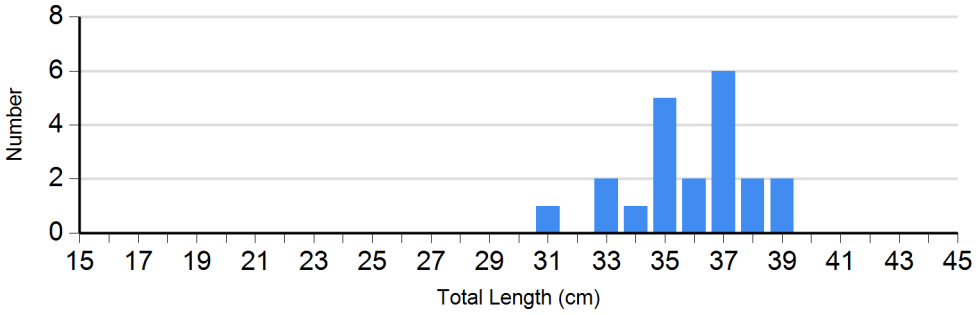
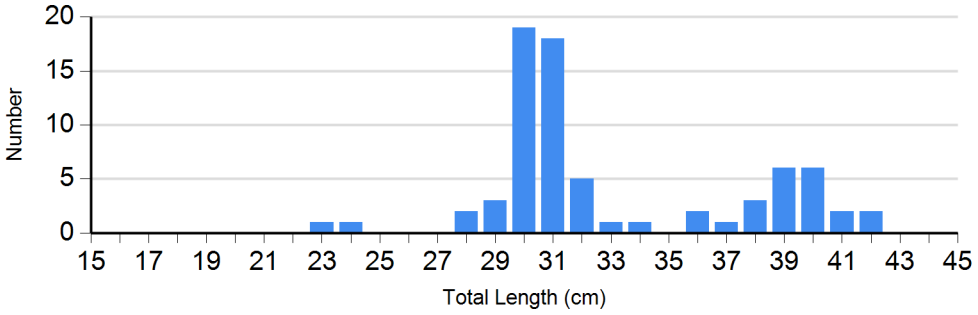


2024

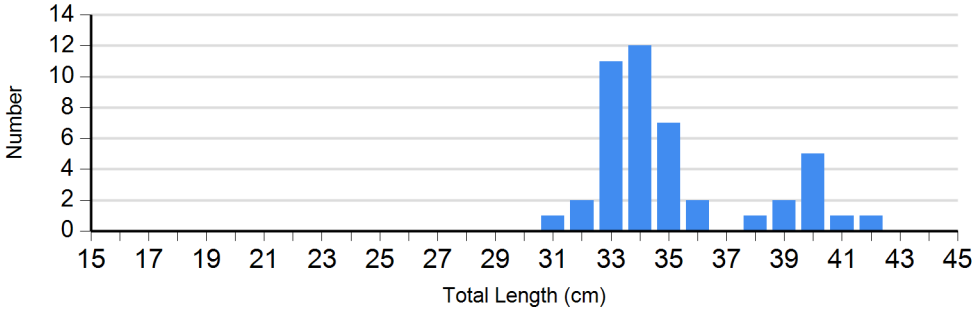
Species: White Bass
Gear: AFS std gill net



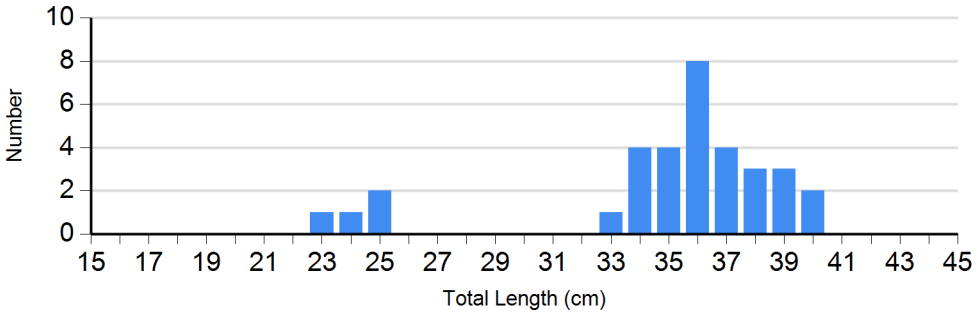
2019



2021



2022



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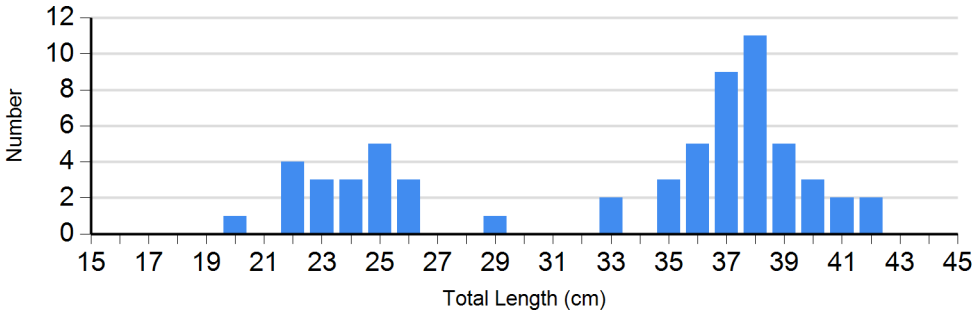
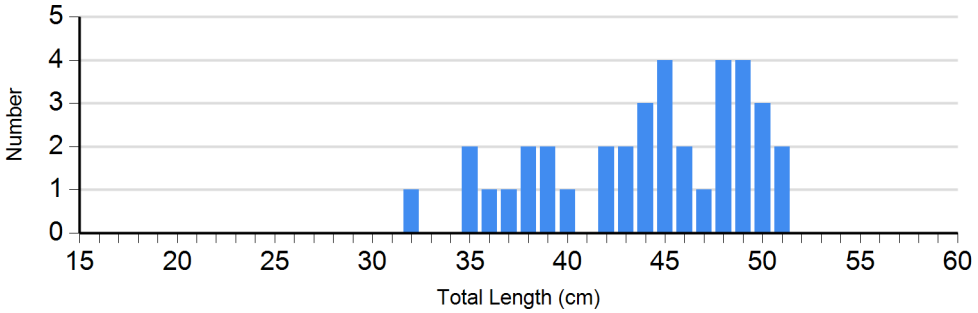
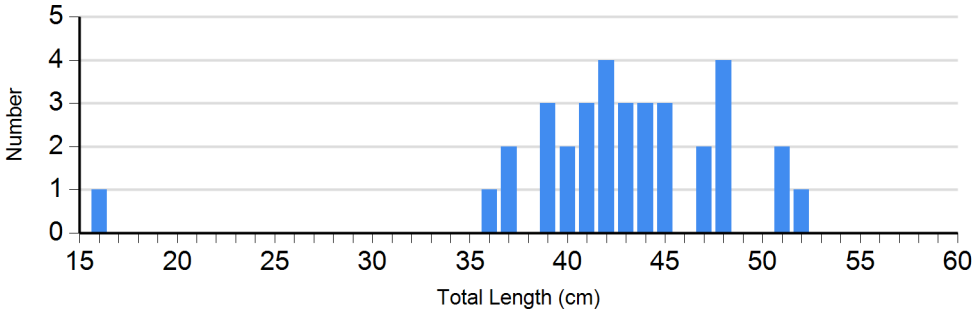


2024

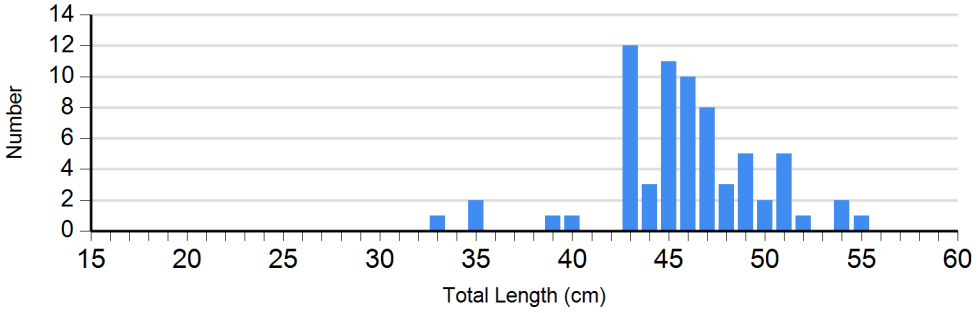
Species: White Sucker
Gear: AFS std gill net



2019



2021



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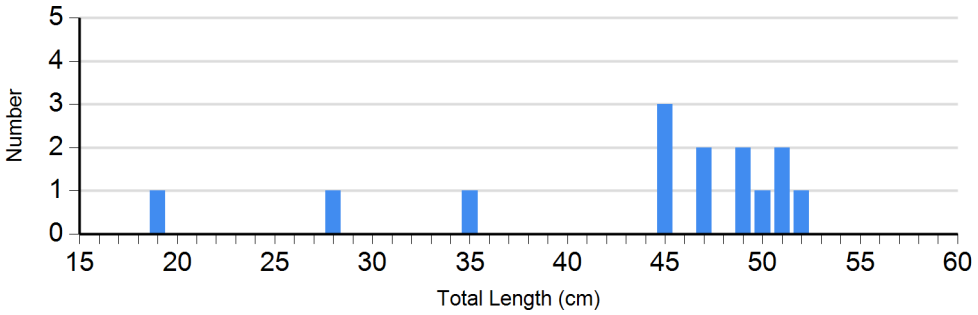
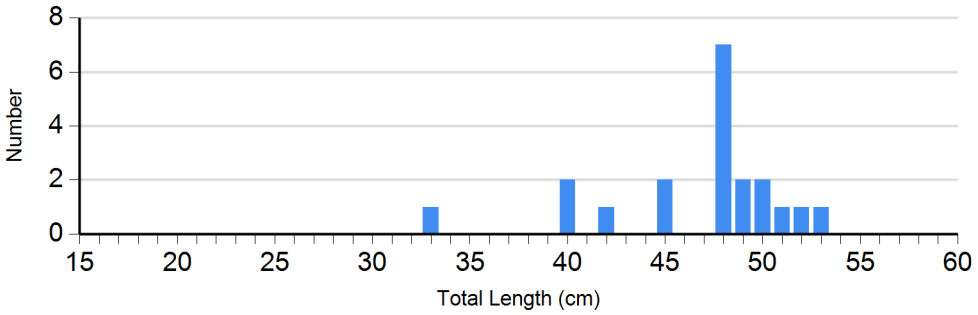
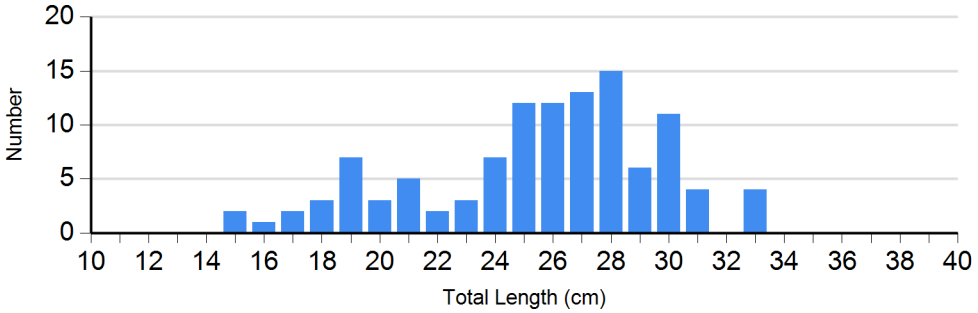


2023

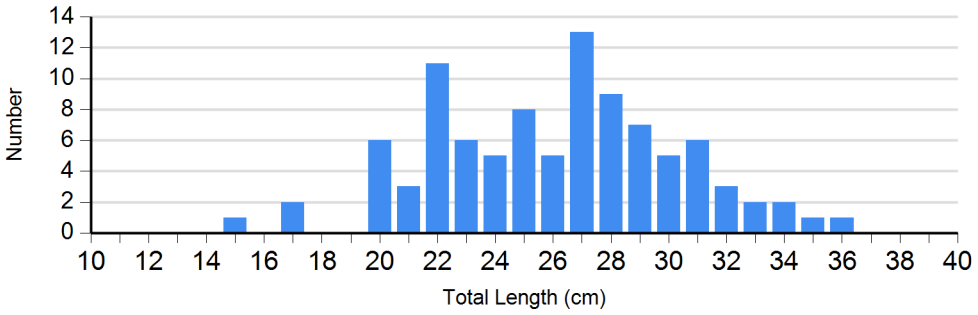


2024

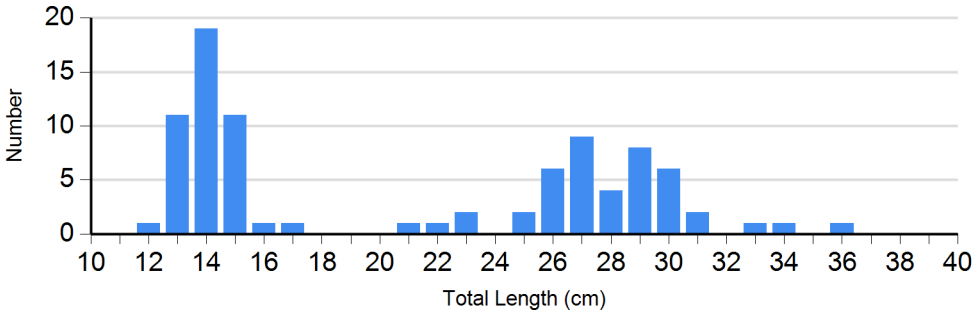
Species: Yellow Perch
Gear: AFS std gill net



2019



2021



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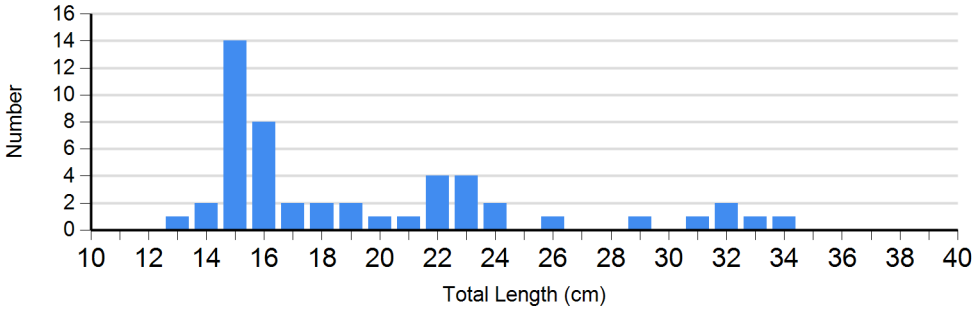
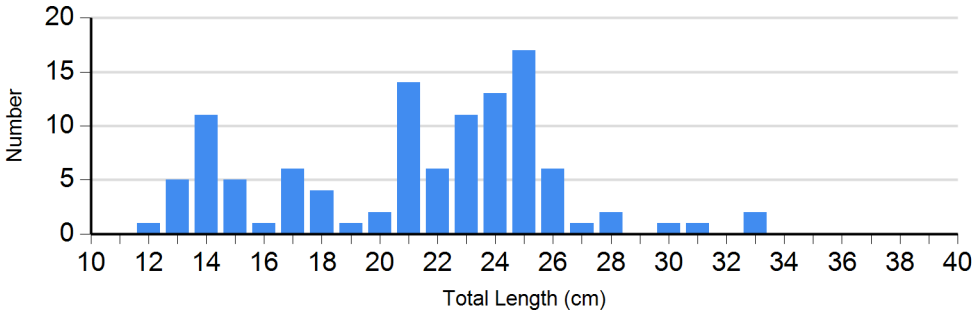


2023

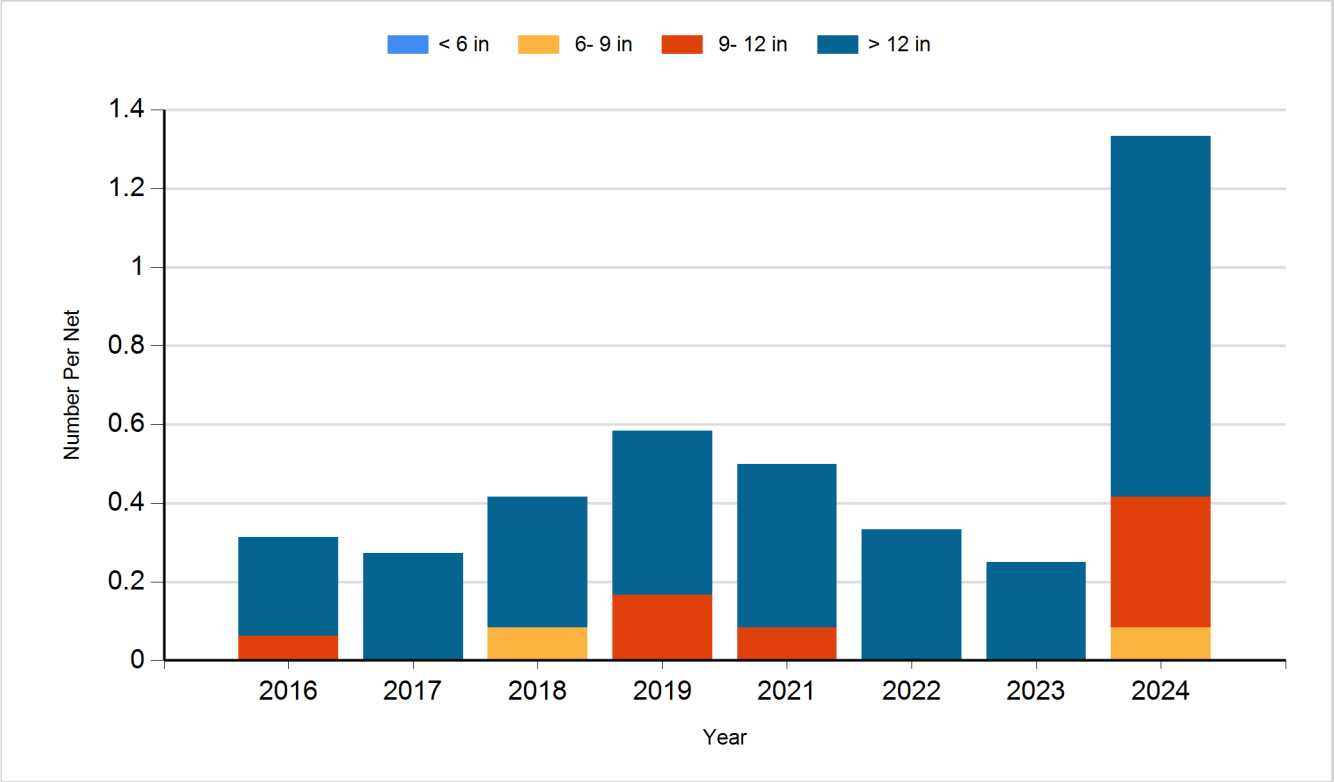


2024

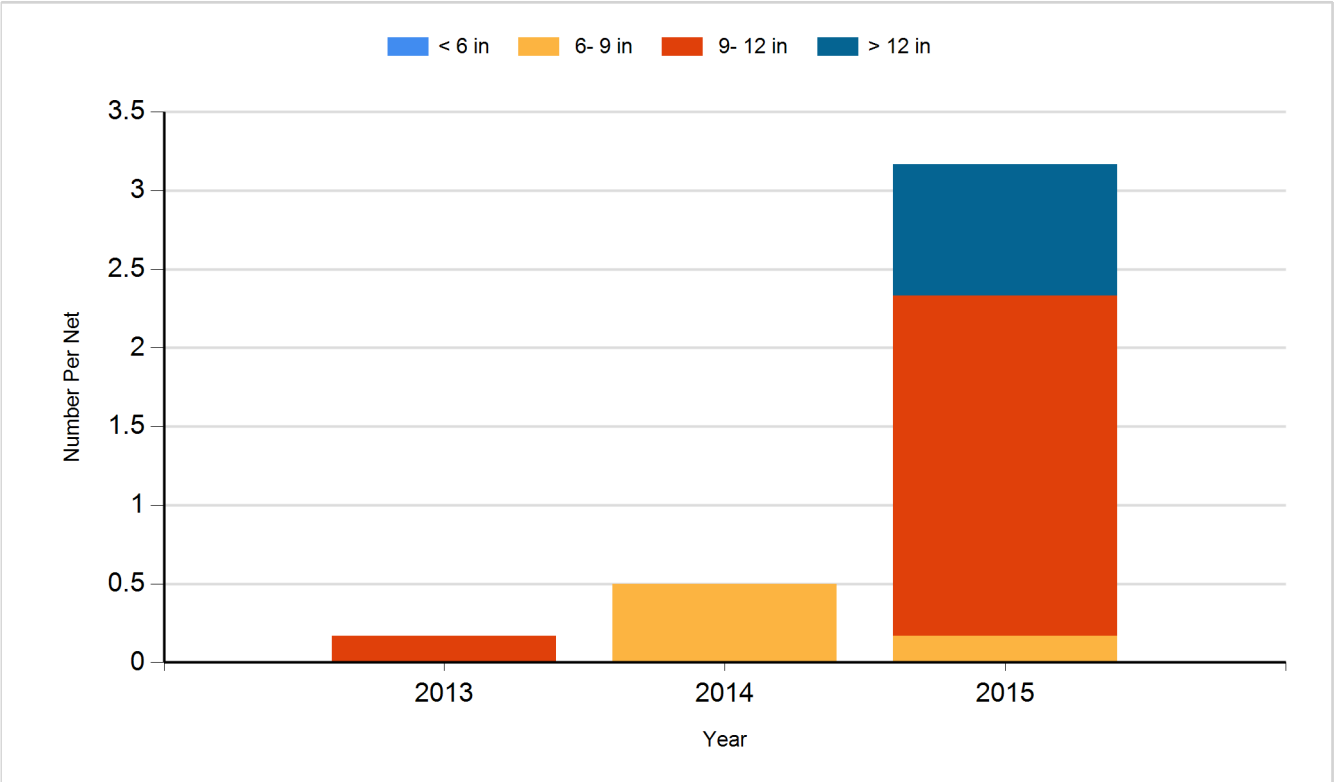
Historic Fish Sizes and Relative Abundance

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

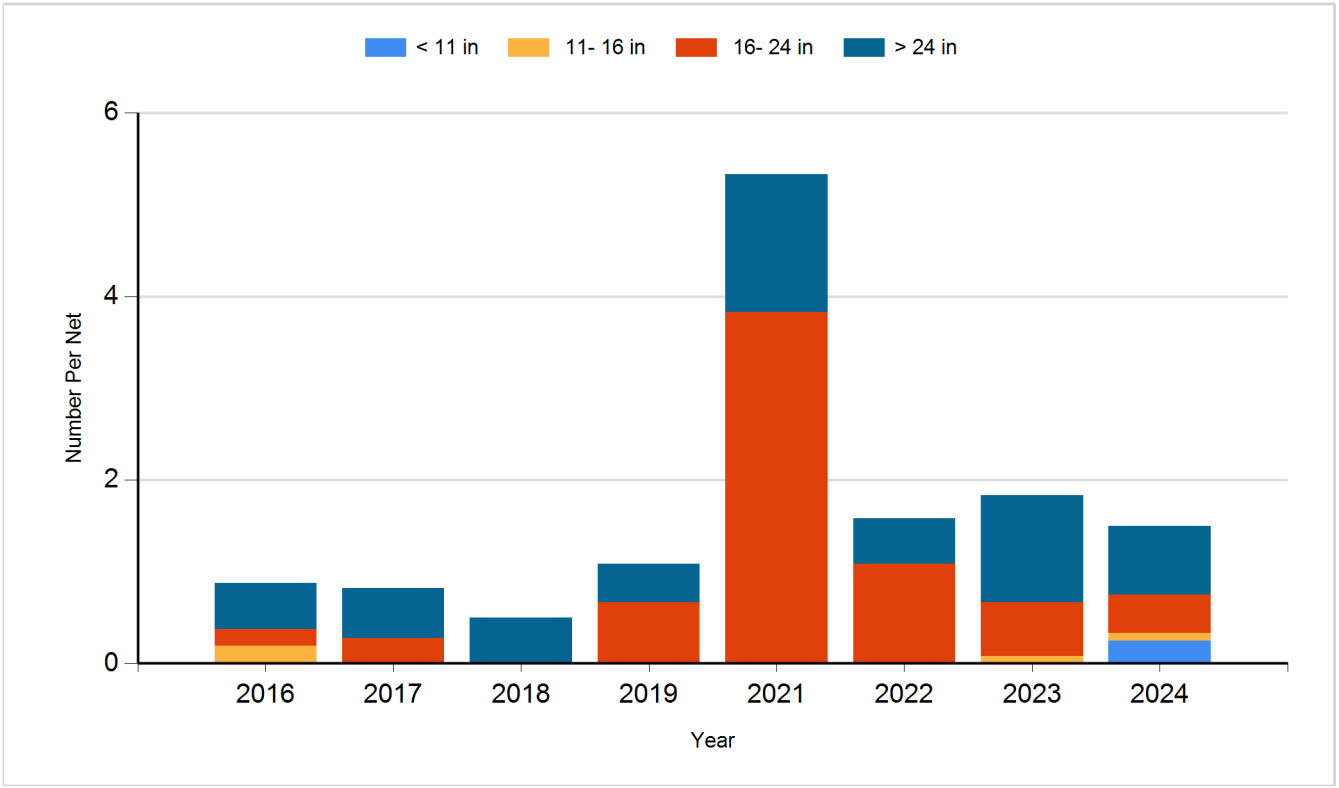
Species: Black Bullhead
Gear: AFS std gill net



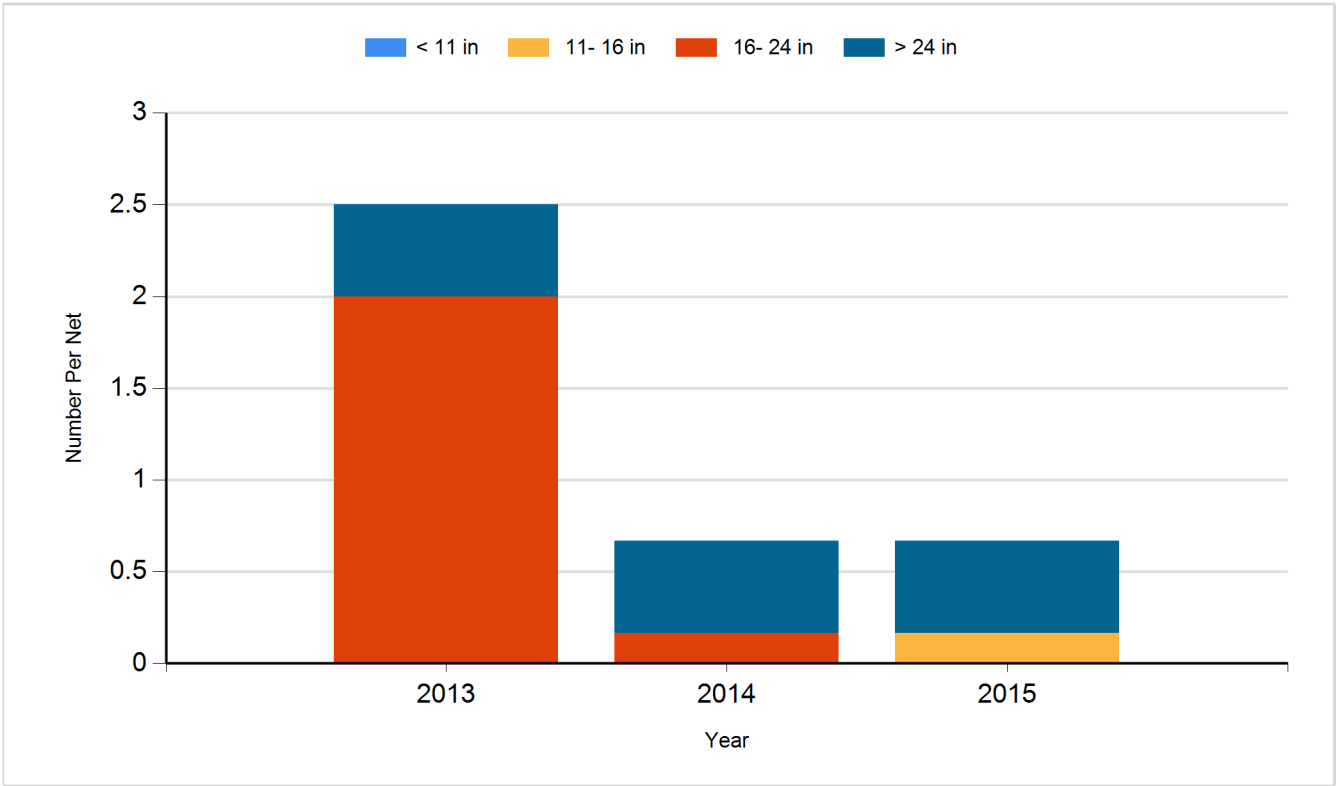
Species: Black Bullhead
Gear: std exp gill net



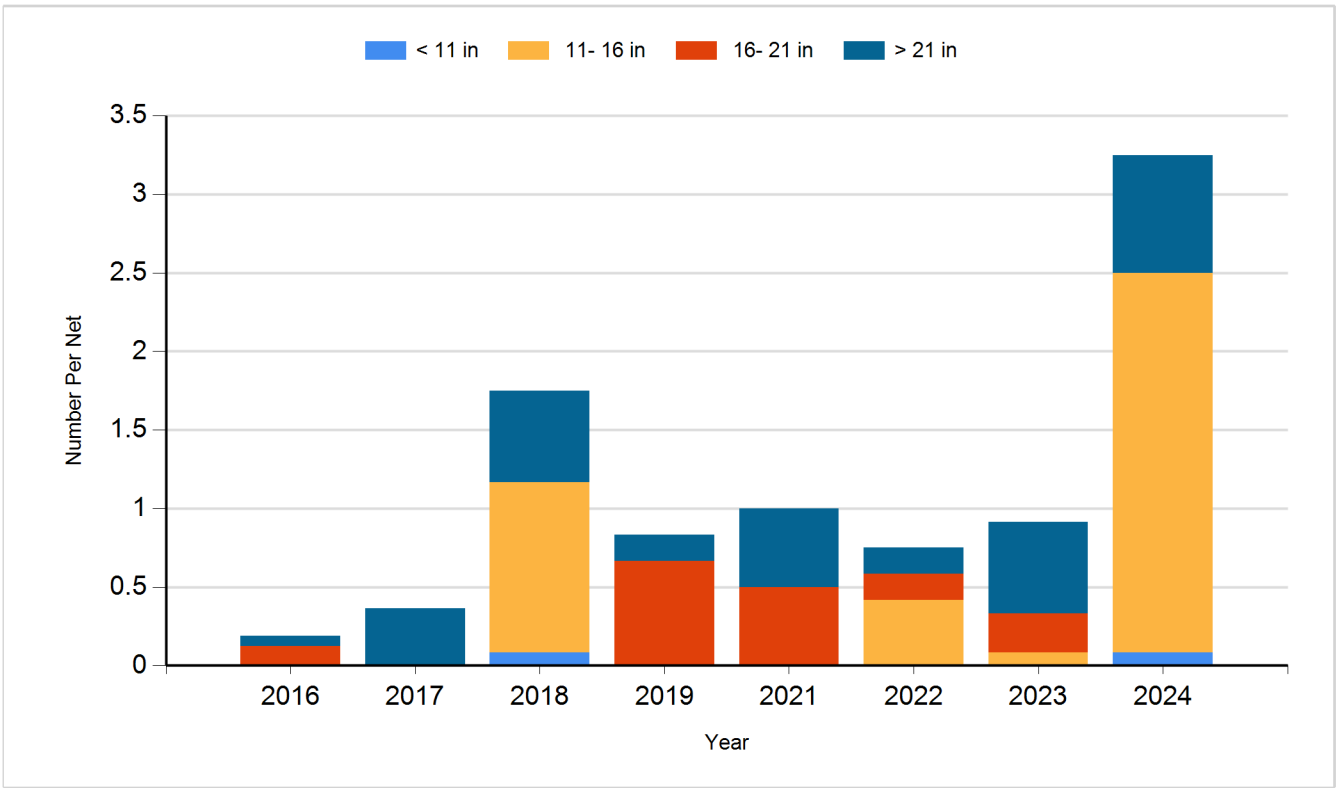
Species: Channel Catfish
Gear: AFS std gill net



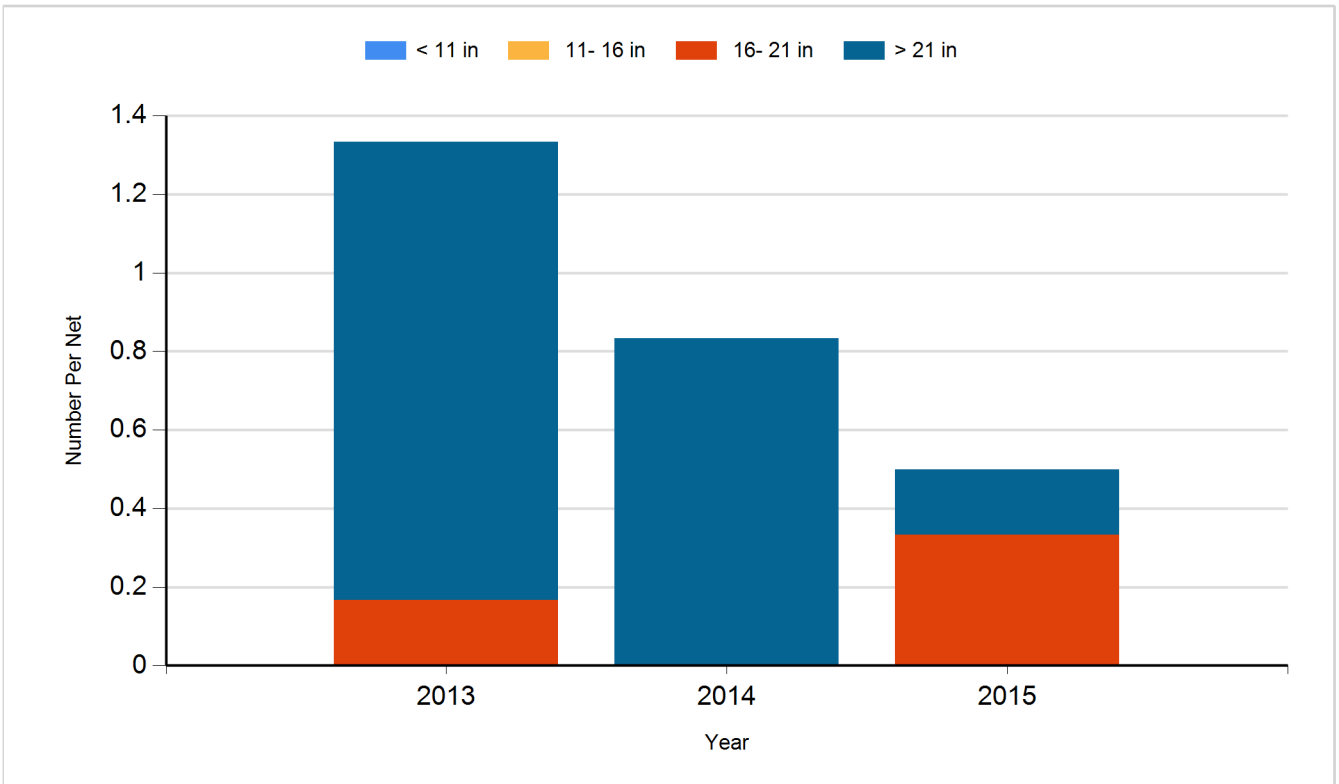
Species: Channel Catfish
Gear: std exp gill net



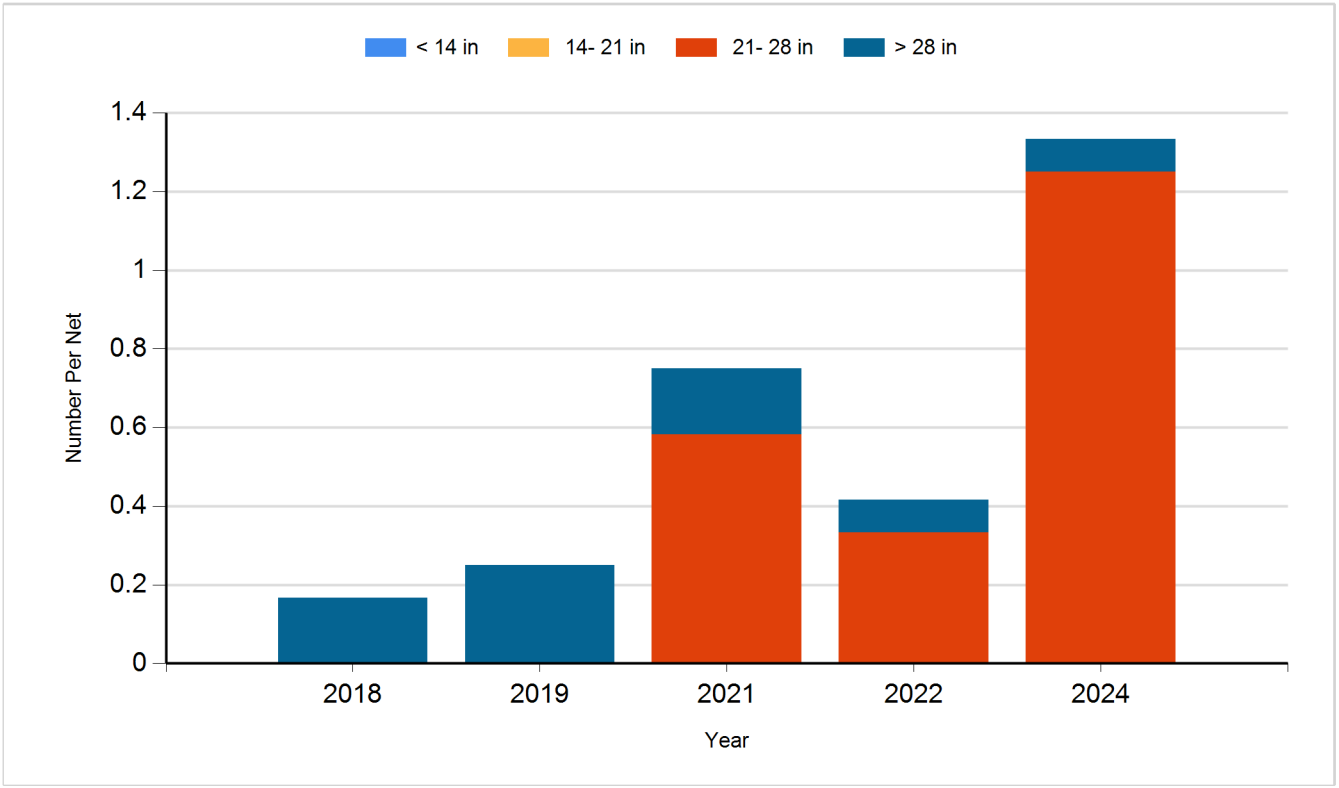
Species: Common Carp
Gear: AFS std gill net



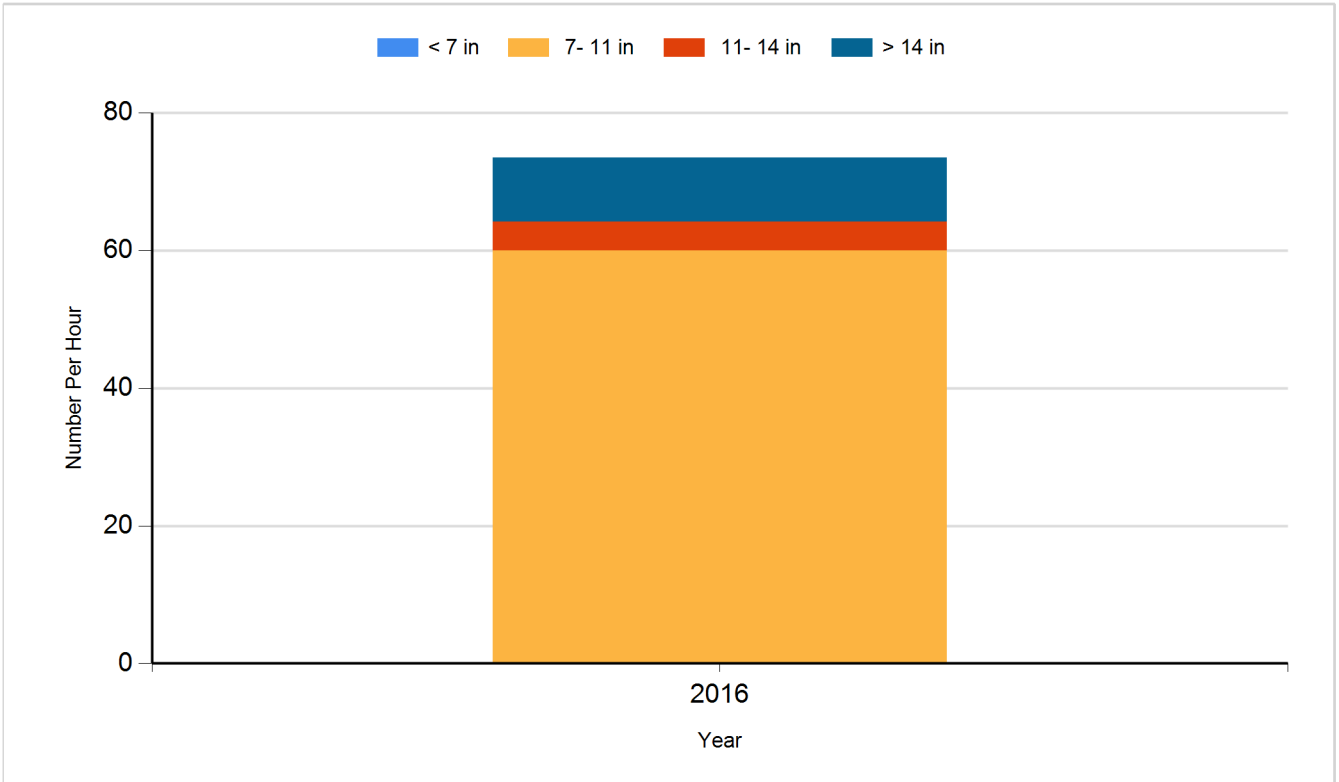
Species: Common Carp
Gear: std exp gill net



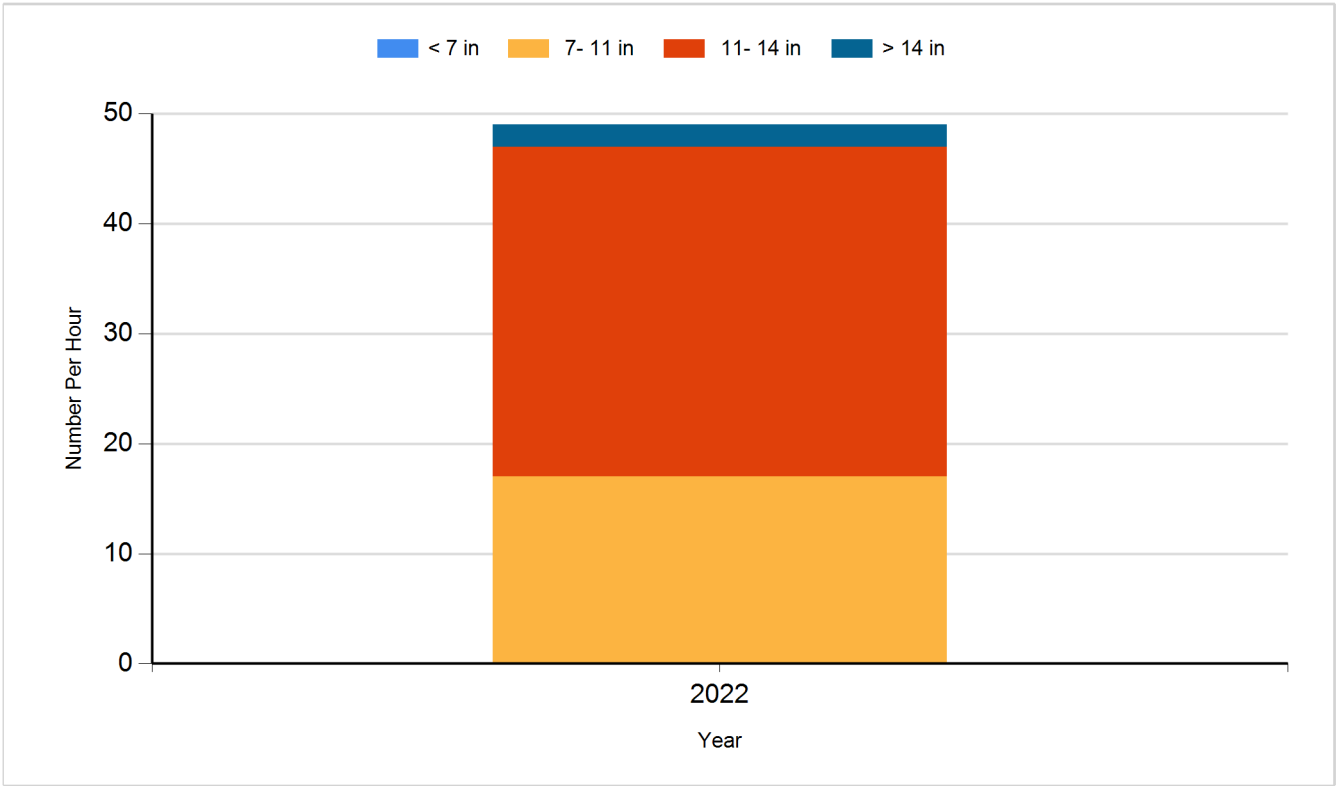
Species: Northern Pike
Gear: AFS std gill net



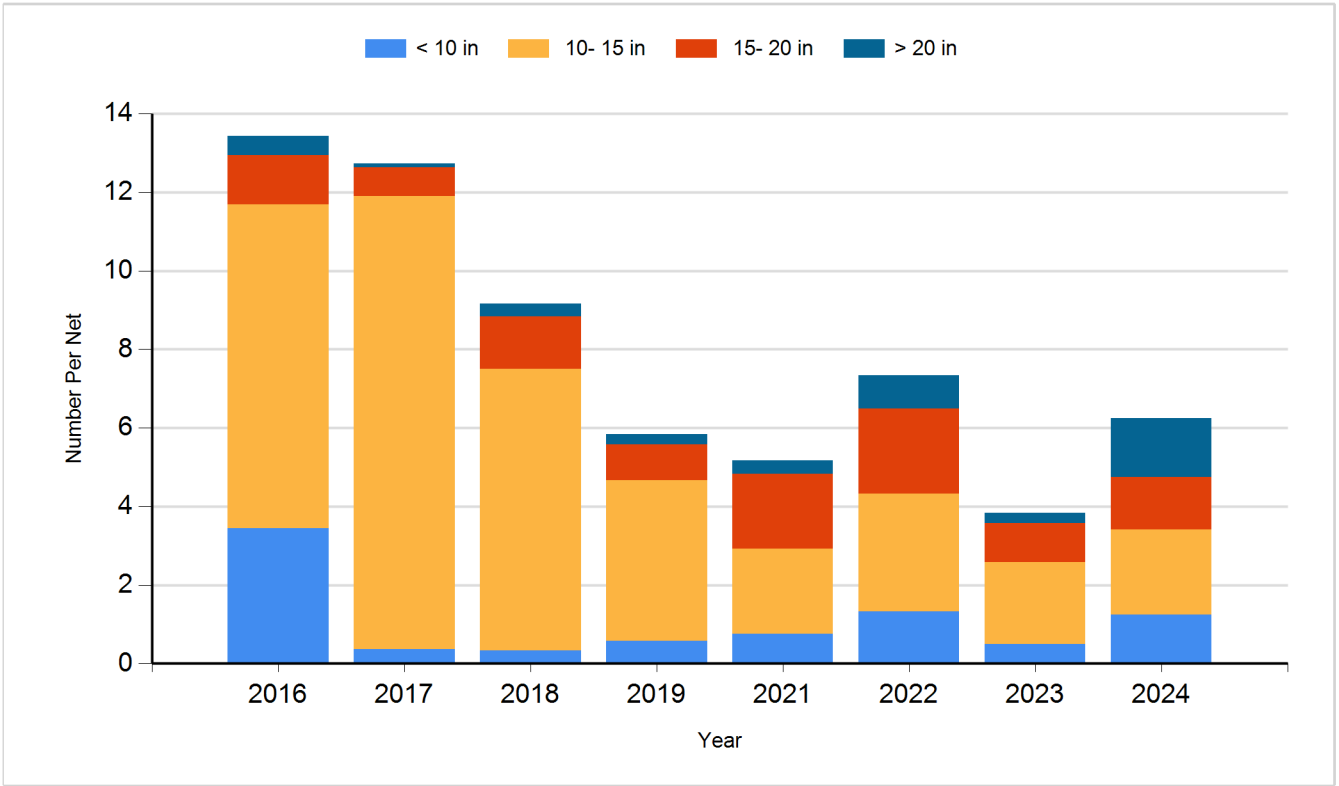
Species: Smallmouth Bass
Gear: boat shocker (night, DC)



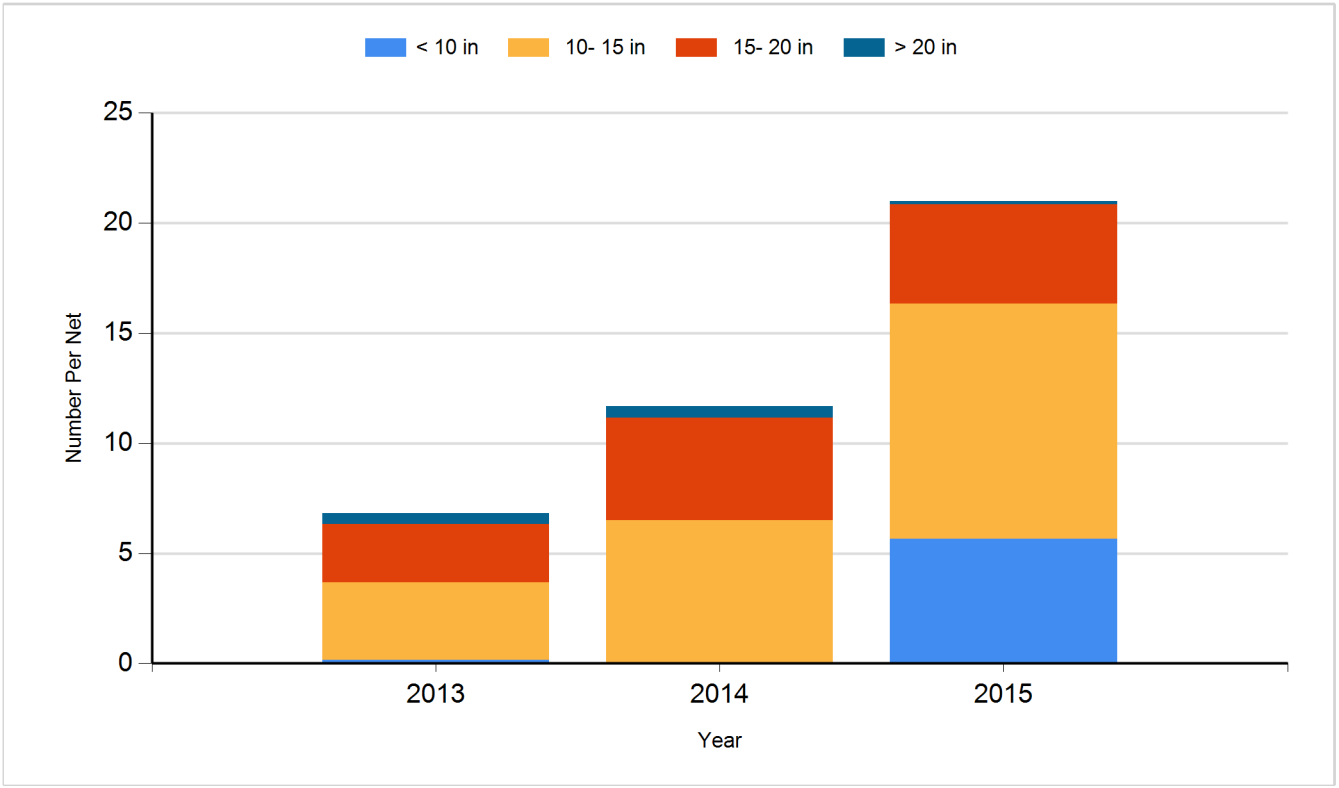
Species: Smallmouth Bass
Gear: spring day EF



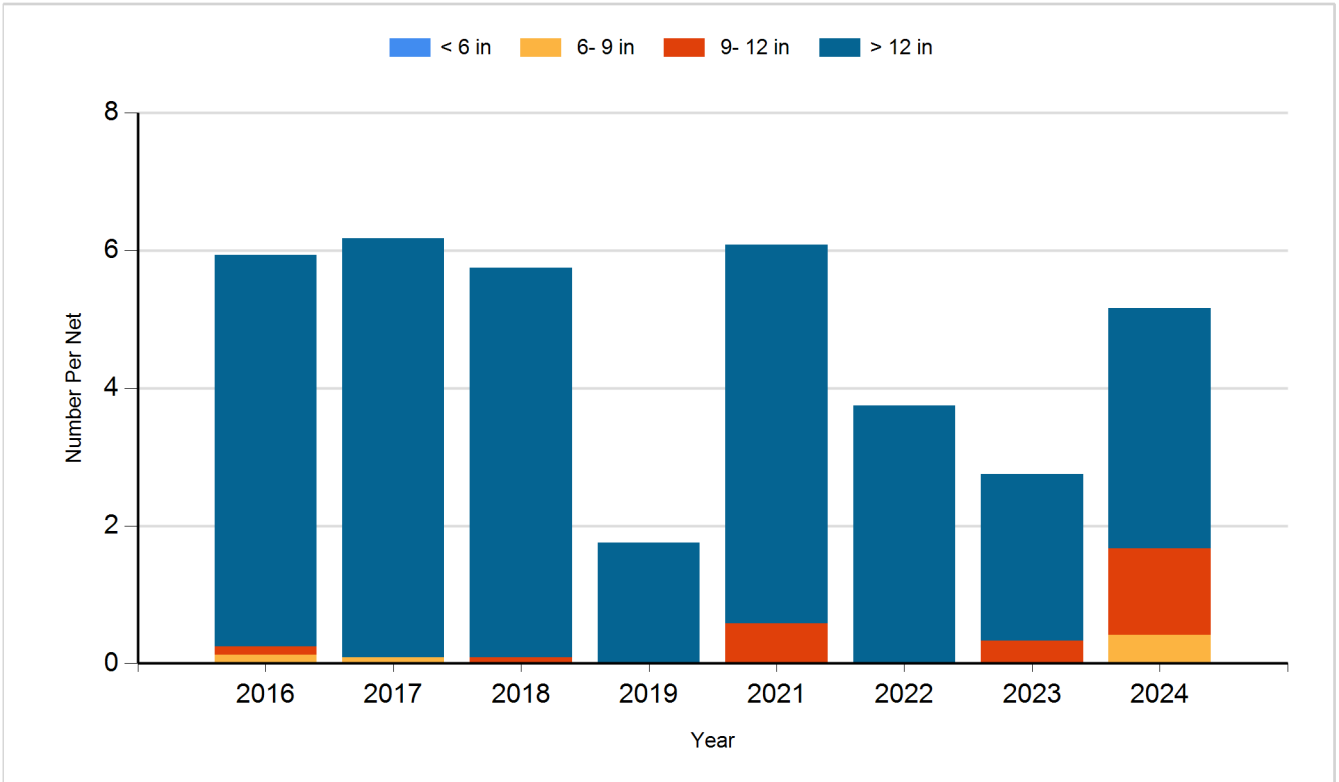
Species: Walleye
Gear: AFS std gill net



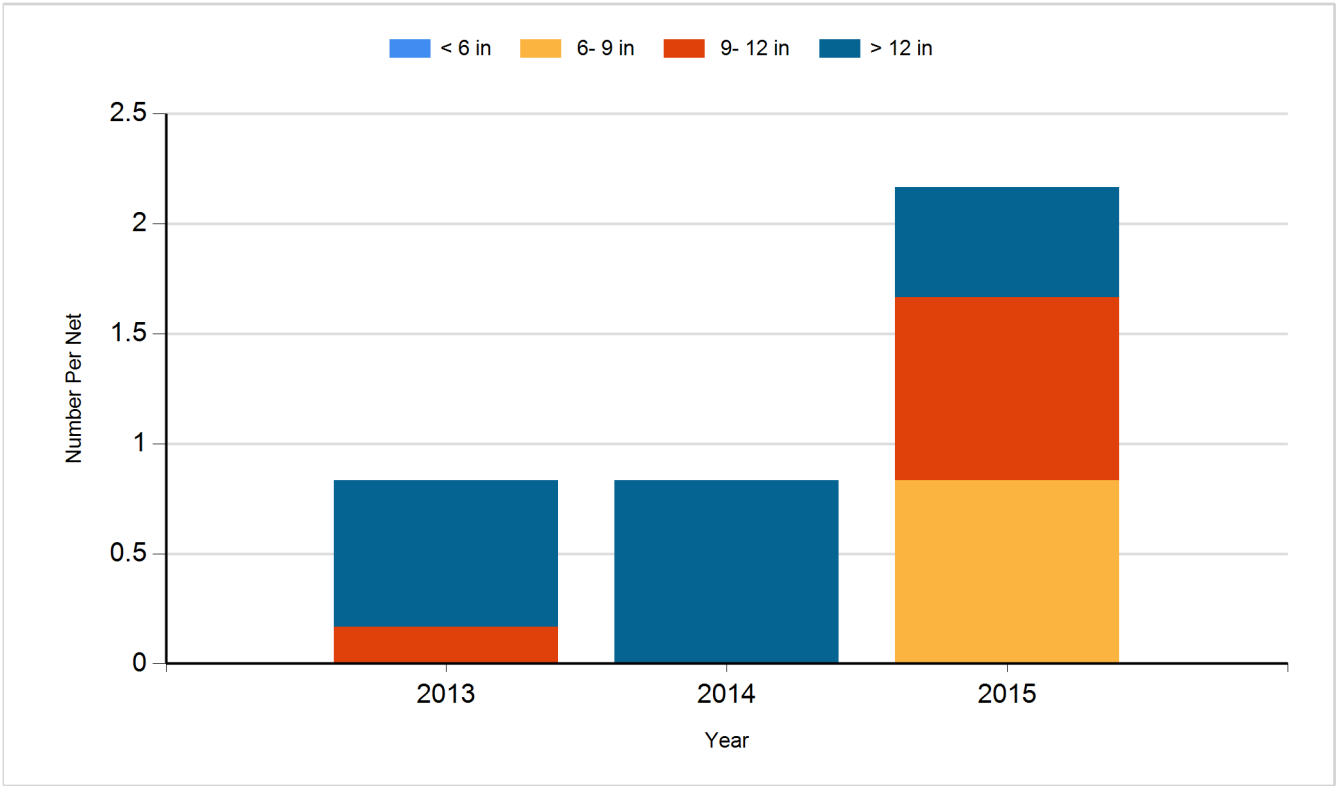
Species: Walleye
Gear: std exp gill net



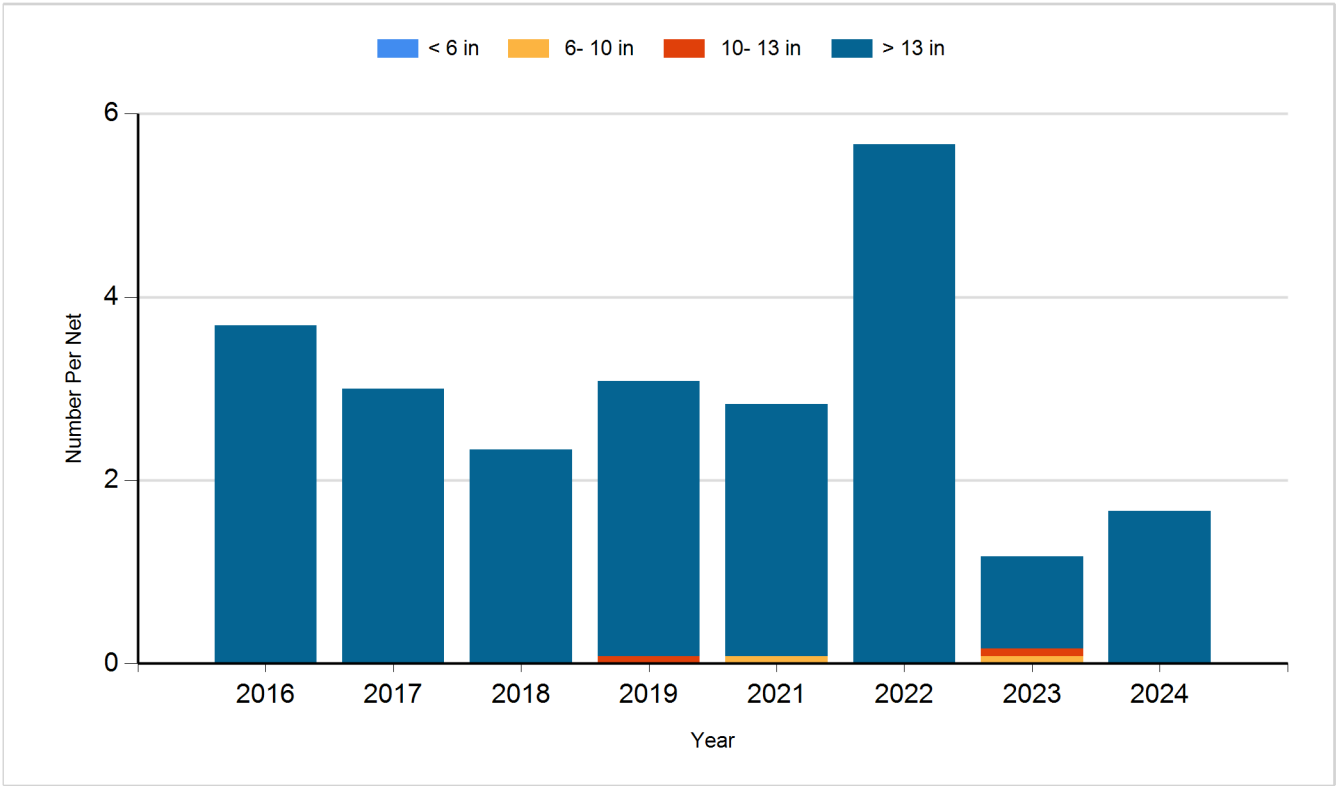
Species: White Bass
Gear: AFS std gill net



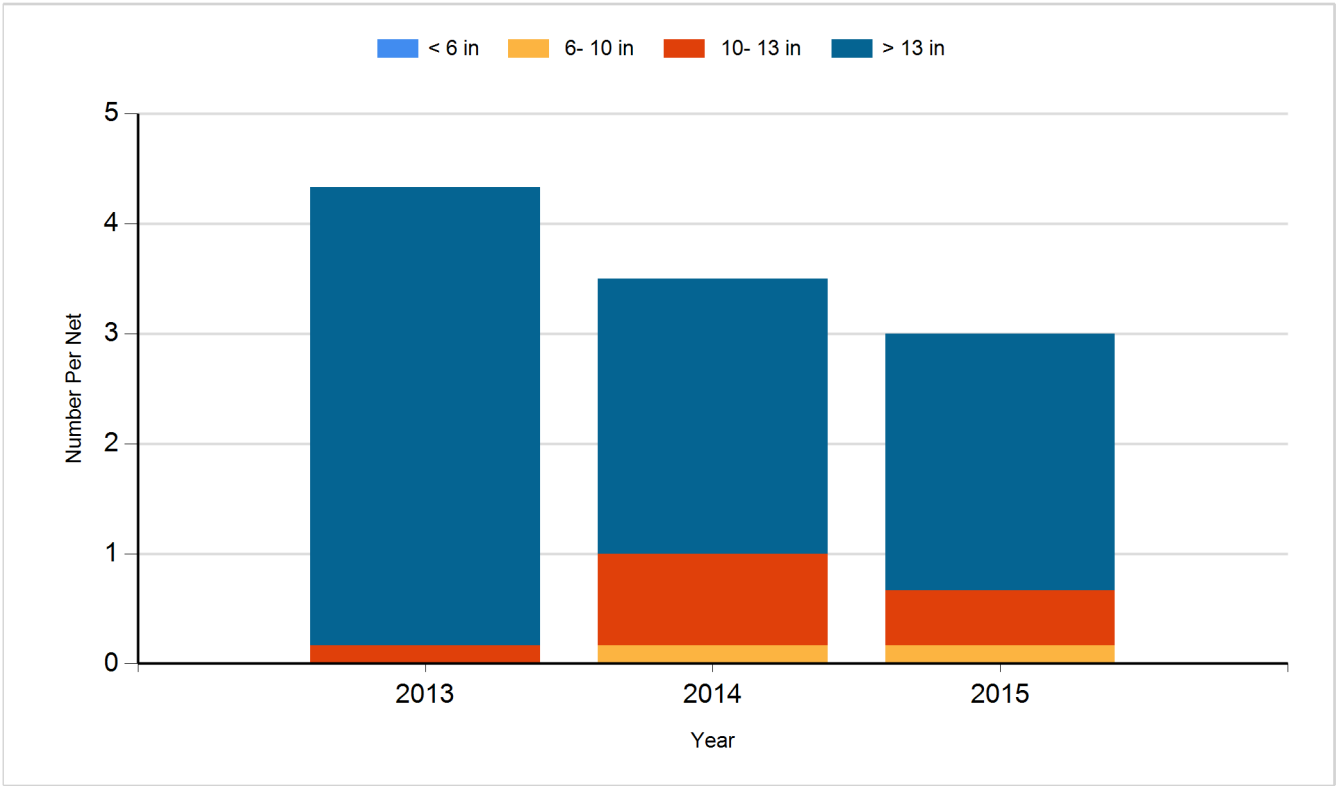
Species: White Bass
Gear: std exp gill net



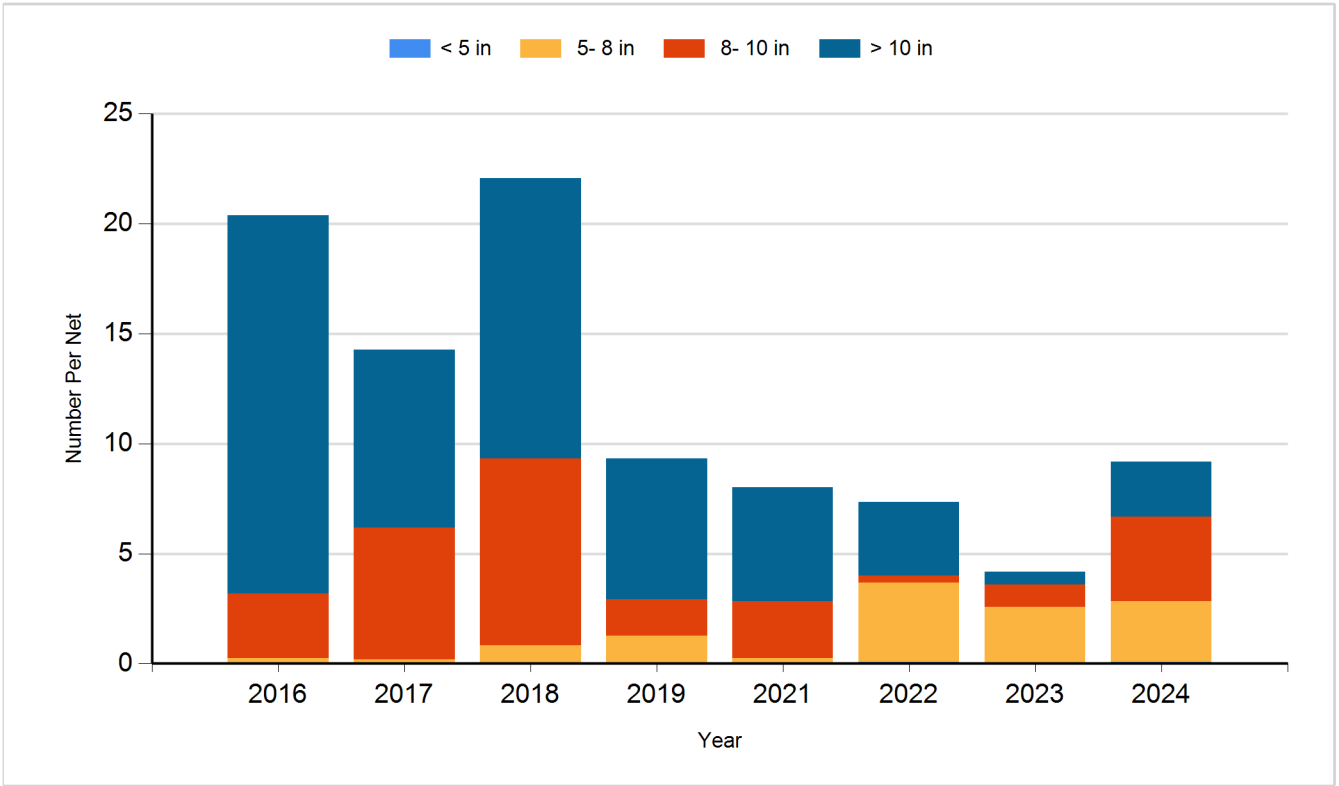
Species: White Sucker
Gear: AFS std gill net



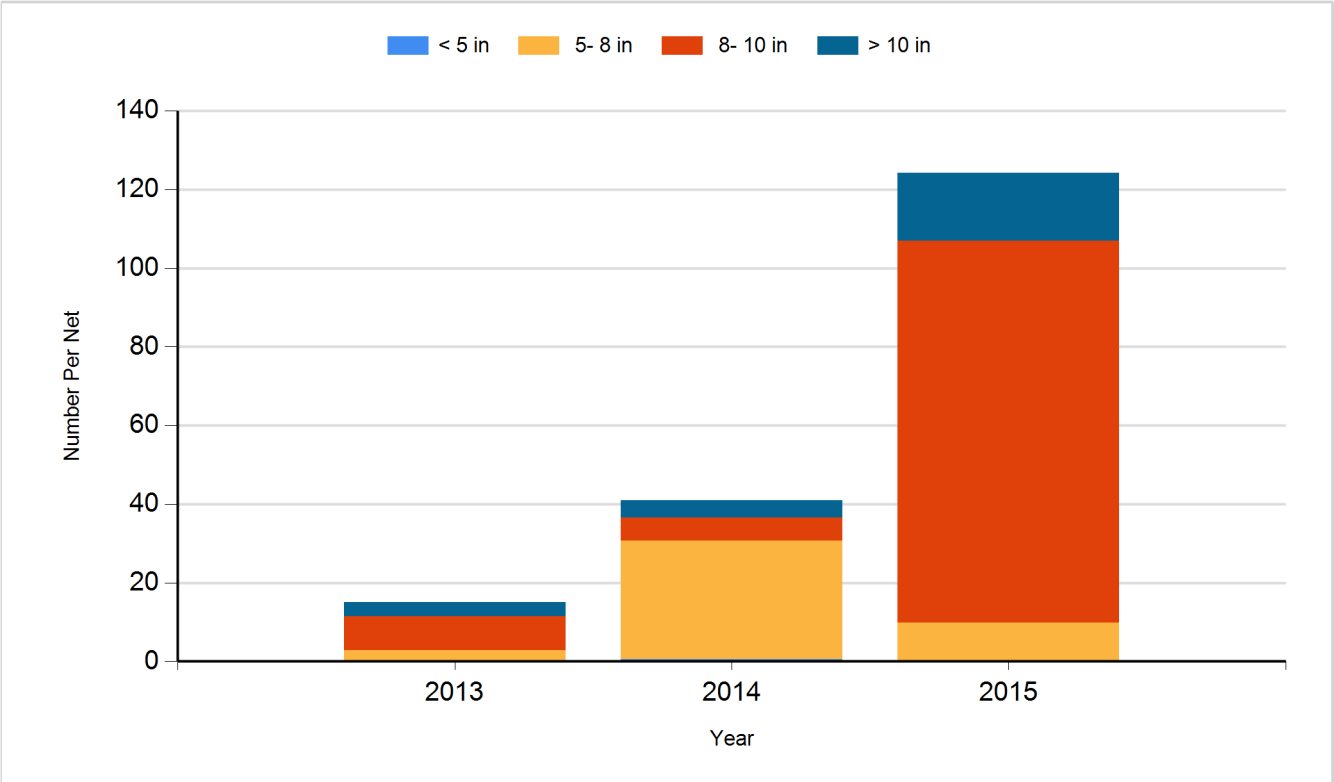
Species: White Sucker
Gear: std exp gill net



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