

2023 Lake Francis Case

Lake Francis Case is located in south-central South Dakota and is one of the four Missouri River reservoirs in South Dakota. The reservoir extends from Fort Thompson, SD to Pickstown, SD and has a surface area of 32,000ha. Lake Francis Case has a maximum depth of 139.8 feet with a mean depth of 49.9 feet. The bottom consists of sand, gravel, shale, and silt. Lake Francis Case has various access locations consisting of six state parks, four recreations areas, 23 boat ramps often with fish cleaning stations and 42 shore fishing accesses. Walleye is the most sought-after species, but anglers can also expect good populations of Channel Catfish, Sauger and Smallmouth Bass. In 2023, anglers spent an estimated 426,232 hours fishing Lake Francis Case and caught an estimated 446,803 walleye of which an estimated 165,252 were harvested. Sampling occurs yearly, consisting of spring electrofishing for Smallmouth Bass, fall gillnets targeting Walleye and other fish species and fall electrofishing targeting Age-0 Walleye and Sauger.

- **Walleye:** The catch rate of Walleye in 2023 was 2.4 fish per gillnet. Of the Walleye sampled, 66% were 15 inches or longer and 2% were 20 inches or longer. Walleye have a relative weight (Wr) of 81*.
- **Channel Catfish:** The catch rate of Channel Catfish in 2023 was 4.5 fish per gillnet. Of the Channel Catfish sampled, 76% were 16 inches or longer and 10% were 24 inches or longer. Channel Catfish have a relative weight (Wr) of 77*.
- **Smallmouth Bass:** The catch rate of Smallmouth Bass in 2023 was 69.9 fish per hour of electrofishing. Of the Smallmouth Bass sampled, 59% were 11 inches or longer and 24% were 14 inches or longer. Smallmouth Bass have a relative weight (Wr) of 93*.

* 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.

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Francis Case, Charles Mix County
FTR-Lake-6327-000
2023

Lake Information

Name: Francis Case
County: Charles Mix
Surface Area: 88,007 Acres

Surveys and Investigations

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

Gear	Date	Effort
AFS gill net (1/2 inch)	Sep 05, 2023	21 net-nights
AFS gill net (1/2 inch)	Sep 07, 2023	18 net-nights
AFS gill net (1/2 inch)	Sep 11, 2023	19 net-nights
AFS gill net (1/2 inch)	Sep 13, 2023	17 net-nights
AFS std gill net	Sep 05, 2023	21 net-nights
AFS std gill net	Sep 07, 2023	18 net-nights
AFS std gill net	Sep 11, 2023	19 net-nights
AFS std gill net	Sep 13, 2023	17 net-nights
boat shocker (night)	Jun 05, 2023	2700 seconds
boat shocker (night)	Jun 06, 2023	2700 seconds
boat shocker (night)	Jun 07, 2023	2700 seconds
boat shocker (night)	May 30, 2023	2700 seconds
boat shocker (night)	May 31, 2023	2700 seconds
fall night EF-WAE	Oct 23, 2023	3600 seconds
fall night EF-WAE	Oct 24, 2023	3600 seconds
fall night EF-WAE	Oct 25, 2023	4200 seconds
large seine	Jul 17, 2023	28 hauls

Common Fish Species Present

Walleye

Smallmouth Bass

Sauger

Channel Catfish

Common Carp

Freshwater Drum

Yellow Perch

Gizzard Shad

White Bass

River Carpsucker

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.
- **std 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.

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

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.

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

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

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.

$$Wr = \left(\frac{W}{W_s} \right) \times 100$$

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).

Species Name	Stock		Quality		Preferred		Memorable		Trophy	
	(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**

Gear	Species	Sample Size (n)	Abundance		Stock Density Indices			Condition		
			CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
AFS std gill net	Channel Catfish	338	4.5	0.4	76	3	10	2	77	1
	Common Carp	75	1.0	0.3	99		15	6	89	1
	Flathead Catfish	2	0.0	0.0	0		0		87	8
	Freshwater Drum	50	0.7	0.1	80	9	39	10	82	2
	Gizzard Shad	53	0.3	0.1	0				89	3
	Goldeye	34	0.0	0.0						
	River Carpsucker	9	0.1	0.1	100		89		107	3
	Sauger	70	0.9	0.2	80	7	42	9	79	2
	Shorthead Redhorse	9	0.1	0.1	100		100		95	2
	Shortnose Gar	6	0.0	0.0						
	Shovelnose Sturgeon	6	0.0	0.0						
	Smallmouth Bass	32	0.4	0.2	84	10	28	12	105	2
	Smallmouth Buffalo	7	0.1	0.1	100		86		73	3
	Walleye	181	2.4	0.4	66	5	2		81	1
	White Bass	18	0.2	0.1	94		89		103	2
Yellow Perch	46	0.6	0.4	7		0		88	1	
boat shocker (night)	Smallmouth Bass	292	69.9	7.9	59	3	24	3	93	1
large seine*	Walleye	36	1.3	1.1						

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

Gear	Species	CPUE										Avg	
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
AFS gill net (1/2 inch)*	Bigmouth Buffalo				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Black Crappie				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Channel Catfish				0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.07
	Common Carp				0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.07
	Emerald Shiner				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Freshwater Drum				0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.2	0.23
	Gizzard Shad				1.2	0.4	1.6	2.6	0.5	0.3	0.0	0.0	0.94
	Goldeye				0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.07
	Goldfish				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Lake Herring				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Northern Pike				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Sand Shiner				0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.01
	Sauger				0.2	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.17
	Shorthead Redhorse				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Shortnose Gar				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Shovelnose Sturgeon				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Silverband Shiner				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Smallmouth Bass				0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.01
	Spottail Shiner				0.1	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.07
	Walleye				0.8	1.3	0.5	0.8	0.6	0.3	0.1	0.1	0.63
White Bass				0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.04	
White Crappie				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
Yellow Perch				0.1	0.5	1.0	0.4	0.2	0.1	0.1	0.2	0.36	
AFS std gill net	Bigmouth Buffalo				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Black Bullhead				0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.06
	Black Crappie				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Bluegill				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Channel Catfish				3.7	3.1	4.2	3.9	4.1	4.0	4.5	4.5	3.93
	Common Carp				1.1	0.8	0.5	0.7	1.2	1.2	1.0	1.0	0.93
	Flathead Catfish				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Freshwater Drum				1.4	1.1	1.4	0.6	0.7	0.6	0.6	0.7	0.93
	Gizzard Shad				0.8	0.1	0.2	0.0	0.0	0.0	0.0	0.3	0.20
	Goldeye				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Lake Herring				0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.01	

Gear	Species	CPUE										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
AFS std gill net	Largemouth Bass				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Northern Pike				0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.01
	Paddlefish				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	River Carpsucker				0.1	0.2	0.1	0.3	0.3	0.2	0.1	0.19
	Sauger				1.7	1.4	1.1	1.4	1.4	0.9	0.9	1.26
	Saugeye				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Shorthead Redhorse				0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.10
	Shortnose Gar				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Shovelnose Sturgeon				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
	Smallmouth Bass				1.2	0.4	0.9	1.8	0.9	0.6	0.4	0.89
	Smallmouth Buffalo				0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.13
	Walleye				4.3	3.6	5.4	8.0	5.1	4.7	2.4	4.79
	White Bass				1.4	0.6	0.4	0.8	0.3	0.7	0.2	0.63
	White Crappie				0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.01
Yellow Perch				0.4	0.2	0.7	0.7	0.3	0.3	0.6	0.46	
boat shocker (night)	Smallmouth Bass	86.0	68.9	118.4	109.9	89.9	79.0	152.8	138.4	130.9	69.9	104.4 1
fall night EF-WAE*	Sauger					34.2	7.0	0.0	14.2	15.0	26.2	16.10
	Walleye					117.1	97.3	130.7	145.0	159.7	261.5	151.8 8
large seine*	Sauger	0.2	0.3	0.1	0.1	0.4	0.0	0.1	0.1	0.1	0.0	0.14
	Walleye	2.4	0.3	0.8	1.4	0.6	4.4	1.2	2.1	1.2	1.3	1.57
std exp gill net	Bigmouth Buffalo	0.1	0.0	0.0								0.03
	Black Crappie	0.0	0.0	0.0								0.00
	Bluegill	0.0	0.0	0.0								0.00
	Channel Catfish	3.2	4.7	5.3								4.40
	Common Carp	1.0	1.8	2.0								1.60
	Freshwater Drum	0.4	0.2	0.3								0.30
	Gizzard Shad	0.0	0.3	4.4								1.57
	Goldeye	0.0	0.0	0.0								0.00
	Lake Herring	0.0	0.0	0.0								0.00
	Northern Pike	0.0	0.1	0.0								0.03
	River Carpsucker	0.1	0.1	0.1								0.10
	Sauger	5.4	3.7	4.1								4.40
	Shorthead Redhorse	0.2	0.3	0.2								0.23
	Shortnose Gar	0.0	0.0	0.0								0.00
	Shovelnose Sturgeon	0.0	0.0	0.0								0.00
Smallmouth Bass	0.2	1.0	0.1								0.43	

CPUE

Gear	Species	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Avg
std exp gill net	Smallmouth Buffalo	0.1	0.1	0.1								0.10
	Spottail Shiner	0.0	0.0	0.0								0.00
	Walleye	6.2	3.9	5.0								5.03
	Western Silvery Minnow	0.0	0.0	0.0								0.00
	White Bass	0.1	0.2	0.8								0.37
	White Crappie	0.0	0.0	0.1								0.03
	Yellow Perch	0.8	0.9	1.2								0.97

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.

Gear	Species	Index	Year									
			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AFS std gill net	Channel Catfish	PSD				59	60	55	67	77	67	76
		PSD-P				5	7	6	9	10	10	10
		Wr				80	81	89	82	80	76	77
	Common Carp	PSD				60	92	88	55	58	91	99
		PSD-P				3	5	7	5	5	5	15
		Wr				83	83	84	85	87	87	89
	Gizzard Shad	PSD				99	100	100	0	0	50	0
		Wr				96	100	108	68		33	89
	River Carpsucker	PSD				89	100	100	95	100	100	100
		PSD-P				89	94	89	90	65	71	89
		Wr				96	100	106	106	100	98	107
	Sauger	PSD				86	74	65	83	73	82	80
		PSD-P				49	36	24	43	30	41	42
		Wr				77	78	86	86	77	76	79
	Smallmouth Bass	PSD				70	73	76	86	85	79	84
		PSD-P				18	33	33	37	38	40	28
		Wr				104	106	107	104	104	104	105
	Walleye	PSD				63	38	47	53	48	50	66
		PSD-P				5	3	4	2	3	3	2
		Wr				81	83	91	86	83	81	81
	White Bass	PSD				99	88	100	100	100	96	94
PSD-P					80	86	78	78	81	96	89	
Wr					97	100	106	101	98	98	103	
Yellow Perch	PSD				51	17	28	38	19	53	7	
	PSD-P				3	0	2	2	5	11	0	
	Wr				83	90	85	83	89	91	88	
boat shocker (night)	Smallmouth Bass	PSD	41	37	46	45	59	58	53	47	62	59
		PSD-P	12	12	16	14	18	35	18	16	18	24
		Wr	91	92	97	91	94	96	100	93	93	93
std exp gill net	Channel Catfish	PSD	43	46	52							
		PSD-P	3	2	3							
		Wr	81	79	83							

Gear	Species	Index	Year									
			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
std exp gill net	Common Carp	PSD	97	86	68							
		PSD-P	3	2	6							
		Wr	84	83	84							
	Gizzard Shad	PSD	0	88	32							
		Wr		94	89							
		PSD	100	50	100							
	River Carpsucker	PSD-P	67	50	33							
		Wr	68	101	95							
		PSD	73	74	78							
	Sauger	PSD-P	19	32	29							
		Wr	76	76	80							
		PSD	29	62	67							
	Smallmouth Bass	PSD-P	0	12	0							
		Wr	109	100	110							
		PSD	33	60	46							
	Walleye	PSD-P	2	9	4							
		Wr	84	84	86							
		PSD	100	100	50							
	White Bass	PSD-P	100	100	27							
		Wr	103	97	107							
		PSD	22	8	21							
	Yellow Perch	PSD-P	0	0	3							
		Wr	84	79	80							

Back-Calculated Lengths

Mean species back-calculated total length (mm) at age, standard error (SE), and sample size (N).

Species: Smallmouth Bass

Year Class	Age	N	Mean back-calculated length (SE) at age																	
			1	2	3	4	5	6	7	8	9	10								
2022	1	26	109 (3.4)																	
2021	2	57	101 (2.1)	185 (2.7)																
2020	3	65	97 (1.9)	175 (3.7)	246 (3.6)															
2019	4	64	92 (1.8)	170 (3.4)	252 (4.1)	307 (4)														
2018	5	41	92 (2.9)	166 (5.1)	247 (5.7)	310 (5.7)	350 (4.9)													
2017	6	9	91 (5.2)	150 (16)	222 (14.9)	277 (22.5)	344 (14.3)	373 (16.3)												
2016	7	1	73	142	221	258	306	349	383											
Weighted Mean		263	97	173	247	305	348	371	383											
Year Class	Age	N	11	12	13	14	15	16	17	18	19	20								
2022	1	26																		
2021	2	57																		
2020	3	65																		
2019	4	64																		
2018	5	41																		
2017	6	9																		
2016	7	1																		
Weighted Mean		263																		

Length at Capture

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

Species: Channel Catfish

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
2022	312		262 (3)	297 (27)	313 (37)	361 (16)	395 (21)	406 (29)	418 (13)	460 (32)	546 (132)
2016	152	100 (1)	226 (5)	302 (12)	324 (7)	351 (14)	395 (21)	416 (26)	425 (11)	487 (12)	535 (41)

Species: Sauger

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
2023	69	261 (16)	348 (21)	390 (14)	432 (14)	413 (2)	412 (1)				
2022	71	272 (12)	341 (22)	391 (27)	428 (9)	383 (1)					
2021	105	269 (28)	355 (45)	404 (26)	448 (5)	454 (1)	401 (1)				
2020	110	292 (28)	374 (55)	421 (18)	408 (4)	457 (4)					473 (1)
2019	90	289 (44)	367 (33)	428 (9)	402 (1)	413 (2)			441 (1)		
2018	109	305 (39)	367 (29)	390 (19)	409 (14)	465 (4)		384 (3)		541 (1)	
2017	140	305 (41)	368 (40)	403 (42)	451 (8)	450 (6)	450 (2)	404 (2)			
2016	110	295 (37)	355 (38)	405 (13)	388 (9)	406 (10)	435 (2)	479 (1)			
2015	98	258 (25)	360 (33)	363 (5)	396 (26)	430 (4)	443 (4)				365 (1)
2014	177	261 (21)	293 (36)	350 (89)	390 (10)	400 (21)					

Species: Smallmouth Bass

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
2023	292	130 (26)	207 (57)	265 (73)	327 (75)	371 (48)	393 (10)	404 (2)			
2022	468	154 (11)	221 (87)	272 (161)	329 (150)	375 (50)	411 (6)	433 (2)			
2021	583	150 (22)	204 (169)	272 (217)	328 (123)	371 (44)	386 (9)	434 (1)	452 (1)		
2020	1119	133 (174)	203 (467)	293 (281)	336 (138)	386 (36)	399 (18)	411 (5)			
2019	323	167 (21)	219 (108)	303 (76)	365 (87)	402 (20)	438 (8)	461 (4)	459 (1)	543 (1)	
2018	378	127 (27)	218 (110)	297 (148)	341 (77)	382 (12)	389 (4)				
2017	490	129 (14)	213 (273)	301 (137)	360 (42)	392 (17)	443 (6)	425 (1)			

Mean Length (expanded sample number) at capture by age

Year	N	1	2	3	4	5	6	7	8	9	10+
2016	590	121 (66)	199 (253)	289 (176)	348 (58)	390 (17)	414 (15)	424 (3)	413 (1)	484 (1)	
2015	432	108 (84)	187 (210)	277 (63)	314 (44)	353 (22)	406 (8)	447 (1)			
2014	333	110 (43)	194 (98)	269 (104)	303 (71)	360 (14)	369 (2)				

Species: Walleye

Mean Length (expanded sample number) at capture by age

Year	N	1	2	3	4	5	6	7	8	9	10+
2023	181	269 (11)	335 (25)	383 (36)	415 (95)	480 (9)	492 (5)		505 (1)		
2022	358	256 (28)	337 (66)	384 (202)	415 (35)	445 (14)	469 (4)	495 (2)	508 (3)		681 (5)
2021	387	298 (36)	349 (175)	419 (122)	448 (33)	483 (10)	478 (4)	523 (3)		481 (1)	594 (4)
2020	662	290 (203)	381 (250)	419 (149)	447 (31)	443 (10)	512 (8)		475 (1)	584 (5)	579 (5)
2019	443	297 (158)	383 (197)	423 (47)	461 (8)	479 (11)	501 (2)	531 (3)	498 (4)	504 (6)	565 (6)
2018	299	297 (143)	377 (80)	407 (30)	423 (26)		576 (2)	468 (9)	534 (2)	492 (3)	521 (4)
2017	346	295 (76)	378 (83)	405 (91)	448 (6)	445 (13)	472 (37)	464 (16)	470 (15)	443 (1)	538 (4)
2016	142	273 (38)	353 (47)	411 (7)	450 (13)	463 (26)	488 (7)	467 (3)			446 (1)
2015	135	237 (46)	334 (9)	394 (13)	398 (37)	466 (7)	474 (6)	484 (3)	496 (3)		509 (11)
2014	208	255 (11)	316 (36)	353 (89)	392 (27)	405 (31)	441 (3)	482 (1)	519 (2)	509 (5)	505 (3)

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).

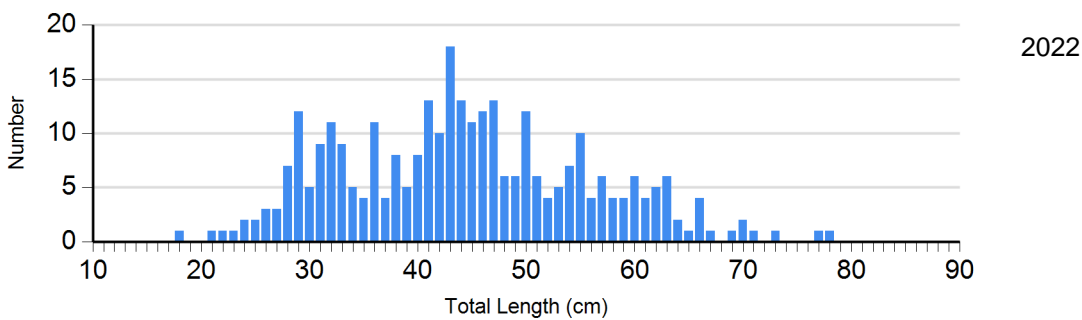
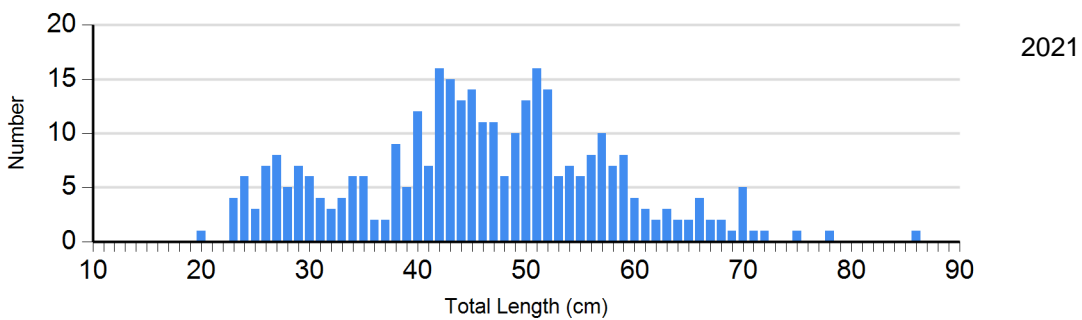
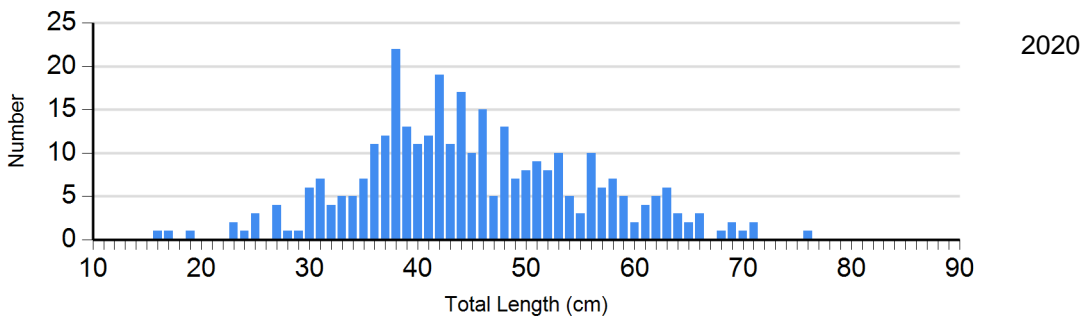
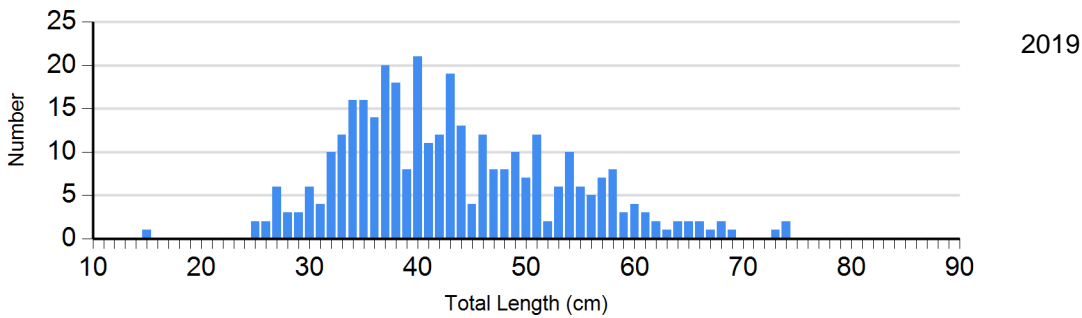
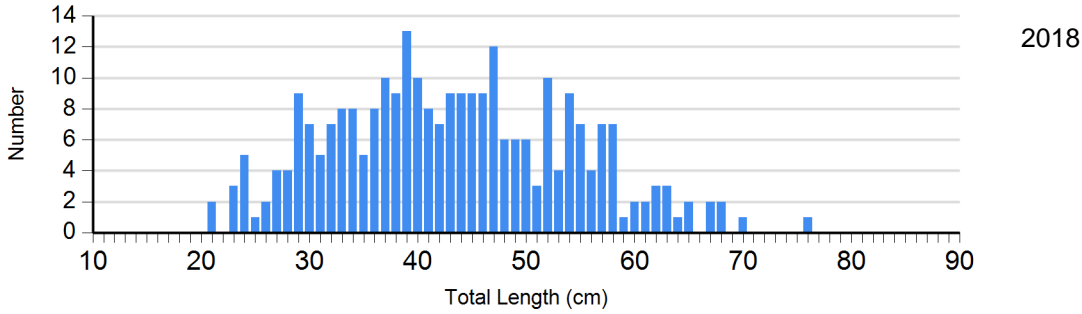
Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Channel Catfish Gill Net	2019	151	88 (0.7)	167	89 (0.7)	16	95 (3.1)	3	103 (6.0)
	2020	105	78 (0.9)	182	83 (0.8)	27	93 (2.6)	3	98 (3.8)
	2021	71	78 (1.1)	202	81 (0.6)	26	85 (2.3)	5	85 (5.9)
	2022	98	77 (0.9)	170	75 (0.6)	26	81 (1.6)	4	86 (4.7)
	2023	80	78 (0.6)	222	76 (0.5)	31	79 (2.0)	1	98
Common Carp Gill Net	2019	5	83 (2.1)	34	85 (1.5)	3	79 (3.7)	0	
	2020	25	86 (1.2)	27	86 (3.0)	3	83 (5.6)	0	
	2021	38	84 (1.2)	48	89 (1.1)	5	83 (3.1)	0	
	2022	8	86 (1.9)	78	87 (0.8)	5	96 (3.9)	0	
	2023	1	83	63	88 (1.1)	11	95 (2.4)	0	
Sauger Gill Net	2019	32	86 (2.7)	37	86 (1.0)	22	85 (1.4)	0	
	2020	19	77 (1.6)	44	91 (8.3)	47	84 (1.0)	0	
	2021	28	77 (1.5)	46	76 (1.0)	31	78 (1.1)	0	
	2022	13	77 (1.9)	29	77 (1.0)	29	75 (1.0)	0	
	2023	14	86 (8.2)	26	77 (1.3)	29	77 (1.0)	0	
Smallmouth Bass Electro Fishing	2019	126	93 (0.8)	72	96 (1.0)	92	99 (1.1)	13	96 (2.2)
	2020	361	101 (0.6)	265	100 (0.5)	123	98 (0.8)	15	95 (2.1)
	2021	273	93 (0.5)	164	94 (0.6)	74	95 (1.1)	8	95 (1.5)
	2022	173	92 (0.5)	201	94 (0.6)	78	91 (1.3)	6	95 (3.3)
	2023	108	95 (0.6)	92	93 (0.7)	59	91 (0.9)	3	88 (2.7)
Walleye Gill Net	2019	233	92 (0.4)	188	91 (0.5)	17	87 (1.7)	0	
	2020	307	87 (0.4)	327	86 (0.4)	9	83 (2.5)	4	86 (14.8)

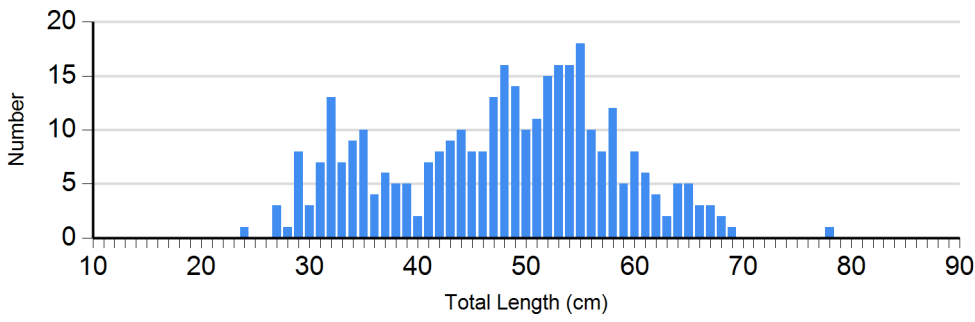
Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Walleye Gill Net	2021	201	84 (0.4)	175	82 (0.5)	9	75 (1.6)	1	77
	2022	176	83 (0.5)	163	79 (0.5)	6	72 (2.3)	5	70 (6.6)
	2023	61	84 (0.7)	115	80 (0.7)	4	67 (10.9)	0	
White Bass Gill Net	2019	0		8	107 (2.5)	19	107 (1.4)	9	103 (3.2)
	2020	0		14	107 (1.0)	27	102 (1.5)	24	98 (1.7)
	2021	0		5	103 (1.9)	13	102 (2.0)	8	87 (6.9)
	2022	2	104 (5.3)	0		29	97 (1.2)	22	97 (1.3)
	2023	1	104	1	99	8	102 (1.5)	8	104 (2.8)
Yellow Perch Gill Net	2019	38	85 (1.1)	14	86 (1.8)	1	79	0	
	2020	37	85 (1.2)	22	81 (1.1)	1	63	0	
	2021	17	93 (3.2)	3	82 (2.7)	1	48	0	
	2022	9	90 (2.1)	8	92 (3.8)	2	93 (2.4)	0	
	2023	43	88 (1.0)	3	87 (3.2)	0		0	

Length Frequency Distribution

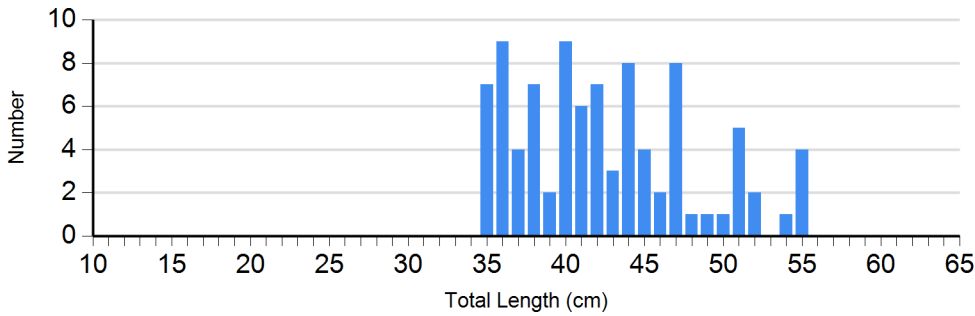
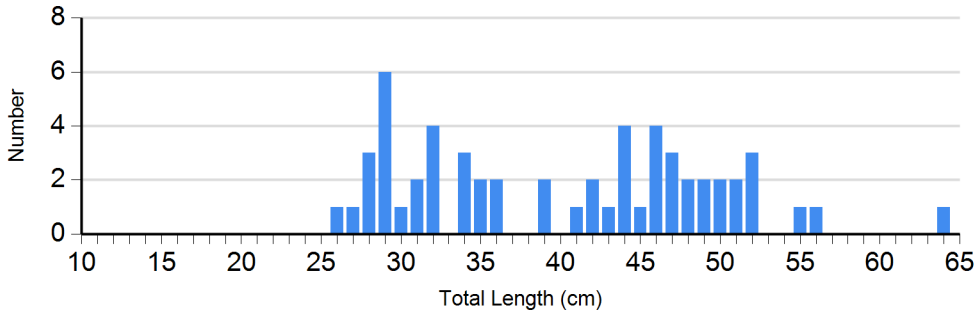
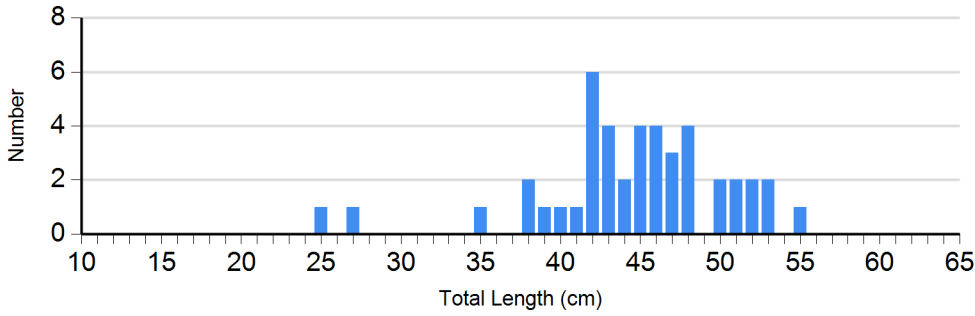
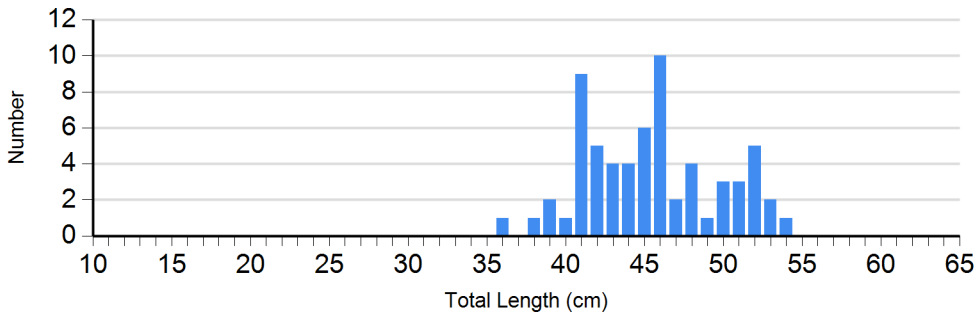
Length frequency histogram of species sampled by year.

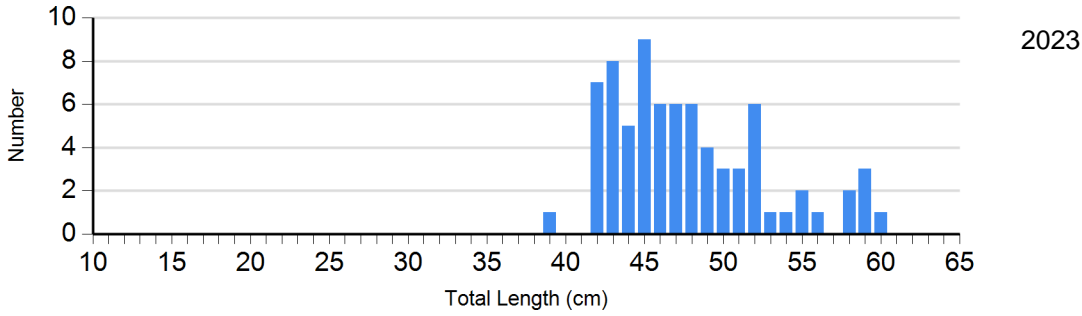
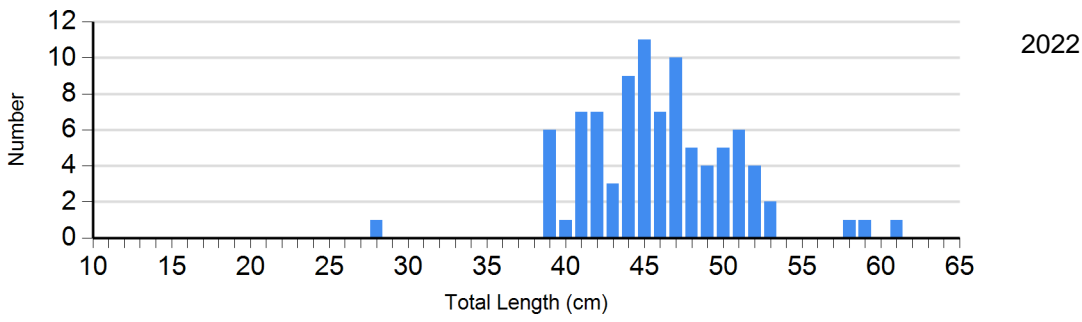
Species: Channel Catfish
Gear: AFS std gill net



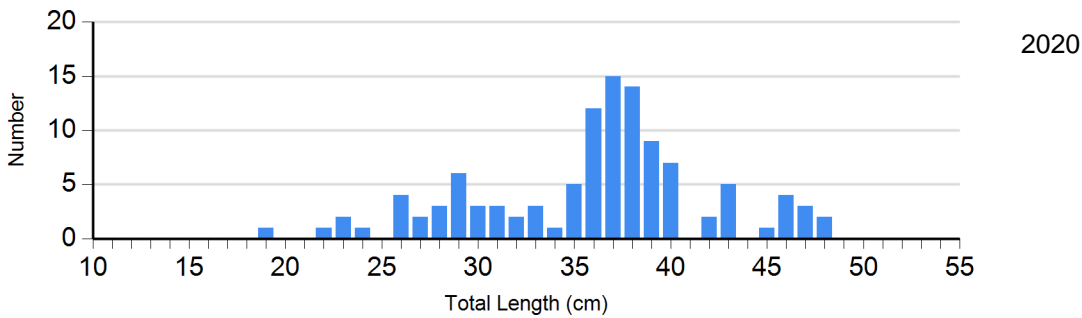
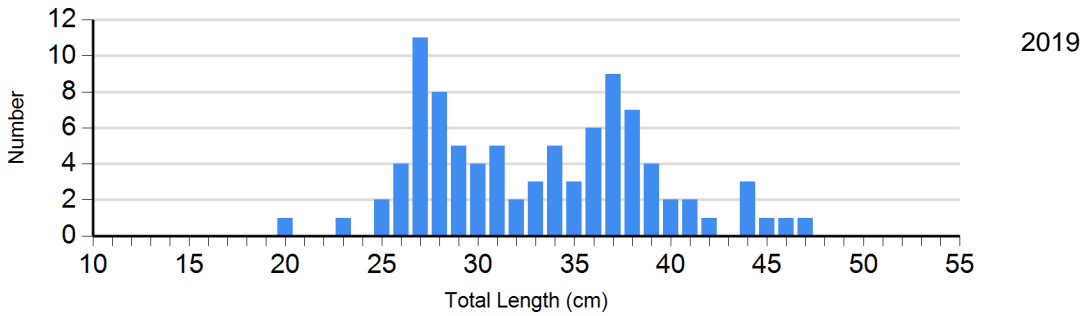
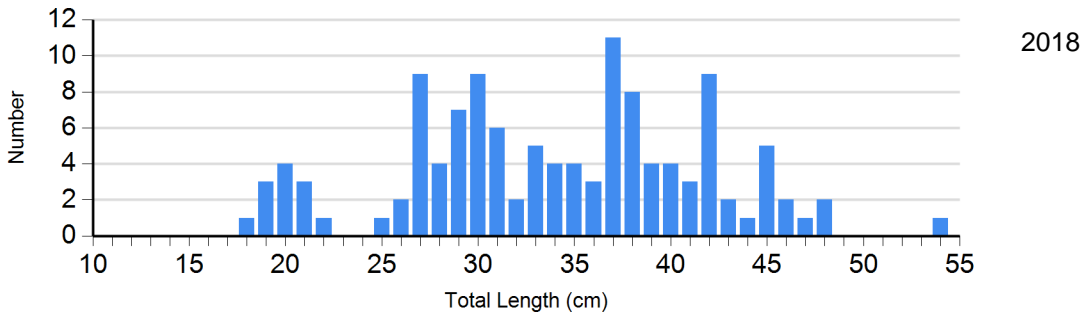


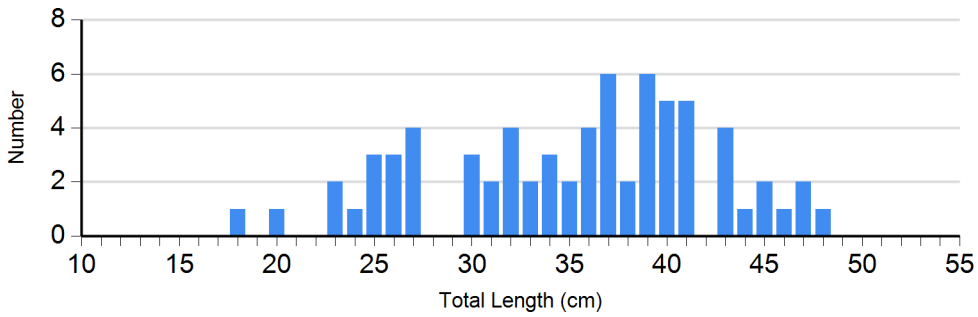
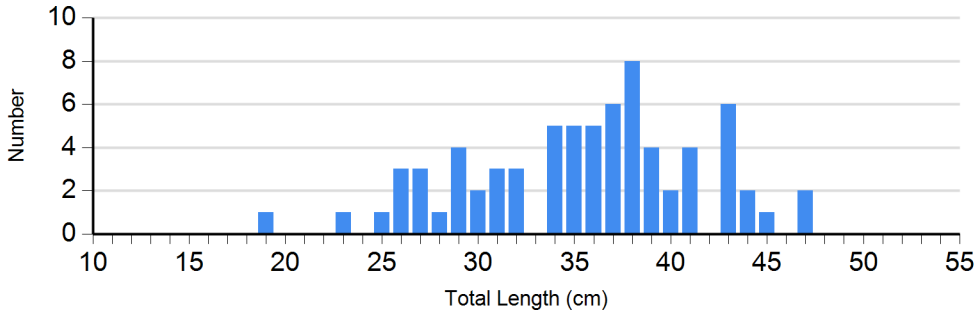
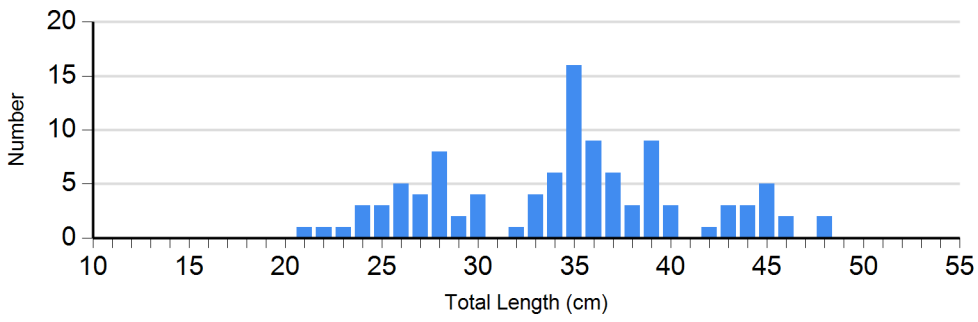
Species: Common Carp
 Gear: AFS std gill net



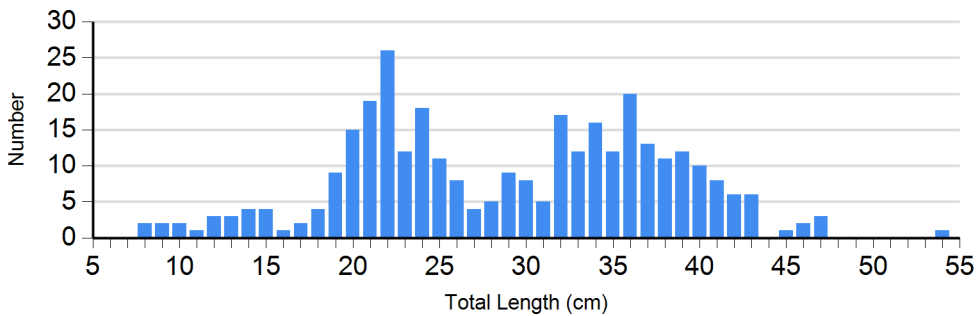
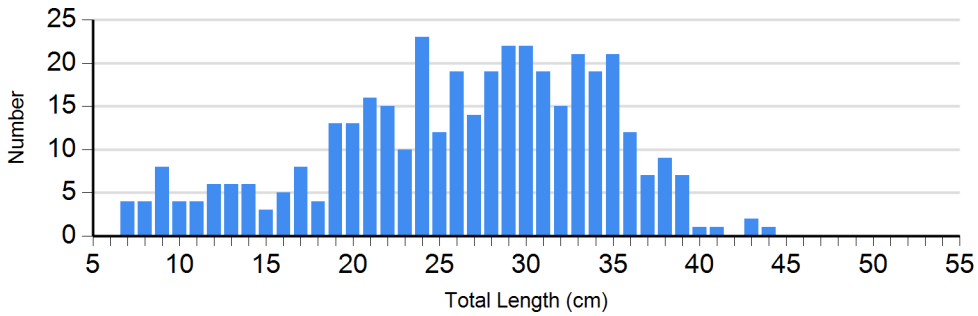


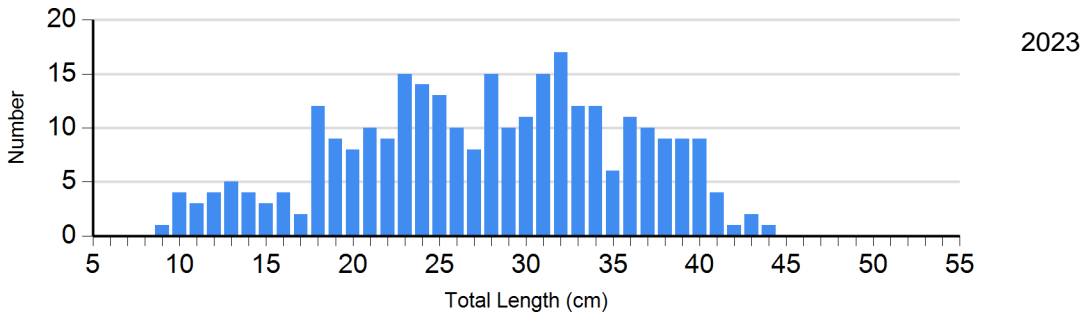
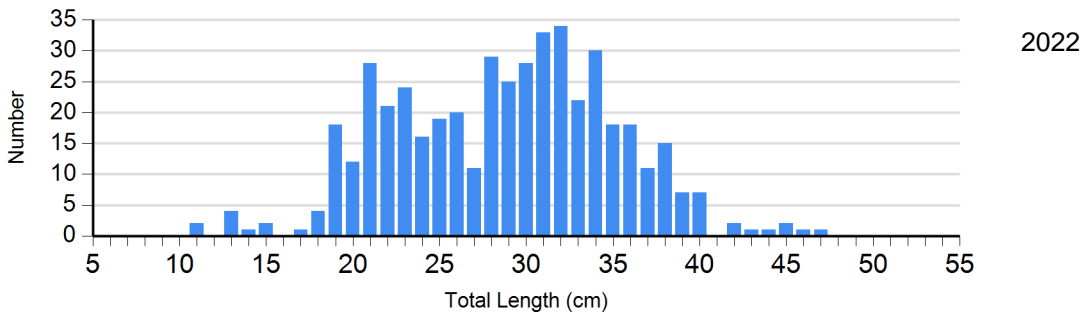
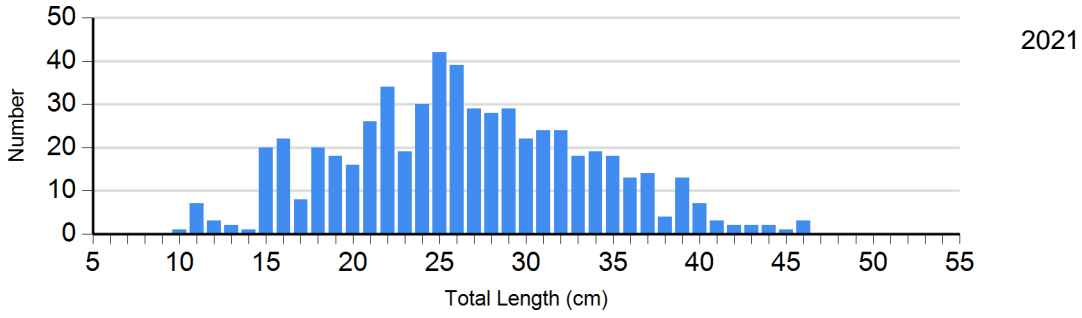
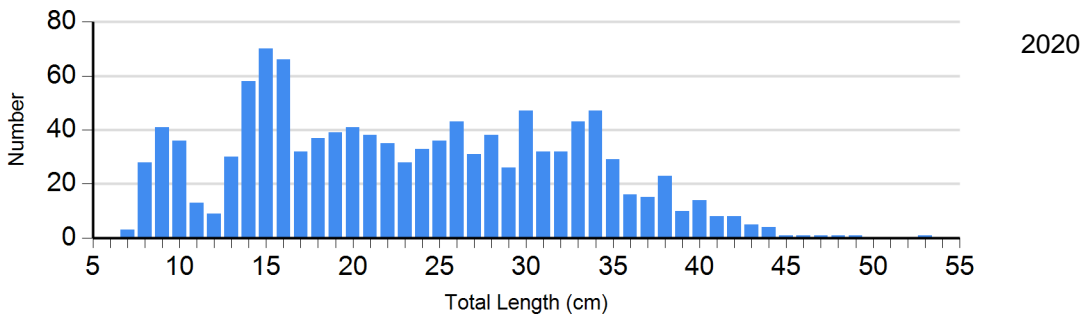
Species: Sauger
 Gear: AFS std gill net



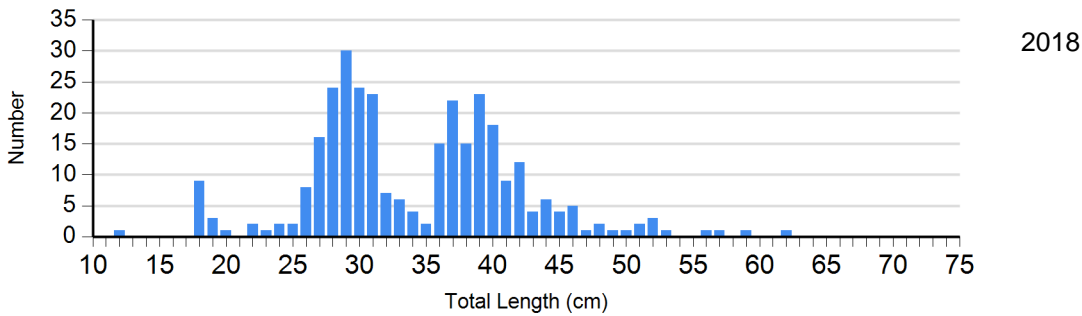


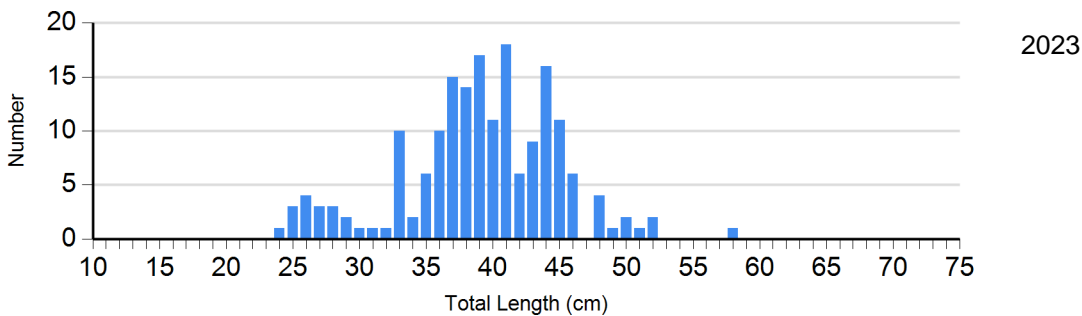
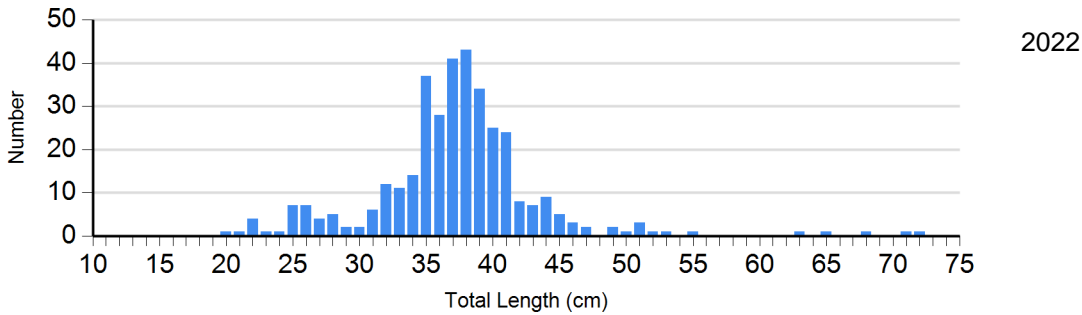
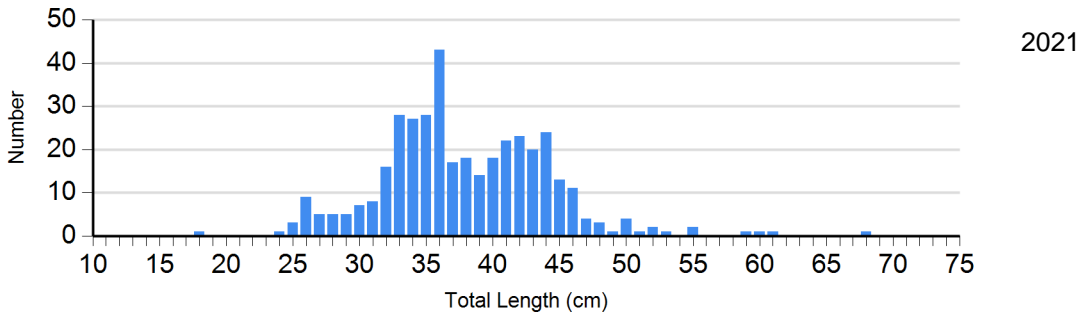
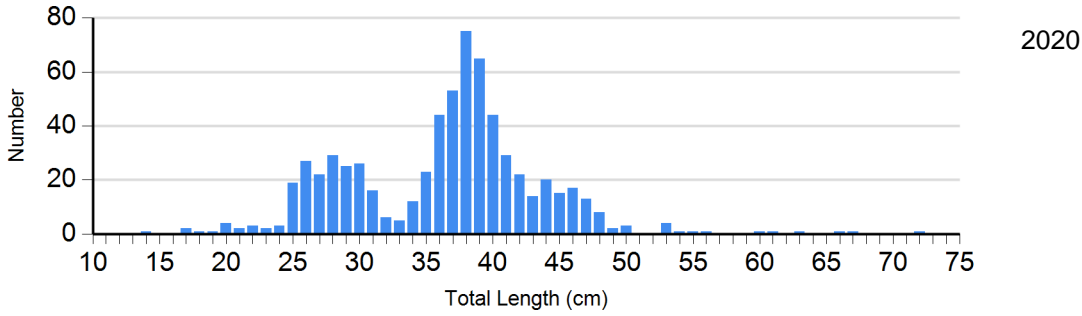
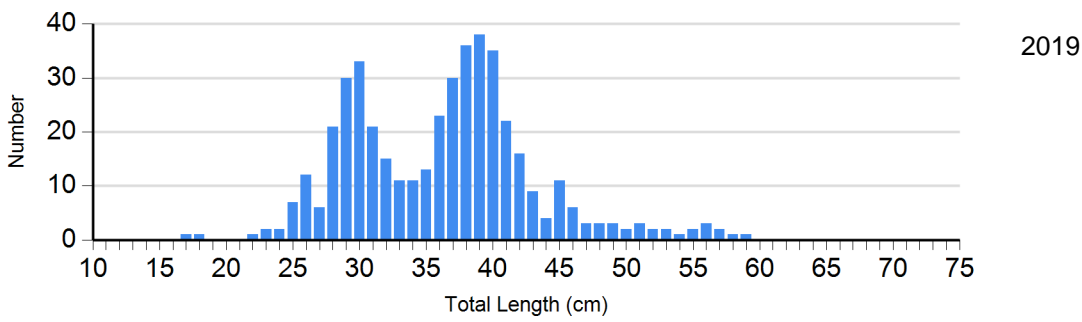
Species: Smallmouth Bass
 Gear: boat shocker (night)



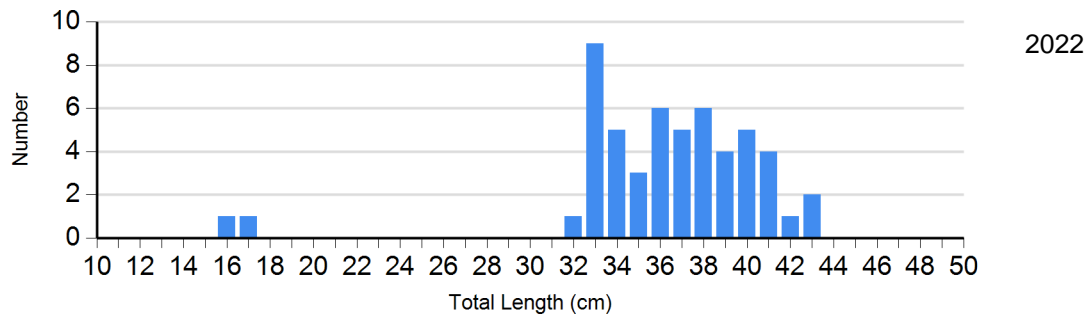
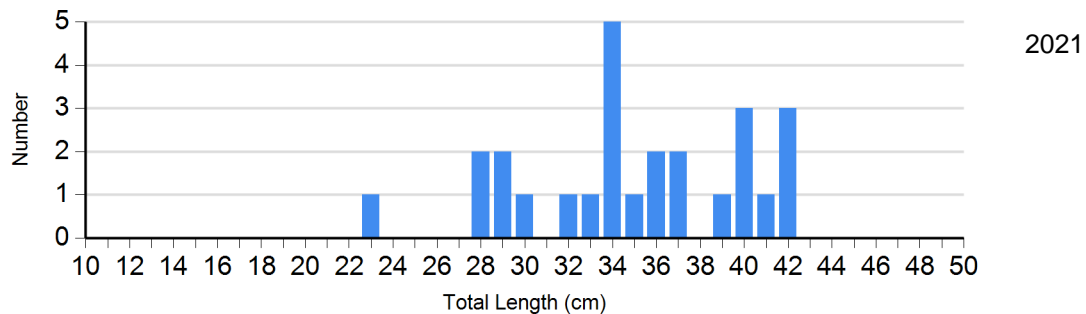
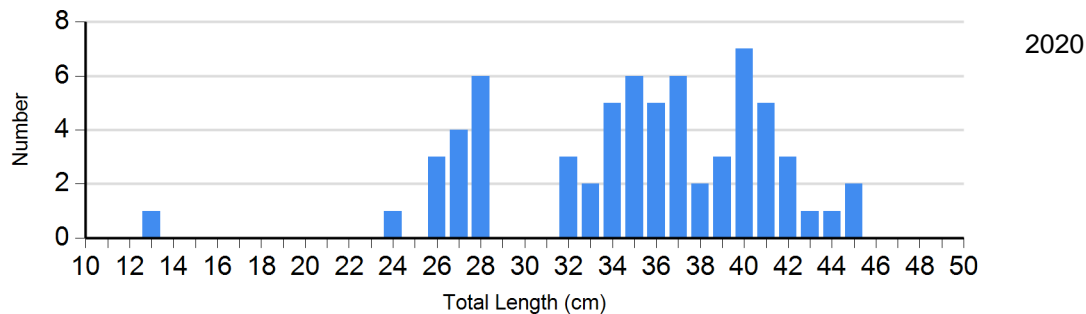
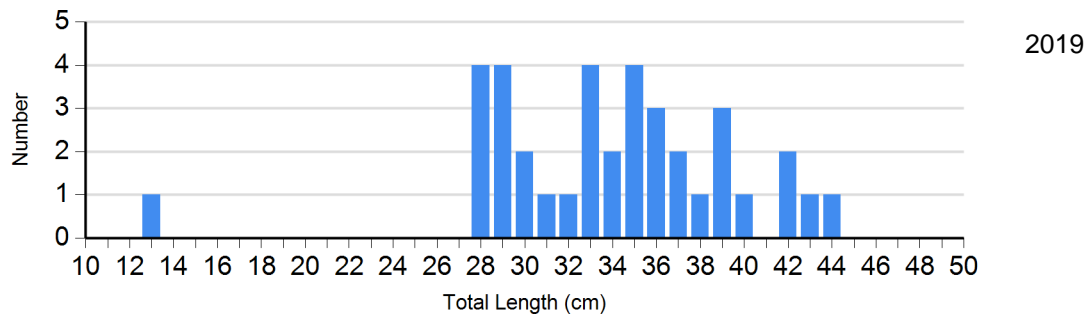
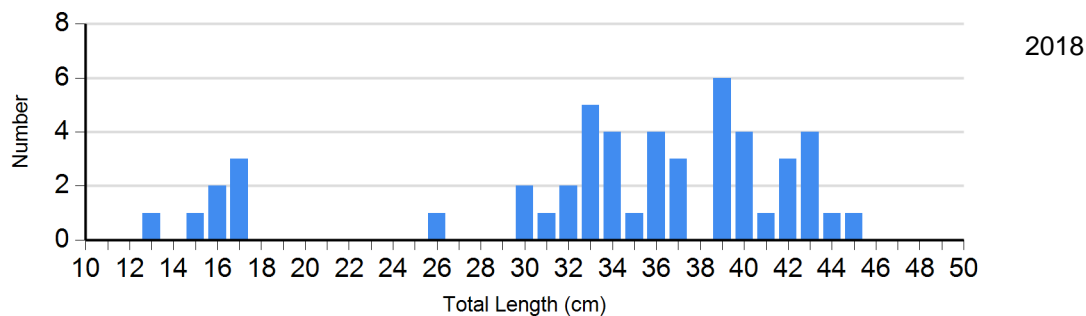


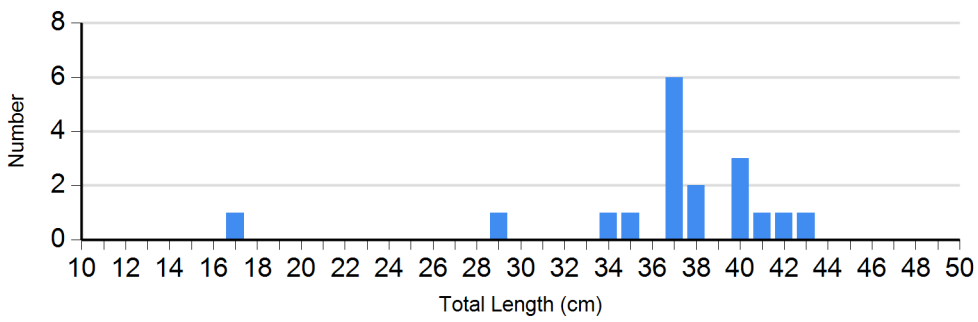
Species: Walleye
 Gear: AFS std gill net





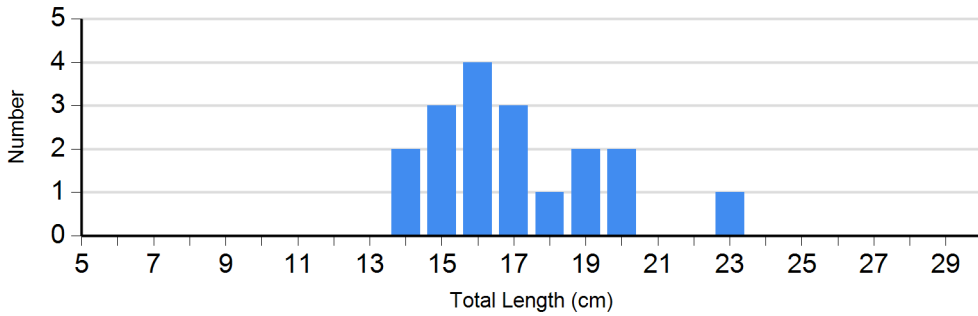
Species: White Bass
Gear: AFS std gill net



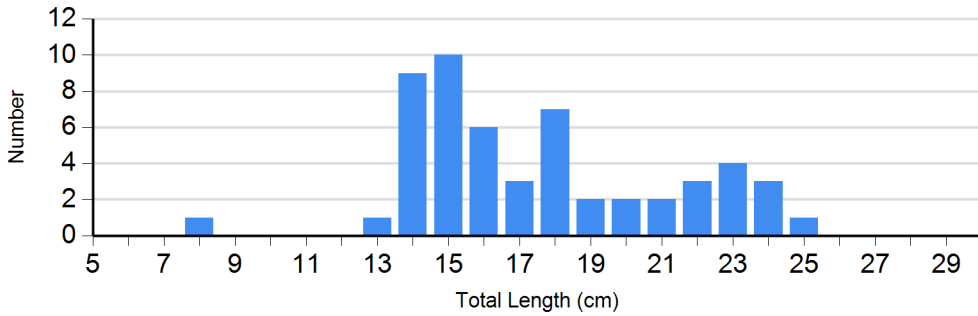


2023

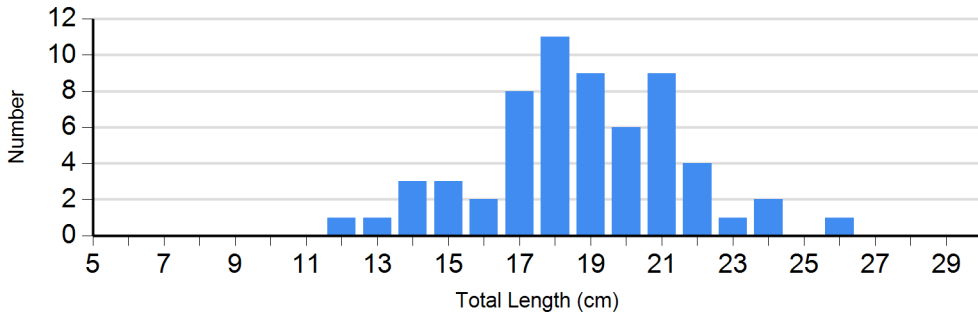
Species: Yellow Perch
Gear: AFS std gill net



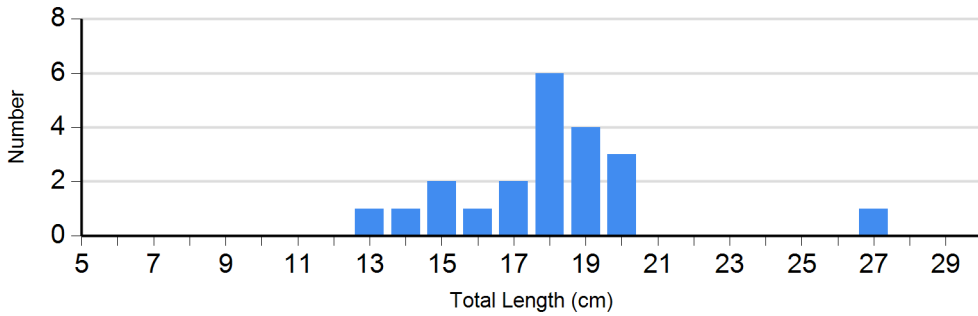
2018



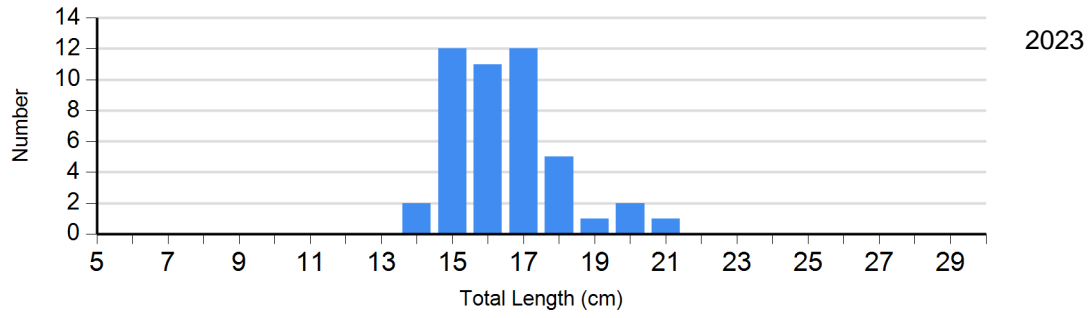
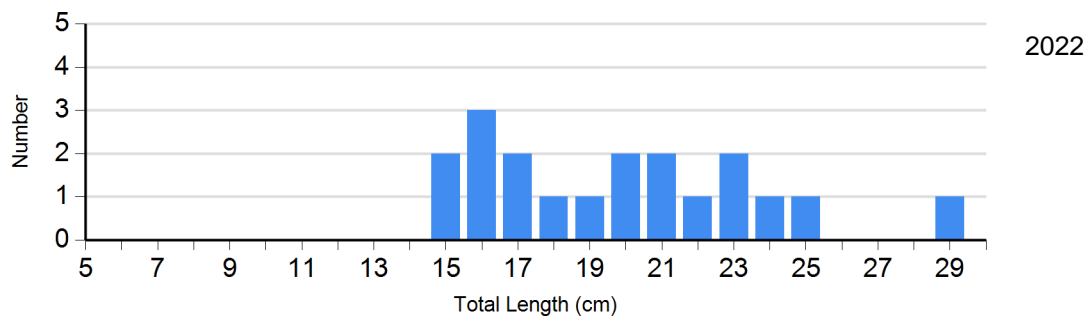
2019



2020



2021

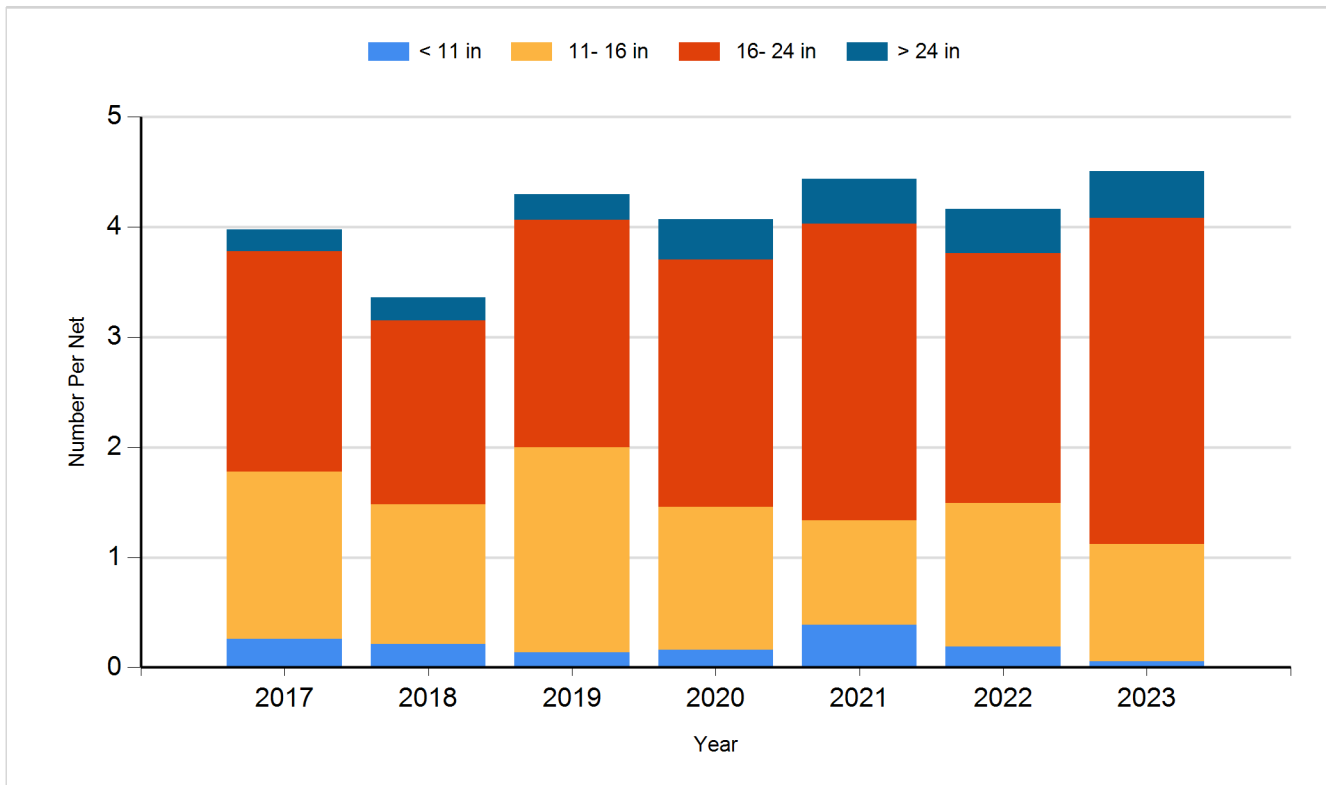


Historic Fish Sizes and Relative Abundance

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

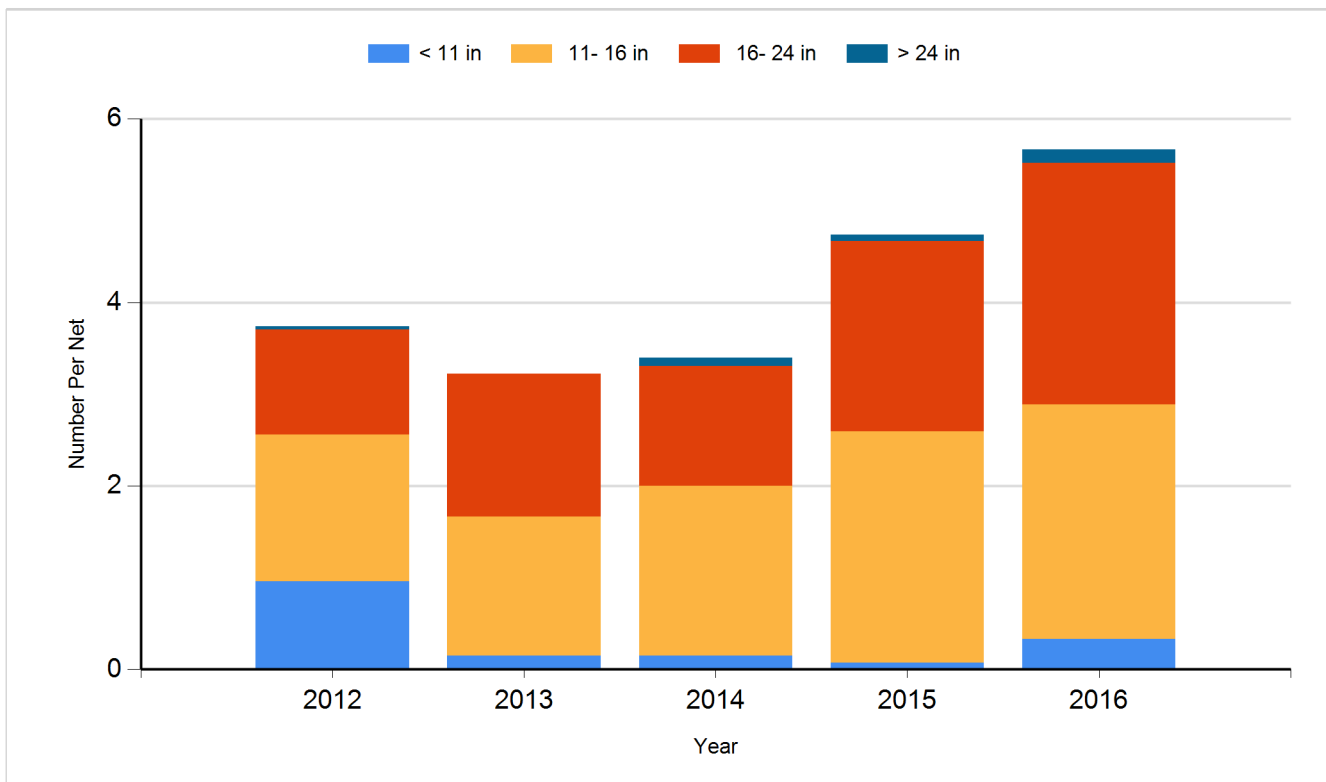
Species: Channel Catfish

Gear: AFS std gill net

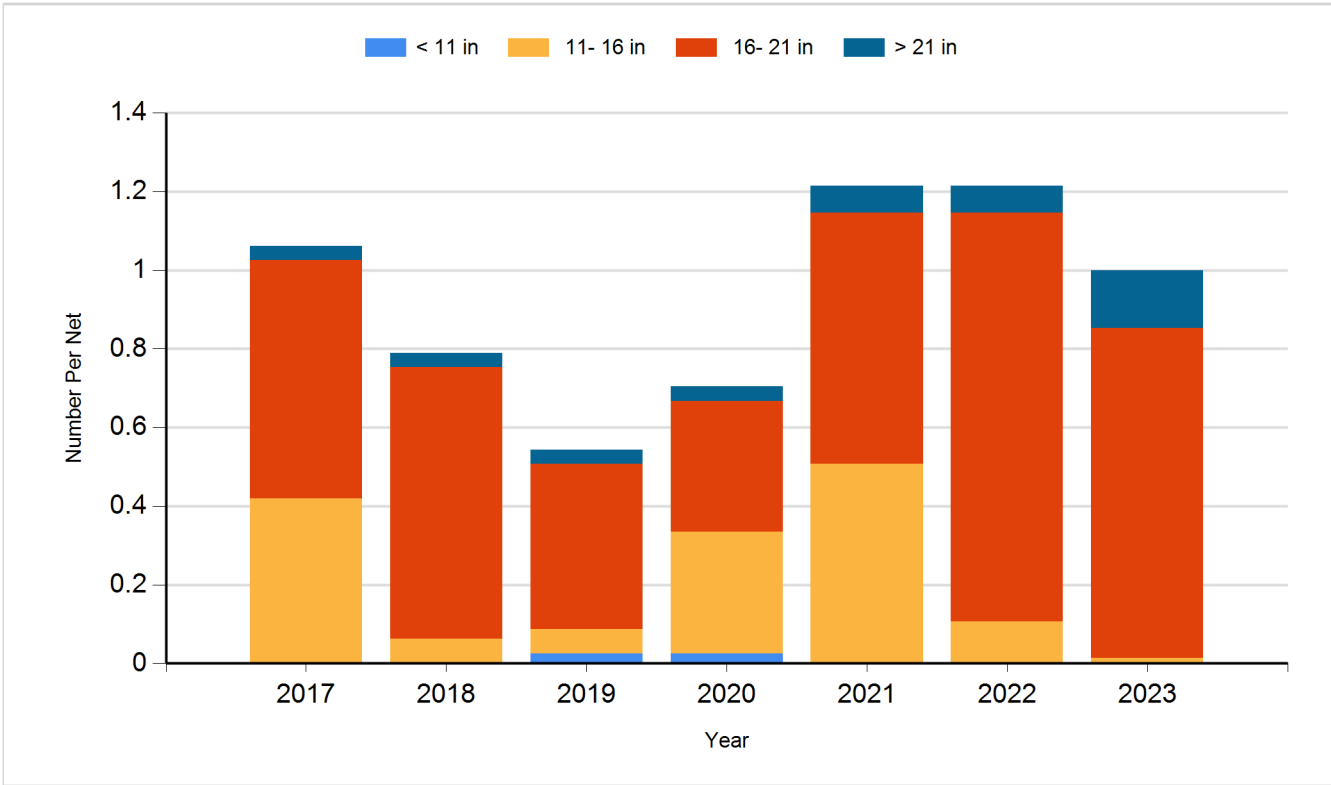


Species: Channel Catfish

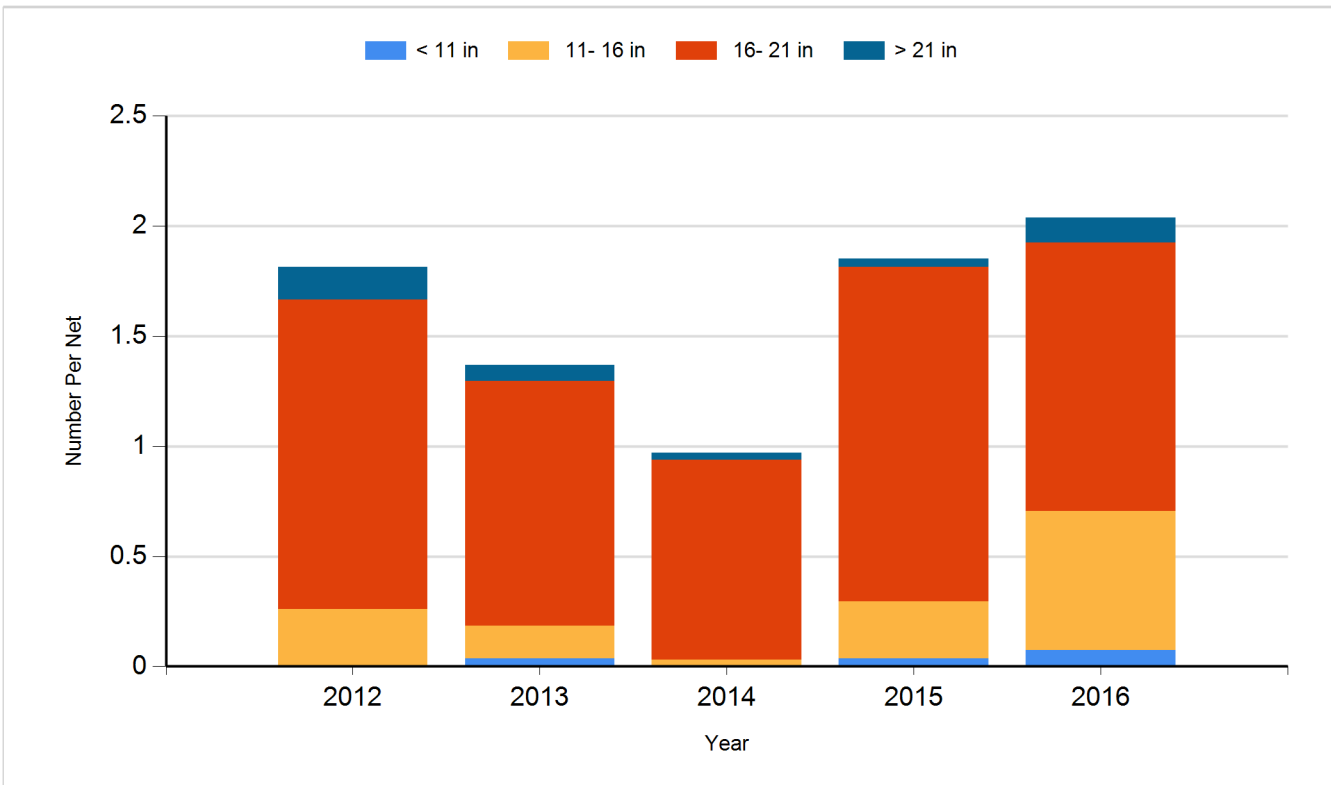
Gear: std exp gill net



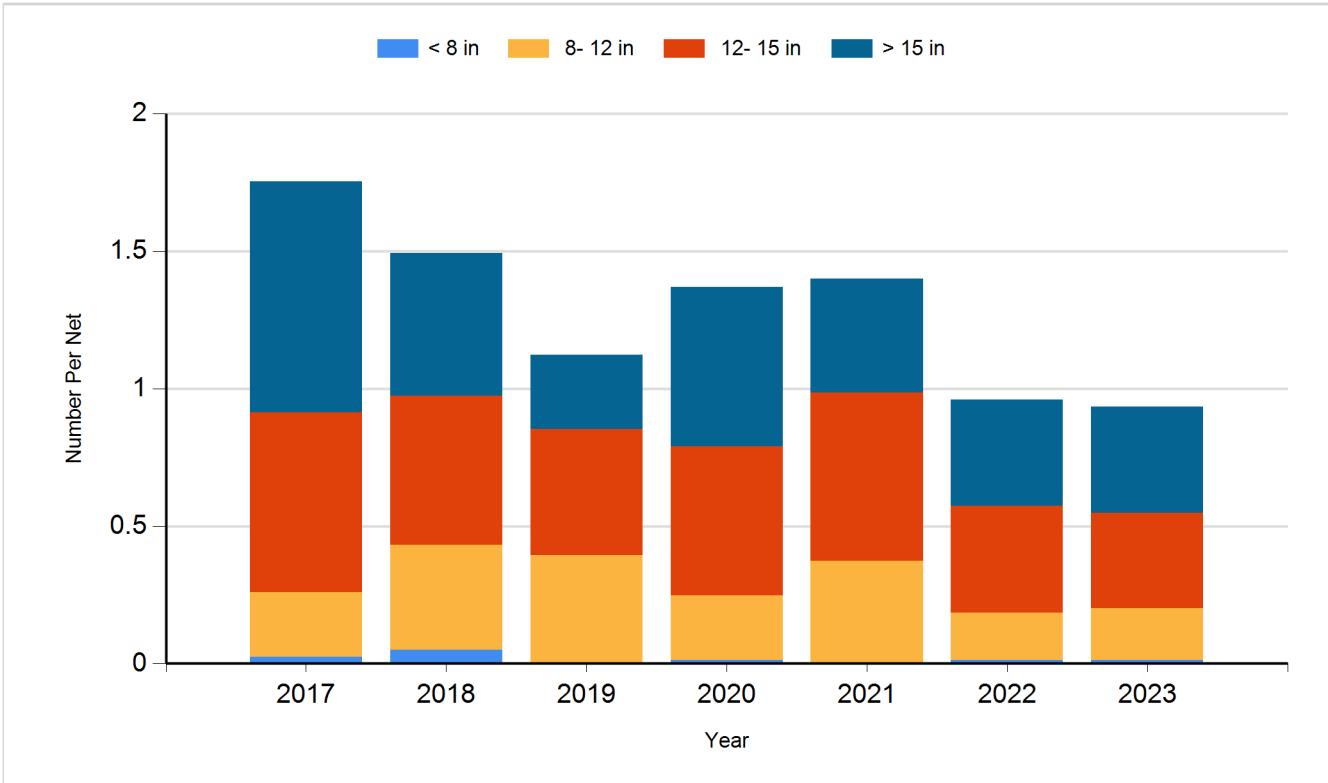
Species: Common Carp
Gear: AFS std gill net



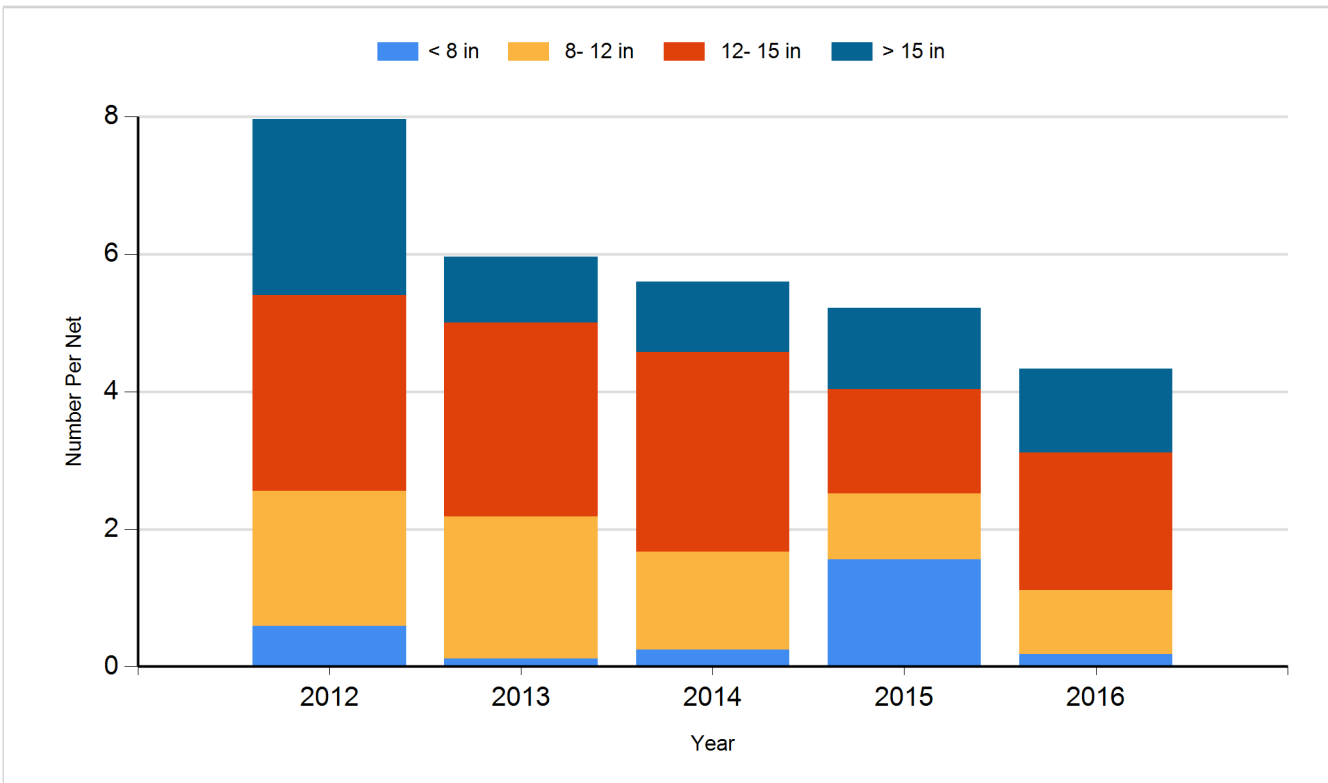
Species: Common Carp
Gear: std exp gill net



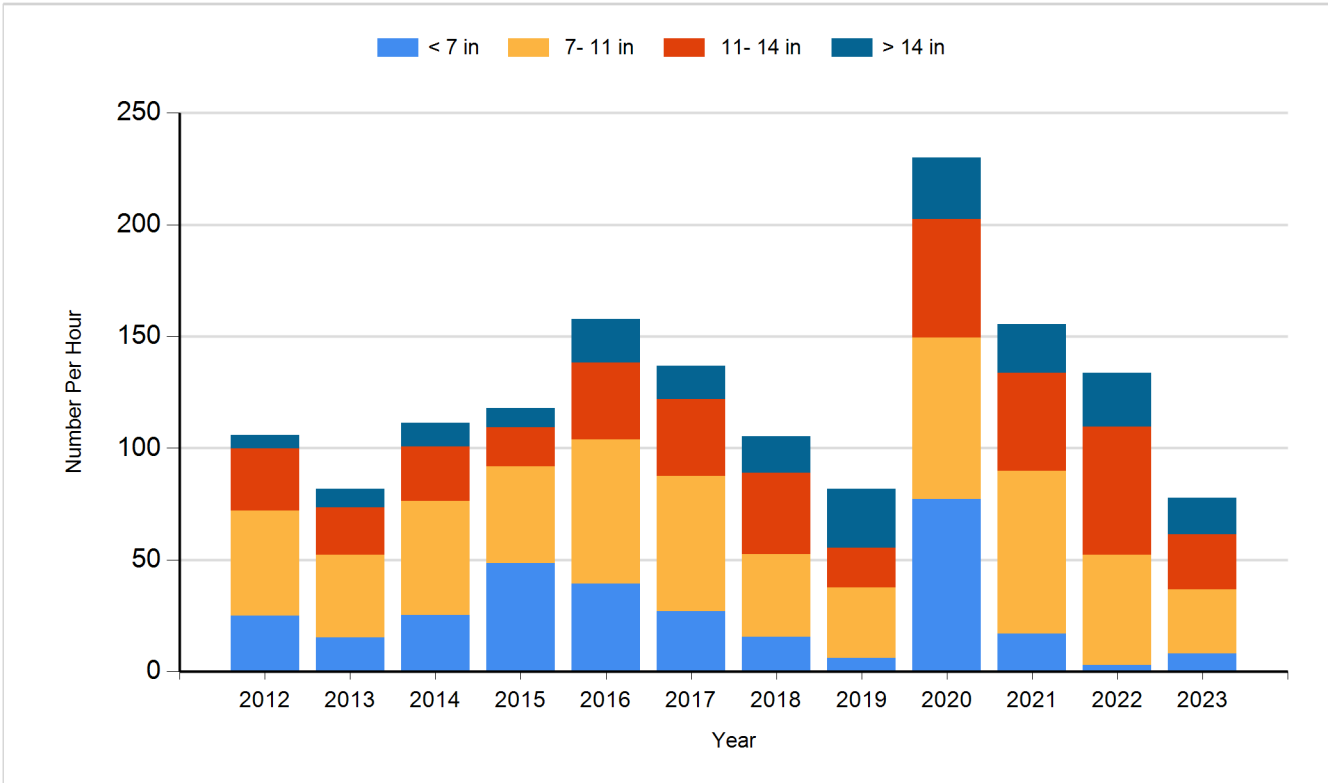
Species: Sauger
Gear: AFS std gill net



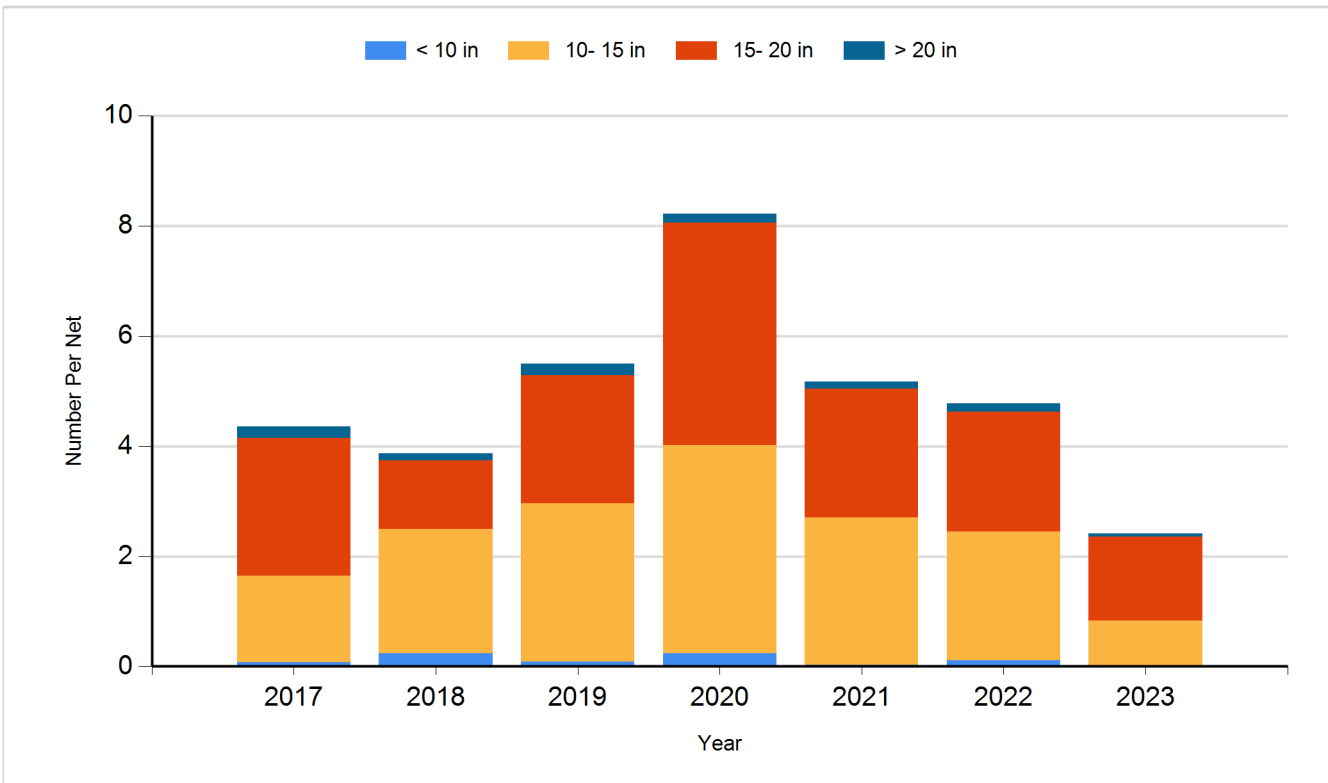
Species: Sauger
Gear: std exp gill net



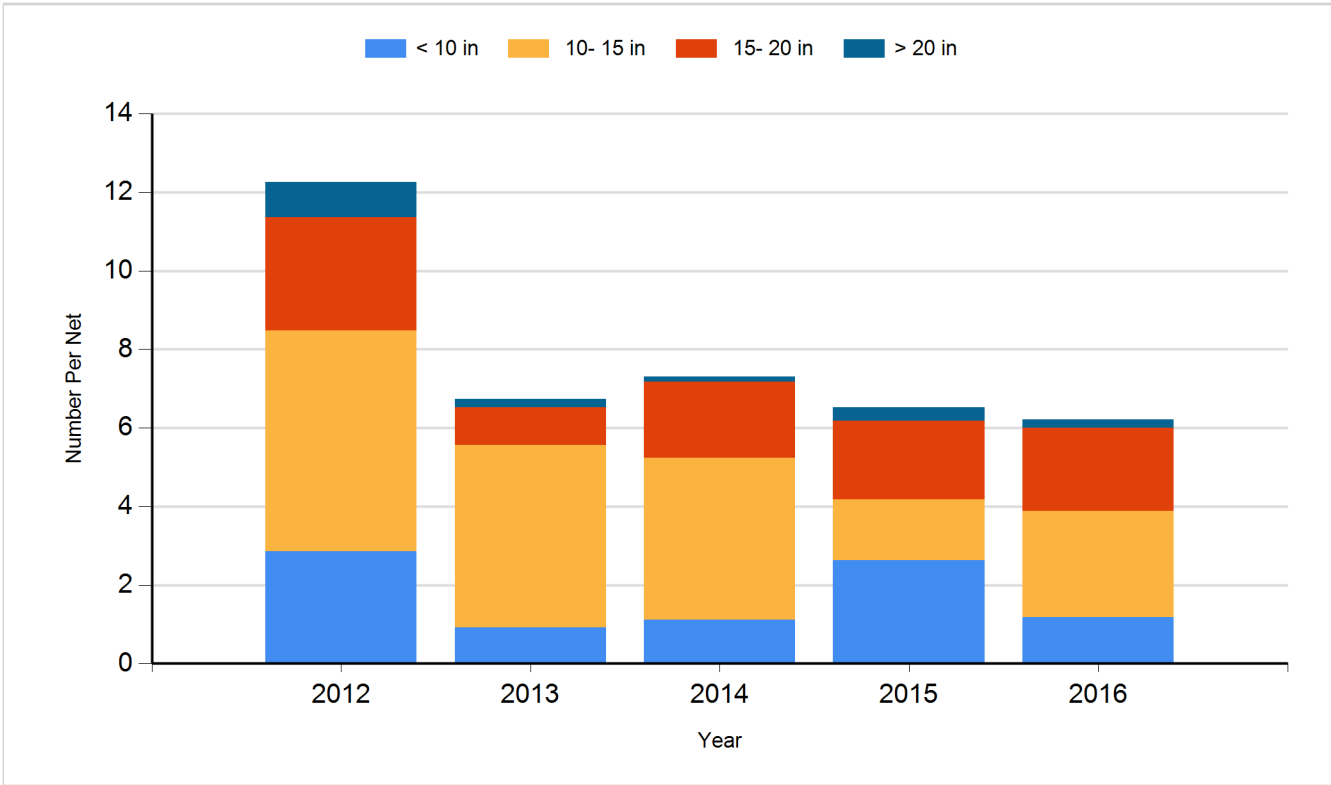
Species: Smallmouth Bass
 Gear: boat shocker (night)



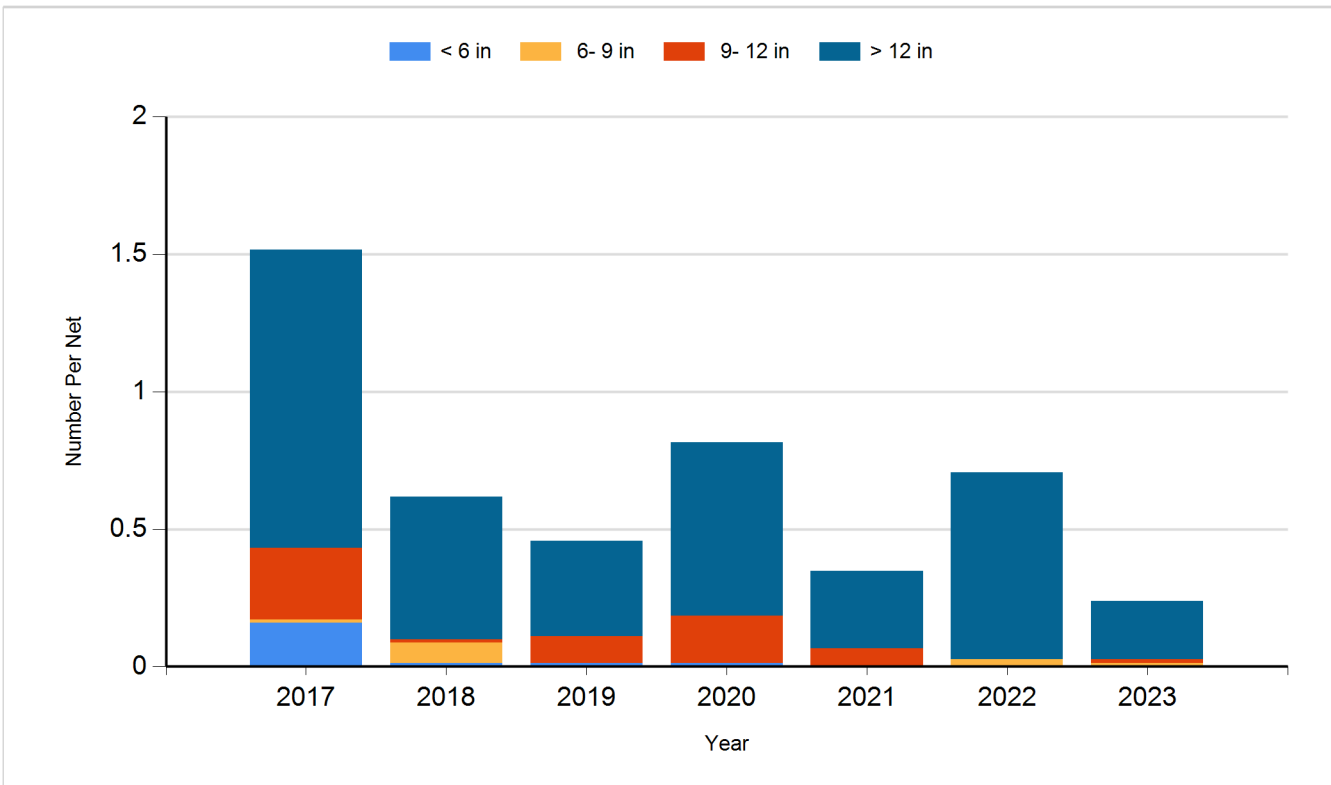
Species: Walleye
 Gear: AFS std gill net



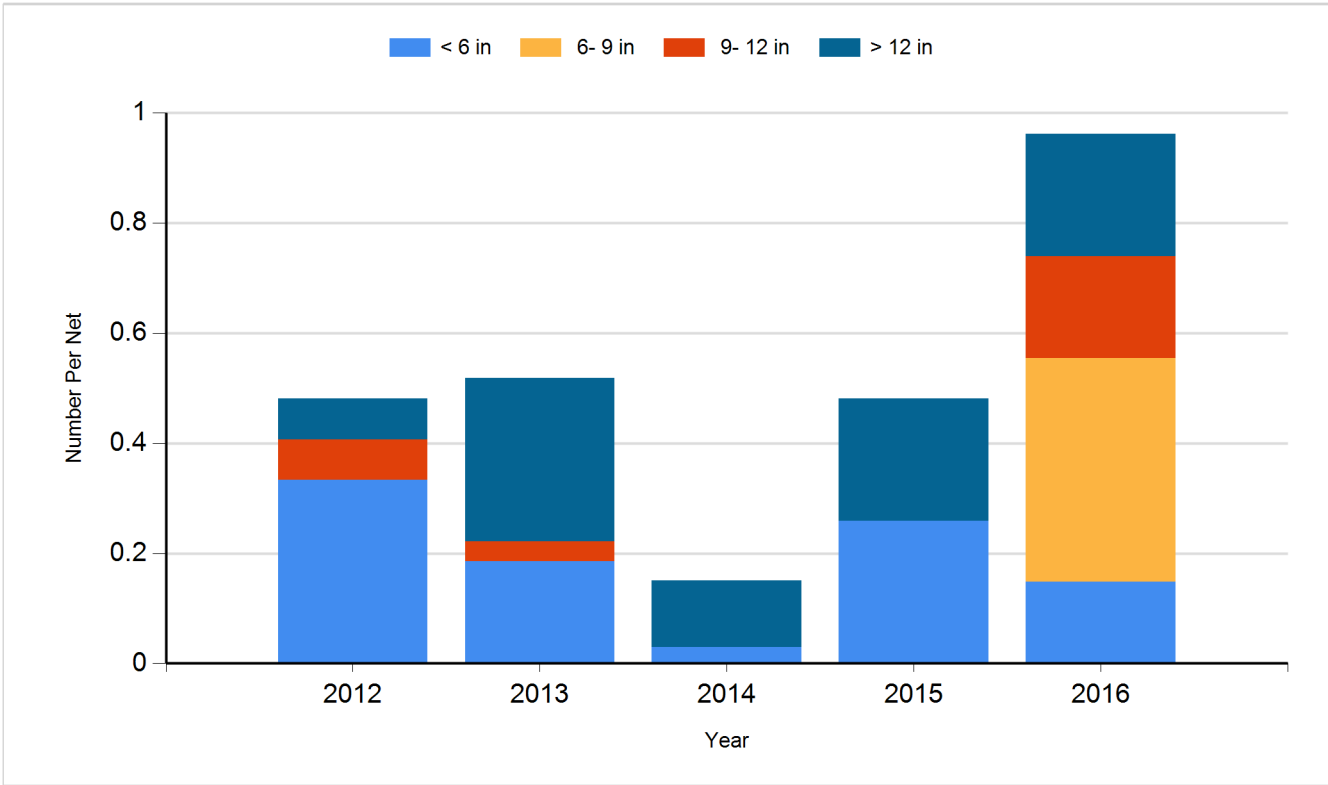
Species: Walleye
Gear: std exp gill net



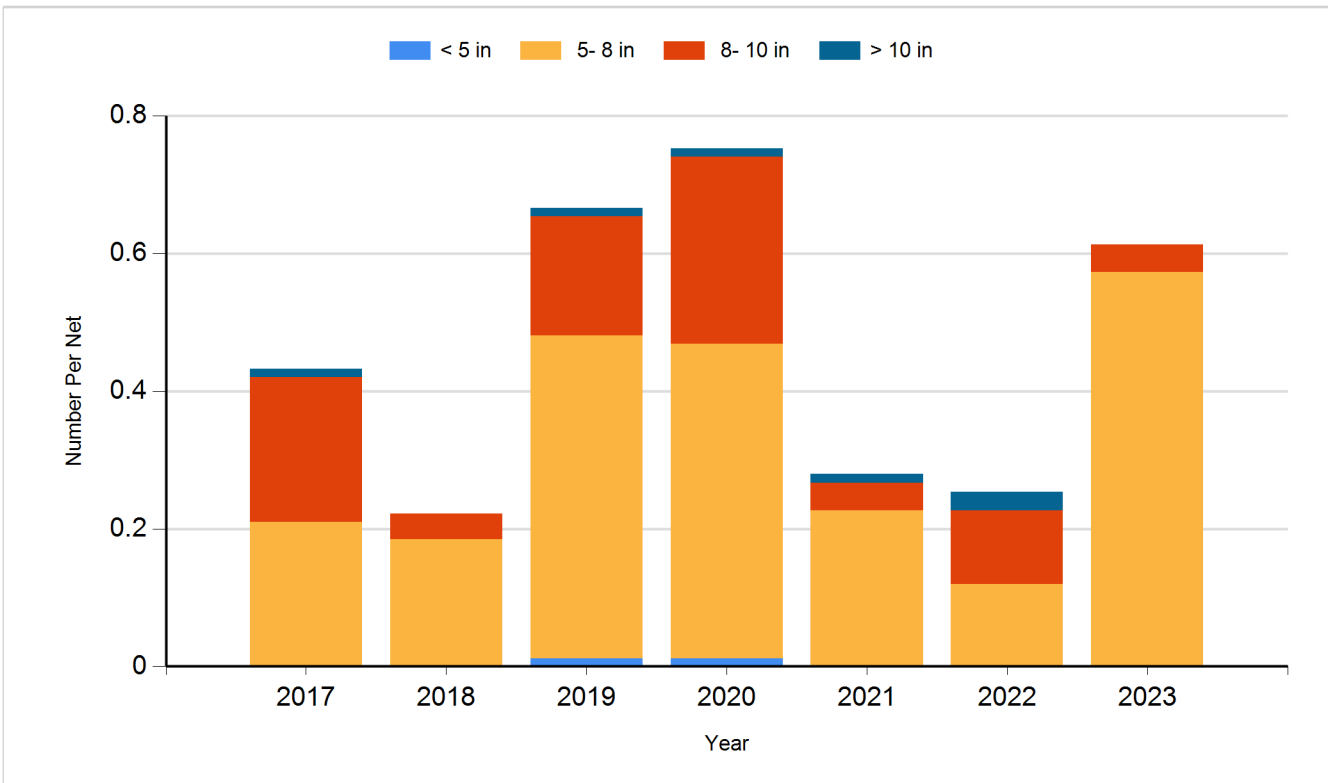
Species: White Bass
Gear: AFS std gill net



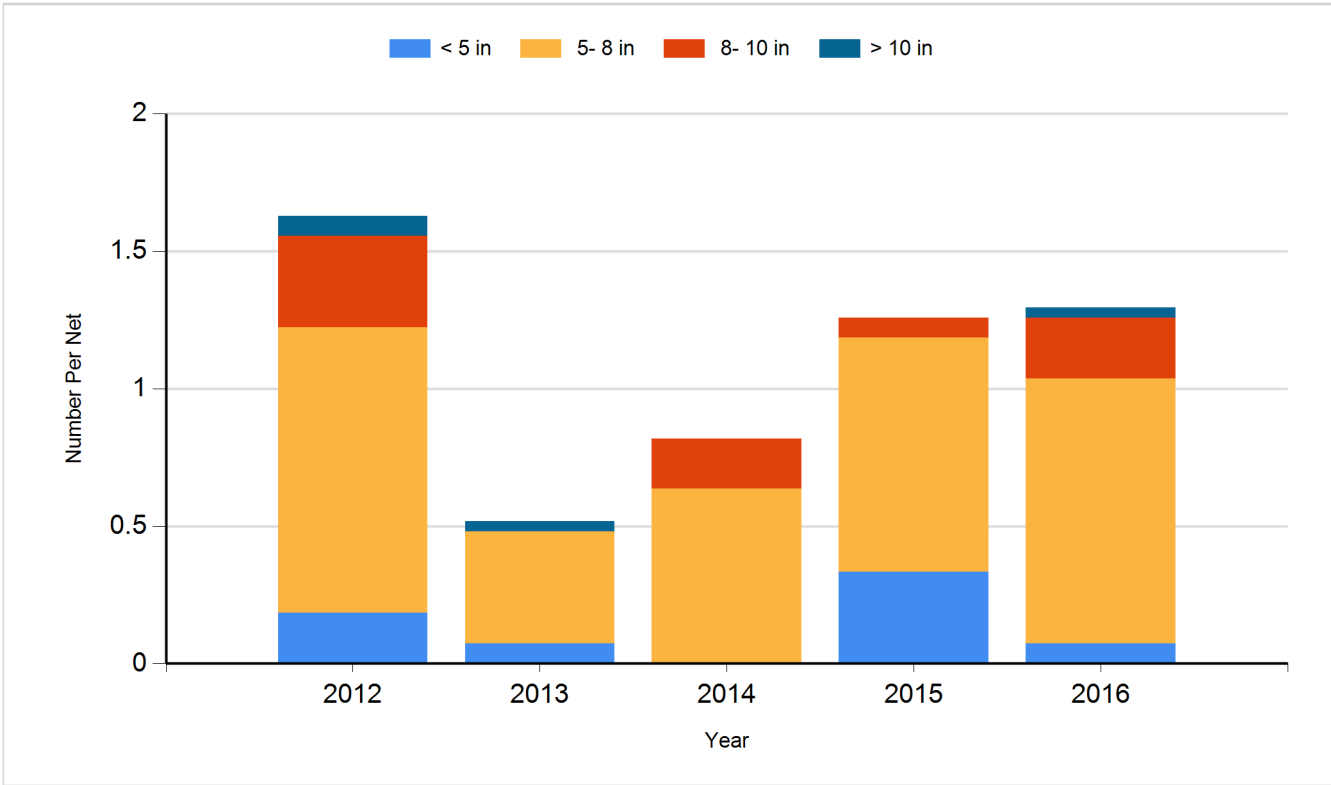
Species: White Bass
Gear: std exp gill net



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	Paddlefish	Large Fingerling	1,896
2013	Paddlefish	Large Fingerling	3,750
2014	Paddlefish	Juvenile	3,980
2015	Paddlefish	Large Fingerling	31,862
2016	Paddlefish	Large Fingerling	10,071
2017	Paddlefish	Large Fingerling	35,603
2018	Paddlefish	Large Fingerling	24,679
2019	Paddlefish	Large Fingerling	43,204
2020	Paddlefish	Large Fingerling	35,116
2021	Paddlefish	Juvenile	27,444
2022	Paddlefish	Juvenile	30,680
2023	Paddlefish	Juvenile	25,865
