

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Francis Case, Charles Mix County
FTR-Lake-6327-000
2020

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)	Aug 31, 2020	81 net-nights
AFS std gill net	Aug 31, 2020	81 net-nights
boat shocker (night)	Jun 01, 2020	3600 seconds
boat shocker (night)	Jun 02, 2020	3600 seconds
boat shocker (night)	Jun 03, 2020	3600 seconds
boat shocker (night)	Jun 10, 2020	3600 seconds
boat shocker (night)	Jun 11, 2020	3600 seconds
fall night EF-WAE	Oct 20, 2020	3600 seconds
fall night EF-WAE	Oct 21, 2020	3600 seconds
fall night EF-WAE	Oct 29, 2020	3600 seconds
large seine	Jul 13, 2020	16 hauls
large seine	Jul 14, 2020	12 hauls

Common Fish Species Present

Gizzard Shad

Smallmouth Bass

Walleye

White Bass

Emerald Shiner

Freshwater Drum

Channel Catfish

Goldeye

Sauger

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	Bigmouth Buffalo	2	0.0	0.0	100		0		83	
	Black Bullhead	29	0.4	0.4	72	13	7		72	3
	Black Crappie	2	0.0	0.0	0		0		95	4
	Bluegill	1	0.0	0.0	100		0		102	
	Channel Catfish	330	3.9	0.5	67	4	9	2	82	1
	Common Carp	57	0.7	0.1	55	10	5		85	2
	Flathead Catfish	3	0.0	0.0	0		0		87	6
	Freshwater Drum	52	0.6	0.1	90	7	32	10	88	2
	Gizzard Shad	134	0.0	0.0	0				68	
	Goldeye	98	0.0	0.0						
	Lake Herring	2	0.0	0.0	100		100		85	4
	Northern Pike	5	0.1	0.0	60		0		95	6
	Paddlefish	1	0.0	0.0	0		0		45	
	River Carpsucker	21	0.3	0.1	95		90		106	4
	Sauger	111	1.4	0.2	83	5	43	7	86	4
	Shorthead Redhorse	6	0.1	0.0	83		33		90	5
	Shortnose Gar	36	0.0	0.0						
	Shovelnose Sturgeon	4	0.0	0.0						
	Smallmouth Bass	145	1.8	0.7	86	4	37	6	104	1
	Smallmouth Buffalo	11	0.1	0.1	100		60		80	3
Walleye	666	8.0	0.9	53	3	2	1	86	0	
White Bass	66	0.8	0.3	100		78	8	101	1	
White Crappie	5	0.1	0.0	60		0		97	4	
Yellow Perch	61	0.7	0.2	38	9	2		83	1	
boat shocker (night)	Smallmouth Bass	1150	152.8	15.7	53	2	18	1	100	0
large seine*	Bigmouth Buffalo	5	0.2	0.0						
	Brassy Minnow	24	0.9	0.0						
	Channel Catfish	7	0.3	0.0						
	Common Carp	1	0.0	0.0						
	Emerald Shiner	268	9.6	0.2						
	Fathead Minnow	8	0.3	0.0						

Gear	Species	Sample Size (n)	Abundance		Stock Density Indices			Condition		
			CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
large seine*	Freshwater Drum	137	4.9	0.6						
	Gizzard Shad	25433	908.3	27.2						
	Goldeye	54	1.9	0.2						
	Johnny Darter	6	0.2	0.0						
	Largemouth Bass	1	0.0	0.0						
	Orangespotted Sunfish	1	0.0	0.0						
	Rainbow Smelt	3	0.1	0.0						
	Red Shiner	1	0.0	0.0						
	River Carpsucker	36	1.3	0.0						
	Sand Shiner	1	0.0	0.0						
	Sauger	3	0.1	0.1						
	Shorthead Redhorse	1	0.0	0.0						
	Silverband Shiner	3	0.1	0.0						
	Smallmouth Bass	108	3.9	0.1						
	Spottail Shiner	7	0.3	0.0						
	Walleye	34	1.2	0.6						
	Western Silvery Minnow	5	0.2	0.0						
	White Bass	509	18.2	0.2						
	White Crappie	1	0.0	0.0						
	Yellow Perch	18	0.6	0.0						

10-Year Catch Per Unit Effort by Gear and Species

Catch per unit effort (CPUE) and average (Avg) of species across 10 years using different gear types.

* Methods/Species that ignore stock length

Gear	Species	CPUE										Avg
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
AFS gill net (1/2 inch)*	Bigmouth Buffalo							0.0	0.0	0.0	0.0	0.00
	Black Crappie							0.0	0.0	0.0	0.0	0.00
	Channel Catfish							0.1	0.0	0.1	0.2	0.10
	Common Carp							0.2	0.0	0.0	0.0	0.05
	Emerald Shiner							0.0	0.0	0.0	0.0	0.00
	Freshwater Drum							0.2	0.3	0.4	0.2	0.28
	Gizzard Shad							1.2	0.4	1.6	2.6	1.45
	Goldeye							0.2	0.0	0.2	0.1	0.13
	Lake Herring							0.0	0.0	0.0	0.0	0.00
	Sauger							0.2	0.4	0.1	0.2	0.23
	Shorthead Redhorse							0.0	0.0	0.0	0.0	0.00
	Shortnose Gar							0.0	0.0	0.0	0.0	0.00
	Silverband Shiner							0.0	0.0	0.0	0.0	0.00
	Smallmouth Bass							0.0	0.0	0.0	0.0	0.00
	Spottail Shiner							0.1	0.2	0.0	0.2	0.13
	Walleye							0.8	1.3	0.5	0.8	0.85
	White Bass							0.1	0.1	0.0	0.1	0.08
White Crappie							0.0	0.0	0.0	0.0	0.00	
Yellow Perch							0.1	0.5	1.0	0.4	0.50	
AFS std gill net	Bigmouth Buffalo							0.0	0.0	0.0	0.0	0.00
	Black Bullhead							0.0	0.0	0.0	0.4	0.10
	Black Crappie							0.0	0.0	0.0	0.0	0.00
	Bluegill							0.0	0.0	0.0	0.0	0.00
	Channel Catfish							3.7	3.1	4.2	3.9	3.73
	Common Carp							1.1	0.8	0.5	0.7	0.78
	Flathead Catfish							0.0	0.0	0.0	0.0	0.00
	Freshwater Drum							1.4	1.1	1.4	0.6	1.13
	Gizzard Shad							0.8	0.1	0.2	0.0	0.28
	Goldeye							0.0	0.0	0.0	0.0	0.00
	Lake Herring							0.0	0.0	0.1	0.0	0.03
	Largemouth Bass							0.0	0.0	0.0	0.0	0.00
	Northern Pike							0.0	0.0	0.0	0.1	0.03
	Paddlefish							0.0	0.0	0.0	0.0	0.00
River Carpsucker							0.1	0.2	0.1	0.3	0.18	

		CPUE										
Gear	Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Avg
AFS std gill net	Sauger							1.7	1.4	1.1	1.4	1.40
	Shorthead Redhorse							0.0	0.0	0.0	0.1	0.03
	Shortnose Gar							0.0	0.0	0.0	0.0	0.00
	Shovelnose Sturgeon							0.0	0.0	0.1	0.0	0.04
	Smallmouth Bass							1.2	0.4	0.9	1.8	1.08
	Smallmouth Buffalo							0.3	0.1	0.1	0.1	0.15
	Walleye							4.3	3.6	5.4	8.0	5.33
	White Bass							1.4	0.6	0.4	0.8	0.80
	White Crappie							0.0	0.0	0.0	0.1	0.03
Yellow Perch							0.4	0.2	0.7	0.7	0.50	
boat shocker (night)	Smallmouth Bass	73.6	80.7	66.7	86.0	68.9	118.4	109.9	89.9	79.0	152.8	92.59
fall night EF-WAE*	Sauger								34.2	7.0	0.0	13.73
	Walleye								117.1	97.3	130.7	115.03
large seine*	Bigmouth Buffalo								0.0	1.7	0.2	0.62
	Black Crappie								0.1	7.4	0.0	2.49
	Bluegill								0.0	0.2	0.0	0.06
	Bluntnose Minnow								0.1	0.0	0.0	0.02
	Brassy Minnow								0.0	0.0	0.9	0.29
	Channel Catfish								0.1	0.0	0.3	0.11
	Common Carp								0.2	3.5	0.0	1.26
	Creek Chub								0.0	0.1	0.0	0.02
	Emerald Shiner								14.9	5.8	9.6	10.07
	Fathead Minnow								0.0	22.9	0.3	7.71
	Flathead Chub								0.2	0.3	0.0	0.15
	Freshwater Drum								0.4	1.1	4.9	2.13
	Gizzard Shad								861.2	1,438.1	908.3	1069.23
	Goldeye								0.2	1.4	1.9	1.18
	Johnny Darter								0.3	1.4	0.2	0.63
	Lake Herring								0.7	0.0	0.0	0.24
	Largemouth Bass								0.1	0.7	0.0	0.26
	Orangespotted Sunfish								0.0	0.4	0.0	0.15
	Rainbow Smelt								0.0	0.0	0.1	0.04
	Red Shiner								0.1	0.1	0.0	0.07
River Carpsucker								0.0	0.7	1.3	0.65	
Sand Shiner								0.0	0.0	0.0	0.01	
Sauger								0.4	0.0	0.1	0.17	

		CPUE										
Gear	Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Avg
large seine*	Shorthead Redhorse								0.0	0.3	0.0	0.12
	Silverband Shiner								0.0	0.3	0.1	0.12
	Smallmouth Bass								6.4	9.8	3.9	6.70
	Smallmouth Buffalo								0.0	0.8	0.0	0.27
	Spotfin Shiner								0.0	0.0	0.0	0.01
	Spottail Shiner								1.7	0.8	0.3	0.92
	Walleye								0.6	4.4	1.2	2.07
	Western Mosquitofish								0.0	0.0	0.0	0.01
	Western Silvery Minnow								1.1	0.0	0.2	0.44
	White Bass								3.5	18.1	18.2	13.25
	White Crappie								0.1	1.2	0.0	0.46
Yellow Perch								1.6	72.1	0.6	24.77	
std exp gill net	Bigmouth Buffalo	0.0	0.0	0.0	0.1	0.0	0.0					0.02
	Black Bullhead	0.1	0.0	0.0	0.0	0.0	0.0					0.02
	Black Crappie	0.1	0.1	0.0	0.0	0.0	0.0					0.03
	Bluegill	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	Brown Trout	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	Channel Catfish	2.5	2.8	3.1	3.2	4.7	5.3					3.60
	Chinook Salmon	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	Common Carp	1.0	1.8	1.3	1.0	1.8	2.0					1.48
	Flathead Catfish	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	Freshwater Drum	0.2	0.5	0.7	0.4	0.2	0.3					0.38
	Gizzard Shad	0.4	0.1	0.6	0.0	0.3	4.4					0.97
	Goldeye	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					0.00
	Northern Pike	0.4	0.4	0.1	0.0	0.1	0.0					0.17
	Orangespotted Sunfish	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	River Carpsucker	0.1	0.1	0.0	0.1	0.1	0.1					0.08
	Sauger	7.2	7.4	5.9	5.4	3.7	4.1					5.62
	Shorthead Redhorse	0.3	0.2	0.3	0.2	0.3	0.2					0.25
	Shortnose Gar	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					0.00
	Smallmouth Bass	0.8	0.6	0.2	0.2	1.0	0.1					0.48
	Smallmouth Buffalo	0.0	0.0	0.0	0.1	0.1	0.1					0.05
	Spottail Shiner	0.0	0.0	0.0	0.0	0.0	0.0					0.00
	Walleye	11.9	9.4	5.8	6.2	3.9	5.0					7.03
	Western Silvery Minnow	0.0	0.0	0.0	0.0	0.0	0.0					0.00

		CPUE										
Gear	Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Avg
std exp gill net	White Bass	0.5	0.1	0.3	0.1	0.2	0.8					0.33
	White Crappie	0.1	0.0	0.0	0.0	0.0	0.1					0.03
	Yellow Perch	3.6	1.4	0.4	0.8	0.9	1.2					1.38

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										
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
AFS std gill net	Channel Catfish	PSD								59	60	55	67
		PSD-P								5	7	6	9
		Wr								80	81	89	82
	Gizzard Shad	PSD								99	100	100	0
		Wr								96	100	108	68
	River Carpsucker	PSD								89	100	100	95
		PSD-P								89	94	89	90
		Wr								96	100	106	106
	Sauger	PSD								86	74	65	83
		PSD-P								49	36	24	43
		Wr								77	78	86	86
	Smallmouth Bass	PSD								70	73	76	86
		PSD-P								18	33	33	37
		Wr								104	106	107	104
	Walleye	PSD								63	38	47	53
		PSD-P								5	3	4	2
		Wr								81	83	91	86
	White Bass	PSD								99	88	100	100
PSD-P									80	86	78	78	
Wr									97	100	106	101	
boat shocker (night)	Smallmouth Bass	PSD	30	42	44	41	37	46	45	59	58	53	
		PSD-P	17	7	12	12	12	16	14	18	35	18	
		Wr		84		91	92	97	91	94	96	100	
std exp gill net	Channel Catfish	PSD	63	43	51	43	46	52					
		PSD-P	1	1	0	3	2	3					
		Wr	85	84	84	81	79	83					
	Gizzard Shad	PSD	40	0	0	0	88	32					
		Wr	82	77	103		94	89					
	River Carpsucker	PSD	33	50	100	100	50	100					
		PSD-P	0	50	0	67	50	33					
		Wr	93	108	101	68	101	95					
	Sauger	PSD	70	73	65	73	74	78					

Gear	Species	Index	Year									
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
std exp gill net	Sauger	PSD-P	26	35	16	19	32	29				
		Wr	77	74	73	76	76	80				
	Smallmouth Bass	PSD	76	47	40	29	62	67				
		PSD-P	19	33	0	0	12	0				
		Wr	108	107	97	109	100	110				
	Walleye	PSD	44	40	20	33	60	46				
		PSD-P	2	9	4	2	9	4				
		Wr	83	82	82	84	84	86				
	White Bass	PSD	92	100	100	100	100	50				
		PSD-P	69	50	89	100	100	27				
		Wr	97	105	102	103	97	107				

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								
2019	1	30	111 (4.9)																	
2018	2	126	111 (2.3)	197 (3.9)																
2017	3	117	113 (2.4)	200 (3.8)	274 (3.8)															
2016	4	69	105 (3.4)	185 (5.6)	267 (6.5)	324 (6.5)														
2015	5	25	112 (5.4)	184 (9.8)	266 (10.4)	333 (9.2)	377 (9.1)													
2014	6	13	89 (6.9)	167 (16.2)	232 (14.8)	308 (14.2)	359 (13.7)	392 (13.9)												
2013	7	3	85 (10.9)	162 (50.9)	223 (78)	288 (66.9)	348 (57)	387 (54.7)	416 (53.4)											
Weighted Mean		383	110	193	268	323	369	391	416											
Year Class	Age	N	11	12	13	14	15	16	17	18	19	20								
2019	1	30																		
2018	2	126																		
2017	3	117																		
2016	4	69																		
2015	5	25																		
2014	6	13																		
2013	7	3																		
Weighted Mean		383																		

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+
2016	152	100 (1)	226 (5)	302 (12)	324 (7)	351 (14)	395 (21)	416 (26)	425 (11)	487 (12)	535 (41)
2011	70		270 (5)	311 (8)	337 (10)	377 (6)	416 (5)	463 (6)	492 (6)	506 (9)	525 (16)

Species: Sauger

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
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)					
2013	159	237 (16)	300 (86)	371 (36)	402 (20)	433 (1)					
2012	199	267 (61)	360 (69)	405 (58)	459 (4)	455 (2)	440 (4)				462 (1)
2011	194	277 (73)	361 (99)	449 (8)	468 (9)	460 (2)	473 (3)				

Species: Smallmouth Bass

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
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)			
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)				

Mean Length (expanded sample number) at capture by age

Year	N	1	2	3	4	5	6	7	8	9	10+
2013	307	128 (10)	182 (56)	234 (145)	316 (74)	344 (15)	404 (3)	417 (2)	440 (1)		
2012	475	123 (50)	197 (200)	279 (162)	318 (44)	389 (17)	415 (2)				
2011	308	118 (26)	217 (161)	281 (71)	362 (28)	396 (11)	422 (7)	437 (3)	473 (1)		

Species: Walleye

Mean Length (expanded sample number) at capture by age

Year	N	1	2	3	4	5	6	7	8	9	10+
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)
2013	175	232 (21)	312 (107)	376 (31)	430 (8)	469 (2)	533 (3)	526 (1)	526 (1)		504 (1)
2012	298	256 (114)	350 (76)	398 (48)	477 (10)	475 (5)	475 (7)	513 (26)	513 (8)	465 (1)	526 (3)
2011	345	269 (99)	369 (156)	417 (41)	446 (11)	456 (10)	462 (25)	446 (1)		483 (1)	615 (1)

Fish Condition

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

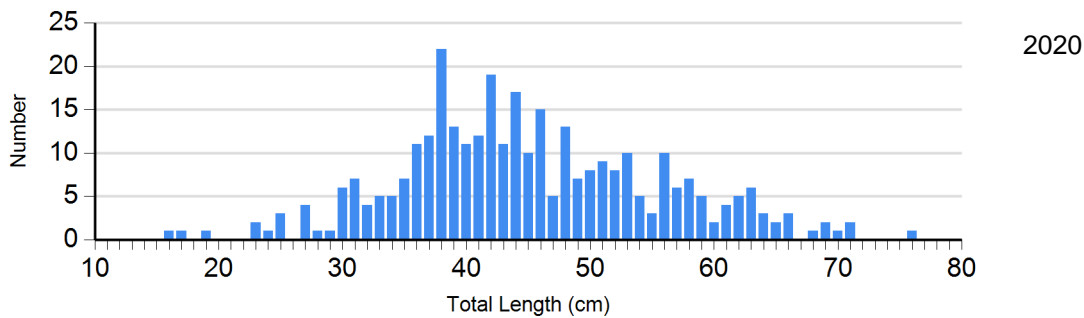
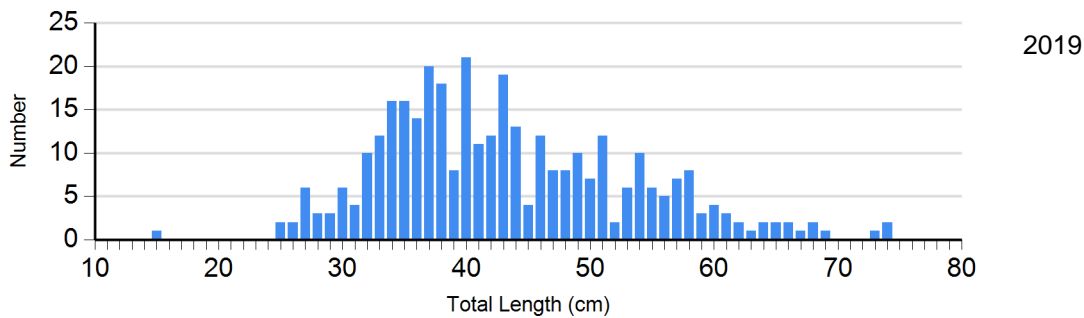
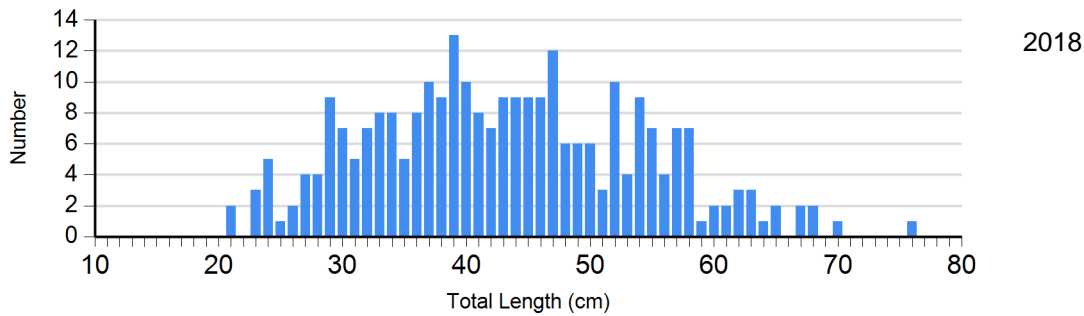
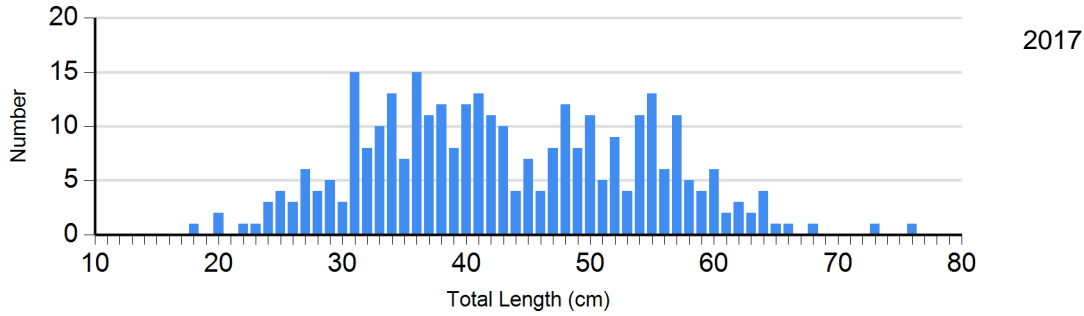
Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Channel Catfish Gill Net	2016	69	85 (2.0)	71	80 (1.0)	4	88 (3.1)	0	
	2017	123	81 (1.2)	162	80 (0.7)	14	79 (2.5)	2	87 (8.3)
	2018	103	81 (0.7)	135	81 (0.7)	16	87 (3.0)	1	90
	2019	151	88 (0.7)	167	89 (0.7)	16	95 (3.1)	3	103 (6.0)
	2020	105	78 (0.9)	182	83 (0.8)	27	93 (2.6)	3	98 (3.8)
Sauger Gill Net	2016	25	83 (1.5)	54	80 (0.7)	32	76 (1.1)	1	83
	2017	19	79 (1.2)	53	78 (1.1)	68	76 (1.3)	0	
	2018	31	81 (1.0)	44	79 (0.8)	41	76 (0.8)	1	71
	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	
Smallmouth Bass Electro Fishing	2016	241	99 (3.2)	130	95 (0.6)	66	96 (0.9)	7	97 (4.7)
	2017	227	91 (1.0)	129	92 (0.9)	49	90 (1.3)	7	90 (2.3)
	2018	139	97 (1.7)	137	93 (0.6)	58	90 (1.3)	3	82 (1.8)
	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)
Walleye Gill Net	2016	73	86 (0.8)	57	87 (1.0)	6	80 (1.2)	0	
	2017	127	83 (0.4)	203	81 (0.4)	17	73 (1.7)	0	
	2018	183	83 (0.3)	101	83 (0.7)	10	75 (3.4)	0	
	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)
White Bass Gill Net	2016	11	110 (1.9)	5	108 (1.3)	1	111	5	98 (2.8)
	2017	1	77	21	100 (1.4)	38	104 (1.4)	50	92 (1.3)

Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
White Bass Gill Net	2018	6	99 (4.0)	1	101	22	103 (1.5)	20	96 (2.9)
	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)

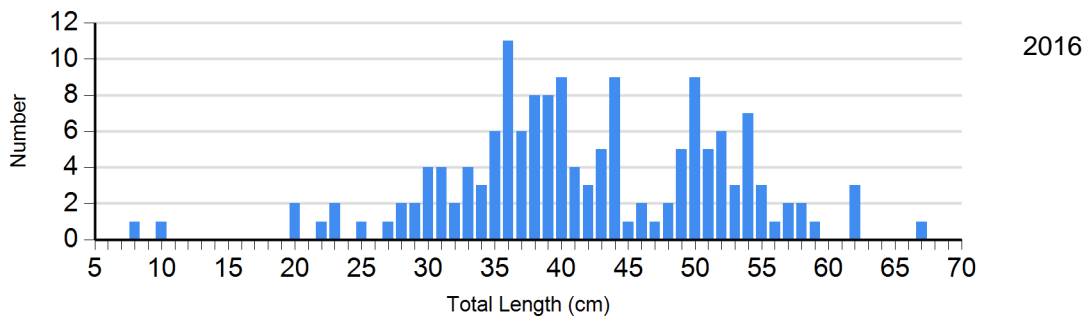
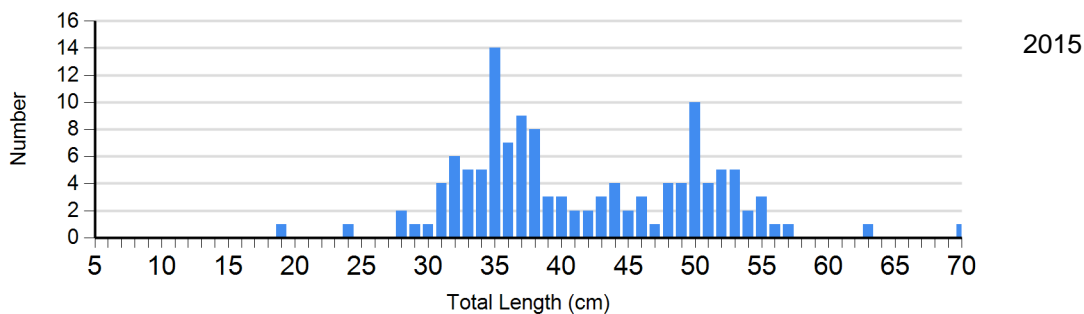
Length Frequency Distribution

Length frequency histogram of species sampled by year.

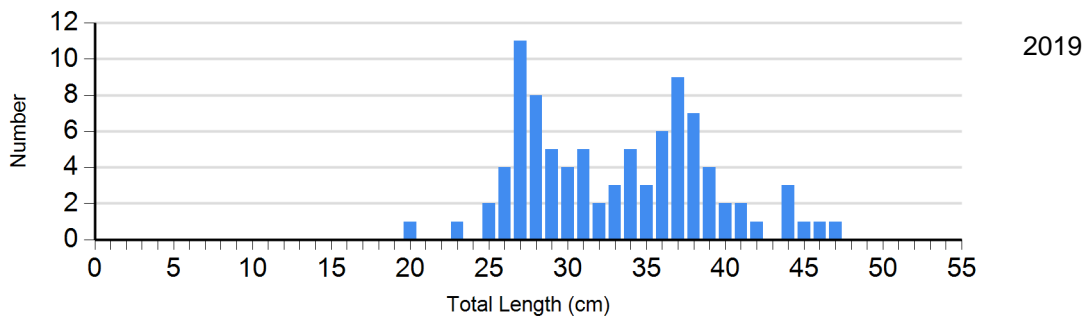
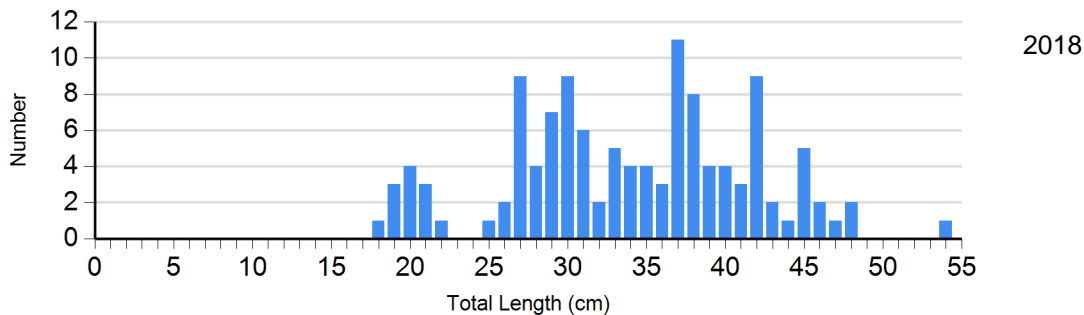
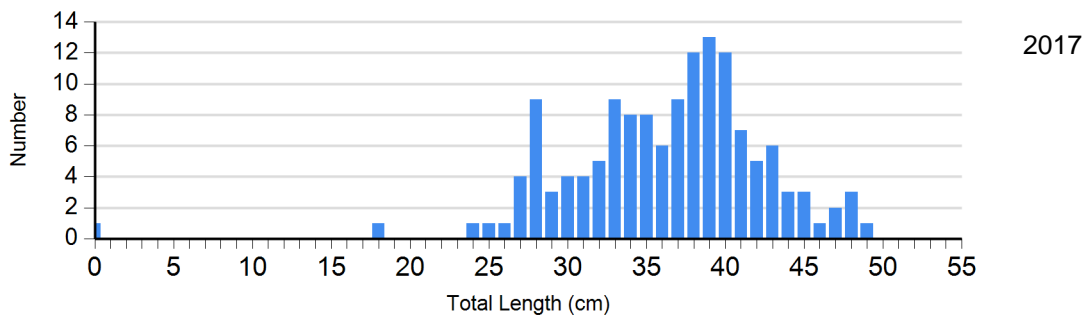
Species: Channel Catfish
Gear: AFS std gill net

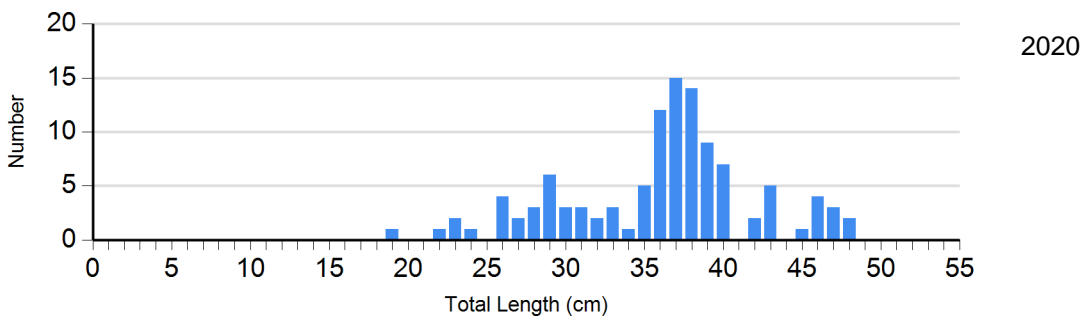


Species: Channel Catfish
Gear: std exp gill net

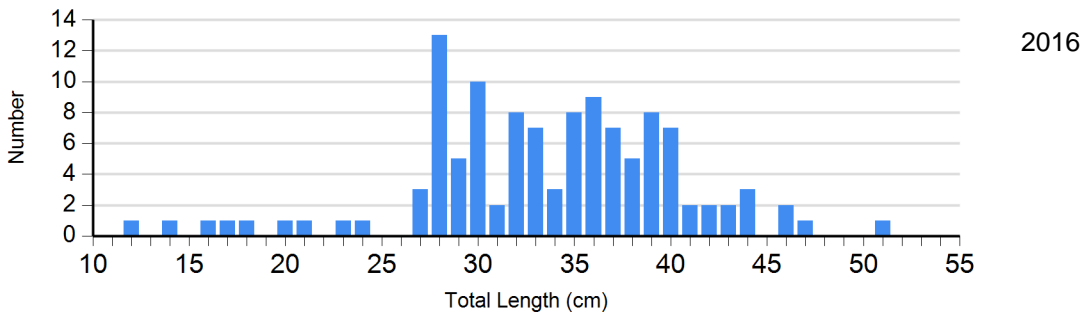
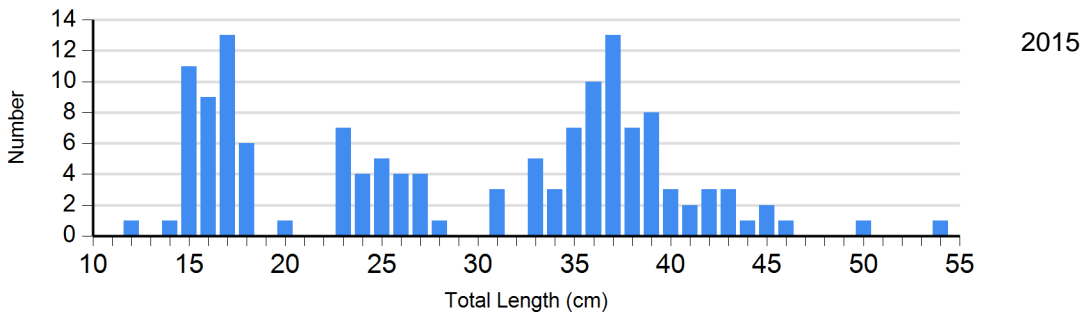


Species: Sauger
Gear: AFS std gill net

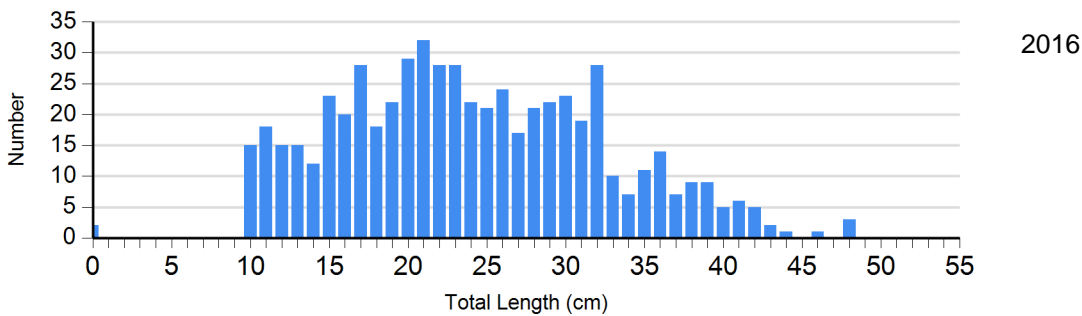
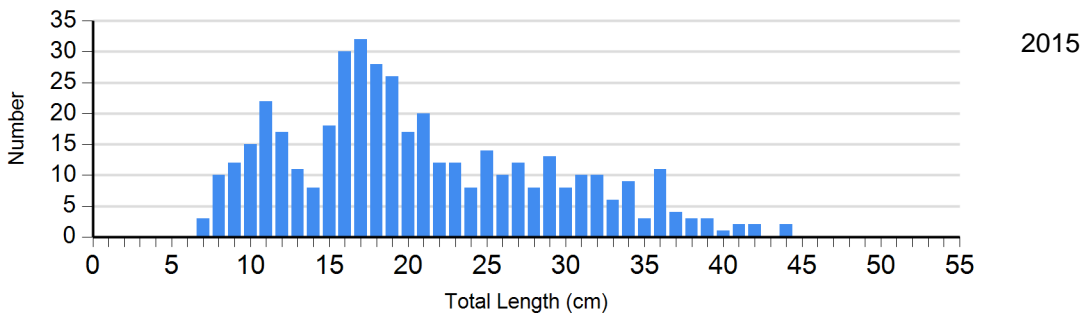


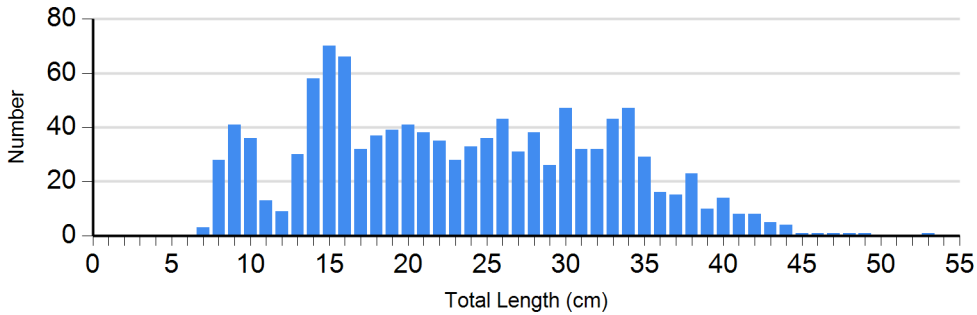
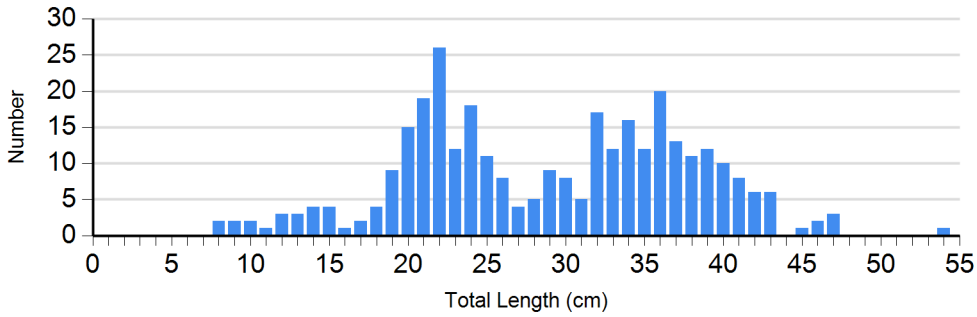
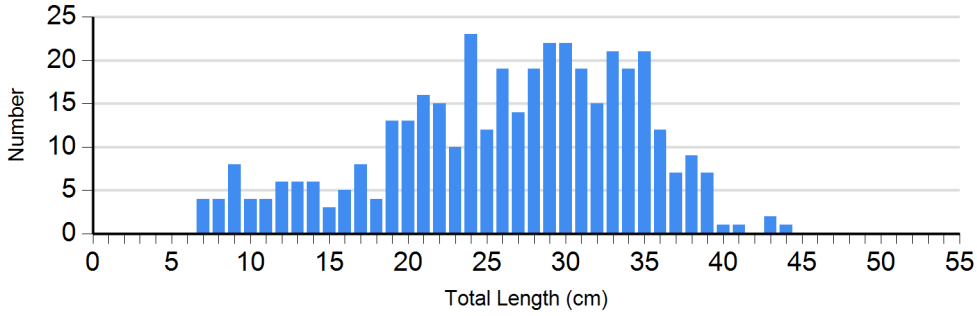
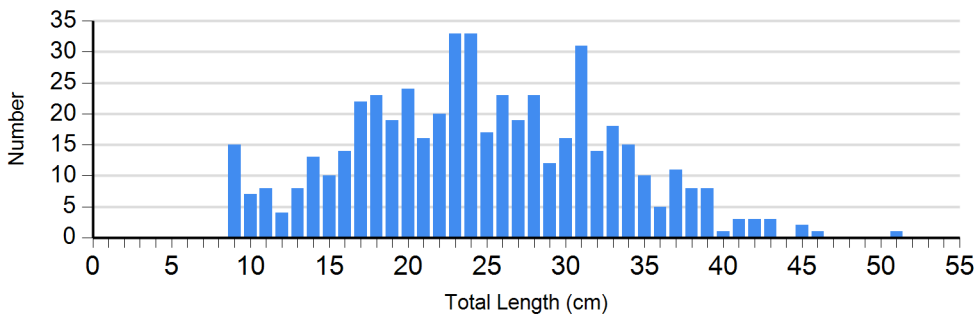


Species: Sauger
Gear: std exp gill net

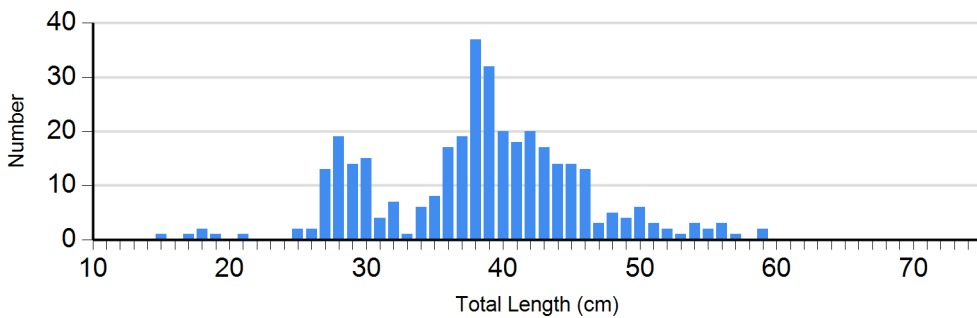


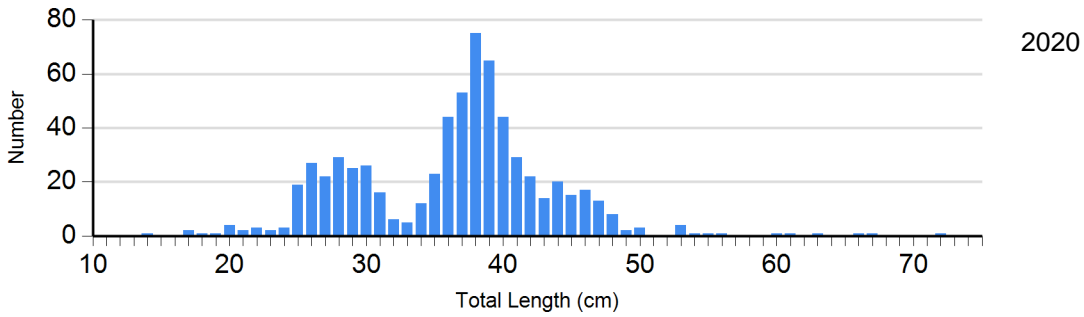
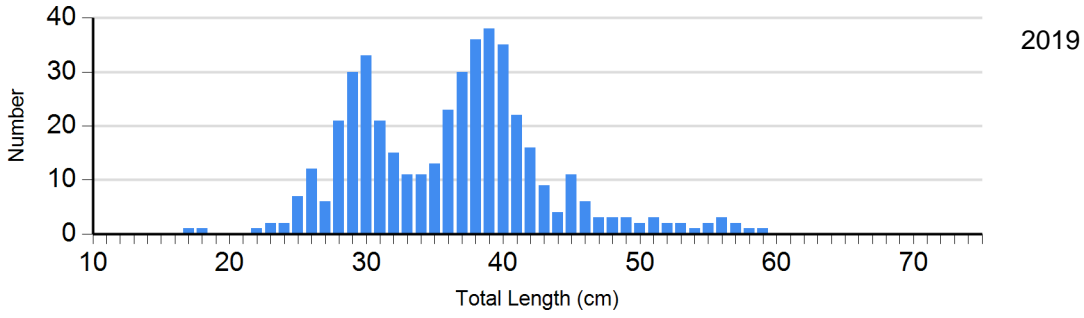
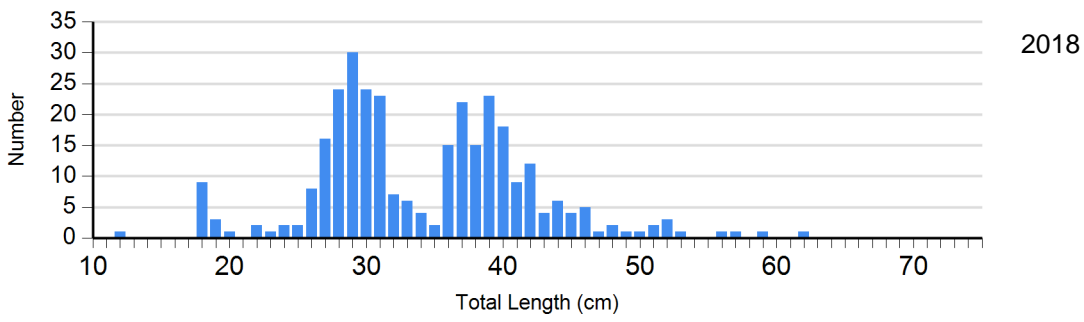
Species: Smallmouth Bass
Gear: boat shocker (night)



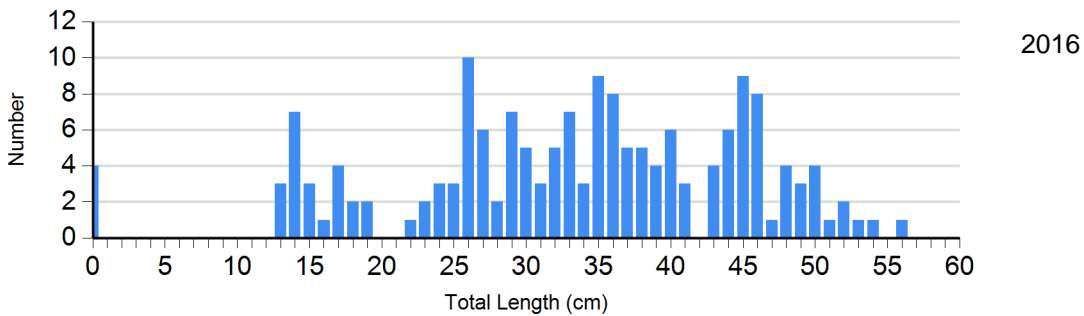
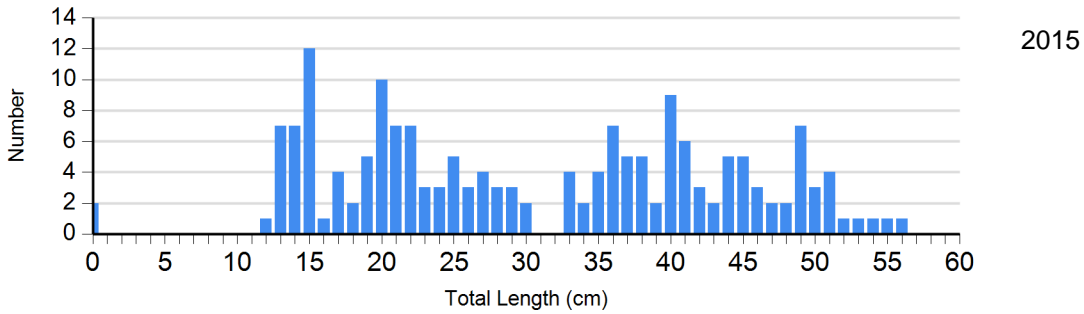


Species: Walleye
 Gear: AFS std gill net

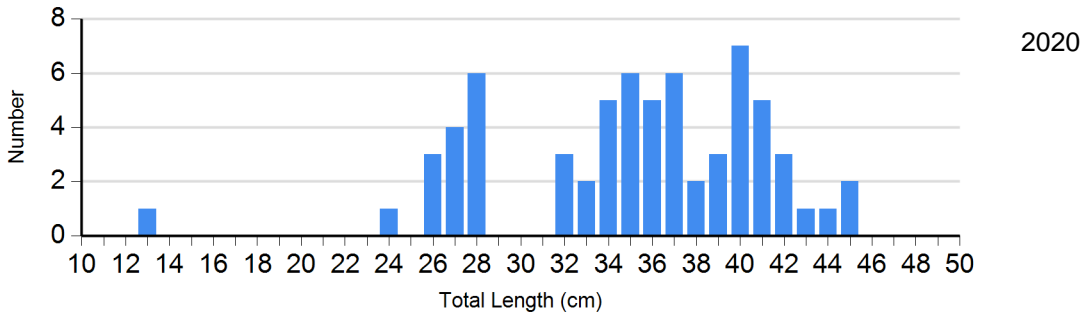
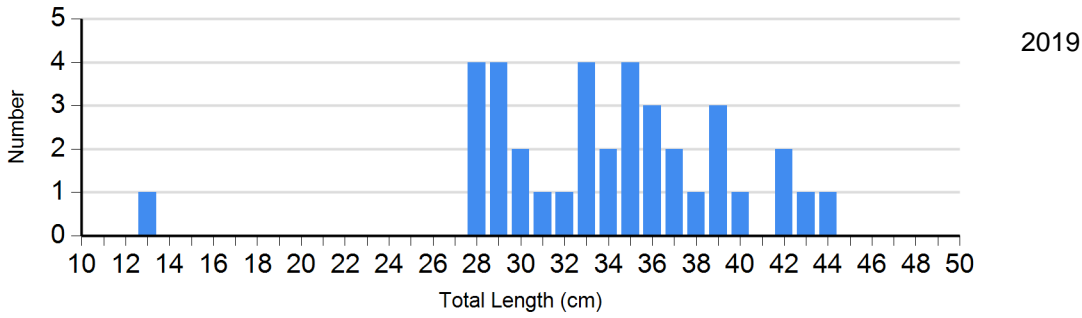
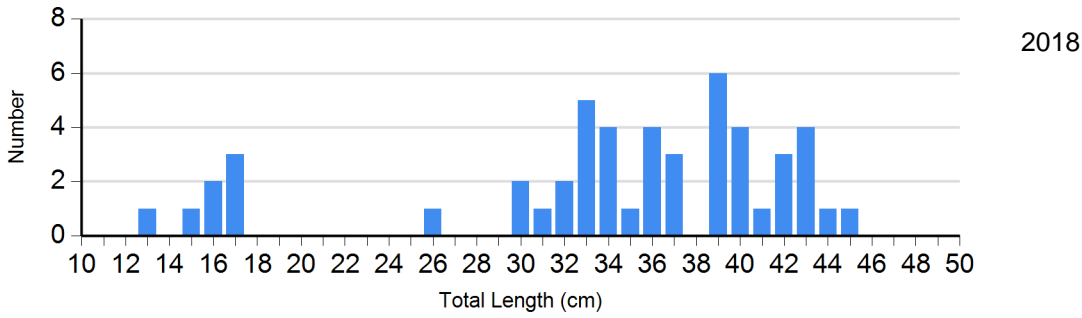
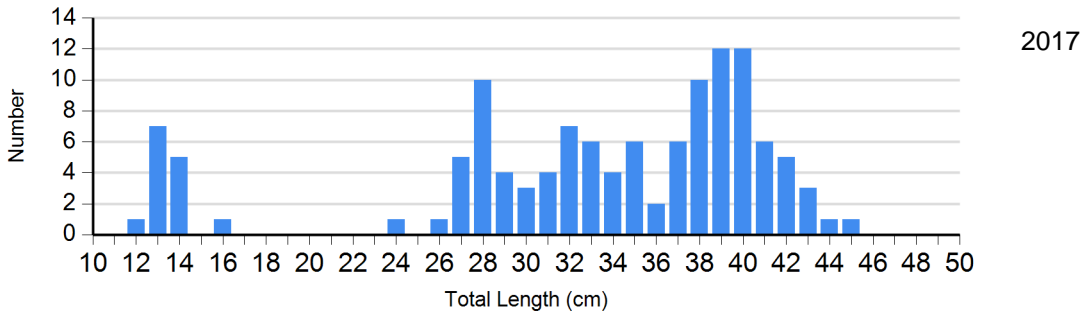




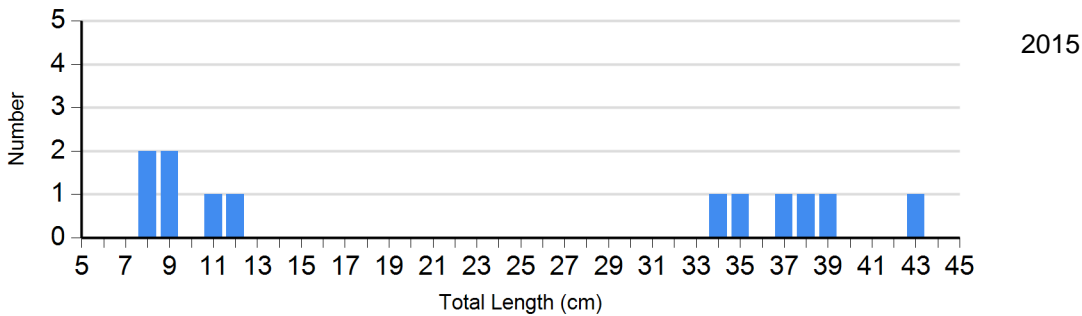
Species: Walleye
Gear: std exp gill net



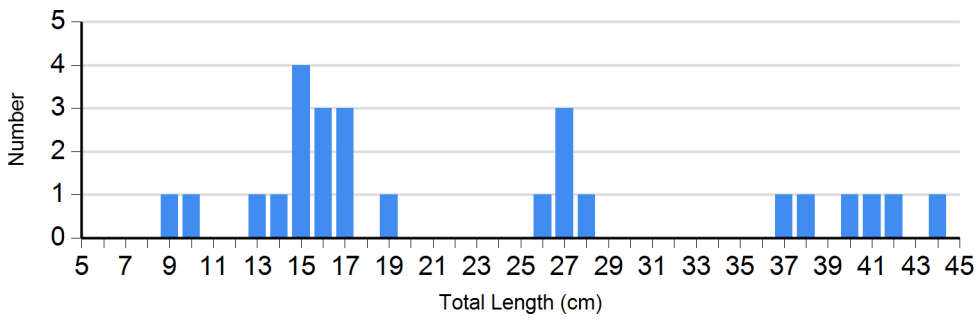
Species: White Bass
 Gear: AFS std gill net



Species: White Bass
 Gear: std exp gill net



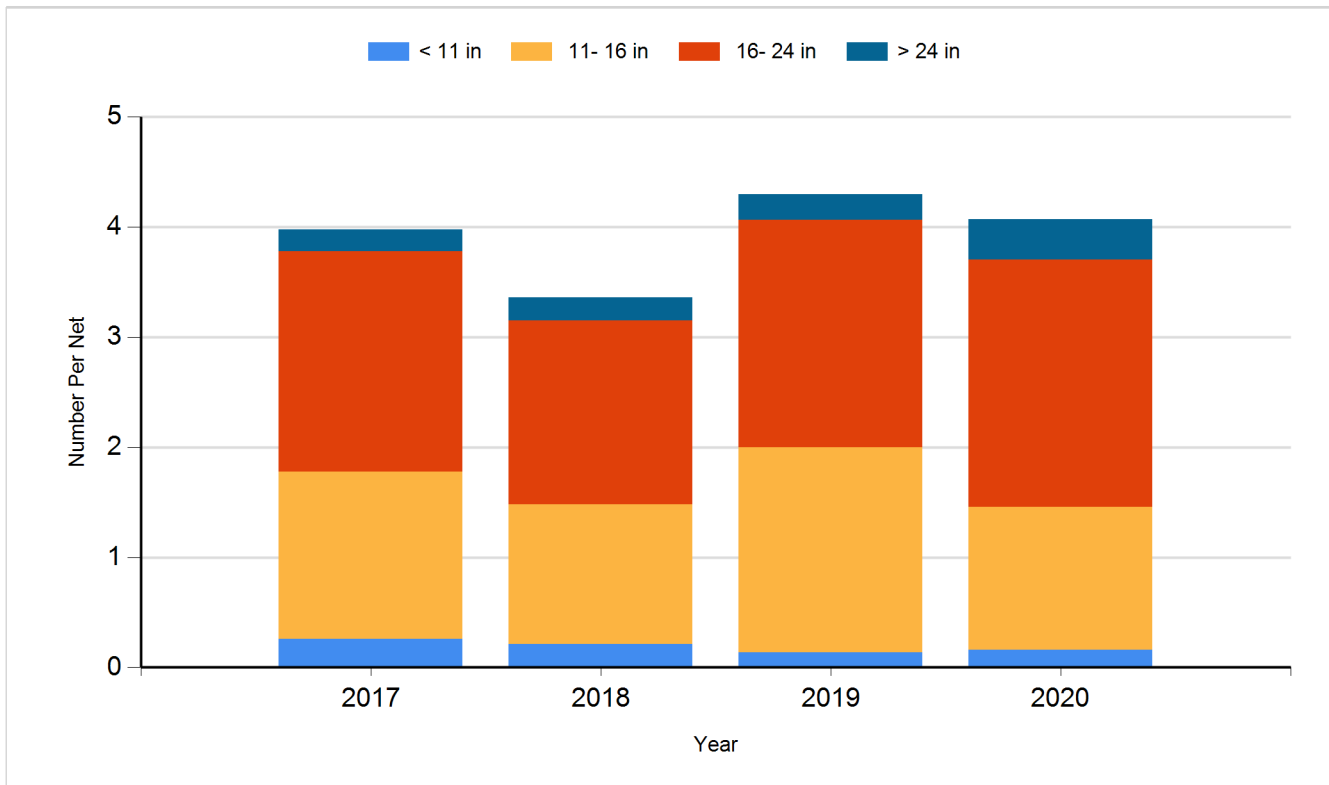
2016



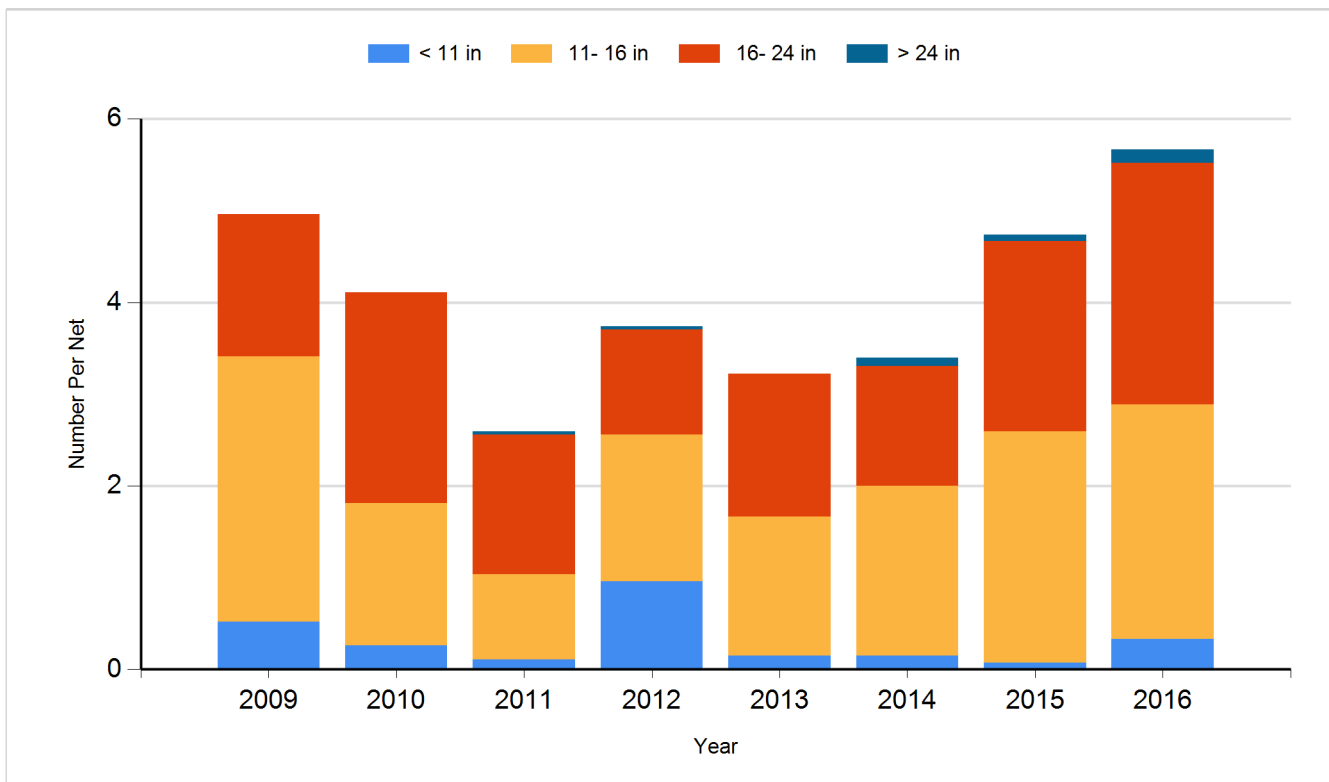
Historic Fish Sizes and Relative Abundance

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

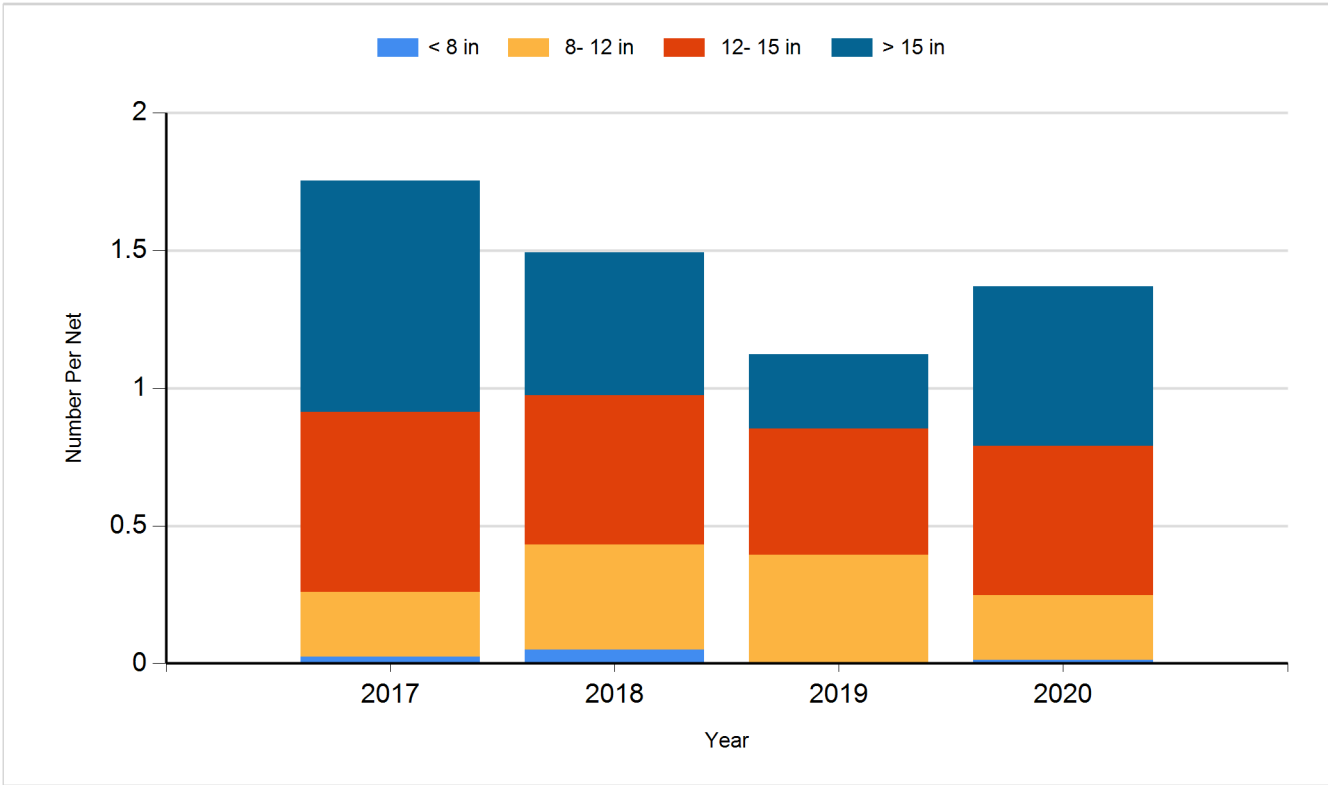
Species: Channel Catfish
Gear: AFS std gill net



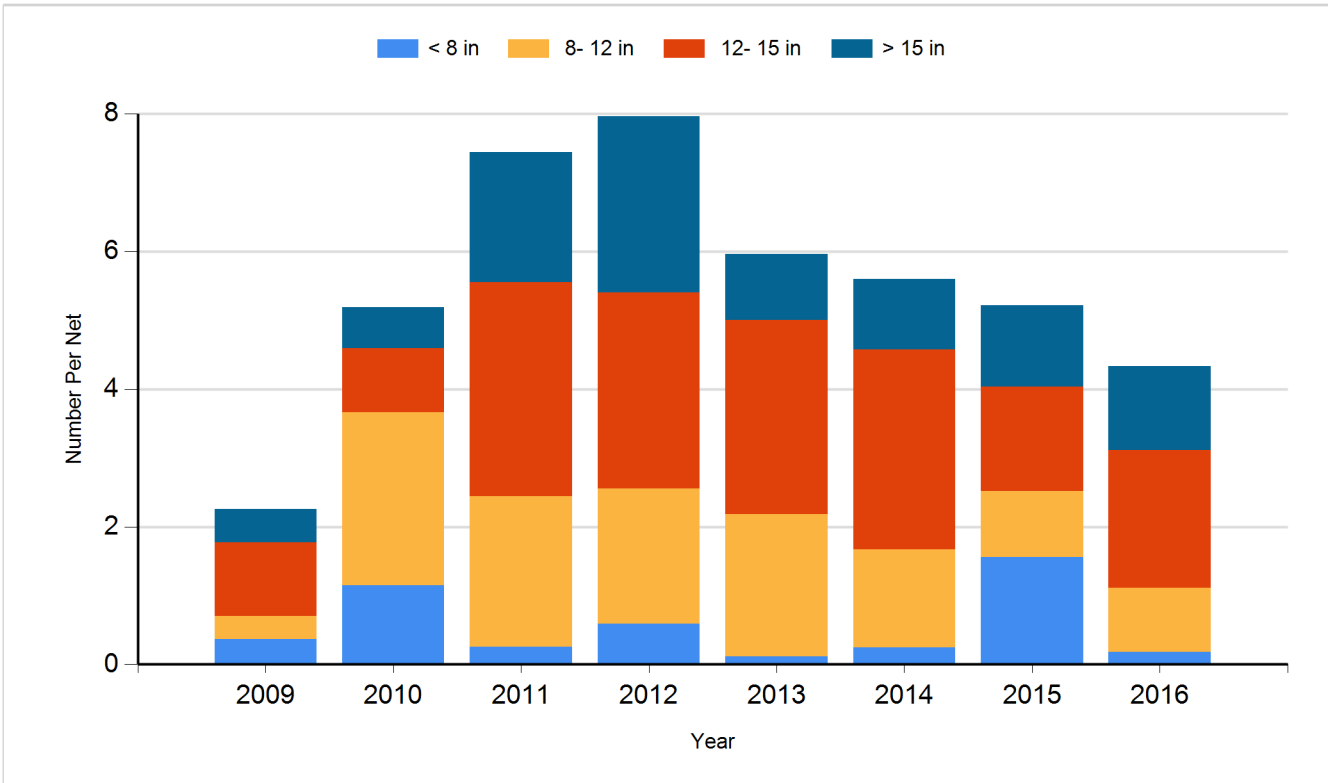
Species: Channel Catfish
Gear: std exp gill net



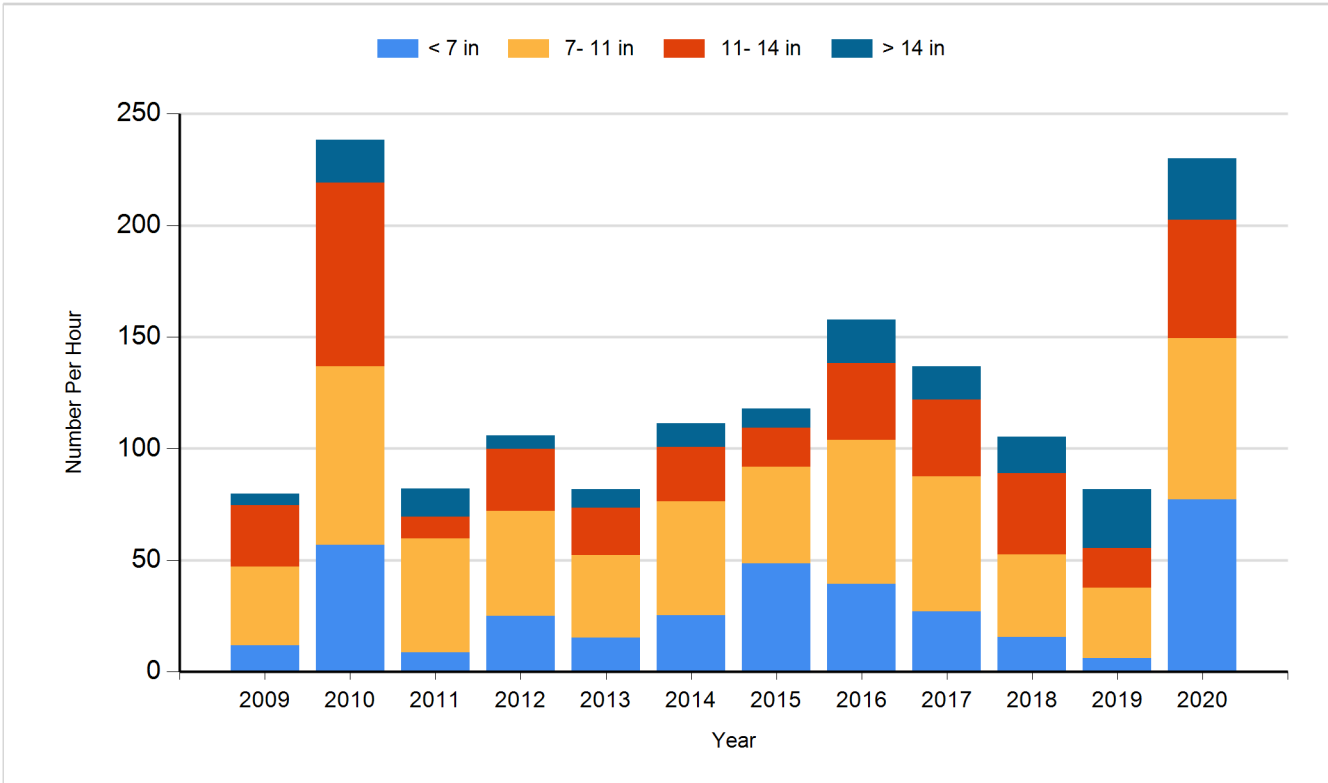
Species: Sauger
Gear: AFS std gill net



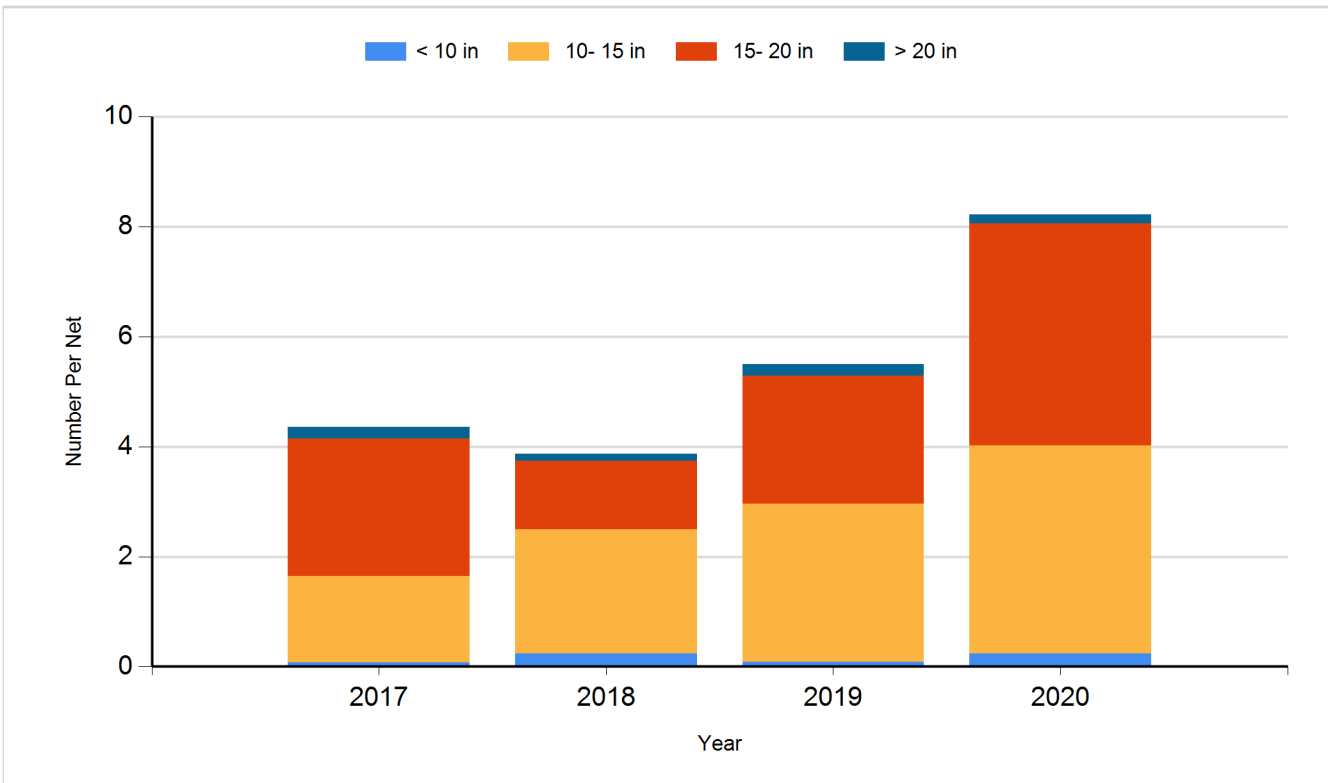
Species: Sauger
Gear: std exp gill net



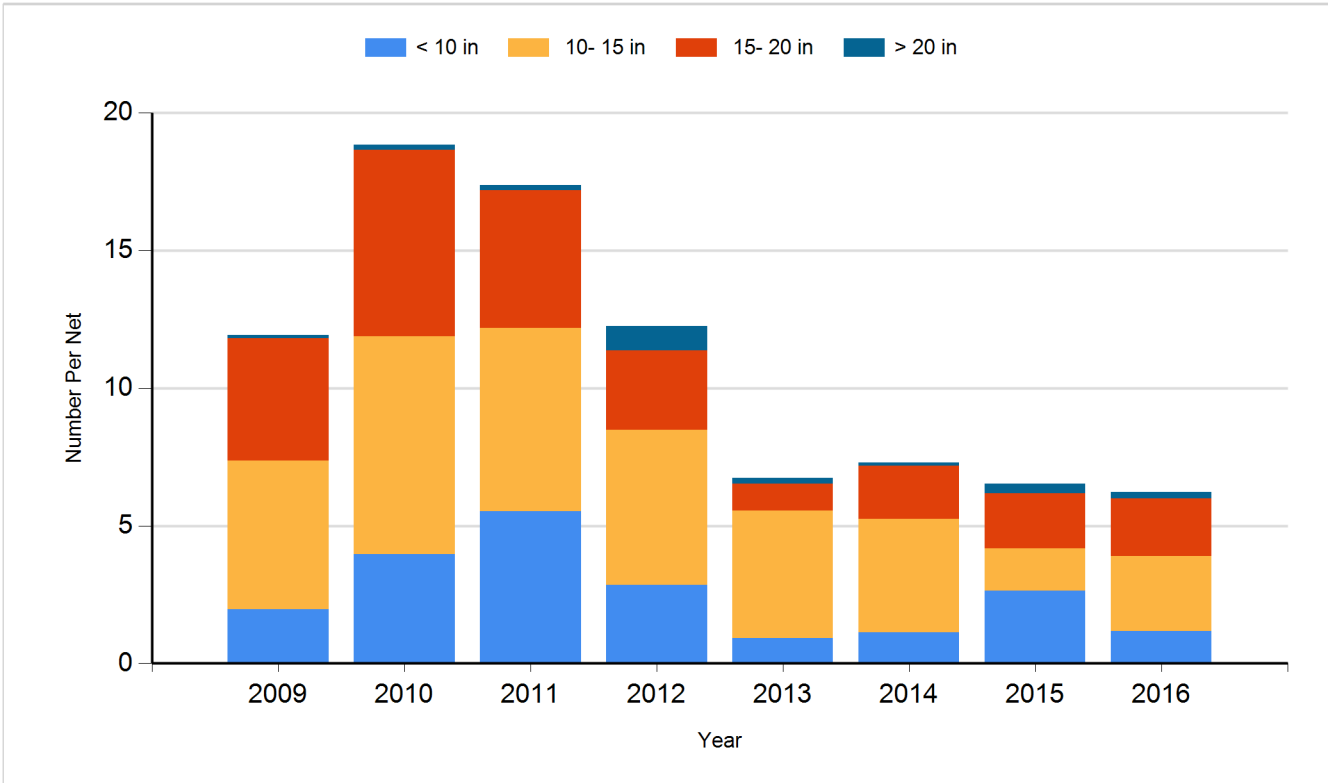
Species: Smallmouth Bass
Gear: boat shocker (night)



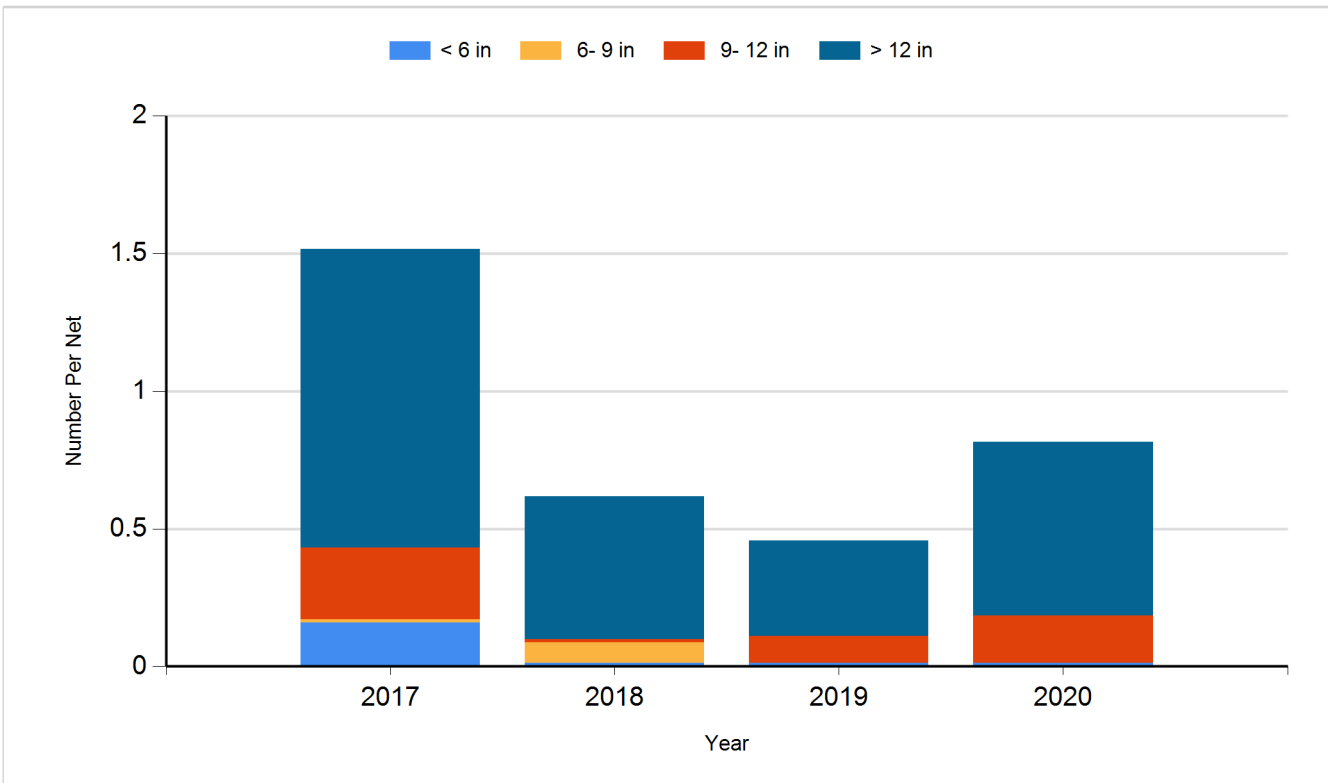
Species: Walleye
Gear: AFS std gill net



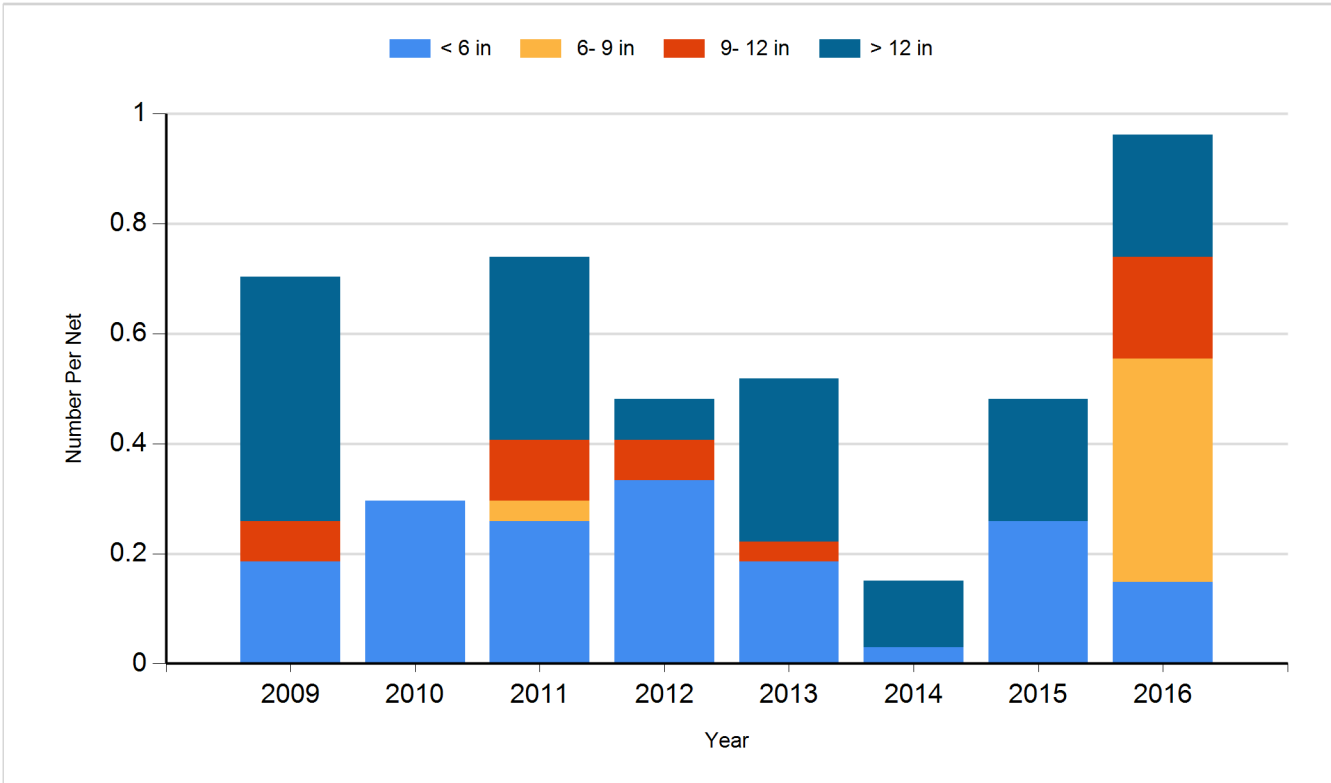
Species: Walleye
Gear: std exp gill net



Species: White Bass
Gear: AFS std gill net



Species: White Bass
Gear: std exp gill net



Fish Stocking

Number of fish stocked by year, species, and size.

Year	Species	Size	Number
2011	Paddlefish	Large Fingerling	55,792
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