Lake Oahe – Upper Fish Population Survey Summary

Lake Oahe is a very large Missouri River reservoir extending from Pierre, South Dakota to Bismarck, North Dakota. For summary and analysis purposes, Lake Oahe is divided into lower and upper regions with the dividing line being the US Highway 212 Bridge. This report is for upper Lake Oahe which is from the US Highway 212 Bridge upstream to the North Dakota State Line. For summary and analysis downstream of US Highway 212 to Oahe Dam, please see Lake Oahe Lower report.

Many species of fish are found within Lake Oahe. A few species of aquatic invasive species (AIS) exists on Lake Oahe and include European Rudd, Eurasian Watermilfoil, and Curly-Leafed Pondweed. Please remember to clean, drain, and dry all equipment used on Lake Oahe before future use. Lake Oahe follows state-wide fishing regulations, no special regulations exists. Fishing access is plentiful on Upper Lake Oahe with miles of shore fishing access, four State Recreation Areas with all facilities, and eight additional ramps that provide access for anglers to fish Lake Oahe.

Below are summaries for Lake Oahe – Upper from fisheries surveys completed in 2019. Survey methods completed in 2019 include shoreline seining to index prey near shore, AFS standard gill nets to index adult fish, small mesh gill nets in August to index small fish offshore, and electrofishing to index young Walleye produced during that year.

- **Channel Catfish:** Channel Catfish are abundant throughout Lake Oahe especially in embayments. Gill net catches help determine population trends in fish populations. Catfish gill net catch was 5.9 fish/net which is slightly below the average of 8.9. Majority (78%) of the fish collected were larger than 16 inches and approximately 4 percent of them also exceeded 24 inches. The average size collected in 2019 survey was 18 inches. Channel Catfish condition or plumpness was very good as well (85 Wr). Anglers that target Channel Catfish in Lake Oahe can do very well and have a fun day of fishing.

- **Northern Pike:** Abundance of Northern Pike fluctuates on Lake Oahe depending on flooded vegetation and raising water levels in the spring helping to spur production of young fish. It is difficult to get an accurate account on Northern Pike abundance within a lake due to the difficulty of netting them. Lake Oahe Northern Pike abundance remain stable according to 2019 gill net survey with 0.2 fish/net. Sizes collected by netting ranged from 24 to 38 inches. Larger fish do exist throughout the lake with many caught by anglers over 20 pounds. Lake Oahe exhibits prime conditions to produce trophy Northern Pike. Occasional flooded vegetation for production, deep cool water for the summer months, and a large variety of food sources including Lake Herring and Rainbow Smelt can help produce large Northern Pike.

- **Smallmouth Bass:** Lake Oahe has a great population of Smallmouth Bass. They tend to be attracted to the rocky shorelines found throughout the lake including riprap. Net catches remained similar to previous years with 1.0 fish/net collected in 2019. Size collected during survey ranged from 6 to 18 inches and averaged 14 inches. Approximately 46 percent of the fish collected were larger than 14 inches. Many larger fish do exist within Lake Oahe. Catching a few Smallmouth Bass can add excitement to your fishing trip.

- **Walleye:** Walleye are the most targeted fish by anglers on Lake Oahe. Walleye abundance continues to remain stable with 2.2 fish/net in 2019 which is near the average of 2.4 fish/net. Approximately 30 percent of the fish collected surpassed 15 inches with 7 percent were also larger than 20 inches. Fish condition or fatness remained stable from previous years (82 Wr). Currently by the age of four most Walleye average approximately 14.5 inches. Fall electrofishing helps to index the abundance of young walleye produced. In 2019, 64.9 young Walleye were collected per hour and in 2017, 81.5 fish were collected per hour. This indicates a good abundance of Walleye was produced. Time will tell if these young Walleye fully make it into the population for anglers to catch. Most years anglers fishing the upper portion of Lake Oahe do best for Walleye during late-May through June and then again in the fall months for larger fish.

- **Yellow Perch:** Yellow Perch are an additional species found in Lake Oahe that are caught by anglers and provides a prey for larger fish within the lake. Abundance is near average at 1.0 fish/net. Approximately 49 percent of the Yellow Perch collected were larger than 8 inches with 8 percent larger than 10 inches. Many of the Yellow Perch caught by anglers are accidently caught while targeting Walleye.

For more detailed results see the computer-generated South Dakota Statewide Fisheries Survey for Lake Oahe – Upper below. Please contact South Dakota Game, Fish and Parks Fort Pierre office – (605) 223-7700 for additional information.

Prepared 02-25-2020 by KDP

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Oahe Upper, Campbell County
ULO-Lake-933-000
2019

Lake Information

Name: Oahe Upper

County: Campbell

Surface Area: 124,724 Acres

Surveys and Investigations

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

Gear	Date	Effort
AFS gill net (1/2 inch)	Aug 05, 2019	18 net-nights
AFS gill net (1/2 inch)	Aug 06, 2019	18 net-nights
AFS gill net (1/2 inch)	Aug 07, 2019	16 net-nights
AFS gill net (1/2 inch)	Aug 08, 2019	36 net-nights
AFS std gill net	Aug 05, 2019	18 net-nights
AFS std gill net	Aug 06, 2019	18 net-nights
AFS std gill net	Aug 07, 2019	16 net-nights
AFS std gill net	Aug 08, 2019	36 net-nights
fall night EF-WAE	Oct 16, 2019	3600 seconds
fall night EF-WAE	Oct 22, 2019	3600 seconds
fall night EF-WAE	Oct 24, 2019	3600 seconds
fall night EF-WAE	Oct 31, 2019	1800 seconds
large seine	Jul 29, 2019	4 hauls
large seine	Jul 30, 2019	12 hauls
large seine	Jul 31, 2019	8 hauls

Common Fish Species Present

Walleye

Emerald Shiner

Yellow Perch

Black Crappie

Freshwater Drum

Smallmouth Bass

Spottail Shiner

Channel Catfish

White Sucker

White 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 gill net (1/2 inch)*	Black Crappie	1	0.0	0.0	0		0			
	Channel Catfish	6	0.1	0.0	100		0		80	3
	Common Carp	12	0.1	0.1	100		83		84	3
	Freshwater Drum	3	0.0	0.0	0		0		165	89
	Smallmouth Bass	1	0.0	0.0	100		100		94	
	Spotfin Shiner	3	0.1	0.0						
	Spottail Shiner	63	0.7	0.4						
	Walleye	56	0.6	0.2	0		0		86	1
	White Bass	13	0.1	0.1	0		0		122	6
	White Crappie	2	0.0	0.0	0		0		175	32
	Yellow Perch	76	0.9	0.3	0		0		111	10
AFS std gill net	Bigmouth Buffalo	1	0.0	0.0	100		100		83	
	Black Bullhead	1	0.0	0.0	100		0		101	
	Black Crappie	1	0.0	0.0	100		100		104	
	Channel Catfish	524	5.9	0.9	78	2	4	1	85	0
	Common Carp	50	0.6	0.2	100		80	9	79	2
	Freshwater Drum	67	0.8	0.2	100		57	9	94	2
	Goldeye	34	0.0	0.0						
	Northern Pike	18	0.2	0.1	100		61	19	91	5
	River Carpsucker	20	0.2	0.1	100		90		95	4
	Sauger	9	0.1	0.1	67		33		71	3
	Shorthead Redhorse	28	0.3	0.2	100		82	12	95	2
	Smallmouth Bass	93	1.0	0.3	85	6	46	7	96	1
	Smallmouth Buffalo	6	0.1	0.0	100		67		75	5
	Walleye	269	2.2	0.4	30	5	7	3	82	1
	White Bass	5	0.0	0.0	75		50		99	8
	White Crappie	1	0.0	0.0	100		100		83	
	White Sucker	6	0.1	0.0	100		50		83	9
	Yellow Perch	84	1.0	0.2	49	8	8	5	102	7
fall night EF-WAE*	Walleye	227	64.9	14.2						
large seine*	Bigmouth Buffalo	4	0.2	0.0						
	Black Bullhead	5	0.2	0.1						
	Black Crappie	353	14.7	1.5						

Brassy Minnow	17	0.7	0.4
Channel Catfish	58	2.4	0.1
Common Carp	61	2.5	0.2
Emerald Shiner	1500	62.5	1.9
Fathead Minnow	9	0.4	0.0
Freshwater Drum	344	14.3	1.1
Goldeye	47	2.0	0.3
Iowa Darter	1	0.0	0.0
Johnny Darter	18	0.8	0.0
Lake Herring	26	1.1	1.4
Largemouth Bass	15	0.6	0.1
River Carpsucker	67	2.8	0.2
Shorthead Redhorse	8	0.3	0.0
Smallmouth Bass	277	11.5	0.2
Smallmouth Buffalo	1	0.0	0.0
Spotfin Shiner	1	0.0	0.0
Spottail Shiner	154	6.4	0.2
Walleye	20	0.8	0.9
White Bass	66	2.8	0.1
White Crappie	71	3.0	0.3
White Sucker	111	4.6	0.7
Yellow Perch	771	32.1	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.

		CPUE										
Gear	Species	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Avg
AFS gill net (1/2 inch)	Black Crappie								0.0	0.0	0.0	0.00
	Channel Catfish								0.1	0.0	0.1	0.07
	Common Carp								0.0	0.0	0.1	0.03
	Freshwater Drum								0.0	0.1	0.0	0.03
	Gizzard Shad								1.3	0.0	0.0	0.43
	Goldeye								0.0	0.0	0.0	0.00
	Northern Pike								0.0	0.0	0.0	0.00
	Sauger								0.0	0.0	0.0	0.00
	Shorthead Redhorse								0.0	0.0	0.0	0.00
	Shortnose Gar								0.0	0.0	0.0	0.00
	Smallmouth Bass								0.0	0.0	0.0	0.00
	Spotfin Shiner								0.0	0.0	0.1	0.02
	Spottail Shiner								0.1	0.0	0.7	0.27
	Walleye								0.5	0.2	0.6	0.43
	White Bass								0.3	0.0	0.1	0.13
	White Crappie								0.1	0.0	0.0	0.03
	Yellow Perch								0.4	0.3	0.9	0.53
AFS std gill net	Bigmouth Buffalo								0.0	0.0	0.0	0.00
	Black Bullhead								0.0	0.0	0.0	0.00
	Black Crappie								0.0	0.0	0.0	0.00
	Channel Catfish								9.9	10.7	5.9	8.83
	Common Carp								0.2	0.3	0.6	0.37
	Flathead Catfish								0.0	0.0	0.0	0.00
	Freshwater Drum								1.1	0.5	0.8	0.80
	Gizzard Shad								0.1	0.0	0.0	0.03
	Goldeye								0.0	0.0	0.0	0.00
	Lake Herring								0.0	0.1	0.0	0.02
	Northern Pike								0.2	0.1	0.2	0.17
	River Carpsucker								0.3	0.3	0.2	0.27
	Sauger								0.1	0.1	0.1	0.10
	Shorthead Redhorse								0.2	0.4	0.3	0.30
	Shortnose Gar								0.0	0.0	0.0	0.00
	Smallmouth Bass								0.2	0.7	1.0	0.63
	Smallmouth Buffalo								0.1	0.1	0.1	0.10
	Walleye								2.7	2.2	2.2	2.37
	White Bass								0.2	0.0	0.0	0.07

	White Crappie								0.1	0.0	0.0	0.03
	White Sucker								0.0	0.0	0.1	0.03
	Yellow Perch								0.7	0.6	1.0	0.77
fall night EF-WAE	Walleye								81.5		64.9	73.20
large seine	Bigmouth Buffalo									1.8	0.2	0.98
	Black Bullhead									0.0	0.2	0.10
	Black Crappie									88.3	14.7	51.48
	Brassy Minnow									0.0	0.7	0.35
	Channel Catfish									0.0	2.4	1.23
	Common Carp									0.3	2.5	1.44
	Drum Family									0.1	0.0	0.04
	Emerald Shiner									156.0	62.5	109.23
	Fathead Minnow									29.3	0.4	14.81
	Freshwater Drum									0.0	14.3	7.17
	Goldeye									0.8	2.0	1.40
	Iowa Darter									0.1	0.0	0.06
	Johnny Darter									0.0	0.8	0.38
	Lake Herring									0.0	1.1	0.55
	Largemouth Bass									0.1	0.6	0.35
	River Carpsucker									0.0	2.8	1.40
	Shorthead Redhorse									0.0	0.3	0.17
	Smallmouth Bass									12.0	11.5	11.75
	Smallmouth Buffalo									0.4	0.0	0.21
	Spotfin Shiner									0.0	0.0	0.02
	Spottail Shiner									13.3	6.4	9.85
	Walleye									0.8	0.8	0.78
	White Bass									12.6	2.8	7.67
	White Crappie									50.6	3.0	26.77
	White Sucker									0.0	4.6	2.33
	Yellow Perch									81.1	32.1	56.60
std exp gill net	Bigmouth Buffalo	0.6	0.1	0.0	0.1	0.2	0.0	0.0				0.14
	Black Bullhead	0.0	0.1	0.0	0.0	0.0	0.0	0.0				0.01
	Black Crappie	1.1	0.1	0.3	0.1	0.1	0.0	0.2				0.27
	Brown Bullhead	0.1	0.0	0.0	0.0	0.0	0.0	0.0				0.01
	Channel Catfish	10.9	11.7	22.0	15.1	12.7	13.5	20.0				15.13
	Chinook Salmon	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00
	Common Carp	2.0	1.1	1.3	1.2	1.3	0.9	2.0				1.40
	Freshwater Drum	3.0	0.6	0.9	1.2	1.3	0.8	1.3				1.30
	Gizzard Shad	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00
	Goldeye	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	0.1	0.01
Northern Pike	0.5	2.6	1.6	1.1	0.3	0.5	0.9	1.07
Paddlefish	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Rainbow Smelt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
River Carpsucker	1.6	0.6	1.0	0.2	0.4	0.6	0.3	0.67
Sauger	1.6	0.7	0.5	0.2	0.6	0.1	0.1	0.54
Shorthead Redhorse	0.6	0.2	1.6	1.4	2.2	0.7	0.3	1.00
Shortnose Gar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Smallmouth Bass	1.9	0.6	0.6	0.4	0.3	0.6	1.1	0.79
Smallmouth Buffalo	0.0	0.1	0.7	0.0	0.1	0.2	0.3	0.20
Spottail Shiner	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Walleye	8.4	16.5	19.0	13.7	13.6	9.3	7.4	12.56
White Bass	0.3	0.5	0.9	1.1	0.3	0.8	0.3	0.60
White Crappie	2.1	1.2	0.6	0.9	0.4	0.1	0.2	0.79
White Sucker	0.2	0.1	0.0	0.0	0.1	0.1	0.2	0.10
Yellow Perch	22.5	11.3	2.7	1.0	2.9	2.9	1.8	6.44

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AFS gill net (1/2 inch)	Black Crappie	PSD								0	0	0
		PSD-P								0	0	0
	Channel Catfish	PSD								14	40	100
		PSD-P								0	0	0
		Wr								79	75	80
	Common Carp	PSD								100	100	100
		PSD-P								100	0	83
		Wr								86	92	84
	Gizzard Shad	PSD								0		
		Wr								250		
	Northern Pike	PSD								100		
		PSD-P								0		
		Wr								89		
	Sauger	PSD								50		
		PSD-P								0		
		Wr								73		
	Shorthead Redhorse	PSD								100	0	
		PSD-P								0	0	
		Wr								86		
	Smallmouth Bass	PSD									0	100
		PSD-P									0	100
		Wr										94
	Walleye	PSD								0	0	0
		PSD-P								0	0	0
		Wr								88	96	86
	White Bass	PSD								0	0	0
		PSD-P								0	0	0
		Wr								182	112	122
	White Crappie	PSD								0	0	0
		PSD-P								0	0	0
		Wr								300	225	175
	Yellow Perch	PSD								18	0	0
		PSD-P								0	0	0
		Wr								115	103	111

AFS std gill net	Bigmouth Buffalo	PSD			100
		PSD-P			100
		Wr			83
	Black Bullhead	PSD		0	100
		PSD-P		0	0
		Wr		84	101
	Black Crappie	PSD		67	100
		PSD-P		67	100
		Wr		104	104
	Channel Catfish	PSD	53	61	78
		PSD-P	4	2	4
		Wr	81	84	85
	Common Carp	PSD	100	100	100
		PSD-P	54	82	80
		Wr	91	81	79
	Flathead Catfish	PSD	100		
		PSD-P	0		
		Wr	98		
	Gizzard Shad	PSD	100		
		Wr	99		
	Lake Herring	PSD	100		
		PSD-P	0		
		Wr	83		
	Northern Pike	PSD	100	100	100
		PSD-P	38	80	61
		Wr	88	88	91
	River Carpsucker	PSD	100	100	100
		PSD-P	93	100	90
		Wr	103	103	95
	Sauger	PSD	88	86	67
		PSD-P	25	14	33
		Wr	75	79	71
	Shorthead Redhorse	PSD	91	94	100
		PSD-P	36	50	82
		Wr	94	93	95
	Smallmouth Bass	PSD	69	94	85
		PSD-P	23	33	46
		Wr	94	97	96
	Smallmouth Buffalo	PSD	100	100	100
		PSD-P	100	38	67

		Wr								72	89	75
	Walleye	PSD								20	32	30
		PSD-P								0	8	7
		Wr								81	82	82
	White Bass	PSD								77	100	75
		PSD-P								46	100	50
		Wr								94	84	99
	White Crappie	PSD								100	100	100
		PSD-P								100	100	100
		Wr								78	74	83
	White Sucker	PSD								100	100	100
		PSD-P								100	100	50
		Wr								90	96	83
	Yellow Perch	PSD								64	74	49
		PSD-P								17	26	8
		Wr								85	92	102
std exp gill net	Bigmouth Buffalo	PSD	100	100		100	100					
		PSD-P	91	100		100	100					
		Wr	86	85		91	90					
	Black Bullhead	PSD		0								
		PSD-P		0								
		Wr		85								
	Black Crappie	PSD	13	50	100	100	100		100			
		PSD-P	0	0	67	100	50		75			
		Wr	114	109	102	102	109		78			
	Brown Bullhead	PSD	100									
		PSD-P	0									
		Wr	95									
	Channel Catfish	PSD	58	55	53	51	39	60	66			
		PSD-P	3	8	8	8	3	10	3			
		Wr	86	91	82	83	85	83	81			
	Common Carp	PSD	95	100	100	95	100	100	100			
		PSD-P	49	68	63	71	67	75	81			
		Wr	88	92	95	88	88	87	87			
	Lake Herring	PSD							100			
		PSD-P							100			
		Wr							69			
	Northern Pike	PSD	60	68	89	90	80	11	76			
		PSD-P	10	15	25	60	60	0	6			
		Wr	89	83	71	77	86	80	88			

River Carpsucker	PSD	75	100	100	100	100	90	100
	PSD-P	50	100	83	100	100	90	100
	Wr	100	98	104	108	103	98	98
Sauger	PSD	89	100	100	100	90	100	100
	PSD-P	61	69	78	25	10	100	0
	Wr	77	73	62	72	79	67	73
Shorthead Redhorse	PSD	100	100	93	100	100	92	83
	PSD-P	50	100	57	65	95	83	83
	Wr	104	100	96	89	104	94	92
Smallmouth Bass	PSD	76	91	82	88	100	30	70
	PSD-P	61	55	27	63	67	30	35
	Wr	106	97	93	101	104	100	89
Smallmouth Buffalo	PSD		100	100		100	100	100
	PSD-P		0	100		100	67	100
	Wr		100	92		91	86	90
Walleye	PSD	40	19	8	5	28	24	16
	PSD-P	8	5	3	2	2	0	2
	Wr	85	85	82	83	85	83	80
White Bass	PSD	80	78	100	100	100	100	100
	PSD-P	80	78	81	100	100	100	80
	Wr	100	89	92	89	92	98	92
White Crappie	PSD	65	90	100	100	100	50	100
	PSD-P	2	19	100	100	100	50	100
	Wr	104	98	93	87	87	97	77
White Sucker	PSD	100	100			100	100	67
	PSD-P	100	100			100	100	67
	Wr	103	103			91	99	84
Yellow Perch	PSD	19	44	75	72	37	29	61
	PSD-P	0	1	2	22	8	2	15
	Wr	99	90	86	84	99	93	90

Length at Capture

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

Species: Sauger

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2019	9		260 (1)	287 (3)	343 (1)	401 (4)					
2018	7	250 (1)	314 (1)	357 (2)	363 (3)						
2017	7	214 (1)		325 (4)	357 (2)						
2016	1			315 (1)							
2015	1							428 (1)			
2013	4				339 (1)	375 (3)					
2012	6			362 (3)		448 (3)					
2011	13		339 (1)	365 (1)	374 (2)	482 (5)	475 (4)				
2010	28	290 (1)	303 (8)	383 (5)	448 (9)	494 (5)					

Species: Walleye

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2019	268	216 (68)	271 (58)	329 (57)	371 (35)	390 (29)	472 (3)	476 (2)	432 (1)		602 (17)
2018	231	207 (24)	279 (61)	337 (42)	381 (76)	422 (7)	512 (3)	552 (5)	643 (1)	569 (8)	566 (3)
2017	186	201 (31)	263 (28)	335 (101)	403 (18)	483 (1)	446 (4)	445 (1)	455 (4)		
2016	171	182 (14)	273 (126)	356 (11)	410 (5)	408 (6)	466 (6)	474 (3)			
2015	271	214 (112)	322 (47)	362 (62)	385 (20)	392 (7)	398 (24)				
2014	290	237 (56)	313 (50)	350 (35)	370 (21)	376 (125)	395 (1)	562 (3)	553 (1)		
2013	269	207 (19)	259 (16)	294 (18)	329 (205)	407 (9)	580 (1)				662 (1)
2012	377	210 (32)	272 (43)	315 (285)	383 (8)	551 (1)	523 (4)	504 (2)	551 (1)		643 (2)
2011	466	199 (32)	270 (363)	379 (47)	449 (8)	519 (6)	521 (4)			534 (1)	630 (5)
2010	374	211 (234)	323 (80)	434 (28)	479 (17)	468 (11)	459 (2)			528 (1)	642 (1)

Fish Condition

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

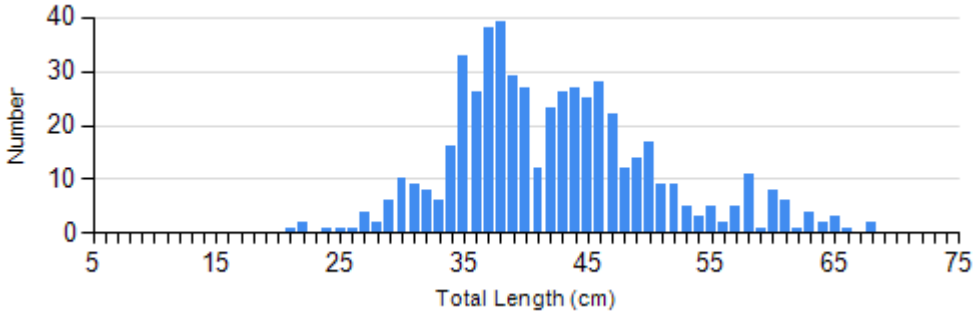
		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Bullhead Gill Net	2018	1	84	0		0		0	
	2019	0		1	101	0		0	
Channel Catfish Gill Net	2015	96	84 (0.9)	122	83 (0.6)	25	80 (2.4)	0	
	2016	124	83 (1.2)	224	79 (0.5)	12	86 (2.6)	0	
	2017	249	82 (0.8)	264	79 (0.7)	19	85 (2.2)	0	
	2018	373	86 (1.0)	571	84 (0.5)	19	88 (2.2)	1	91
	2019	116	87 (0.6)	384	84 (0.4)	18	83 (3.3)	1	94
Common Carp Gill Net	2015	0		4	83 (4.0)	10	88 (2.5)	2	91 (1.0)
	2016	0		7	89 (2.9)	27	87 (1.2)	2	89 (1.9)
	2017	0		6	85 (2.6)	6	97 (3.0)	1	87
	2018	0		5	87 (3.6)	23	79 (2.5)	0	
	2019	0		10	76 (7.4)	38	79 (1.6)	2	91 (2.6)
Northern Pike Gill Net	2015	8	81 (1.7)	1	70	0		0	
	2016	4	78 (1.0)	12	92 (1.4)	1	87	0	
	2017	0		8	84 (3.7)	4	97 (5.0)	1	91
	2018	0		2	100 (1.4)	6	81 (7.0)	2	95 (4.5)
	2019	0		7	87 (2.2)	10	95 (5.8)	1	74
Sauger Gill Net	2015	0		0		1	67	0	
	2016	0		1	73	0		0	
	2017	1	79	5	71 (1.6)	2	84 (10.0)	0	
	2018	1	96	5	76 (2.3)	1	77	0	
	2019	3	75 (2.1)	3	72 (2.5)	3	67 (6.5)	0	
Walleye Gill Net	2015	127	84 (0.5)	41	82 (0.6)	0		0	
	2016	112	80 (0.6)	19	76 (1.3)	2	88 (5.6)	0	

	2017	118	81 (0.5)	30	79 (1.0)	0		0	
	2018	135	82 (1.1)	47	81 (0.7)	10	86 (2.3)	6	87 (1.9)
	2019	136	82 (0.4)	45	82 (0.9)	3	79 (6.1)	10	81 (3.2)
White Bass Gill Net	2015	0		0		1	94	13	98 (2.9)
	2016	0		1	96	0		4	91 (2.3)
	2017	3	93 (0.7)	4	94 (1.6)	4	97 (4.1)	2	92 (4.6)
	2018	0		0		0		1	84
	2019	1	99	1	116	0		2	91 (5.2)
White Sucker Gill Net	2015	0		0		1	99	0	
	2016	1	84	0		0		2	84 (1.2)
	2017	0		0		1	90	0	
	2018	0		0		1	90	2	99 (8.8)
	2019	0		3	70 (7.9)	2	97 (4.2)	1	98
Yellow Perch Gill Net	2015	37	93 (1.3)	14	92 (2.5)	1	84	0	
	2016	13	102 (14.7)	15	84 (1.6)	5	79 (4.9)	0	
	2017	13	90 (2.2)	17	84 (2.4)	6	77 (3.0)	0	
	2018	13	94 (2.1)	24	94 (1.9)	13	86 (2.3)	0	
	2019	43	109 (10.5)	34	96 (1.4)	7	87 (1.4)	0	

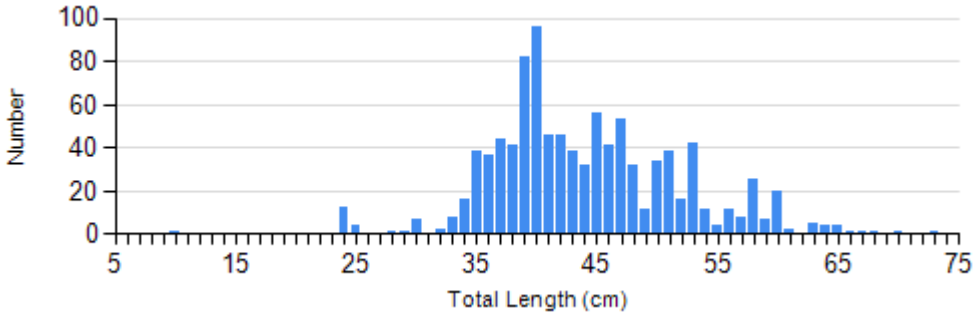
Length Frequency Distribution

Length frequency histogram of species sampled by year.

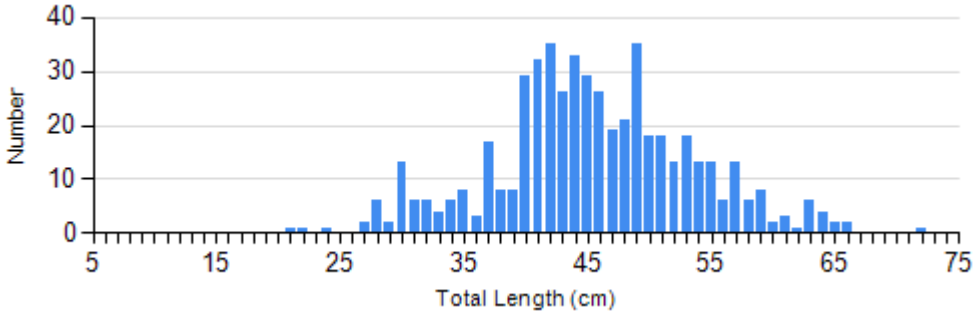
Species: Channel Catfish
Gear: AFS std gill net



2017

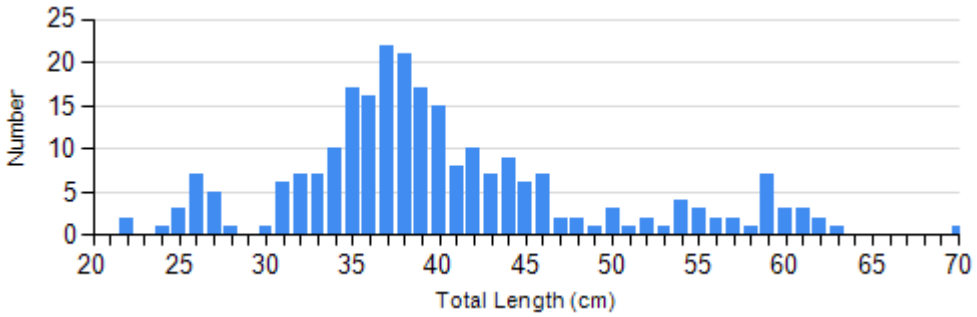


2018

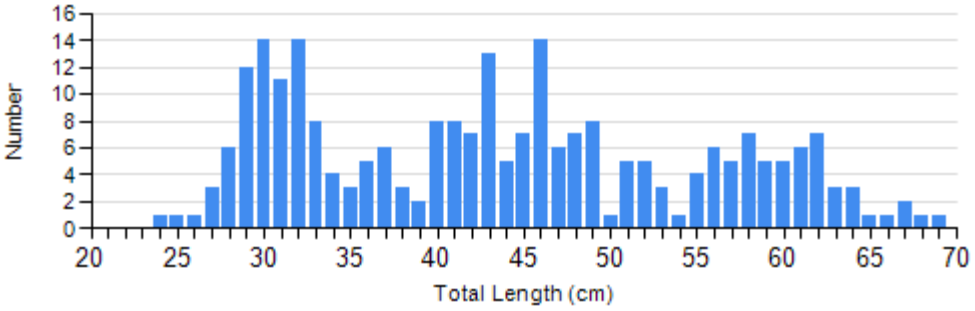


2019

Species: Channel Catfish
Gear: std exp gill net



2014



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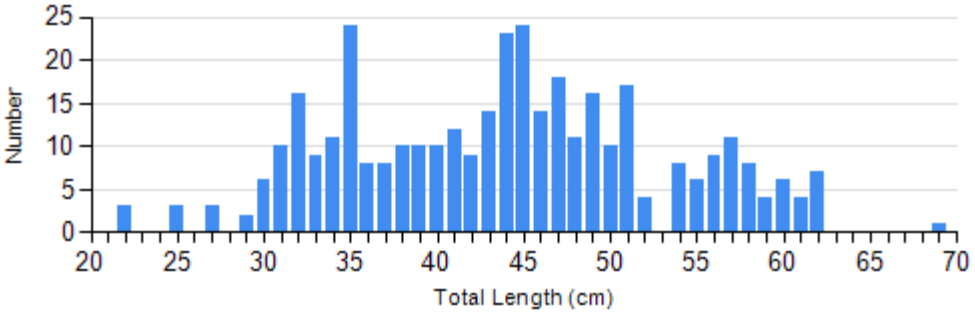
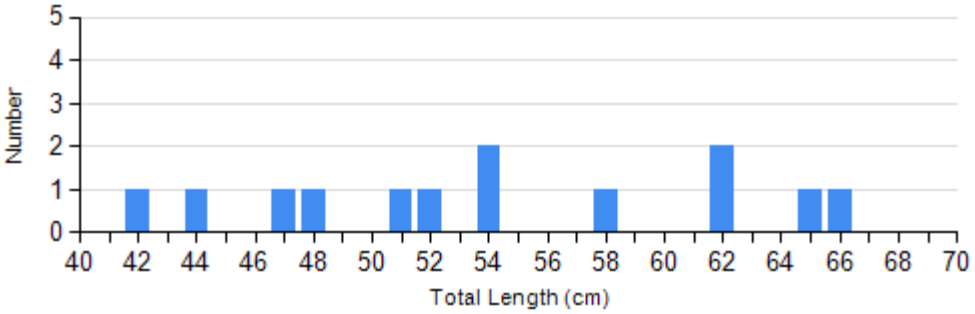
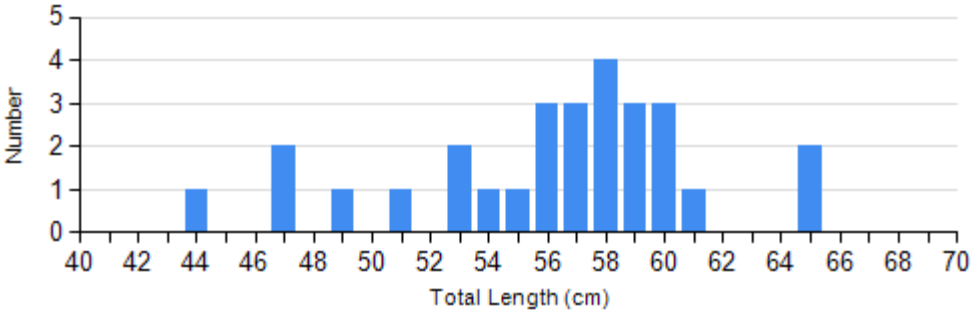


2016

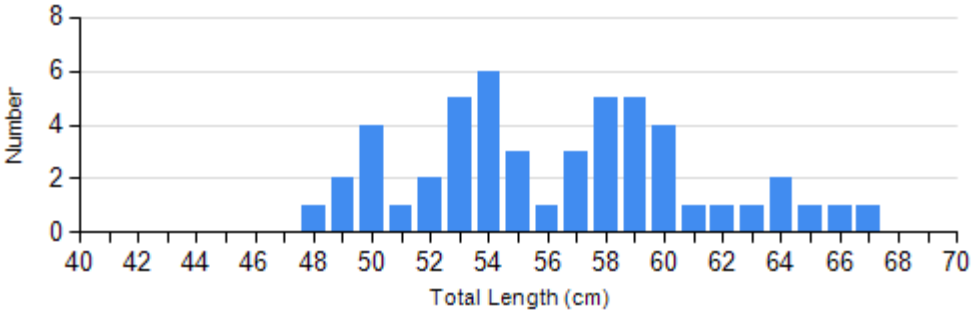
Species: Common Carp
Gear: AFS std gill net



2017

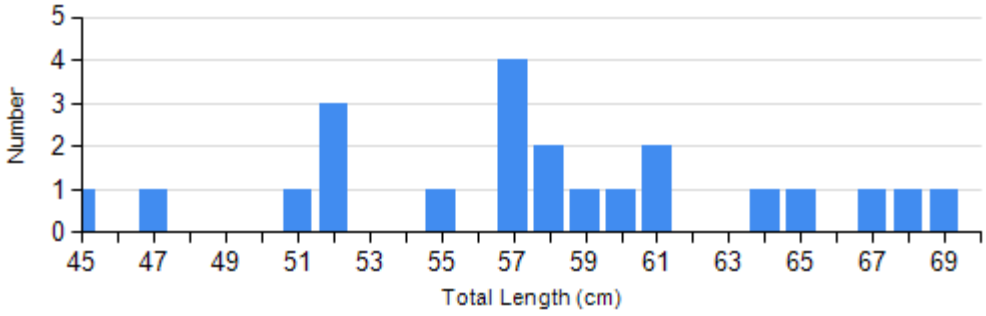


2018



2019

Species: Common Carp
Gear: std exp gill net



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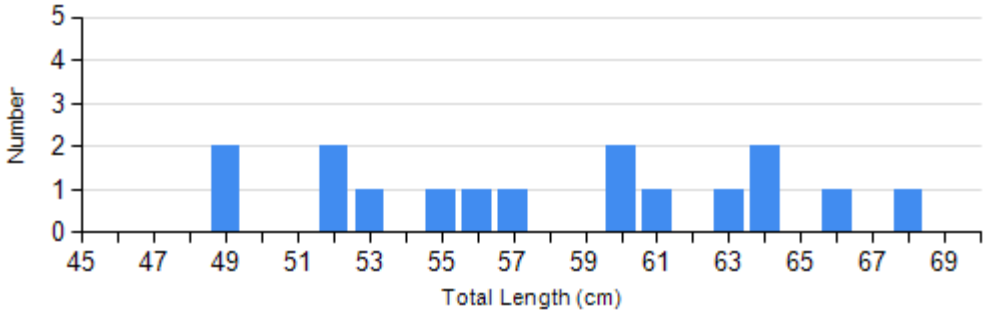

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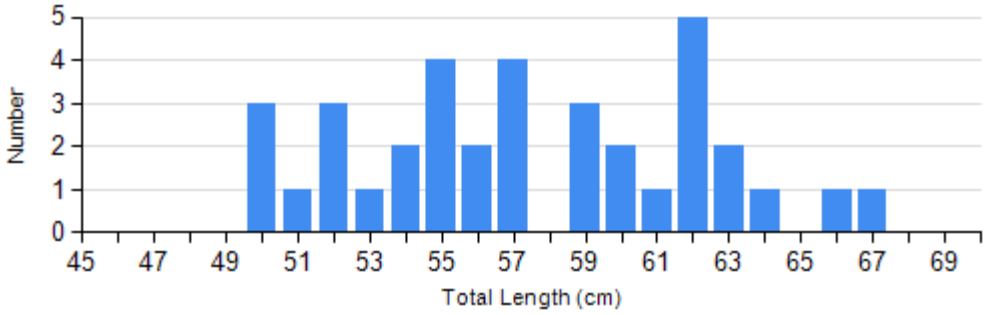
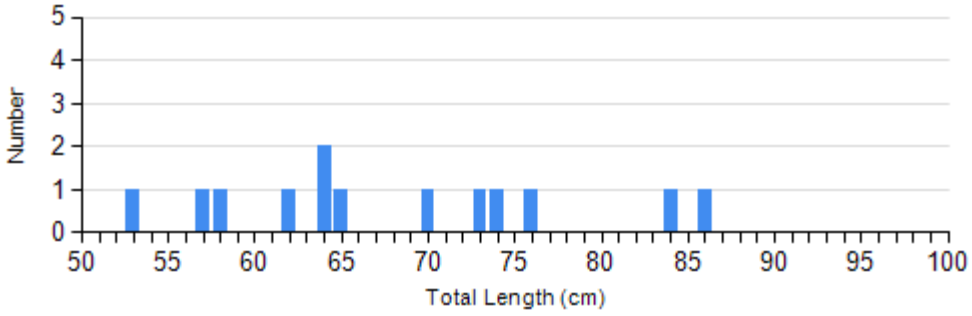
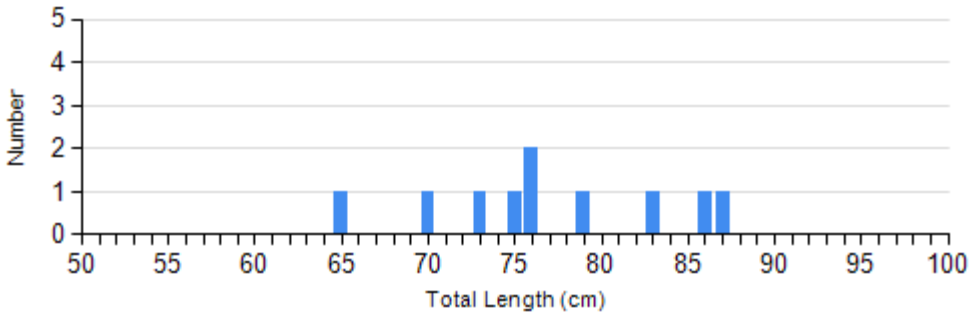


2016

Species: Northern Pike
Gear: AFS std gill net



2017



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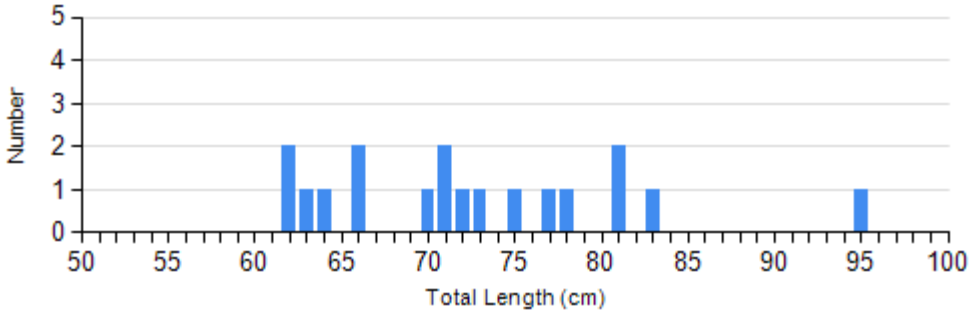
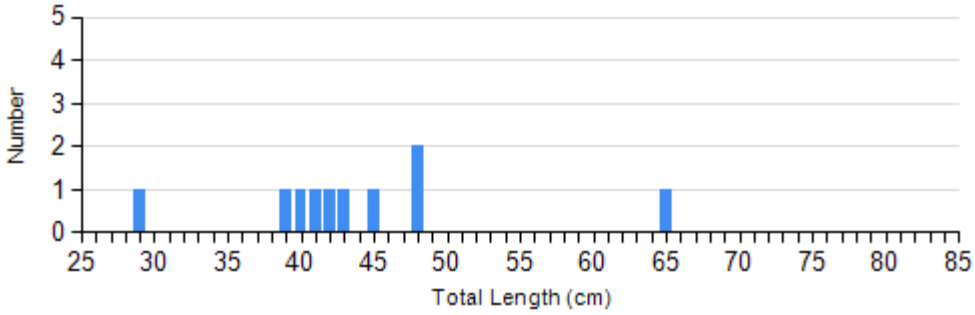
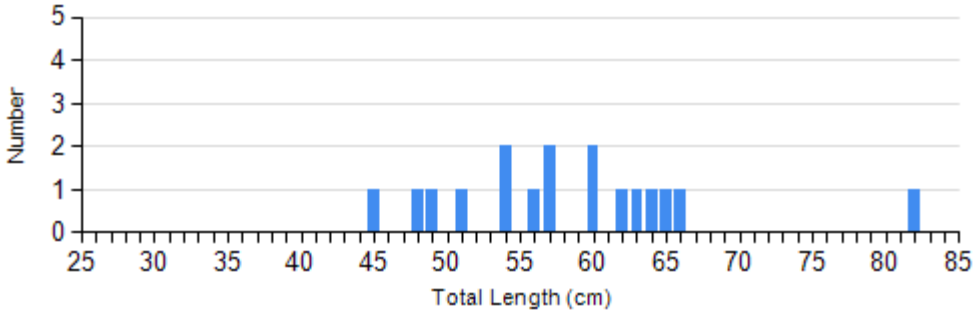


2019

Species: Northern Pike
Gear: std exp gill net

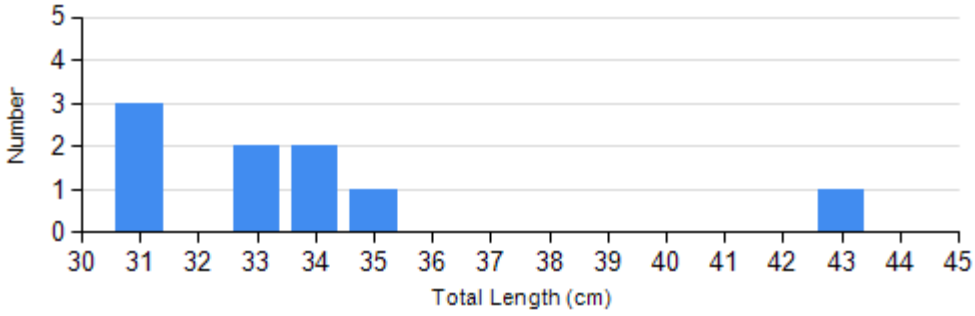


2015



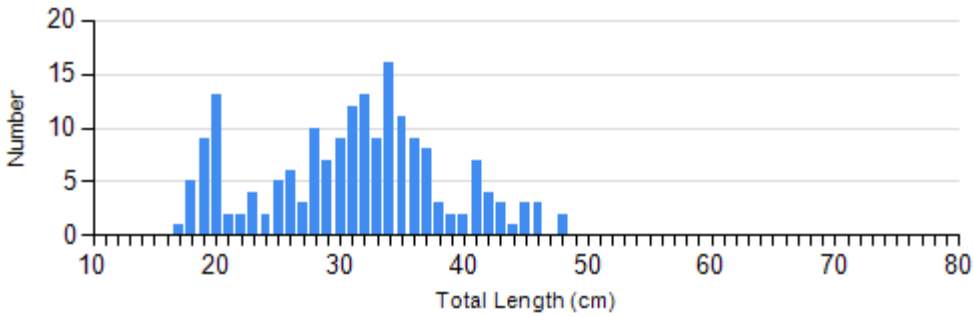
2016

Species: Sauger
Gear: std exp gill net

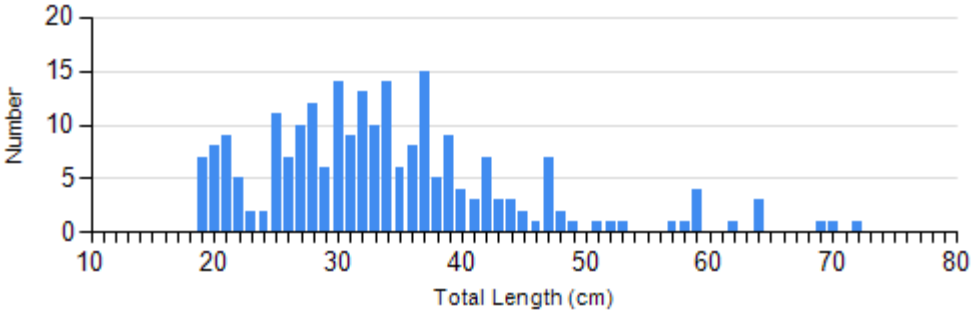


2014

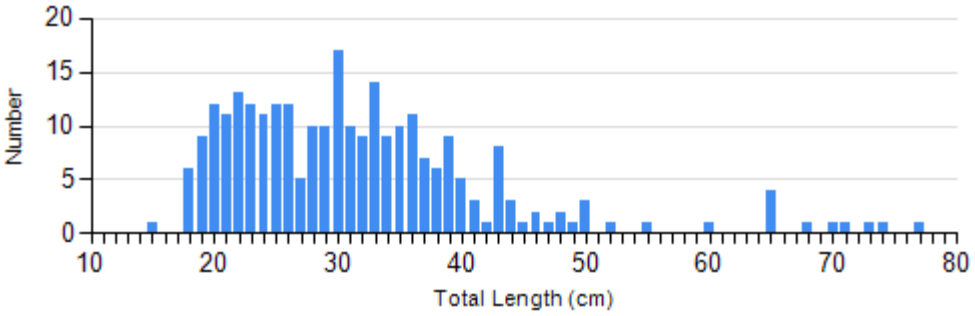
Species: Walleye
Gear: AFS std gill net



2017

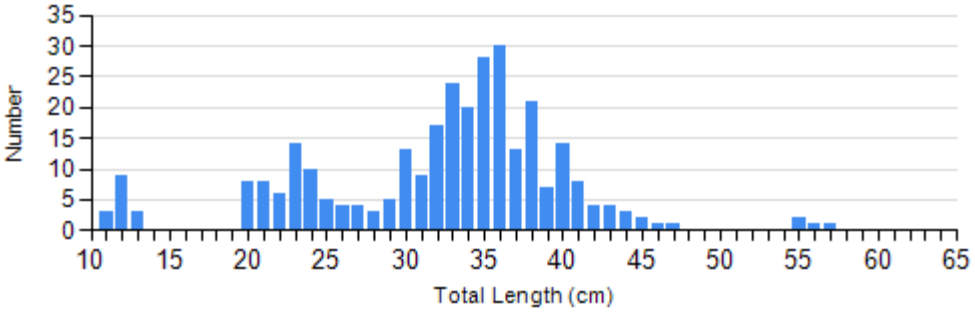


2018

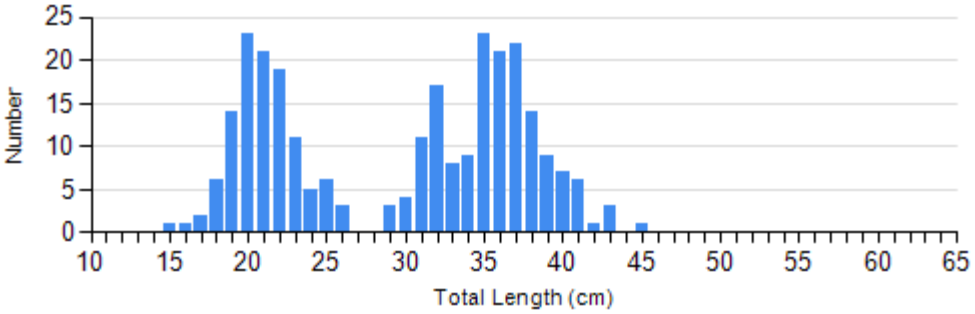


2019

Species: Walleye
Gear: std exp gill net



2014



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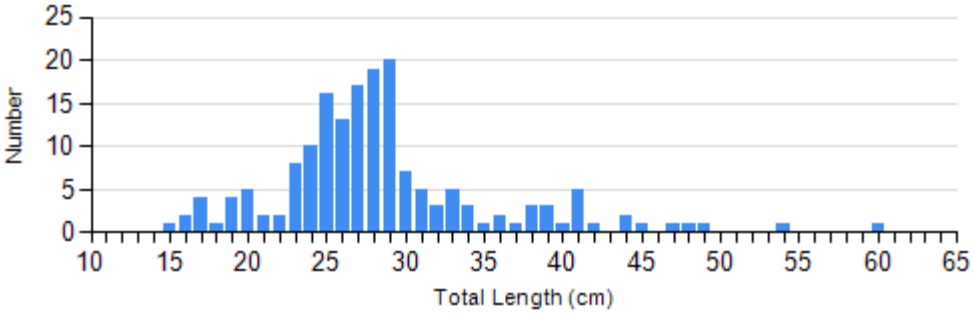
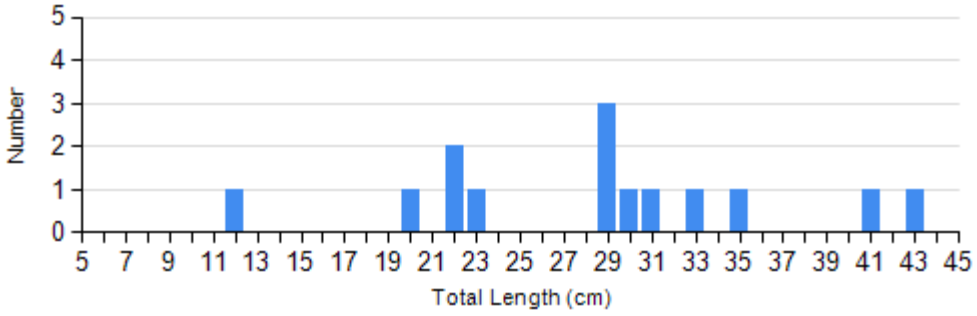


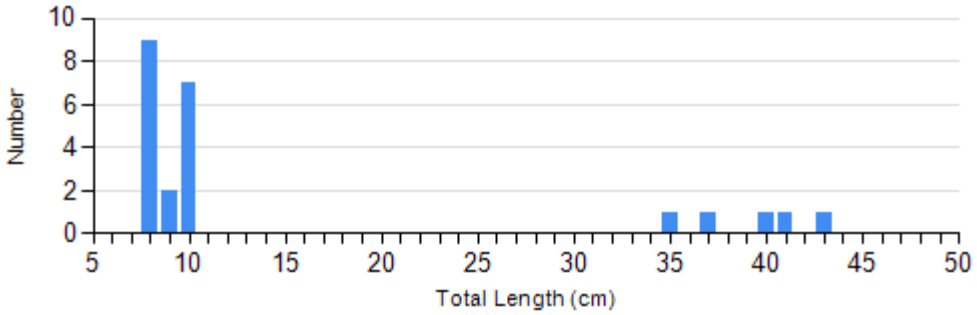
2016

Species: White Bass
Gear: AFS std gill net

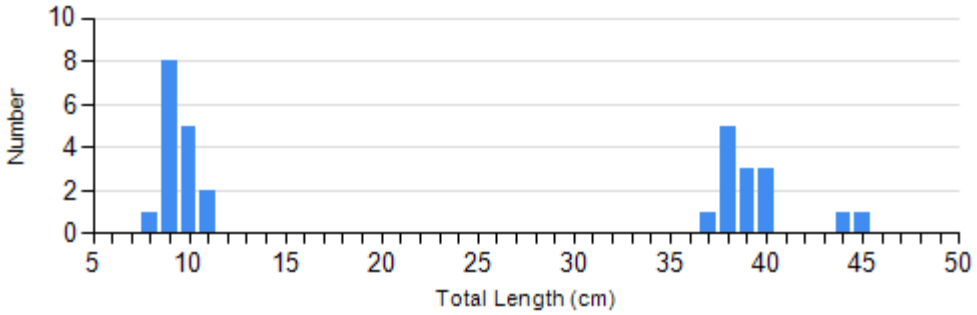


2017

Species: White Bass
Gear: std exp gill net

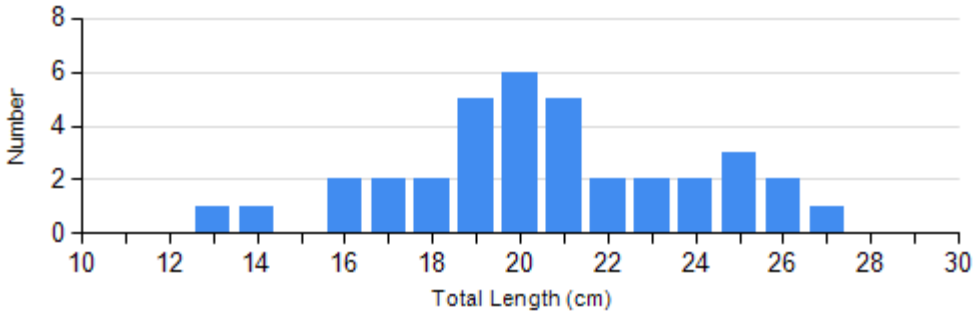


2014

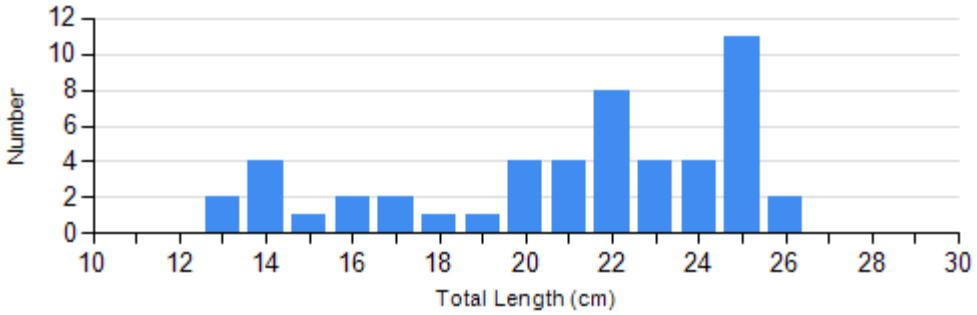


2015

Species: Yellow Perch
Gear: AFS std gill net



2017



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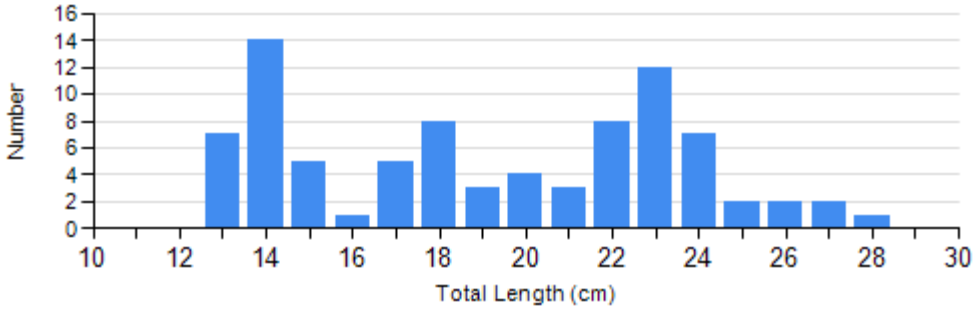
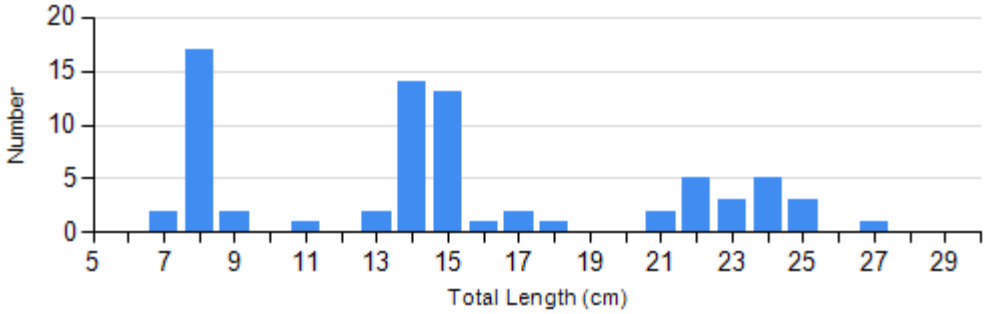


2019

Species: Yellow Perch
Gear: std exp gill net



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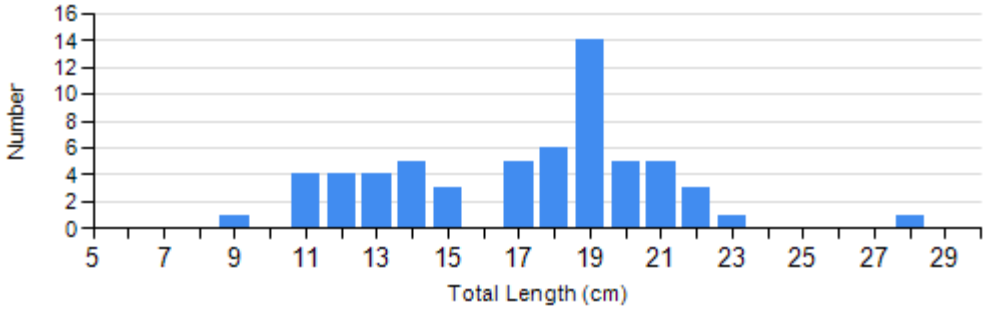

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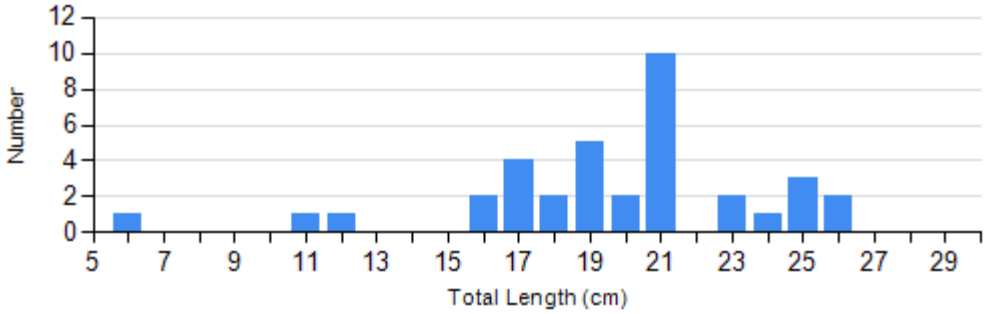
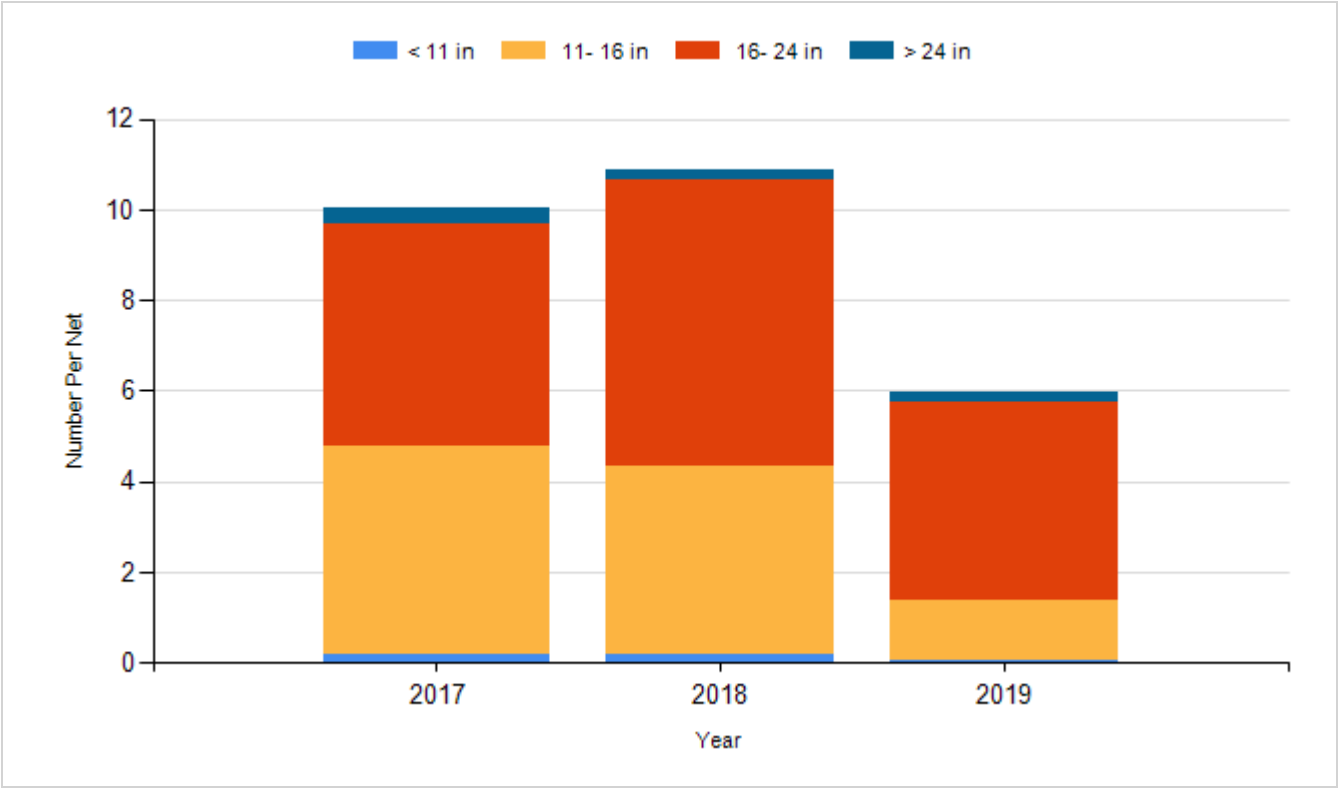


2016

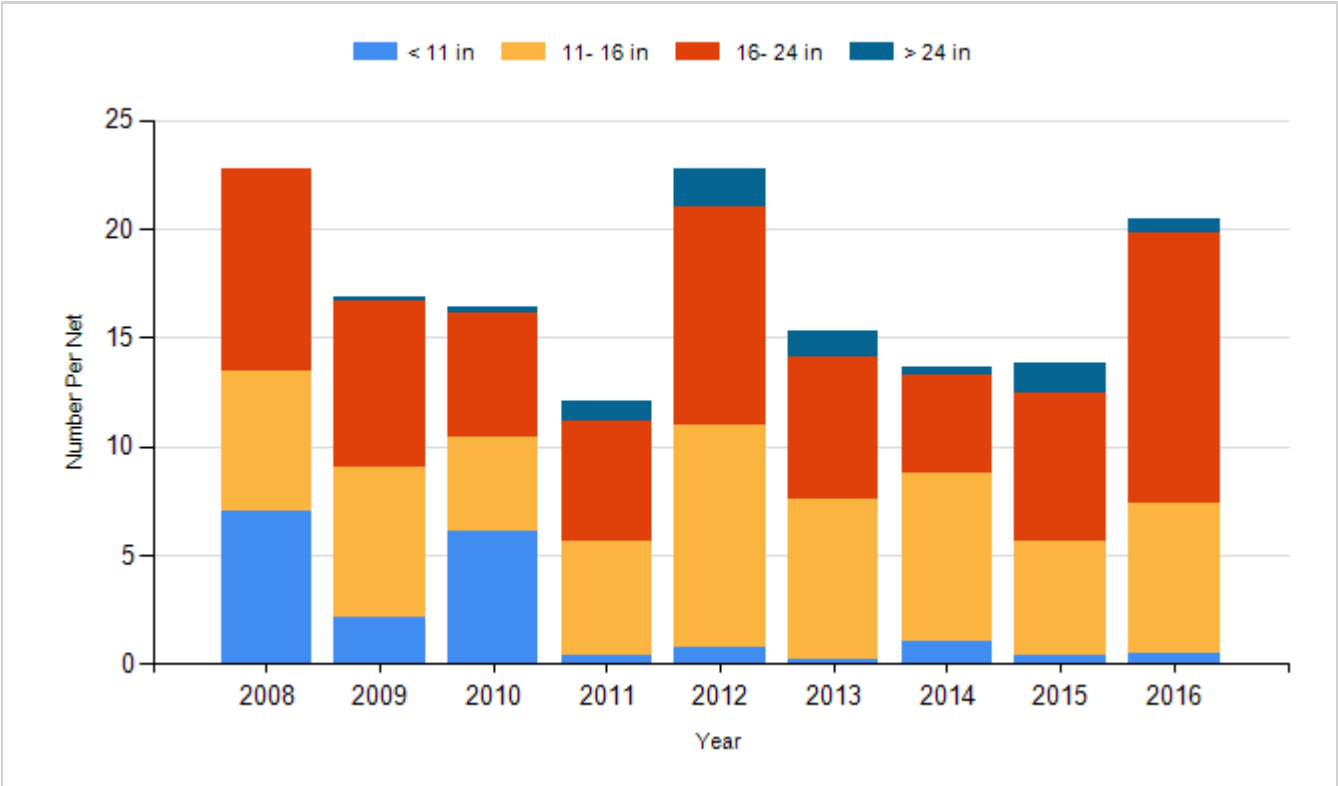
Historic Fish Sizes and Relative Abundance

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

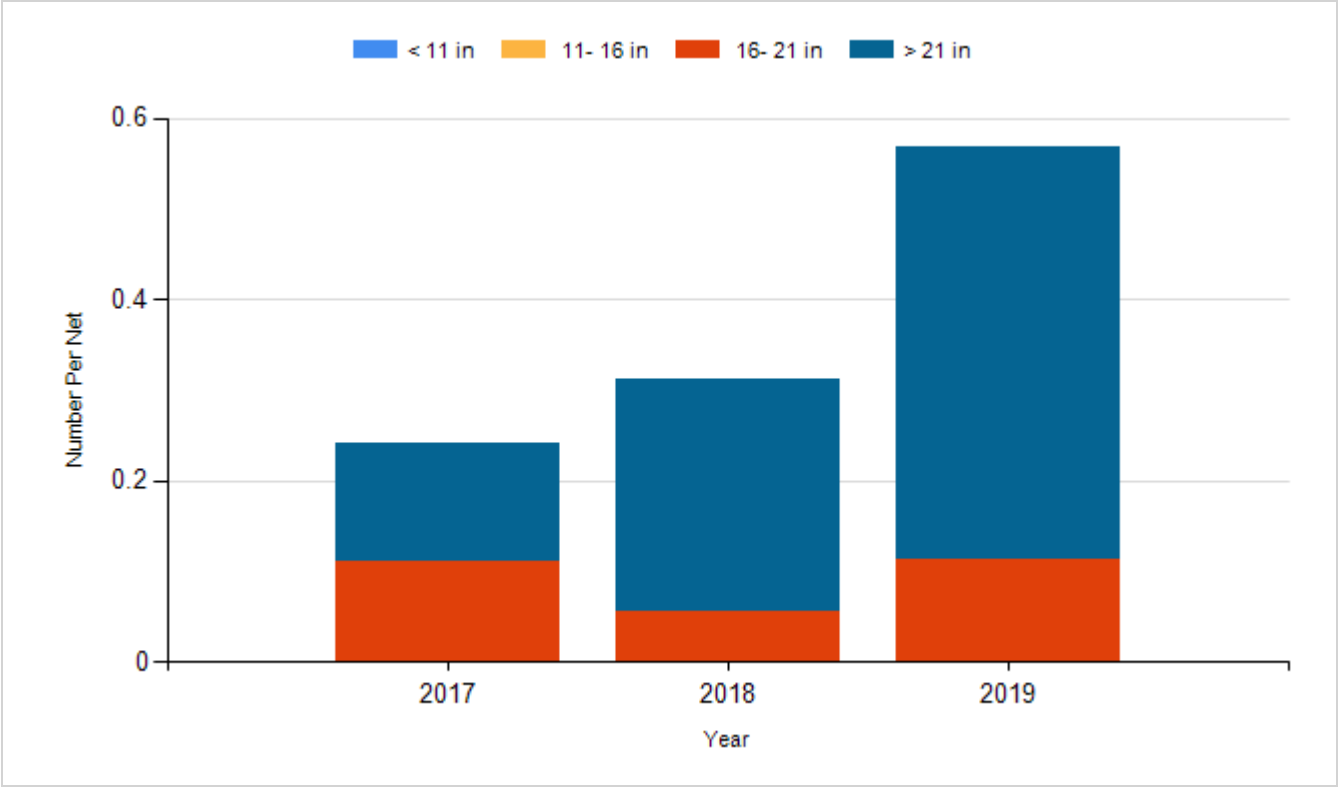
Species: Channel Catfish
Gear: AFS std gill net



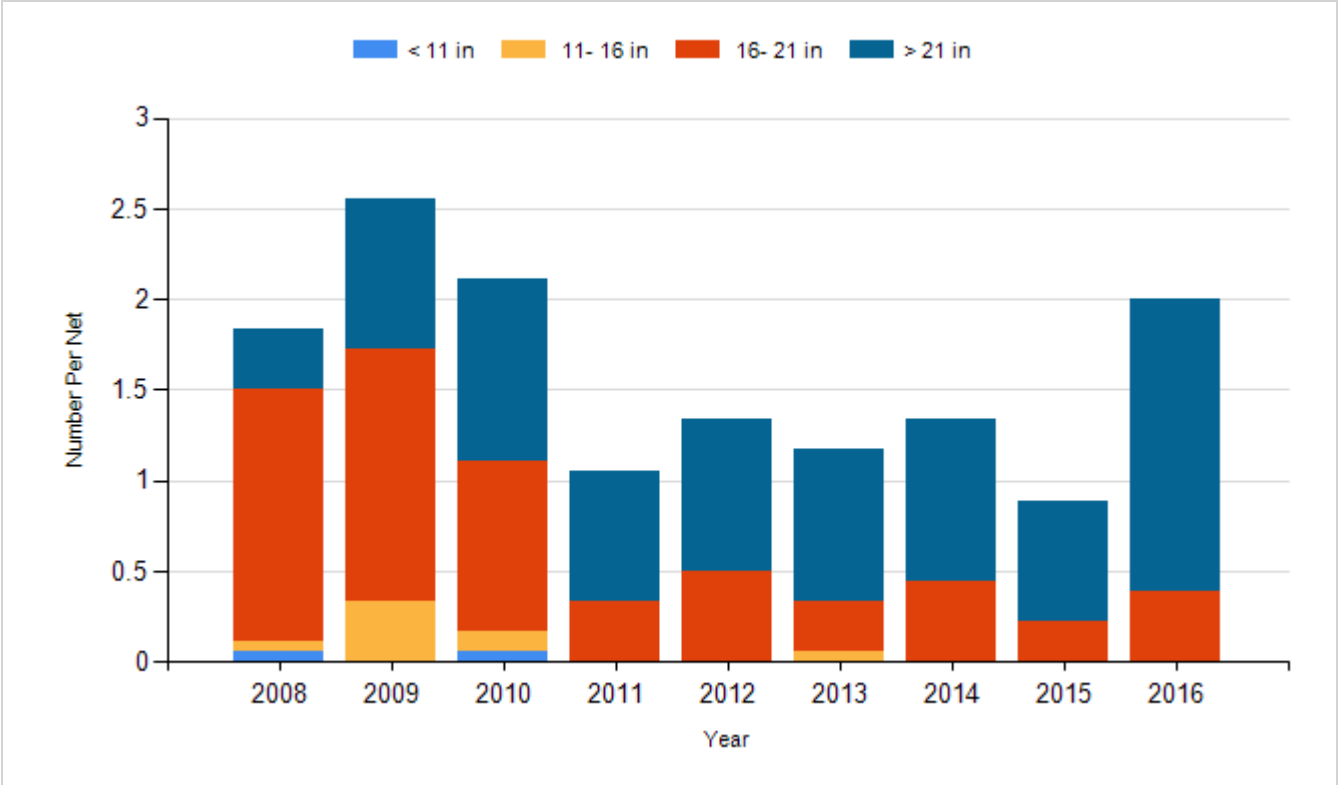
Species: Channel Catfish
Gear: std exp gill net



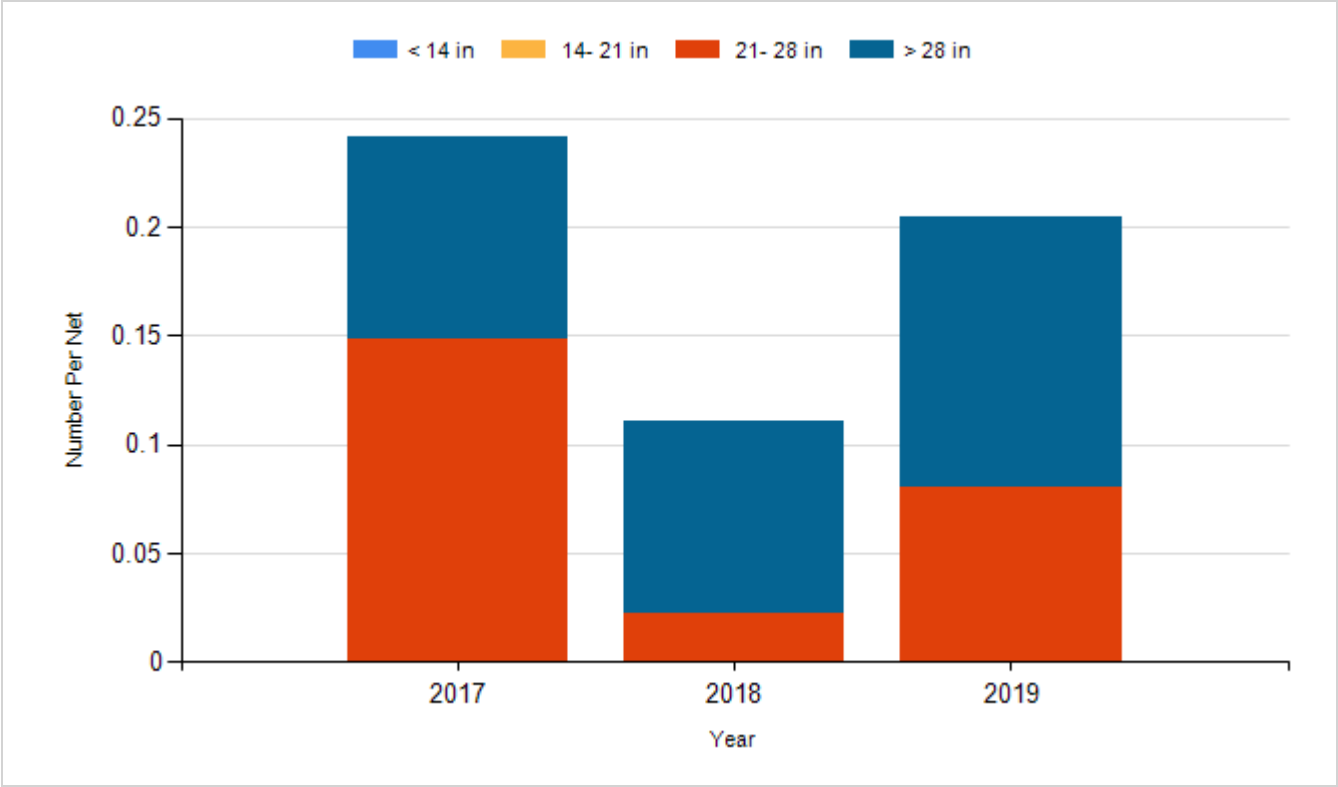
Species: Common Carp
Gear: AFS std gill net



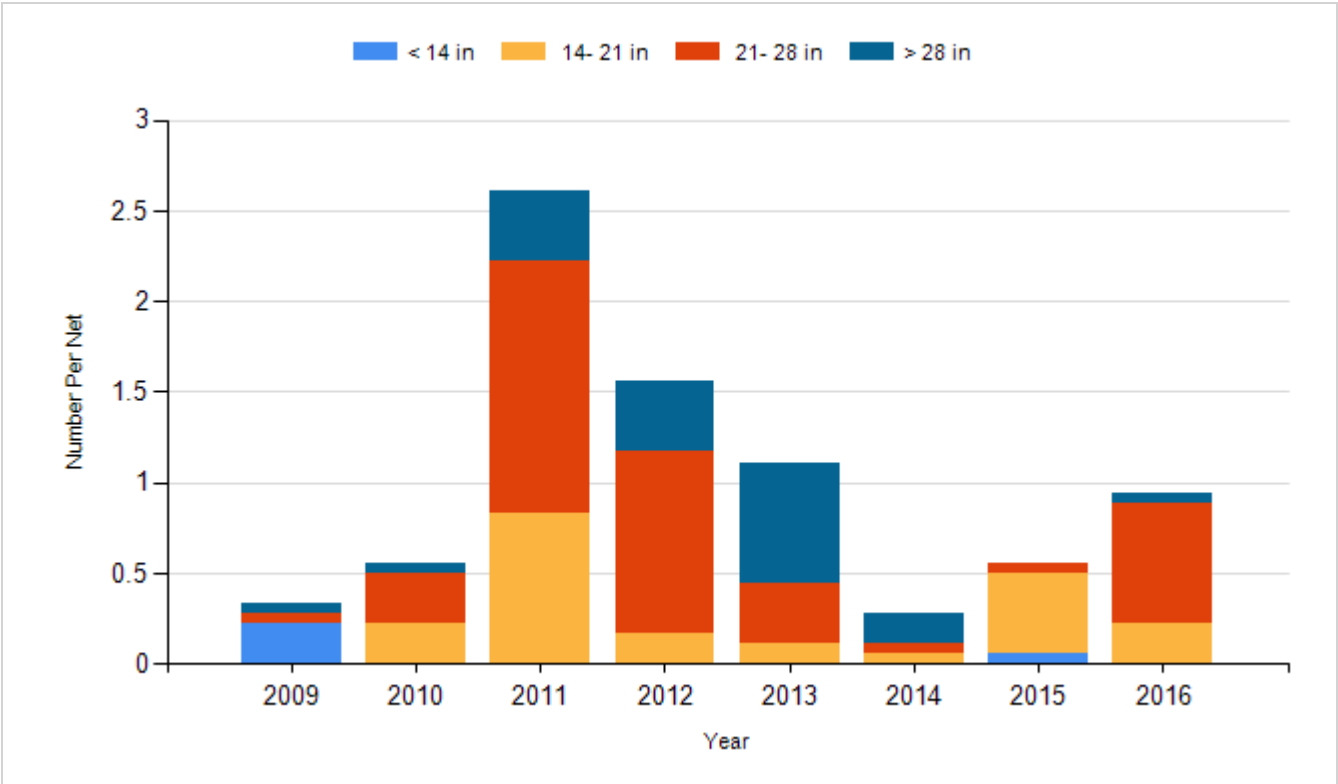
Species: Common Carp
Gear: std exp gill net



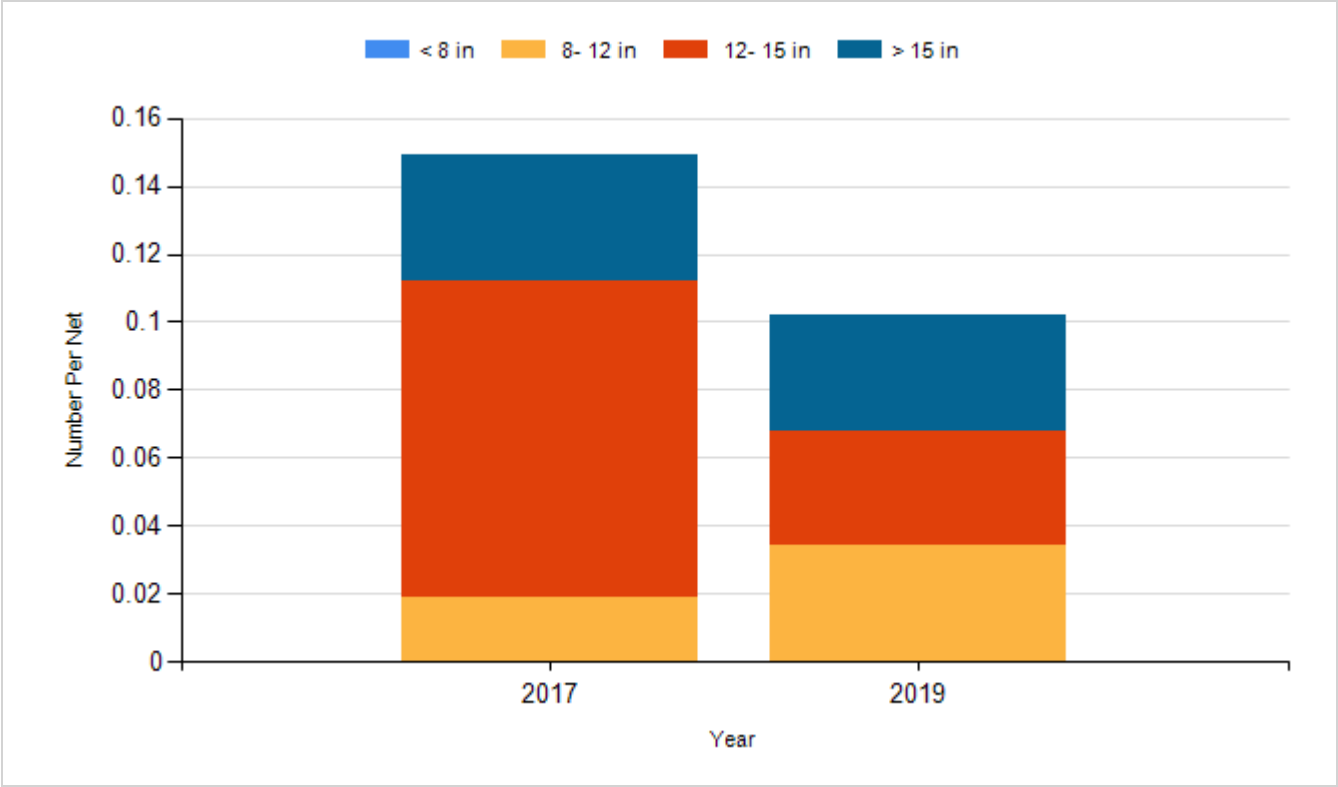
Species: Northern Pike
Gear: AFS std gill net



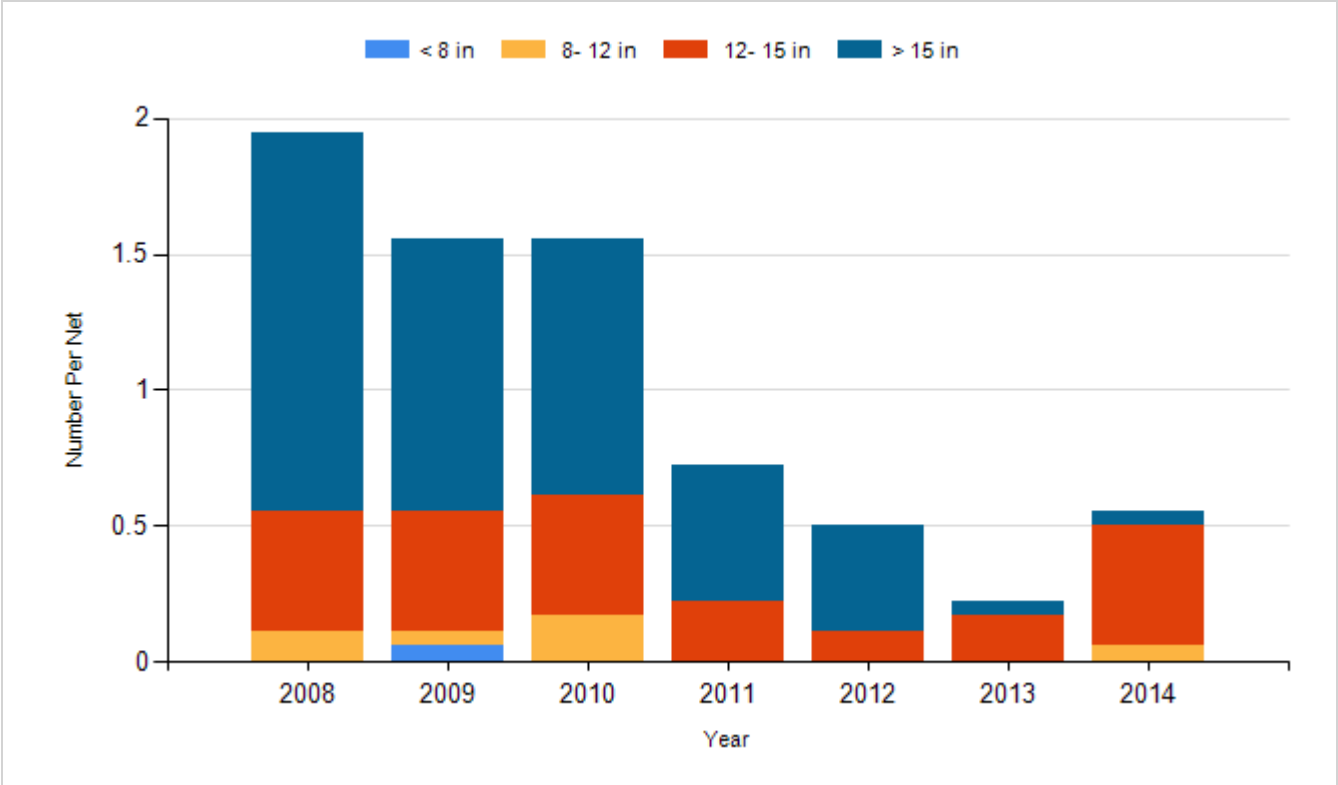
Species: Northern Pike
Gear: std exp gill net



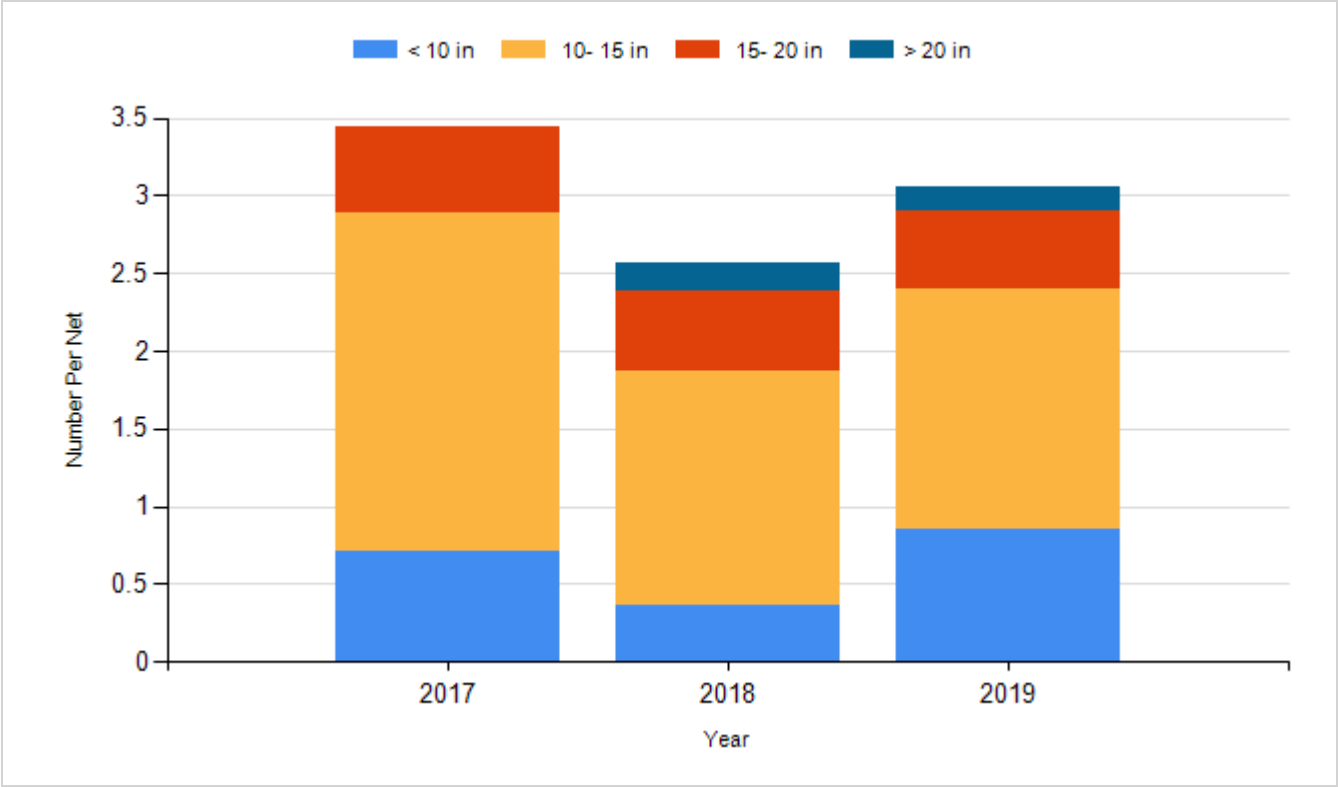
Species: Sauger
Gear: AFS std gill net



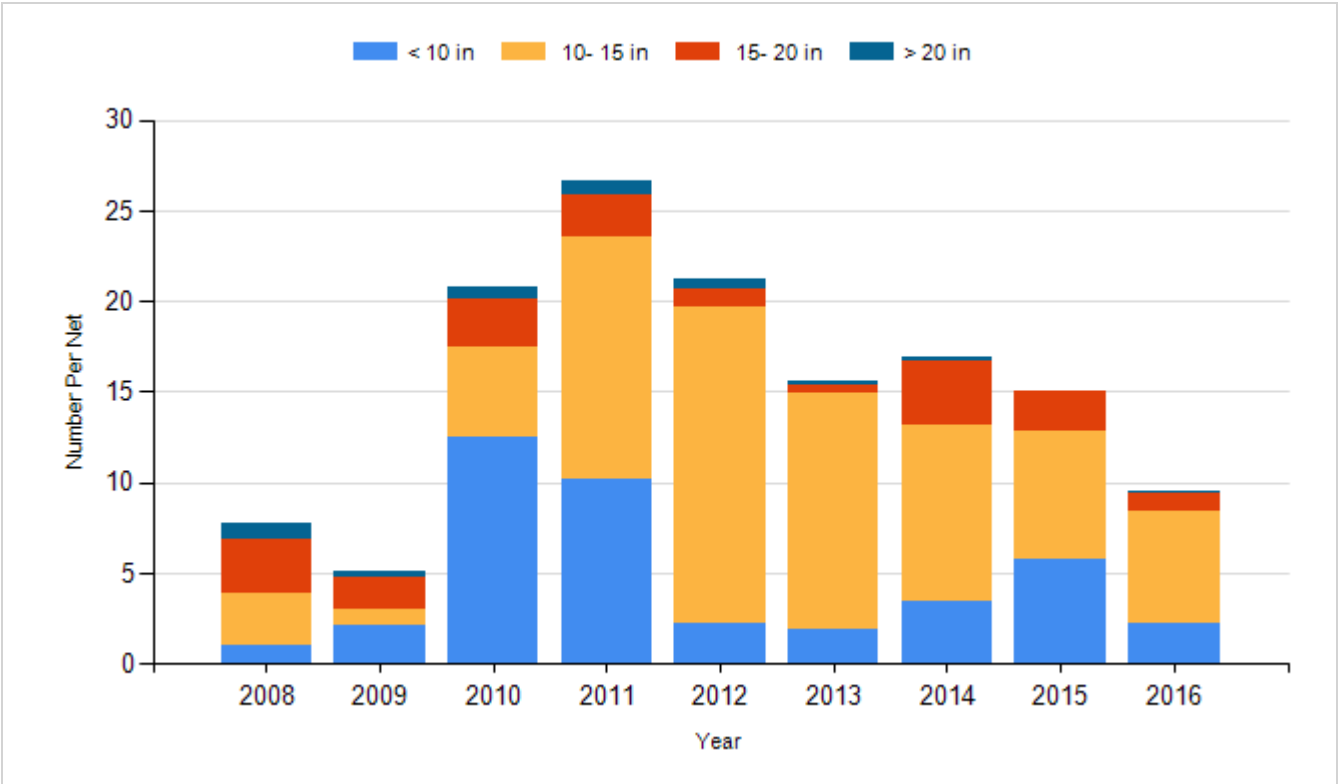
Species: Sauger
Gear: std exp gill net



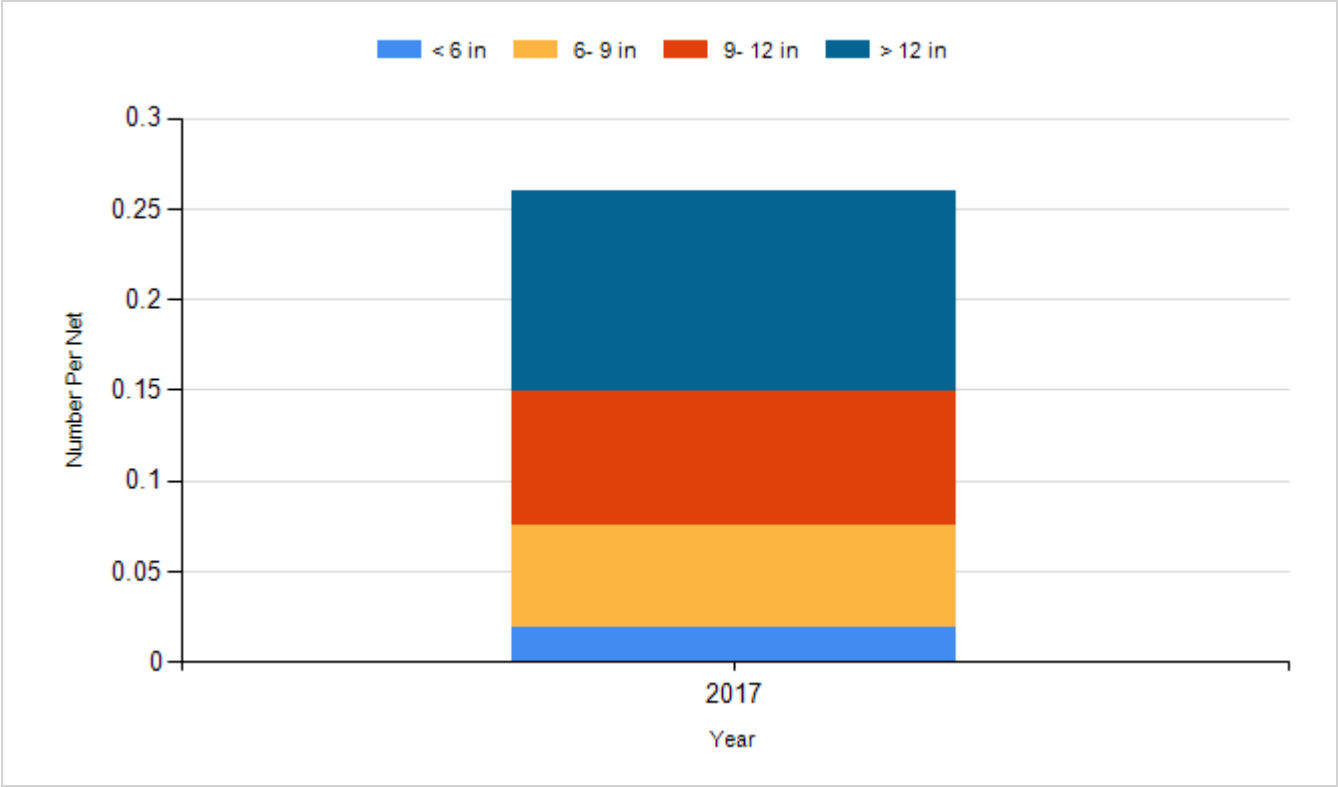
Species: Walleye
Gear: AFS std gill net



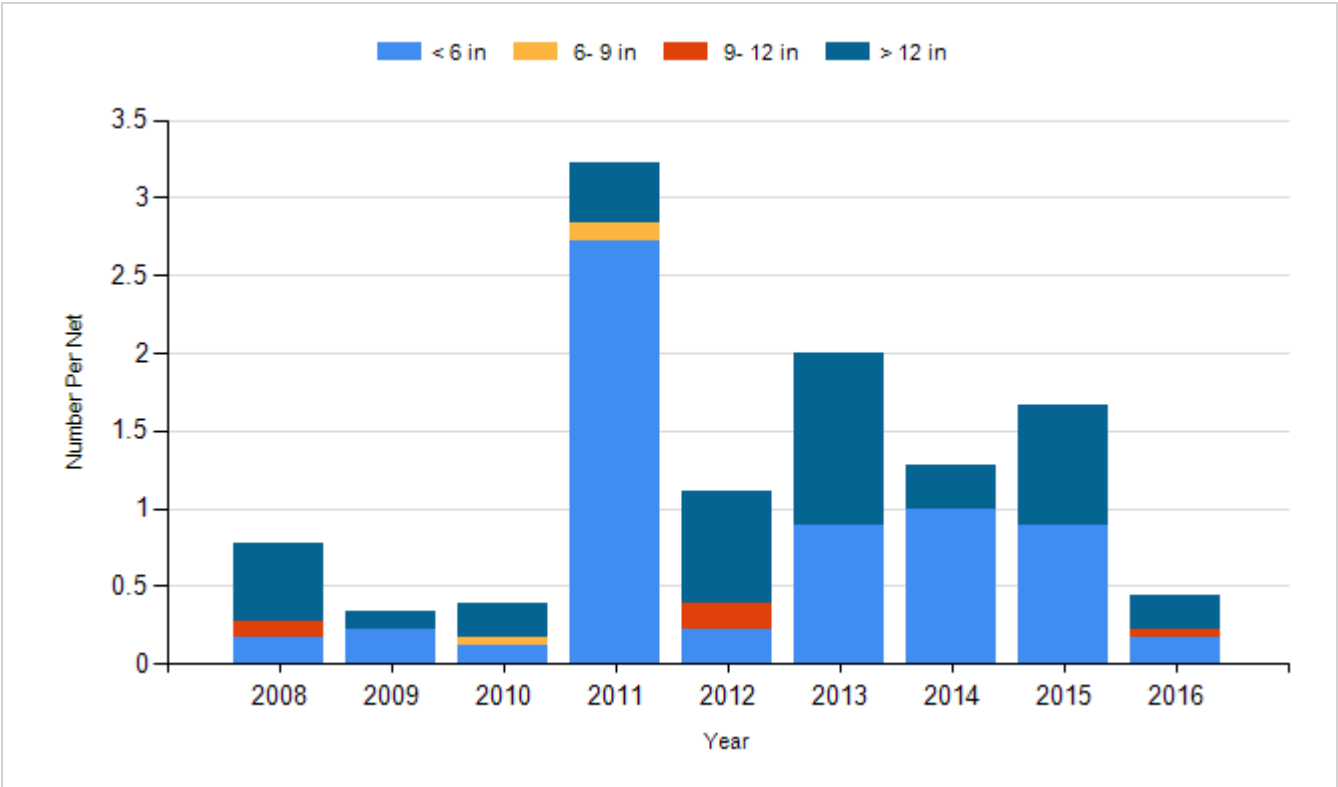
Species: Walleye
Gear: std exp gill net



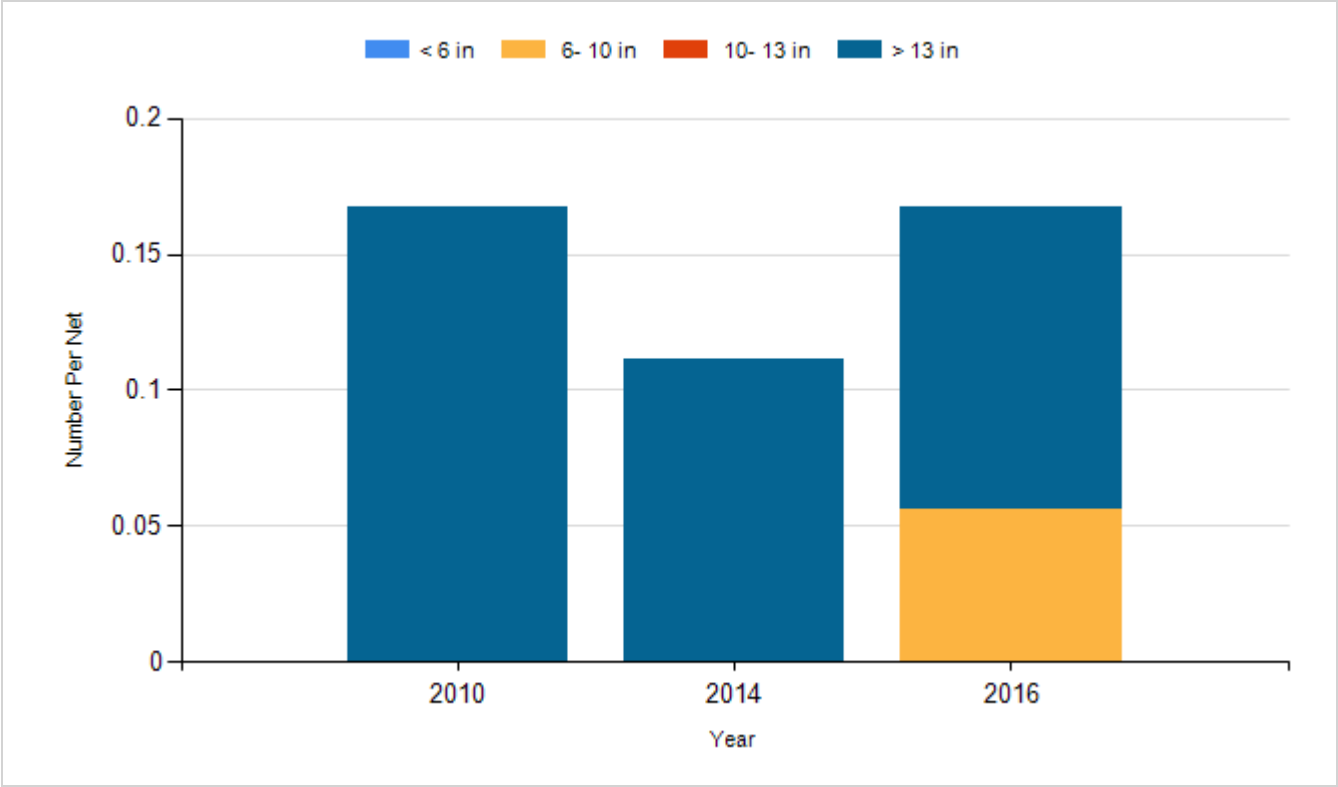
Species: White Bass
Gear: AFS std gill net



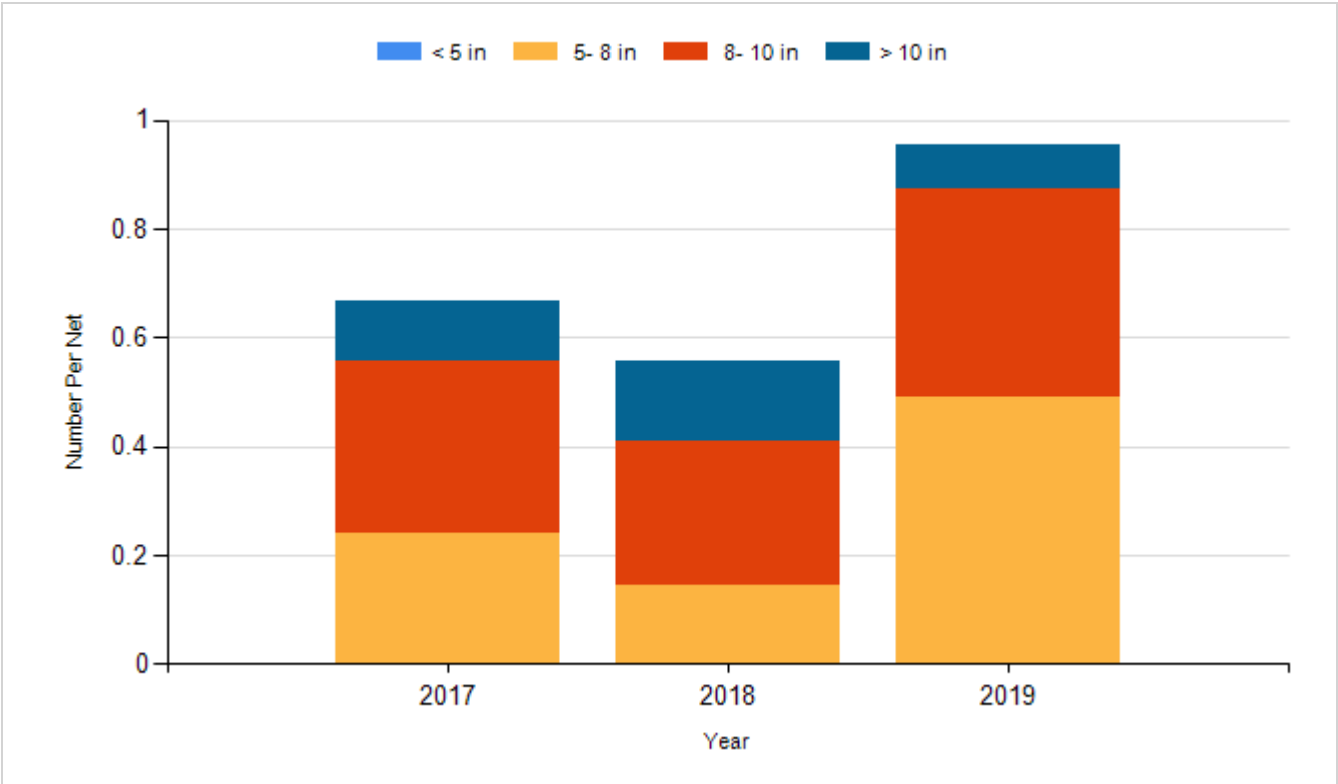
Species: White Bass
Gear: std exp gill net



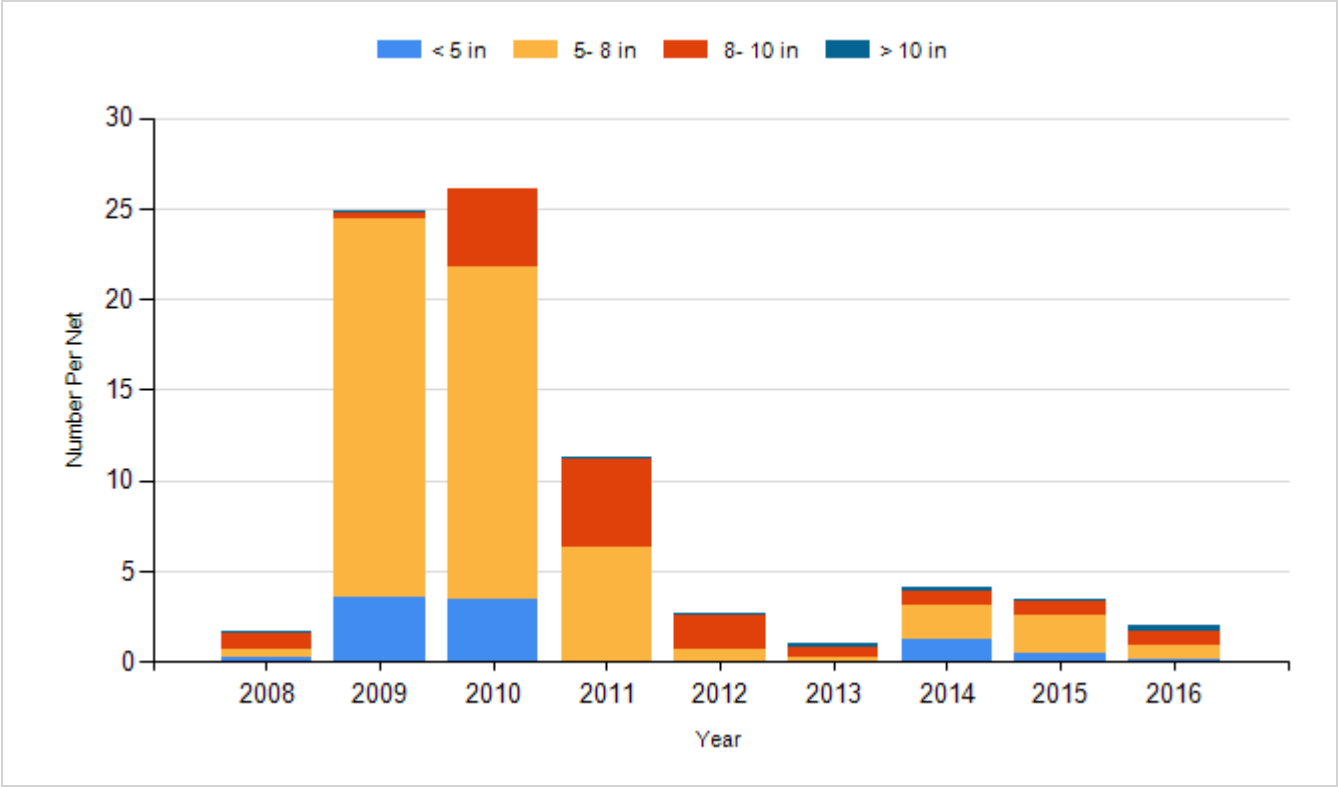
Species: White Sucker
Gear: std exp gill net



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
2008	Burbot	Fry	18,073
2012	Gizzard Shad	Adult	344
2013	Gizzard Shad	Adult	530
2018	Atlantic Salmon	Adult	1,863
2018	Atlantic Salmon	Catchable	989
2018	Chinook Salmon (Oahe)	Fingerling	132,736
2018	Walleye	Small Fingerling	104,534
2019	Atlantic Salmon	Adult	3,059
2019	Atlantic Salmon	Catchable 15"	1,368
2019	Atlantic Salmon	Large	2,148
2019	Chinook Salmon (Oahe)	Fingerling	251,187
2019	Chinook Salmon (Oahe)	Juvenile	31,557