SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

Richland Dam, Jones County

BAD-Lake-280-000

2025

Lake Information

Name: Richland Dam

County: Jones

Surface Area: 17 Acres

Surveys and Investigations

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

Gear	Date	Effort
rod and reel	Feb 07, 2025	360 minutes
rod and reel	Jan 14, 2025	495 minutes

Common Fish Species Present

Largemouth Bass

Bluegill

Yellow Perch

Black Crappie

Terminology

Catch per unit effort (**CPUE**) refers to the relative abundance of a species. It is defined as the number of fish captured per unit of effort (i.e., number of fish captured per net-night or number of fish captured per hour electrofishing). In this report CPUE is typically given for only stock-length fish (see length categories table for stock lengths).

A statewide effort to help make netting efforts comparable to all waters sampled across the state, occurred in 2017, with a switch to American Fisheries Society gill nets. Past gill netting efforts were completed with different style/types of nets and are not comparable side by side.

- **AFS std gill net** – 80 ft experimental gill net containing eight panels (10 ft each) of varying monofilament meshes of 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25 and 2.50 inches.
- **std experimental gill net for non-Missouri River waters** - 150 ft experimental gill net containing six panels (25 ft each) of varying monofilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.
- s**td experimental gill net for Missouri River reservoirs** – 300 ft experimental gill net containing six panels (50 ft each) of varying multifilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.

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

Population size structure is quantified using the indices proportional size distribution of quality-length fish (**PSD**) and proportional size distribution of preferred-length fish (**PSD-P**). These indices indicate the proportion of stock-length fish that are equal to or greater than a given length. Minimum lengths for stock, quality and preferred length fish are given in the length categories table.

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

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

Relative weight (**Wr**) is used to quantify fish plumpness. Relative weight is the ratio of what a fish weighs (W) compared to a length-specific standard weight (Ws) multiplied by 100. Relative weight values of 95-105 are commonly cited as optimum values, but values in the 80s are common during summer sampling in South Dakota.

$$Wr = \left(\frac{W}{Ws}\right) \text{x } 100$$

Confidence intervals (**CI**) are provided for many of the estimates calculated in this report. The confidence interval provides a range in which the true mean is expected to fall. For example, with an 80% CI we are 80% confident that the interval contains the true value.

Length categories include stock (**S**), quality (**Q**), preferred (**P**), memorable (**M**) and trophy (**T**). Length categories for most species have been defined based on a percentage of the world record length for that species. Some species mentioned in this report do not have defined length categories. Length categories for species used in this report are provided in the following table. Measurements are the minimum total length for each category and are reported in inches (in) and centimeters (cm).

	Stock		Quality		Preferred		Memorable		Trophy	
Species Name	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)
Black Bullhead	6	15	9	23	12	30	15	38	18	46
Black Crappie	5	13	8	20	10	25	12	30	15	38
Bluegill	3	8	6	15	8	20	10	25	12	30
Brown Trout	8	20	12	30	16	40	20	50	18	46
Channel Catfish	11	28	16	41	24	61	28	71	36	91
Freshwater Drum	8	20	12	30	15	38	20	51	25	63
Lake Trout	12	30	20	50	26	65	31	80	39	100
Largemouth Bass	8	20	12	30	15	38	20	51	25	63
Muskellunge	20	51	30	76	38	97	42	107	50	127
Northern Pike	14	35	21	53	28	71	34	86	44	112
Pumpkinseed	3	8	6	15	8	20	10	25	12	30
Rainbow Trout	10	25	16	40	20	50	26	65	31	80
Rudd	6	15	10	25	12	30	15	38	19	48
Sauger	8	20	12	30	15	38	20	51	25	63
Smallmouth Bass	7	18	11	28	14	35	17	43	20	51
Walleye	10	25	15	38	20	51	25	63	30	76
White Bass	6	15	9	23	12	30	15	38	18	46
White Crappie	5	13	8	20	10	25	12	30	15	38
Yellow Bullhead	4	10	7	18	9	23	11	28	14	36
Yellow Perch	5	13	8	20	10	25	12	30	15	38

Catch Summary of Stock Length Fish

Catch per unit effort (CPUE), proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) for species sampled in survey with 80% confidence interval (CI-80).

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

			Abundance		Stock Density Indices				Condition	
Gear	Species	Sample Size (n)	CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
rod and reel	Black Crappie	3	0.2	0.1	33		33			
	Bluegill	32	2.3	1.1	81	11	6			
	Largemouth Bass	6	0.1	0.1	0		0			
	Yellow Perch	65	1.7	0.0	4		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**

		CPUE										
Gear	Species	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Avg
boat shocker (night)	Largemouth Bass			73.5				55.3	24.4			51.07
frame net (std 3/4 in)	Black Bullhead			0.6			173.1	0.0				57.90
	Black Crappie			0.1			33.8	7.8				13.90
	Bluegill			5.9			45.6	18.0				23.17
	Largemouth Bass			0.1			0.8	0.0				0.30
	Yellow Bullhead			0.0			0.0	61.4				20.47
	Yellow Perch			0.0			0.1	2.3				0.80
rod and reel	Black Crappie										0.2	0.20
	Bluegill										2.3	2.30
	Largemouth Bass										0.2	0.20
	Yellow Perch										1.7	1.70

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	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
boat shocker (night)	Largemouth Bass	PSD			92				35	73		
		PSD-P			29				31	73		
		Wr			103				103			
frame net (std 3/4 in)	Black Crappie	PSD			100			3	4			
		PSD-P			100			0	0			
		Wr			98				99			
	Bluegill	PSD			89			80	80			
		PSD-P			0			2	0			
		Wr			120				98			
	Largemouth Bass	PSD			0			0				
		PSD-P			0			0				
		Wr			102							
	Yellow Perch	PSD						0	10			
		PSD-P						0	0			
		Wr							87			
rod and reel	Black Crappie	PSD										33
		PSD-P										33
	Bluegill	PSD										81
		PSD-P										6
	Largemouth Bass	PSD										0
		PSD-P										0
	Yellow Perch	PSD										4
		PSD-P										0

Length at Capture

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

Species: Black Crappie

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2018	1				258 (1)						

Species: Bluegill

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2018	47		118 (2)	151 (5)	168 (11)	182 (18)	180 (10)				

Species: Largemouth Bass

		Mean Length (expanded sample number) at capture by age									
Year	N	1	2	3	4	5	6	7	8	9	10+
2018	161	138 (111)	206 (5)	293 (2)	348 (13)	353 (15)	393 (7)	442 (6)	443 (1)	483 (2)	

Fish Condition

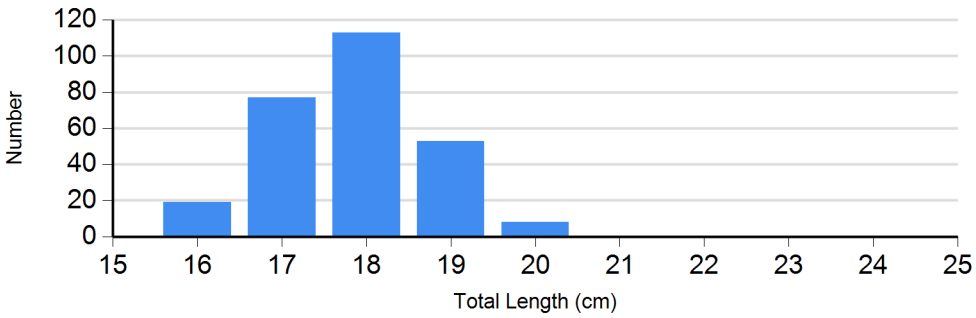
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Crappie Frame Net	2022	67	100 (1.0)	3	88 (4.4)	0		0	
Bluegill Frame Net	2022	33	99 (2.1)	129	98 (0.9)	0		0	
Largemouth Bass Electro Fishing	2022	47	102 (0.9)	3	96 (2.0)	20	104 (2.5)	2	108 (5.8)

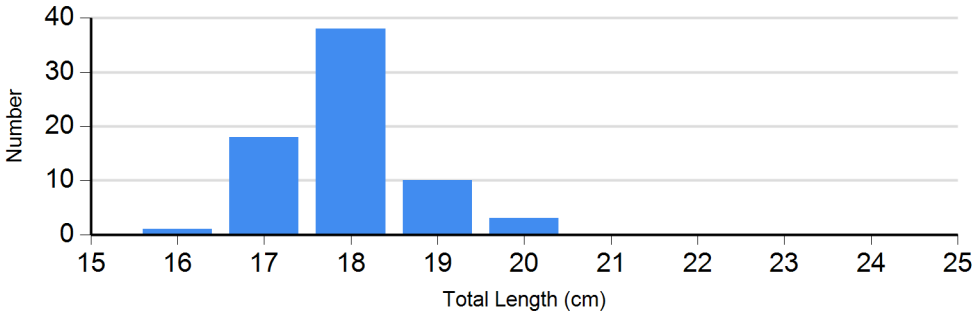
Length Frequency Distribution

Length frequency histogram of species sampled by year.

Species: Black Crappie
Gear: frame net (std 3/4 in)

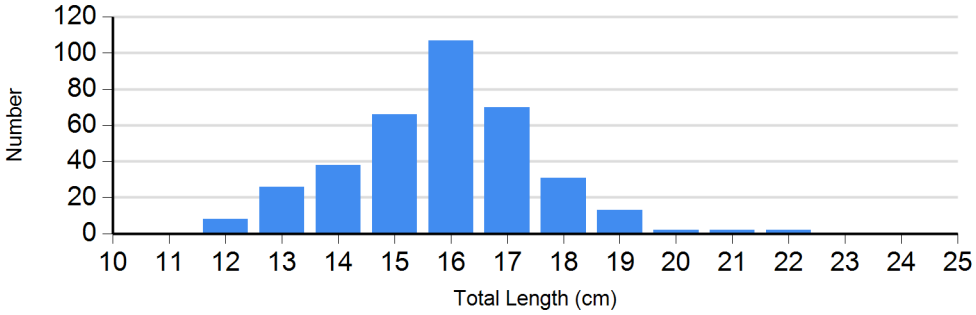


2021

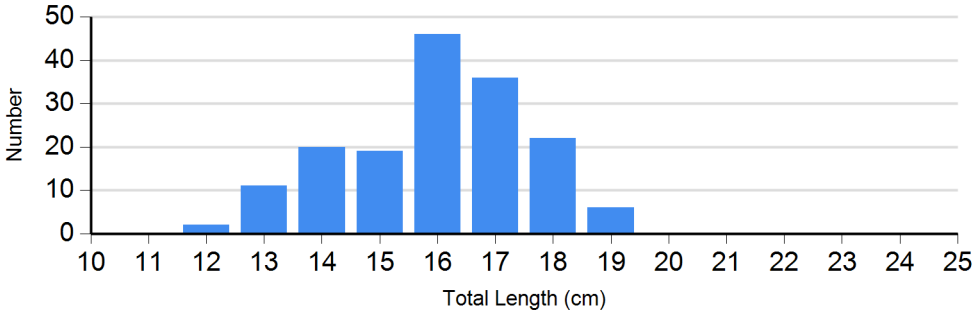


2022

Species: Bluegill
Gear: frame net (std 3/4 in)



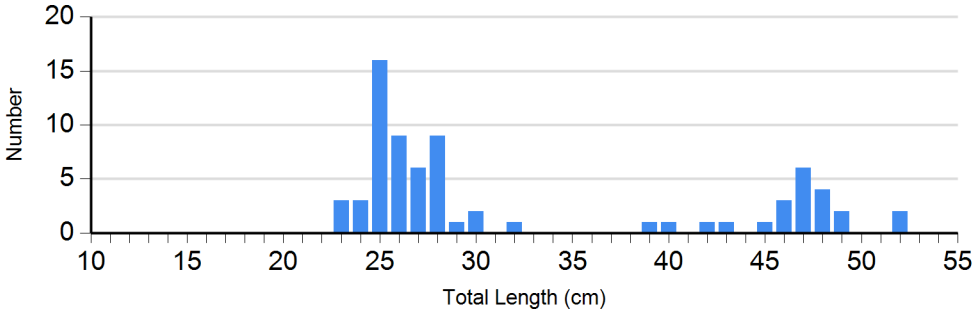
2021



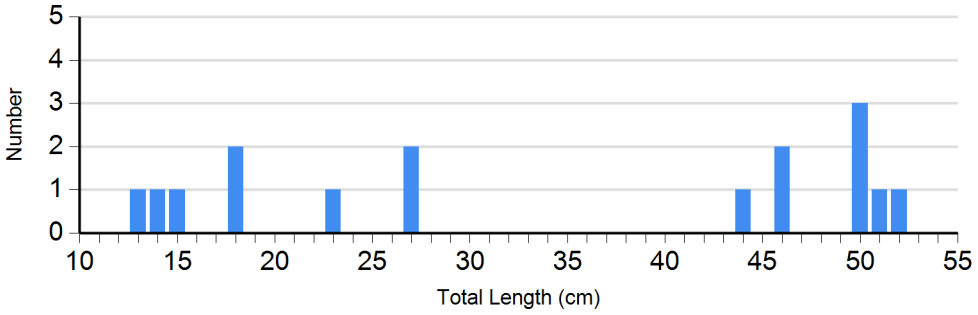
2022

Species: Largemouth Bass
Gear: boat shocker (night)

2022



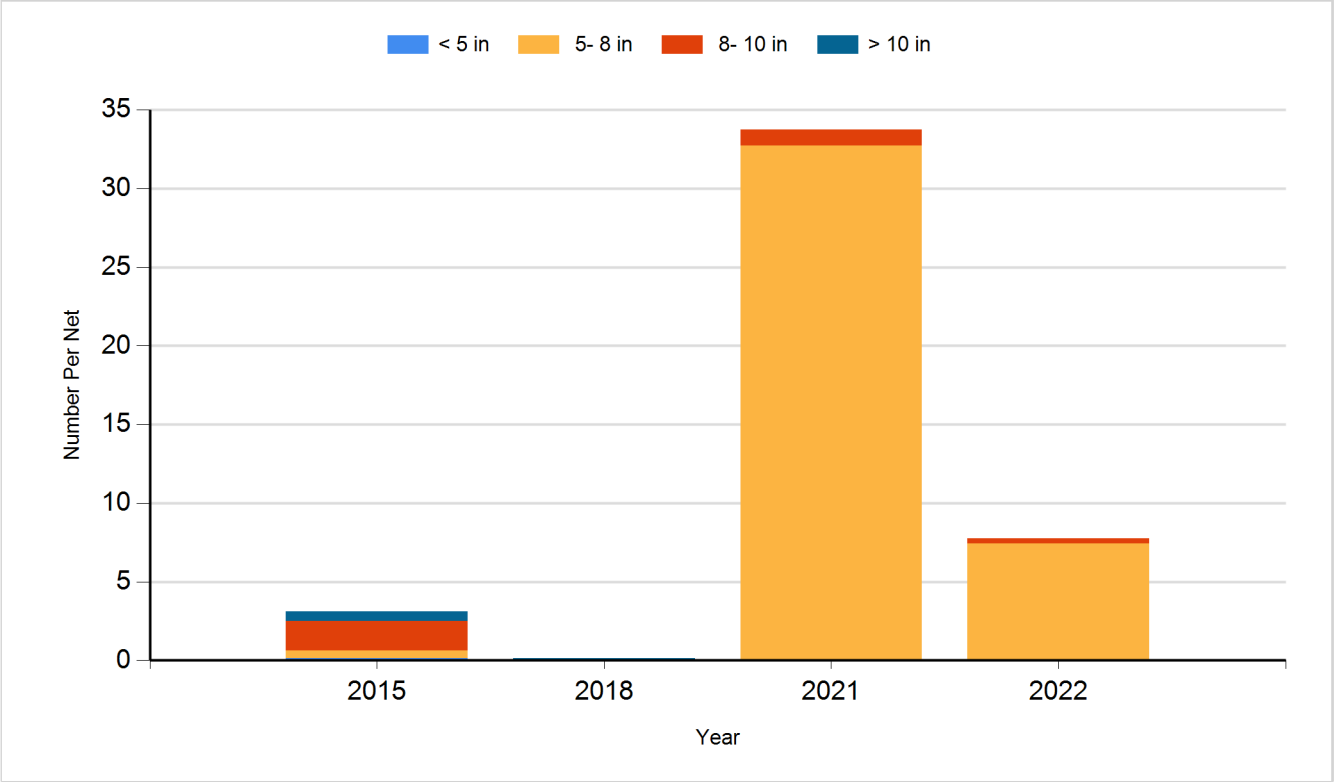
2023



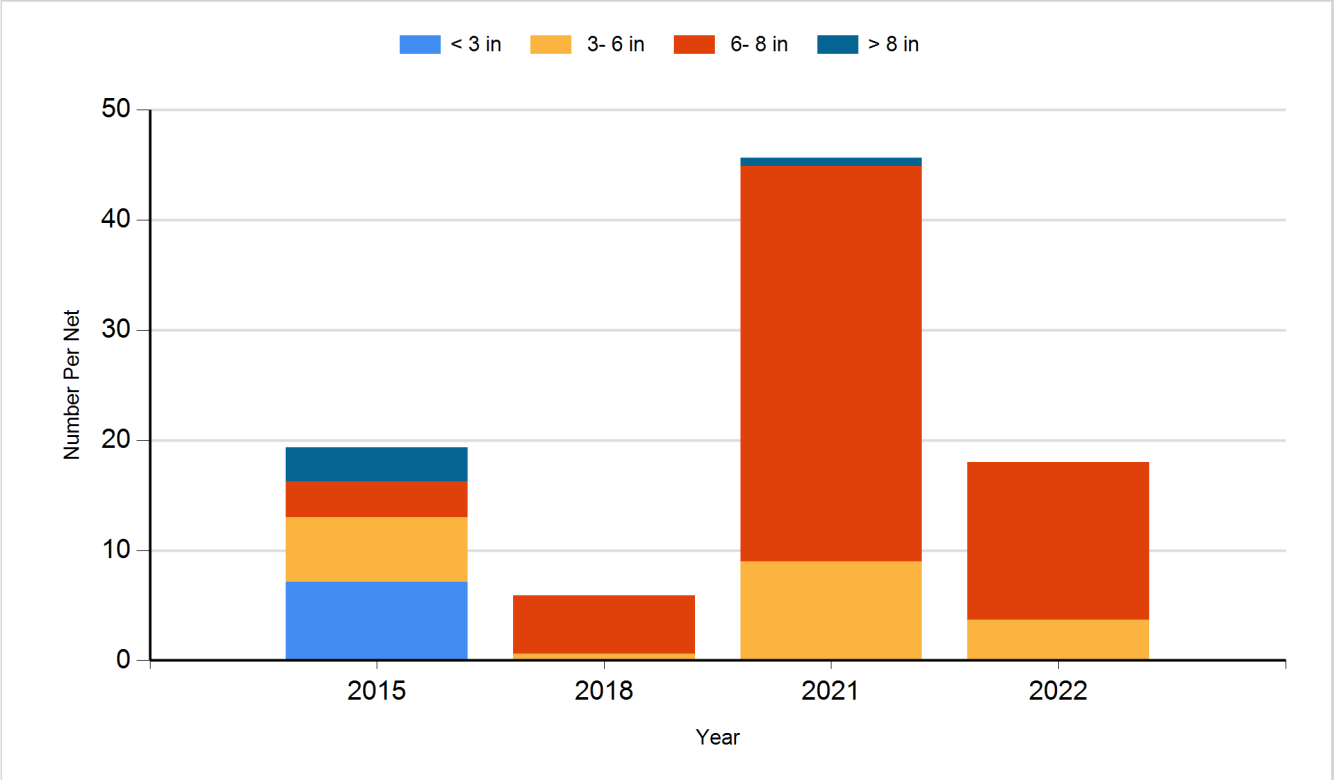
Historic Fish Sizes and Relative Abundance

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

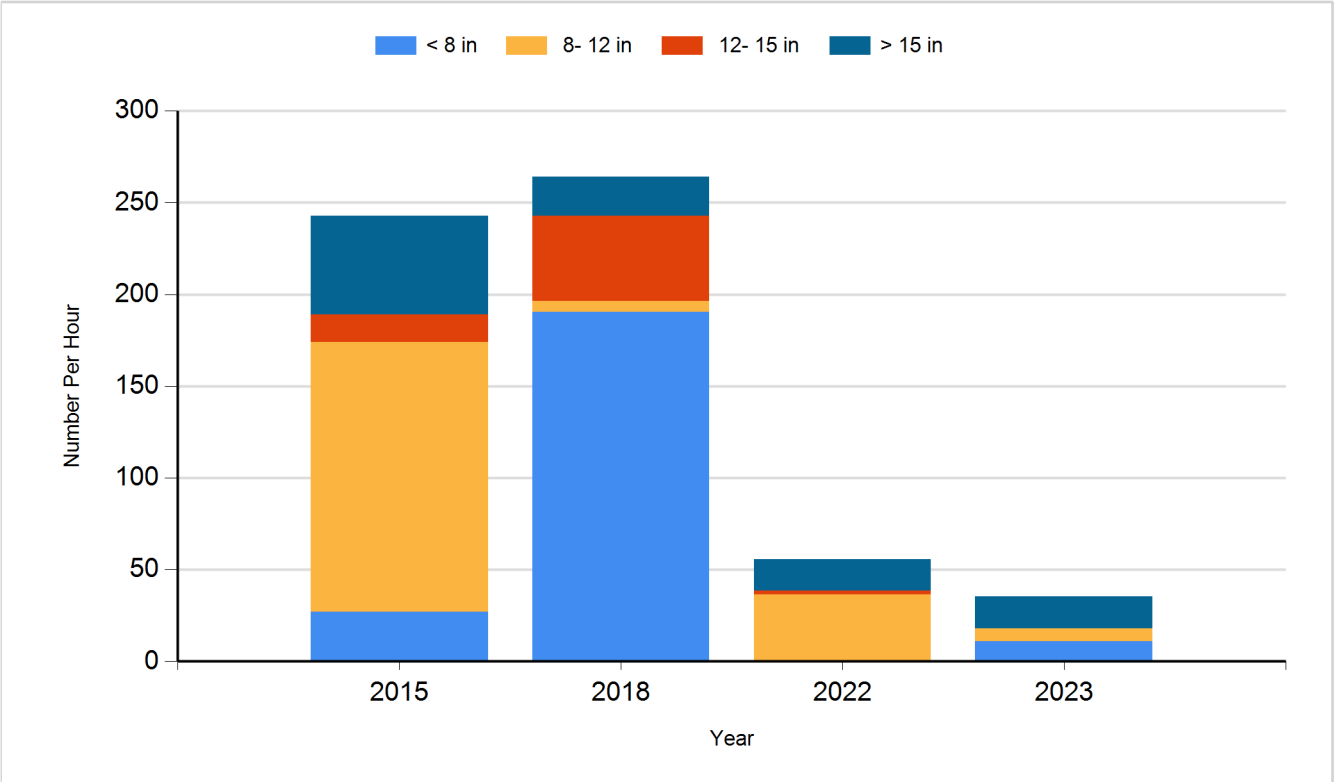
Species: Black Crappie
Gear: frame net (std 3/4 in)



Species: Bluegill
Gear: frame net (std 3/4 in)



Species: Largemouth Bass
Gear: boat shocker (night)



Fish Stocking

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

Year	Species	Size	Number
2022	Bluegill	Adult	332
2023	Largemouth Bass	Adult	105
2024	Largemouth Bass	Juvenile	550