2024 Cresbard Lake Survey Summary

Water: Cresbard Lake

County: Faulk

Legal Description: T120N R68W S27&34

GPS: 45.173 -99.005

Surface Area: 66 acres

Class: Warm Water Marginal

Maximum Depth: 5 feet

Mean Depth: 11 feet

Cresbard Lake is 66-acre impoundment 2.5 miles west of the town of Cresbard in northeast Faulk County. Gravel trails provide access from a county road on the south side of the lake. A concrete plank ramp on the south side of the lake provides boat and ice fishing access. There are no other public use facilities at Cresbard Lake. Water levels at the time of the 2024 survey were at outlet level but can vary significantly during periods of drought and limited run off.

Primary game fish managed at Cresbard include Northern Pike, Channel Catfish, and Yellow Perch. Black Crappie and Black Bullhead also have a historical presence. Saugeye fry were introduced at Cresbard in 2024. A combination of decreased water levels and snow cover routinely results in fish loss due to insufficient dissolved oxygen levels (winterkill).

Cresbard Lake was surveyed on June 24-26, 2024, utilizing ¾ inch standard frame net sets. Channel Catfish and Black Bullhead were the only fish species observed during the 2024 survey.

- **Channel Catfish:** Twelve catfish were sampled in 5 frame nets during the 2024 survey. The fish were small and most likely a result of a stocking of juvenile catfish earlier in the spring.

- **Black Bullhead:** Bullheads were sampled at a rate of 13.8 fish per net. Most bullheads were between 7 and 9 inches.

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Cresbard, Faulk County
NFS-Lake-820-000
2024

Lake Information

Name: Cresbard

County: Faulk

Surface Area: 66 Acres

Maximum Depth: 9 Feet

Surveys and Investigations

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

Gear	Date	Effort
frame net (std 3/4 in)	Jun 25, 2024	10 net-nights

Common Fish Species Present

Yellow Perch

Northern Pike

Black Bullhead

Channel Catfish

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
frame net (std 3/4 in)	Black Bullhead	942	86.3	41.4	45	2	17	2	92	1
	Channel Catfish	14	0.0	0.0	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**

		CPUE										
Gear	Species	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Avg
AFS std gill net	Northern Pike								1.5			1.50
frame net (std 3/4 in)	Black Bullhead								6.0		86.3	46.15
	Black Crappie								0.1		0.0	0.05
	Channel Catfish								0.0		0.0	0.00
	Northern Pike								1.5		0.0	0.75
std exp gill net	Black Bullhead	142.3										142.30
	Bluegill	4.7										4.70
	Golden Shiner	0.0										0.00
	Yellow Perch	3.0										3.00

10-Year Size Structure and Condition Statistics by Gear and Species

Species proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) collected by different gear types across 10 years.

			Year									
Gear	Species	Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFS std gill net	Northern Pike	PSD								33		
		PSD-P								0		
		Wr								95		
frame net (std 3/4 in)	Black Bullhead	PSD								98		45
		PSD-P								39		17
		Wr								107		92
	Channel Catfish	PSD										0
		PSD-P										0
	Northern Pike	PSD								63		
		PSD-P								6		
		Wr								89		
std exp gill net	Black Bullhead	PSD	10									
		PSD-P	0									
		Wr	92									
	Yellow Perch	PSD	100									
		PSD-P	78									
		Wr	101									

Fish Condition

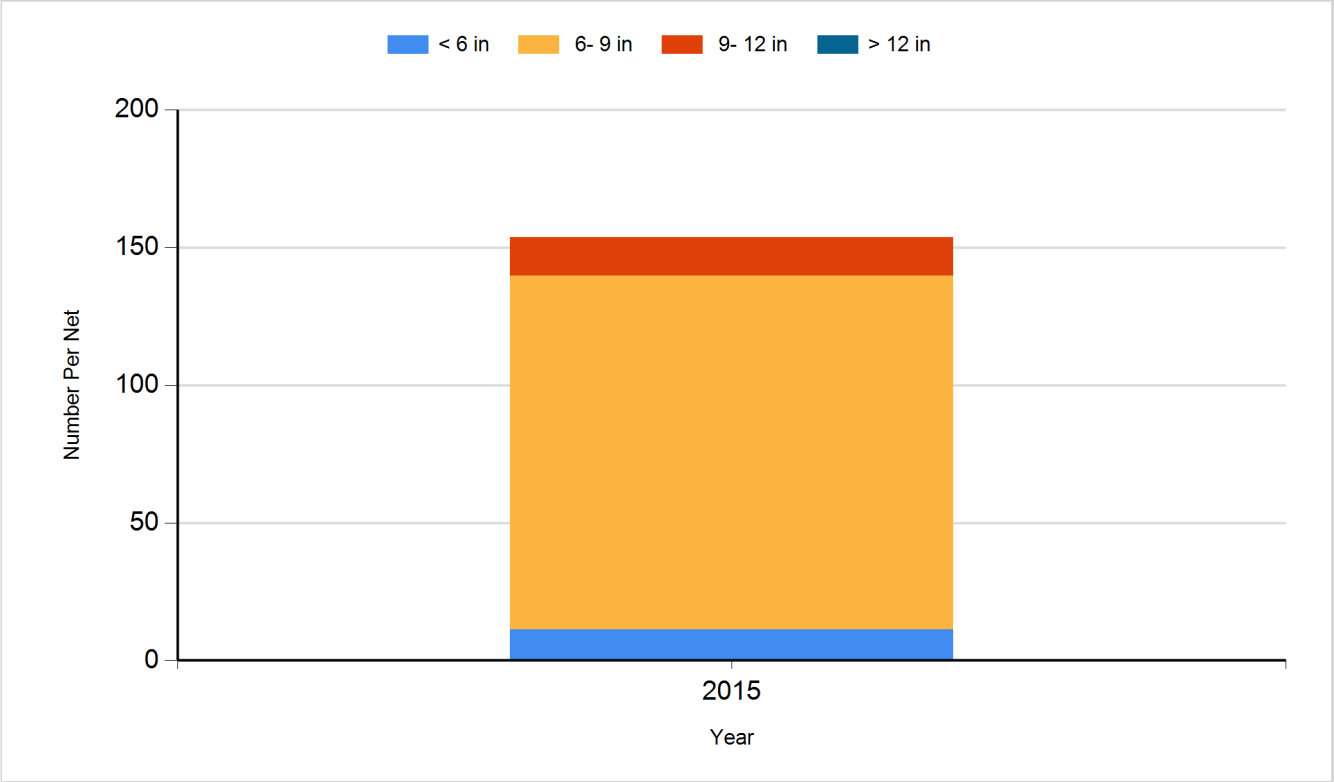
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

		Length Groups							
		S-Q		Q-P		P-M		M	
Species	Year	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Northern Pike Gill Net	2022	2	96 (4.4)	1	94	0		0	

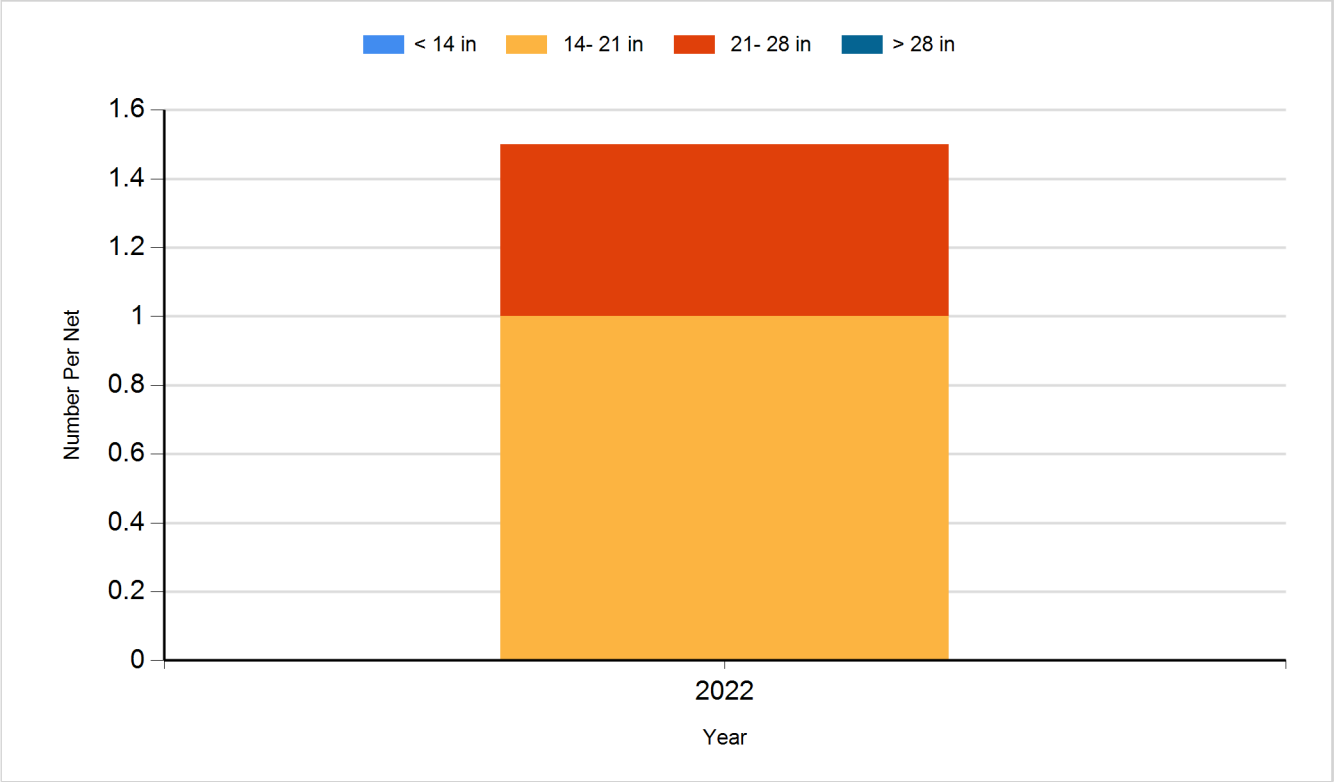
Historic Fish Sizes and Relative Abundance

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

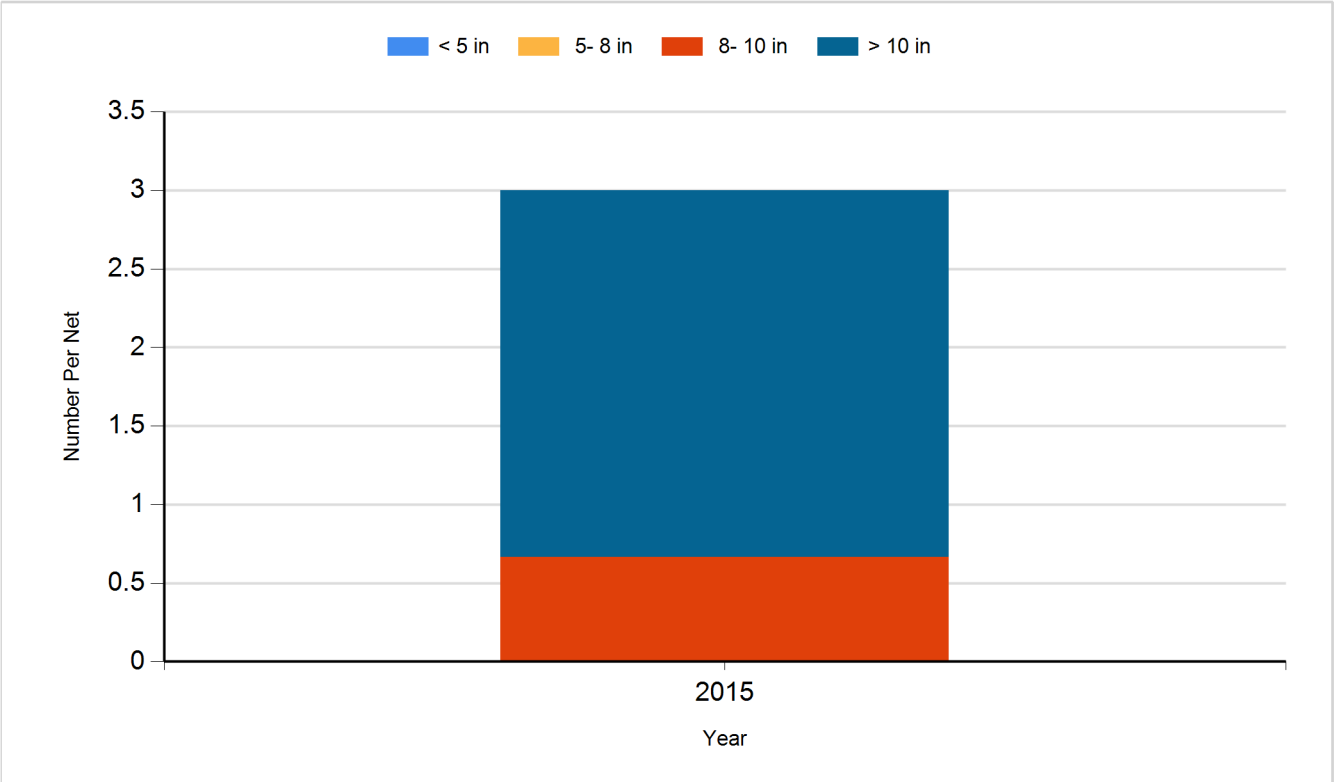
Species: Black Bullhead
Gear: std exp gill net



Species: Northern Pike
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
2016	Largemouth Bass	Small Fingerling	3,760
2018	Saugeye	Small Fingerling	5,300
2020	Black Crappie	Adult	110
2020	Bluegill	Adult	300
2020	Largemouth Bass	Juvenile	125
2022	Bluegill	Adult	75
2022	Largemouth Bass	Juvenile	600
2022	Northern Pike	Adult	300
2023	Channel Catfish	Adult	37
2023	Yellow Perch	Adult	300
2024	Channel Catfish	Juvenile	1,920
2024	Saugeye	Fry	50,000