

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
Family Park Urban Fishing Pond, Minnehaha County
LBS-Lake-89-000
2024

Lake Information

Name: Family Park Urban Fishing Pond
County: Minnehaha
Surface Area: 32 Acres

Surveys and Investigations

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

Gear	Date	Effort
AFS std gill net	Aug 01, 2024	2 net-nights
frame net (std 3/4 in)	Aug 01, 2024	2 net-nights

Common Fish Species Present

White Bass

Rainbow Trout

Channel Catfish

Black Crappie

Bluegill

Black Bullhead

Bigmouth Buffalo

Yellow Bullhead

White Sucker

Northern Pike

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
AFS std gill net	Bigmouth Buffalo	12	1.0	3.1	0		0		
	Black Bullhead	1	0.5	1.5	0		0		
	Northern Pike	1	0.5	1.5	100		0	85	
	White Sucker	1	0.5	1.5	0		0		
frame net (std 3/4 in)	Bigmouth Buffalo	11	3.5	10.8	0		0		
	Black Bullhead	79	5.0	15.4	0		0		
	Black Crappie	55	12.0	9.2	4		4	99	2
	Bluegill	13	6.5	16.9	0		0	94	9
	Channel Catfish	3	1.0	3.1	0		0	88	3
	Common Carp	6	0.0	0.0	0		0		
	Orangespotted Sunfish	1	0.0	0.0					
	White Sucker	1	0.5	1.5	100		100		
	Yellow Bullhead	3	1.5	1.5	100		33		

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
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
AFS std gill net	Bigmouth Buffalo										1.0	1.00
	Black Bullhead										0.5	0.50
	Northern Pike										0.5	0.50
	White Sucker										0.5	0.50
frame net (std 3/4 in)	Bigmouth Buffalo										3.5	3.50
	Black Bullhead										5.0	5.00
	Black Crappie										12.0	12.00
	Bluegill										6.5	6.50
	Channel Catfish										1.0	1.00
	Common Carp										0.0	0.00
	Orangespotted Sunfish										0.0	0.00
	White Sucker										0.5	0.50
	Yellow Bullhead										1.5	1.50

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											
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
AFS std gill net	Bigmouth Buffalo	PSD												0
		PSD-P												0
	Black Bullhead	PSD												0
		PSD-P												0
	Northern Pike	PSD												100
		PSD-P												0
	White Sucker	Wr												85
		PSD												0
			PSD-P											0
	frame net (std 3/4 in)	Bigmouth Buffalo	PSD											
PSD-P														0
Black Bullhead		PSD												0
		PSD-P												0
Black Crappie		PSD												4
		PSD-P												4
		Wr												99
Bluegill		PSD												0
		PSD-P												0
		Wr												94
Channel Catfish		PSD												0
		PSD-P												0
		Wr												88
White Sucker		PSD												100
		PSD-P												100
Yellow Bullhead		PSD												100
		PSD-P												33

Fish Condition

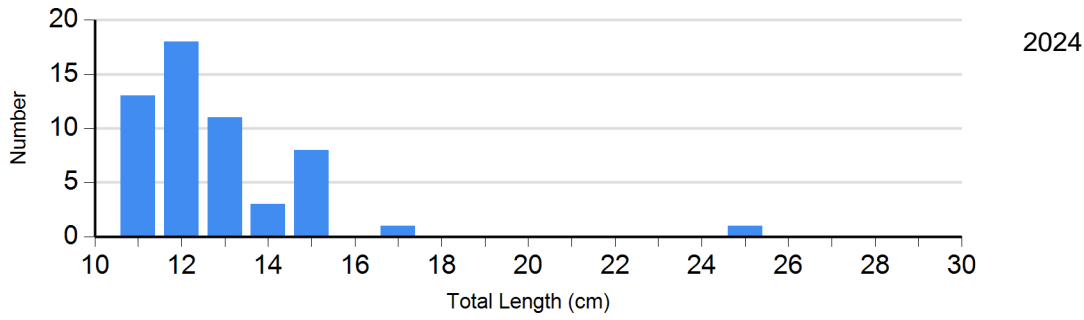
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Crappie Frame Net	2024	23	99 (1.3)	0		1	99	0	
Bluegill Frame Net	2024	13	94 (6.8)	0		0		0	
Northern Pike Gill Net	2024	0		1	85	0		0	

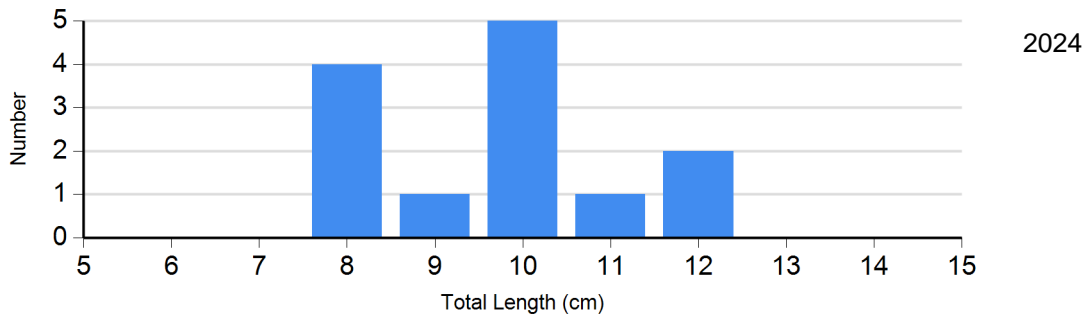
Length Frequency Distribution

Length frequency histogram of species sampled by year.

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



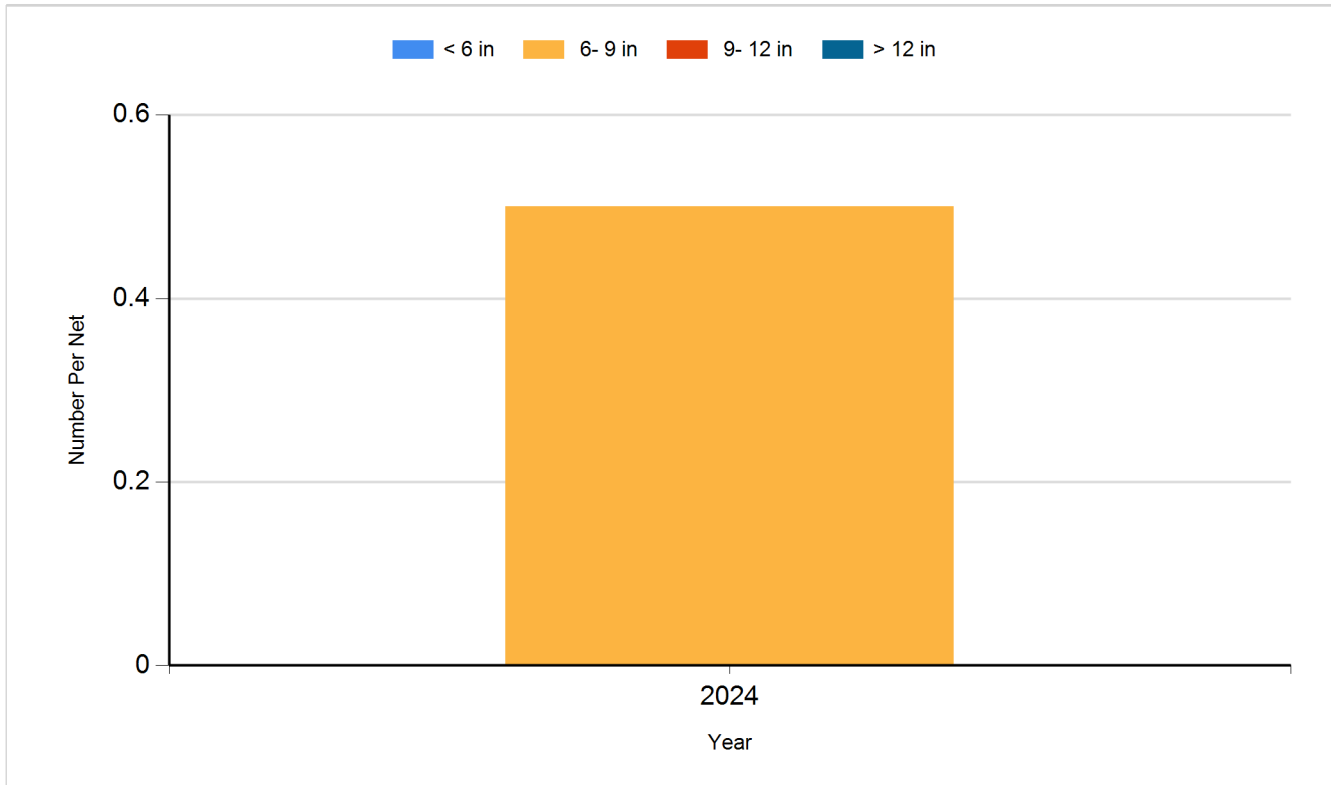
Species: Bluegill
Gear: frame net (std 3/4 in)



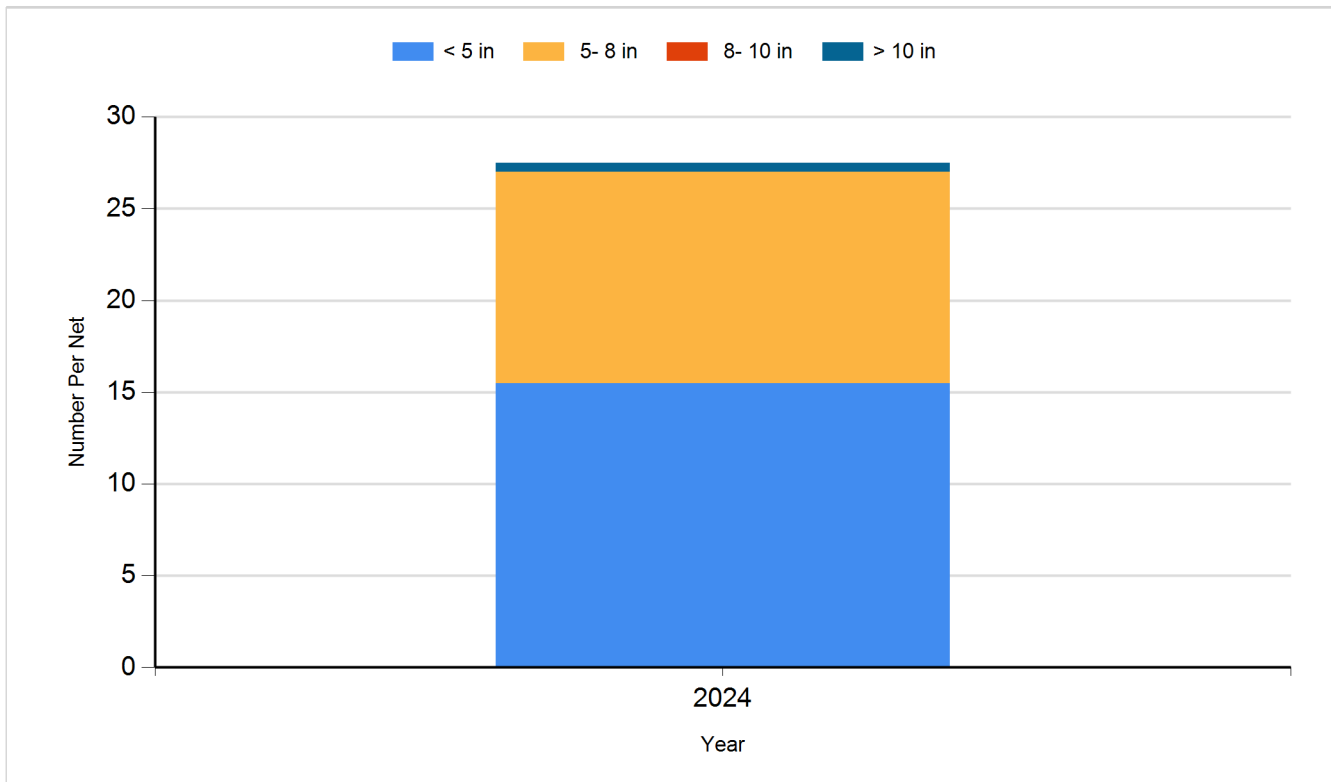
Historic Fish Sizes and Relative Abundance

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

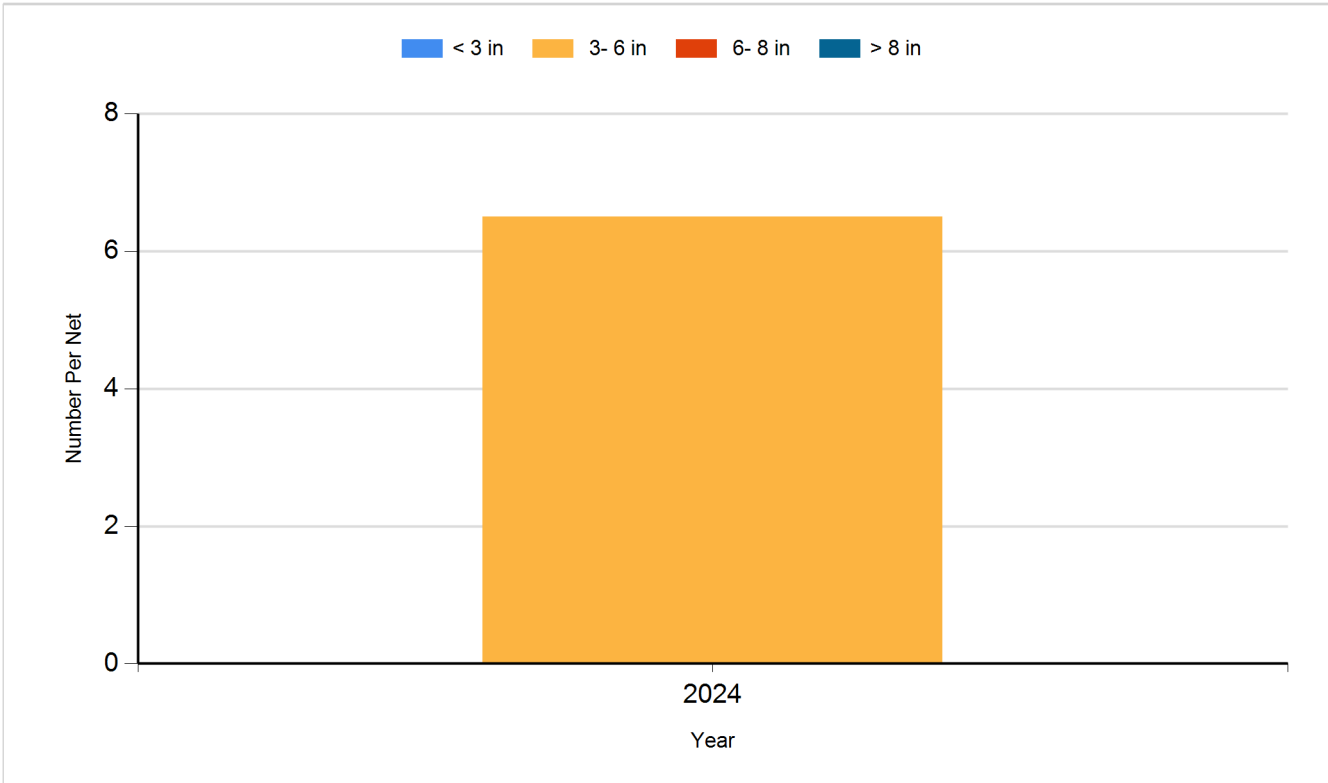
Species: Black Bullhead
Gear: AFS std gill net



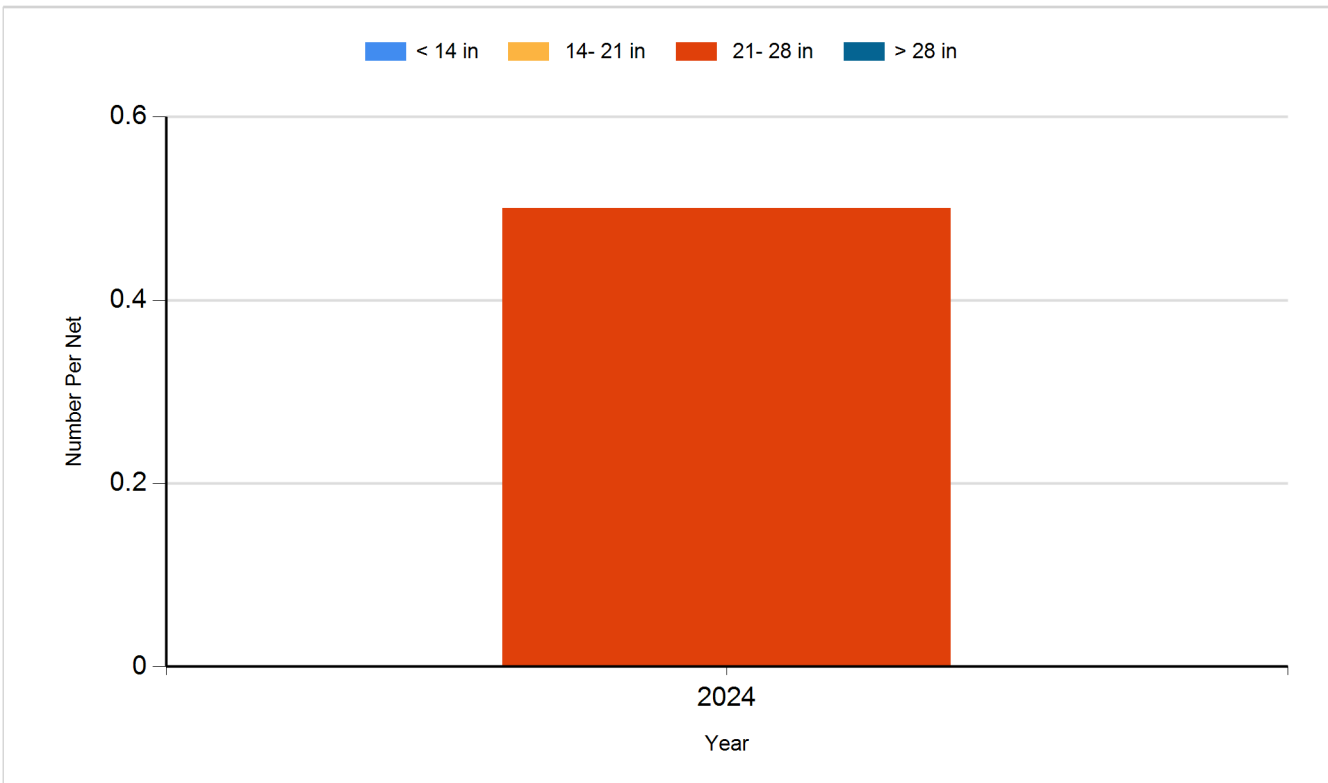
Species: Black Crappie
Gear: frame net (std 3/4 in)



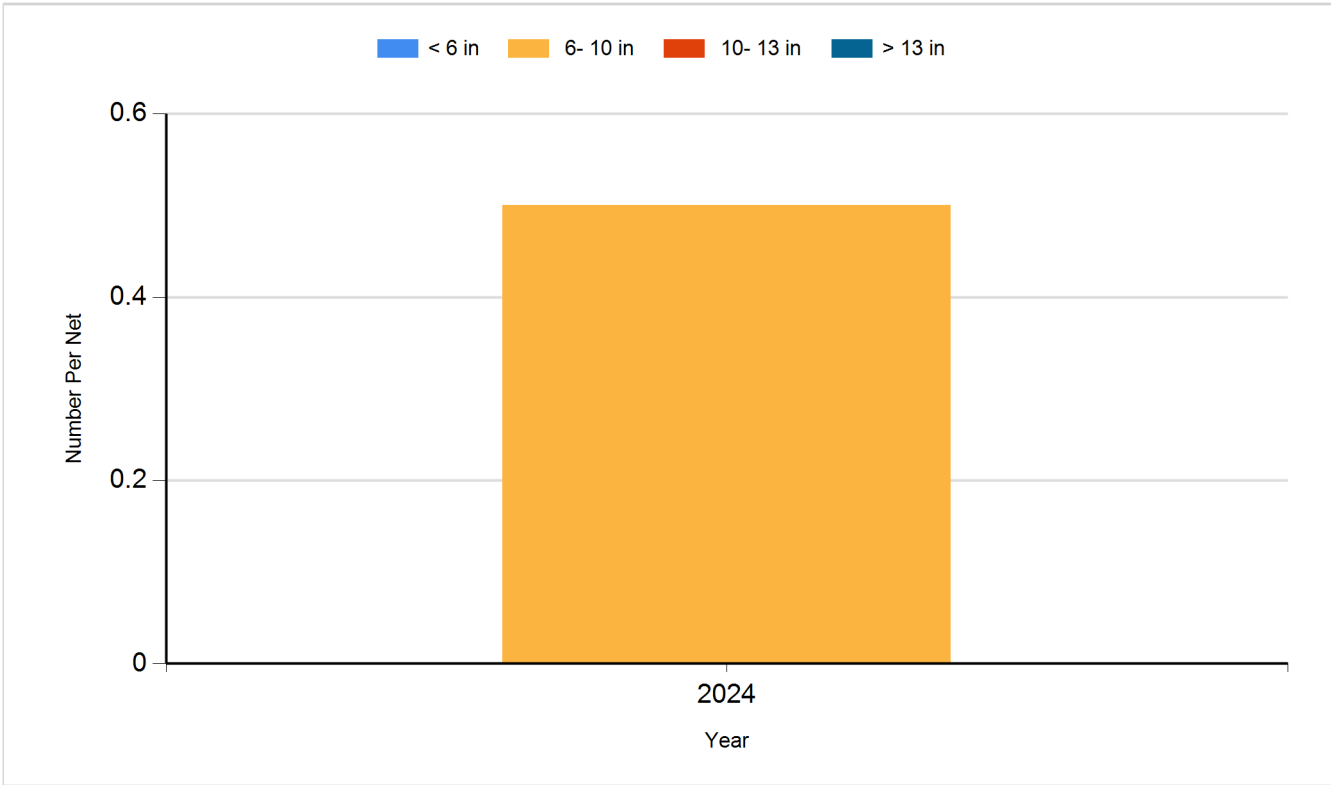
Species: Bluegill
Gear: frame net (std 3/4 in)



Species: Northern Pike
Gear: AFS std gill net



Species: White Sucker
Gear: AFS std gill net



Fish Stocking

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

Year	Species	Size	Number
2013	Channel Catfish	Juvenile	650
2013	Northern Pike	Adult	320
2013	Rainbow Trout (Erwin x Arlee)	Catchable	5,590
2013	Rainbow Trout (Shasta)	Catchable	4,000
2013	White Bass	Adult	780
2014	Northern Pike	Adult	632
2014	Rainbow Trout (Erwin x Arlee)	Catchable	5,600
2014	Rainbow Trout (Shasta)	Catchable	5,601
2014	White Bass	Adult	476
2015	Largemouth Bass	Juvenile	454
2015	Northern Pike	Adult	700
2015	Rainbow Trout (Erwin x Arlee)	Catchable	5,600
2015	Rainbow Trout (Shasta)	Catchable	5,592
2015	White Bass	Adult	119
2016	Northern Pike	Adult	558
2016	Rainbow Trout (Erwin x Arlee)	Catchable	5,600
2016	Rainbow Trout (Shasta)	Catchable	5,600
2016	Smallmouth Bass	Juvenile	169
2016	White Bass	Adult	20
2017	Rainbow Trout (Erwin x Arlee)	Catchable	2,261
2017	Rainbow Trout (Shasta)	Catchable	8,939
2017	Smallmouth Bass	Adult	138
2017	Smallmouth Bass	Juvenile	257
2017	White Bass	Adult	685
2018	Rainbow Trout (Shasta)	Catchable	2,800
2018	Rainbow Trout (Shasta)	Catchable 11"	2,800
2018	Smallmouth Bass	Adult	136
2018	White Bass	Adult	312
2019	Rainbow Trout (Shasta)	Catchable 11"	2,800
2019	Smallmouth Bass	Juvenile	95
2019	White Bass	Adult	115
2020	Black Crappie	Adult	204
2020	Northern Pike	Adult	249
2020	Northern Pike	Catchable	70
2020	Rainbow Trout	Catchable	756
2020	Rainbow Trout (Arlee)	Catchable 11"	4,200

2020	White Bass	Adult	449
2021	Atlantic Salmon	Adult	390
2021	Northern Pike	Adult	452
2021	Rainbow Trout	Adult	1,005
2021	Rainbow Trout	Catchable	7,200
2021	Rainbow Trout (Trout Lodge)	Adult	8,344
2021	White Bass	Adult	250
2022	Black Crappie	Adult	570
2022	Northern Pike	Adult	161
2022	Rainbow Trout	Adult	7,001
2022	Rainbow Trout (Arlee)	Adult	1,897
2022	Rainbow Trout (Trout Lodge)	Adult	3,652
2023	Atlantic Salmon	Adult	450
2023	Black Crappie	Adult	378
2023	Channel Catfish	Juvenile	1,268
2023	Northern Pike	Adult	70
2023	Rainbow Trout	Adult	8,237
2023	Rainbow Trout (Shasta)	Adult	7,000
2023	White Bass	Adult	239
2024	Atlantic Salmon	Adult	80
2024	Bluegill		530
2024	Coho Salmon	Adult	500
2024	Rainbow Trout	Adult	11,874
2024	White Bass	Adult	464
