

## Lake Marindahl Survey Summary

Lake Marindahl, located 4 miles west and 3 miles south of Irene, SD, is managed as a black crappie, bluegill, largemouth bass, and walleye fishery; other fish species (e.g., channel catfish, saugeye, and yellow perch) provide additional angling opportunities.

- **Walleye.** Gill netting efforts produced 0.3 walleye per net in 2024. Relative abundance was identical to the previous year and similar to the long term mean (CPUE = 0.2 fish per net). Catches did improve considerably, however, when including substock length (<10 inches) walleye. With this length group included the catch rate rises to 2.3 fish per net. Netted fish ranged from 7.6 to 10.7 inches in length with 89% measuring <10 inches. The only cohort of fish present in this year's sample were age-1 (2023 year class) walleye. They exhibited above average growth achieving a mean length of 8.6 inches by age-1.
- **Black Crappie.** Frame netting efforts produced only 1.0 black crappie per net in 2024, a steep decline from recent years. This is not surprising as the largest percentage of crappies at peak abundance in the 2021 survey were already age-2 and age-3, and in eastern South Dakota small impoundments, crappies tend to be short-lived. Summerkill in August of 2021 and again in summer 2022 were also in part responsible for the decline in black crappies. Abundance will remain low until conditions are right for good natural reproduction and the production of a large year class.
- **Bluegill.** Frame netting efforts produced 9.4 bluegill per net in 2024. Relative abundance was higher than the previous year (0.3 fish per net) but similar to the long term mean (10.6 fish per net). Sampled fish ranged from 3.5 to 8.3 inches in length with approximately 9% measuring >6 inches. Age 1 bluegill dominated catches comprising 83% of all fish sampled. Recent fish kills on Lake Marindahl are likely responsible for skewing the bluegill population towards younger individuals. The steep decline in crappie abundance may also be a factor influencing the good recent recruitment of bluegill. Bluegill and crappie abundance are often inversely related in our small impoundments. Growth remains well above the statewide mean with fish achieving an average length of 7.6 inches by the age of 3.
- **Channel Catfish.** Channel catfish abundance remained high in 2024 (6.0 fish per gill net), resulting in the second highest catch rate in the region. Catches have been fairly consistent the past 4 years ranging from 6.0 to 6.8 fish per net. Netted fish ranged from 12.6 to 21.3 inches in length with 38% measuring in the quality (>16 inches) length category. An average relative weight score of 100 indicates sampled fish are in good condition. Any angler targeting channel catfish in southeast South Dakota should be sure to consider trying Lake Marindahl.

For more detailed results see the computer-generated South Dakota Statewide Fisheries Survey for Marindahl Lake (below).

# SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

Marindahl, Yankton County

VER-Lake-276-000

2024

## Lake Information

**Name:** Marindahl **Maximum Depth:** 30 Feet  
**County:** Yankton **Mean Depth:** 13 Feet  
**Legal Description:** T95N-R54W-Sec. 7, 17, 18, 20  
**Surface Area:** 147 Acres

## Surveys and Investigations

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

| Gear                   | Date         | Effort       |
|------------------------|--------------|--------------|
| AFS std gill net       | May 23, 2024 | 4 net-nights |
| frame net (std 3/4 in) | May 23, 2024 | 5 net-nights |

## **Common Fish Species Present**

Largemouth Bass

Bluegill

Black Crappie

White Sucker

Black Bullhead

Channel Catfish

Green Sunfish

Yellow Perch

Common Carp

Walleye

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## 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       | Black Bullhead  | 11              | 2.8       | 2.3   | 18                    |       | 0     |           |    |
|                        | Bluegill        | 1               | 0.3       | 0.4   | 0                     |       | 0     | 109       |    |
|                        | Channel Catfish | 24              | 6.0       | 1.8   | 38                    | 16    | 0     | 100       | 3  |
|                        | Common Carp     | 1               | 0.3       | 0.4   | 100                   |       | 0     |           |    |
|                        | Walleye         | 8               | 0.3       | 0.4   | 0                     |       | 0     | 103       |    |
|                        | White Sucker    | 50              | 12.5      | 6.1   | 72                    | 10    | 70    | 10        |    |
|                        | Yellow Perch    | 2               | 0.5       | 0.5   | 100                   |       | 50    | 108       | 5  |
| frame net (std 3/4 in) | Black Bullhead  | 89              | 17.8      | 13.5  | 27                    | 7     | 1     |           |    |
|                        | Black Crappie   | 5               | 1.0       | 1.5   | 100                   |       | 60    | 103       | 4  |
|                        | Bluegill        | 47              | 9.4       | 13.3  | 9                     |       | 6     | 108       | 3  |
|                        | Channel Catfish | 9               | 1.8       | 2.0   | 44                    |       | 0     | 97        | 7  |
|                        | Green Sunfish   | 22              | 4.4       | 4.5   | 18                    |       | 0     |           |    |
|                        | Pumpkinseed     | 1               | 0.2       | 0.3   | 100                   |       | 0     | 126       |    |
|                        | Sunfish Hybrid  | 1               | 0.2       | 0.3   | 100                   |       | 100   |           |    |
| White Sucker           | 100             | 20.0            | 6.4       | 89    | 5                     | 79    | 6     |           |    |

## 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 frame net      | Black Bullhead  |       |      | 41.8 |      |      |      |       |      |      |       | 41.80 |
|                        | Black Crappie   |       |      | 68.0 |      |      |      |       |      |      |       | 68.00 |
|                        | Common Carp     |       |      | 0.0  |      |      |      |       |      |      |       | 0.00  |
|                        | White Sucker    |       |      | 5.6  |      |      |      |       |      |      |       | 5.60  |
|                        | Yellow Perch    |       |      | 0.2  |      |      |      |       |      |      |       | 0.20  |
| AFS std gill net       | Black Bullhead  |       |      | 12.0 | 0.7  | 0.3  |      | 0.2   |      | 1.3  | 2.8   | 2.88  |
|                        | Black Crappie   |       |      | 2.8  | 0.7  | 0.3  |      | 3.8   |      | 1.0  | 0.0   | 1.43  |
|                        | Bluegill        |       |      | 0.2  | 0.0  | 0.0  |      | 0.0   |      | 0.0  | 0.3   | 0.08  |
|                        | Channel Catfish |       |      | 3.8  | 0.7  | 1.3  |      | 6.8   |      | 6.7  | 6.0   | 4.22  |
|                        | Common Carp     |       |      | 1.2  | 2.0  | 0.0  |      | 3.4   |      | 1.3  | 0.3   | 1.37  |
|                        | Gizzard Shad    |       |      | 3.3  | 0.0  | 0.0  |      | 0.0   |      | 0.0  | 0.0   | 0.55  |
|                        | Northern Pike   |       |      | 0.0  | 0.0  | 0.0  |      | 0.2   |      | 0.0  | 0.0   | 0.03  |
|                        | Smallmouth Bass |       |      | 0.3  | 0.0  | 0.0  |      | 0.0   |      | 0.0  | 0.0   | 0.05  |
|                        | Walleye         |       |      | 0.0  | 0.0  | 0.0  |      | 0.8   |      | 0.3  | 0.3   | 0.23  |
|                        | White Sucker    |       |      | 5.0  | 0.3  | 1.0  |      | 11.8  |      | 6.7  | 12.5  | 6.22  |
| Yellow Perch           |                 |       | 4.2  | 3.0  | 0.0  |      | 4.2  |       | 0.7  | 0.5  | 2.10  |       |
| boat shocker (night)   | Largemouth Bass | 7.5   | 6.0  |      |      |      |      |       |      |      |       | 6.75  |
|                        | Smallmouth Bass | 0.5   | 0.0  |      |      |      |      |       |      |      |       | 0.25  |
| frame net (std 3/4 in) | Black Bullhead  | 185.2 | 51.3 |      | 16.0 | 17.2 |      | 0.0   |      | 0.8  | 17.8  | 41.19 |
|                        | Black Crappie   | 19.0  | 49.4 |      | 68.2 | 42.2 |      | 217.2 |      | 61.2 | 1.0   | 65.46 |
|                        | Bluegill        | 21.9  | 17.9 |      | 0.2  | 20.0 |      | 4.8   |      | 0.3  | 9.4   | 10.64 |
|                        | Channel Catfish | 1.3   | 0.6  |      | 0.4  | 1.4  |      | 0.0   |      | 0.2  | 1.8   | 0.81  |
|                        | Common Carp     | 0.1   | 0.6  |      | 1.4  | 2.6  |      | 0.0   |      | 0.0  | 0.0   | 0.67  |
|                        | Green Sunfish   | 1.2   | 1.2  |      | 0.0  | 4.8  |      | 3.0   |      | 0.5  | 4.4   | 2.16  |
|                        | Largemouth Bass | 0.0   | 0.0  |      | 0.2  | 0.0  |      | 0.0   |      | 0.0  | 0.0   | 0.03  |
|                        | Pumpkinseed     | 0.0   | 0.0  |      | 0.0  | 0.0  |      | 0.0   |      | 0.0  | 0.2   | 0.03  |
|                        | Sunfish Hybrid  | 0.0   | 0.0  |      | 0.0  | 0.0  |      | 1.6   |      | 0.0  | 0.2   | 0.26  |
|                        | Walleye         | 0.0   | 0.0  |      | 0.0  | 0.0  |      | 0.2   |      | 0.0  | 0.0   | 0.03  |
| White Sucker           | 19.8            | 12.6  |      | 3.8  | 12.0 |      | 26.4 |       | 3.8  | 20.0 | 14.06 |       |
| Yellow Perch           | 0.0             | 0.0   |      | 1.0  | 0.2  |      | 0.6  |       | 0.0  | 0.0  | 0.26  |       |

## 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 frame net | Black Bullhead  | PSD   |      |      | 13   |      |      |      |      |      |      |      |     |  |
|                   |                 | PSD-P |      |      | 1    |      |      |      |      |      |      |      |     |  |
|                   |                 | Wr    |      |      | 94   |      |      |      |      |      |      |      |     |  |
|                   | Black Crappie   | PSD   |      |      | 94   |      |      |      |      |      |      |      |     |  |
|                   |                 | PSD-P |      |      | 4    |      |      |      |      |      |      |      |     |  |
|                   |                 | Wr    |      |      | 94   |      |      |      |      |      |      |      |     |  |
|                   | Common Carp     | PSD   |      |      | 0    |      |      |      |      |      |      |      |     |  |
|                   |                 | PSD-P |      |      | 0    |      |      |      |      |      |      |      |     |  |
|                   |                 | Wr    |      |      | 96   |      |      |      |      |      |      |      |     |  |
|                   | White Sucker    | PSD   |      |      | 96   |      |      |      |      |      |      |      |     |  |
|                   |                 | PSD-P |      |      | 64   |      |      |      |      |      |      |      |     |  |
|                   |                 | Wr    |      |      | 100  |      |      |      |      |      |      |      |     |  |
|                   | Yellow Perch    | PSD   |      |      | 100  |      |      |      |      |      |      |      |     |  |
|                   |                 | PSD-P |      |      | 100  |      |      |      |      |      |      |      |     |  |
|                   |                 | Wr    |      |      | 75   |      |      |      |      |      |      |      |     |  |
| AFS std gill net  | Black Bullhead  | PSD   |      |      | 18   | 0    | 0    |      | 100  |      | 0    | 18   |     |  |
|                   |                 | PSD-P |      |      | 1    | 0    | 0    |      | 0    |      | 0    | 0    |     |  |
|                   |                 | Wr    |      |      | 89   |      |      |      |      |      |      |      |     |  |
|                   | Black Crappie   | PSD   |      |      | 94   | 100  | 0    |      | 16   |      | 100  |      |     |  |
|                   |                 | PSD-P |      |      | 0    | 100  | 0    |      | 0    |      | 0    |      |     |  |
|                   |                 | Wr    |      |      | 96   | 97   | 73   |      | 129  |      | 91   |      |     |  |
|                   | Bluegill        | PSD   |      |      | 0    |      |      |      |      |      |      |      | 0   |  |
|                   |                 | PSD-P |      |      | 0    |      |      |      |      |      |      |      | 0   |  |
|                   |                 | Wr    |      |      | 85   |      |      |      |      |      |      |      | 109 |  |
|                   | Channel Catfish | PSD   |      |      | 91   | 50   | 75   |      | 38   |      | 15   | 38   |     |  |
|                   |                 | PSD-P |      |      | 9    | 0    | 25   |      | 0    |      | 0    | 0    |     |  |
|                   |                 | Wr    |      |      | 103  | 95   | 114  |      | 85   |      | 85   | 100  |     |  |
|                   | Common Carp     | PSD   |      |      | 0    | 0    | 0    |      | 47   |      | 100  | 100  |     |  |
|                   |                 | PSD-P |      |      | 0    | 0    | 0    |      | 18   |      | 25   | 0    |     |  |
|                   |                 | Wr    |      |      | 0    | 0    | 0    |      | 25   |      | 100  | 0    |     |  |
|                   | Walleye         | PSD   |      |      |      | 0    |      |      | 25   |      | 100  | 0    |     |  |
|                   |                 | PSD-P |      |      |      | 0    |      |      | 25   |      | 0    | 0    |     |  |
|                   |                 | Wr    |      |      |      |      |      |      | 92   |      | 85   | 103  |     |  |
|                   | White Sucker    | PSD   |      |      | 90   | 100  | 67   |      | 100  |      | 100  | 72   |     |  |
|                   |                 | PSD-P |      |      | 63   | 0    | 67   |      | 66   |      | 95   | 70   |     |  |
|                   |                 | Wr    |      |      | 96   | 0    |      |      | 62   |      | 0    | 100  |     |  |
|                   | Yellow Perch    | PSD   |      |      | 96   | 0    |      |      | 62   |      | 0    | 100  |     |  |
|                   |                 | PSD-P |      |      | 80   | 0    |      |      | 0    |      | 0    | 50   |     |  |



| Gear                      | Species         | Index | Year |      |      |      |      |      |      |      |      |      |
|---------------------------|-----------------|-------|------|------|------|------|------|------|------|------|------|------|
|                           |                 |       | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| AFS std gill net          | Yellow Perch    | Wr    |      |      | 82   | 88   |      |      | 91   |      | 103  | 108  |
| boat shocker<br>(night)   | Largemouth Bass | PSD   | 13   | 58   |      |      |      |      |      |      |      |      |
|                           |                 | PSD-P | 13   | 17   |      |      |      |      |      |      |      |      |
|                           |                 | Wr    | 98   | 95   |      |      |      |      |      |      |      |      |
| frame net (std<br>3/4 in) | Black Bullhead  | PSD   | 1    | 1    |      | 5    | 22   |      |      |      | 20   | 27   |
|                           |                 | PSD-P | 0    | 0    |      | 0    | 0    |      |      |      | 0    | 1    |
|                           | Black Crappie   | PSD   | 2    | 9    |      | 67   | 37   |      | 78   |      | 84   | 100  |
|                           |                 | PSD-P | 1    | 7    |      | 63   | 36   |      | 4    |      | 3    | 60   |
|                           |                 | Wr    | 115  | 99   |      | 98   | 100  |      | 109  |      | 92   | 103  |
|                           | Bluegill        | PSD   | 49   | 61   |      | 0    | 77   |      | 96   |      | 50   | 9    |
|                           |                 | PSD-P | 1    | 1    |      | 0    | 0    |      | 4    |      | 0    | 6    |
|                           |                 | Wr    | 93   | 95   |      |      | 102  |      | 102  |      |      | 108  |
|                           | Channel Catfish | PSD   | 31   | 50   |      | 0    | 14   |      |      |      | 0    | 44   |
|                           |                 | PSD-P | 8    | 0    |      | 0    | 0    |      |      |      | 0    | 0    |
|                           |                 | Wr    | 78   | 117  |      | 84   | 95   |      |      |      | 81   | 97   |
|                           | Common Carp     | PSD   | 0    | 0    |      | 0    | 15   |      |      |      |      |      |
|                           |                 | PSD-P | 0    | 0    |      | 0    | 8    |      |      |      |      |      |
|                           | Green Sunfish   | PSD   | 17   | 58   |      |      | 17   |      | 13   |      | 0    | 18   |
|                           |                 | PSD-P | 0    | 0    |      |      | 0    |      | 0    |      | 0    | 0    |
|                           |                 | Wr    | 91   | 100  |      |      | 113  |      | 105  |      |      |      |
|                           | Largemouth Bass | PSD   | 0    |      |      | 100  |      |      |      |      |      |      |
|                           |                 | PSD-P | 0    |      |      | 100  |      |      |      |      |      |      |
|                           |                 | Wr    |      |      |      | 99   |      |      |      |      |      |      |
|                           | Walleye         | PSD   |      |      |      |      |      |      | 0    |      |      |      |
|                           |                 | PSD-P |      |      |      |      |      |      | 0    |      |      |      |
|                           |                 | Wr    |      |      |      |      |      |      | 80   |      |      |      |
|                           | White Sucker    | PSD   | 100  | 100  |      | 100  | 100  |      | 99   |      | 100  | 89   |
|                           |                 | PSD-P | 99   | 100  |      | 68   | 87   |      | 82   |      | 96   | 79   |
|                           |                 | Wr    |      |      |      | 58   |      |      |      |      |      |      |
|                           | Yellow Perch    | PSD   |      |      |      | 40   | 100  |      | 100  |      |      |      |
|                           |                 | PSD-P |      |      |      | 0    | 0    |      | 0    |      |      |      |
|                           |                 | Wr    |      |      |      | 97   | 88   |      | 90   |      |      |      |

## 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+ |
| 2021   | 1053 |              | 180<br>(237) | 216<br>(651) | 229<br>(128) | 265<br>(21) | 297<br>(16) |            |            |   |     |
| 2018   | 229  |              | 215<br>(1)   | 258<br>(28)  | 272<br>(142) | 270<br>(49) |             | 301<br>(9) |            |   |     |
| 2017   | 340  |              | 174<br>(16)  | 213<br>(60)  | 226<br>(249) | 256<br>(4)  |             | 302<br>(8) | 294<br>(4) |   |     |
| 2015   | 191  | 147<br>(188) | 216<br>(1)   | 241<br>(1)   | 250<br>(1)   |             |             |            |            |   |     |

Species: Bluegill

| Mean Length (expanded sample number) at capture by age |     |              |             |             |            |   |   |   |   |   |     |
|--|-----|--------------|-------------|-------------|------------|---|---|---|---|---|-----|
| Year   | N   | 1            | 2           | 3           | 4          | 5 | 6 | 7 | 8 | 9 | 10+ |
| 2024   | 47  | 112<br>(39)  | 130<br>(3)  | 192<br>(5)  |            |   |   |   |   |   |     |
| 2021   | 24  |              | 154<br>(5)  | 183<br>(19) |            |   |   |   |   |   |     |
| 2015   | 217 | 118<br>(107) | 162<br>(52) | 171<br>(50) | 181<br>(9) |   |   |   |   |   |     |

Species: Walleye

| Mean Length (expanded sample number) at capture by age |   |            |            |   |            |   |   |   |   |   |     |
|--|---|------------|------------|---|------------|---|---|---|---|---|-----|
| Year   | N | 1          | 2          | 3 | 4          | 5 | 6 | 7 | 8 | 9 | 10+ |
| 2024   | 8 | 220<br>(8) |            |   |            |   |   |   |   |   |     |
| 2021   | 4 |            | 255<br>(3) |   | 575<br>(1) |   |   |   |   |   |     |

Species: Yellow Perch

| Mean Length (expanded sample number) at capture by age |    |            |   |             |   |   |   |   |   |   |     |
|--|----|------------|---|-------------|---|---|---|---|---|---|-----|
| Year   | N  | 1          | 2 | 3           | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| 2021   | 21 | 157<br>(7) |   | 212<br>(14) |   |   |   |   |   |   |     |

## **Fish Condition**

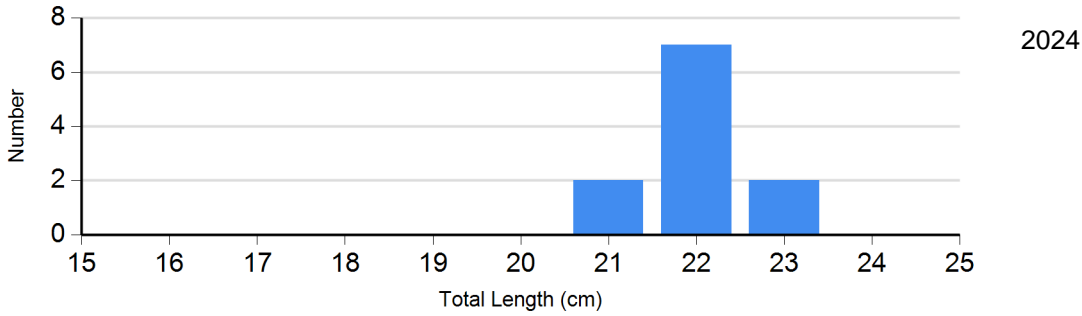
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

| 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<br>Frame Net  | 2021 | 237           | 117<br>(1.2) | 802 | 106<br>(0.6) | 43  | 86<br>(1.9)  | 4 | 82      |
|                             | 2023 | 58            | 120          | 298 | 91<br>(0.8)  | 10  |              | 1 |         |
|                             | 2024 | 0             |              | 2   | 106<br>(0.4) | 3   | 100<br>(4.7) | 0 |         |
| Bluegill<br>Frame Net       | 2021 | 1             | 86           | 22  | 102<br>(1.9) | 1   | 100          | 0 |         |
|                             | 2024 | 43            | 108<br>(2.8) | 1   | 112          | 3   | 117<br>(2.0) | 0 |         |
| Channel Catfish<br>Gill Net | 2021 | 21            | 81<br>(1.0)  | 13  | 92<br>(3.3)  | 0   |              | 0 |         |
|                             | 2023 | 17            | 85<br>(3.1)  | 3   | 87<br>(5.6)  | 0   |              | 0 |         |
|                             | 2024 | 15            | 100<br>(2.1) | 9   | 101<br>(4.0) | 0   |              | 0 |         |
| Walleye<br>Gill Net         | 2021 | 3             | 87<br>(4.0)  | 0   |              | 1   | 106          | 0 |         |
|                             | 2023 | 0             |              | 1   | 85           | 0   |              | 0 |         |
|                             | 2024 | 1             | 103          | 0   |              | 0   |              | 0 |         |
| Yellow Perch<br>Gill Net    | 2021 | 8             | 88<br>(1.5)  | 13  | 93<br>(2.6)  | 0   |              | 0 |         |
|                             | 2023 | 2             | 103<br>(9.0) | 0   |              | 0   |              | 0 |         |
|                             | 2024 | 0             |              | 1   | 111          | 1   | 104          | 0 |         |

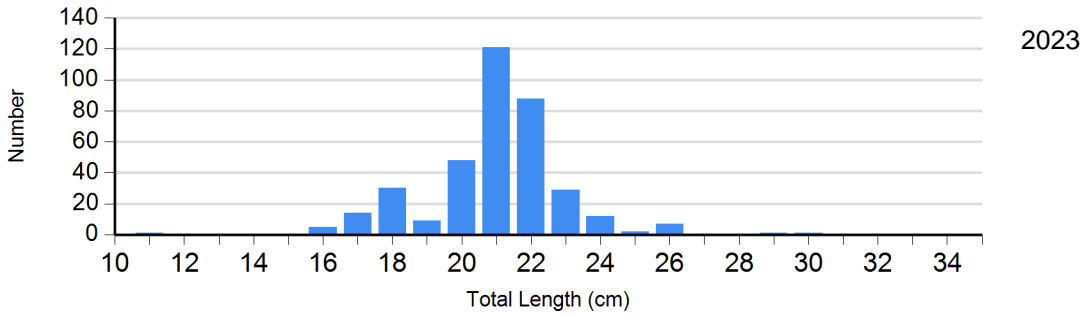
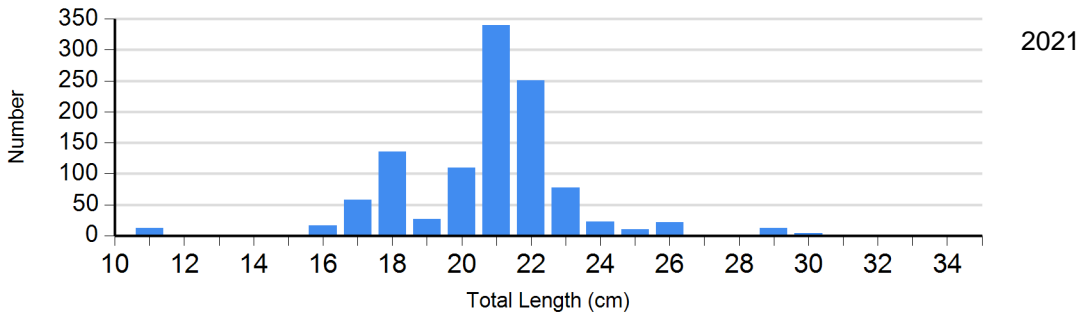
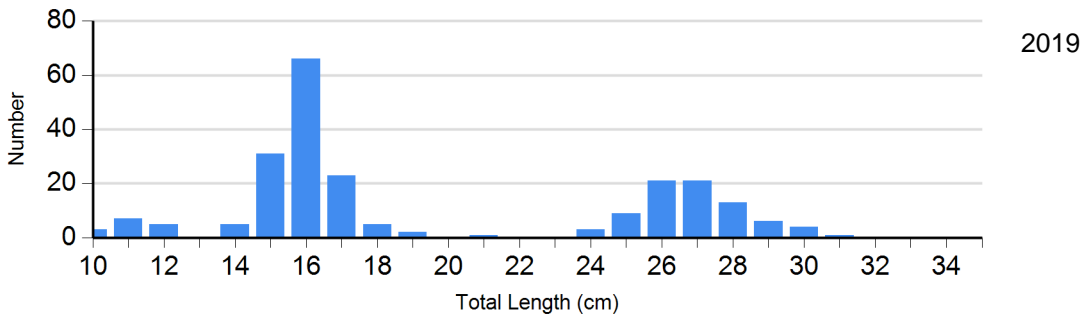
# Length Frequency Distribution

Length frequency histogram of species sampled by year.

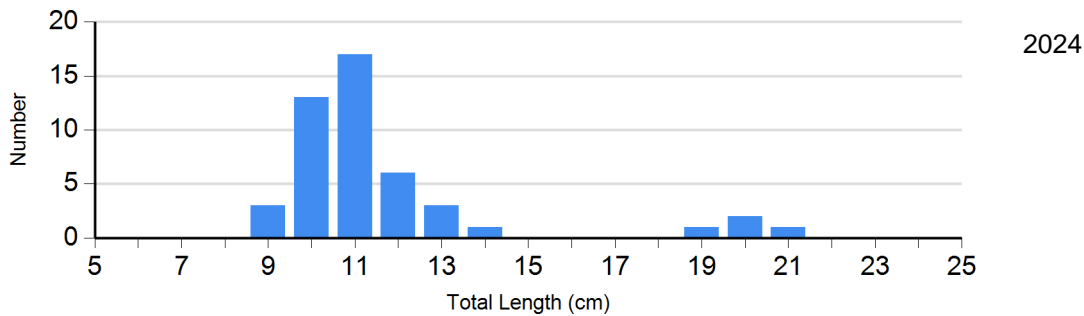
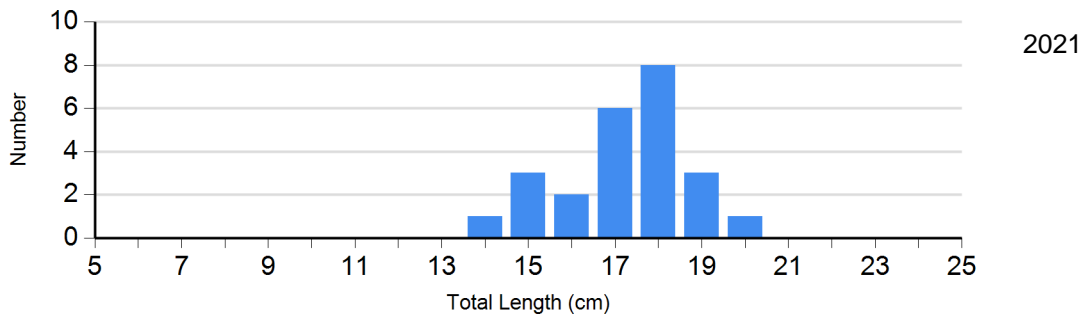
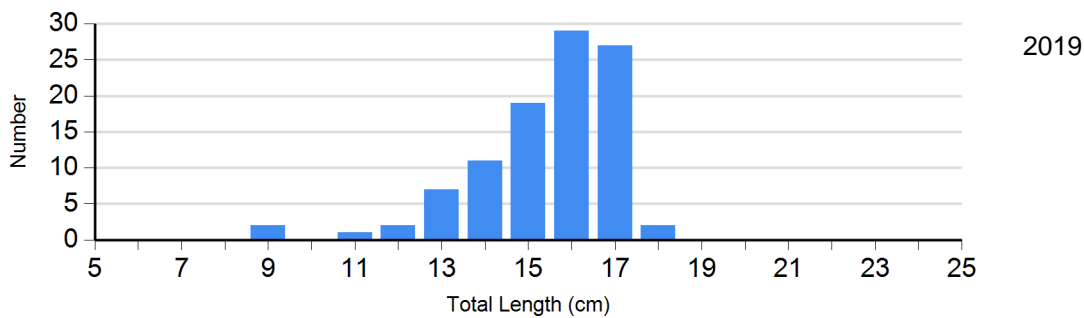
Species: Black Bullhead  
Gear: AFS std gill net



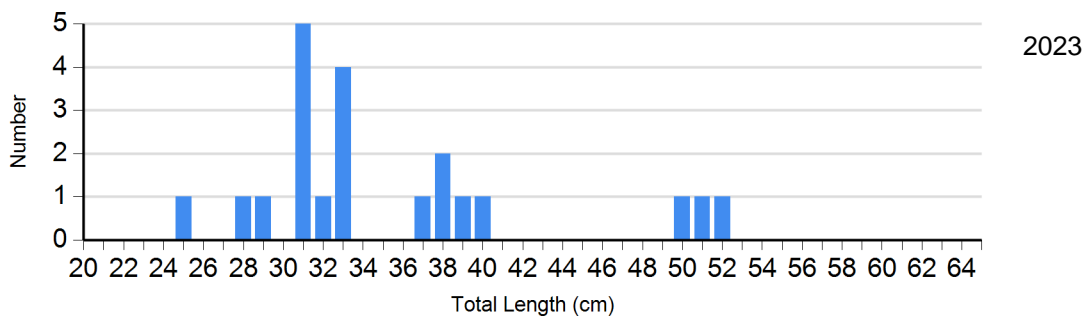
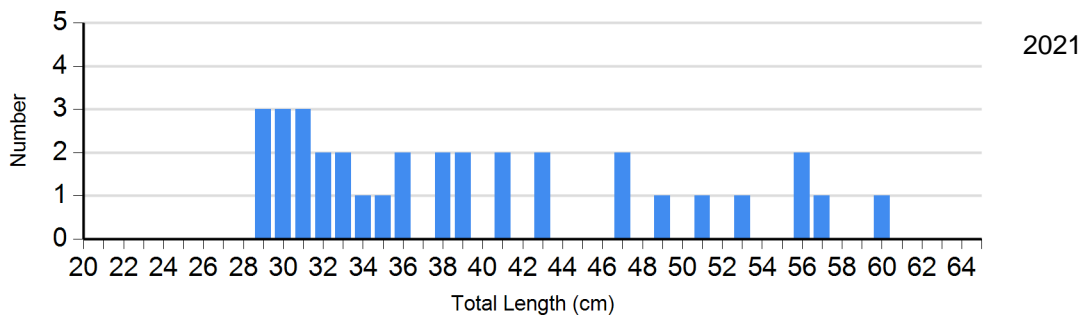
Species: Black Crappie  
Gear: frame net (std 3/4 in)

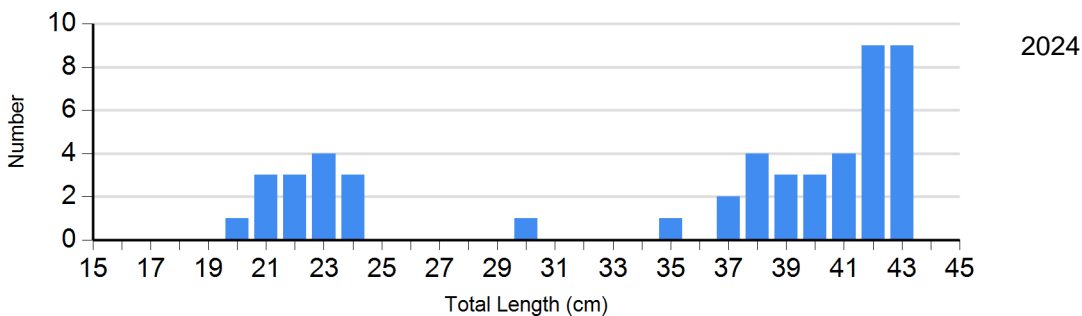
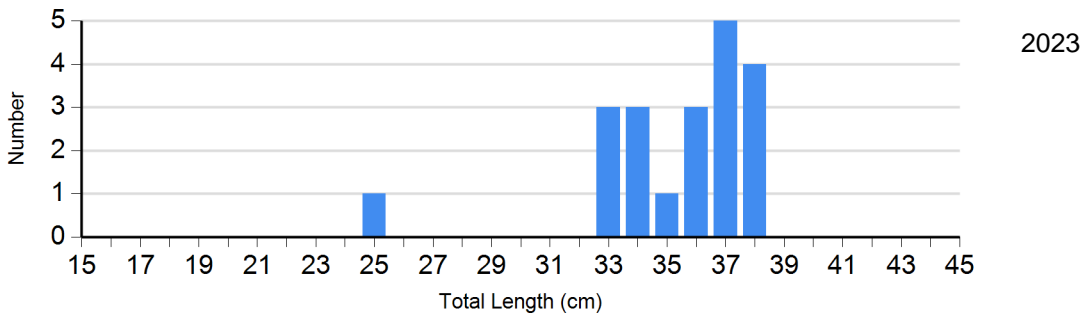
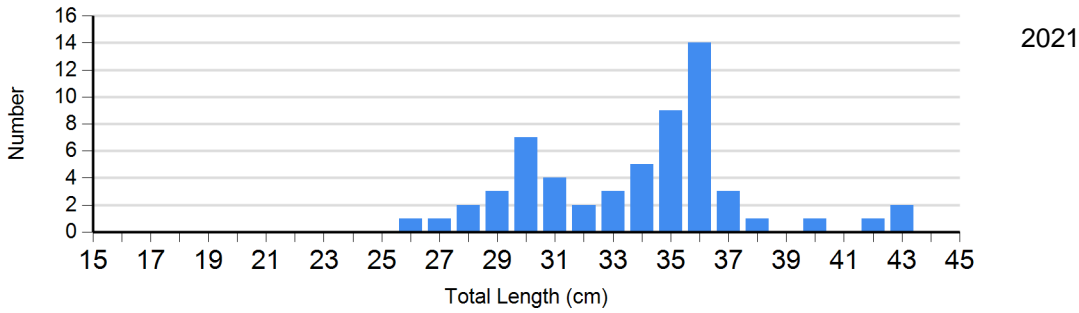
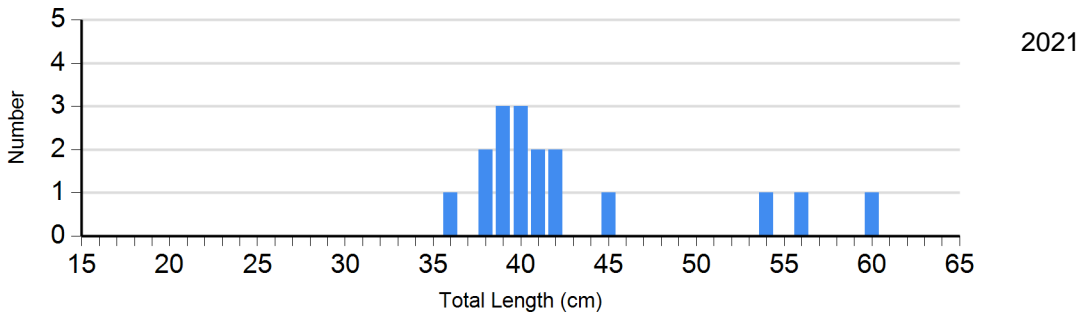
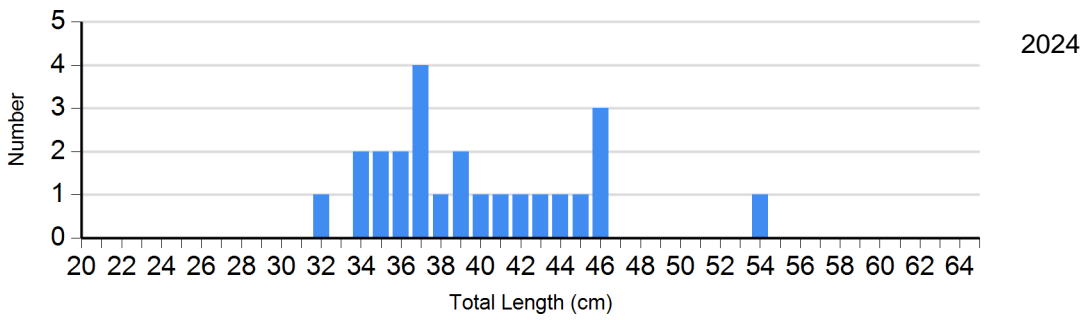


Species: Bluegill  
 Gear: frame net (std 3/4 in)

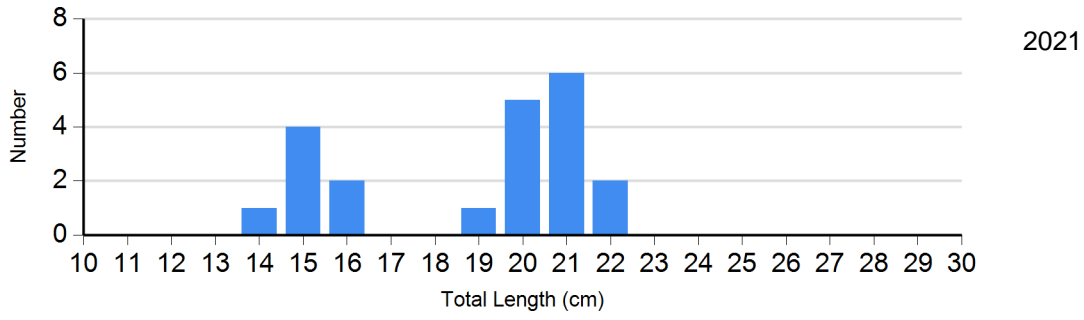


Species: Channel Catfish  
 Gear: AFS std gill net





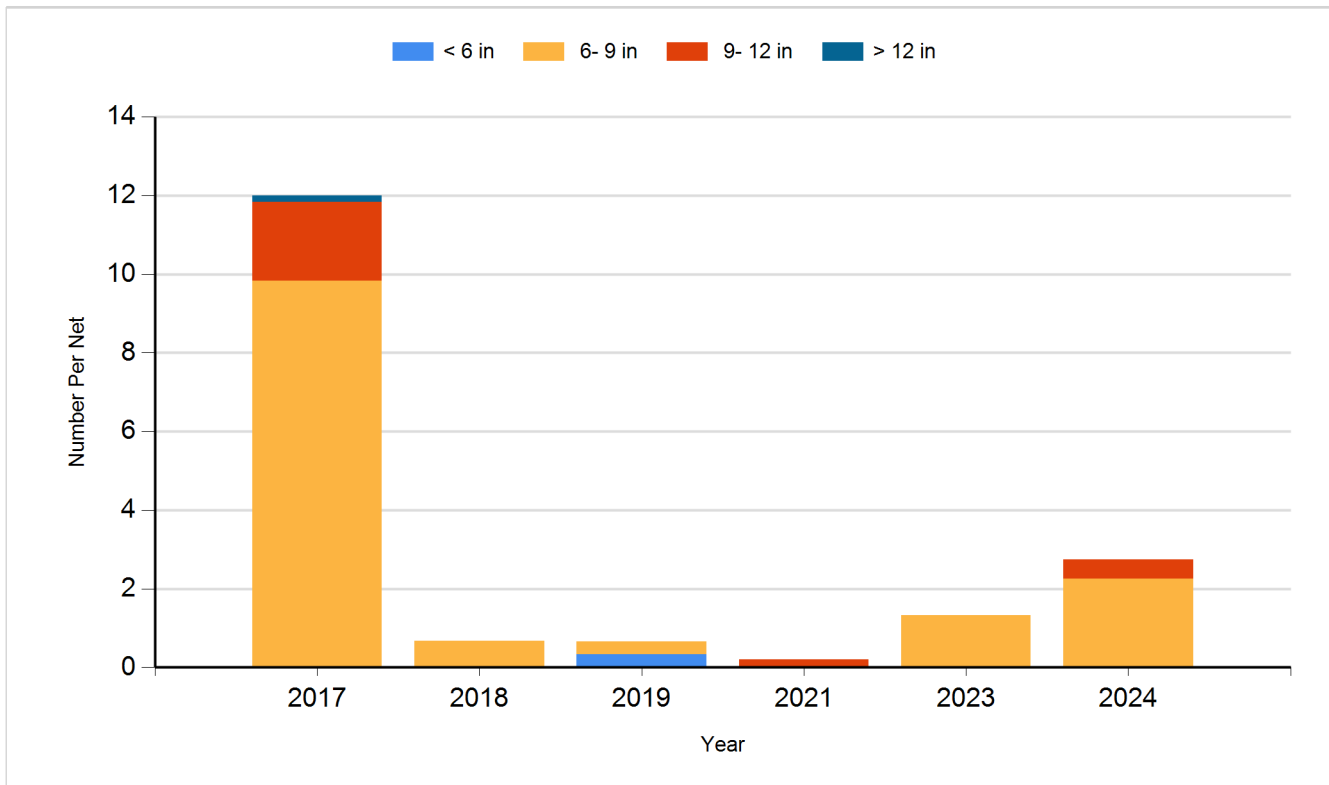
Species: Yellow Perch  
Gear: AFS std gill net



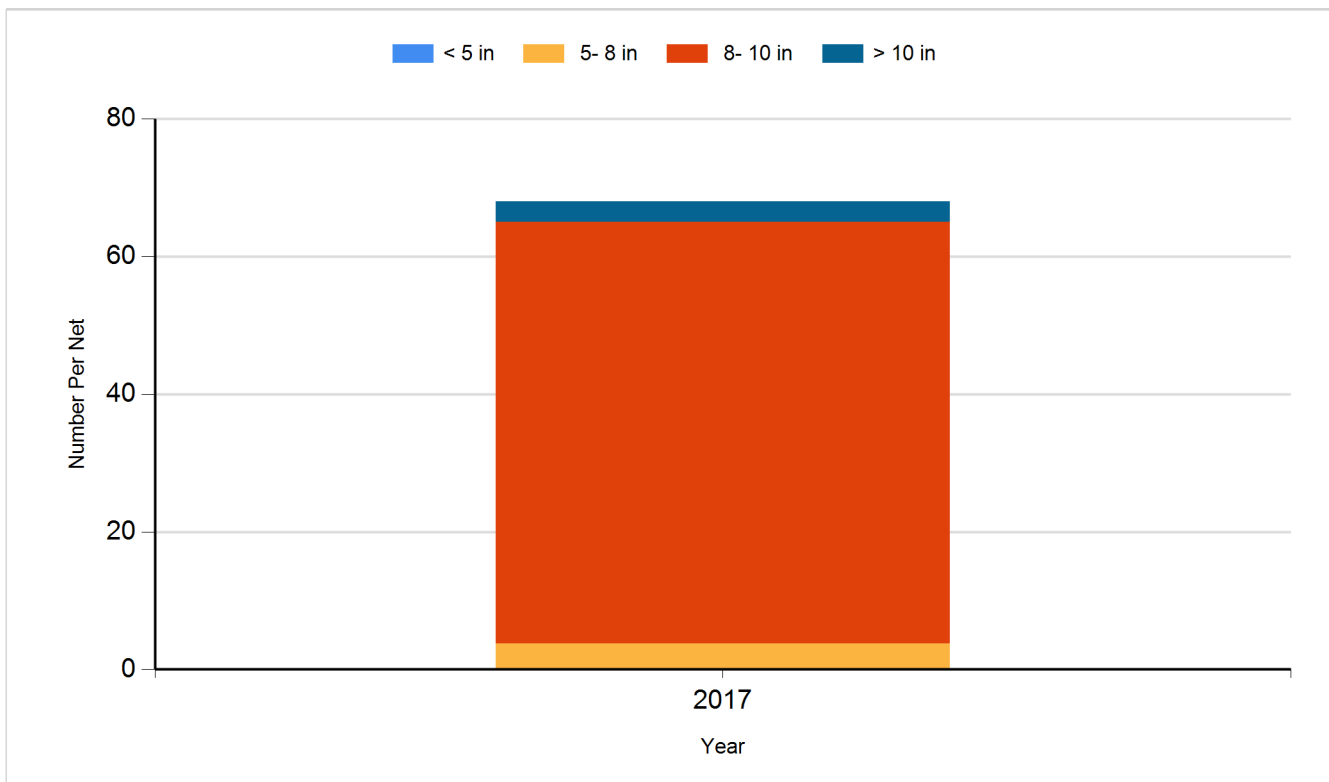
## Historic Fish Sizes and Relative Abundance

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

Species: Black Bullhead  
Gear: AFS std gill net

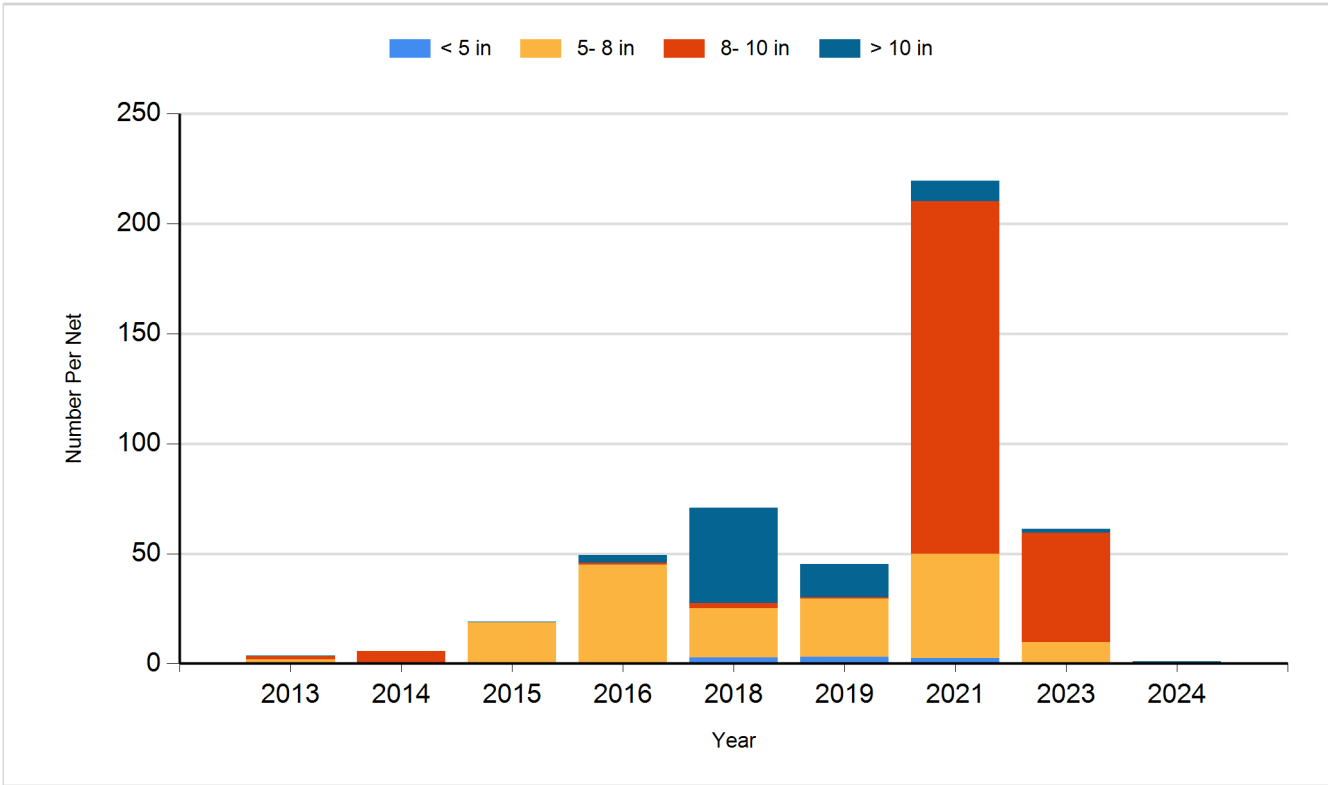


Species: Black Crappie  
Gear: AFS std frame net

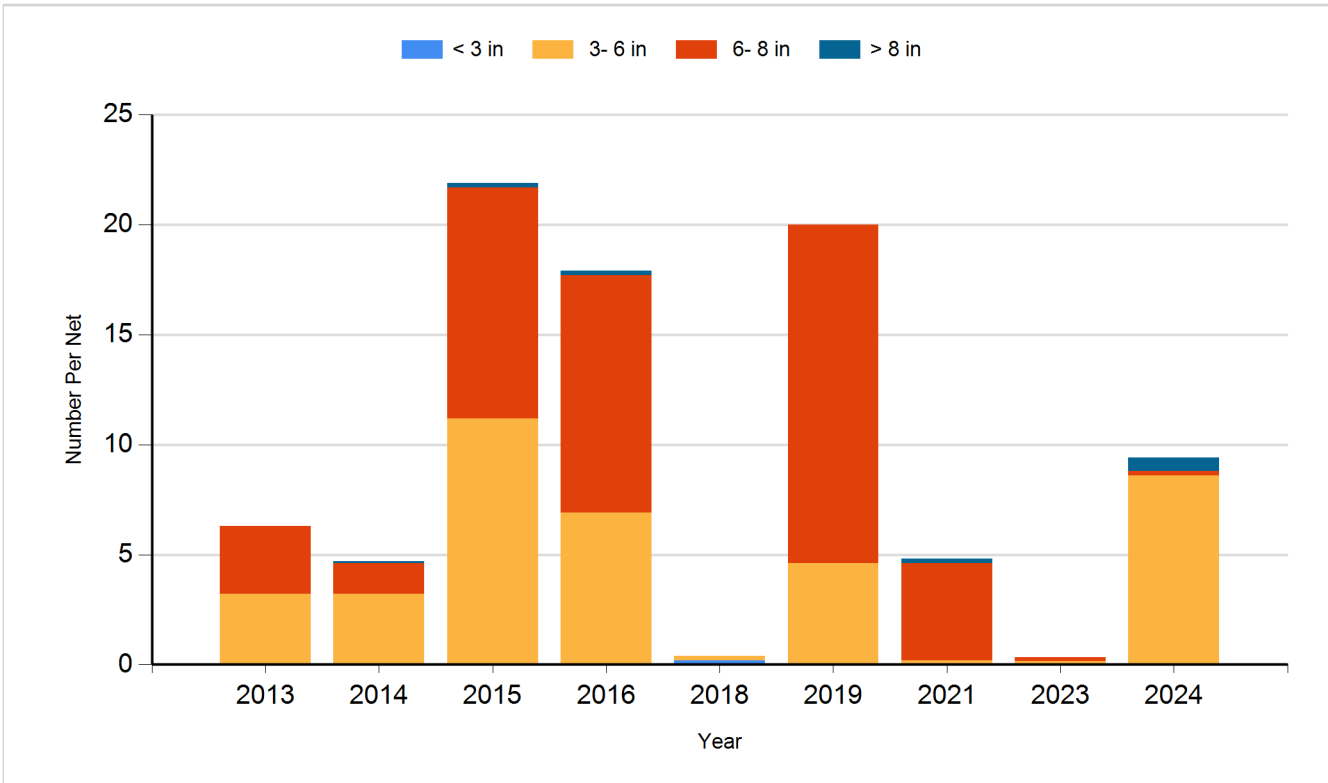




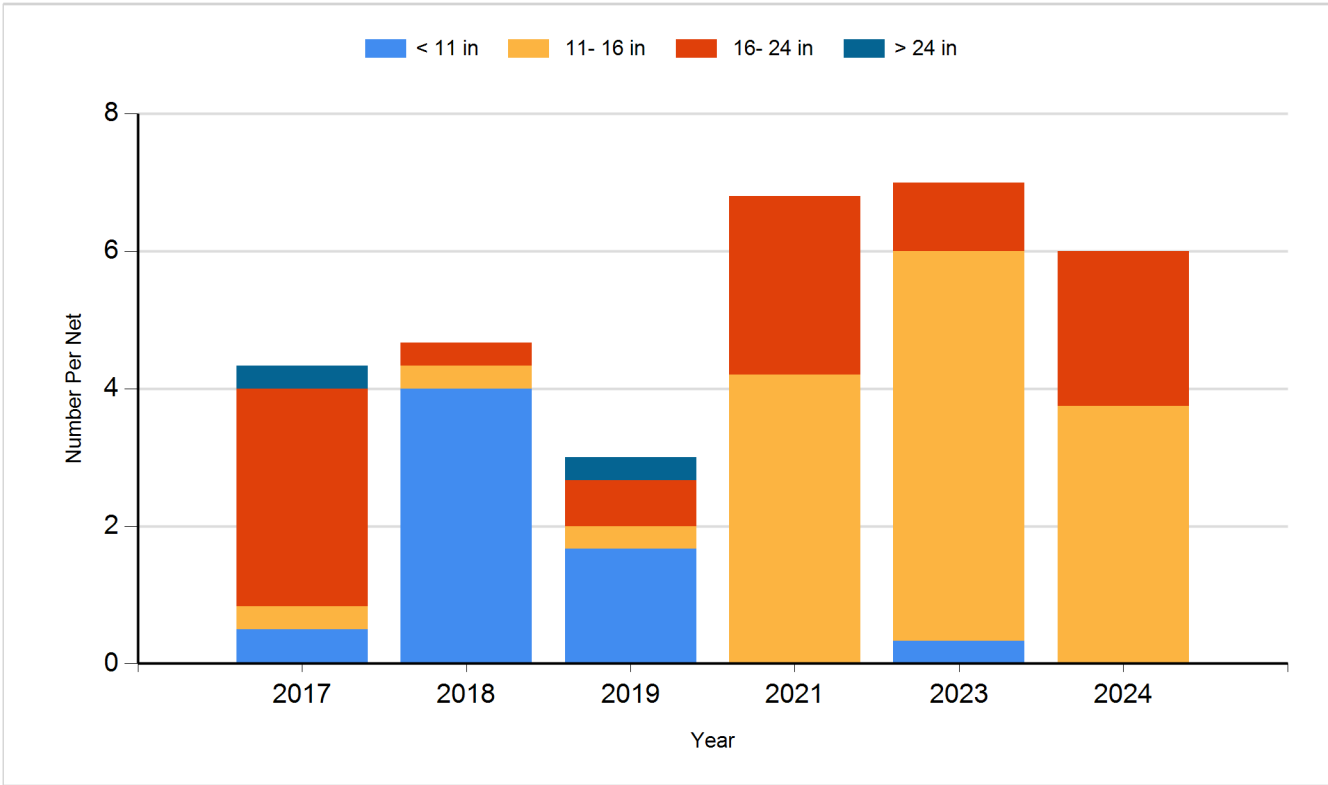
Species: Black Crappie  
Gear: frame net (std 3/4 in)



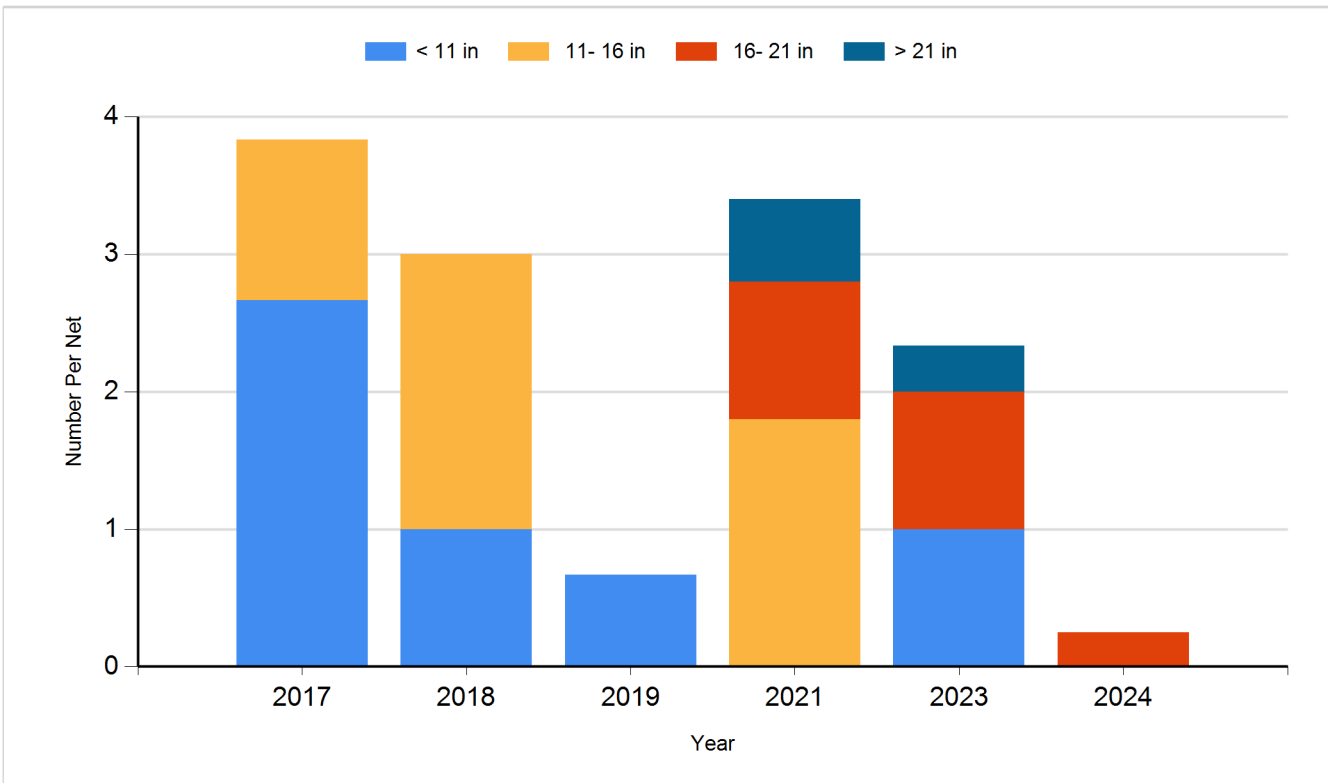
Species: Bluegill  
Gear: frame net (std 3/4 in)



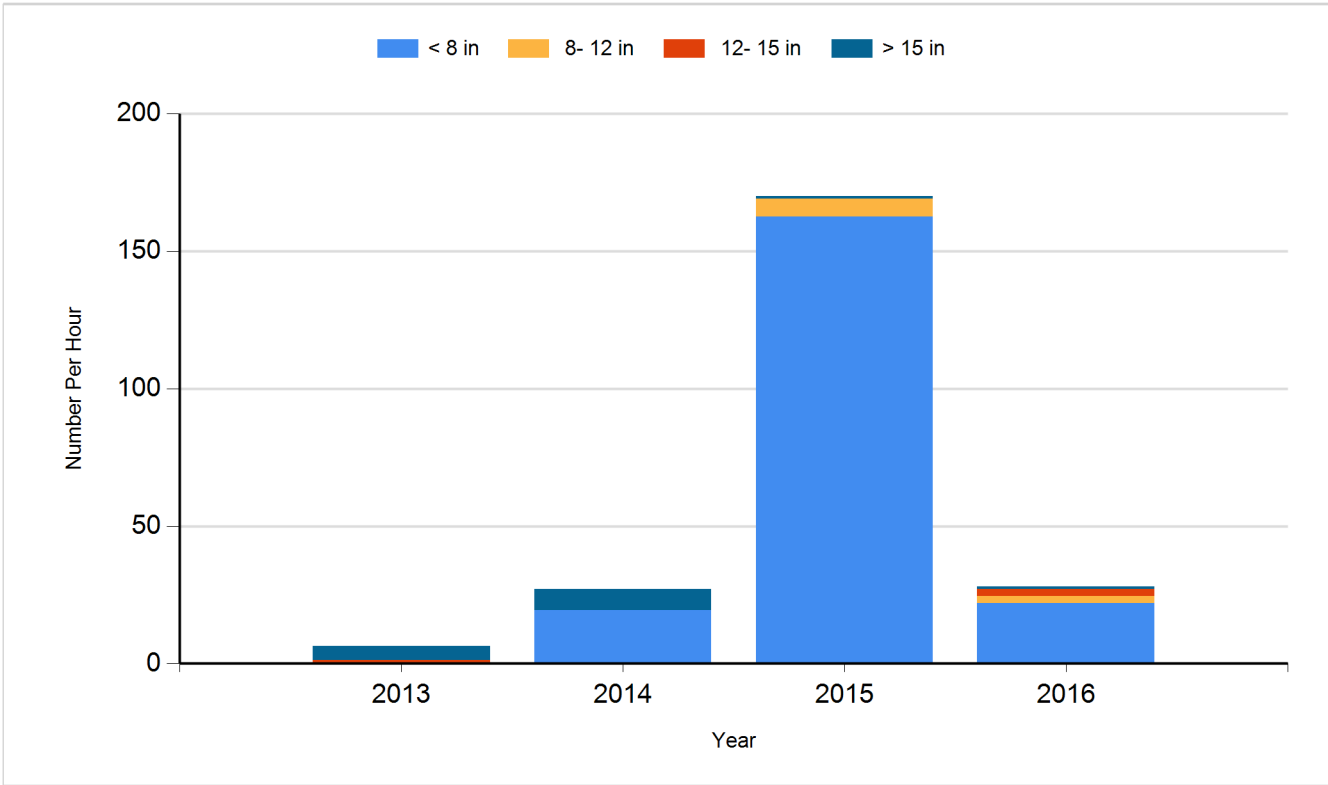
Species: Channel Catfish  
Gear: AFS std gill net



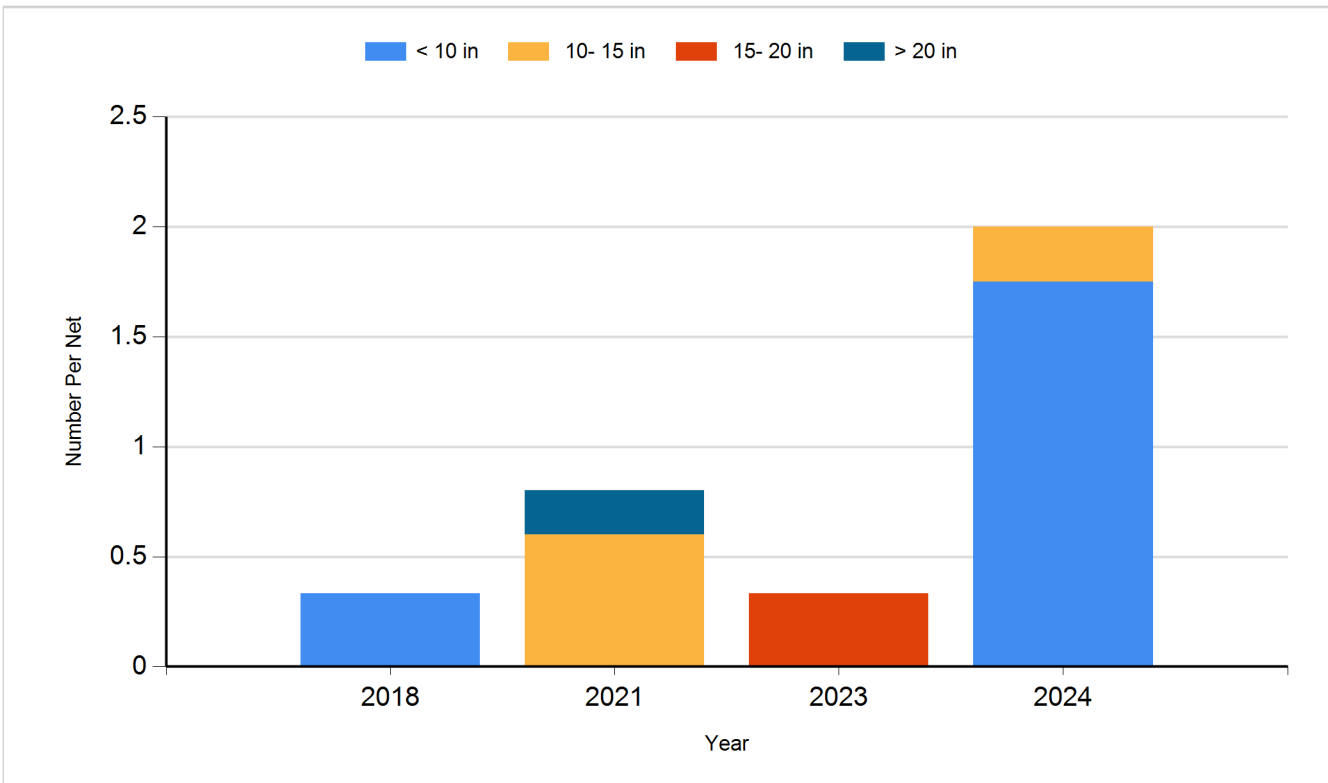
Species: Common Carp  
Gear: AFS std gill net



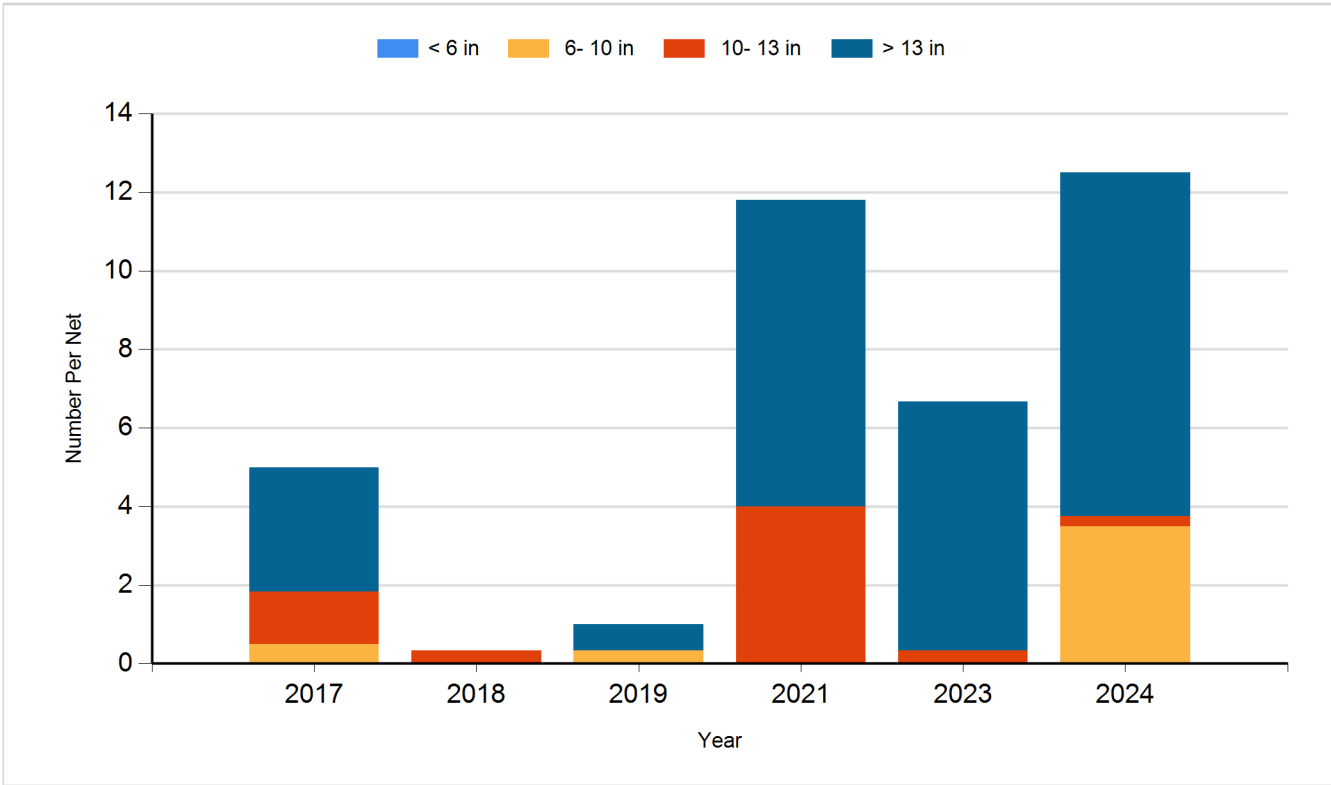
Species: Largemouth Bass  
Gear: boat shocker (night)



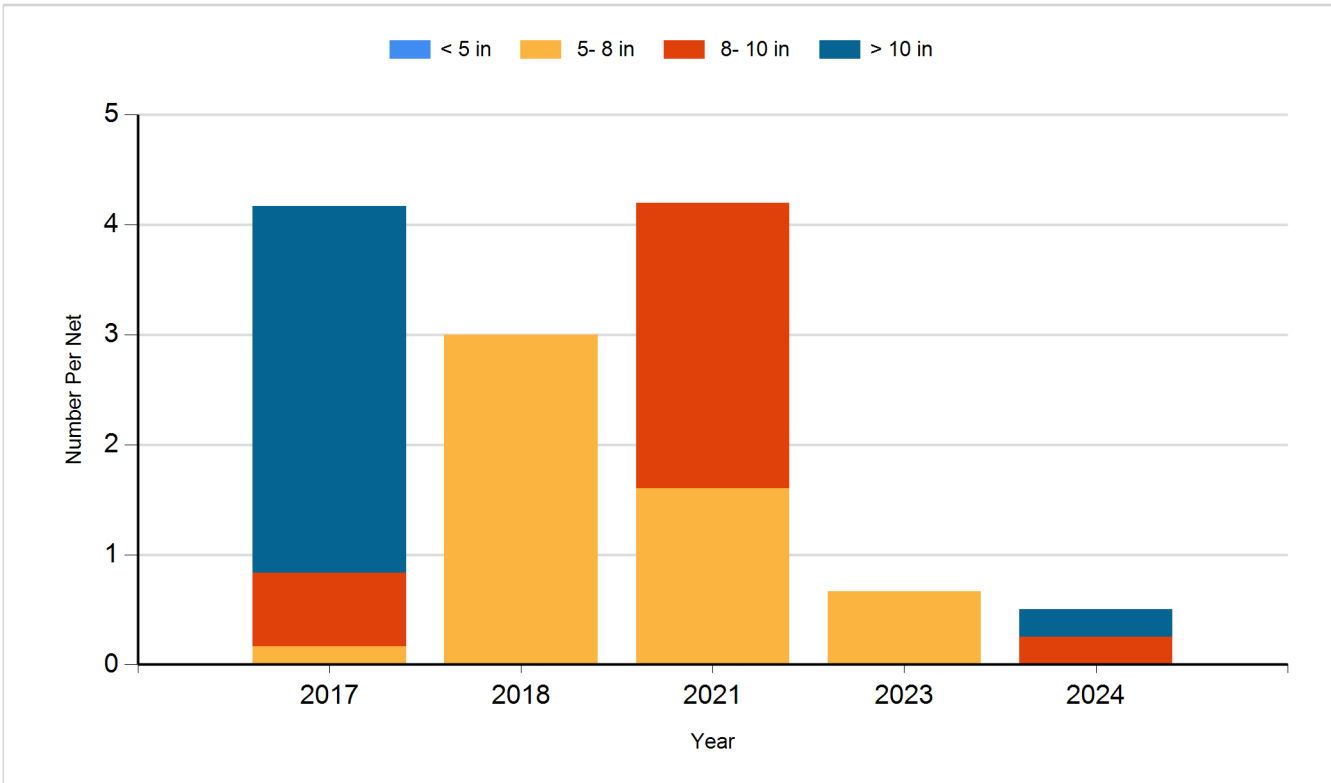
Species: Walleye  
Gear: AFS std gill net



Species: White Sucker  
Gear: AFS std gill net



Species: Yellow Perch  
Gear: AFS std gill net



## **Fish Stocking**

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

| Year | Species         | Size             | Number  |
|------|-----------------|------------------|---------|
| 2013 | Largemouth Bass | Large Fingerling | 3,104   |
| 2013 | Rainbow Trout   | Fingerling       | 3,424   |
| 2014 | Bluegill        | Adult            | 144     |
| 2014 | Channel Catfish | Adult            | 3       |
| 2015 | Gizzard Shad    | Adult            | 74      |
| 2015 | Largemouth Bass | Juvenile         | 1,590   |
| 2016 | Gizzard Shad    | Adult            | 360     |
| 2017 | Walleye         | Fingerling       | 1,200   |
| 2017 | Walleye         | Juvenile         | 225     |
| 2017 | Yellow Perch    | Adult            | 7,437   |
| 2018 | Gizzard Shad    | Adult            |         |
| 2019 | Walleye         | Fingerling       | 818     |
| 2019 | Walleye         | Small Fingerling | 10,800  |
| 2021 | Gizzard Shad    | Juvenile         | 136     |
| 2022 | Saugeye         | Juvenile         | 17,290  |
| 2022 | Walleye         | Fry              | 493,000 |
| 2023 | Walleye         | Fry              | 400,000 |
| 2024 | Gizzard Shad    | Adult            | 50      |
| 2024 | Saugeye         | Juvenile         | 10,266  |