# SOUTH DAKOTA STATEWIDE FISHERIES SURVEY
## Oahe Middle, Dewey County
### LLO-Lake-2952-001
### 2017

## Lake Information

**Name:** Oahe Middle

**County:** Dewey

**Surface Area:** 87,112 Acres

## Surveys and Investigations

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

| Gear | Date | Effort |
|---|---|---|
| AFS gill net (1/2 inch) | August 17, 2017 | 18 net-nights |
| AFS gill net (1/2 inch) | August 18, 2017 | 18 net-nights |
| AFS gill net (1/2 inch) | August 22, 2017 | 18 net-nights |
| AFS std gill net | August 17, 2017 | 18 net-nights |
| AFS std gill net | August 18, 2017 | 18 net-nights |
| AFS std gill net | August 22, 2017 | 18 net-nights |
| boat shocker (night) | October 17, 2017 | 3600 seconds |
| suspended gill net | July 19, 2017 | 2 net-nights |
| suspended gill net | July 20, 2017 | 2 net-nights |
| suspended gill net | July 21, 2017 | 2 net-nights |
| suspended gill net | July 25, 2017 | 2 net-nights |
| suspended gill net | July 26, 2017 | 2 net-nights |

## Common Fish Species Present

Lake Herring

Walleye

Channel Catfish

Smallmouth Bass

Freshwater Drum

Yellow Perch

Common Carp

Northern Pike

Bigmouth Buffalo

River Carpsucker

## 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).

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

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) |
| Bigmouth Buffalo | 11 | 28 | 18 | 46 | 24 | 61 | 30 | 76 | 37 | 94 |
| Black Bullhead | 6 | 15 | 9 | 23 | 12 | 30 | 15 | 38 | 18 | 46 |
| Black Crappie | 5 | 13 | 8 | 20 | 10 | 25 | 12 | 30 | 15 | 38 |

| | Stock | | Quality | | Preferred | | Memorable | | Trophy | |
|---|---|---|---|---|---|---|---|---|---|---|
| Species Name | (in) | (cm) | (in) | (cm) | (in) | (cm) | (in) | (cm) | (in) | (cm) |
| Blue Catfish | 12 | 30 | 20 | 51 | 30 | 76 | 35 | 89 | 45 | 114 |
| Bluegill | 3 | 8 | 6 | 15 | 8 | 20 | 10 | 25 | 12 | 30 |
| Bluegill X Gr. Sunfish Hybrid | 3 | 8 | 6 | 15 | 8 | 20 | 10 | 25 | 12 | 30 |
| Brown Bullhead | 5 | 13 | 8 | 20 | 11 | 28 | 14 | 36 | 17 | 43 |
| Burbot | 8 | 20 | 15 | 38 | 21 | 53 | 26 | 67 | 32 | 82 |
| Channel Catfish | 11 | 28 | 16 | 41 | 24 | 61 | 28 | 71 | 36 | 91 |
| Common Carp | 11 | 28 | 16 | 41 | 21 | 53 | 26 | 66 | 33 | 84 |
| Flathead Catfish | 14 | 35 | 20 | 51 | 28 | 71 | 34 | 86 | 40 | 102 |
| Freshwater Drum | 8 | 20 | 12 | 30 | 15 | 38 | 20 | 51 | 25 | 63 |
| Gizzard Shad | 7 | 18 | 11 | 28 | | | | | | |
| Green Sunfish | 3 | 8 | 6 | 15 | 8 | 20 | 10 | 25 | 12 | 30 |
| Lake Herring | 5 | 13 | 8 | 20 | 11 | 28 | 14 | 35 | 17 | 43 |
| Largemouth Bass | 8 | 20 | 12 | 30 | 15 | 38 | 20 | 51 | 25 | 63 |
| Longnose Gar | 16 | 41 | 27 | 69 | 36 | 91 | 45 | 114 | 55 | 140 |
| Muskellunge | 20 | 51 | 30 | 76 | 38 | 97 | 42 | 107 | 50 | 127 |
| Northern Pike | 14 | 35 | 21 | 53 | 28 | 71 | 34 | 86 | 44 | 112 |
| Paddlefish | 16 | 41 | 26 | 66 | 33 | 84 | 41 | 104 | 51 | 130 |
| Pumpkinseed | 3 | 8 | 6 | 15 | 8 | 20 | 10 | 25 | 12 | 30 |
| Redear Sunfish | 4 | 10 | 7 | 18 | 9 | 23 | 11 | 28 | 13 | 33 |
| River Carpsucker | 7 | 18 | 11 | 28 | 14 | 36 | 18 | 46 | 22 | 56 |
| Rock Bass | 4 | 10 | 7 | 18 | 9 | 23 | 11 | 28 | 13 | 33 |
| Rudd | 6 | 15 | 10 | 25 | 12 | 30 | 15 | 38 | 19 | 48 |
| Sauger | 8 | 20 | 12 | 30 | 15 | 38 | 20 | 51 | 25 | 63 |
| Saugeye | 9 | 23 | 14 | 35 | 18 | 46 | 22 | 56 | 27 | 69 |
| Shorthead Redhorse | 6 | 15 | 10 | 25 | 13 | 33 | 16 | 41 | 20 | 51 |
| Smallmouth Bass | 7 | 18 | 11 | 28 | 14 | 35 | 17 | 43 | 20 | 51 |
| Smallmouth Buffalo | 11 | 28 | 18 | 46 | 24 | 61 | 30 | 76 | 37 | 94 |
| Spotted Bass | 7 | 18 | 11 | 28 | 14 | 35 | 17 | 43 | 20 | 51 |
| Striped Bass | 12 | 30 | 20 | 51 | 30 | 76 | 35 | 89 | 45 | 114 |
| Striped Bass Hybrid (wiper) | 8 | 20 | 12 | 30 | 15 | 38 | 20 | 51 | 25 | 63 |
| 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 |
| White Perch | 5 | 13 | 8 | 20 | 10 | 25 | 12 | 30 | 15 | 38 |
| White Sucker | 6 | 15 | 10 | 25 | 13 | 33 | 16 | 41 | 20 | 51 |
| Yellow Bass | 4 | 10 | 7 | 18 | 9 | 23 | 11 | 28 | 13 | 33 |
| 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).

| | | Abundance | | Stock Density Indices | | | | Condition | |
|---|---|---|---|---|---|---|---|---|---|
| Gear | Species | CPUE | CI-80 | PSD | CI-80 | PSD-P | CI-80 | Wr | CI-80 |
| AFS gill net (1/2 inch) | Channel Catfish | 0.0 | 0.0 | 50 | | 0 | | 75 | 3 |
| | Gizzard Shad | 0.0 | 0.0 | 0 | | | | | |
| | Goldeye | 0.0 | 0.0 | | | | | | |
| | Smallmouth Bass | 0.0 | 0.0 | 0 | | 0 | | | |
| | Spottail Shiner | 0.0 | 0.0 | | | | | | |
| | Walleye | 0.1 | 0.0 | 0 | | 0 | | 57 | 21 |
| | White Bass | 0.0 | 0.0 | 0 | | 0 | | | |
| | Yellow Perch | 0.1 | 0.1 | 0 | | 0 | | 102 | 14 |
| AFS std gill net | Bigmouth Buffalo | 0.1 | 0.0 | 100 | | 100 | | 90 | 5 |
| | Channel Catfish | 6.3 | 0.8 | 64 | 4 | 8 | 2 | 81 | 1 |
| | Common Carp | 0.3 | 0.1 | 100 | | 43 | 22 | 82 | 2 |
| | Freshwater Drum | 0.5 | 0.1 | 96 | | 44 | 16 | 87 | 3 |
| | Gizzard Shad | 0.0 | 0.0 | 100 | | | | 117 | 1 |
| | Goldeye | 0.0 | 0.0 | | | | | | |
| | Northern Pike | 0.1 | 0.1 | 100 | | 75 | | 100 | 5 |
| | River Carpsucker | 0.1 | 0.1 | 100 | | 100 | | 100 | 2 |
| | Shorthead Redhorse | 0.1 | 0.1 | 100 | | 75 | | 90 | 2 |
| | Smallmouth Bass | 1.7 | 0.6 | 80 | 6 | 53 | 7 | 96 | 2 |
| | Smallmouth Buffalo | 0.1 | 0.1 | 100 | | 60 | | 75 | 3 |
| | Spottail Shiner | 0.0 | 0.0 | | | | | | |
| | Walleye | 1.4 | 0.2 | 28 | 8 | 13 | 6 | 81 | 1 |
| | White Bass | 0.1 | 0.1 | 100 | | 100 | | 88 | 3 |
| | White Sucker | 0.0 | 0.0 | 100 | | 50 | | 74 | 2 |
| | Yellow Perch | 0.4 | 0.2 | 11 | | 0 | | 84 | 4 |
| boat shocker (night) | Walleye | 51.0 | 17.1 | 0 | | 0 | | | |
| suspended gill net | Channel Catfish | 0.3 | 0.3 | 100 | | 0 | | | |
| | Chinook Salmon | 0.0 | 0.0 | | | | | | |
| | Lake Herring | 115.5 | 22.5 | 100 | | 13 | 1 | | |
| | Rainbow Smelt | 0.0 | 0.0 | | | | | | |
| | Walleye | 0.1 | 0.1 | 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.

| | | CPUE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gear | Species | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Avg |
| AFS gill net (1/2 inch) | Channel Catfish | | | | | | | | | | 0.0 | 0.0 |
| | Gizzard Shad | | | | | | | | | | 0.0 | 0.0 |
| | Goldeye | | | | | | | | | | 0.0 | 0.0 |
| | Smallmouth Bass | | | | | | | | | | 0.0 | 0.0 |
| | Spottail Shiner | | | | | | | | | | 0.0 | 0.0 |
| | Walleye | | | | | | | | | | 0.1 | 0.1 |
| | White Bass | | | | | | | | | | 0.0 | 0.0 |
| | Yellow Perch | | | | | | | | | | 0.1 | 0.1 |
| AFS std gill net | Bigmouth Buffalo | | | | | | | | | | 0.1 | 0.1 |
| | Channel Catfish | | | | | | | | | | 6.3 | 6.3 |
| | Common Carp | | | | | | | | | | 0.3 | 0.3 |
| | Freshwater Drum | | | | | | | | | | 0.5 | 0.5 |
| | Gizzard Shad | | | | | | | | | | 0.0 | 0.0 |
| | Goldeye | | | | | | | | | | 0.0 | 0.0 |
| | Northern Pike | | | | | | | | | | 0.1 | 0.1 |
| | River Carpsucker | | | | | | | | | | 0.1 | 0.1 |
| | Shorthead Redhorse | | | | | | | | | | 0.1 | 0.1 |
| | Smallmouth Bass | | | | | | | | | | 1.7 | 1.7 |
| | Smallmouth Buffalo | | | | | | | | | | 0.1 | 0.1 |
| | Spottail Shiner | | | | | | | | | | 0.0 | 0.0 |
| | Walleye | | | | | | | | | | 1.4 | 1.4 |
| | White Bass | | | | | | | | | | 0.1 | 0.1 |
| | White Sucker | | | | | | | | | | 0.0 | 0.0 |
| | Yellow Perch | | | | | | | | | | 0.4 | 0.4 |
| boat shocker (night) | Walleye | | | | | | | | | | 51.0 | 51.0 |
| std exp gill net | Bigmouth Buffalo | 0.4 | | 0.1 | 0.1 | | 0.1 | | | | | 0.2 |
| | Black Bullhead | | 0.1 | | | | 0.1 | | | | | 0.1 |
| | Black Crappie | | 0.1 | 0.0 | 0.1 | | 0.1 | | | | | 0.1 |
| | Channel Catfish | 15.8 | 14.6 | 11.8 | 9.5 | 11.4 | 16.9 | 17.2 | 8.6 | 17.4 | | 13.7 |
| | Chinook Salmon | 0.0 | | | 0.0 | | | | 0.0 | | | 0.0 |
| | Common Carp | 1.4 | 2.4 | 3.6 | 1.2 | 0.6 | 1.9 | 1.4 | 0.4 | 1.3 | | 1.6 |
| | Emerald Shiner | | 0.0 | | | | | | | | | 0.0 |
| | Freshwater Drum | 1.3 | 0.7 | 2.1 | 1.1 | 0.5 | 0.9 | 1.2 | 0.4 | 0.4 | | 1.0 |

| | | CPUE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gear | Species | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Avg |
| std exp gill net | Gizzard Shad | 0.0 | 0.1 | 0.0 | | 0.0 | | | | 0.1 | | 0.0 |
| | Golden Shiner | | 0.0 | | | | | | | | | 0.0 |
| | Goldeye | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| | Lake Herring | | | 0.1 | 0.2 | | | | 44.4 | | | 14.9 |
| | Northern Pike | | 0.2 | 1.3 | 1.8 | 1.6 | 0.3 | 0.3 | 0.5 | 1.2 | | 0.9 |
| | Rainbow Smelt | | 0.0 | | | | | | 0.0 | | | 0.0 |
| | River Carpsucker | 1.2 | 0.6 | 0.8 | 0.4 | 1.5 | 1.1 | 0.8 | 0.4 | 0.9 | | 0.9 |
| | Sauger | 0.8 | 0.7 | 0.1 | 0.1 | 0.2 | | 0.1 | | | | 0.3 |
| | Shorthead Redhorse | 0.1 | 0.3 | 0.1 | 0.2 | 0.6 | 0.3 | 0.2 | 0.4 | 0.1 | | 0.3 |
| | Shortnose Gar | | | 0.0 | | 0.0 | | | | 0.0 | | 0.0 |
| | Smallmouth Bass | 0.3 | 2.3 | 1.7 | 0.7 | 2.1 | 2.2 | 1.9 | 1.4 | 1.6 | | 1.6 |
| | Smallmouth Buffalo | 0.3 | 0.3 | 0.3 | | 0.3 | 0.1 | 0.2 | 0.3 | 0.4 | | 0.3 |
| | Spottail Shiner | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| | Walleye | 17.7 | 11.8 | 11.6 | 25.1 | 18.2 | 17.0 | 12.1 | 2.4 | 4.8 | | 13.4 |
| | White Bass | 0.3 | 0.4 | 1.0 | 1.0 | 1.4 | 1.4 | 0.3 | 0.3 | 0.3 | | 0.7 |
| | White Crappie | 0.4 | 0.5 | 1.3 | 0.3 | 0.7 | 0.2 | 0.1 | 0.1 | | | 0.5 |
| | White Sucker | 0.2 | 0.6 | 0.4 | 0.2 | 0.2 | | 0.6 | 0.1 | 0.2 | | 0.3 |
| | Yellow Perch | 1.4 | 6.9 | 11.4 | 5.4 | 1.8 | 0.6 | 1.7 | 1.0 | 1.1 | | 3.5 |
| suspended gill net | Channel Catfish | | | | | | | | | 0.8 | 0.3 | 0.6 |
| | Chinook Salmon | | | | | | | | | | 0.0 | 0.0 |
| | Lake Herring | | | | | | | | | 126.4 | 115.5 | 121.0 |
| | Rainbow Smelt | | | | | | | | | 0.0 | 0.0 | 0.0 |
| | Walleye | | | | | | | | | 1.0 | 0.1 | 0.6 |

## 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 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| AFS gill net (1/2 inch) | Walleye | PSD | | | | | | | | | | 0 |
| | | PSD-P | | | | | | | | | | 0 |
| | | Wr | | | | | | | | | | 57 |
| | Yellow Perch | PSD | | | | | | | | | | 0 |
| | | PSD-P | | | | | | | | | | 0 |
| | | Wr | | | | | | | | | | 102 |
| AFS std gill net | Northern Pike | PSD | | | | | | | | | | 100 |
| | | PSD-P | | | | | | | | | | 75 |
| | | Wr | | | | | | | | | | 100 |
| | Walleye | PSD | | | | | | | | | | 28 |
| | | PSD-P | | | | | | | | | | 13 |
| | | Wr | | | | | | | | | | 81 |
| | Yellow Perch | PSD | | | | | | | | | | 11 |
| | | PSD-P | | | | | | | | | | 0 |
| | | Wr | | | | | | | | | | 84 |
| boat shocker (night) | Walleye | PSD | | | | | | | | | | 0 |
| | | PSD-P | | | | | | | | | | 0 |
| std exp gill net | Black Crappie | PSD | | 0 | 0 | 100 | | 100 | | | | |
| | | PSD-P | | 0 | 0 | 100 | | 100 | | | | |
| | | Wr | | 103 | | 87 | | 93 | | | | |
| | Northern Pike | PSD | | 100 | 43 | 88 | 89 | 100 | 100 | 43 | 76 | |
| | | PSD-P | | 67 | 9 | 16 | 36 | 33 | 40 | 21 | 24 | |
| | | Wr | | 94 | 89 | 81 | 75 | 82 | 79 | 83 | 93 | |
| | Walleye | PSD | 29 | 55 | 33 | 17 | 14 | 8 | 19 | 55 | 23 | |
| | | PSD-P | 6 | 8 | 7 | 4 | 4 | 1 | 2 | 6 | 5 | |
| | | Wr | 86 | 92 | 87 | 81 | 76 | 81 | 88 | 77 | 78 | |
| | Yellow Perch | PSD | 23 | 10 | 20 | 43 | 53 | 60 | 26 | 68 | 21 | |
| | | PSD-P | 0 | 1 | 2 | 1 | 6 | 0 | 3 | 7 | 5 | |
| | | Wr | 84 | 99 | 91 | 87 | 82 | 81 | 99 | 83 | 84 | |
| suspended gill net | Walleye | PSD | | | | | | | | | 0 | 0 |

| | | | Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gear | Species | Index | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| suspended gill net | Walleye | PSD-P | | | | | | | | | 0 | 0 |

## Length at Capture

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

Species: Walleye

| | | Mean Length (expanded sample number) at capture by age | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | N | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| 2017 | 90 | 202 (11) | 262 (10) | 316 (49) | 426 (7) | 461 (1) | 513 (2) | 595 (1) | 544 (9) | | |
| 2016 | 111 | 224 (3) | 275 (69) | 343 (20) | 381 (2) | 447 (6) | 480 (4) | 497 (7) | | | |
| 2015 | 119 | 205 (59) | 296 (16) | 372 (10) | 404 (13) | 423 (3) | 447 (15) | | 532 (1) | | 623 (1) |
| 2014 | 233 | 234 (22) | 281 (19) | 329 (58) | 363 (17) | 361 (114) | | 616 (1) | 531 (2) | | 681 (1) |
| 2013 | 342 | 198 (15) | 263 (73) | 295 (26) | 330 (222) | 467 (4) | | | | 606 (1) | 702 (3) |
| 2012 | 366 | 217 (29) | 249 (25) | 323 (295) | 473 (6) | 588 (2) | 559 (5) | 555 (3) | | 631 (1) | 742 (1) |
| 2011 | 480 | 211 (5) | 303 (400) | 399 (41) | 465 (15) | 535 (8) | 563 (8) | | 577 (1) | | 602 (3) |
| 2010 | 315 | 236 (174) | 345 (77) | 428 (29) | 493 (18) | 523 (9) | | 615 (1) | 557 (2) | 608 (1) | 511 (4) |
| 2009 | 252 | 236 (55) | 355 (93) | 420 (72) | 468 (12) | 544 (1) | 543 (4) | 513 (1) | 497 (6) | 559 (5) | 639 (4) |
| 2008 | 339 | 243 (47) | 339 (213) | 419 (48) | 486 (4) | 524 (5) | 504 (7) | 513 (8) | | 514 (2) | 582 (4) |

Species: Yellow Perch

| | | Mean Length (expanded sample number) at capture by age | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | N | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| 2012 | 33 | 112 (1) | 182 (1) | 192 (16) | 210 (11) | 241 (3) | | 265 (1) | | | |
| 2011 | 106 | 107 (7) | 156 (44) | 209 (53) | 235 (3) | | | | | | |

## Fish Condition

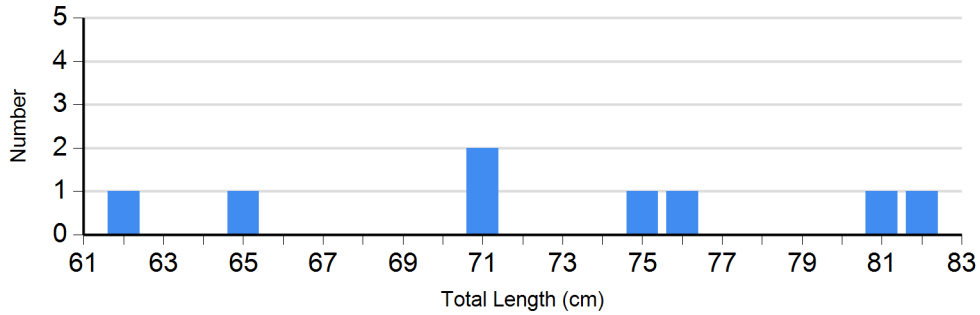
Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

| | | 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 | 2013 | 0 | | 4 | 76 (3.1) | 1 | 77 | 1 | 110 |
| | 2014 | 0 | | 3 | 64 (10.0) | 2 | 100 (17.6) | 0 | |
| | 2015 | 8 | 79 (2.0) | 3 | 89 (7.0) | 2 | 86 (14.9) | 1 | 85 |
| | 2016 | 5 | 86 (1.9) | 11 | 96 (2.1) | 3 | 94 (5.3) | 2 | 100 (0.3) |
| | 2017 | 0 | | 2 | 99 (11.9) | 6 | 100 (3.9) | 0 | |
| Walleye Gill Net | 2013 | 280 | 82 (0.6) | 22 | 78 (1.0) | 1 | 65 | 3 | 59 (2.1) |
| | 2014 | 176 | 88 (0.6) | 38 | 87 (1.7) | 3 | 79 (0.3) | 1 | 70 |
| | 2015 | 30 | 75 (2.1) | 33 | 78 (1.0) | 3 | 91 (0.7) | 1 | |
| | 2016 | 67 | 78 (0.7) | 16 | 79 (1.4) | 4 | 82 (1.9) | 0 | |
| | 2017 | 54 | 79 (0.7) | 11 | 82 (2.0) | 9 | 88 (2.0) | 1 | 86 |
| Yellow Perch Gill Net | 2013 | 4 | 82 (3.0) | 6 | 81 (4.1) | 0 | | 0 | |
| | 2014 | 23 | 100 (2.8) | 7 | 96 (2.9) | 1 | 90 | 0 | |
| | 2015 | 9 | 81 (2.9) | 17 | 87 (2.1) | 2 | 71 (27.2) | 0 | |
| | 2016 | 15 | 86 (1.6) | 3 | 79 (5.0) | 1 | 73 | 0 | |
| | 2017 | 17 | 84 (3.3) | 2 | 82 (5.4) | 0 | | 0 | |

## Length Frequency Distribution

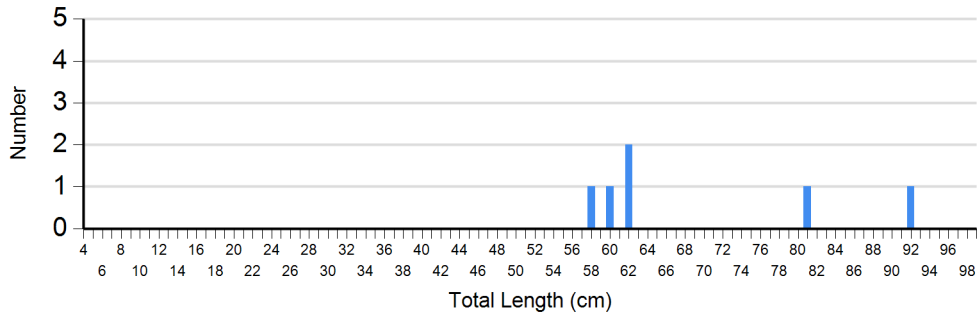
Length frequency histogram of species sampled by year.

Species: Northern Pike
Gear: AFS std gill net

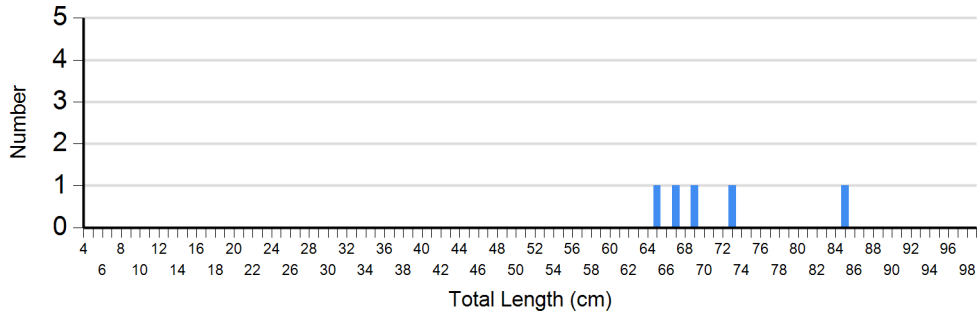



2017

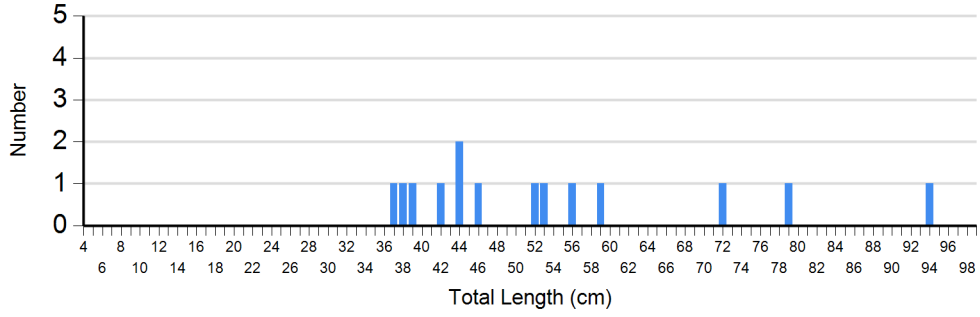
Species: Northern Pike
Gear: std exp gill net



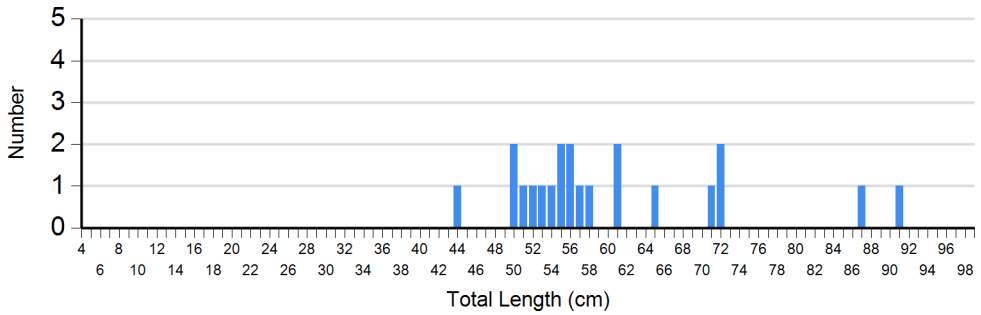

2013




2014

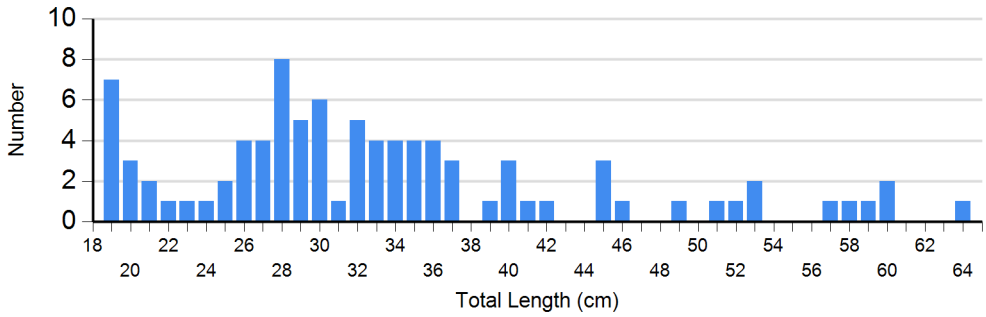



2015



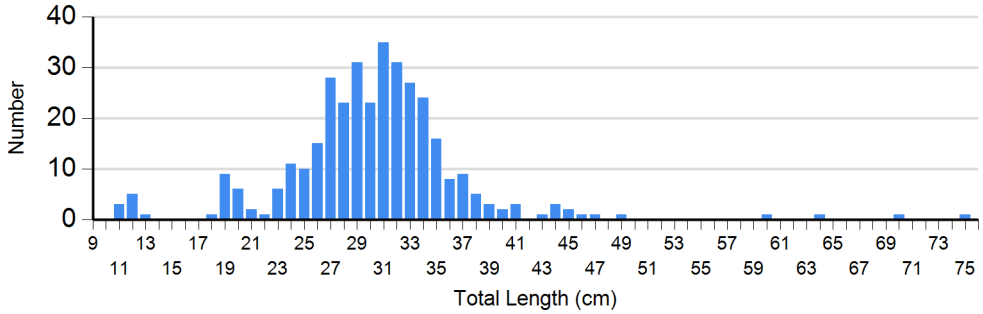

2016

Species: Walleye
Gear: AFS std gill net

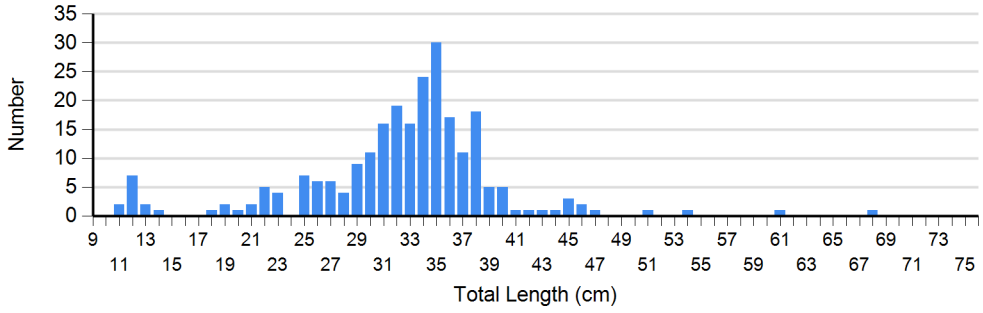



2017

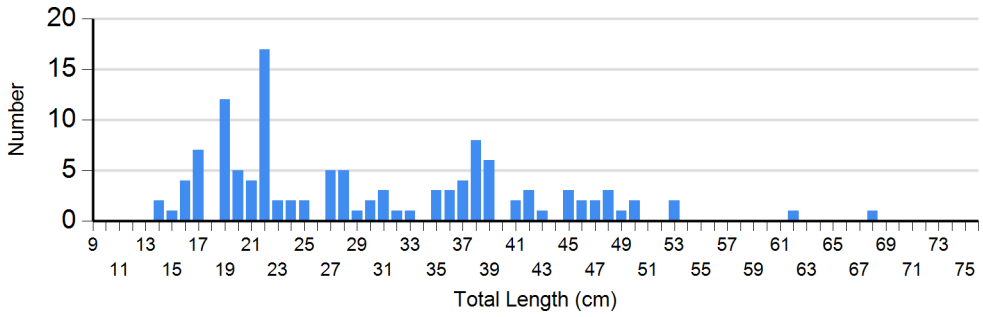
Species: Walleye
Gear: std exp gill net




2013




2014

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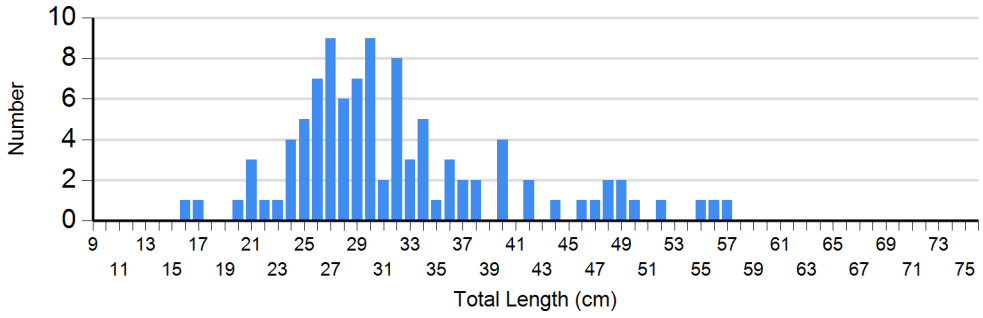
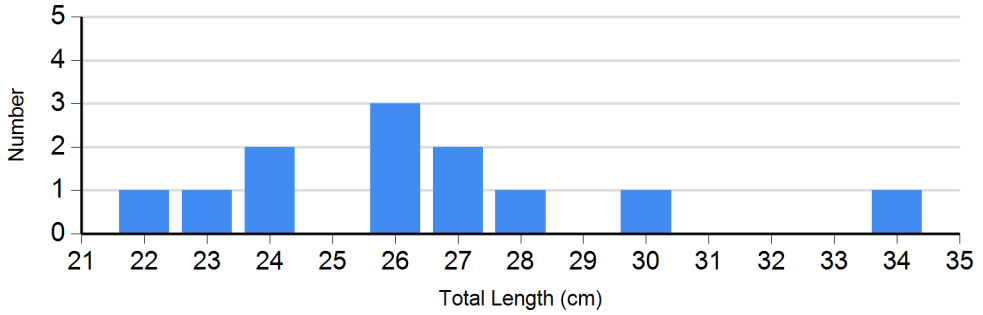
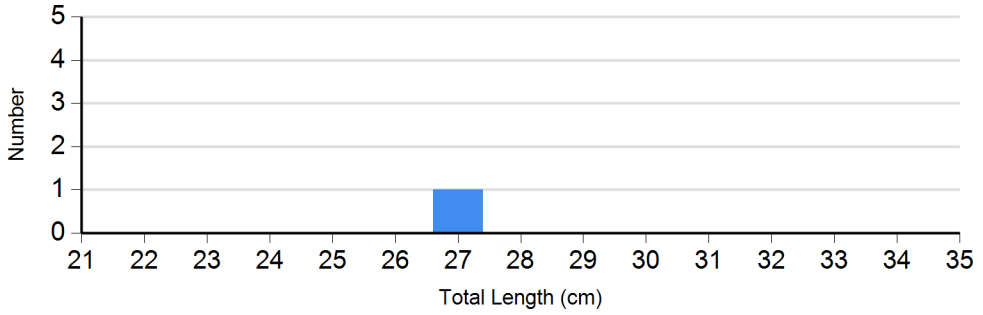



2016

Species: Walleye
Gear: suspended gill net

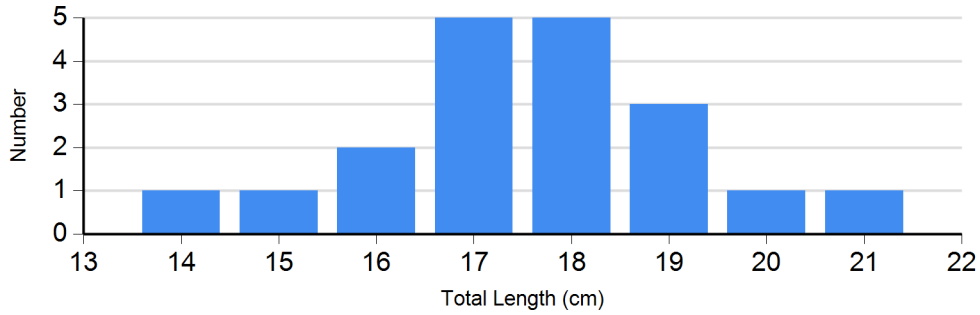



2016



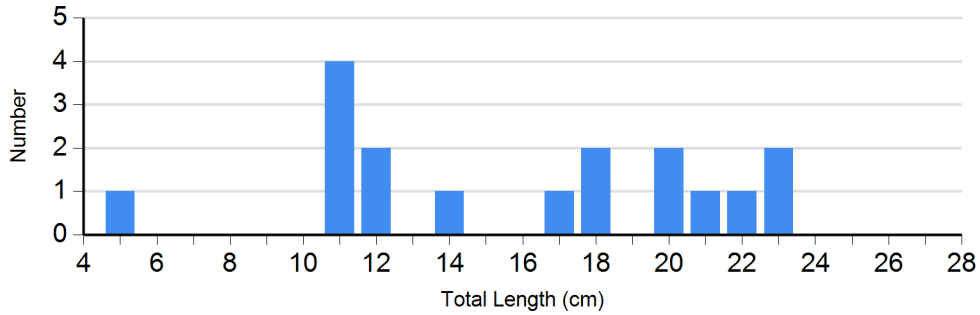

2017

Species: Yellow Perch
Gear: AFS std gill net

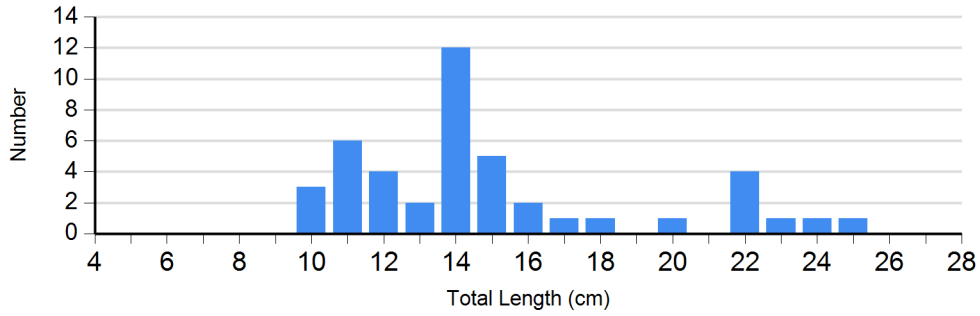



2017

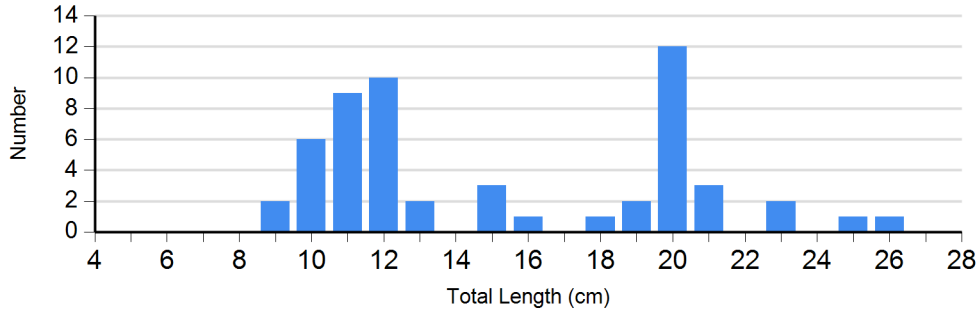
Species: Yellow Perch
Gear: std exp gill net



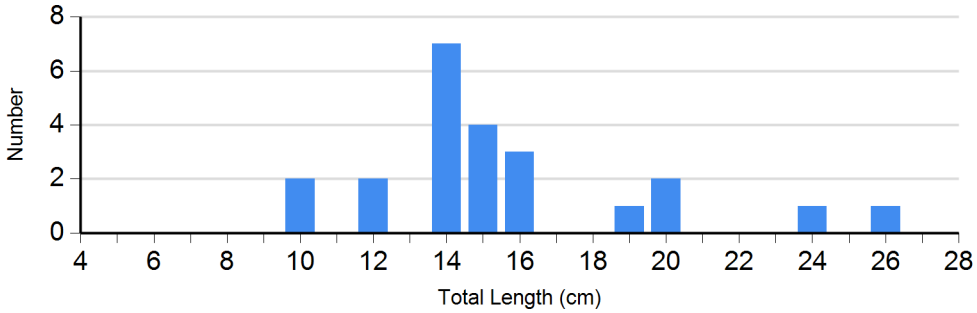

2013




2014




2015

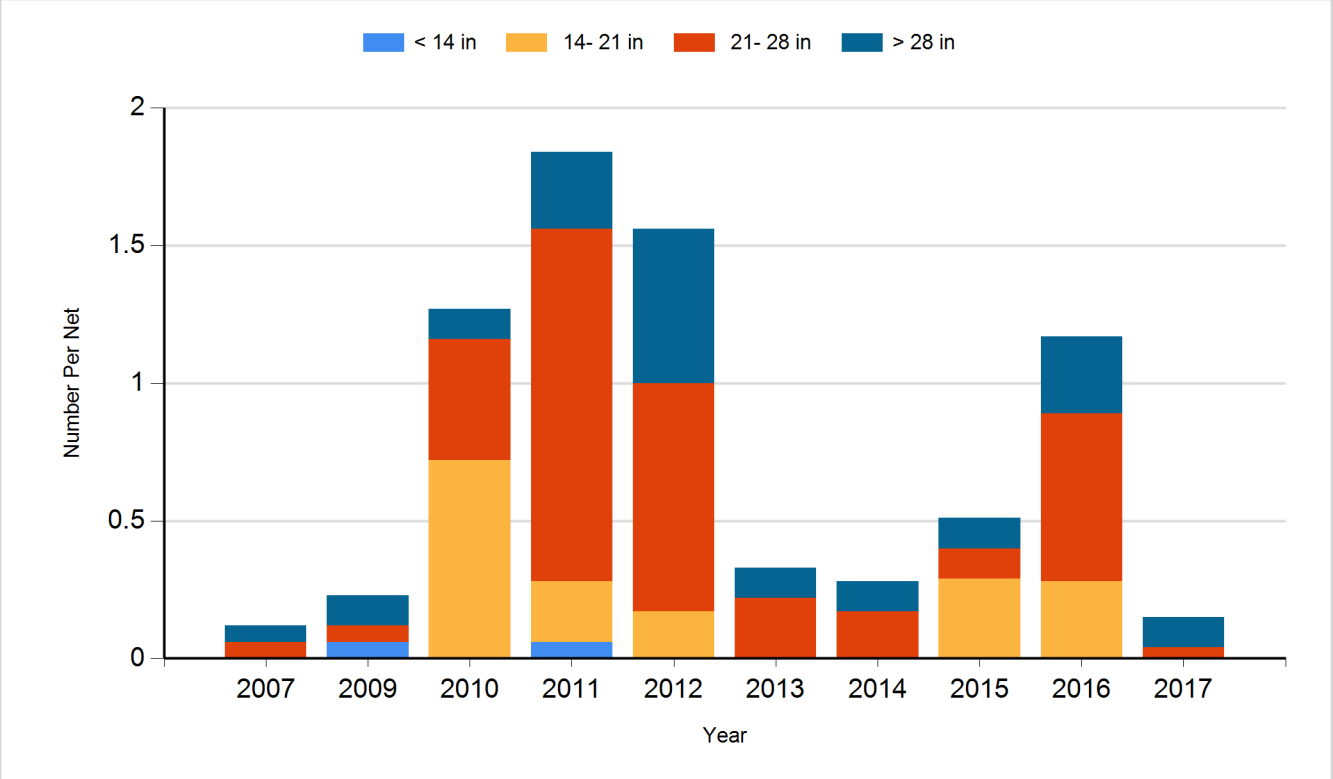



2016

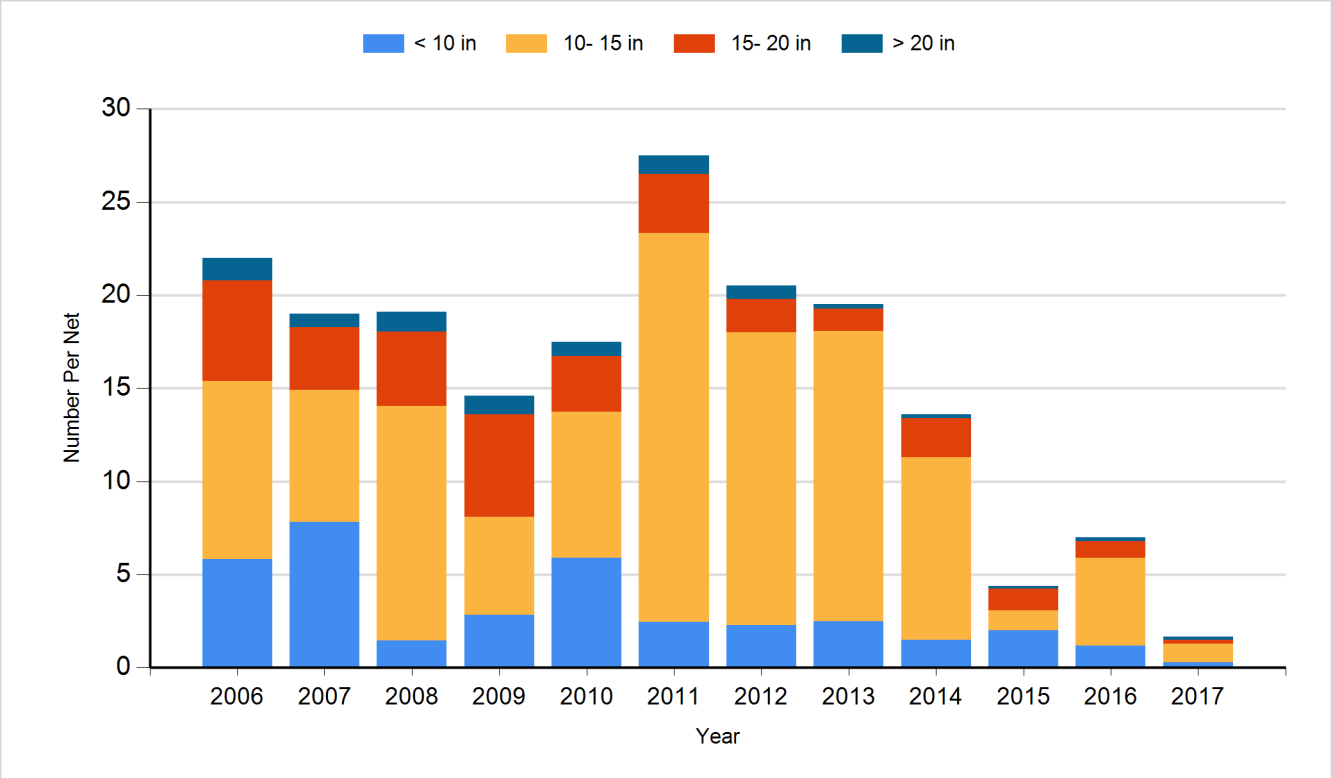
## Historic Fish Sizes and Relative Abundance

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

Species: Northern Pike
Gear: Gill Net




Species: Walleye
Gear: Gill Net



Species: Yellow Perch
Gear: Gill Net