

**SOUTH DAKOTA STATEWIDE FISHERIES SURVEY**  
**Scott, Minnehaha County**  
**LBS-Lake-65-000**  
**2015**

**Lake Information**

<b>Name:</b>	Scott	<b>Maximum Depth:</b>	11 Feet
<b>County:</b>	Minnehaha	<b>Mean Depth:</b>	4 Feet
<b>Legal Description:</b>	T102-R51-Sec. 7-8		
<b>Surface Area:</b>	115 Acres		

**Surveys and Investigations**

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

Gear	Date	Effort
std exp gill net	June 18, 2015	3 net-nights

## **Common Fish Species Present**

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Yellow Perch

Walleye

Black Bullhead

Black Crappie

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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).

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

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)
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

Species Name	Stock		Quality		Preferred		Memorable		Trophy	
	(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).

Gear	Species	Abundance		Stock Density Indices			Condition	
		CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr
std exp gill net	Black Bullhead	88.7	12.0	12	3	0		
	Black Crappie	0.7	0.6	0		0	115	
	Walleye	5.7	1.7	88		0	91	2
	Yellow Perch	26.0	11.5	0		0	104	1

## 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.

Gear	Species	CPUE										Avg
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
large frame net	Black Bullhead		100.2		104.2		144.0		496.0			211.1
	Black Crappie		26.6		6.6							16.6
	Green Sunfish		0.6		0.6		0.4					0.5
	Northern Pike		0.2		0.2							0.2
	Orangespotted Sunfish		0.0		0.0							0.0
	Walleye		9.4		7.8							8.6
	Yellow Perch		3.8		9.0		26.6		0.4			10.0
std exp gill net	Black Bullhead		39.3		0.0		348.3		273.0	217.0	88.7	161.1
	Black Crappie		0.7							0.3	0.7	0.6
	Green Sunfish						0.3					0.3
	Northern Pike						0.3		0.7			0.5
	Walleye		23.7		3.7		1.7		2.7	4.3	5.7	7.0
	Yellow Perch		2.7		20.0		17.3		7.7	9.0	26.0	13.8

## 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											
			2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
large frame net	Black Crappie	PSD		22		21								
		PSD-P		0		0								
		Wr		102		114								
	Northern Pike	PSD		0		100								
		PSD-P		0		100								
		Wr		87		76								
	Walleye	PSD		4		95								
		PSD-P		0		5								
		Wr		90		88								
	Yellow Perch	PSD		63		11		20		50				
		PSD-P		0		2		2		0				
		Wr		89		97		122		109				
	std exp gill net	Black Crappie	PSD		0								0	0
			PSD-P		0								0	0
			Wr		112								127	115
Northern Pike		PSD						100		100				
		PSD-P						0		0				
		Wr						101		96				
Walleye		PSD		17		82		20		50	62	88		
		PSD-P		1		0		0		13	8	0		
		Wr		91		92		89		92	92	91		
Yellow Perch		PSD		25		2		21		43	0	0		
		PSD-P		0		0		0		17	0	0		
		Wr		88		106		107		107	103	104		

## **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)
Northern Pike Gill Net	2011	0		1	101	0		0	
	2013	0		2	96 (14.6)	0		0	
Walleye Gill Net	2011	4	89 (2.9)	1	91	0		0	
	2013	4	86 (3.0)	3	99 (6.0)	0		1	98
	2014	5	92 (2.3)	7	91 (1.5)	1	100	0	
	2015	2	84 (2.0)	15	92 (1.2)	0		0	
Yellow Perch Gill Net	2011	41	108 (1.6)	11	106 (2.2)	0		0	
	2013	13	104 (5.2)	6	111 (2.3)	4	111 (7.0)	0	
	2014	27	103 (1.8)	0		0		0	
	2015	78	104 (0.8)	0		0		0	

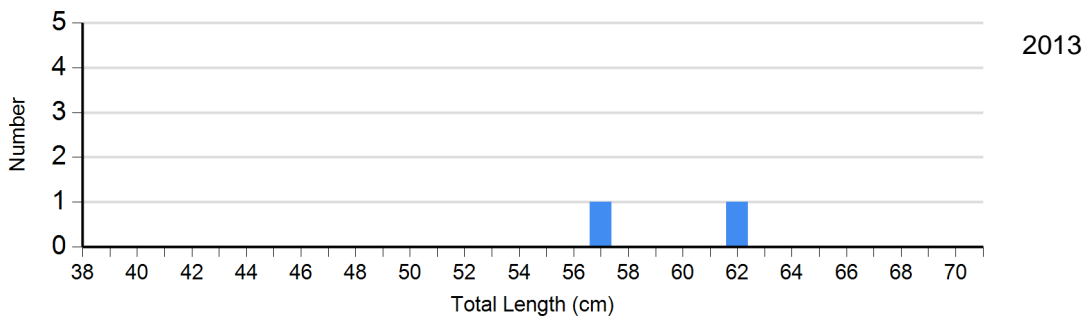
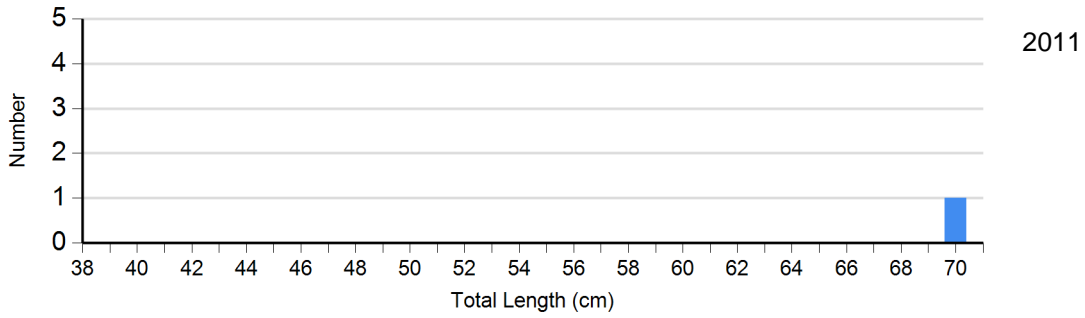


# Length Frequency Distribution

Length frequency histogram of species sampled by year.

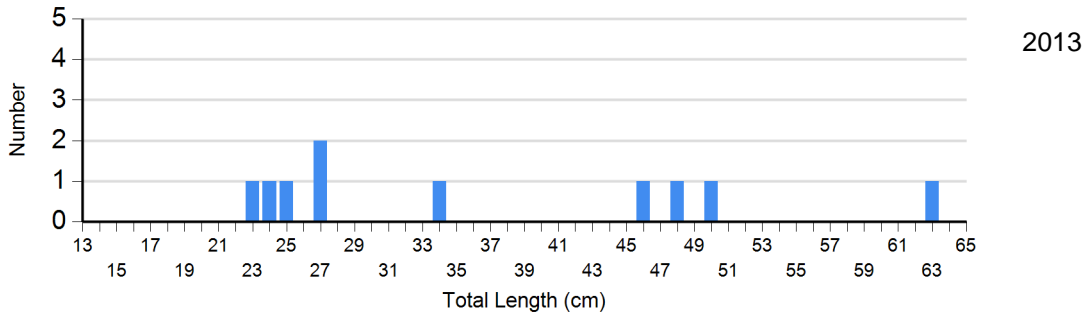
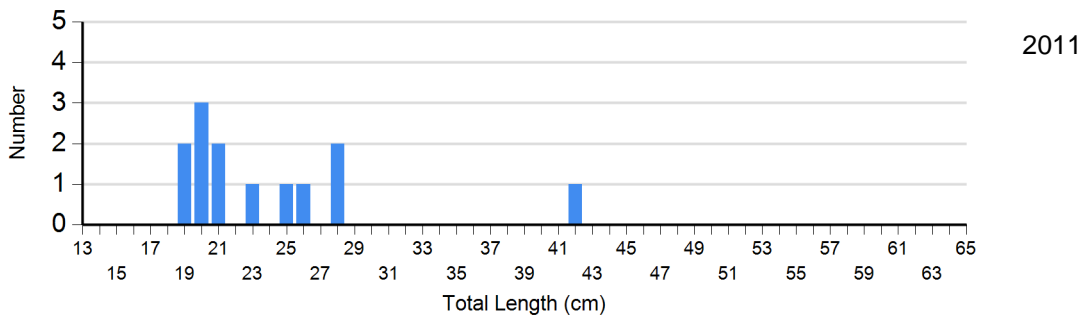
Species: Northern Pike

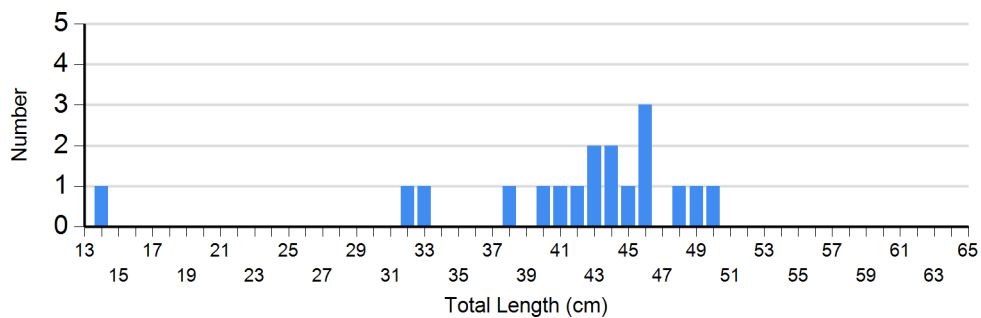
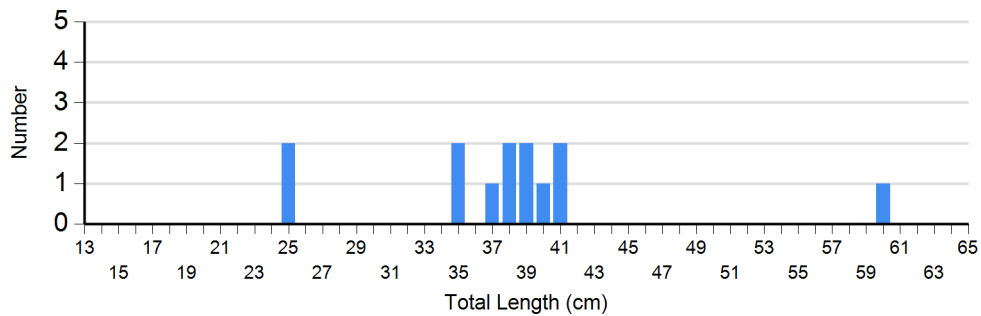
Gear: std exp gill net



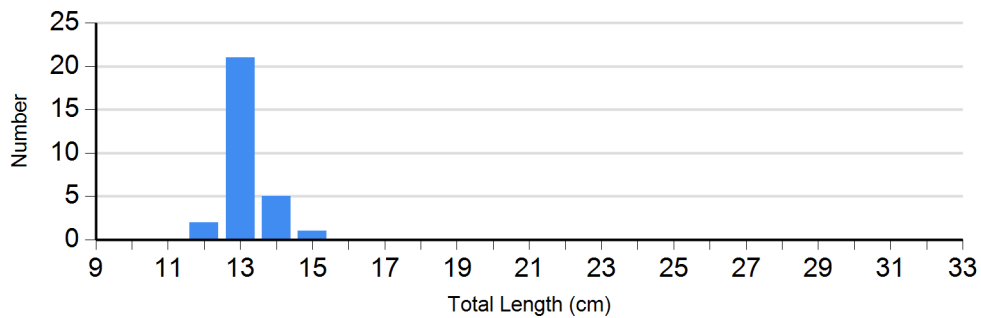
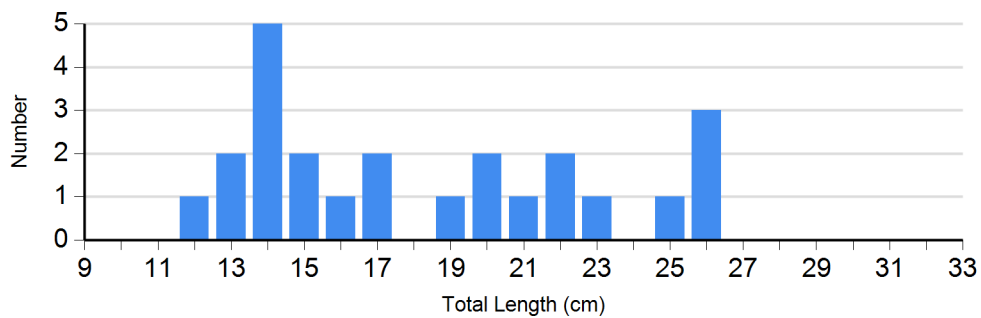
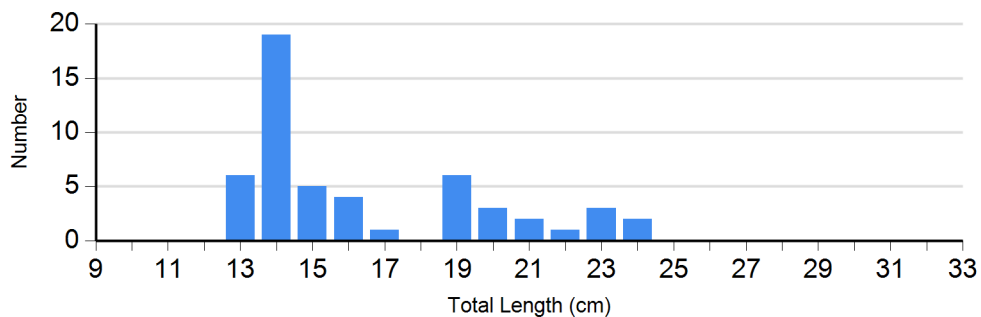
Species: Walleye

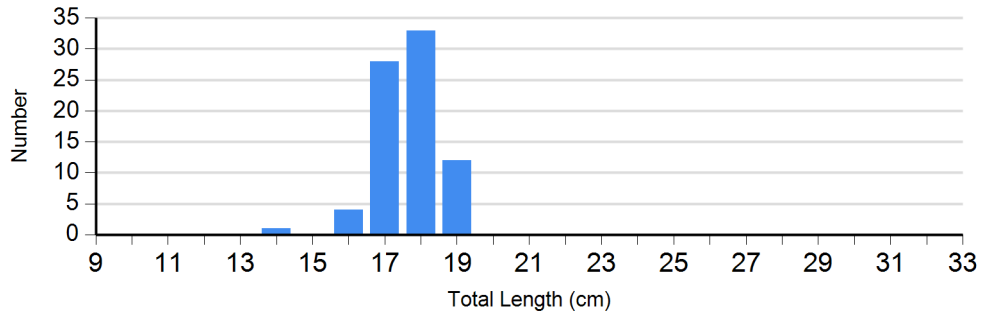
Gear: std exp gill net





Species: Yellow Perch  
 Gear: std exp gill net



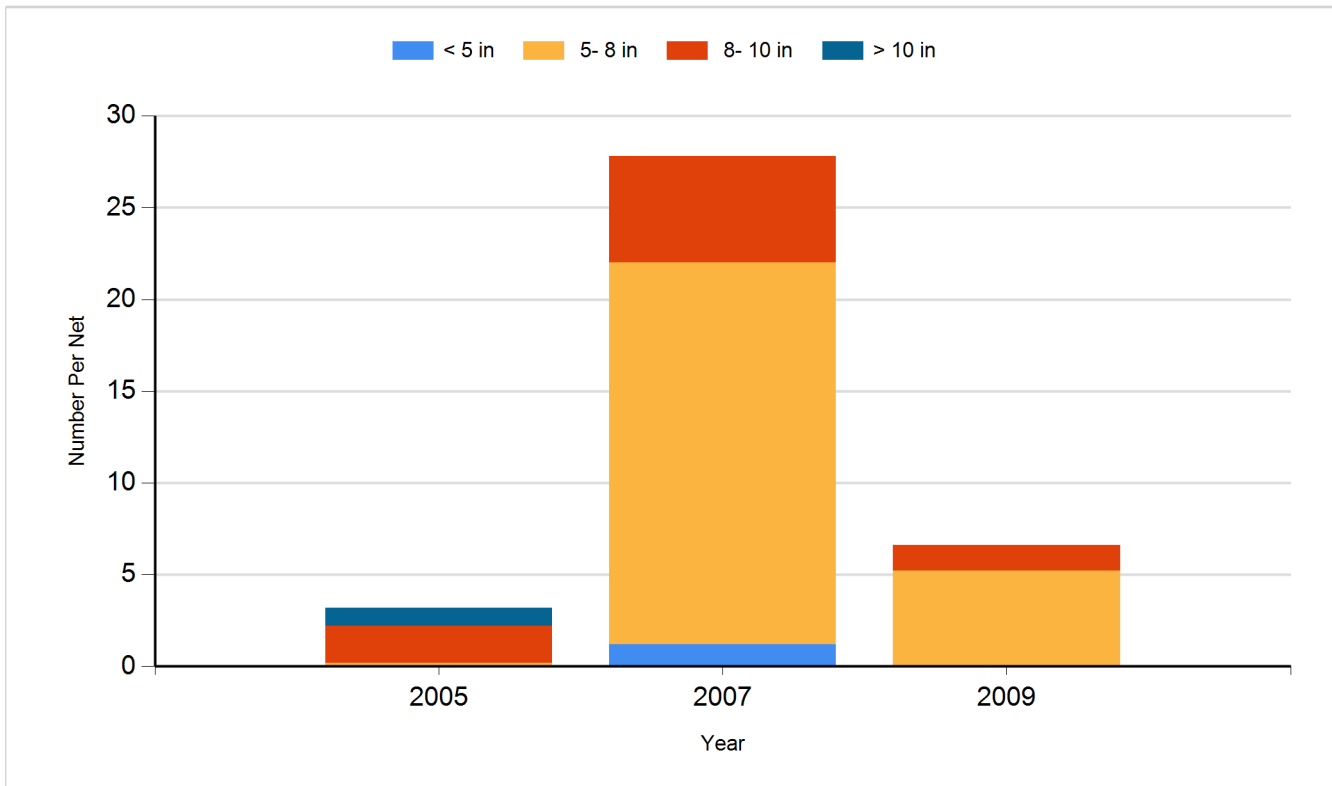


2015

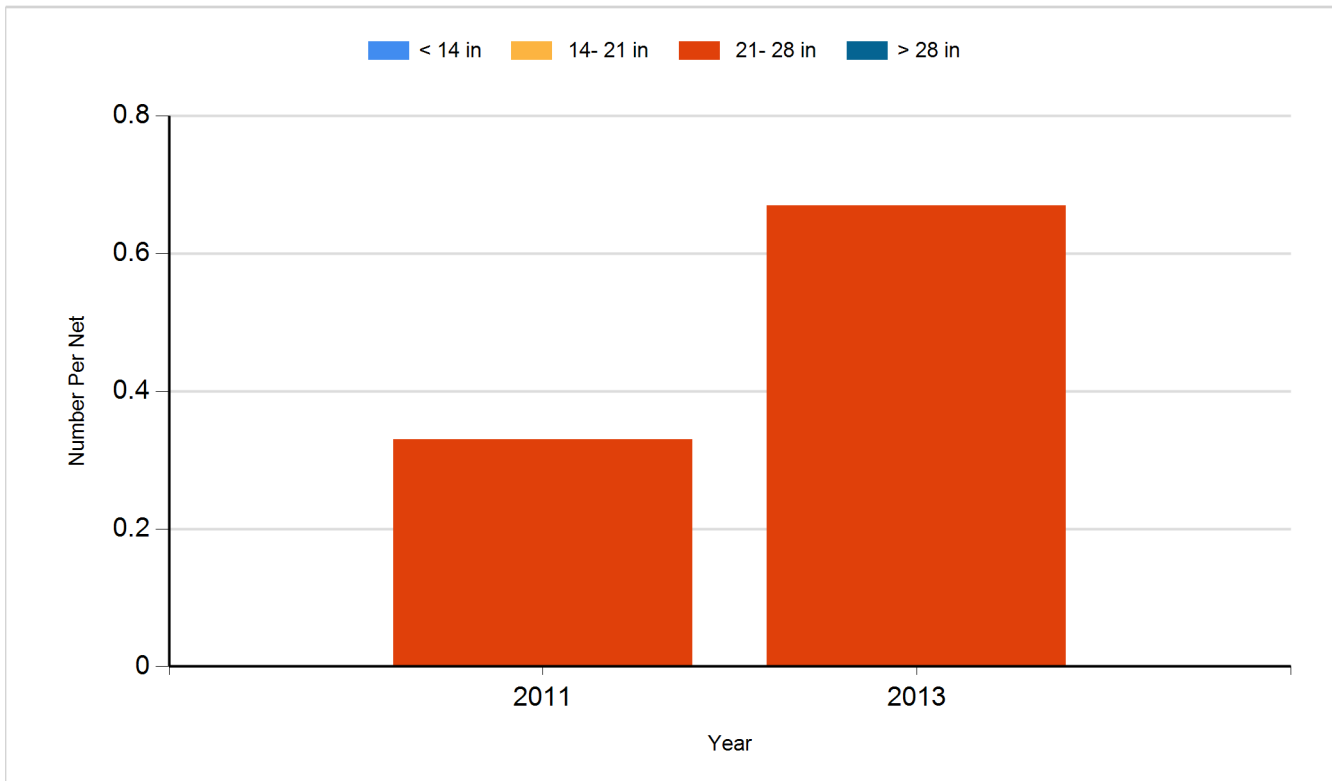
## Historic Fish Sizes and Relative Abundance

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

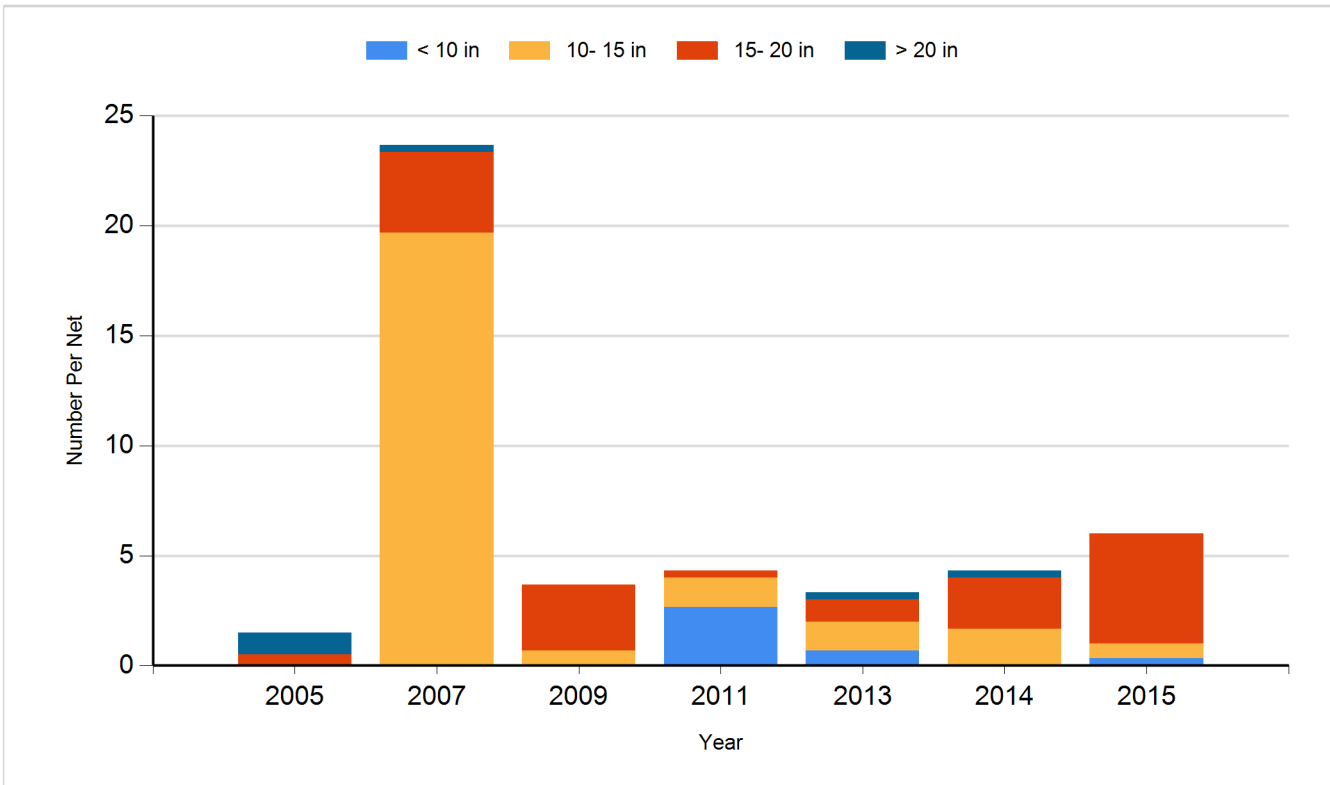
Species: Black Crappie  
Gear: Frame Net



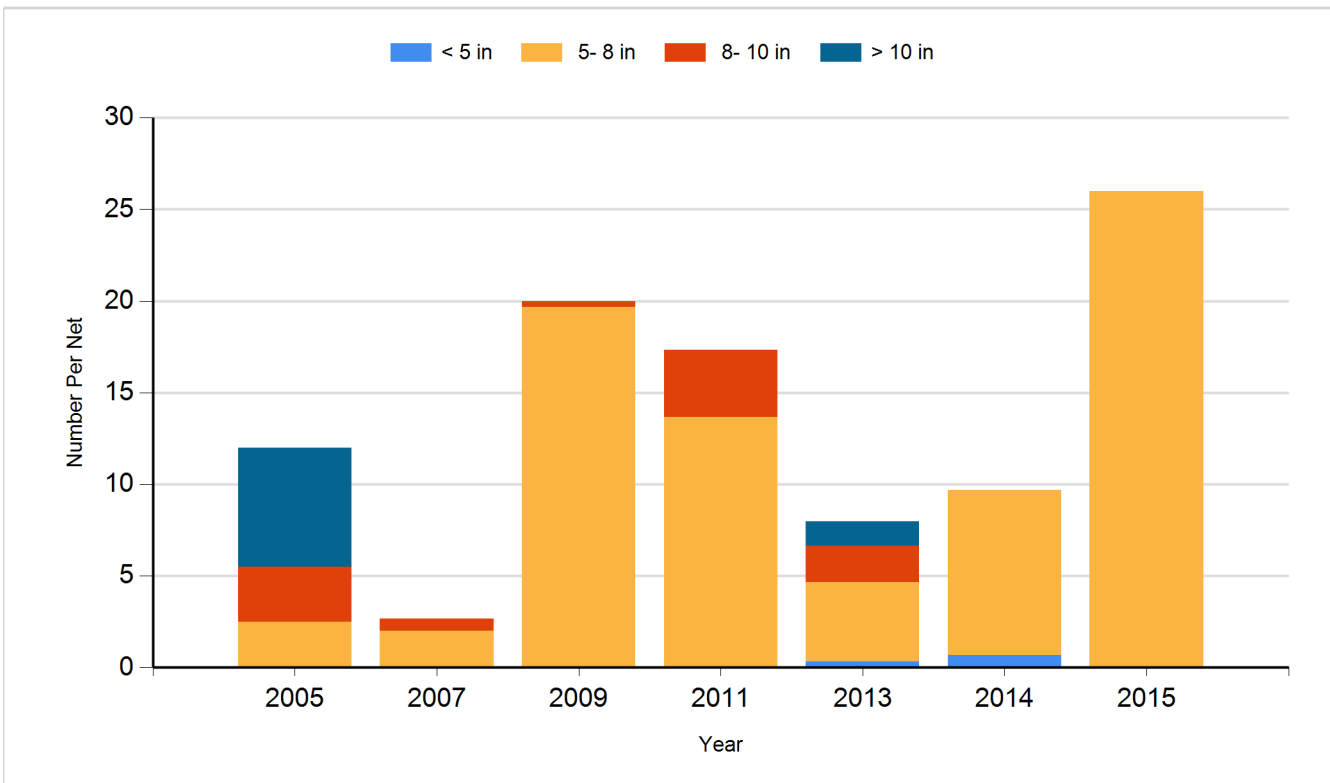
Species: Northern Pike  
Gear: Gill Net



Species: Walleye  
Gear: Gill Net



Species: Yellow Perch  
Gear: Gill Net



## **Fish Stocking**

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

Year	Species	Size	Number
2004	Northern Pike	Adult	259
2005	Walleye	Fingerling	4,384
2005	Yellow Perch	Adult	2,200
2006	Yellow Perch	Adult	480
2006	Yellow Perch	Juvenile	1,875
2007	Walleye	Juvenile	331
2009	Walleye	Large Fingerling	600
2009	Walleye	Small Fingerling	10,800
2010	Walleye	Adult	235
2010	Walleye	Juvenile	218
2010	Walleye	Small Fingerling	10,800
2010	Yellow Perch	Adult	275
2010	Yellow Perch	Fingerling	41,056
2010	Yellow Perch	Small Fingerling	54,780
2011	Walleye	Small Fingerling	12,480
2011	Yellow Perch	Small Fingerling	57,680
2012	Yellow Perch	Fingerling	96,640
2012	Yellow Perch	Juvenile	19,891
2012	Yellow Perch	Large Fingerling	2,470
2013	Yellow Perch	Adult	3,516
2014	Walleye	Fry	108,000
2014	Yellow Perch	Adult	3,570
2015	Walleye	Juvenile	212
2015	Walleye	Small Fingerling	7,560
2015	Yellow Perch	Adult	6,147
2015	Yellow Perch	Fingerling	11,060