

**SOUTH DAKOTA STATEWIDE FISHERIES SURVEY**  
**Tripp Lake, Hutchinson County**  
**2102-F-21-R-47**  
**2014**



**Figure 1.** Tripp Lake, Hutchinson County

**Legal Description:** T97N-R61W-Sec. 20

**Location from nearest town:** 5 miles west, 1 ½ miles south of Tripp, SD.

**Surface Area:** 10 acres

**Meandered (Y/N):** no

**Max. depth at outlet elevation:** 24 feet

**Observed water level:** 4 ft. low

**Contour map available (Y/N):** yes

**Watershed area:** 1,920 acres

**Shoreline length:** unknown

**Mean depth at outlet elevation:** 12 feet

**Lake volume:** 117 acre feet

**Date mapped:** 1970

**DENR beneficial use classifications:** (5) warmwater marginal fish propagation, (7) immersion recreation, (8) limited-contact recreation and (9) fish and wildlife propagation and stock watering.

## Introduction

### Ownership of Lake and Adjacent Lakeshore Properties

Tripp Lake was constructed by the Works Progress Administration in the 1930's and the fishery is managed by the South Dakota Department of Game, Fish, and Parks (GFP). There is a 12-foot easement for public access around the entire lake.

### Fishing Access

There is a boat ramp on the northeast corner of Tripp Lake. Shore fishing is available around the entire lake. A local group is planning the construction of a handicapped-accessible fishing pier in the near future.

### Water Quality and Aquatic Vegetation

The water in Tripp Lake was stained brown with a Secchi depth measurement of 2.44 m (96 in). Sago pondweed (*Potamogeton pectinatus*), coontail (*Ceratophyllum demersum*) and clasping leaf pondweed (*Potamogeton richardsonii*) were very abundant throughout the lake and common cattail (*Typha spp.*) along the shoreline (Table 1).

**Table 1.** Water temperature, Secchi depth and observations/comments on water quality and aquatic vegetation in Tripp Lake, Hutchinson County, 2005-2014.

<b>Year</b>	<b>Water Temp °C (°F)</b>	<b>Secchi Depth cm (in)</b>	<b>Observations/Comments (algae, aquatic vegetation, water quality, etc.)</b>
2014	23 (73)	244 (96)	Coontail, sago and clasping leaf pondweed
2012	18 (65)	122 (48)	Coontail, sago pondweed and northern water milfoil
2010	22 (71)	-- (--)	Cattail, sago pondweed and northern water milfoil
2006	25 (77)	100 (39)	No vegetation observations recorded, water stained brown

### Fish Community

Only six fish species reside in Tripp Lake (Table 2). There are no problems with undesirable species.

**Table 2.** Fish species commonly found in Tripp Lake, Hutchinson County.

<b>Game Species</b>	<b>Other Species</b>
Largemouth Bass	
Bluegill	
Channel Catfish	
Black Bullhead	
Green Sunfish	
Hybrid Sunfish	

## **Fish Management**

Tripp Lake is managed for largemouth bass, bluegill and channel catfish. Bluegills grow relatively slowly, but do obtain a size desirable to anglers and provide a fishery. Most species are sustained by natural reproduction with some stocking performed on an as needed basis. Channel catfish has been stocked to provide additional fishing opportunities (Table 4). Yellow perch were stocked in 2011, but none have been sampled in our surveys.

**Table 3.** Fish kill history for Tripp Lake, Hutchinson County.

<b>Year</b>	<b>Severity</b>	<b>Comments</b>
2010	light	12/1/2010 Suspect gas bubble disease, dead bluegills under ice.

**Table 4.** Stocking history for Tripp Lake, Hutchinson County, 2005-2014.

<b>Year</b>	<b>Number</b>	<b>Species</b>	<b>Size</b>
2011	100	Channel Catfish	Adult
	272	Yellow Perch	Adult
2013	100	Largemouth Bass	Large Fingerling
2014	250	Channel Catfish	Juvenile

## **Methods**

Tripp Lake was sampled on June 2, 2014 with 40 minutes of nighttime electrofishing to sample the entire shoreline.

## **Results and Discussion**

### **Electrofishing Results**

Overall catch was very low in 2014 with only 73 fish sampled (Table 5). Black bullheads, channel catfish and largemouth bass sampled were all above preferred length while bluegills and sunfish were all less than 18 cm (7 in) (Table 6). Low water may be having a negative effect on the fish community and/or our ability to sample the lake.

**Table 5.** Total catch from 40 minutes of night-time electrofishing in Tripp Lake, Hutchinson County, June 2, 2014.

<b>Species</b>	<b>#</b>	<b>%</b>	<b>CPUE<sup>1</sup></b>	<b>80% C.I.</b>	<b>Mean CPUE*</b>	<b>PSD</b>	<b>RSD-P</b>	<b>Mean Wr</b>
Bluegill	21	28.8	31.5	<u>+4.5</u>	203.4	80	0	126
Hybrid Sunfish	19	26.0	28.5	<u>+7.0</u>	21.0	--	--	--
Green Sunfish	18	24.7	27.0	<u>+2.6</u>	10.1	0	0	109
Largemouth Bass	9	12.3	13.5	<u>+4.5</u>	28.0	--	--	--
Black Bullhead	3	4.1	4.5	<u>+0.6</u>	4.4	--	--	--
Channel Catfish	3	4.1	4.5	<u>+1.9</u>	1.9	--	--	--

\*10 years (2005-2014)

<sup>1</sup> See Appendix A for definitions of CPUE, PSD, RSD, RSD-P and mean Wr.

**Table 6.** CPUE by length category for selected species sampled with electrofishing in Tripp Lake, Hutchinson County, June 2, 2014.

<b>Species</b>	<b>Substock</b>	<b>Stock</b>	<b>S-Q</b>	<b>Q-P</b>	<b>P+</b>	<b>All sizes</b>	<b>80% C.I.</b>
Bluegill	9.0	22.5	22.5	--	--	31.5	+4.5
Hybrid Sunfish*	--	--	--	--	--	28.5	+7.0
Green Sunfish	10.5	16.5	16.5	--	--	27.0	+2.6
Largemouth Bass	--	13.5	--	--	13.5	13.5	+4.5
Black Bullhead	--	4.5	--	--	4.5	4.5	+0.6
Channel Catfish	--	4.5	--	--	4.5	4.5	+1.9

\*No length categories established. Length categories can be found in Appendix A.

**Table 7.** Electrofishing CPUE for selected fish species sampled in Tripp Lake, Hutchinson County, 2005-2014.

<b>Species</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Black Bullhead		13.0				--		--		4.5
Bluegill		406.0				199.0		177.0		31.5
Channel Catfish		1.0				2.0		--		4.5
Green Sunfish		--				--		13.5		27.0
Hybrid Sunfish		51.0				--		4.5		28.5
Largemouth Bass		49.0				33.0		16.5		13.5

## Largemouth Bass

### Management Objective

- Maintain a largemouth bass fishery with an electrofishing CPUE of at least 20.

### Management Strategy

- Stock hatchery-reared, large fingerling largemouth bass in the spring as needed to achieve the management objective.

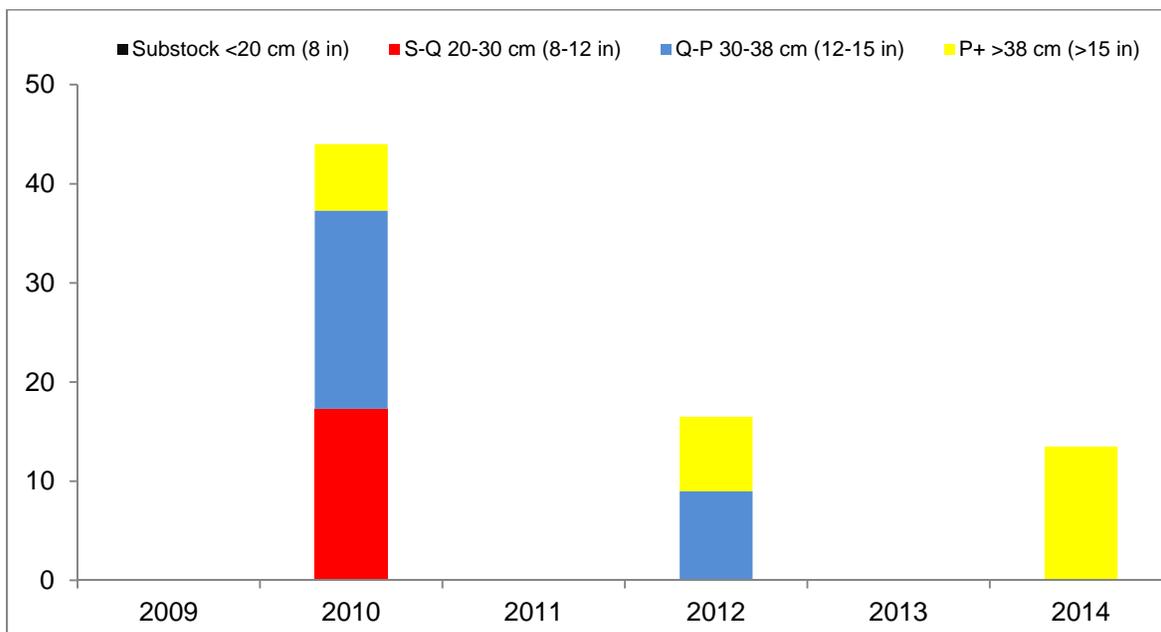
None of the largemouth bass fingerlings stocked in 2013 were sampled in this electrofishing survey. Additionally, the absence of fish under 38 cm indicates no natural recruitment in the last 5 years. The high abundance of harvestable fish (not protected by the 38 cm (15 in) MLL relative to smaller protected fish demonstrates low exploitation (Figures 2 and 3) and that reproduction must be limited by factors other than the number of spawners. CPUE continues to decline since the high of 49.0 in 2006 and remains below the management objective of 20.0 (Table 8).

**Table 8.** CPUE, PSD, RSD-P, and mean Wr for all largemouth bass sampled with electrofishing in Tripp Lake, Hutchinson County, 2005-2014. Stocked years are shaded.

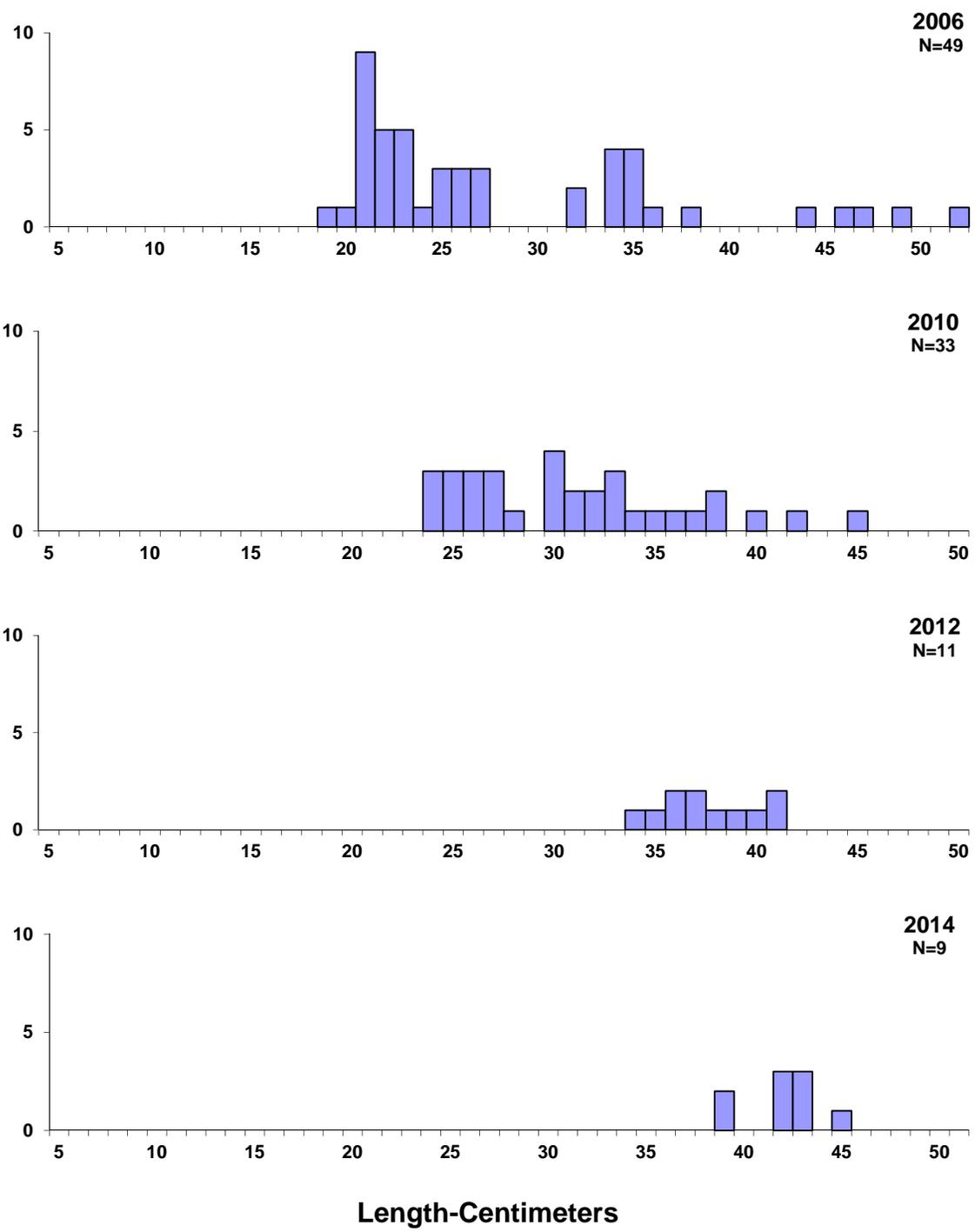
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>CPUE</b>		49.0				33.0		16.5		13.5
<b>PSD</b>		38				61		100		--
<b>RSD-P</b>		15				15		45		--
<b>Mean Wr</b>		106				84		105		--

**Table 9.** Largemouth bass stocked into Tripp Lake, Hutchinson County, 2005-2014.

Year	Number	Size
2013	100	Large Fingerling



**Figure 2.** CPUE by length category for largemouth bass sampled by electrofishing in Tripp Lake, Hutchinson County, 2009-2014.



**Figure 3.** Length frequency histograms for largemouth bass sampled by electrofishing in Tripp Lake, Hutchinson County, 2006, 2010, 2012 and 2014.

## **Bluegill**

### **Management Objective**

- None

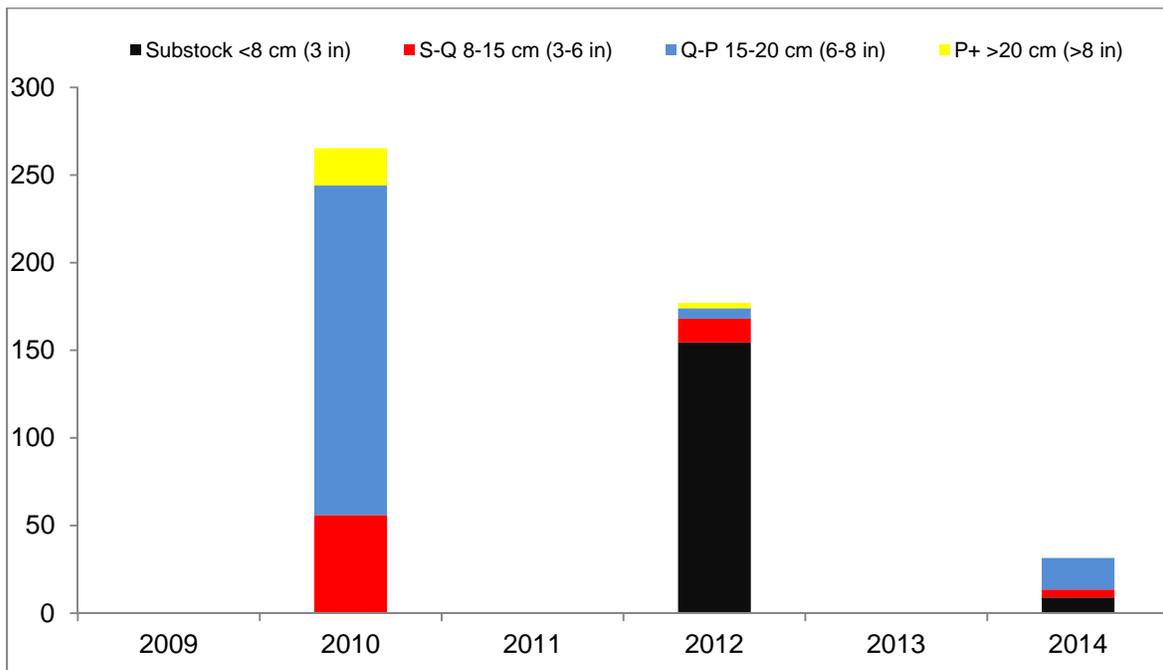
### **Management Strategy**

- Monitor the bluegill population during lake surveys and report the results.

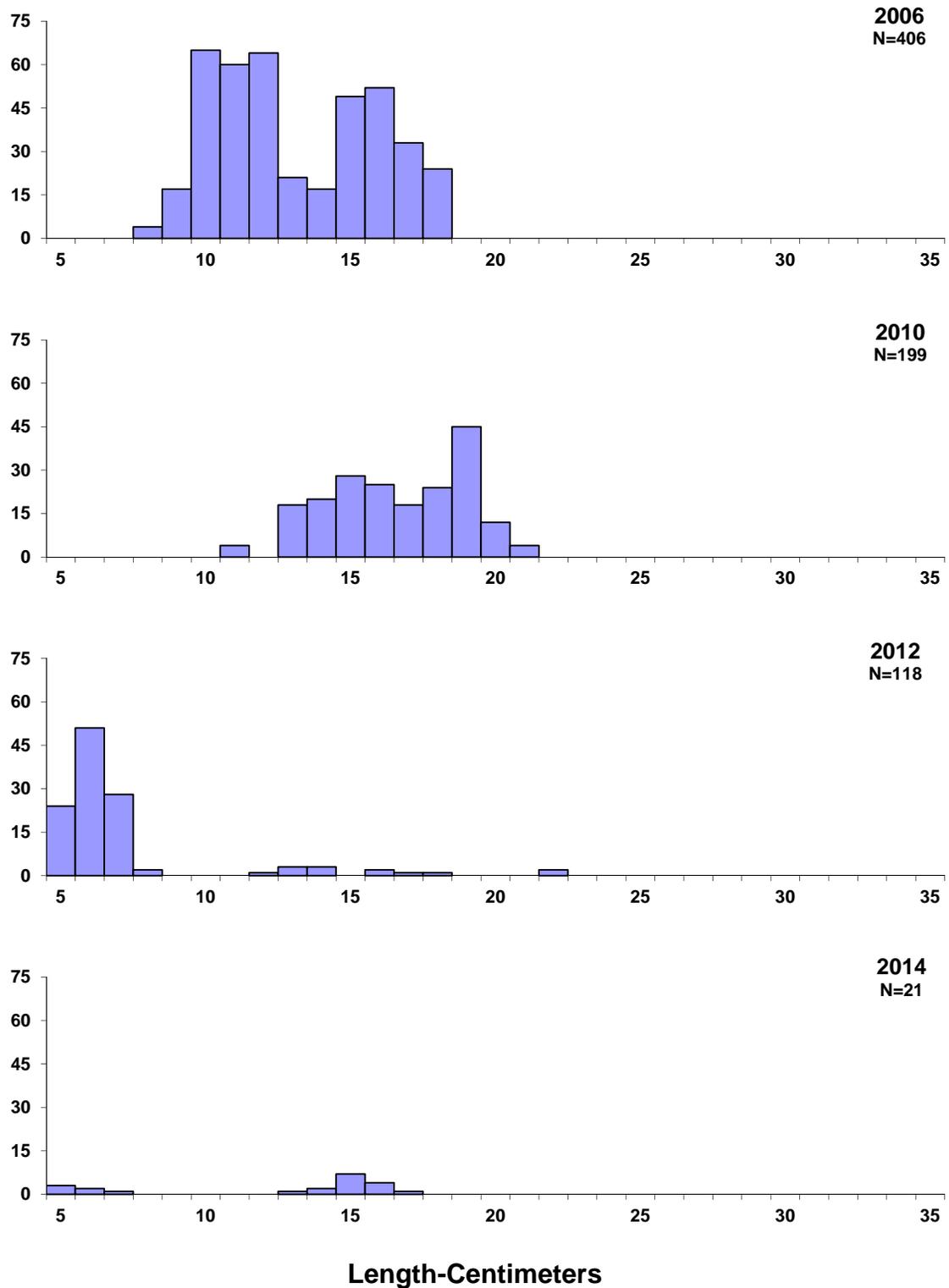
Bluegill catch per hour continued to decline in 2014 and is now below the management objective (Table 10). None of bluegills were over 18 cm (7 in) (Figures 4 and 5). Low water levels may be one factor causing the decline.

**Table 10.** CPUE, PSD, RSD-P, and mean Wr for all bluegill sampled with electrofishing in Tripp Lake, Hutchinson County, 2005-2014. Stocked years are shaded.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>CPUE</b>		406.0				265.3		177.0		31.5
<b>PSD</b>		39				79		40		80
<b>RSD-18</b>		6				43		20		0
<b>RSD-P</b>		0				8		13		0
<b>Mean Wr</b>		100				96		112		126



**Figure 4.** CPUE by length category for bluegill sampled by electrofishing in Tripp Lake, Hutchinson County, 2009-2014.



**Figure 5.** Length frequency histograms for bluegill sampled by electrofishing in Tripp Lake, Hutchinson County, 2006, 2010, 2012 and 2014.

## Channel Catfish

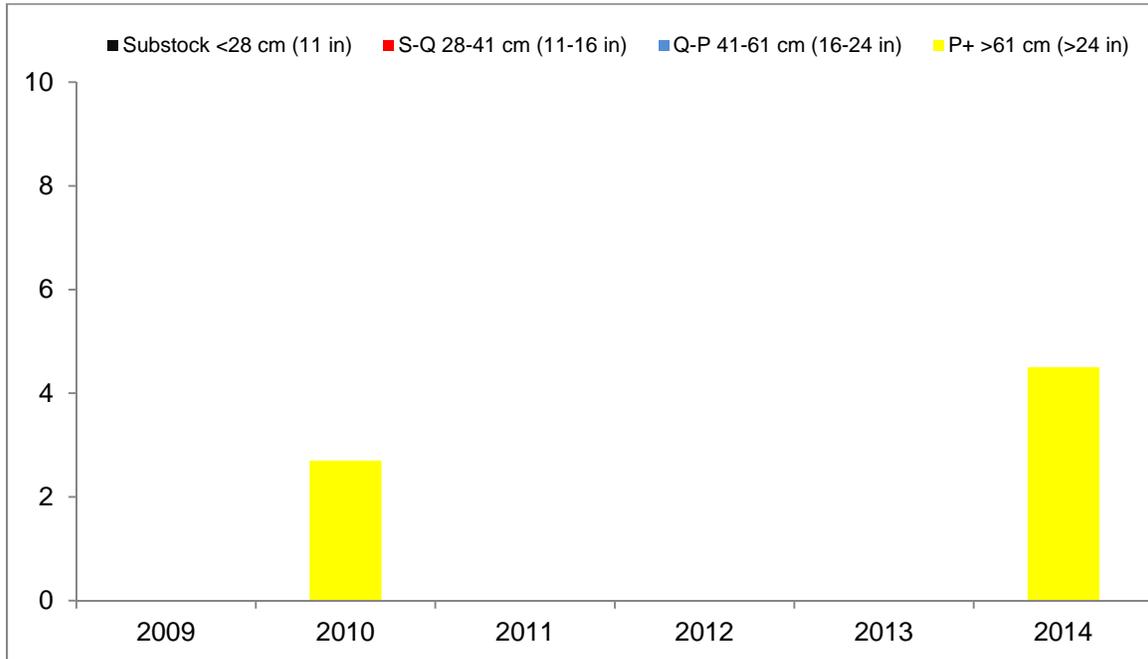
Channel catfish juveniles, stocked in April 2014, were not sampled in the survey. Only a few large (24 in+) channel catfish have been sampled recently.

**Table 11.** CPUE, PSD, RSD-P, and mean Wr for all largemouth bass sampled with electrofishing in Tripp Lake, Hutchinson County, 2005-2014. Stocked years are shaded.

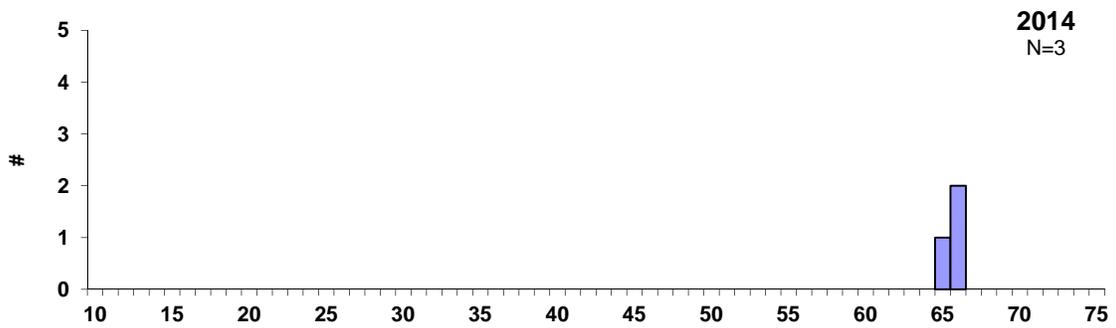
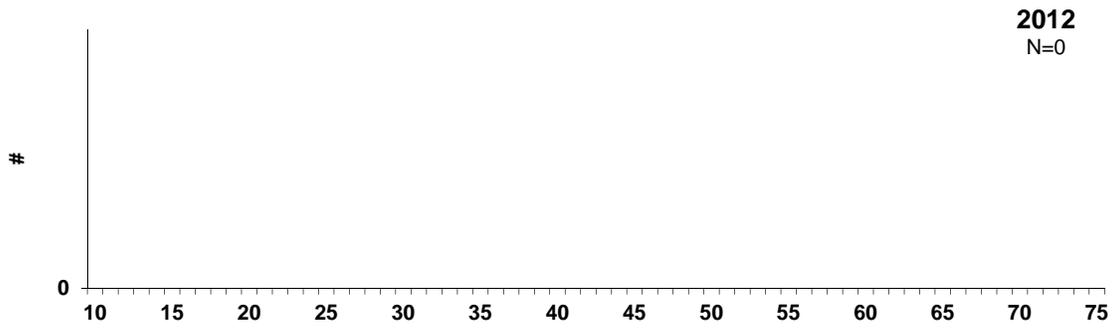
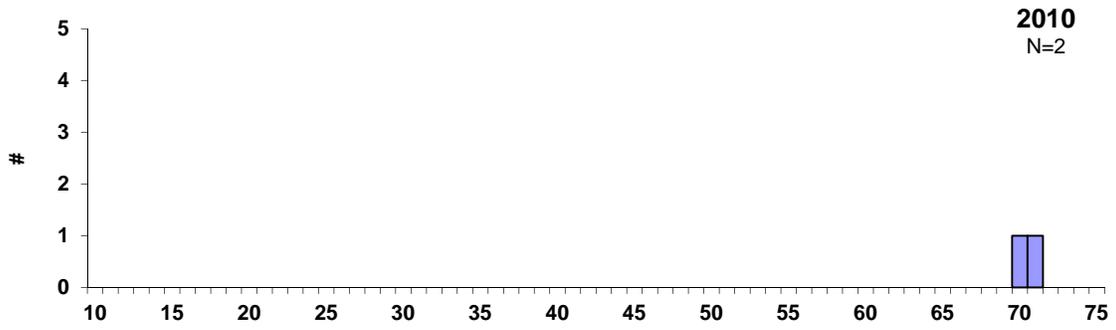
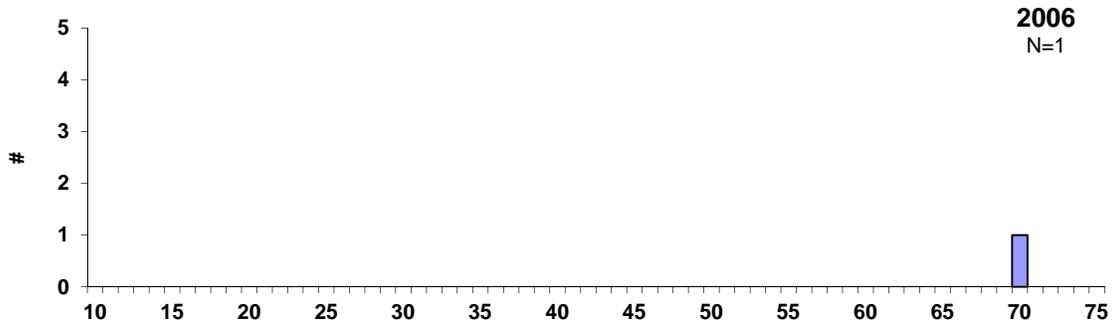
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>CPUE</b>		1.0				2.0		--		4.5
<b>PSD</b>		--				--		--		--
<b>RSD-P</b>		--				--		--		--
<b>Mean Wr</b>		--				--		--		--

**Table 12.** Channel catfish stocked into Tripp Lake, Hutchinson County, 2005-2014.

Year	Number	Size
2014	250	Juvenile



**Figure 6.** CPUE by length category for channel catfish sampled by electrofishing in Tripp Lake, Hutchinson County, 2009-2014.



**Length-Centimeters**

**Figure 7.** Length frequency histograms for channel catfish sampled with gill nets in Tripp Lake, Hutchinson County, 2006, 2010, 2012, 2014

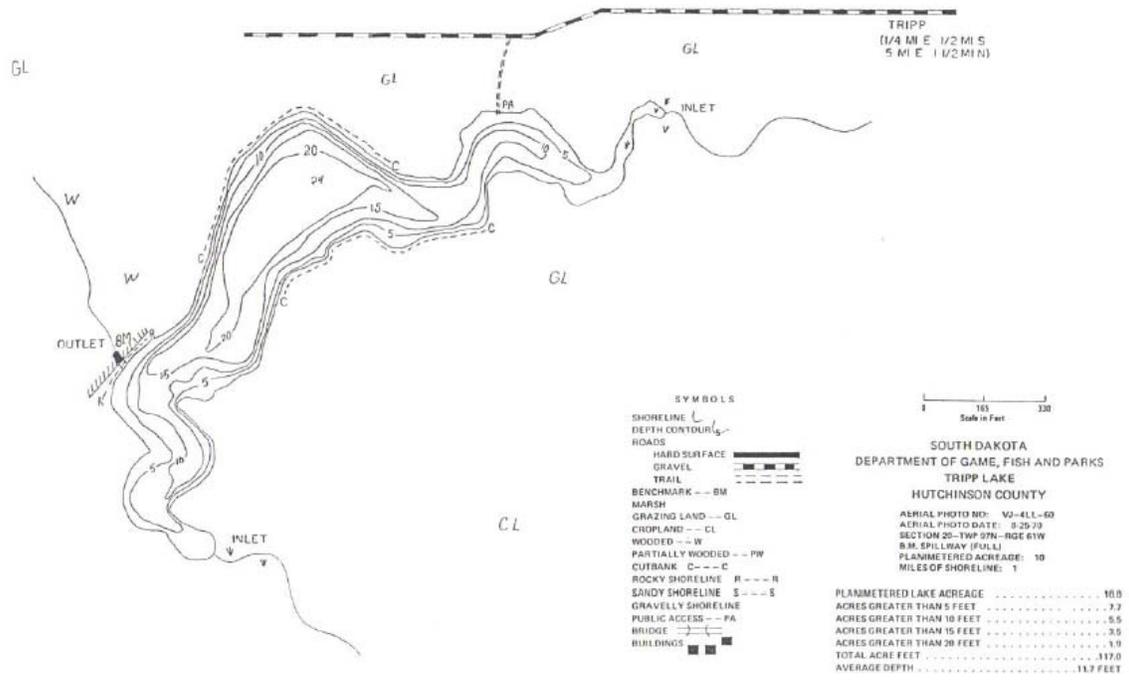


Figure 8. Contour map of Tripp Lake, Hutchinson County.

**Appendix A.** A brief explanation of catch per unit effort (CPUE), proportional stock density (PSD), relative stock density (RSD) and relative weight (Wr).

**Catch per Unit Effort (CPUE)** is the catch of animals in numbers or in weight taken by a defined period of effort. Can refer to trap-net nights of effort, gill net nights of effort, catch per hour of electrofishing, etc.

**Proportional Stock Density (PSD)** is calculated by the following formula:

$$\text{PSD} = \frac{\text{Number of fish} > \text{quality length}}{\text{Number of fish} \geq \text{stock length}} \times 100$$

**Relative Stock Density (RSD-P)** is calculated by the following formula:

$$\text{RSD-P} = \frac{\text{Number of fish} > \text{preferred length}}{\text{Number of fish} \geq \text{stock length}} \times 100$$

PSD and RSD-P are unitless and usually calculated to the nearest whole digit.

Size categories for selected species found in Region 3 lake surveys, in centimeters (Inches in parenthesis).

<b>Species</b>	<b>Stock</b>	<b>Quality</b>	<b>Preferred</b>	<b>Memorable</b>	<b>Trophy</b>
Walleye	25 (10)	38 (15)	51 (20)	63 (25)	76 (30)
Yellow perch	13 (5)	20 (8)	25 (10)	30 (12)	38 (15)
Black crappie	13 (5)	20 (8)	25(10)	30 (12)	38 (15)
White crappie	13 (5)	20 (8)	25(10)	30 (12)	38 (15)
Bluegill	8 (3)	15 (6)	20 (8)	25 (10)	30 (12)
Largemouth bass	20 (8)	30 (12)	38 (15)	51 (20)	63 (25)
Smallmouth bass	18 (7)	28 (11)	35(14)	43 (17)	51 (20)
Northern pike	35 (14)	53 (21)	71 (28)	86 (34)	112 (44)
Channel catfish	28 (11)	41 (16)	61 (24)	71 (28)	91 (36)
Black bullhead	15 (6)	23 (9)	30 (12)	38 (15)	46 (18)
Common carp	28 (11)	41 (16)	53 (21)	66 (26)	84 (33)
Bigmouth buffalo	28 (11)	41 (16)	53 (21)	66 (26)	84 (33)

For most fish, 30-60 or 40-70 are typical objective ranges for “balanced” populations. Values less than the objective range indicate a population dominated by small fish while values greater than the objective range indicate a population comprised mainly of large fish.

**Relative weight (Wr)** is a condition index that quantifies fish condition (i.e., how much does a fish weigh for its length). A Wr range of 90-100 is a typical objective for most fish species. When mean Wr values are well below 100 for a size group, problems may exist in food and feeding relationships. When mean Wr values are well above 100 for a size group, fish may not be making the best use of available prey.