SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-48

Name: Tennyson Dam **County**: Pennington

Legal description: Sec. 8, T 17E, R 1S
Location from nearest town: 2 miles east and ¼ miles S of Quinn, SD
Dates of present survey: June 10 and June 29, 2015
Date last surveyed: June 29, 2012
Management classification: Warmwater semipermanent

Primary Species: (game and forage)	Secondary and other species:
1. Largemouth bass	1. Northern pike
2. Bluegill	2. Yellow perch
3. Black Bullhead	3.
4.	4.

PHYSICAL CHARACTERISTICS

Surface Area: 56.3 acres **Watershed:** 6480 acres
Maximum depth: 12 feet **Mean depth:** 5.8 feet
Lake elevation at survey (from known benchmark): full

Describe ownership of lake and adjacent lakeshore property:

Tennyson Dam was constructed in 1939 as a WPA project. The dam is privately owned with a perpetual easement for public use. This easement grants public access to 12 feet above the high water contour.

Fishing Access:

Access from the north side of the lake is difficult as there are little to no provisions for access from that direction, such as a section line or public road. Access at the south end of the lake is along a section line and is not recommended during wet conditions. Cattails cover some of the shoreline and limit shore fishing but there are many areas without cattails as well. Through summer and early fall fishing is often also limited by submergent vegetation. No boat ramp exists, but a small boat or canoe can be launched for better access.

Observations of Water Quality and Aquatic Vegetation:

Tennyson Dam is a shallow lake and even though the watershed is fairly small the lake's water level is highly variable. Cattails surround much of the shoreline and submergent vegetation is abundant near the shore. The pasture on the south border of Tennyson is heavily grazed and the shoreline is eroded in areas due to cattle watering.

Observations on conditions of structures (i.e. spillway, boat ramps and docks, roads, etc.):

There are no boat ramps or water level regulatory structures. The spillway was not observed during this survey.

MANAGEMENT OBJECTIVES

Objective 1. Provide a largemouth bass fishery of moderate to high density with a PSD range between 20 and 40.

Objective 2. Keep black bullhead trap net CPUE less than 100 and PSD greater than 30.

Objective 3. Provide/maintain an additional popular sportfish/predator (e.g. channel catfish, northern pike) that may add to influencing abundance of black bullhead and panfish populations and provide angling opportunity.

BIOLOGICAL DATA

Sampling Effort and Catch

Tennyson Dam was surveyed June 10, 2015 using four trap nets, and again on June 29, 2015 with three seine hauls and 3.5 hours of angling. Catch data from all three methods are below in Tables 1, 2 and 3.

Table 1. Catch data for fish species collected in trap nets at Tennyson Dam, Pennington County, June 9-10, 2015. CPUE's with 80% confidence intervals in parentheses. PSD, PSD-P and *Wr* with 90% confidence intervals in parentheses.

Species	N	CPUE	CPUE-S	PSD	PSD-P	*Wr*≥S
Black bullhead	150	37.5 (24.1)	25.5 (16.7)	78 (6)	18 (7)	104.4 (3.2)
Bluegill	3	0.8 (0.7)	0.8 (0.7)	0	0	106.9 (--)

Table 2. Data from three quarter arc seine hauls at Tennyson Dam, Pennington County, on June 29, 2015

Seine ID	Species	Number	Comments
1	Largemouth bass	2	Fish TL were 117 mm and 120 mm.
2	Bluegill	36	Age-0's
3	Bluegill	5	Age-0's

Table 3. Data from 3.5 hours of angling at Tennyson Dam, Pennington County, on June 29, 2015.

Species	Length (mm)	Weight (g)	*Wr*	Comments
Largemouth bass	130	28	NA	Water temp was 83F
Largemouth bass	114	23	NA	Visibility poor due to
Largemouth bass	414	980	89.9	cloudy/muddy water.

Black Bullhead

One hundred and fifty black bullhead were captured in the four trap nets giving a CPUE of 37.5 (Table 1). Sizes of fish ranged from 100 mm to 340 mm with a large proportion over 9 inches (Figure 1). Condition of these fish was very good with a mean *Wr* value for fish over 6 inches at 104.4 (Table 1). The population appears to be doing well and management goals achieved. Trap net CPUE was well below the objective value and multiple size groups are apparent with a good proportion of larger fish.

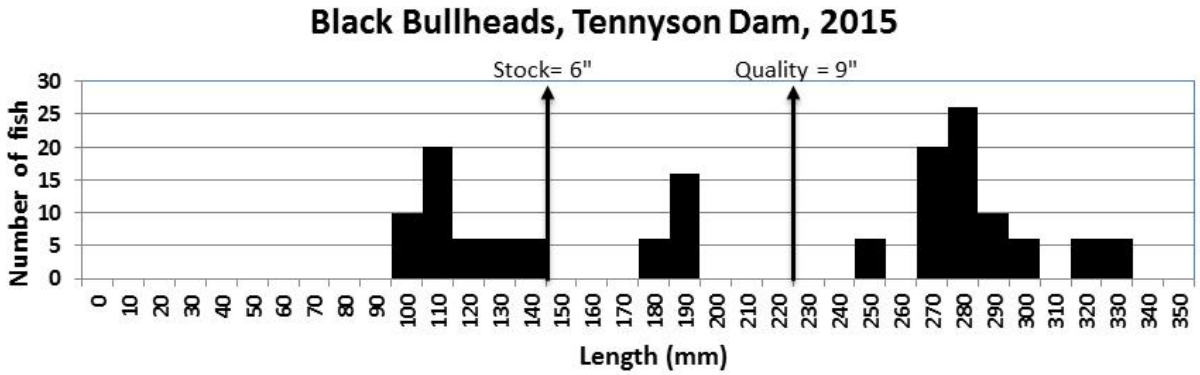

Figure 2. Length frequency of black bullhead surveyed from trap nets in Tennyson Dam, Pennington County, 2015.

Bluegill

Tennyson completely dried out during the drought in the mid 2000's. Upon filling after the drought, bluegill were stocked in 2008 as a forage source for largemouth bass and a popular fish for anglers to pursue. During this survey, only three bluegill were collected in the trap nets (Table 1). These appeared to be juvenile fish due to their lengths of only 80 to 100 mm. The trap net catch was a large decrease from what was observed in 2012 when trap net CPUE was 77.5 for adult bluegill. During a seine sample, age-0 fish were caught in two of the three seine hauls (Table 2). While the low catch rates would suggest the bluegill are struggling to maintain a population, the presence of age-0 fish shows they are successfully reproducing.

Largemouth bass

Largemouth bass fingerlings have been stocked on three occasions (2008, 2009 and 2012) into Tennyson Dam after the drought in the mid 2000's. A couple of juvenile largemouth bass were collected in one of the seine hauls (Table 2) and three more were collected by angling (Table 3). The largest fish collected was just over 16 inches long. It is unfortunate so few were collected during the angling sample, but conditions were less than ideal as water clarity was poor during the survey. Another attempt should be made in the near future to better draw conclusions how the largemouth bass population is doing.

RECOMMENDATIONS

1. Survey the largemouth bass population within the next couple of years to re-evaluate success of the stockings.

2. Survey the fish assemblage every five years, more often if needed, to monitor assess achievement towards management goals. In the next survey, consider also using short term gill net sets to evaluate the channel catfish stockings.

3. Work with surrounding landowners to provide better angler access that won't interfere with daily landowner activities.

APPENDIX

Appendix A. Stocking record for Tennyson Dam, Pennington County, 2005-2012.

Year	Species	Size	Number Stocked
2005	Largemouth bass	Fingerling	2,040
2006	Yellow perch	Adult	131
2008	Fathead minnow	Adult	3,000
	Bluegill	Fingerling	6,000
	Largemouth bass	Fingerling	6,000
2009	Largemouth bass	Fingerling	5,600
2011	Northern pike	Fry	56,000
2012	Yellow perch	Adult	275
	Largemouth bass	Fingerling	8,100
2014	Channel catfish	Adult	240
	Largemouth bass	Fingerling	4,000