

# SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-40

Name: Newell City Pond

County: Butte

Legal description: Sec. 25, T 9N, R 5E

Location from nearest town: 1.5 mi. W of Newell, SD

Dates of present survey: October 17, 2007

Dates last surveyed: October 17, 2003

Most recent lake management plan: F21-R-2 Date: N/A

Management classification: Warmwater semi-permanent

Contour mapped: NA

Primary Species: (game and forage)

1. Largemouth bass
2. Bluegill
3. Northern pike
4. Yellow perch

Secondary and other species:

1. Walleye
2. White sucker
3. Common carp
4. Shorthead redhorse

## PHYSICAL CHARACTERISTICS

Surface Area: 20 acres;

Watershed: 17,000 acres

Maximum depth: 27 feet;

Mean depth: 12 feet

Lake elevation at survey (from known benchmark): full feet

1. Describe ownership of lake and adjacent lakeshore property:

Newell City Pond is 75% owned by the city of Newell with the remaining 25% under private ownership. Adjacent to the lake is the municipal golf course. Newell City Pond is a reserve water supply for this area.

2. Describe watershed condition and percentages of land use:

The Newell City Pond is adjacent to grass land and the Newell City municipal golf course.

3. Describe aquatic vegetative condition:

Submerged aquatic vegetation in Newell City Pond consists of coontail. Summer months are often characterized as having large amounts of vegetation in the shallow bays and inlets. Emergent vegetation consists of bulrush and cattail.

4. Describe pollution problems:

No pollution problems were identified during the 2007 survey.

5. Describe condition of all structures, i.e. spillway, level regulators, boat ramps, etc.:

No problems were noted in the 2007 survey. Newell City Pond does not have a boat ramp.

## BIOLOGICAL DATA

### Methods

Night electrofishing was conducted at Newell City Pond on October 17, 2007. Electrofishing was conducted using a Smith-Root unit with pulsed-DC. Four, 10-minute sights were completed during the survey. All largemouth bass were collected, measured for total length (TL; mm) and weighed (g). In addition, scale samples were collected from up to 5 fish per centimeter group for age and growth analysis. All data was entered into WinFin 2.95 (Francis 1999).

Fish population parameters, confidence intervals and standard errors were computed using WinFin Analysis (Francis 2000). Parameters calculated were catch per unit effort (CPUE), proportional stock density (PSD), relative stock density (RSD) and relative weight (Wr) based on length categories. Abundance was expressed as the mean catch per unit effort (CPUE; mean number per net night or mean number per hour of electrofishing). Actual pedal time (time the electrofishing unit produced current) was recorded from the digital display on the Smith-root control box and used to calculate electrofishing CPUE. Population structural characteristics were expressed as length frequency histograms and stock density indices (PSD and RSD-P). Fish condition was expressed as mean Wr.

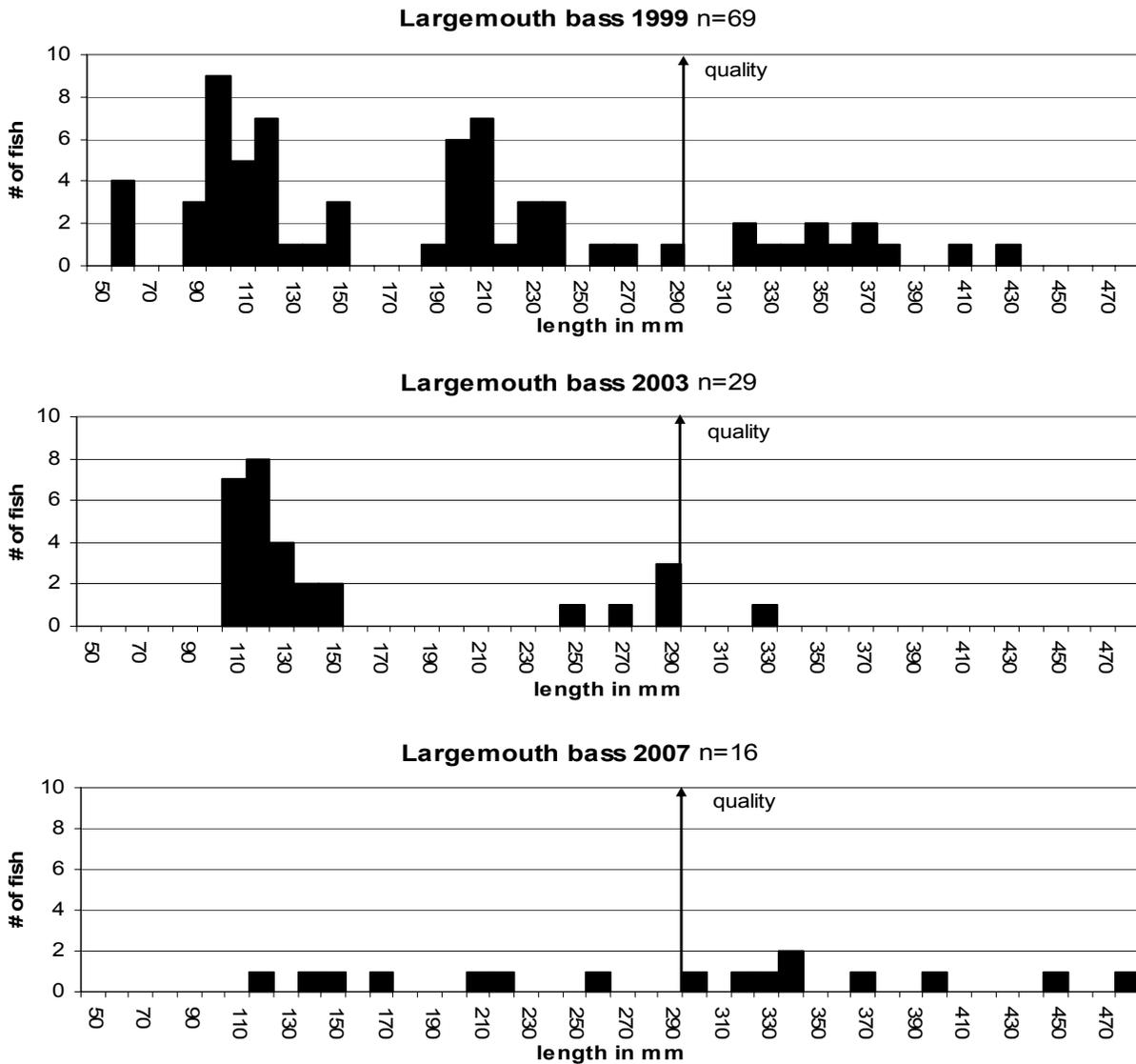
**Table 1.** Total catch (N), catch per hour of electrofishing (CPUE; 80% CI's in parentheses), catch per hour of stock length fish (CPUE-S; 80% CI's), and proportional stock densities (PSD, RSD-P; 90% CI's) for largemouth bass collected by electrofishing in Newell City Pond, October 17, 2007

Species	N	CPUE	CPUE-S	PSD	RSD-P	Wr $\geq$ S
Largemouth bass	16	22.1 (16.6)	16.9 (11.2)	75 (23)	25 (23)	103.7 (6.9)

**Table 2.** Total catch (N), pedal time (seconds), catch per hour of electrofishing (CPUE), mean total length (TL, standard error is given in parentheses), proportional stock densities (PSD, RSD; 90% confidence intervals are given in parentheses) and condition factor (Wr for fish  $\geq$  stock length; 80%CI's) for largemouth bass collected by electrofishing in Newell City Pond, 1999, 2003, 2007.

Year	N	Pedal Time (sec)	CPUE	CPUE-S	PSD	RSD-P	Wr $\geq$ S
1999*	69	6300	39.4 (--)	16.6 (--)--	34 (10)	9 (6)	--
2003	29	3600	29.0 (9.0)	6.0 (5.6)	17 (33)	0 (--)	107.1 (7.1)
2007	16	2501	22.1 (16.6)	16.9 (11.2)	75 (23)	25 (23)	103.7 (6.9)

\*Coffelt VVP-15 electrofishing unit used



**Figure 1.** Length histogram of largemouth bass collected during night electrofishing from Newell City Pond, Butte County, 1999, 2003, 2007.

### LITERATURE CITED

Francis, J. 1999. Winfin, Version 2.95; Microsoft Access Program for data entry. Nebraska Game and Parks Commission, Lincoln.

Francis, J. 2000. WinFin Analysis Program. Version 1.5. Nebraska Game and Parks Commission, Lincoln.

Willis, D.W., D.A. Isermann, M.J. Hubers, B.A. Johnson, W.H. Miller, T.R. St. Sauver, J.S. Sorenson, E.G. Unkenholz, and G.A. Wickstrom. 2001. Growth of South Dakota Fishes

## RECOMMENDATIONS

1. Stock adult largemouth bass at a rate of 10 per acre to increase bass density, which should help thin out the black crappie population. Continue to monitor the largemouth bass population through fall electrofishing.

## APPENDICES

**Appendix A.** Stocking record for Newell City Pond, Butte County, 1990-2007.

<b>Year</b>	<b>Number</b>	<b>Species</b>	<b>Size</b>
1990	2400	Rainbow trout	Catchable
1997	2000	Largemouth bass	Fingerling
2006	200	Largemouth bass	Adult