

Fishing access:

The lake is privately owned but contains an easement to the State of South Dakota for fishing access to the lake and a strip of land varying from 66 feet to 12 feet above the high-water contour. A boat ramp exists on the east side for water access. There is also good shore access around much of the lake within the easement boundaries.

Condition of all structures (i.e. spillway, boat ramps, level regulators, etc.):

Boat ramp and dock are in good condition. There is new gravel on the ramp area. The access road is in good shape, but may be hard to travel in wet conditions. The dam and spillway are also in good condition.

Field observations of aquatic vegetation condition:

Submergent vegetation surrounds the entire shoreline to depths of up to 8 feet and consisted of different species of pondweeds, coontail and milfoil. Emergent vegetation was found around about 80-90% of the shoreline and consisted of cattails, sedges, and rushes.

CHEMICAL DATA**Field observations of water quality and pollution problems:**

No pollution problems were evident at the time of the survey. Water clarity is excellent with a secchi disc reading of 5.5 feet. Other water quality characteristics were measured in the field on July 7, 2014, using a HACH water quality kit and a Hanna multiparameter meter. Results are found in Table 1.

Presence of a thermocline and depth from surface: No

Station for water chemistry located on attached map: Yes

Table 1. Water chemistry results from Simon Dam, Potter County, July 7, 2014.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO2 (ppm)	ALK (mg/L)	HRD (mg/L)	pH	Cond. (µS/cm)	TDS (ppm)	Sal.	ORP	Secchi (ft)
A	Surface	73.4	6.00	61.4	267	375	8.78	1185	592	0.59	-149.0	5.5
A	13	69.5	2.25	29.4	262	408	8.39	1275	638	0.64	-186.7	

BIOLOGICAL DATA

Methods:

Simon Dam was sampled on July 7-9, 2014, with ten overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. Two experimental gill nets were also set. The gill nets are 150ft x 6ft with 25ft panels of ½, ¾, 1, 1-1/4, 1-1/2, and 2 inch monofilament mesh. On the evening of October 10, 2011, Simon Dam was electrofished for 40 minutes (4-ten minute transects) to sample the largemouth bass population. The boat was set up with 120 pulses per second of DC current at 340 volts with around 20 amps to electrofish the lake that had a conductivity of 1327 µS/cm with a water temperature of 67.64°F. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Trap Net Catch

Table 2. Total catch of ten overnight ¾-inch frame net sets at Simon Dam, Potter County, July 7-9, 2014.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Northern Pike	18	78.3	1.8	± 0.9	1.2	82	0	98
Black Crappie	5	21.7	0.5	± 0.4	31.5	100	100	99

* Twenty-one year mean (1968, 1970, 1973, 1975, 1977, 1981-82, 1985-86, 1988, 1990, 1993-94, 1996, 1998, 2001, 2004, 2006, 2008, 2010, 2011)

Table 3. Total catch of two, 150ft experimental gill net sets at Simon Dam, Potter County, July 7-9, 2014.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Northern Pike	6	75.0	3.0	± 6.2	2.4	75	0	105
Yellow Perch	2	25.0	1.0	± 3.1	14.5	--	--	107

* Nine year mean (1975, 1982, 1993, 1994, 1996, 1998, 2008, 2010, 2011)

Table 4. Total catch from four, ten-minute transects of fall nighttime electrofishing on Simon Dam, Potter County, August 26, 2014.

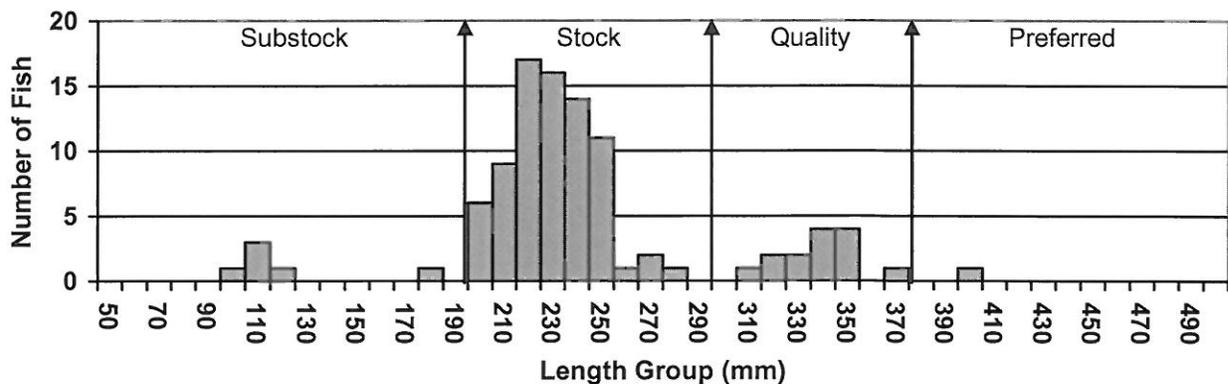
Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Largemouth Bass	0	0	0.0	± 0.0	16.1	--	--	--

* Ten year mean (1988, 1990, 1993, 1994, 1996, 1998, 2001, 2004, 2010, 2011)

Largemouth Bass

Simon Dam was electrofished for forty minutes to monitor the largemouth bass population. After the forty minutes, no bass were sampled. Not sure what happened to the bass population after a very nice population was starting to develop in the 2010 survey. Figure 1 illustrates what the lake can produce for largemouth bass, but for some reason they do not continue after a few years.

Figure 1. Length frequency histogram for largemouth bass sampled from Simon Dam, Potter County, 2010.



Black Crappie

The black crappie numbers have dropped for the third consecutive survey. The trap net CPUE of 0.5 is well below the 18.1 from the 2011 survey (Table 6) as well as the twenty-one year mean of 31.5 (Table 2). Figures 2 through 4 illustrate the length frequency histograms for the last three surveys, although not much comparison can be made with this survey's population with only 5 fish sampled. Not enough fish were sampled to get any growth data either. Condition is good with a mean W_r of 99. Not sure what happened to this population as it looked like a very nice population was starting to be established. Further stockings and monitoring will be done to hopefully keep this population going.

Figure 2. Length frequency histogram for black crappie sampled from Simon Dam, Potter County, 2014.

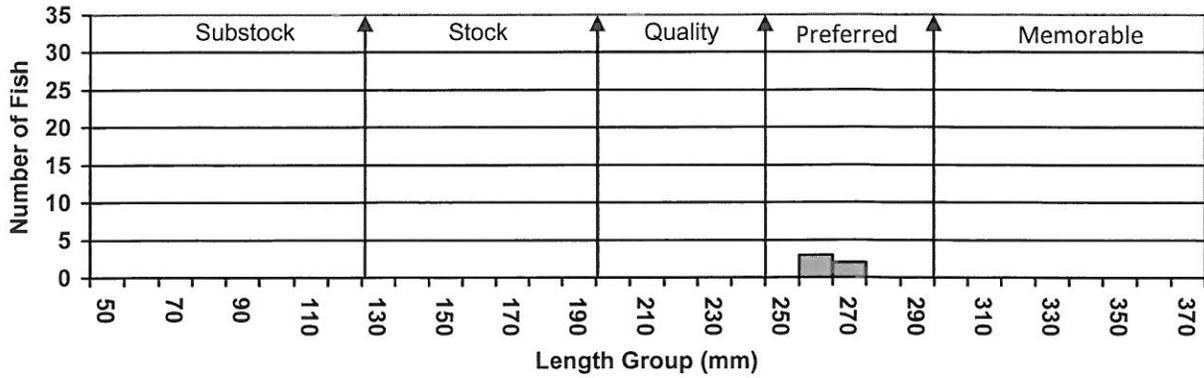


Figure 3. Length frequency histogram for black crappie sampled from Simon Dam, Potter County, 2011.

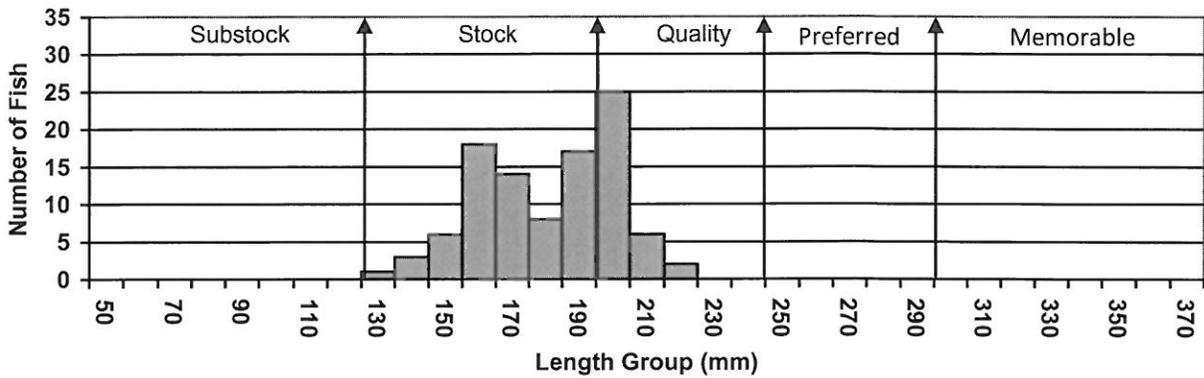
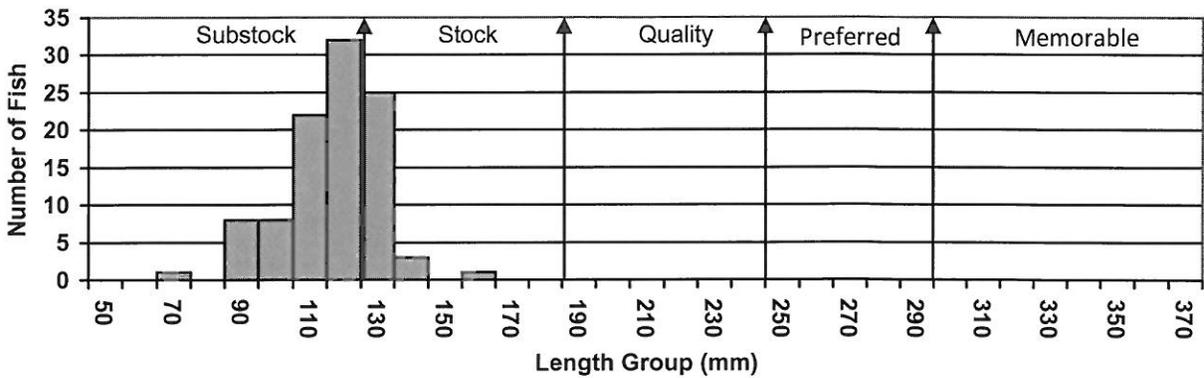


Figure 4. Length frequency histogram for black crappie sampled from Simon Dam, Potter County, 2010.



Yellow Perch

Just like all the other species sampled in Simon Dam this survey, the yellow perch population is on the decline. No fish were sampled in the trap nets. The gill net CPUE of 1.0 is actually above the 0.5 from the 2011 survey but well below the 16.5 from 2010 (Table 6), as well as below the 14.5 nine-year mean (Table 3). With only 2 fish sampled no real inferences about the population can be made. Figures 5 and 6 illustrate what the length frequency histograms looked like in the 2010 and 2011 surveys looked like. No growth data was obtained. Condition appears to be good with a mean W_r of 107. More stocking and monitoring will be done to try to keep this population going.

Figure 5. Length frequency histogram for yellow perch sampled from Simon Dam, Potter County, 2011.

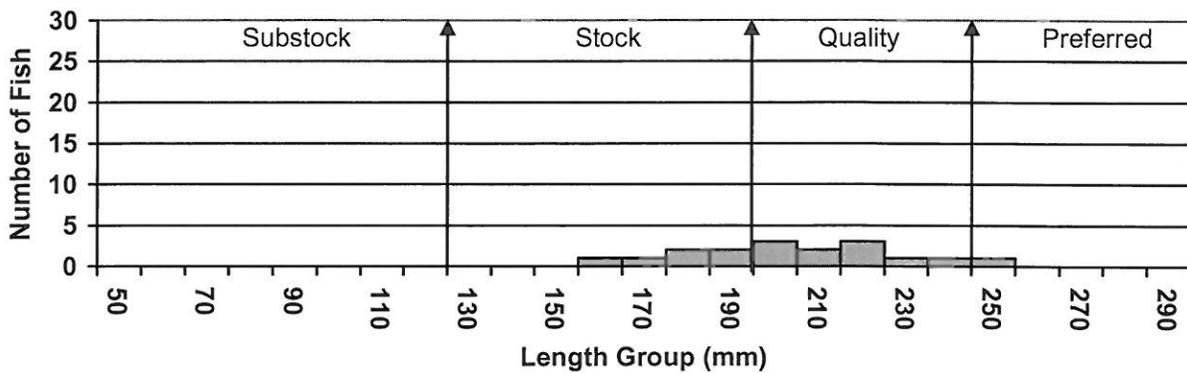
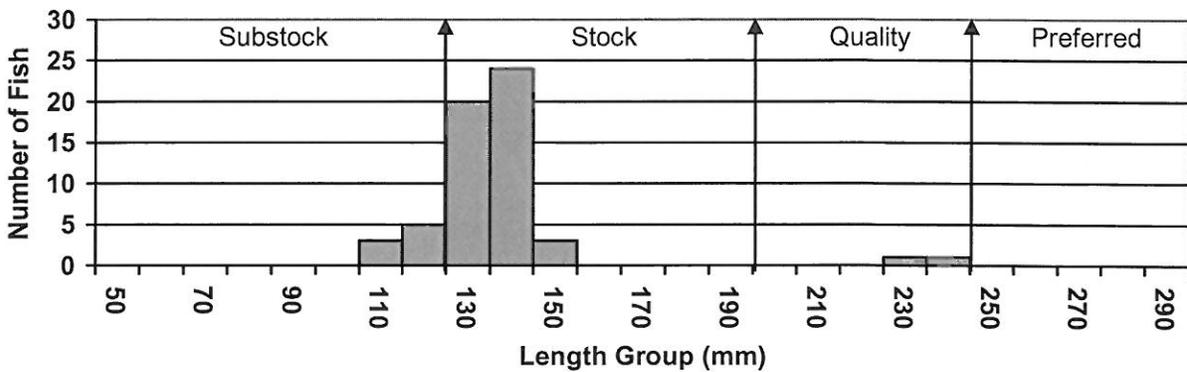


Figure 6. Length frequency histogram for yellow perch sampled from Simon Dam, Potter County, 2010.



Other species

Northern pike were the only other species sampled this survey. The trap net CPUE of 1.8 is right on with the 1.7 from the 2011 survey (Table 6) and slightly above the 1.2 twenty-one year mean (Table 2). The gill net CPUE of 3.0 is slightly above the 2.5 from the 2011 survey (Table 6) as well as the 2.4 nine-year mean (Table 3). Figures 7 and 8 illustrate the length frequency histograms for the last two surveys. Not really a lot has changed between the two. No growth data was obtained this survey. Condition is good with a population mean W_r of 102. This is the only species that appears to be maintaining its population.

Black bullhead, white crappie, largemouth bass, channel catfish, white sucker, walleye, bluegill, smallmouth bass, and golden shiner were the species not sample that have been in surveys past (Table 6).

Figure 7. Length frequency histogram for northern pike sampled from Simon Dam, Potter County, 2014.

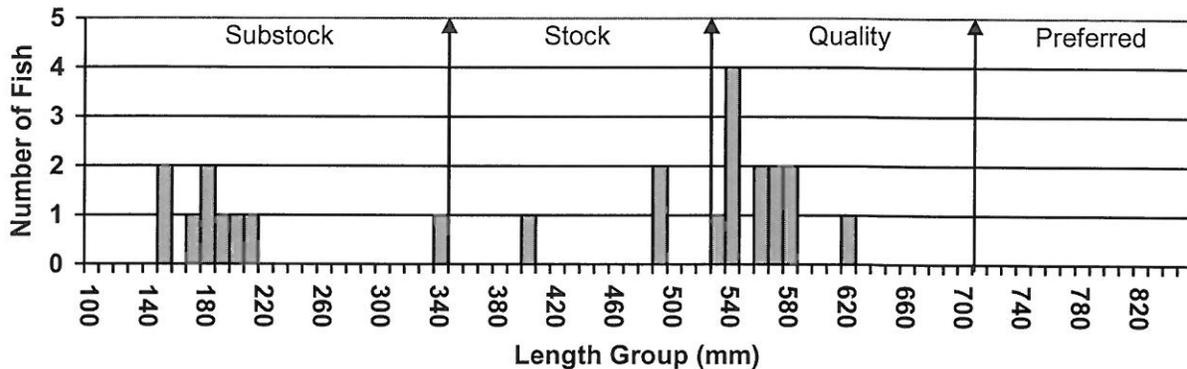


Figure 8. Length frequency histogram for northern pike sampled from Simon Dam, Potter County, 2011.

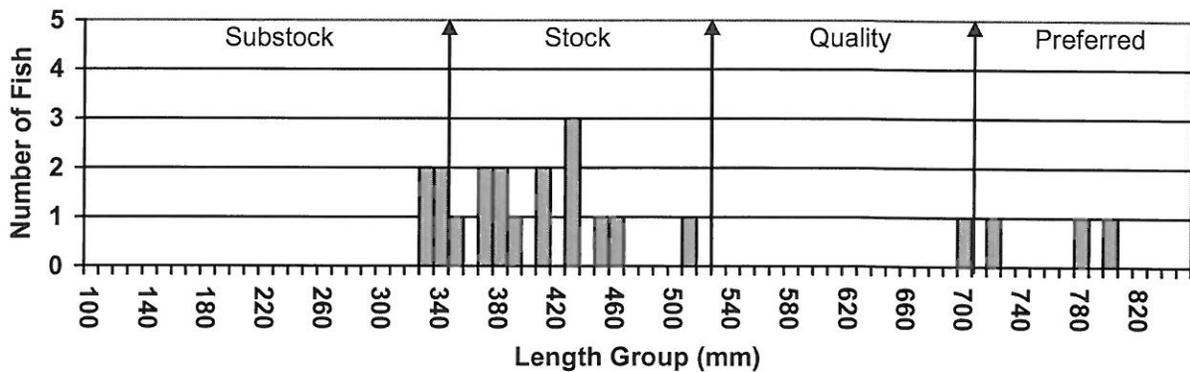


Table 5. Stocking records for the last ten years for Simon Dam, Potter County.

Year	Number	Species	Size
2007	250,000	Walleye	Fry
2007	70	Yellow Perch	Adult
2007	100	Largemouth Bass	Adult
2008	50	Largemouth Bass	Juvenile
2008	4,160	Largemouth Bass	Fingerling
2009	21	Black Crappie	Adult
2009	14	Northern Pike	Adult
2009	105	Yellow Perch	Juvenile
2009	4,140	Largemouth Bass	Fingerling
2009	161	Largemouth Bass	Adult
2012	300	Yellow Perch	Adult
2013	720	Channel Catfish	Large Fingerling
2014	100	Channel Catfish	Juvenile

RECOMMENDATIONS

1. Resurvey in 2017 to monitor the fish populations.
2. Continue to stock largemouth bass till a CPUE of 20 or greater is reached for fish over stock length.
3. Stock yellow perch till a CPUE of between 5 and 15 reached.

Table 6. Gill net (GN), trap net (TN) and electrofishing (EF) CPUE for all fish species sampled in Simon Dam since surveys started in 1968.

Species	1968	1970	1973	1975	1977	1981	1982	1985	1986	1988	1990	1993	1994	1996	1998	2001	2004	2006	2008	2010	2011	2014
BLB (GN)	--	--	--	2.0	--	--	--	--	125.0	--	--	54.0	--	94.0	175.0	--	--	--	--	--	--	--
BLB (TN)	240.3	44.9	735.0	1133	885.1	--	270.0	274.9	152.5	1071	117.5	95.8	1.6	1627	247.5	479.6	442.0	947.0	--	--	--	--
BLC (GN)	--	--	--	--	--	--	17.0	--	--	--	--	1.0	--	2.0	--	--	--	--	--	--	4.5	--
BLC (TN)	15.3	12.6	3.5	46.5	2.4	--	266.0	71.5	51.1	79.5	59.3	2.5	1.0	2.5	--	--	0.2	--	--	29.7	18.1	0.5
WHC (GN)	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WHC (TN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
YEP (GN)	--	--	--	--	--	--	22.0	--	--	--	--	38.0	30.0	21.0	1.0	--	--	--	1.5	16.5	0.5	1.0
YEP (TN)	3.3	3.8	1.9	4.5	0.6	--	53.0	1.1	1.9	4.3	6.3	3.8	2.5	9.1	2.6	1.4	1.2	0.1	1.0	2.4	1.6	--
LMB (EF)	--	--	--	--	--	--	--	--	--	5.3	4.5	6.5	0.5	5.7	0.0	19.0	18.0	--	--	98.0	3.0	0.0
LMB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LMB (TN)	--	0.2	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	0.2	--	0.3	0.1	0.6	--
NOP (GN)	--	--	--	--	--	--	1.0	--	--	--	--	1.0	--	11.0	6.0	--	--	--	--	0.5	2.5	3.0
NOP (TN)	1.1	0.7	1.0	--	1.5	--	1.3	1.9	0.6	2.0	0.9	1.0	2.4	2.1	4.1	0.5	0.9	1.5	--	--	1.7	1.8
CCF (GN)	--	--	--	1.0	--	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	--
CCF (TN)	--	--	--	--	--	--	--	--	--	--	--	--	0.3	--	--	--	--	--	--	--	--	--
WHS (GN)	--	--	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WHS (TN)	0.1	0.2	--	1.1	5.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WAE (GN)	--	--	--	2.0	--	--	1.0	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--
WAE (TN)	--	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	--	--	--	--
BLG (GN)	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLG (TN)	2.5	1.3	3.5	3.4	--	--	133.0	0.5	0.9	9.6	8.1	7.5	0.3	0.4	--	--	3.2	0.2	--	--	--	--
SMB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SMB (TN)	--	--	--	--	--	--	--	--	--	0.1	--	--	--	--	--	--	--	--	--	--	--	--
GOS (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GOS (TN)	--	--	--	--	--	--	--	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--

BLB-Black Bullhead, BLC-Black Crappie, WHC-White Crappie, YEP-Yellow Perch, LMB-Largemouth Bass, NOP-Northern Pike, CCF-Channel Catfish, WHS-White Sucker, WAE-Walleye, BLG-Bluegill, SMB-Smallmouth Bass, GOS-Golden Shiner