Pickerel Lake

Site Description

Location
Water designation number (WDN)	22-0002-00
Legal description	T124N-R53W-Sec.15,22,23,26,27,34,35
County (ies)	Day
Location from nearest town	6.0 miles northeast of Grenville, SD

Survey Dates and Sampling Information
Survey dates	May 27, 2015 (EF-SMB)
	June 16-18, 2015 (FN, GN)
	August 31, 2015 (EF-WAE)
Frame net sets (n)	18
Gill net sets (n)	6
Electrofishing-SMB (min)	60
Electrofishing-WAE (min)	50

Morphometry (Figure 1)
Watershed area (acres)	17,165
Surface area (acres)	981
Maximum depth (ft)	41
Mean depth (ft)	16

Ownership and Public Access

Pickerel Lake is a meandered lake owned by the State of South Dakota and the fishery is managed by the SDGFP.   Four public access sites exist on Pickerel Lake; two are located within the Pickerel Lake Recreation Area (East and West Unit); one at the "Old Pickerel Lake Hatchery Site" located south of the Pickerel Lake Recreation Area-East Unit; and a section line access point, which does not include a boat ramp, in the northwest corner of the lake (Figure 1; Figure 2). Lands adjacent to the lake are owned by the State of South Dakota, Bureau of Indian Affairs, and private individuals. The shoreline is highly developed, with the exception of lands within the Pickerel Lake Recreation Area.

Watershed and Land Use

Land use within the Pickerel Lake watershed is primarily agricultural with a mix of pasture or grassland, cropland, scattered shelterbelts and lake homes.

Water Level Observations

The South Dakota Water Management Board established OHWM is 1845.6 fmsl, and the outlet elevation of Pickerel Lake is 1844.9 fmsl. On October 20, 2015 the elevation was 1844.7 fmsl; 0.5 ft lower than the May 17, 2015 elevation of 1845.2 fmsl.

Fish Management Information
Primary species	black crappie, bluegill, smallmouth bass, walleye, yellow perch
Other species	black bullhead, common carp, emerald shiner, largemouth bass, northern pike, rock bass, spottail shiner, white bass, white sucker
Lake-specific regulations	smallmouth/largemouth bass: only those <14", or 18" and longer may be taken; of those no more than one may be 18" or longer walleye: minimum length 15"
Management classification	warm-water permanent
Fish consumption advisories	none

Pickerel Lake - Day county

Map Creation: November, 2002
Shoreline: Landsat 7, August, 2000
Sonar Survey: June, 2002

Lake Area: 981 acres
Mean Depth: 15.9ft
Shoreline Development Index: 2.2
Maximum Depth: 41ft

1 mile

N

Contour interval: 3 ft

South Dakota Game, Fish, and Parks
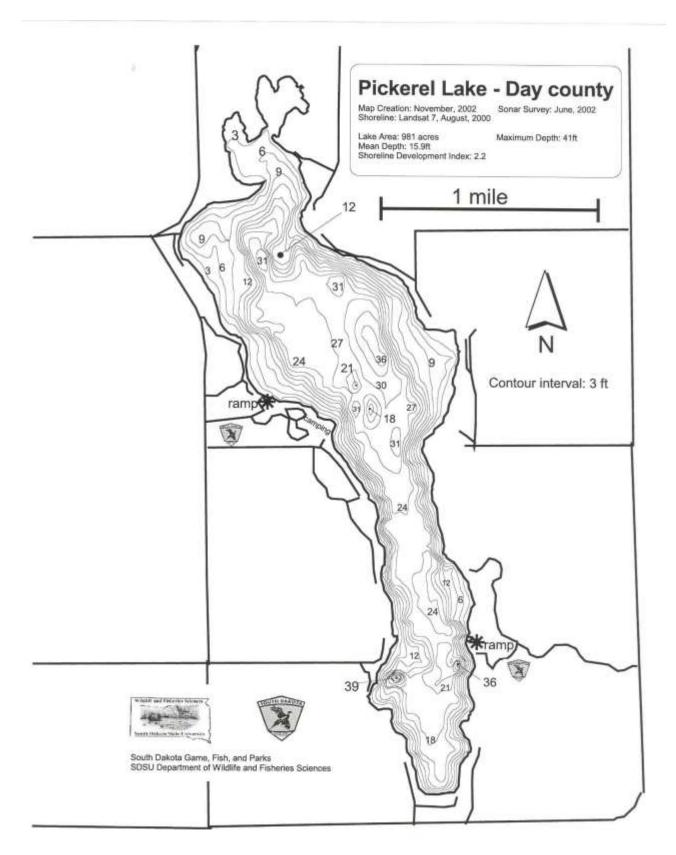SDSU Department of Wildlife and Fisheries Sciences

Figure 1. Map depicting access locations and depth contours for Pickerel Lake, Day County, South Dakota.
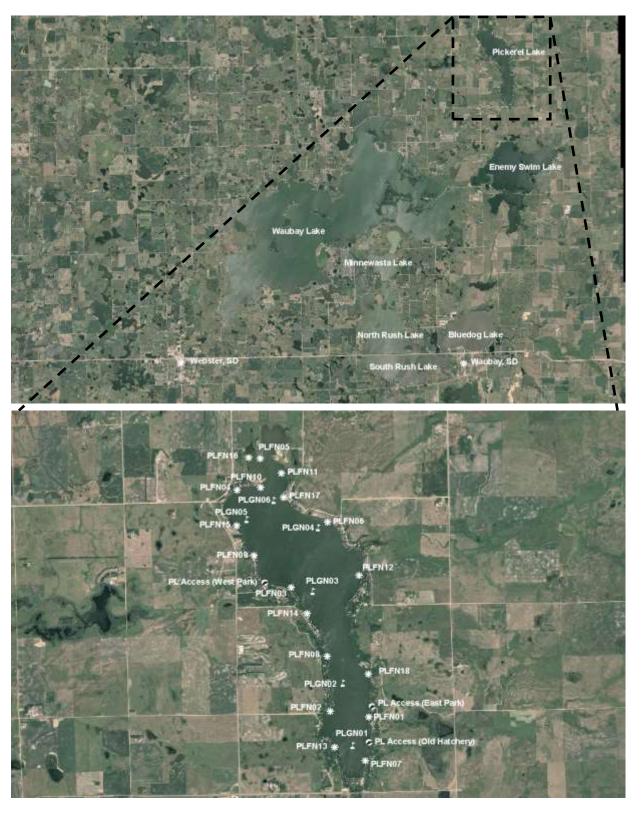
Figure 2. Map depicting geographic location of several Day County, South Dakota lakes including Pickerel Lake (top). Also noted are public access sites and standardized net locations for Pickerel Lake. PLFN= frame nets; PLGN=gill nets

Management Objectives

1) Maintain a mean frame net CPUE of stock-length black crappie ≥ 10, a PSD of 30-60, and a PSD-P of 5-10.

2) Maintain a mean frame net CPUE of stock-length bluegill ≥ 25, a PSD of 30-60, and a PSD-P of 5-10.

3) Maintain a moderate density smallmouth bass population with a PSD of 40-70, and a PSD-P of 10-40.

4) Maintain a mean gill net CPUE of stock-length walleye ≥ 10, a PSD of 30-60, and a PSD-P of 5-10.

5) Maintain a mean gill net CPUE of stock-length yellow perch ≥ 30, a PSD of 30-60, and a PSD-P of 5-10.

6) Maintain a mean frame net CPUE of stock-length black bullhead ≤ 100.

Results and Discussion

Pickerel Lake is the uppermost lake in a chain of lakes known as the Waubay Lakes Basin. Pickerel Lake is highly developed with much of the shoreline supporting residential housing and cabins. In addition, the Pickerel Lake Recreation Area (East and West Unit) is located on the lake shore (Figure 1; Figure 2). The lake is a popular recreational destination, especially during the summer months. Currently, Pickerel Lake is primarily managed for panfish (i.e., black crappie, bluegill, and yellow perch), smallmouth bass and walleye. However, other species such as northern pike, rock bass, and white bass also contribute to the fishery.

Primary Species

Black Crappie: The mean frame net CPUE of stock-length black crappie was 0.9 (Table 1) and well below the minimum objective (≥ 10 stock-length black crappie/net night; Table 3). Since 2006, the mean frame net CPUE of black crappie has ranged from a low of 0.9 (2015) to a high of 15.6 (2008; Table 2). Based on the 2015 frame net catch, relative abundance is considered low.

Frame net captured black crappie ranged in TL from 17 to 31 cm (6.7 to 12.2 in), had a PSD of 94 and a PSD-P of 94 (Table 1; Figure 3). The PSD and PSD-P were above management objectives of 30-60 and 5-10 (Table 3) as individuals from the 2005 and 2010 year classes, which exceeded preferred-length (25 cm; 10 in), comprised the majority (87%) of the sample (Table 4; Figure 3).

Black crappie from the 2005 year class had a weighted mean TL at capture of 313 mm (12.3 in) at age-10; while the 2010 cohort had a weighted mean TL at capture of 273 mm (10.7 in) at age-5 (Table 5). Stock-length black crappie in the frame net

catch had a mean Wr of 94 (Table 1). A decreasing trend in condition was apparent as TL increased.

Bluegill: In 2015, frame nets captured seven stock-length bluegill that ranged in TL from 11 to 23 cm (4.3 to 9.1 in; Figure 4). The mean frame net CPUE of 0.4 (Table 1) was below the minimum objective (≥25 stock-length bluegill/net night; Table 3) and the lowest recorded since 2006 (Table 2). Currently, relative abundance appears to be low. Given the low sample size, few inferences can be made concerning size structure, growth or condition.

Smallmouth bass: The mean spring night electrofishing CPUE for stock-length smallmouth bass in 2015 was 110 (Table 1). The 2015 spring night electrofishing CPUE represents a decrease from the 286 observed in 2013 (Table 2).
Smallmouth bass ranged in TL from 18 to 48 cm (7.1 in to 18.9 in: Figure 5), had a PSD of 60 and PSD-P of 12 (Table 1). Both PSD and PSD-P values were within the management objective ranges of 40-70 and 10-40 (Table 3), respectively, indicating a balanced population. Age estimates made using scales revealed the presence of nine consecutive year-classes (2005-2013; Table 6) suggesting consistent recruitment.
Smallmouth bass in Pickerel Lake exhibited fair growth with the weighted mean TL at capture for age-3 and age-5 fish of 255 mm and 330 mm; respectively (10.0 in and 13.0 in; respectively; Table 7). Condition of smallmouth bass was fair with mean Wr values ranging from 90 to 93 for all length categories sampled. The mean Wr for stock-length smallmouth bass was 91 (Table 1) and a slight decreasing trend in Wr was observed as TL increased.

Walleye: The mean gill net CPUE of stock-length walleye was 18.5 (Table 1) and above the minimum objective (≥ 10 stock-length walleye/net night; Table 3). Since 2006, walleye relative abundance, as index by mean gill net CPUE values, has ranged from a low of 4.8 (2009) to high of 21.3 (2006; Table 2). Based on the 2015 gill net CPUE, relative abundance is considered high.
Walleye captured in gill nets ranged in TL from 18 to 60 cm (7.1 to 23.6 in), had a PSD of 52 and a PSD-P of 1 (Table 1; Figure 5). The PSD was within the management objective of 30-60, but the PSD-P was below management objective of 5-10, indicating a population primarily comprised of quality-length or smaller (i.e., < 51cm; 20 in) individuals (Table 3). In 2015, approximately 50% of walleye in the gill net catch were above the 381-mm (15-inch) minimum length restriction (Figure 5).
Historically, natural reproduction in Pickerel Lake has been poor. Low fall night electrofishing catch rates of age-0 walleye were observed from 1998-2009 and the contribution of naturally-produced year classes to the gill net catch was poor (e.g., 2009; Table 8). Thus, the walleye population has relied on large fingerling stockings to establish year-classes (Table 8; Table 10). However a reduction in black crappie and bluegill relative abundance since 2013 has allowed for the stocking of small fingerlings in place of large fingerlings (Table 8). In 2015, age estimates from otoliths revealed the presence of seven year classes (2007-2008 and 2010-2014); cohorts produced from 2010-2013 were the most abundant and comprised 96% of walleye in the gill net catch (Table 8). The 2013 cohort, which coincided with a small fingerling stocking, was the second most abundant and indicated successful recruitment of small fingerlings to the

adult population (Table 8; Table 10). Small fingerlings were stocked again in 2015; fall night electrofishing indicated that a moderate year class (defined as mean CPUE of 22-54 age-0 Walleye; Lucchesi and Scubelek 2001) was produced. However, recruitment of the 2015 cohort is currently unknown and will be assessed in future surveys.

 Walleye in Pickerel Lake exhibit growth rates that are similar to other permanent lakes in the region (e.g., Enemy Swim and Clear). Since 2006, the weighted mean TL at capture of age-3 walleye has ranged from 310 to 372 mm (12.2 to 14.6 in); while age-4 walleye had weighted mean TL at capture values that ranged from 322 to 390 mm (12.7 to 15.4 in; Table 9). In 2015, the weighted mean TL at capture of age-3 and age-4 walleyes was the highest observed at 372 and 390 mm (14.6 and 15.4 in), respectively (Table 9). Gill net captured walleye had mean Wr values that ranged from 80 to 94 for all 10-mm length groups represented. The mean Wr of stock-length walleye was 87 (Table 1) and a slight decreasing trend in Wr was observed as TL increased.

 Yellow Perch: The mean gill net CPUE of stock-length yellow perch was 27.8 (Table 1), and below the minimum objective (≥ 30 stock-length yellow perch/net night; Table 3). The 2015 gill net CPUE suggested moderate relative abundance.

 Gill net captured yellow perch ranged in TL from 10 to 28 cm (3.9 to 11.0 in; Figure 6). The PSD was 79 and exceeded the management objective of 30-60; the PSD-P was 6 and was within the management objective range of 5-10, indicating a population comprised of larger individuals (>20 cm; 8 in; Table 1; Table 3; Figure 6).

 Otoliths have been collected from a sub-sample of gill net captured yellow perch from 2009-2015. Age structure information suggests that yellow perch in Pickerel Lake have exhibited consistent recruitment of varying magnitude (Table 11). In 2015, seven year classes (2008-2014) were present in the gill net catch (Table 11). Year classes produced in 2010 and 2011 were the most represented and comprised 28% and 30%, respectively, of yellow perch in the gill net catch (Table 11).

 Yellow perch in Pickerel Lake tend to grow slower and be longer-lived than many populations in northeast South Dakota. Since 2009, weighted mean TL at capture values for age-3 yellow perch have ranged from 171 to 202 mm (6.9 to 8.0 in; Table 10). In 2015, the weighted mean TL at capture for age-3 yellow perch was 196 mm (7.7 in; Table 12). Condition of gill net captured yellow perch was high with mean Wr values > 106 for all length categories (e.g., stock to quality) sampled; the mean Wr of stock-length individuals was 109 and no length-related trends in condition were apparent.

Other Species

 Black Bullhead: Since 2006, black bullhead relative abundance has remained low to moderate; mean frame net CPUE values have not exceeded 20.0 (Table 2). In 2015, the mean frame net CPUE of stock-length black bullhead was 10.9 (Table 1) and within the management objective range (≤ 100 stock-length black bullhead/net night; Table 3).

 Length-frequency analysis of black bullhead in the frame net catch suggested relative consistent recruitment of low magnitude in recent years, as few 1-cm length groups from 14 to 39 cm (5.5 to 15.4 in) were not represented (Figure 7). The PSD was 82 and the PSD-P was 32 (Table 1). No age or growth information was collected.

Mean Wr values ranged from 90 to 100 for all length categories (e.g., stock to quality) sampled; the mean Wr of stock-length black bullhead was 98 (Table 1).

Northern Pike: Northern pike typically are not sampled effectively during mid-summer fish community surveys. As a result, mean gill net CPUE values are often low. Northern pike relative abundance in Pickerel Lake has generally been considered moderate to high with mean gill net CPUE values ranging between 1.8 and 6.0 during 2006-2015 (Table 2). In 2015, the mean gill net CPUE of stock-length northern pike was 3.3 (Table 1) and relative abundance appears to be high.

No age and growth information was collected. Northern pike sampled in gill nets ranged in TL from 27 to 84 cm (10.6 to 33.1 in), had a PSD of 40, and a PSD-P of 5 (Table 1; Figure 8). Condition of gill net captured northern pike was similar to that of northern pike captured from other northeast South Dakota glacial lakes with mean Wr values ranging from 61 to 92 for all 10-mm length groups represented; the mean Wr of stock-length fish was 80. Condition was poor for northern pike 40-60 cm TL (15.6 in to 23.6 in) potentially indicating a lack of appropriate sized prey for this size range of fish.

Rock Bass: The mean frame net CPUE of stock-length rock bass was 8.5 (Table 1). Rock bass captured in the frame net catch ranged in TL from 10 to 27 cm (3.9 to 10.6 in.) with the majority being $\geq$ 18 cm (7 in; Figure 9). The PSD was 68 and the PSD-P was 20 (Table 1).

No age or growth information was collected in 2015. A decreasing trend in condition was apparent as TL increased; however, mean Wr values were $\geq$ 101 for all length categories (e.g., stock to quality) sampled.

Other: Common carp, white bass and white sucker were other fish species captured in low numbers during the 2015 survey (Table 1).

Management Recommendations

1) Conduct fish population assessment surveys on an annual basis (next survey scheduled in summer 2016) to monitor fish relative abundance, fish population size structures, fish growth, and stocking success.

2) Conduct spring night electrofishing on a biennial basis (odd years) to monitor smallmouth bass population parameters.

3) Collect otoliths from black crappie, walleye, and yellow perch; scales from smallmouth bass to assess growth rates and age structure of each population.

4) While panfish (i.e., primarily black crappie and bluegill) relative abundance is low, stock walleye (≈100 small fingerling/acre) to establish additional year classes if fall night electrofishing CPUE of age-0 walleye and gill netting results warrant [i.e., low gill net CPUE of sub-stock (< 25 cm; 10 in) walleye and/or fall night electrofishing CPUE < 75 age-0 walleye/hour].

5) Maintain the 356-457 mm (14-18 in) protected slot length limit on largemouth and smallmouth bass. The regulation is designed to increase the average size of black bass while allowing harvest of small bass to avoid slowing of growth (Blackwell and Lucchesi 2009).

6) Maintain the 381-mm (15 in) minimum length limit on walleye. The regulation is designed to protect smaller fish from harvest and increase average fish size (Lucchesi and Blackwell 2009).

7) Partner with willing landowners on shoreline restoration projects designed to restore native plant fauna along highly-developed shorelines providing improvements to water quality and littoral habitats within the lake.

Table 1. Mean catch rate (CPUE; frame/gill nets= catch/net night, electrofishing= catch/hour) of stock-length fish, proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish, and mean relative weight (Wr) of stock-length fish for various fish species captured in frame nets, experimental gill nets and electrofishing from Pickerel Lake, 2015. Confidence intervals include 80 percent (± CI-80) or 90 percent (± CI-90). BLB= black bullhead; BLC= black crappie; BLG= bluegill; COC= common carp; NOP= northern pike; ROB= rock bass; SMB= smallmouth bass; WAE= walleye; WHB= white bass; WHS= white sucker; YEP= yellow perch

Species	Abundance		Stock Density Indices				Condition	
	CPUE	CI-80	PSD	CI-90	PSD-P	CI-90	Wr	CI-90
Frame nets								
BLB	10.9	2.0	82	4	31	5	98	1
BLC	0.9	0.4	94	11	94	11	94	3
BLG	0.4	0.2	71	36	43	39	128	12
COC	0.1	0.1	100	0	100	0	---	---
NOP	0.5	0.2	11	21	0	---	84	5
ROB	8.5	2.5	68	6	20	5	109	1
SMB	2.3	0.5	29	12	7	7	93	1
WAE	0.3	0.2	100	0	0	---	79	4
WHB	0.2	0.2	100	0	100	0	93	2
WHS	0.2	0.1	100	0	100	0	101	29
YEP	0.1	0.1	50	50	50	50	105	0
Gill nets								
BLB	3.2	3.2	89	13	26	18	98	3
BLC	2.5	1.1	100	0	100	0	96	3
COC	0.3	0.5	100	0	100	0	101	18
NOP	3.3	0.8	40	19	5	9	80	4
SMB	1.7	0.8	90	18	50	31	86	5
WAE	18.5	5.2	52	8	1	1	87	1
WHB	4.0	1.7	100	0	100	0	94	2
WHS	1.7	1.0	100	0	100	0	111	3
YEP	27.8	14.0	79	5	40	6	109	0
Electrofishing								
SMB[1]	110.0	36.2	60	8	12	5	91	0
WAE[2]	44.4	20.1	---	---	---	---	---	---

[1] Spring night electrofishing-SMB
[2] Fall night electrofishing-WAE; catch rate (CPUE) represents age-0 walleye/hour

Table 2. Historic mean catch rate (CPUE; gill/frame nets = catch/net night, electrofishing = catch/hour) of stock-length fish for various fish species captured in gill nets, frame nets, and electrofishing in Pickerel Lake, 2006-2015.   BLB= black bullhead; BLC= black crappie; BLG= bluegill; COC= common carp; NOP= northern pike; ROB= rock bass; SMB= smallmouth bass; SPS= spottail shiner; WAE= walleye; WHB= white bass; WHS= white sucker; YEP= yellow perch

Species	CPUE									
	2006[1]	2007[1]	2008	2009	2010	2011	2012	2013	2014	2015
Frame nets										
BLB	1.8	2.6	19.4	14.9	4.6	2.8	4.1	6.2	10.1	10.9
BLC	8.1	12.6	15.6	11.6	4.0	3.8	2.5	9.3	1.0	0.9
BLG	14.2	17.0	29.2	9.7	3.5	2.6	5.4	12.8	0.6	0.4
COC	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
NOP	0.3	0.7	0.7	0.4	0.3	0.0	0.6	0.1	0.2	0.5
ROB	4.7	4.4	8.4	3.7	4.3	1.2	2.6	3.4	6.0	8.5
SMB	5.6	5.6	5.4	1.9	1.9	1.6	5.1	3.2	2.3	2.3
WAE	0.7	0.6	0.3	0.6	0.8	0.1	1.8	0.4	0.6	0.3
WHB	0.2	1.8	0.2	0.1	0.0	3.4	1.9	0.1	0.1	0.2
WHS	0.2	0.9	0.3	0.0	0.3	0.0	0.1	0.0	0.2	0.2
YEP	1.2	2.3	0.2	0.1	0.2	0.5	1.4	0.2	0.2	0.1
Gill nets										
BLB	0.2	4.5	5.5	0.5	0.2	0.7	1.0	1.0	0.2	3.2
BLC	1.8	16.7	26.8	3.8	8.3	2.2	4.5	2.0	7.2	2.5
BLG	0.5	1.5	0.7	0.0	0.2	0.0	0.5	1.3	0.0	0.0
COC	2.5	1.7	0.7	0.3	0.0	0.0	0.0	0.2	0.2	0.3
NOP	1.8	6.0	5.7	3.3	2.7	3.8	3.3	4.7	3.0	3.3
ROB	1.0	1.8	0.2	0.2	0.0	0.7	0.2	0.0	0.0	0.0
SMB	2.0	1.2	0.3	1.3	0.3	0.5	0.8	1.0	2.2	1.7
SPS[2]	0.0	0.0	1.5	0.5	0.7	0.5	0.2	0.3	0.0	0.0
WAE	21.3	12.7	6.0	4.8	9.2	13.5	8.0	17.3	12.3	18.5
WHB	0.7	1.8	0.8	1.2	0.5	0.0	3.2	1.8	3.0	4.0
WHS	2.3	3.5	3.7	1.2	1.7	2.0	1.5	1.7	1.5	1.7
YEP	55.8	43.7	30.0	7.5	21.0	35.8	27.5	56.0	23.2	27.8
Electrofishing										
SMB	240.0[3]	123.5[3]	96.3[3]	77.4[4]	---	51.0[4]	---	286.0[4]	---	110.0[4]
WAE[5]	9.9	12.0	1.0	1.2	---	---	---	139.0	10.0	44.4

[1] Monofilament gill net mesh size change (0.75", 1.00", 1.25", 1.50", 2.00" and 2.50")
[2] All fish sizes.
[3] Fall night electrofishing-SMB.
[4] Spring night electrofishing-SMB.
[5] Fall night electrofishing-WAE

Table 3. Mean catch rate (CPUE; gill/frame nets = catch/net night, electrofishing = catch/hour) of stock-length fish , proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish, and mean relative weight (Wr) for selected species captured in gill nets, frame nets, and electrofishing in Pickerel Lake, 2006-2015. BLB= black bullhead; BLC= black crappie; BLG= bluegill; SMB= smallmouth bass; WAE= walleye; YEP= yellow perch

Species	2006[2]	2007[2]	2008	2009	2010	2011	2012	2013	2014	2015	Objective
Frame nets											
BLB											
CPUE	2	3	19.4	14.9	4.6	3	4	6	10	11	$\leq$100
PSD	73	28	95	95	91	76	73	86	63	82	---
PSD-P	21	9	1	28	71	73	32	54	48	31	---
Wr	100	102	89	94	90	95	93	92	89	98	---
BLC											
CPUE	8	13	16	12	4	4	3	9	1	1	$\geq$ 10
PSD	99	20	61	97	100	100	56	100	100	94	30-60
PSD-P	99	18	7	4	58	88	47	69	94	94	5-10
Wr	94	117	109	103	99	95	110	96	99	94	---
BLG											
CPUE	14	17	29	10	4	3	5	13	1	1	$\geq$ 25
PSD	38	58	90	98	87	43	61	99	82	71	30-60
PSD-P	15	3	6	44	56	15	6	39	73	43	5-10
Wr	115	116	121	115	112	127	124	125	117	128	---
Gill nets											
WAE											
CPUE	21	13	6	5	9	14	8	17	12	19	$\geq$ 10
PSD	40	53	31	17	4	36	25	16	16	52	30-60
PSD-P	0	1	3	7	0	4	0	1	1	1	5-10
Wr	89	84	82	86	81	90	83	83	86	87	---
YEP											
CPUE	56	44	30	8	21	36	28	56	23	28	$\geq$ 30
PSD	21	17	29	56	40	23	41	63	86	79	30-60
PSD-P	10	5	2	0	0	5	4	7	12	40	5-10
Wr	101	102	104	106	103	113	107	107	108	109	---
Electrofishing											
SMB [1]											
CPUE	---	---	---	77	---	51	---	286	---	110	---
PSD	---	---	---	44	---	27	---	30	---	60	40-70
PSD-P	---	---	---	25	---	4	---	6	---	12	10-20
Wr	---	---	---	89	---	97	---	89	---	91	---

[1] Spring night electrofishing-SMB.
[2] Monofilament gill net mesh size change (0.75", 1.00", 1.25", 1.50", 2.00" and 2.50")

Table 4. Year class distribution based on the expanded age/length summary for black crappie sampled in frame nets from Pickerel Lake, 2009-2015.

	Year Class													
Survey Year	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
2015[1]				1		10				1	3			
2014	---					8					10			
2013	---	---				45	6				111			
2012	---	---	---			22	2			1	20			
2011	---	---	---	---		3				2	65			
2010	---	---	---	---	---					2	68			

[1] Older black crappie were sampled, but not reported in this table

Table 5. Weighted mean TL (mm) at capture for black crappie age-1 through age-10 sampled in frame nets (expanded sample size) from Pickerel Lake, 2006-2015.

	Age									
Year	1	2	3	4	5	6	7	8	9	10
2015[1]	---	---	175(1)	---	273(10)	---	---	---	300(1)	313(3)
2014	---	---	---	253(8)	---	---	---	---	298(10)	---
2013	---	---	220(45)	238(6)	---	---	---	291(111)	---	---
2012	---	176(22)	226(2)	---	---	261(1)	279(20)	---	---	---
2011	88(3)	---	---	---	243(2)	263(65)	---	---	---	296(1)
2010	---	---	---	225(2)	251(68)	---	---	---	315(2)	---
2009[1]	---	---	187(6)	231(197)	---	---	---	298(1)	---	---
2008	---	---	201(259)	236(1)	---	---	285(7)	291(2)	---	294(8)
2007	---	153(286)	213(3)	---	273(1)	286(9)	---	---	299(33)	---
2006	100(1)	139(3)	---	---	270(3)	---	---	291(13)	---	---

[1] Older black crappie were sampled, but are not reported in this table

Table 6. Year class distribution based on the expanded age/length summary for smallmouth bass sampled during spring electrofishing from Pickerel Lake, 2009-2015; includes both day and night samples (2015).

	Year Class														
Year	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
2015			7	38	13	35	6	1	6	2	2				
2013	---	---			8	129	44	11	4	4	5		1		
2011	---	---	---	---			5	30	5	9	2				
2009	---	---	---	---	---	---		5	30	18	11		2	9	4

Table 7. Weighted mean TL (mm) at capture for smallmouth bass age-2 through age-10 sampled during spring electrofishing (expanded sample size) from Pickerel Lake, 2009-2015; includes both day and night samples (2015).

	Age								
Year	2	3	4	5	6	7	8	9	10
2015	193(7)	255(38)	304(13)	330(35)	344(6)	368(1)	390(6)	416(2)	469(2)
2013	197(8)	260(129)	298(44)	337(11)	354(4)	367(4)	407(5)	---	443(1)
2011	188(5)	248(30)	284(5)	328(9)	353(2)	---	---	---	---
2009	186(5)	231(30)	289(18)	333(11)	397(2)	411(9)	---	412(4)	---

Table 8. Year class distribution based on the expanded age/length summary for walleye sampled in gill nets and associated stocking history (# stocked x 1,000) from Pickerel Lake, 2010-2015.

Survey Year	Year Class													
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
2015		3	28	25	37	19		1	1					
2014	---		1	5	41	23	1	1	1	1				
2013	---	---		1	19	68	6	4	3	4				1
2012	---	---	---		7	26	4	4	4	7		1		
2011	---	---	---	---		5	3	25	10	36	2	1		
2010	---	---	---	---	---			17	14	26		1	1	
# stocked														
Fry														
sm. fingerling	92		93											
lg. fingerling					19	17		15	1	25		27	19	14

Table 9. Weighted mean TL at capture (mm) for walleye age-1 through age-10 sampled in experimental gill nets (expanded sample size) from Pickerel Lake, 2005-2015. Note: sampling was conducted at approximately the same time during each year allowing comparisons among years to monitor growth trends.

Year	Age									
	1	2	3	4	5	6	7	8	9	10
2015	186(3)	298(28)	372(25)	390(37)	411(19)	---	604(1)	428(1)	---	---
2014[1]	184(1)	305(5)	350(41)	367(23)	463(1)	416(1)	406(1)	443(1)	---	---
2013[1]	186(1)	277(19)	346(68)	385(6)	412(4)	421(3)	442(4)	---	---	---
2012[1]	207(7)	277(26)	312(4)	376(4)	---	417(7)	---	483(1)	---	---
2011	178(5)	277(3)	333(25)	377(10)	385(36)	363(2)	380(1)	---	---	546(3)
2010	---	258(17)	311(14)	322(26)	---	433(1)	398(1)	---	---	---
2009	---	258(3)	316(18)	358(2)	385(3)	563(1)	486(2)		486(1)	
2008[1]	190(3)	262(19)	331(3)	375(10)	447(3)	393(3)	461(2)	---	---	---
2007	211(6)	295(2)	358(31)	388(15)	445(8)	433(16)	489(3)	---	---	---
2006	---	300(26)	333(34)	387(15)	398(49)	469(3)	---	---	495(1)	---
2005	---	255(12)	310(15)	349(47)	---	---	408(1)	---	---	---

[1] Older walleye were sampled, but not reported in this table.

Table 10. Stocking history including size and number for fishes stocked into Pickerel Lake, 2002-2015. LMB= largemouth bass; SMB= smallmouth bass; WAE= walleye

Year	Species	Size	Number
2002	WAE	large fingerling	13,695
2003	WAE	large fingerling	18,582
2004	SMB	fingerling	700
	WAE	large fingerling	26,940
2006	LMB	fingerling	101,500
	WAE	large fingerling	25,146
2007	WAE	large fingerling	765
2008	WAE	large fingerling	15,135
2010	WAE	large fingerling	17,442
2011	WAE	large fingerling	18,585
2013	WAE	small fingerling	93,410
2015	WAE	small fingerling	91,850

Table 11. Year class distribution based on the age/length summary for yellow perch sampled in gill nets from Pickerel Lake, 2010-2015.

Survey Year	Year Class											
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
2015		1	16	24	50	46	23	4				
2014	---			6	27	67	38	3				
2013	---	---		1	27	127	149	30		3	2	
2012	---	---	---		22	44	79	25	3	8	2	3
2011	---	---	---	---		30	130	65	7	11	7	3
2010	---	---	---	---	---		22	68	11	24	20	4

Table 12. Weighted mean TL (mm) at capture for yellow perch captured in experimental gill nets (expanded sample size) from Pickerel Lake, 2009-2015.

Year	Age							
	1	2	3	4	5	6	7	8
2015	100(1)	157(16)	196(24)	239(50)	255(46)	260(23)	252(4)	---
2014	---	147(6)	202(27)	228(67)	240(38)	231(3)	---	---
2013	99(1)	137(27)	193(127)	222(149)	247(30)	---	268(3)	277(2)
2012	102(22)	150(44)	195(79)	224(25)	239(3)	237(8)	252(2)	269(3)
2011	95(30	146(130)	192(65)	223(7)	238(11)	248(7)	256(3)	251(1)
2010	96(22)	147(68)	193(11)	222(24)	222(20)	233(4)	---	---
2009	---	150(2)	171(9)	196(15)	221(18)	220(1)	---	---

Figure 3. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for black crappie captured using frame nets in Pickerel Lake, 2011-2015.
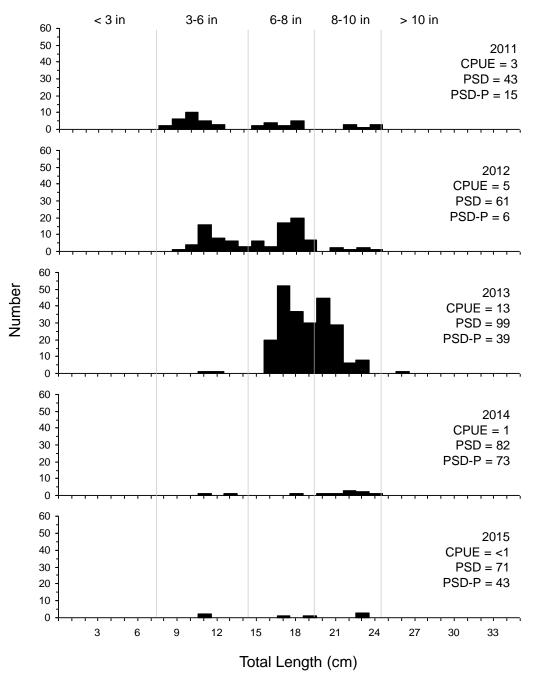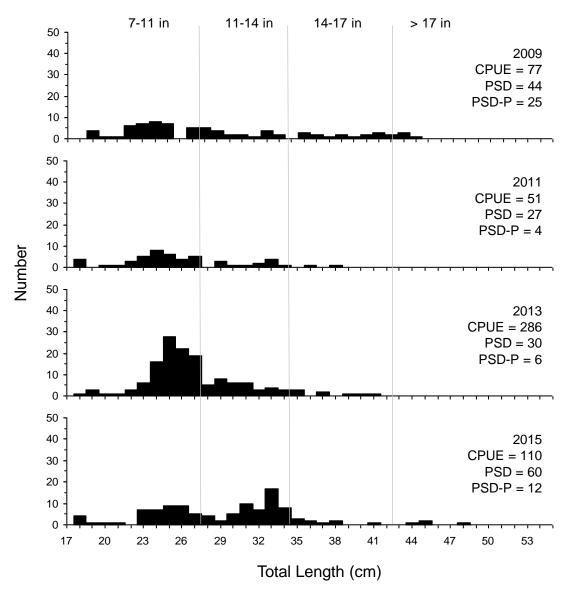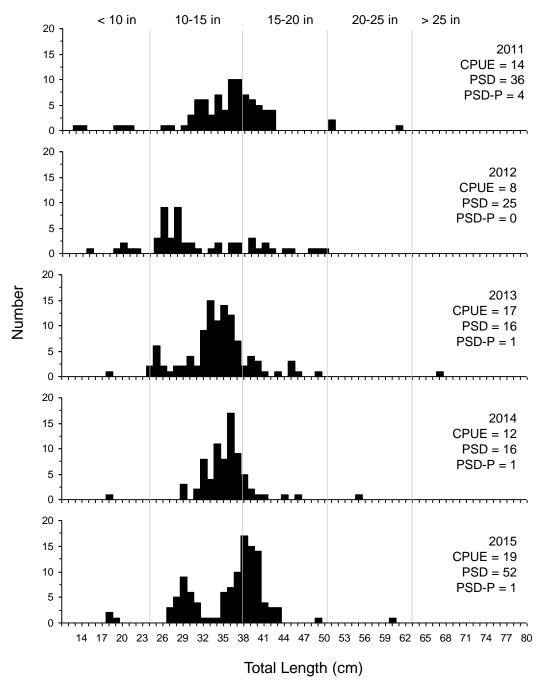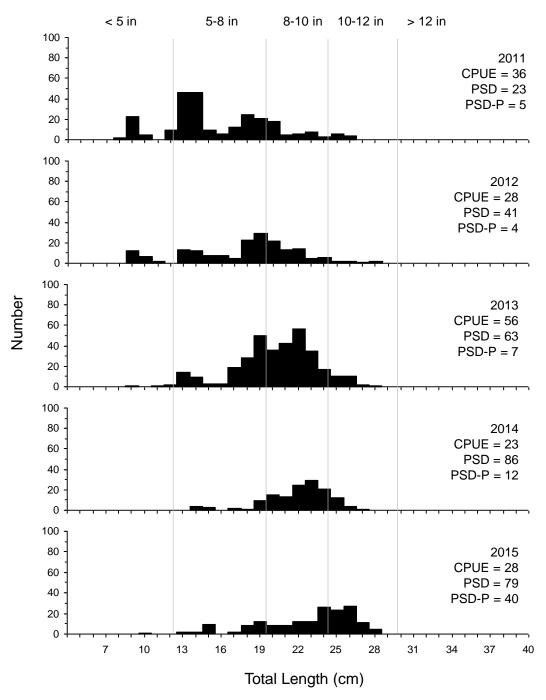
Figure 4. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for bluegill captured using frame nets in Pickerel Lake, 2011-2015.

Figure 5. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for smallmouth bass captured by spring night electrofishing in Pickerel Lake, 2009-2015.

Figure 5. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for walleye captured using gill nets in Pickerel Lake, 2011-2015.

Figure 6. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for yellow perch captured using gill nets in Pickerel Lake, 2011-2015.
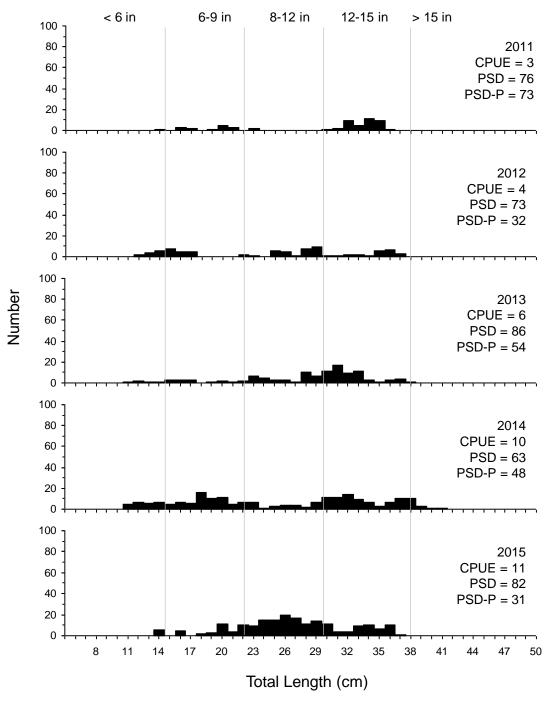
Figure 7. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for black bullhead captured using frame nets in Pickerel Lake, 2011-2015.
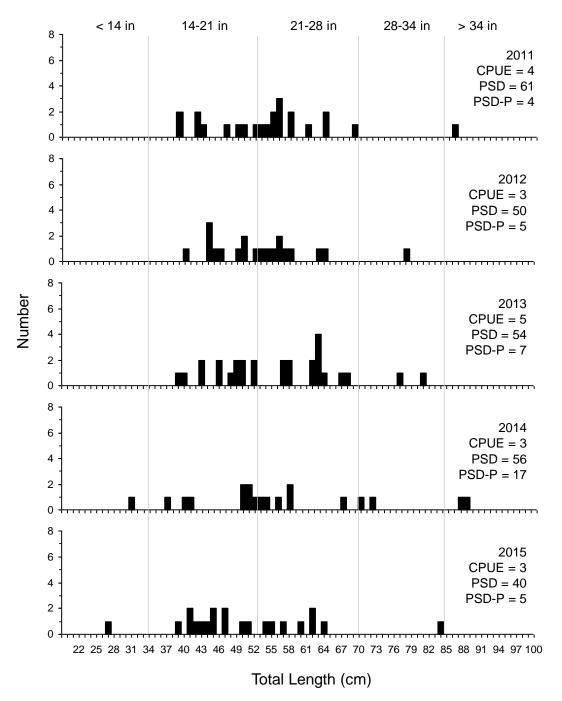
Figure 8. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for northern pike captured using gill nets in Pickerel Lake, 2011-2015.
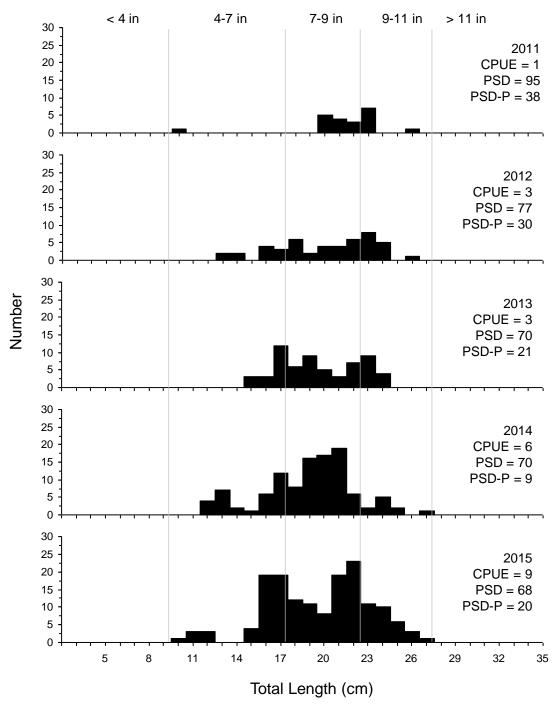
Figure 9. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for rock bass captured using frame nets in Pickerel Lake, 2011-2015.