

# Enemy Swim Lake

## Site Description

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### Location

Water designation number (WDN)	22-0006-00
Legal description	T123N-R53W-Sec.10-16
County (ies)	Day
Location from nearest town	1.5 miles east and 6.5 miles north of Waubay, SD

### Survey Dates and Sampling Information

Survey dates	July 21-23, 2015 (FN, GN) August 31, 2015 (EF-WAE)
Frame net sets (n)	24
Gill net sets (n)	6
Electrofishing-WAE (min)	60

### Morphometry (Figure 1)

Watershed area (acres)	30,782
Surface area (acres)	2,146
Maximum depth (ft)	26
Mean depth (ft)	16

### Ownership and Public Access

Enemy Swim Lake is a meandered lake owned by the State of South Dakota and the fishery is managed by the SDGFP. Two public access sites are located on Enemy Swim Lake (southwest and south shore) and each is maintained by the SDGFP (Figure 1; Figure 2). Lands adjacent to Enemy Swim Lake are owned by the State of South Dakota, Bureau of Indian Affairs, and private individuals.

### Watershed and Land Use

The 30,782 acre Enemy Swim Lake sub-watershed (HUC-12) is located within the larger Waubay Lakes (HUC-10) watershed. Land use within the watershed is primarily agricultural with a mix of pasture or grassland, cropland, and scattered shelterbelts.

### Water Level Observations

The South Dakota Water Management Board established OHHM is 1854.4 fmsl, and the outlet elevation of Enemy Swim Lake is 1853.6 fmsl. On April 21, 2015 the elevation was 1853.7 fmsl; 0.6 ft higher than fall 2014 elevation of 1853.1 fmsl. Water levels had declined to an elevation of 1852.7 fmsl by October 20, 2015.

### Fish Management Information

Primary species	black crappie, bluegill, largemouth bass, smallmouth bass, walleye, yellow perch
Other species	black bullhead, common carp, northern pike, pumpkinseed, rock bass, spottail shiner, white bass, white sucker
Lake-specific regulations	smallmouth/largemouth bass: only those less than 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

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**Enemy Swim Lake - Day county**  
 Map Creation: November, 2002      Sonar Survey: August, 2002  
 Shoreline: Landsat 7, August, 2000

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



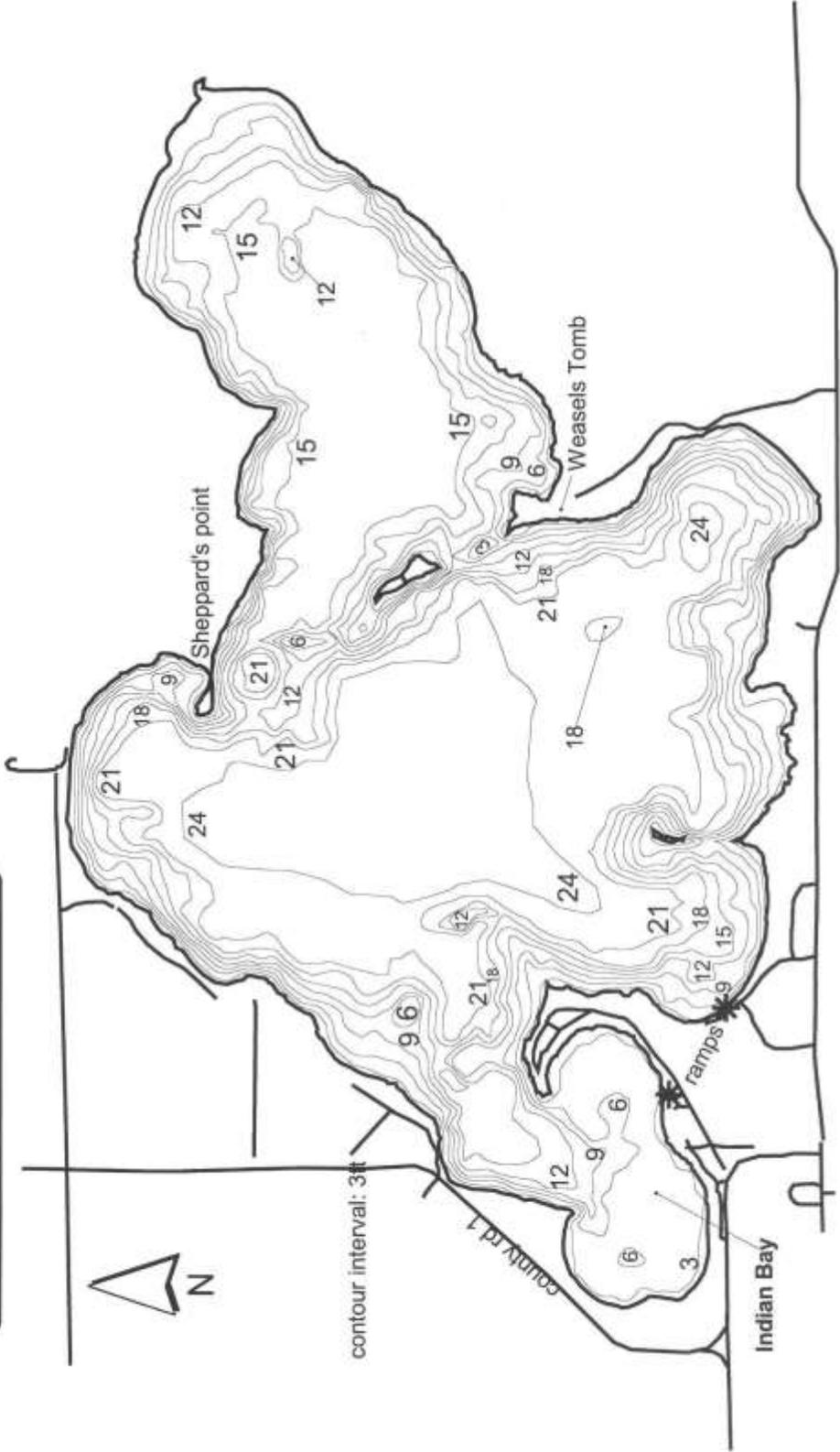


Figure 1. Map depicting access locations and depth contours for Enemy Swim Lake, Day County, South Dakota.



Figure 2. Map depicting the location of several Day County, South Dakota lakes including Enemy Swim (top). Also noted are public access sites and standardized net locations for Enemy Swim Lake. EFN= frame nets; EGN=gill nets

## Management Objectives

- 1) Maintain a mean frame net CPUE of stock-length black crappie  $\geq 10$ , a PSD of 30-60, and a PSD-P of 5-10.
- 2) Maintain a mean frame net CPUE of stock-length bluegill  $\geq 25$ , a PSD of 30-60, and a PSD-P of 5-10.
- 3) Maintain a mean spring night electrofishing CPUE of stock-length largemouth bass  $\geq 30$ , a PSD of 40-70, and a PSD-P of 10-40.
- 4) Maintain a moderate density smallmouth bass population with a PSD of 40-70 and a PSD-P of 10-40.
- 5) Maintain a mean gill net CPUE of stock-length walleye  $\geq 10$ , a PSD of 30-60, and a PSD-P of 5-10.
- 6) Maintain a mean gill net CPUE of stock-length yellow perch  $\geq 30$ , a PSD of 30-60, and a PSD-P of 5-10.

## Results and Discussion

Enemy Swim Lake is a natural lake with a moderately-sized watershed. Major surface water inlets to Enemy Swim Lake include Lewandowski Creek at the northeast and Burns Slough at the southeast. Water exiting Enemy Swim Lake drains into Campbell Slough from there it flows into Blue Dog Lake and then into a series of connected lakes (Rush Lake, Minnewasta Lake, Waubay Lake and Bitter Lake).

Portions of the Enemy Swim Lake shoreline are highly developed (i.e., south, west and northeast corner of East Lake); while other areas remain relatively undeveloped. Enemy Swim Lake supports one of the most diverse fish assemblages in northeast South Dakota. Currently, Enemy Swim Lake is primarily managed as a panfish (i.e., black crappie, bluegill, and yellow perch), black bass (largemouth and smallmouth), and walleye fishery.

### *Primary Species*

**Black Crappie:** The mean frame net CPUE of stock-length black crappie was 0.3 (Table 1) and below the minimum objective ( $\geq 10$  stock-length black crappie/net night; Table 3). The frame net CPUE has decreased each of the last two years from the 2013 CPUE of 5.7 (Table 2). Currently, black crappie relative abundance is considered low.

Black crappies captured in frame nets ranged in TL from 9 to 29 cm (3.1 to 11.4 in; Figure 3). Small sample size precludes size structure and condition analysis.

Bluegill: The mean frame net CPUE of stock-length bluegill was 26.1 (Table 1) and above the minimum objective ( $\geq 25$  stock-length bluegill/net night; Table 3). Since 2006, frame net mean CPUE values of stock-length bluegill have ranged from a low of 26.1 (2015) to a high of 90.2 (2011; Table 2). While relative abundance remained above the minimum objective and is still considered high, the 2015 frame net CPUE was the lowest recorded since 2006 (Table 2).

Frame net captured bluegill ranged in TL from 7 to 24 cm (2.8 to 9.4 in), had a PSD of 42, and a PSD-P of 21 (Table 1; Figure 4). The PSD was within the management objective of 30-60; while, the PSD-P exceeded the management objective of 5-10 (Table 3).

Since 2006, otoliths have been collected from a sub-sample of frame net captured bluegill. Age structure analysis suggests that bluegill tend to exhibit consistent recruitment of varying magnitude in Enemy Swim Lake (Table 4). In 2015, fish from ten consecutive year classes (2005-2014) were present (Table 4).

Bluegill in Enemy Swim Lake typically approach or surpass quality-length (15 cm; 6 in) by age-5 (Table 5). Since 2006, weighted mean TL at capture values of age-5 bluegill have ranged from 145 to 194 mm (5.7 to 7.6 in; Table 5). In 2015, the weighted mean TL at capture for age-5 individuals was 188 mm (7.4 in; Table 5). Frame net captured bluegill had mean  $W_r$  values that ranged from 100 to 110 for all length categories (e.g., stock to quality). Seasonal influences (i.e., spawning behavior) may have influenced  $W_r$  values.

Largemouth Bass/Smallmouth Bass: Spring night electrofishing to monitor largemouth bass and smallmouth bass populations is conducted biennially during even years with the next scheduled survey during the spring of 2016.

Walleye: The mean gill net CPUE of stock-length walleye was 8.7 (Table 1) and below the minimum objective ( $\geq 10$  stock-length walleye/net night; Table 3). Since 2006, the mean gill net CPUE has ranged from a low of 3.0 (2008) to a high of 14.7 (2007; Table 2). The mean gill net CPUE has remained stable (8.5-8.7) since 2013 (Table 2) indicating moderate relative abundance.

Walleye in the gill net catch ranged in TL from 24 to 68 cm (9.4 to 26.8 inches) with the majority being stock-quality length (Figure 5). The PSD was 10 and the PSD-P was 2; both were below management objectives of 30-60 and 5-10, respectively (Table 1; Table 3; Figure 5). Approximately 9% of walleyes in the gill net catch were above the 381-mm (15-inch) minimum length restriction (Figure 5).

Otoliths were collected from a sub-sample of gill net captured walleye in 2015; five year classes (1997, 2009-2011 and 2013) were present (Table 10). The 2009 year class, which coincided with a large fingerling stocking, was the most represented and comprised approximately 69% of walleye in the gill net catch (Table 10; Table 11). Recruitment has been limited since establishment of the 2009 cohort, (Table 10). Fall electrofishing indicated that a relatively strong year-class (defined as  $> 20$  age-0 walleye/hour) was naturally produced in 2010; however, few individuals from this year classes were sampled in later surveys (Table 2; Table 10). In 2015, natural reproduction produced what appears to be a relatively strong year class with mean age-0 CPUE of 20.0 (Table 1). Recruitment of the 2015 cohort is currently unknown and will be assessed in future surveys.

Walleye growth in Enemy Swim Lake tends to be highly variable (Table 11). Since 2006, the weighted mean length at capture for age-4 walleye has ranged from 328 to 480 mm (12.9 to 18.9 in; Table 11) with year-classes produced after 2008 exhibiting slower growth. Due to low sample sizes weighted mean TL at capture values may at times represent few individual walleye (Table 11). The 2009 cohort had a weighted mean TL at capture at age-4 of 334 mm (13.1 in; Table 11). The majority of gill net captured walleyes were in the stock-quality length category, which had a mean Wr of 83.

Yellow Perch: No stock-length yellow perch were captured in the 2015 gill net survey (Table 1); however 11 sub-stock yellow perch were captured (Figure 6). Since 2006, the mean gill net CPUE has ranged from a low of 0.0 (2015) to a high of 152.2 (2011; Table 2). Mean CPUE values have declined in each of the past four surveys (i.e., 2012-2015; Table 2).

### *Other Species*

Black Bullhead: Relative abundance has remained low, with mean frame net CPUE values for stock-length black bullhead being  $\leq 1.0$  from 2006-2015 (Table 2). In 2015, frame nets captured five black bullheads that ranged in TL from 33 to 38 cm (13.0 to 15.0 in). The mean frame net CPUE of stock-length fish was 0.2 (Table 1) and within the management objective ( $\leq 100$  stock-length black bullhead/net night; Table 3). Relatively high predator abundance provided by several species of predatory fish (i.e., walleye, largemouth and smallmouth bass) likely aids in maintaining the low abundance of black bullhead in Enemy Swim Lake.

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. In 2015, gill nets captured one northern pike measuring 50 cm in TL (19.7 in). The mean gill net CPUE of stock-length northern pike was 0.2 (Table 1). Since 2006, mean gill net CPUE values have ranged from 0.2 (2015) to 3.7 (2012; Table 2). Currently, relative abundance is considered low.

No age or growth information was collected. Few inferences can be made concerning size structure or condition due to the low sample size.

Rock Bass: Rock bass were the second most abundant species in the 2015 frame net catch (Table 1). The mean frame net CPUE of stock-length rock bass was 6.4 (Table 1). Since 2006, frame net CPUE values have ranged from a low of 3.8 (2013) to a high of 14.0 (2006; Table 2).

Length-frequency analysis indicated consistent recruitment, as frame net captured rock bass ranged in TL from 8 to 26 cm (3.1 to 10.2 in) with all 1-cm length groups being represented (Figure 7). The PSD was 25 and the PSD-P was 5 (Table 1; Figure 7). No age or growth information was collected in 2015. Rock bass in the frame net catch had mean Wr values that ranged from 89 to 105 for all length categories (e.g., stock to quality) sampled; stock-length individuals had a mean Wr of 104 (Table 1). A slight decreasing trend in condition was apparent as TL increased.

Other: Common carp, pumpkinseed sunfish, white bass, and white sucker were other fish species captured during the 2015 fish community survey (Table 1).

### **Management Recommendations**

- 1) Conduct fish community assessment surveys utilizing frame nets and gill nets 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 biennially (even years) to monitor largemouth and smallmouth bass population parameters.
- 3) Conduct fall night electrofishing on an annual basis to monitor age-0 walleye relative abundance.
- 4) Collect otoliths from bluegill, walleye, and yellow perch; scales from largemouth and smallmouth bass to assess the age structure and growth rates of each population.
- 5) Stock walleye at ( $\approx 25$  large 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 fall night electrofishing CPUE  $< 75$  age-0 walleye/hour].
- 6) 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).
- 7) 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).
- 8) 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 gill nets, frame nets, and electrofishing in Enemy Swim Lake, 2015. Confidence intervals include 80 percent ( $\pm$  CI-80) or 90 percent ( $\pm$  CI-90). BLB= black bullhead; BLC= black crappie; BLG= bluegill; COC= common carp; NOP= northern pike; PUS= pumpkinseed; 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
<i>Frame nets</i>								
BLB	0.2	0.1	100	0	100	0	84	11
BLC	0.3	0.1	100	0	100	0	98	5
BLG	26.1	8.7	42	4	21	3	103	1
NOP	0.6	0.2	64	24	0	---	81	3
PUS	1.5	1.0	17	11	6	6	99	3
ROB	6.4	2.0	25	6	5	3	104	0
SMB	2.0	0.6	33	12	14	9	97	0
WAE	0.8	0.3	58	20	21	17	80	3
WHB	0.3	0.2	100	0	100	0	85	7
WHS	0.2	0.1	100	0	100	0	92	1
YEP	0.3	0.2	0	---	0	---	87	7
<i>Gill nets</i>								
BLC	1.3	0.5	100	0	100	0	101	5
BLG	15.5	4.5	94	5	73	8	113	1
COC	0.2	0.2	100	---	100	---	94	---
NOP	0.2	0.2	0	---	0	---	87	---
PUS	0.3	0.5	100	0	0	---	117	11
ROB	0.7	0.5	75	59	25	59	107	6
SMB	1.5	1.4	56	33	0	---	94	4
WAE	8.7	2.0	10	7	2	3	83	2
WHB	2.0	0.9	100	0	100	0	89	2
WHS	1.8	1.1	100	0	100	0	101	2
<i>Electrofishing</i>								
WAE <sup>1</sup>	20.0	---	---	---	---	---	---	---

<sup>1</sup> Fall night electrofishing-WAE; catch rate (CPUE) represents age-0 walleye/hour

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

Species	CPUE									
	2006 <sup>1</sup>	2007 <sup>1</sup>	2008	2009	2010	2011	2012	2013	2014	2015
<i>Frame nets</i>										
BLB	1.0	0.4	0.1	0.1	0.1	0.5	0.3	0.2	0.7	0.2
BLC	2.3	0.8	0.0	0.2	1.3	8.3	2.1	5.7	1.2	0.3
BLG	56.0	42.5	65.3	56.8	57.3	90.2	53.8	54.2	31.5	26.1
COC	0.0	<0.1	0.1	<0.1	0.0	0.1	<0.1	0.0	0.0	0.0
LMB	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOP	0.1	0.3	0.3	0.1	0.3	0.3	0.3	0.4	<0.1	0.6
PUS	1.7	<0.1	0.5	0.3	1.7	2.3	0.6	2.1	0.4	1.5
ROB	14.0	8.6	11.5	8.3	5.3	12.7	8.2	3.8	5.3	6.4
SMB	6.3	1.3	2.7	1.8	1.9	14.9	4.6	3.4	3.3	2.0
WAE	0.3	0.3	0.4	0.1	<0.1	0.6	1.2	0.7	0.8	0.8
WHB	0.3	0.5	<0.1	<0.1	<0.1	0.1	0.2	0.1	0.2	0.3
WHS	0.0	0.3	0.1	0.1	0.2	0.1	0.1	0.2	<0.1	0.2
YEP	4.4	3.5	<0.1	1.6	5.1	7.4	0.9	1.1	0.5	0.3
<i>Gill nets</i>										
BLB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLC	2.8	1.5	0.3	0.0	2.0	2.0	4.0	8.5	3.5	1.3
BLG	8.7	5.8	0.5	2.8	3.8	2.5	54.8	41.8	10.3	15.5
COC	1.2	1.8	0.2	0.5	0.2	0.3	1.2	0.0	0.2	0.2
NOP	1.2	0.5	1.2	2.0	1.3	2.8	3.7	1.0	1.7	0.2
PUS	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.3
ROB	2.3	14.0	2.0	3.3	1.2	0.2	0.7	2.7	2.0	0.7
SMB	1.2	1.8	2.2	4.2	0.7	1.5	2.7	2.3	5.3	1.5
WAE	13.5	14.7	3.0	4.7	5.7	10.8	7.5	8.7	8.5	8.7
WHB	0.7	1.5	2.5	2.7	0.3	1.8	8.0	5.8	1.3	2.0
WHS	4.0	1.7	3.5	4.5	7.7	3.3	1.5	2.2	4.7	1.8
YEP	19.8	14.3	4.5	40.5	112.3	152.2	34.0	9.7	1.7	0.0
<i>Electrofishing</i>										
LMB <sup>2</sup>	202.0	---	102.2	81.7	112.1	---	67.2	---	224.3	---
SMB <sup>3</sup>	---	---	---	123.7	107.0	---	299.0	---	82.0	---
WAE <sup>4</sup>	21.0	38.5	52.6	8.2	34.7	25.0	3.0	116.0	8.0	20.0

<sup>1</sup> Monofilament gill net mesh size change (0.75", 1.00", 1.25", 1.50", 2.00" and 2.50")

<sup>2</sup> Spring night electrofishing-LMB

<sup>3</sup> Spring night electrofishing-SMB; day/night samples combined (2014)

<sup>4</sup> Fall night electrofishing-WAE; catch rate (CPUE) represents age-0 walleye/hour

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

Species	2006 <sup>3</sup>	2007 <sup>3</sup>	2008	2009	2010	2011	2012	2013	2014	2015	Objective
<i>Frame nets</i>											
BLC											
CPUE	2	1	0	<1	1	8	2	6	1	<1	≥ 10
PSD	64	56	---	20	23	84	84	99	100	100	30-60
PSD-P	53	39	---	20	16	5	57	46	93	100	5-10
Wr	99	94	---	106	101	104	95	100	96	98	---
BLG											
CPUE	56	43	65	57	57	90	54	54	32	26	≥ 25
PSD	34	15	29	15	41	61	78	68	46	42	30-60
PSD-P	7	1	3	4	7	0	7	32	27	21	5-10
Wr	109	100	106	101	100	102	107	103	101	103	---
<i>Gill nets</i>											
WAE											
CPUE	14	15	3	5	6	11	8	9	9	9	≥ 10
PSD	57	63	61	96	56	14	18	21	16	10	30-60
PSD-P	7	14	17	18	9	5	9	17	4	2	5-10
Wr	87	89	88	91	92	85	81	80	82	83	---
YEP											
CPUE	20	14	5	41	112	152	34	10	2	0	≥ 30
PSD	24	8	4	0	0	1	3	2	10	0	30-60
PSD-P	5	1	4	0	0	0	0	0	0	0	5-10
Wr	96	93	99	97	97	91	93	91	91	0	---
<i>Electrofishing</i>											
LMB <sup>1</sup>											
CPUE	202	---	102	82	112	---	67	---	224	---	≥ 30
PSD	59	---	81	91	99	---	86	---	71	---	40-70
PSD-P	6	---	29	45	55	---	79	---	32	---	10-40
Wr	108	---	104	105	109	---	107	---	106	---	---
SMB <sup>2</sup>											
CPUE	---	---	---	124	107	---	299	---	82	---	---
PSD	---	---	---	7	72	---	8	---	71	---	40-70
PSD-P	---	---	---	6	41	---	3	---	12	---	10-40
Wr	---	---	---	87	95	---	83	---	86	---	---

<sup>1</sup> Spring night electrofishing-LMB.

<sup>2</sup> Spring night electrofishing-SMB; day/night samples combined (2014)

<sup>3</sup> 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 bluegill sampled in frame nets from Enemy Swim Lake, 2010-2015.

Survey Year	Year Class											
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
2015		6	3	327	120	60	21	81	10	4	1	
2014	---			125	209	101	92	154	74	1	1	
2013	---	---		12	91	327	124	248	431	76	14	
2012	---	---	---			54	63	357	530	128	112	45
2011	---	---	---	---				265	504	669	727	
2010 <sup>1</sup>	---	---	---	---	---			57	196	307	728	77

<sup>1</sup> Older bluegill were sampled, but are not reported in this table.

Table 5. Weighted mean TL (mm) at capture for bluegill age-1 through age-9 sampled in frame nets (expanded sample size) from Enemy Swim Lake, 2006-2015.

Year	Age								
	1	2	3	4	5	6	7	8	9
2015	77(6)	78(3)	93(327)	164(120)	188(60)	206(21)	224(81)	224(10)	228(4)
2014	---	94(125)	109(209)	145(101)	194(92)	200(154)	198(74)	230(1)	237(1)
2013	92(12)	84(91)	115(327)	172(124)	190(248)	199(431)	201(76)	215(14)	---
2012	---	93(54)	124(63)	158(357)	176(530)	192(128)	193(112)	199(45)	---
2011	---	---	107(265)	131(504)	172(669)	183(727)	---	---	---
2010 <sup>1</sup>	---	91(57)	105(196)	129(307)	153(728)	212(77)	217(6)	---	---
2008	---	---	105(811)	149(519)	161(152)	173(34)	199(21)	227(6)	249(20)
2007	---	91(285)	113(306)	133(365)	149(88)	180(6)	---	240(6)	---
2006 <sup>1</sup>	---	94(58)	112(232)	110(246)	145(565)	176(161)	220(17)	227(60)	242(3)

<sup>1</sup> Older bluegill were sampled, but are not reported in this table.

Table 10. 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 Enemy Swim Lake, 2010-2015.

Survey Year	Year Class													
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
2015 <sup>1</sup>			6		7	3	37							
2014 <sup>1</sup>	---		4		4		45							
2013 <sup>1</sup>	---	---			6	10	30			1	1	1	1	3
2012 <sup>1</sup>	---	---	---		3	1	40				1		1	
2011 <sup>1</sup>	---	---	---	---		3	61	1	2		2			2
2010 <sup>1</sup>	---	---	---	---	---		52	13	1	3	4			3
# stocked														
fry														
sm. fingerling			217 <sup>2</sup>		236									
lg. fingerling	13				39		15				58			12

<sup>1</sup> Older walleye were sampled, but are not reported in this table.

<sup>2</sup> 87% of stocked walleye were OTC marked; 43 of 54 otoliths (80%) collected from fall electrofished age-0 walleye exhibited marks. The estimated stocking contribution was 92%.

Table 11. Weighted mean TL at capture (mm) for walleye age-1 through age-10 sampled in experimental gill nets (expanded sample size) from Enemy Swim Lake, 2006-2015. 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 <sup>1</sup>	---	256(6)	---	328(7)	359(3)	353(37)	---	---	---	---
2014 <sup>1</sup>	187(4)	---	278(4)	---	356(45)	---	---	---	---	---
2013 <sup>1</sup>	---	224(6)	288(10)	334(30)	---	---	559(1)	565(1)	559(1)	602(1)
2012 <sup>1</sup>	167(3)	260(1)	320(40)	---	---	---	552(1)	---	636(1)	---
2011 <sup>1</sup>	209(3)	298(61)	399(1)	480(2)	---	479(2)	---	---	536(2)	---
2010 <sup>1</sup>	210(52)	311(13)	402(1)	446(3)	445(4)	---	---	478(3)	493(3)	542(3)
2009 <sup>1</sup>	198(1)	311(1)	411(1)	426(4)	---	472(6)	484(8)	467(3)	482(2)	625(1)
2008 <sup>1</sup>	176(2)	259(1)	356(8)	---	---	485(1)	465(3)	421(1)	531(2)	---
2007 <sup>1</sup>	180(1)	273(26)	329(6)	407(7)	430(16)	447(11)	500(5)	525(7)	504(3)	560(2)
2006 <sup>1</sup>	198(10)	255(6)	336(12)	378(28)	411(16)	420(2)	466(6)	432(1)	482(1)	502(8)

<sup>1</sup> Older walleye were sampled, but are not reported in this table.

Table 12. Stocking history including size and number for fishes stocked into Enemy Swim Lake, 2002-2015. LMB= Largemouth Bass; WAE= Walleye

Year	Species	Size	Number
2002	WAE	juvenile	2,971
2002	WAE	large fingerling	9,388
2005	WAE	large fingerling	57,791
2006	LMB	fingerling	116,460
2009	WAE	large fingerling	14,949
2011	WAE	small fingerling	235,640
2011	WAE	large fingerling	38,634
2013	WAE	small fingerling	217,450
2015	WAE	large fingerling	13,264

Table 13. Year class distribution based on the age/length summary for yellow perch sampled in gill nets from Enemy Swim Lake, 2010-2015.

Survey Year	Year Class									
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
2015		10	1							
2014	---		7	2		1	3	6		
2013	---	---		11	1	2	21	32	4	
2012	---	---	---		2	7	20	168	18	
2011	---	---	---	---			682	811	112	
2010	---	---	---	---	---		25	1517	277	7

Table 14. Weighted mean TL (mm) at capture for yellow perch captured in experimental gill nets (expanded sample size) from Enemy Swim Lake, 2009-2015.

Year	Age					
	1	2	3	4	5	6
2015	100(10)	98(1)	---	---	---	---
2014	96(7)	111(2)	---	155(1)	184(3)	195(6)
2013	97(11)	112(1)	139(2)	157(21)	168(32)	170(4)
2012	101(2)	111(7)	144(20)	165(168)	189(18)	---
2011	---	109(682)	149(811)	171(112)	---	---
2010	94(25)	120(1517)	166(277)	200(7)	---	---
2009	100(241)	126(636)	124(35)	222(1)	---	---

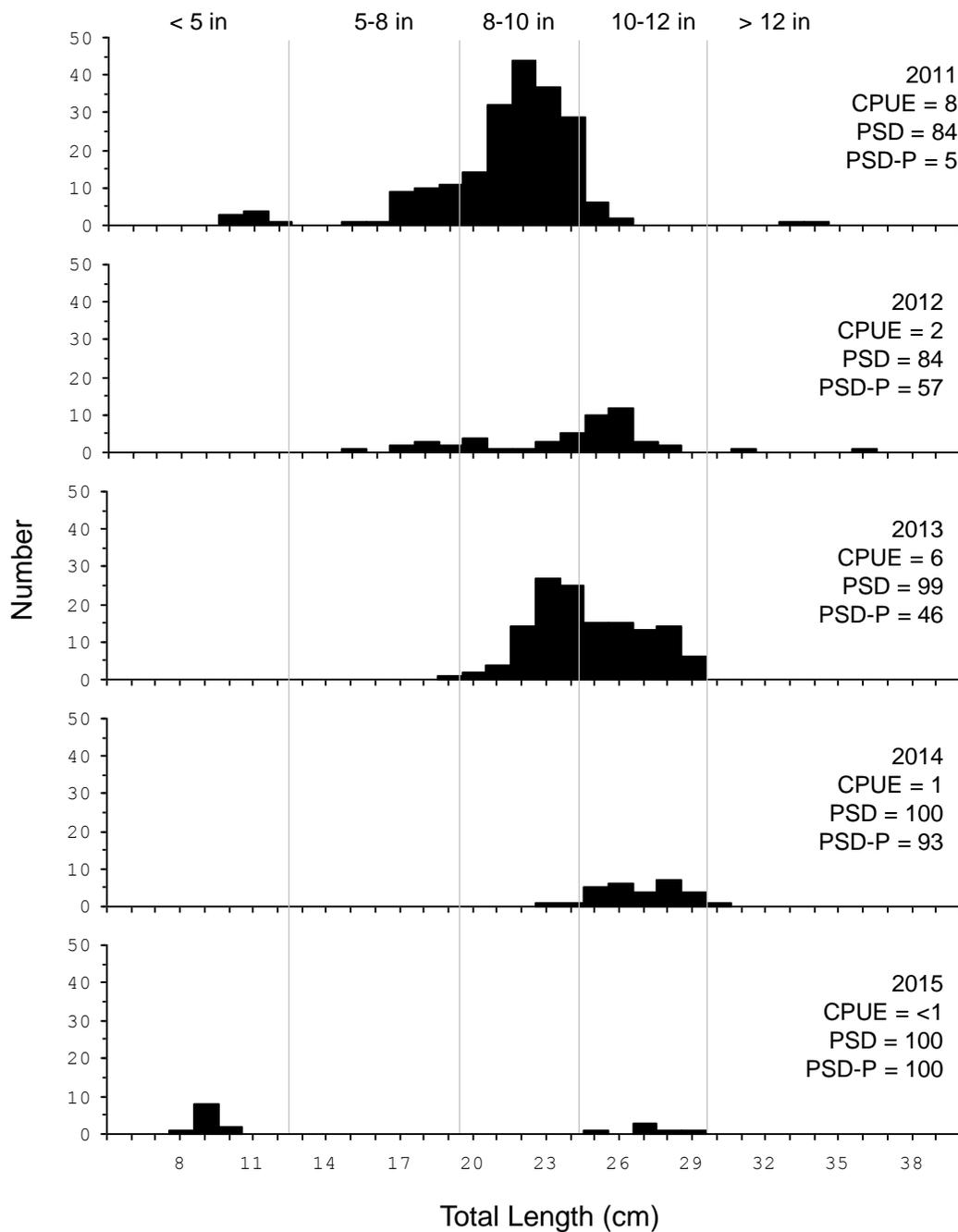


Figure 3. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for black crappie captured using frame nets in Enemy Swim Lake, 2011-2015.

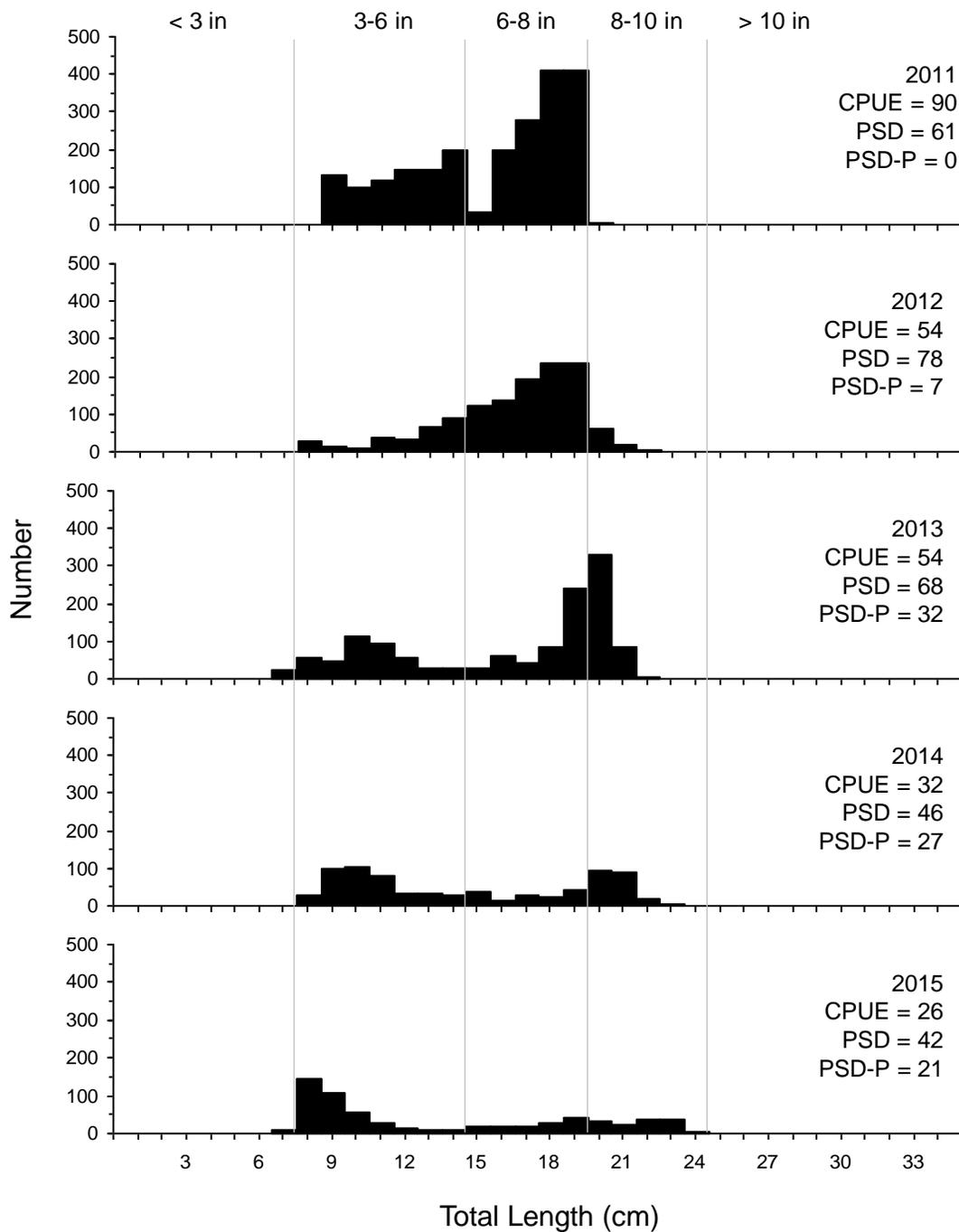


Figure 4. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for bluegill captured using frame nets in Enemy Swim Lake, 2011-2015.

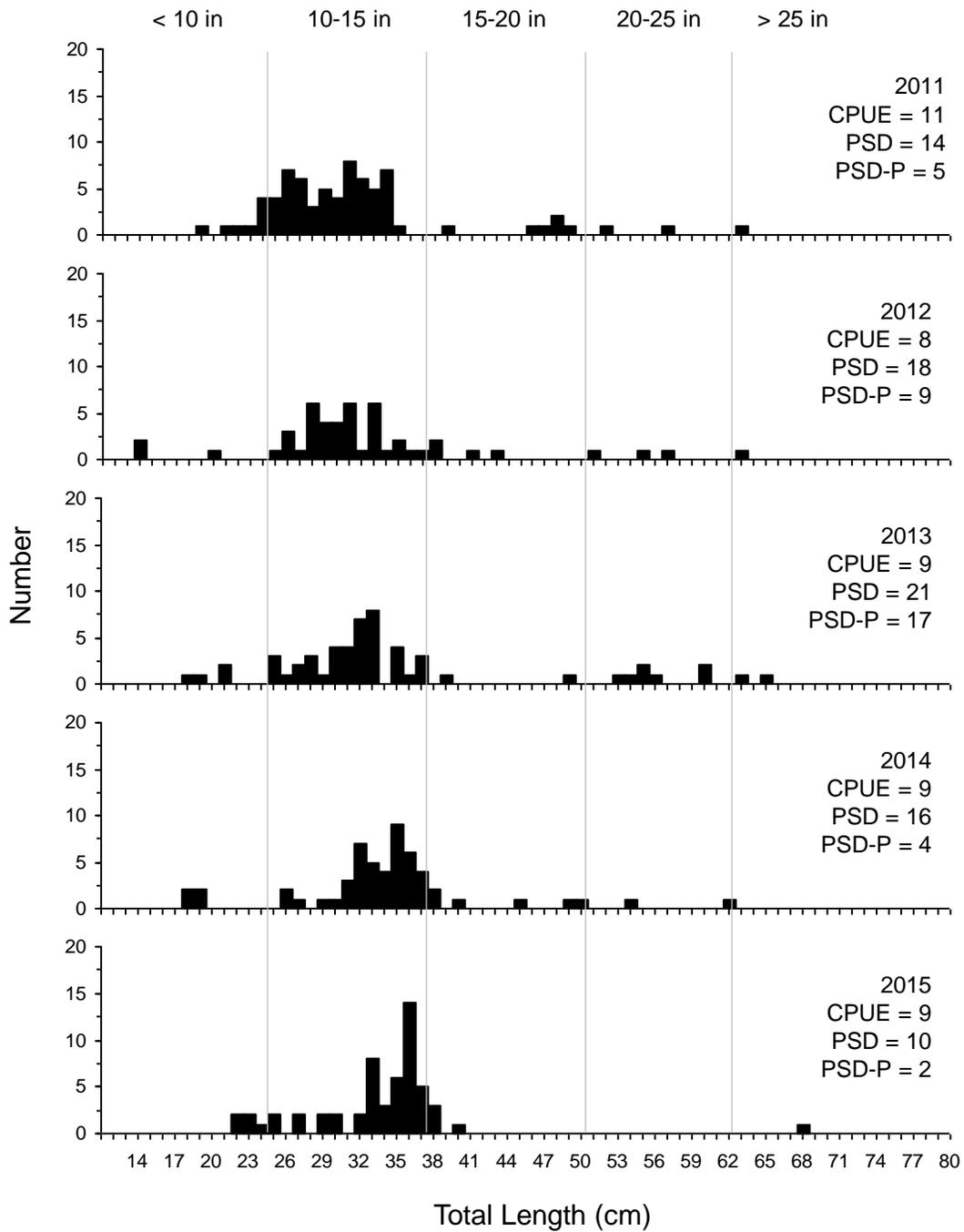


Figure 5. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for walleye captured using gill nets in Enemy Swim Lake, 2011-2015.

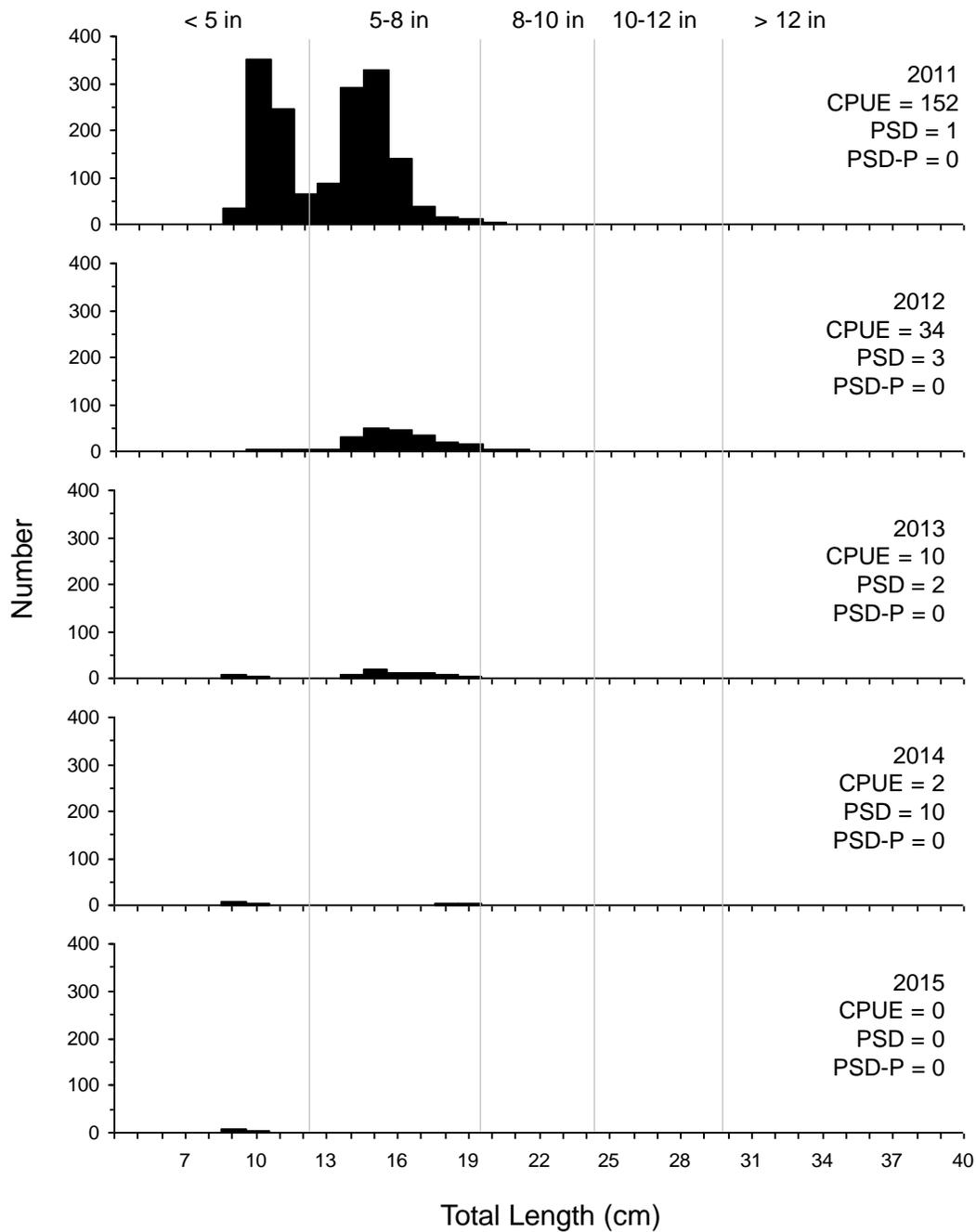


Figure 6. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for yellow perch captured using gill nets in Enemy Swim Lake, 2011-2015.

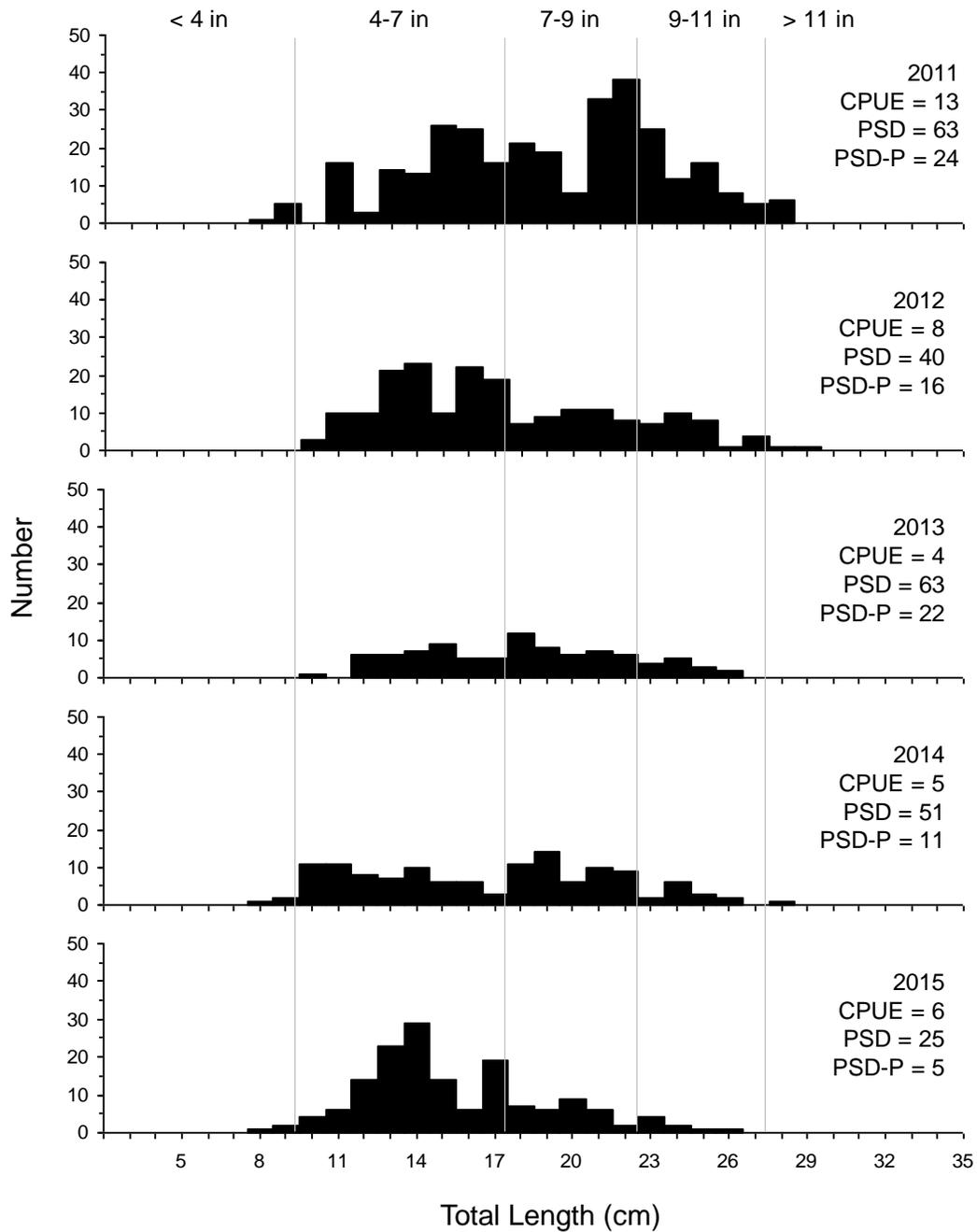


Figure 7. Length-frequency histogram, catch rate of stock-length fish (CPUE), proportional size distribution of quality- (PSD) and preferred-length (PSD-P) fish for rock bass captured using frame nets in Enemy Swim Lake, 2011-2015.