

Wall Lake
LaGrange County
Supplemental Sunfish and Walleye Evaluation 2012



Dates of Survey: June 8 and 19, and September 25, 2012

Biologist: Neil D. Ledet, District 2 Fisheries Biologist

Objective: The objectives of these surveys were to monitor the bluegill, redear and largemouth bass populations following the introduction of walleyes and to evaluate advanced walleye stockings in accordance with work plan 300FW1F10D42643.

Methods: During June, sampling was conducted on two nights to collect bluegills, redear and largemouth bass. Sampling consisted of one hour of electrofishing on each occasion. Fish collection effort on September 25 consisted of 1.5 hours of electrofishing. Only walleyes were collected in September and nearly the entire shoreline was covered.

All fish collected were measured to the nearest 0.1 in TL. Scale samples were taken from all four species for age and growth determination. All electrofishing samples were conducted at night with a pulsed D.C. electrofisher using two dip netters.

Results

During the two hours of June electrofishing, 1,388 bluegills, 175 largemouth bass and 145 redear were collected. Bluegills were collected at a rate of 694 per electrofishing hour. The historical bluegill electrofishing rate at Wall Lake has ranged from 136 per hour in 2008 to 914 in 2003. The average bluegill electrofishing catch rate from similar size natural lakes in District 2 is 148 per hour. Bluegills less than 3 in TL were collected at a rate of 199 per electrofishing hour in 2012, up from 60 per hour in 2011. In 2007 only 12 bluegills less than 3 in TL were collected per electrofishing hour (Figure 1). The number of bluegills collected per electrofishing hour in the 3.5 to 5.5 in TL size group also increased.

Bluegills ranged in length from 1.9 to 9.2 in TL. Only 10% of the bluegills collected by DC electrofishing in 2012 were harvestable size, 6.0 in TL or larger, down from 22.5% in 2011 (Figure 2). The percentage of harvestable bluegills has ranged from 13.3% in 2003 to 44.1% in 2007. Eight-in TL or larger bluegills represented 6.2% of the 2012 sample and has ranged from zero percent in 1987 to 9.8% in 2009. Although bluegill electrofishing catch has increased in recent years, growth continues to improve from historically below average rates. While growth

rates for age-2 and age-3 bluegill are slightly below average (by 0.1 inch) age-1 and age-4 fish are growing at an average rate and age-5 and older fish are exhibiting above average growth (Figure 3).

Redear ranged in length from 4.3 to 10.5 in TL and were collected at a rate of 73 per electrofishing hour. Redear catch rates have ranged from 11 per hour in 2009 to 108 per hour in 2003 (Figure 4). Harvestable sized redeer, 6.0 in TL or larger, comprised 80% of the sample and ranged from 76% in 1987 to 100% in 2008 (Figure 5). The percentage of redeer 8 in TL and larger has ranged from 6% in 2003 to 73% in 2009. Redear growth rates have also improved from below average to average or above (Figure 6).

In 2012, 87 largemouth bass were collected per electrofishing hour (Figure 7). They ranged in length from 3.0 to 18.3 in TL. Bass electrofishing catch rates have ranged from 61 per hour in 1987 to 129 in 2007. The percentage of harvestable size bass, those 14 in TL or larger, remains relatively low at 4% (Figure 8). The percentage of harvestable size bass has ranged from 0.6% in 2010 to 19.7% in 1987. Bass growth remains below average.

The Wall Lake Fisherman's Association funded walleye stockings for Wall Lake in 2005, 2006 and 2007. During these years, 1,400 advanced walleye fingerlings, (10 per acre) ranging from 5 to 8 in TL, were released (Table 1). Walleyes were not stocked in 2008. However, the Division of Fish and Wildlife (DFW) has annually stocked walleyes into Wall Lake since 2009.

During the 2012 fall survey the water temperature was 64.4 degrees F. A total of 49 walleyes ranging from 9.4 to 18.5 in TL was collected (Table 2). Age-1 walleyes were collected at a rate of 24.7 per electrofishing hour, similar to the average catch rate at Sylvan Lake, which is the highest in northern Indiana (Table 3). Age-1 walleyes ranged in length from 9.4 to 13.4 in TL and averaged 11.8 in TL (Table 4). Age-2 walleyes ranged from 13.9 to 14.9 in TL averaging 14.6 in TL. The historical average length of age-1 Wall Lake walleyes (11.6 in TL) is similar to the averages at Clear Lake and Lake Maxinkuckee but approximately 1 inch shorter than age-1 walleyes from Pretty, Big Turkey and Little Turkey lakes. Age-2 Wall Lake walleyes are 0.6 and 1.7 inches shorter than age-2 walleye from Clear and Big Turkey lakes respectively (Table 5).

Summary

The percentage of harvestable size bluegills collected by electrofishing increased from 13% in 2003 to 44% in 2007, 18 months following the initial Wall Lake walleye stocking. This coincided with a decline in the overall bluegill electrofishing catch rate of 914 per hour in 2003, when large year classes of age-2 and age-3 fish were present, to 217 in 2007. The catch rate for bluegills less than 3 in TL also declined from 174 per hour in 2003 to 12 per hour in 2007.

Bluegill catch rates for fish ≥ 8 in TL have increased from zero per hour in 1987 to 31 per hour in 2012. Although overall bluegill catch rates have increased since 2009, growth rates for most year classes continued to improve and are now average or above. Historically, growth rates for Wall Lake bluegills were well below average for northeast Indiana lakes.

Since the initial walleye stocking, redear catch rates declined from 108 per electrofishing hour in 2003 to 11 per hour in 2009. In 2012, redear catch rates increased to 73 per hour while growth continued to improve. As with most bluegill year classes, redear growth rates are presently average or above.

The largemouth bass electrofishing catch rates at Wall Lake increased from 61 per hour in 1987 to 129 per hour in 2007. Since 2007, bass catch rates have gradually decline to 87 per hour in 2012. In spite of implementing a 12-in TL minimum size limit in 1992, which increased to 14 inches in 1998, the percentage of harvestable size bass declined from 19.7% in 1987 to 4.0% in 2012. Although there appears to be an abundant panfish forage base, bass growth remains below average for northern Indiana natural lakes.

Since 2003, the Fisheries Section has supported establishing a walleye population in Wall Lake in an attempt to reduce the bluegill population through predation leading to improved growth and size structure. As a secondary benefit, walleye could provide an additional fishing opportunity. This support included modifying the minimum walleye size and daily bag limits. However, this modification has not been implemented to date. During the 2009 angler creel survey on Wall Lake, anglers harvested 25% of the legal size walleye population and half of these were between 14 and 16 in TL. Thirty-six percent of walleye that were 16 in TL or greater were also

harvested. This harvest, coupled with the popular ice fishery which has not been measured, may be limiting overall success as outlined in the existing work plan.

Recommendations:

1. The DFW should continue to pursue the production of advanced fall walleye fingerlings for stocking as addressed in previous Walleye Management Committee reports.
2. The DFW should continue to annually stock fall walleye fingerlings into Wall Lake at a rate of 10 per acre.
3. During the next opportunity for rule changes, the minimum walleye size limit at Wall Lake should be increased to 16 inches and the daily bag limit reduced to two.
4. The DFW should continue to evaluate survival of fall stocked walleyes following each stocking and continue the Wall Lake bluegill/walleye work plan.

Submitted by: Neil D. Ledet, Fisheries Biologist

Date: 2/15.2013

Approved by: Jeremy Price, North Region Fisheries Supervisor

Date:

Bluegill

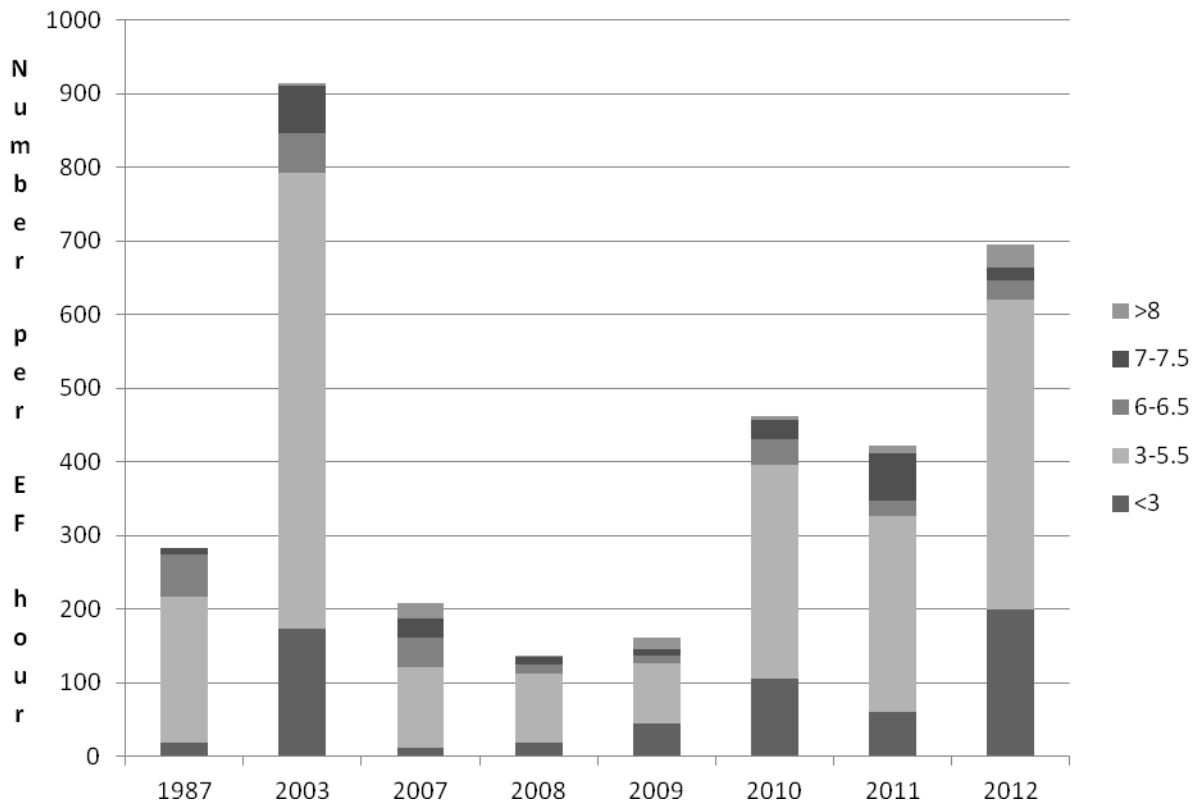


Figure 1. Number of bluegills collected per hour of June nighttime DC electrofishing, 1987-2012.

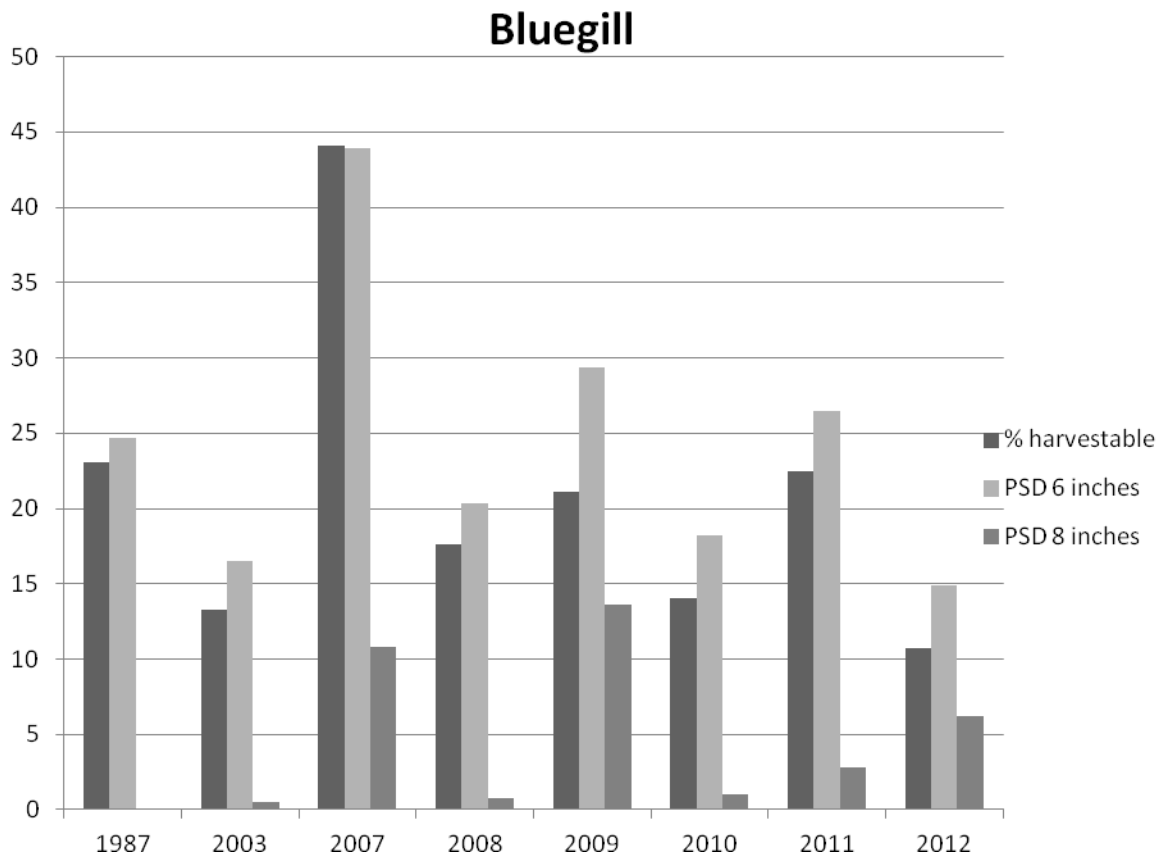


Figure 2. Percent harvestable and proportional size distribution of Wall Lake bluegills collected by June nighttime DC electrofishing, 1987-2012.

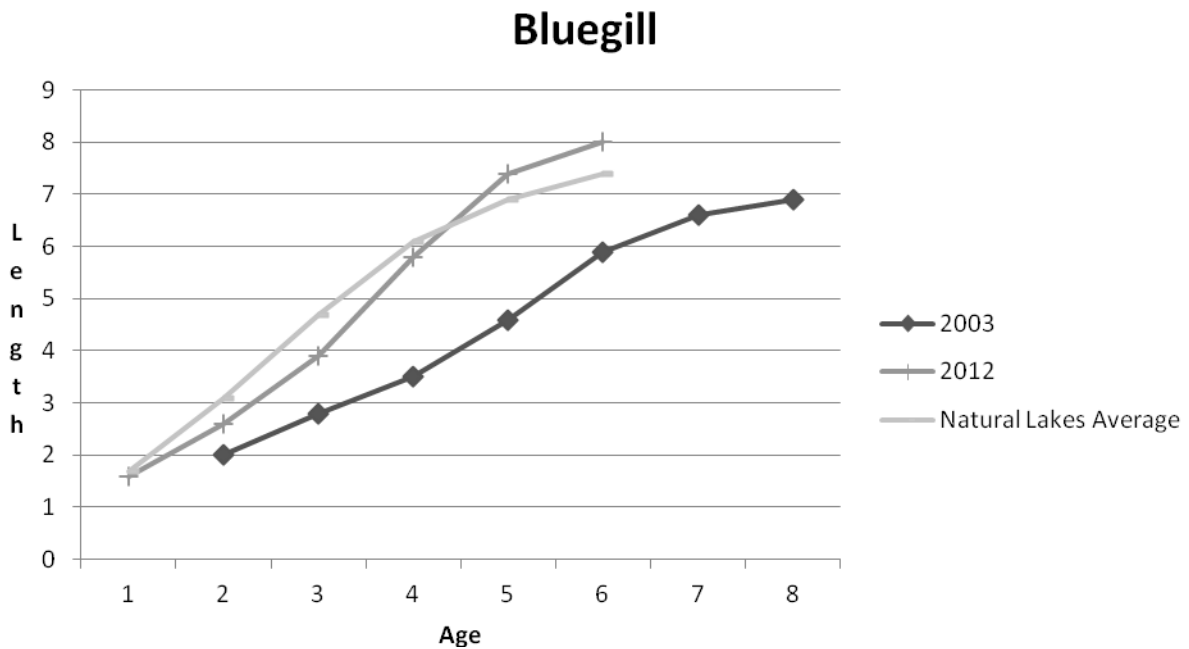


Figure 3. Bluegill length at last annulus formation for each age.

Redear

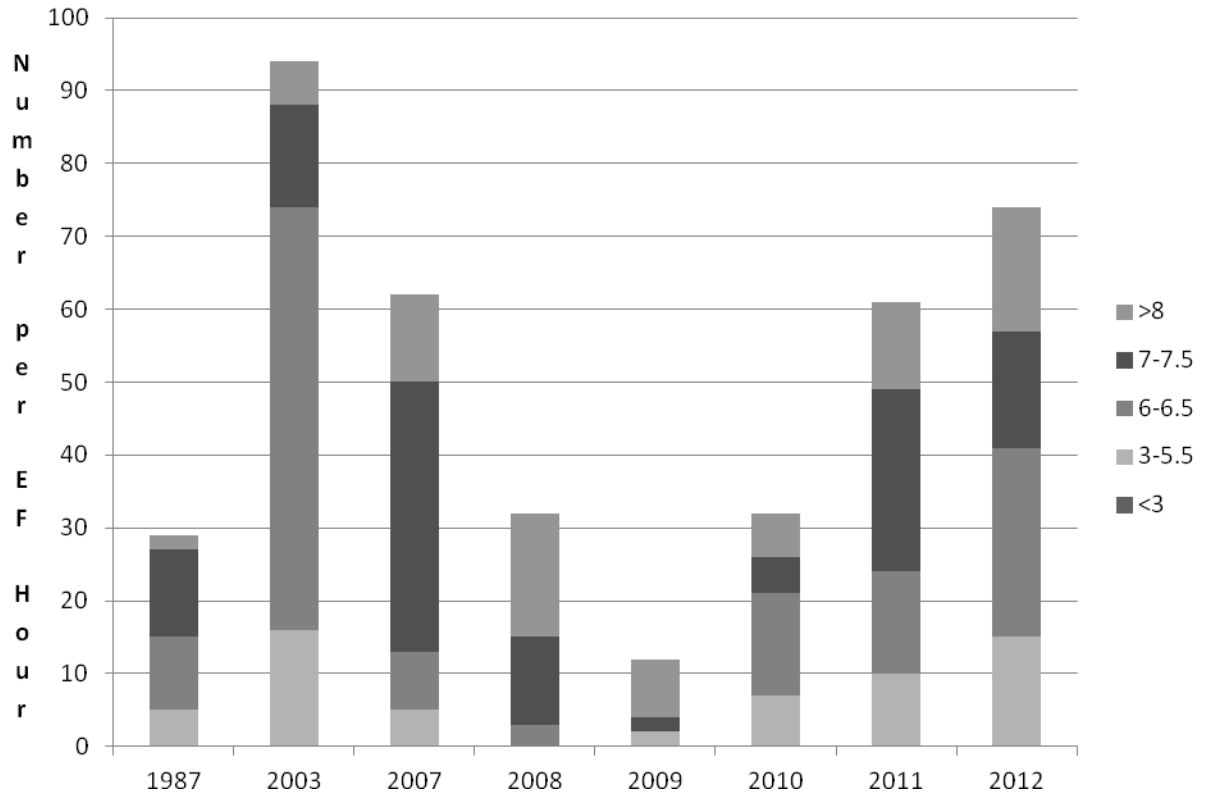


Figure 4. Number of redear collected per hour of June nighttime DC electrofishing, 1987-2012

Redear

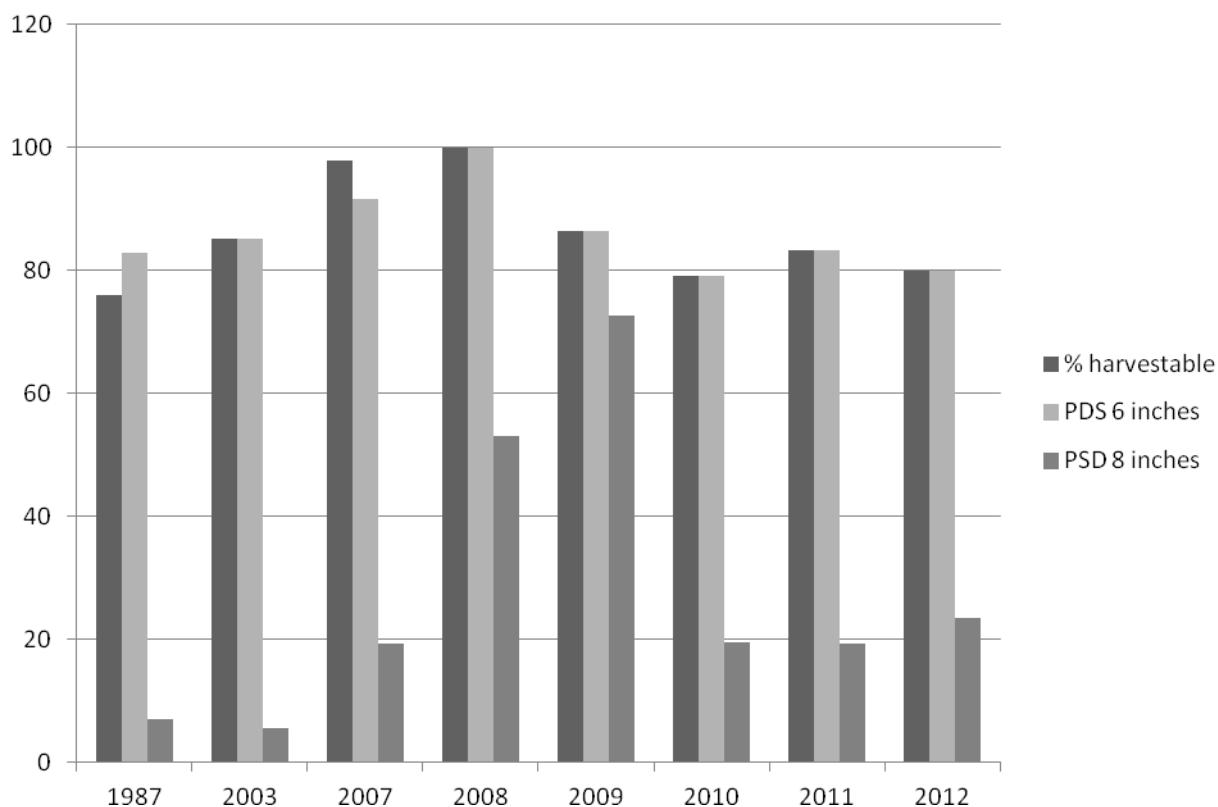


Figure 5. Percent harvestable and proportional size distribution of Wall Lake redear collected by June nighttime DC electrofishing, 1987-2012.

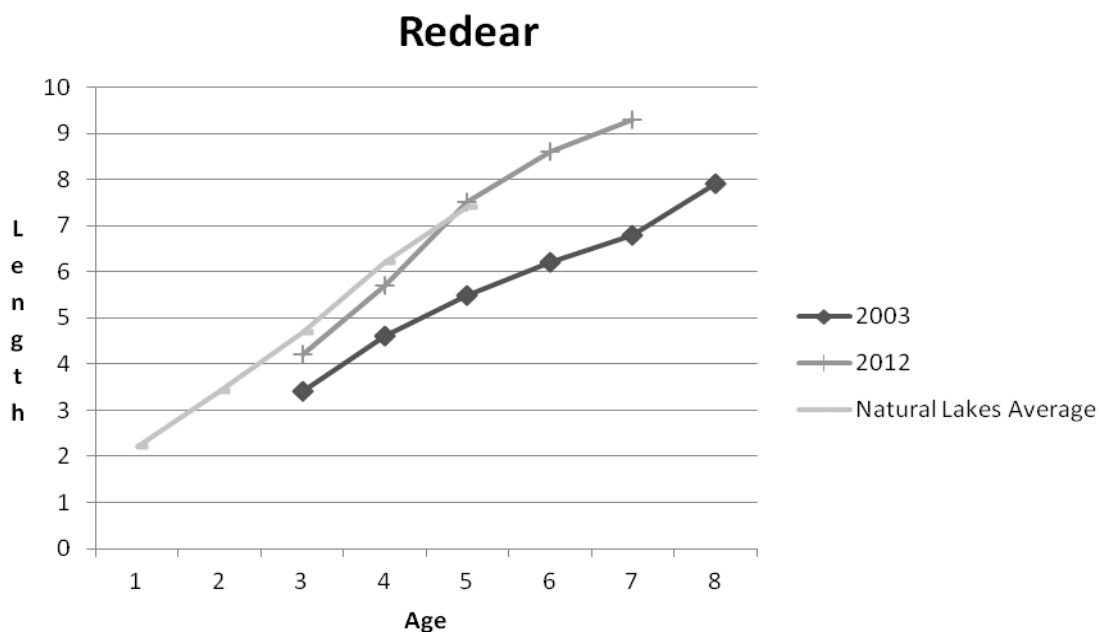


Figure 6. Redear length at last annulus formation for each age.

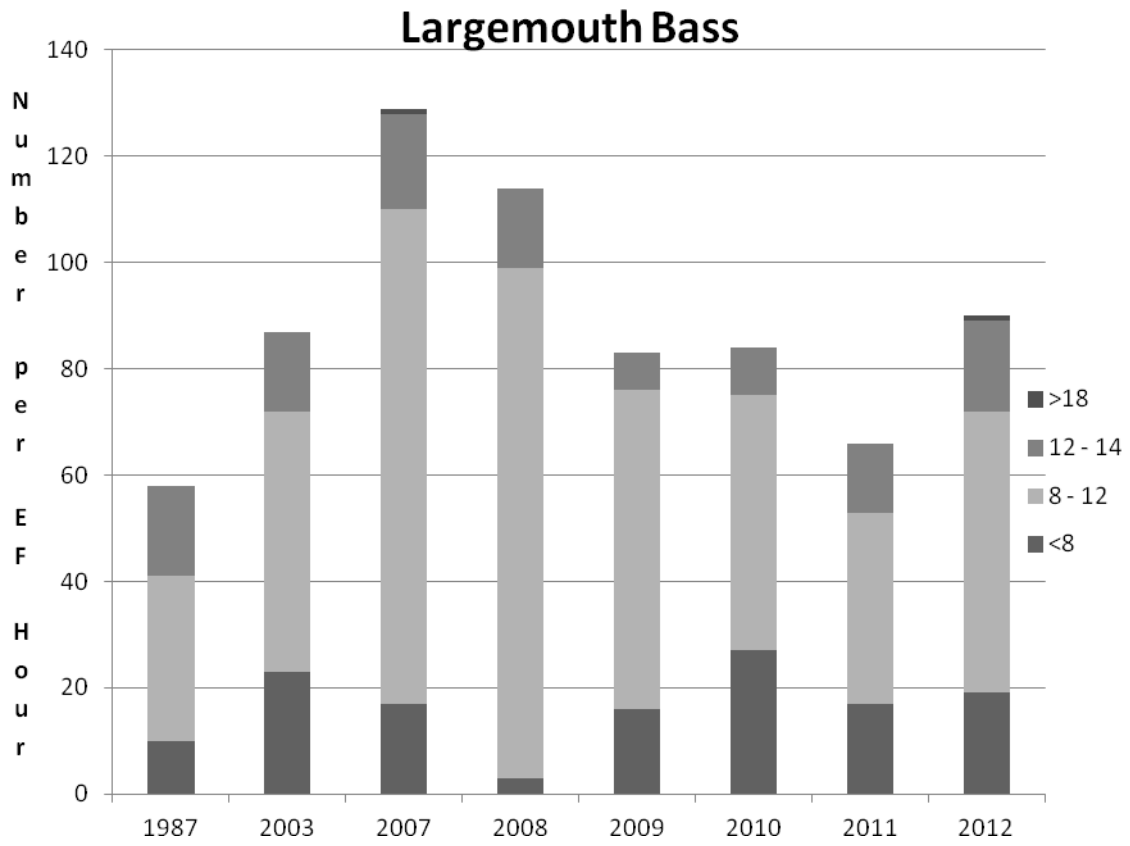


Figure 7. Number of largemouth bass collected per hour of June nighttime DC electrofishing, 1987 - 2012.

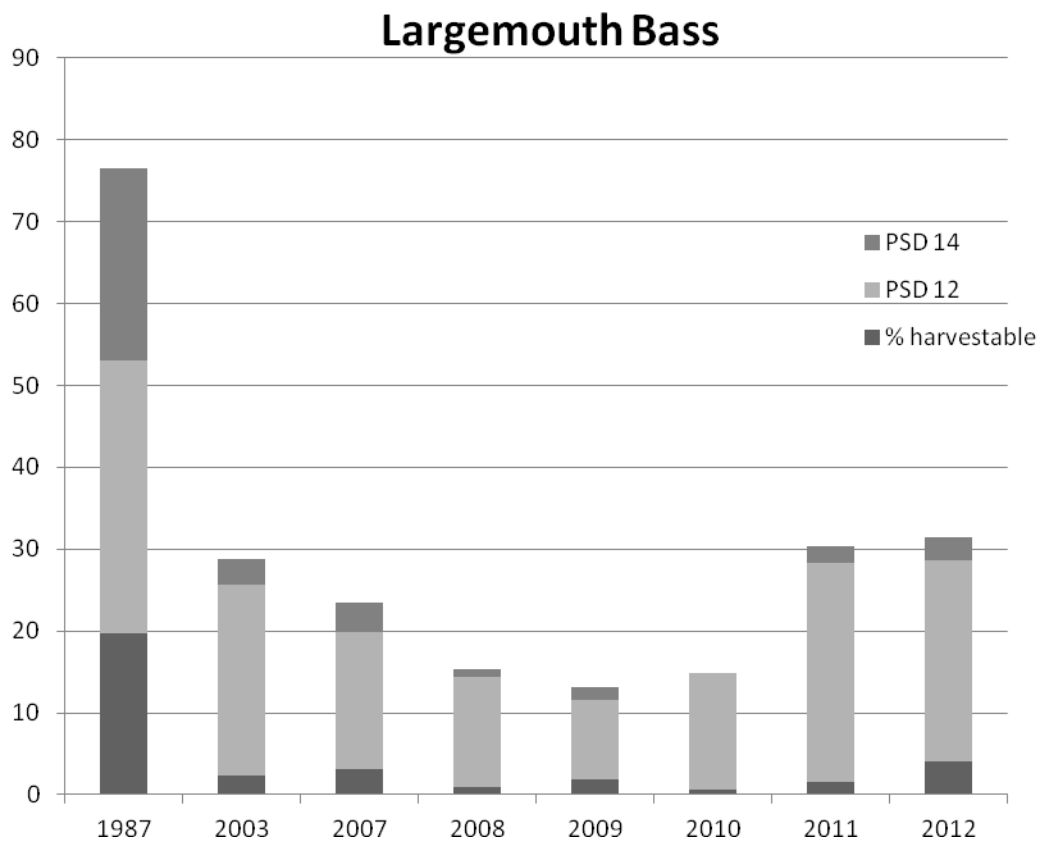


Figure 8. Percent harvestable and proportional size distribution of Wall Lake largemouth bass collected by June nighttime DC electrofishing, 1987-2012.



Figure 9. Largemouth bass length at last annulus formation for each age.

Table 1. Wall Lake Walleye Stockings 2005-2011.

Date Stocked	# Stocked	Size (inches)
10/15/05	1,400	5-7
10/03/06	1,400	5-8
10/17/07	1,400	6-8
2008	None	
10/08/09*	1,410	8.5
10/08/10*	1,412	7.3
10/19/11**	1,400	6-8

Note: 2005-07 fish were purchased by the Wall Lake Fisherman's Association.

*Fawn River State Fish Hatchery

** Commercial source

Table 2. Number and percentage of walleyes collected during fall nighttime D.C. electrofishing from Wall Lake, September 25, 2012.

Total Length	Number Collected	Percent Collected	Age of Fish
9.0	1	2.0	1
9.5	3	6.1	1
10.0	1	2.0	1
10.5	5	10.2	1
11.0	5	10.2	1
11.5	6	12.2	1
12.0	8	16.3	1
12.5	1	2.0	1
13.0	2	4.1	1
13.5	5	10.2	1,2
14.0	1	2.0	1
14.5	4	8.2	2
15.0	0		
15.5	0		
16.0	2	4.1	3
16.5	2	4.1	3
17.0	1	2.0	3
17.5	1	2.0	3
18.0	0		
18.5	1	2.0	5
Total	49		

Age 1, 2 and 3 walleyes were collected at 24.7, 3.3 and 4.0 per electrofishing hour respectively. No age-4 walleyes are present as none were stocked in 2008.

Table 3. Number of age-1 advanced fall stocked walleyes collected per nighttime DC electrofishing hour at Big Turkey, Crooked, Little Turkey, Pretty, Simonton, Sylvan, Wall and Winona lakes, 2001 through 2012.

Lake	Date Stocked	# Stocked	# Stocked Per Acre	Average Size or range (Inches)	# of Age 1 Walleyes Per Electrofishing Hour	Year Sampled
Big Turkey (450 ac)						
	10/20/02	2,000	4.4	5-7	0.5	2003
	11/01/03	2,100	4.7	5-8	3.5	2004
	10/11/04	2,030	4.5	6-8	5.3	2005
	10/16/05	2,030	4.5	6-8	6.8	2006
	10/15/06	2,025	4.5	6-9	1.0	2007
	10/14/09	2,250	5.0	6-8	6.0	2010
Average #/hr					3.4	
Crooked (802 ac)						
	9/25/01	7,860	9.8	7.6	16.5	2002
	9/27/02	8,080	10.1	6.9	9.5	2003
	10/03/03	7,881	9.8	6.8	7.0	2004
	10/06/04	8,020	10.0	6.5	15.9	2005
	10/04/05	8,020	10.0	6.5	7.4	2006
	9/28/06	8,070	10.1	6.9	12.9	2007
	10/09/09	8,020	10.0	6-8	12.3	2010
	10/13/10	8020	10.0	6-8	24.8	2011
	10/10/11	8,020	10.0	6-8	24.8	2012
Average #/hr					14.4	
L. Turkey (135 ac)	10/17/07	1,225	9.1	6-8	1.0	2008
	10/15/08	1,000	7.4	6-8	1.5	2009
	10/14/09	500	3.7	6-8	6.0	2010
	10/70/10	700	5.2	6-8	3.3	2011
Average #/hr					3.0	
Pretty Lake (184 ac)	10/07/07	2,280	12.4	8.9	30.7	2008
	10/08/09	1,840	10.0	5.9	11.3	2010
	10/12/11	1,891	10.3	7.4	11.4	2012
Average #/hr					17.8	
Simonton (299 ac)						
	10/24/00	2,000	6.7	5-8	8.5	2001
	10/11/01	2,000	6.7	5-8	3.2	2002
	10/01/02	2,200	7.4	5-8	5.7	2003
	10/21/03	2,000	6.7	5-8	2.4	2004
	10/11/04	2,000	6.7	5-8	8.1	2005
	10/10/05	1,500	5.0	5-8	9.4	2006
	10/4/06	1,220	4.1	6-8	2.1	2007
Average #/hr					5.6	

Table 3. (cont.) Number of age-1 advanced fall stocked walleyes collected per nighttime DC electrofishing hour at Big Turkey, Crooked, Little Turkey, Pretty, Simonton, Sylvan, Wall and Winona lakes, 2001 through 2012.

Lake	Date Stocked	# Stocked	# Stocked Per Acre	Average Size or range (Inches)	# of Age 1 Walleyes Per Electrofishing Hour	Year Sampled
Sylvan (669 ac)						
	9/25 & 10/03/01	12,620	18.9	6.3	24.1	2002
	10/10 & 10/16/02	13,380	20.0	6.0	14.1	2003
	10/08 & 10/24/03	13,200	19.3	6.0	16.3	2004
	10/08 & 10/12/04	13,380	20.0	7.2	14.5	2005
	10/06 & 10/11/05	13,380	20.0	6.8	34.9	2006
	9/29 & 10/3/06	13,380	20.0	6.7	27.0	2007
	10/08/09	10,035	15.0	6-9	14.3	2010
	10/14/10	10,035	15.0	7.1	50.3	2011
	10/07/11	10,035	15.0	6.5	24.8	2012
Average #/hr					24.5	
Wall (141 ac)						
	10/11/5	1,400	10.0	5-7	34.0	2006
	10/3/06	1,400	10.0	5-8	6.7	2007
	10/17/07	1,400	10.0	6-8	4.7	2008
	2008	None				
	10/08/09	1,410	10.0	7.4-9.6 (8.5)	34.0	2010
	10/08/10	1,412	10.0	5.6-9.0 (7.9)	22.0	2011
	10/19/11	1,400	10.0	6-8	24.7	2012
Average #/hr					21.0	
Winona (562 ac)						
	9/27/01	10,740	19.1	6.6	10.5	2002
	10/02 & 10/16/02	11,240	20.0	6.3	16.5	2003
	10/01 & 10/03/03	11,300	20.1	7.5	25.6	2004
	10/01 & 10/12/04	11,240	20.0	6.4	1.9	2005
	10/07 & 10/11/05	11,240	20.0	7.3	4.4	2006
	9/26 & 10/3/06	11,240	20.0	7.0	12.3	2007
	10/07/09	8,430	15.0	6-9	17.7	2010
	10/12/10	8,430	15.0	7.0	9.4	2011
	10/06/11	8,430	15.0	6.9	10.5	2012
Average #/hr					12.3	

Table 4. Number, length (in TL) and weight (lbs) for age-1, 2 and 3 walleyes collected during fall nighttime DC electrofishing from Wall Lake, 2006-2012.

Year	Age 1					Age 2					Age 3				
	Number Collected	Length Range	Ave. Length	Weight Range	Ave. Weight	Number Collected	Length Range	Ave. Length	Weight Range	Ave. Weight	Number Collected	Length Range	Ave. Length	Weight Range	Ave. Weight
2006	51	10.3-13.6	11.7	0.21-0.69	0.43	NP					NP				
2007	10	10.4-12.4	11.4	0.31-0.54	0.43	13	13.2-15.8	14.4	0.80-1.26	0.97	NP				
2008	7	9.9-12.5	11.1	0.28-0.60	0.40	9	13.5-15.8	14.4	0.77-1.10	0.89	0				
2009	NP					11	13.2-15.6	13.2	0.71-1.23	0.84	21	13.9-17.2	15.9	.071-1.60	1.28
2010	51	10.2-13.3	12.0	0.29-0.72	0.51	NP					23	14.9-17.8	16.2	1.09-1.63	1.26
2011	33	9.4-13.7	11.0	NA	NA	7	13.8-14.6	14.2	NA	NA	NP				
2012	37	9.4-14.4	11.8	0.23-.085	0.50	5	13.9-14.9	14.6	0.84-1.05	0.93	6	16.2-17.9	16.9	12.1-1.66	1.43
Total	189	9.9-13.6	11.6	0.21-0.69	0.44	45	13.2-15.8	14.1	0.77 – 1.26	0.91	50	13.9-17.8	16.2	0.71-1.63	1.27

NP: none present

NA: not available

Table 5. Number and average total length in inches of age-0 through age-2 walleyes collected During gill netting and or nighttime DC electrofishing surveys from seven northern Indiana natural lakes, 1977-2012.

Lake	Age-0		Age-1		Age-2	
	Number Collected	Average Length	Number Collected	Average Length	Number Collected	Average Length
Bass		6.5		11.3		
B. Turkey	0		80	12.8	27	15.9
L. Turkey	0		17	12.5	24	15.8
Clear	492	7.7	253	11.6	51	15.3
Max	660	7.7	190	11.9	73	14.7
Pretty	141	8.7	130	12.4	75	15.2*
Wall	0		152	11.6	40	14.1

*Average was 16.1 in TL prior to the 2009 sample of 28 age-2 fish.

Appendix 1. Number and size of bluegills, redear and largemouth bass collected from Wall Lake during nighttime DC electrofishing 1987, 2003 and 2007-2012.

Species	1987	2003	2007	2008	2009	2010	2011	2012
Bluegill	286 (286/hr)	457 (914/hr)	186 (217/hr)	136 (136/hr)	317 (159/hr)	921 (460/hr)	854 (427/hr)	1,388 (694/hr)
<3"	19/hr	174/hr	12/hr	18/hr	44.5/hr	106/hr	60/hr	199/hr
Percent harvestable	23.1	13.3	44.1	17.6	21.1	14.0	22.5	10.7
Redear	29 (29/hr)	54 (108/hr)	47 (63/hr)	32 (32/hr)	22 (11/hr)	62 (31/hr)	120 (60/hr)	145 (72.5/hr)
<3"	0	0	0	0	0	0	0	0
Percent harvestable	75.9	85.2	97.9	100	86.3	79.0	83.3	80.0
Largemouth bass	61 (61/hr)	87 (87/hr)	97 (129/hr)	114 (114/hr)	163 (82/hr)	165 (83/hr)	130 (65/hr)	175 (87.2/hr)
Percent harvestable	19.7	2.3	3.1	0.9	1.8	0.6	1.5	4.0
Electrofishing hours	1 DC	1 DC	.75 DC	1 DC	2 DC	2 DC	2 DC	2 DC
Bluegill								
3-5.5 inch	198 (75.0%)	309 (83.5%)	83 (56.1%)	94 (79.7%)	161 (70.6%)	580 (62.9%)	532 (73.5%)	843 (85.1%)
6-6.5 inch	58 (22.0%)	27 (7.3%)	29 (19.6%)	12 (10.2%)	21 (9.2%)	69 (7.5%)	42 (5.8%)	51 (5.2%)
7-7.5 inch	8 (3.0%)	32 (8.7%)	20 (3.5%)	11 (9.3%)	15 (6.6%)	51 (5.5%)	130 (18.0%)	36 (3.6%)
≥ 8 inch	0	2 (0.5%)	16 (10.8%)	1 (0.8%)	31 (13.6%)	9 (1.0%)	20 (2.8%)	61 (6.2%)
Total	267	370	148	118	228	709	724	991
PSD 6"	24.7	16.5	43.9	20.3	29.4	18.2	26.5	14.9
PSD 8"	0	0.5	10.8	0.8	13.6	1.0	2.8	6.2
Redear								
3-5.5 inch	5 (17.2%)	8 (14.8%)	4 (8.5%)	0	3 (13.6%)	13 (20.9%)	20 (16.7%)	29 (20.0%)
6-6.5 inch	10 (34.5%)	29 (53.7%)	6 (12.8%)	3 (9.4%)	0	28 (45.2%)	28 (23.3%)	51 (35.2%)
7-7.5 inch	12 (41.4%)	14 (25.9%)	28 (59.6)	12 (37.5%)	3 (13.6%)	9 (14.5%)	49 (40.8%)	31 (21.4%)
≥ 8 inch	2 (6.9%)	3 (5.6%)	9 (19.1%)	17 (53.1%)	16 (72.7%)	12 (19.4%)	23 (19.2%)	34 (23.4%)
Total	29	54	47	32	22	62	120	145
PSD 6"	82.8	85.2	91.5	100	86.4	79.0	83.3	80.0
PSD 8"	6.9	5.6	19.2	53.1	72.7	19.4	19.2	23.4

Appendix 1(cont.) Number and size of bluegill, redear and largemouth bass collected from Wall Lake during nighttime DC electrofishing 1987, 2003 and 2007 through 2012.

Species	1987	2003	2007	2008	2009	2010	2011	2012
Largemouth bass								
8-9.5 inch	29 (56.9%)	25 (39.1%)	27 (32.1%)	41 (36.9%)	33 (25.0%)	20 (12.1%)	28 (28.9%)	35 (25.4%)
10-11.5 inch	5 (9.8%)	24 (37.5%)	43 (51.2%)	55 (49.6%)	86 (65.2%)	76 (40.1%)	43 (44.3%)	69 (50.0%)
12-13.5 inch	5 (9.8%)	13 (20.3%)	11 (13.1%)	14 (12.6%)	11 (8.3%)	15 (9.1%)	24 (24.7%)	30 (21.7%)
14-17.5 inch	12 (23.5%)	2 (3.1%)	2 (2.4%)	1 (0.9%)	2 (1.5%)	1 (0.6%)	2 (2.1%)	3 (2.2%)
≥ 18 inch	0	0	1 (1.2%)	0	0	0	0	1 (0.7%)
Total	51	64	84	111	132	112	97	138
PSD 12"	33.3	23.4	16.7	13.5	9.8	14.2	26.8	24.6
PSD 14"	23.5	3.1	3.6	0.9	1.5	0	2.1	2.9

Appendix 2. Percentage of harvestable size bluegills, redear and largemouth bass collected from Wall Lake in 1969, 1987, 2003 and 2007-2012.

Year	Bluegill		Redear		Largemouth bass	
	All gear	DC elect	All gear	DC elect	All gear	DC elect
1969	7.5	N/A	23.0	N/A	10.0	N/A
1987	30.0	23.1	70.0	75.9	20.0	19.7
2003	20.0	13.3	53.0	85.2	3.0	2.3
2007	47.2	44.1	85.9	97.9	2.9	3.1
2008	*	17.6	*	100	*	0.9
2009	28.7	21.1	87.9	86.4	1.2	1.2
2010	*	14.0	*	79.0	*	0.6
2011	*	22.5	*	83.3	*	1.5
2012	*	10.7	*	80.0	*	4.0

*DC electrofishing only

Appendix 3. Average length at last annulus formation for bluegill, redear and largemouth bass collected with all gear types during the 1969, 1987, 2003 and 2007 through 2012 fisheries surveys of Wall Lake.

Bluegill	Length (inches) at last annulus formation at each age							
Survey Year	1	2	3	4	5	6	7	8
1969	1.4	2.3	3.1	4.9	5.8			
1987			3.1	4.2	5.8	6.0		
2003		2.0	2.8	3.5	4.6	5.9	6.6	6.9
2007	1.8	2.2	2.8	3.9	4.7	6.3	6.9	7.4
2008		2.4	3.1	4.6	5.7	6.7		
2009	1.8	2.4	3.6	5.1		7.2	7.7	
2010		3.0	4.0	5.3	6.9	7.5	7.8	
2011			3.6	5.1	6.7			
2012	1.6	2.6	3.9	5.8	7.4	8.0		
Natural Lakes Average	1.7	3.1	4.7	6.1	6.9	7.4		

Note: Relatively few bluegills were aged in 1969 and zero intercept was used.

Redear	Length (inches) at last annulus formation at each age							
Survey Year	1	2	3	4	5	6	7	8
1969			3.2	4.5	5.4	6.3		
1987			3.8	4.9	6.1	6.9		
2003			3.4	4.6	5.5	6.2	6.8	7.9
2007			4.2	4.3	5.8	7.0	7.2	8.4
2008				5.5	6.2	7.4	7.9	7.9
2009		3.4		6.2	6.8	7.9	8.2	8.5
2010			5.3	5.9	7.6	8.5		
2011			4.7	6.8	7.7			
2012			4.2	5.7	7.5	8.6	9.3	
Natural Lakes Average	2.2	3.4	4.7	6.2	7.4			

Largemouth bass	Length (inches) at last annulus formation at each age							
Survey Year	1	2	3	4	5	6	7	8
1969			6.5	9.0				
1987		5.7	8.3	11.6	13.5	15.0		
2003	3.9	6.1	8.0	9.8	11.4	12.4		
2007		6.2	8.4	9.8	11.5	12.0		
2008		6.5	8.7	10.4	11.4			
2009	2.8	7.1	8.5	9.9	11.8	12.8	14.0	15.2
2010		5.8	7.8	9.8	11.2	12.7		
2011	2.7	5.7	7.5	9.6	11.2	11.6		
2012	2.6	5.3	7.4	9.5	11.3	12.3	13.7	
Natural Lakes Average	3.5	6.9	9.5	11.6	13.4	14.7		

Appendix 4. Species and relative abundance of fish collected from Wall Lake using traps, gill nets and nighttime DC electrofishing during fish community surveys in June of 1969, 1987, 2003, 2007, 2008 and 2009.

	1969	1987	2003	2007	2009
Bluegill	493	709	547	195	212
Redear	58	420	248	71	58
Largemouth bass	29	67	98	105	86
Brown bullhead	29	74	38	40	35
Yellow bullhead	52	49	13	53	29
Yellow perch	128	69	13	22	57
Hybrid sunfish	0	49	0	0	
Warmouth	9	47	15	8	11
Pumpkinseed	9	28	2	0	
Black crappie	0	26	17	1	
Golden shiner	8	13	0	0	
Redfin pickerel	0	14	2	1	
Lake chubsucker	57	7	0	0	
Bowfin	8	3	1	3	
Northern pike	6	2	9	1	1
Green sunfish	0	2	9	3	4
Carp	1	0	0	0	
Spotted gar	0	0	7	9	20
Rock bass	0	0	3	8	14
Walleye**	0	0	0	24	29
Electrofishing hours	2 AC	1 DC	1 DC*	0.75 DC	1 DC
Gill net lifts	8	6	6	4	6
Trap net lifts	4	3	3	4	3

*In 2003, all species were collected during the first 30 minutes of electrofishing while only bass were collected during the final 30 minutes.

** Walleyes were initially stocked into Wall Lake during the fall of 2005