

STATEWIDE BLACK BASS REGISTERED TOURNAMENT MONITORING

2009

Michelle L. Cain

Assistant Fisheries Biologist



Fisheries Section
Indiana Department of Natural Resources
Division of Fish and Wildlife
I. G. C.-South, Room W273
402 W. Washington Street
Indianapolis, IN 46204

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EXECUTIVE SUMMARY

- Black bass tournament data was collected from 11 Indiana lakes/reservoirs in 17 counties in 2009. Lakes ranged from 669 acres (Sylvan Lake) to 10,750 acres (Monroe Reservoir). Other lakes with registered tournaments were Brookville Reservoir, Cagle's Mill Reservoir, Cecil M. Harden Reservoir (Raccoon Lake), Hardy Lake, Mississinewa Reservoir, Patoka Lake, Salamonie Reservoir, Syracuse Lake, and Lake Wawasee. Syracuse and Wawasee were combined when reported due to their connection via a lake channel and grouped as Lake Wawasee.
- A total of 127 bass tournaments with 9,682 anglers reported results in 2009. The total number of bass weighed in was 9,479. The average number of bass weighed in per tournament was 75 and the number of bass weighed in per angler was 0.97.
- April had the highest number of reporting tournaments in 2009 (28). March and October had the lowest number at three. Monroe Reservoir had the highest number of tournaments reported (31), followed by Patoka Lake (25), and Lake Wawasee (21). Cagle's Mill Reservoir and had the lowest number of tournaments reported at one.
- The average weight of the big bass caught was highest at Patoka Lake (6.2 lbs), followed by Monroe Reservoir (5.6 lbs), and Lake Wawasee (4.5 lbs). Salamonie Reservoir had the lowest average weight of the big bass at 2.9 lbs
- The maximum big bass weight was highest at Patoka Lake (8.0 lbs), followed by Monroe Reservoir (7.0 lbs), and Lake Wawasee (6.2 lbs). Salamonie had the lowest maximum big bass weight at 2.9 lbs.
- The data collected annually from registered tournaments allow fisheries biologists to see a snapshot of the harvestable bass population present within a lake. This data, in tandem with creel and survey data, can help to draw important conclusions on how to manage a fishery. It is especially vital in drawing conclusions on the numbers of legal size bass available in a lake or reservoir which may not be accurately shown by other sampling methods.

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INTRODUCTION

Indiana fishing tournaments have been regulated in the state since 1970 on reservoirs owned or operated by the Indiana Department of Natural Resources (DNR). The DNR initially prohibited tournaments during all summer months on all state owned reservoirs except Monroe Reservoir. However, this prohibition was perceived as pushing tournaments to natural lakes or other reservoirs during the closed season. Several actions were taken in the 1990s to come up with a permanent solution to this issue. In the fall of 2000, a rule was implemented that opened other large state owned reservoirs to summer tournaments.

In 2000, the Indiana General Assembly passed a law (HEA 1075) which allowed the DNR to regulate additional watercraft activities involving 15 or more boats on public waters, including fishing tournaments. However, the law did not dictate how group activities and tournaments would be regulated. In October 2002, the Indiana Natural Resources Commission adopted a rule (312 IAC 2-4-1) that outlined a process for regulating fishing tournaments on designated public waters. The contents of that rule are as follows. A fishing tournament was defined as an activity involving fifteen or more watercraft used for taking fish where: (1.) persons compete for a trophy, citation, cash or prize or (2.) a fee is charged to participants. The DNR conducts an organizational meeting between October 1 and November 15 to establish dates for the following year on which fishing tournaments can be conducted. Each organization that receives a reserved date must then submit a completed license application within 30 days of notification or at least 60 days before the scheduled event, whichever is earlier. A license holder must report the results of the tournament to the DNR within 30 days after the tournament is complete (Appendix 1).

The intent of this report is to summarize the tournament data available and not to pick what lakes have better fishing than others. Each lake's results can vary from year to year due to weather conditions during a tournament and particular year class strengths.

METHODS

Black bass tournament data was collected from 11 Indiana water bodies in 17 counties in 2009 (Figure 1). Lakes ranged from 669 acres (Sylvan Lake) to 10,750 acres (Monroe Reservoir). Other lakes with registered tournaments were Brookville Reservoir, Cagle's Mill Reservoir, Cecil M. Harden Reservoir (Raccoon Lake), Hardy Lake, Mississinewa Reservoir,

Patoka Lake, Salamonie Reservoir, Syracuse Lake, and Lake Wawasee (Table 1). Syracuse and Wawasee were combined when reported due to their connection via a lake channel and grouped as Lake Wawasee.

A simple linear regression analysis was used to determine if single variables were related. A “best subsets” regression was used to compare all possible combinations of predictor variables that may determine average big bass weight.

RESULTS

A total of 127 bass tournaments with 9,682 anglers reported results in 2009. One hundred sixty tournaments were held in 2008 with 11,474 anglers (Table 2). The total number of bass weighed in was 9,479 versus 10,136 in 2008. The average number of bass weighed in per tournament was 75 and the number of bass weighed in per angler was 0.97. In 2008, 63 bass were weighed in per tournament and the number of bass caught per angler was 0.88. The total number of tournaments that measured bass was 70 versus 60 in 2008. The total number of angler hours was 69,591 h versus 80,951 h in 2008. The average bass weight for all lakes was 2.3 lbs versus 2.2 lbs in 2008. It took tournament anglers 8.2 h to weigh in a legal bass compared to 8.8 h in 2008.

April had the highest number of reporting tournaments in 2009 (28). March and October had the lowest number at three (Figure 2). Monroe Reservoir had the highest number of tournaments reported (31), followed by Patoka Lake (25), and Lake Wawasee (21). Cagle’s Mill Reservoir had the lowest number of tournaments reported at one. The average number of anglers per tournament was highest at Patoka Lake (124), followed by Monroe Reservoir (95), and Brookville Reservoir (67). Salamonie Reservoir had the lowest average number of anglers per tournament at 23. The total number of angler hours was highest at Patoka (26,338 h), followed by Monroe (23,827 h), and Wawasee (10,338 h). The average weight of the big bass weighed in was highest at Patoka Lake (6.2 lbs), followed by Monroe Reservoir (5.6 lbs), and Lake Wawasee (4.5 lbs). Salamonie Reservoir had the lowest average weight of the big bass at 2.9 lbs. The maximum big bass weight was highest at Patoka Lake (8.0 lbs), followed by Monroe Reservoir (7.0 lbs), and Lake Wawasee (6.2 lbs). Salamonie had the lowest maximum big bass weight at 2.9 lbs. The average weight of all bass caught was highest at Patoka (2.8 lbs), followed by Cecil M. Harden Reservoir (2.7 lbs), and Monroe Reservoir (2.6 lbs). Hardy Lake had the

lowest average bass weight at 1.6 lbs. The number of angling hours it took to weigh in a legal bass was lowest at Hardy Lake (3.4 h), followed by Lake Wawasee (5.0 h), Sylvan Lake (6.5 h), and Brookville (6.5 h). Monroe had the most tournaments that measured bass length (18), followed by Patoka (14), and Brookville (10). Cagle's Mill had no tournaments that measured bass. Patoka had the lowest number of angling hours required to weigh in a bass 18.0 in or longer (22.0 h), followed by Wawasee (50.4 h), and Monroe (55.0 h), while Cecil M. Harden was highest at 323.8 h. For data on all lakes from 2006 to 2009, refer to appendix 2.

DISCUSSION

Black basses (*Micropterus* spp.) are the most frequently pursued freshwater sport fishes in the United States (Wilde et al. 1998). Twenty-five million anglers fished in freshwater (excluding the Great Lakes) in the United States in 2006; 40% of these anglers fished for black basses (USFWS 2007). Fishing tournament numbers have been increasing annually (Kerr and Kamake 2003) putting more emphasis on effects these tournaments have on fish populations.

The data collected annually from registered tournaments allows fisheries biologists to see a snapshot of the harvestable bass population present within a lake. This data, in tandem with creel and survey data, can help biologists draw important conclusions on how to manage a fishery. It is especially vital in drawing conclusions on the number of legal size bass available in a lake or reservoir which may not be accurately shown by other sampling methods. The main source of bass data comes from electrofishing samples. According to the 2009 survey of Patoka Lake, the biggest largemouth bass collected weighed approximately 5.6 lbs (Carnahan 2010). However, the biggest largemouth bass caught in a tournament at Patoka Lake was 8.0 lbs. Similarly, the 2007 survey of Monroe Reservoir showed the biggest bass collected to weigh 4.5 lbs (Kittaka 2008) and a 7.1 lb bass was caught in a tournament. Similar results are exhibited at other lakes/reservoirs with registered tournaments (Long 2007; Carnahan 2008).

Currently, tournament organizers are not required to measure all fish brought in, but an optional data page for lengths is provided. This additional information is important in determining the size range of bass caught within each lake or reservoir. It can provide a way to evaluate the numbers of trophy-size fish available and help tournament organizers and biologists know what sizes of bass are present within these lakes.

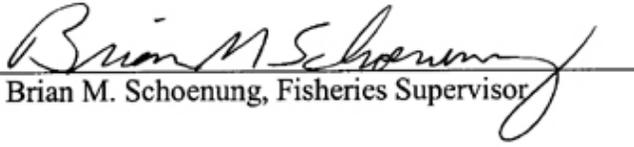
Regression analyses were run to determine if factors were related. Lake acreage was found to have a positive relationship with the average big bass weight ($R^2 = 0.57$, $df = 37$, $P > 0.001$) and the average number of anglers ($R^2 = 0.71$, $df = 38$, $P > 0.001$). The average number of anglers had a positive relationship with average big bass weight ($R^2 = 0.70$, $df = 37$, $P > 0.001$). Other factors were positively related but the relationship was minimal as indicated by the low adjusted R^2 values. A “best subsets” regression did not reveal multiple variables that would significantly relate to big bass weight.

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Submitted by: Michelle L. Cain, Assistant Fisheries Biologist
Date: February 11, 2010

Approved by: Daniel P. Carnahan, Fisheries Biologist

Approved by: 
Brian M. Schoenung, Fisheries Supervisor

Date: March 9, 2010

Table 1. List of lake acreage

Lake Name	Acreage
Brookville Reservoir	5,260
Cagle's Mill Reservoir	1,400
Cecil M. Harden Reservoir	2,060
Hardy Lake	741
Mississinewa Reservoir	3,280
Monroe Reservoir	10,750
Patoka Lake	8,880
Salamonie Reservoir	2,665
Sylvan Lake	669
Syracuse Lake	414
Lake Wawasee	3,410

Table 2. Overall tournament numbers by year.

Year	Number of bass	Number of tournaments	Avg. number of bass/tournament	Number of anglers	Number bass caught/angler	Avg. number of anglers/tournament
2006	10,425	150	70	11,943	0.87	80
2007	9,585	122	79	10,215	0.94	84
2008	10,136	160	63	11,474	0.88	72
2009	9,479	127	75	9,682	0.97	76

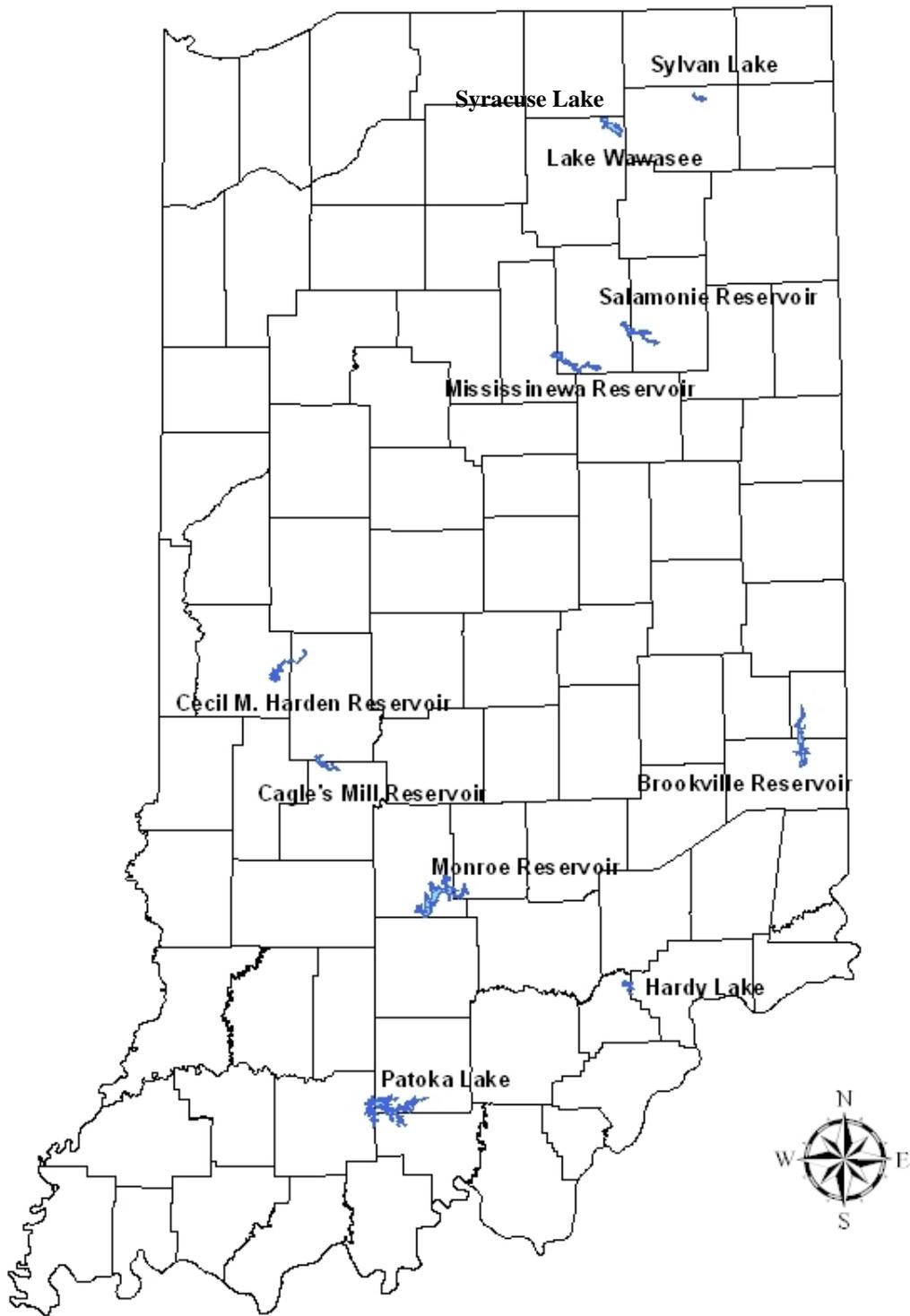


Figure 1. Map of lakes/reservoirs with registered black bass tournaments.

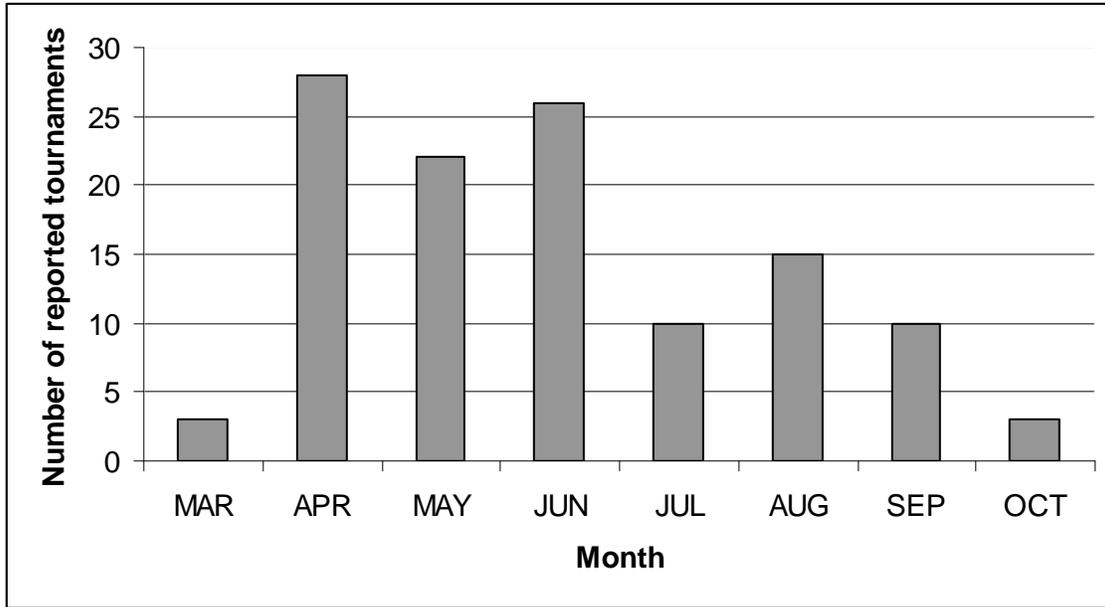


Figure 2. Number of reported tournaments by month.

Appendix 1
Tournament report forms



**REPORTING FOR FISHING TOURNAMENT
ON PUBLIC WATERS**

State Form 52361 (R / 5-06)
Pursuant to 312 IAC 2-4

Page ____ of ____

Instructions: Reports must be mailed within 30 days of tournament completion.

Name of Applicant				Name of Organization					
Address									
City, State, ZIP Code									
Telephone Number (including area code)					Fax Number (including area code)				
Tournament Lake			Tournament Date		Start time	End Time	Species Sought		
Tournament Launch Location					Tournament Release Location				
Number of Boats Proposed			Number of Boats Present		Actual Number of Anglers			Type of event Team <input type="checkbox"/> Individual <input type="checkbox"/>	
Team/Angler	Number	Weight	Team/Angler	Number	Weight	Team/Angler	Number	Weight	
1			26			51			
2			27			52			
3			28			53			
4			29			54			
5			30			55			
6			31			56			
7			32			57			
8			33			58			
9			34			59			
10			35			60			
11			36			61			
12			37			62			
13			38			63			
14			39			64			
15			40			65			
16			41			66			
17			42			67			
18			43			68			
19			44			69			
20			45			70			
21			46			71			
22			47			72			
23			48			73			
24			49			74			
25			50			75			

Signature _____ Date _____

Return completed activity report for fishing tournaments to: Department of Natural Resources, Division of Fish and Wildlife, 1353 South Governors Drive, Columbia City, IN 46725-7539

Team/Angler	Number	Weight	Team/Angler	Number	Weight	Team/Angler	Number	Weight
76			116			156		
77			117			157		
78			118			158		
79			119			159		
80			120			160		
81			121			161		
82			122			162		
83			123			163		
84			124			164		
85			125			165		
86			126			166		
87			127			167		
88			128			168		
89			129			169		
90			130			170		
91			131			171		
92			132			172		
93			133			173		
94			134			174		
95			135			175		
96			136			176		
97			137			177		
98			138			178		
99			139			179		
100			140			180		
101			141			181		
102			142			182		
103			143			183		
104			144			184		
105			145			185		
106			146			186		
107			147			187		
108			148			188		
109			149			189		
110			150			190		
111			151			191		
112			152			192		
113			153			193		
114			154			194		
115			155			195		

Signature _____ Date _____

Return completed activity report for fishing tournaments to: Department of Natural Resources, Division of Fish and Wildlife, 1353 South Governors Drive, Columbia City, IN 46725-7539

LENGTH FREQUENCY

Page _____ of _____

Date		Name of Organization	
Number of Anglers		Number of Boats	
Start Time		End Time	

Instructions: Measure fish from tip of snout to tips of tail to the nearest 1/2 inch

14	
14.5	
15	
15.5	
16	
16.5	
17	
17.5	
18	
18.5	
19	
19.5	
20	
20.5	
21	
21.5	
22	
22.5	
23	
23.5	
24	
24.5	
25	

SPECIES SOUGHT:	
TOTAL WEIGHT:	
WINNING WEIGHT:	
BIG FISH WEIGHT:	
TOTAL NUMBER OF FISH WEIGHED IN:	

Please send form back to: Department of Natural Resources
 Division of Fish and Wildlife / 1353 South Governors Drive / Columbia City, IN 46725-753
 Phone: (260) 244-3720

Appendix 2

Tournament data by lake by year

Summary of Bass Tournament Results by Lake for 2006									
Lake name	Number of reported tournaments	Total. number of anglers	Avg. weight big bass	Total bass weight	Avg. bass weight	Total number bass caught	Hrs. to catch legal bass	No. of tournaments measured bass	Hrs. to catch 18 in bass
Brookville	8	532	3.7	985	2.09	534	5.4	5	354.7
Cagle's Mill	2	100	4.4	108	*	42	10.1	1	77.3
Cecil M. Harden	5	172	4.1	404	2.70	147	7.5	3	54.6
Hardy	10	388	2.8	498	1.48	338	2.4	7	1,164.0
Mississinewa	1	80	4.4	174	2.44	71	9.0	1	*
Monroe	31	3,955	6.0	7,524	2.56	2,966	10.7	24	62.0
Patoka	39	3,828	5.2	7,841	2.76	2,932	10.1	21	35.0
Salamonie	2	178	5.1	138	2.21	62	23.0	1	392.0
Sylvan	30	1,222	3.9	1,378	1.88	757	6.4	4	100.4
Wawasee/Syracuse	30	1,488	3.6	4,241	1.77	2,576	4.8	0	*
Totals	150	11,943		23,291		10,425	9.3	67	

*Not enough data present to calculate or for accurate results.

Summary of Bass Tournament Results by Lake for 2007									
Lake name	Number of reported tournaments	Total number of anglers	Avg. weight big bass	Total bass weight	Avg. bass weight	Total number bass caught	Hrs. to catch legal bass	No. of tournaments measured bass	Hrs. to catch 18 in bass
Brookville	11	634	4.6	1,312	2.18	595	7.9	10	145.9
Cagle's Mill	0	*	*	*	*	*	*	0	*
Cecil M. Harden	2	68	4.0	145	2.56	51	10.6	0	*
Hardy	10	450	3.4	869	1.59	545	2.3	6	606.7
Mississinewa	4	204	4.0	431	1.98	216	7.6	1	*
Monroe	30	2,708	5.0	5,841	2.25	2,435	9.0	21	254.7
Patoka	25	3,741	5.8	9,341	2.82	3,302	8.6	8	49.3
Salamonie	1	48	5.1	79	1.92	41	9.4	0	*
Sylvan	22	954	3.7	1,111	1.75	636	7.2	0	*
Wawasee/Syracuse	25	1,408	4.3	3,614	2.00	1,764	5.9	0	*
Totals	122	10,215		22,742		9,585	8.4	46	

*Not enough data present to calculate or for accurate results.

Summary of Bass Tournament Results by Lake for 2008									
Lake name	Number of reported tournaments	Total number of anglers	Avg. weight big bass	Total bass weight	Avg. bass weight	Total number bass caught	Hrs. to catch legal bass	No. of tournaments measured bass	Hrs. to catch 18 in bass
Brookville	14	880	4.3	2,168	1.99	1,105	6.2	12	146.4
Cagle's Mill	1	44	4.6	20	*	6	55.2	1	*
Cecil M. Harden	5	278	5.2	409	2.89	137	15.7	3	60.4
Hardy	17	664	3.5	1,053	1.58	666	4.1	8	1,476.0
Mississinewa	13	790	4.3	708	2.45	344	12.6	2	239.0
Monroe	33	2,972	5.7	6,579	2.54	2,865	8.0	14	125.0
Patoka	28	3,490	5.7	6,475	2.96	2,135	12.6	10	43.8
Salamonie	1	50	*	68	1.83	37	10.8	0	*
Sylvan	22	902	3.5	1,367	1.70	796	6.1	1	120.0
Wawasee/Syracuse	27	1,404	4.1	3,911	1.93	2,045	4.6	9	85.6
Totals	160	11,474		22,759		10,136	8.8	60	

*Not enough data present to calculate or for accurate results.

Summary of Bass Tournament Results by Lake for 2009									
Lake name	Number of reported tournaments	Total number of anglers	Avg. weight big bass	Total bass weight	Avg. bass weight	Total number bass caught	Hrs. to catch legal bass	No. of tournaments measured bass	Hrs. to catch 18 in bass
Brookville	15	1,012	4.2	1,496	1.94	789	6.5	10	323.8
Cagle's Mill	1	28	4.0	35	1.84	19	11.8	0	300.2
Cecil M. Harden	3	148	4.0	100	2.66	41	29.3	3	*
Hardy	16	614	3.5	827	1.55	534	3.4	8	155.1
Mississinewa	4	192	3.2	298	1.57	156	9.9	3	146.0
Monroe	31	2,948	5.6	6,234	2.61	2,439	8.6	18	55.1
Patoka	25	3,106	6.2	8,090	2.78	2,836	8.9	14	22.1
Salamonie	2	46	2.9	83	1.95	46	8.4	1	*
Sylvan	9	416	4.1	801	1.78	453	6.5	4	271.6
Wawasee/Syracuse	21	1,172	4.5	4,182	2.00	2,166	5.0	9	50.4
Totals	127	9,682		22,119		9,479	8.2	70	

* Not enough data present to calculate or for accurate results