

Kansas Black Bass Tournament Monitoring

2010 Annual Report

Kansas Department of Wildlife, Parks and Tourism

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July 2011
A contribution of Dingell-Johnson Funds
Federal Aid Project No. F-30-R16 & 17
Report for Period
January 1, 2010 to December 31, 2010

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Introduction

This report summarizes catches of black bass (*Micropterus* spp.) species from tournaments conducted in 2010 on Kansas waters by bass clubs that cooperated in our tournament monitoring program. Tournament catches of black bass have been recorded in Kansas since 1977 and have proven valuable for indexing largemouth bass (*Micropterus salmoides*) relative abundance and length frequencies in impoundments. These catch statistics supplement the Department of Wildlife, Parks and Tourism's sampling data and are used to evaluate management activities. However, caution is expressed on the reliability of estimates of length frequency, structural indices or catch rates based on catch data at impoundments with few events reported.

Results and Discussion

In 2010, five bass clubs reported the catches of black bass from six tournaments (Table 1); all tournaments were conducted on federal reservoirs. No tournament catch data was reported for small impoundments.

Table 1. Bass clubs contributing black bass catch data from Kansas tournaments in 2010.

Bass Club
America Bass Anglers
Kansas Bass Federation Nation
Kansas Buddy Bass
Miami County Bass Club
Western Nebraska BASS

The number of tournament events reported in 2010 was 76% lower than the previous year (Table 2). The reported number of angler-hours for black bass tournaments in 2010 was 89% lower than the 14-year mean and 70% lower than in 2009. The number of bass greater than twelve inches caught was 90% lower than the 14-year mean and 68% lower than in 2009. The weight of bass greater than twelve inches caught was 91% lower than the 14-year mean and 68% lower than in 2009. The 2010 hourly catch rate of bass greater than twelve inches was 2% greater than the 14-year mean, but 3% less than the catch rate in 2009.

In 2010, 124 bass over twenty inches were caught. This was 92% lower than the 14-year mean number caught but 43% greater compared to 2009. On average, it took 106 angler-hours to catch one bass over twenty inches; this is 30% greater than the 14-year mean but 5% less than in 2009. The heaviest bass reported from tournaments conducted in 2010 was 7.3 pounds; this was 3% less than the 14-year mean but 30% greater than in 2009.

An accepted standard of quality largemouth bass fishing can be indicated by a catch rate of 0.2 bass per hour (for bass twelve inches or larger). In 2010, four out of five reservoirs had catch rates that met or exceeded the standard (Table 3). Norton Reservoir had the highest catch rate of bass per hour (for bass twelve inches or larger) at 0.70; El Dorado Reservoir had the lowest catch rate of bass per hour (for bass twelve inches or larger) at 0.15. Bass caught that were greater than twelve inches averaged 1.8 pounds (Table 3). Perry Reservoir had the highest mean weight for bass greater than twelve inches (2.2 pounds); Norton Reservoir had the lowest mean weight for bass greater than twelve inches (1.5 pounds).

LaCygne Reservoir had the highest reported number of bass greater than twenty inches caught (5), followed by Perry (4), and Norton (1) (Table 3). These three reservoirs required 34, 46, and 198 angler-hours, respectively, per bass over twenty

inches. Tournament reports for El Dorado and Melvern reservoirs indicated no bass twenty inches or greater were caught.

Table 4 lists black bass tournament catch rates at Kansas reservoirs dating back to 1997. Comparing current catch rates to historic mean catch rates can serve as a reference to indicate the current condition of the fishery. The percent deviation indicates whether catch rates were above (indicated by a positive number) or below (indicated by a negative number) average and the magnitude of the deviation. Percent deviations above average may suggest the presence of strong year classes, whereas steady-state populations may be indicated by deviations within +/- 10% of the mean. Catch rates 25% or lower than the historical average may indicate a decline in reproduction or recruitment.

Voluntary participation in our monitoring program continued to decline from 2009 to 2010; the number of tournaments reported in 2010 was considerably fewer than in recent years. This trend of decline, and likely cause, was documented in previous annual reports. KDWPT does not suspect the number of tournaments conducted is significantly declining. Catch data from multiple tournaments at impoundments is critical to provide reliable and accurate statistical interpretation. Catch statistics provided in this report may be skewed because there were few reported tournaments. KDWPT will continue to review the processes through which it receives tournament catch data. Also, KDWPT will investigate ways to simplify the reporting process to increase reporting, which may include bringing back its online reporting form (where data is submitted by typing it directly into a webpage) or providing more personalized, proactive interaction with club tournament coordinators.

Table 2. Annual tournament statistics on black bass in Kansas reservoirs reported by bass clubs from 1997-2010.

Statistic	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 mean	14-year mean	2010 % deviation from mean	2010 % deviation from 2009
Tournaments reported	170	160	174	149	88	65	53	32	38	39	35	41	25	6	77	-92	-76
Total Angler-days	3,240	3,488	3,442	3,238	2,129	1,609	1,557	572	782	776	797	488	748	175	1,646	-89	-77
Total Angler-hours	25,920	27,902	27,532	25,902	17,029	12,874	12,456	4,572	6,252	6,206	6,377	3,901	4,675	1,384	13,070	-89	-70
Bass over 12 inches	6,684	7,291	9,106	9,141	7,832	5,202	4,667	1,649	2,240	3,104	2,192	1,337	1,427	457	4,452	-90	-68
Pounds of bass over 12 inches	14,091	15,768	19,111	18,976	15,545	10,247	9,308	3,340	4,509	5,788	4,379	2,746	2,590	818	9,087	-91	-68
Mean pounds per bass over 12 inches	2.1	2.2	2.1	2.2	2.1	2.3	2.1	2.1	2.0	1.79	1.9	2.15	1.84	1.79	2.0	-12	-3
Bass over 12 inches per hour	0.31	0.28	0.31	0.34	0.36	0.31	0.26	0.26	0.34	0.48	0.28	0.34	0.34	0.33	0.32	2	-3
Pounds of bass > 12 inches per hour	0.54	0.57	0.69	0.73	0.91	0.80	0.75	0.73	0.72	0.93	0.69	0.70	0.55	0.59	0.71	-17	7
Bass over 20 inches	222	210	279	292	170	137	142	61	65	53	51	38	7	10	124	-92	43
Hours per bass over 20 inches	117	133	99	89	100	94	88	68	96	96	125	103	145	138	106	30	-5
Largest bass (lbs)	8.1	7.7	8.2	8.8	8.8	7.3	7.7	8.2	6.3	6.9	6.9	7.2	5.6	7.3	7.5	-3	30

Table 3. Summary of length frequencies, stock indices, and catches of black bass in tournaments on Kansas Reservoirs in 2010.

Length (inches)	Percent of Catch					Mean	Total
	El Dorado	LaCygne	Melvern	Norton	Perry		
8	10	6	13	0	15	9	
9	10	0	3	0	7	4	
10	10	8	14	5	9	9	
11	10	5	7	7	12	8	
12	18	21	10	24	5	16	
13	16	5	22	22	11	15	
14	10	17	14	28	17	17	
15	10	14	8	8	5	9	
16	2	13	4	3	3	5	
17	0	5	2	1	8	3	
18	4	2	1	1	2	2	
19	0	1	1	1	2	1	
20	0	0	0	1	1	0	
21	0	2	0	0	1	1	
22	0	1	0	0	2	1	
23	0	0	0	0	0	0	
24	0	0	0	0	0	0	
25	0	0	0	0	0	0	
Total Bass (all sizes)	50	156	148	158	123	127	635
Total Anglers	25	60	44	22	24	35	175
Angler Hours	198	408	396	198	184	277	1384
Number of Tournaments	1	2	1	1	1	1	6
Percent of Catch							
Bass 8-12 inches	40	19	38	12	44	30	
Bass 12-15 inches	44	44	46	74	33	48	
Bass 15-20 inches	16	35	16	13	20	20	
Bass 20-25 inches	0	3	0	1	3	1	
Catch By Size Category *							
Bass 8-12 inches/hour	0.10	0.08	0.14	0.10	0.29	0.14	
Bass 12-15 inches/hour	0.11	0.18	0.17	0.59	0.22	0.26	
Bass 15-20 inches/hour	0.04	0.14	0.06	0.11	0.13	0.10	
Bass 20-25 inches/hour	0.00	0.01	0.00	0.01	0.02	0.01	
Bass > 8 inches / hour	0.25	0.40	0.37	0.80	0.67	0.50	
Bass > 12 inches / hour	0.15	0.32	0.23	0.70	0.36	0.35	
Wt. of bass >12 in. (lbs.)	48	253	152	214	151	163.60	818
Mean wt. of bass >12 inches	1.6	1.99	1.65	1.5	2.2	1.79	
Number of bass > 12 inches	30	127	92	139	69	91.40	457
Number of bass > 20 inches	0	5	0	1	4		10
Hours per bass > 20 inches	0	34	0	198	46		
Wt. of largest bass (lbs.)	6.5	7.3	4.7	3.8	6.6	5.8	

* Geometric mean catches were weighted according to the number of tournaments at each reservoir. Hourly catches of bass > 8 or > 12 inches may not equal the sum of catches of included length groups because each catch statistic was calculated independently as a mean of replicate tournaments on each reservoir.

Table 4. Trends in catch per hour for two length groups of black bass from Kansas reservoir black bass angling tournaments from 1997-2010.

Reservoir	Length Group (inches)	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Geo-metric mean	2010 % deviation from mean	2010 % deviation from 2009
Big Hill	>8	0.38	0.33	0.41	0.46	0.55	0.50	0.39	0.44	0.48	0.55	0.47	0.52		0.45			
	>12	0.29	0.25	0.33	0.35	0.53	0.52	0.36	0.37	0.39	0.46	0.38	0.37		0.38			
Cedar Bluff	>8	0.46	0.47	0.51	0.58	0.74	0.37	0.33	0.70	0.33	0.56	0.36			0.47			
	>12	0.42	0.35	0.44	0.59	0.74	0.37	0.30	0.66	0.30	0.51	0.33			0.43			
Clinton	>8	0.17	0.29	0.26	0.24	0.09	0.12	0.26					0.14		0.18			
	>12	0.14	0.25	0.21	0.20	0.06	0.06	0.25					0.14		0.14			
Council Grove	>8	0.17	0.67												0.34			
	>12	0.13	0.52												0.26			
EI Dorado***	>8	0.36	0.54	0.14	0.14				0.08	0.54			0.24		0.25	0.24	5.6	
	>12	0.28	0.34	0.11	0.10				0.08	0.33			0.14		0.15	0.17	-9.7	
Fall River	>8	0.06													0.06			
	>12	0.04													0.04			
Glen Elder	>8		0.11										0.36	0.23	0.21			
	>12		0.08										0.27	0.17	0.16			
Hillsdale	>8	0.11	0.15	0.16	0.14	0.22	0.12		0.08				0.27	0.25	0.22	0.16		
	>12	0.10	0.15	0.17	0.14	0.19	0.10		0.05				0.23	0.22	0.21	0.14		
Kanopolis	>8		0.10												0.10			
	>12		0.04												0.04			
Kirwin	>8	0.79	0.43	0.43	0.62	0.59	0.15	0.23							0.41			
	>12	0.70	0.39	0.39	0.60	0.58	0.14	0.23							0.38			
La Cygne ***	>8	0.37	0.22	0.34	0.35	0.38	0.11	0.13					0.29	0.25	0.10	0.4	0.24	
	>12	0.30	0.18	0.26	0.26	0.22	0.10	0.13					0.27	0.13	0.09	0.32	0.19	
Marion	>8															67.0	309.6	
	>12															69.3	241.3	
Melvern ***	>8	0.22	0.31	0.25	0.24	0.26	0.67	0.37					0.37	0.63	0.48	0.57	0.37	
	>12	0.22	0.19	0.17	0.20	0.23	0.42	0.24					0.24	0.53	0.45	0.56	0.28	
Milford	>8	0.19	0.40	0.41	0.28	0.55	0.38	0.35					0.63		0.38			
	>12	0.18	0.26	0.27	0.18	0.32	0.23	0.24					0.35		0.25			
Norton***	>8	1.09	0.89	1.03	1.07	0.97	0.64	0.77					0.80	0.91	-11.9			
	>12	0.93	0.73	0.84	1.01	0.88	0.61	0.72					0.70	0.81	-13.2			
Perry ***	>8	0.25	0.25	0.37	0.28	0.40	0.25						0.43	0.16	0.28	0.67	0.31	
	>12	0.20	0.21	0.33	0.21	0.33	0.22						0.43	0.13	0.27	0.36	0.25	
Pomona	>8		0.48		0.13								0.27	0.17	0.23			
	>12		0.31		0.13								0.27	0.17	0.21			
Toronto	>8																	
	>12																	
Tuttle Creek	>8	0.36	0.19											0.26				
	>12	0.36	0.18											0.25				
Webster	>8	0.50	0.48	0.34	0.38	0.21	0.40	0.33						0.36				
	>12	0.47	0.44	0.30	0.34	0.14	0.39	0.32						0.32				
Wilson	>8	0.26	0.21	0.25	0.35	0.36	0.84	0.48	0.30	0.77	1.08	0.18	1.03		0.42			
	>12	0.23	0.17	0.19	0.29	0.33	0.58	0.42	0.24	0.57	0.88	0.18	0.88		0.35			

*** 2010 catch rates based on two tournaments or less.

Appendix A. Summary of length frequencies, stock indices, and catches of black bass in tournaments on El Dorado Reservoir in 2010.

REPLICATE TOURNAMENTS

Appendix B. Summary of length frequencies, stock indices, and catches of black bass in tournaments on LaCygne Reservoir in 2010.

		REPLICATE TOURNAMENTS																				Total Wt	% of catch					
LENGTH (inches)	SIZE CLASS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	SUM	N	MEAN	STD	CV		
8 Stock		6	3																			9	2	4.50	2.12	47.14	2.69	5.77
9		0	0																			0	2	0.00	0.00	#DIV/0!	0.00	0.00
10			11	1																		12	2	6.00	7.07	117.85	7.05	7.69
11		7	1																			8	2	4.00	4.24	106.07	6.28	5.13
12 Quality		22	11																			33	2	16.50	7.78	47.14	33.81	21.15
13		8	0																			8	2	4.00	5.66	141.42	10.48	5.13
14		16	11																			27	2	13.50	3.54	26.19	44.41	17.31
15 Preferred		14	8																			22	2	11.00	4.24	38.57	44.77	14.10
16		12	8																			20	2	10.00	2.83	28.28	49.69	12.82
17		5	3																			8	2	4.00	1.41	35.36	23.98	5.13
18		3	0																			3	2	1.50	2.12	141.42	10.74	1.92
19		1	0																			1	2	0.50	0.71	141.42	4.23	0.64
20 Memorable		0	0																			0	2	0.00	0.00	#DIV/0!	0.00	0.00
21		3	0																			3	2	1.50	2.12	141.42	17.34	1.92
22		2	0																			2	2	1.00	1.41	141.42	13.37	1.28
23		0	0																			0	2	0.00	0.00	#DIV/0!	0.00	0.00
24		0	0																			0	2	0.00	0.00	#DIV/0!	0.00	0.00
25 Trophy		0	0																			0	2	0.00	0.00	#DIV/0!	0.00	0.00
Total Bass (all sizes)		110	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	156	10	15.60	36.18	231.94			
Total Anglers		28	32																		60	2	30.00	2.83	9.43			
Angler Hours		168	240																		408	2	204.00	50.91	24.96			
Month		4	3																		7	2	3.50	0.71	20.20			
Structural Indices																						Pooled index	Mean index	STD	CV			
RSD S-Q		22	11	#DIV/0!	19	2	16.34	7.74	47																			
RSD Q-P		42	48	#DIV/0!	44	2	44.82	4.25	9																			
RSD P-M		32	41	#DIV/0!	35	2	36.56	6.71	18																			
RSD M-T		5	0	#DIV/0!	3	2	2.27	3.21	141																			
Catch By Size Category																						Pooled catch	Geo mean catch	STD	CV			
S-Q bass/hr		0.14	0.02	#DIV/0!	0.07	2	0.08	0.22	274																			
Q-P bass/hr		0.27	0.09	#DIV/0!	0.17	2	0.18	0.35	193																			
P-M bass/hr		0.21	0.08	#DIV/0!	0.13	2	0.14	0.23	165																			
M-T bass/hr		0.03	0.00	#DIV/0!	0.01	2	0.01	0.05	336																			
Bass > 8 in/hr		0.65	0.19	#DIV/0!	0.38	2	0.40	1.13	278																			
Bass >=12 in/hr		0.48	0.17	#DIV/0!	0.31	2	0.32	0.66	208																			
Bass >=20 in		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	no. >12"=	127	5	10	Mean	252.8	1.99 mean wt		
Hours per bass >=20 in		33.60	#DIV/0!		1	#DIV/0!																						
Wt. of largest bass (lbs.)		7.3	3.55																			2	5.43			7.3		
Log (Catch)																						0.03						
S-Q bass/hr		0.06	0.01	#DIV/0!	0.11	0.04	#DIV/0!	#DIV/0!	#DIV/0!	0.07																		
Q-P bass/hr		0.11	0.04	#DIV/0!	0.08	0.03	#DIV/0!	#DIV/0!	#DIV/0!	0.06																		
P-M bass/hr		0.08	0.03	#DIV/0!	0.01	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.01																		
M-T bass/hr		0.01	0.00	#DIV/0!	0.22	0.08	#DIV/0!	#DIV/0!	#DIV/0!	0.15																		
Bass > 8 in/hr		0.22	0.08	#DIV/0!	0.17	0.07	#DIV/0!	#DIV/0!	#DIV/0!	0.12																		

Appendix C. Summary of length frequencies, stock indices, and catches of black bass in tournaments on Melvern Reservoir in 2010.

REPLICATE TOURNAMENTS

Appendix D. Summary of length frequencies, stock indices, and catches of black bass in tournaments on Norton Reservoir in 2010.

REPLICATE TOURNAMENTS

Appendix E. Summary of length frequencies, stock indices, and catches of black bass in tournaments on Perry Reservoir in 2010.

REPLICATE TOURNAMENTS