

Wildlife Manager Stewart Kohnke and Fisheries Program personnel conducted a spring electrofishing survey at Alamo Lake on the night of April 7, 2013 (and into the wee hours of April 8). As screaming winds were predicted to arrive the next day, which would have precluded us from being able to survey the next evening, we did what needed to be done, and surveyed our standard spring survey protocol total of 12 stations, in a single night. We did not get off the water until 4:00 a.m., but the weather was ideal all night long. The next day the winds arrived as predicted; it was well worth it to have pulled an all-nighter and gotten the job done. And what a survey it was; one of the best in recent memory! Our catch rate (29.7 CPUE) was the highest we've recorded since instituting the standardized survey protocol, and the fish were in better condition (we measured a mean relative weight of 95.9; see Figure 2) than we've seen since 2005 (Figure 2). We were especially pleased with this survey, as it followed probably our worst survey ever, last fall. We were concerned that the bass population was struggling at that time, but it appears that we may have just experienced an anomalous survey. As a caveat, it is likely that the survey we just completed was also somewhat anomalous, but in a very reassuring way. It just goes to show that too much emphasis should not be placed on any single survey. However, the fact that bass were quite numerous, and in good condition, suggests that the population is healthy. Water clarity was poor in the upper end of the lake, which made detecting stunned fish more difficult, but we were still fairly effective even at the stations with turbid water. Our electrofishing equipment seemed to be unusually effective on this survey; we suspect that the conductivity of the water was ideal for our equipment. At stations with relatively clear water, where we could see the response of the bass to the electrical field, we noted that the field seemed to be much more effective at attracting and stunning fish than it often is. We processed a total of 403 fish, including 356 largemouth bass, 36 channel catfish, 2 black crappies and two yellow bullheads. We also contacted bluegills, redear sunfish, green sunfish, threadfin shad, carp and tilapia. We did not do a "complete" fish community survey, but we did collect at least one individual of all fish species encountered, to document occurrence. Threadfin shad were quite abundant, which undoubtedly contributed to the good condition of the bass.

Largemouth bass ranged in size from 88 mm (3.5 in) to 542 mm (21.3 in), with an average length of 328 mm (12.9 in). Weights ranged from 5 g (0.01 lb) to 2630 g (5.8 lb), with an average weight of 565 g (1.2 lb). See Figure 3 for relative size-class distributions of the bass population at Alamo Lake for the past six years.

**Table 1.** Summary of fisheries surveys conducted at Alamo Lake during the Spring of 2013.

Survey	Date	No. of Sample Stations	Total Effort
Electrofishing	April 7 <sup>th</sup> , 2013	12	12 EFU <sup>a</sup>

<sup>a</sup> One EFU (Electrofishing Unit) = 15 minutes of pedal time

**Table 2.** Number, relative abundance, relative biomass, catch per unit effort and size of fish sampled by electrofishing at Alamo Lake during the Spring of 2013. Only bass, black crappie, channel catfish and yellow bullhead were targeted; other species were opportunistically collected to document occurrence.

SPECIES	Number Sampled	% of Total	Catch per Effort	Weight Sampled (kg)	% of Total	Min Length (mm)	Max Length (mm)
LmB	356	88	29.7	201.23	86	88	542
Bg	1	0	0.1	0.02	0	104	104
Re	1	0	0.1	0.26	0	243	243
GS	1	0	0.1	0.04	0	128	128
BC	2	0	0.2	1.32	1	314	350
TI	2	0	0.2	3.26	1	431	435
CC	36	9	3.0	26.29	11	150	610
Cp	1	0	0.1	2.24	1	517	517
YBh	2	0	0.2	0.24	0	170	235
TS	1	0	0.1	0.00	0	70	70
Total	403		33.6	234.88			

SPECIES	Avg. Length (mm)	Std. Dev.	Avg. Weight (g)	Std. Dev.
LmB	328	73	565	345
Bg	104	.	20	.
Re	243	.	255	.
GS	128	.	40	.
BC	332	25	658	180
TI	433	3	1630	7
CC	425	106	730	413
Cp	517	.	2235	.
YBh	203	46	118	81
TS	70	.	3	.

Lmb=largemouth bass, Bg=bluegill, Re=redear sunfish, GS=green sunfish, BC=black crappie, TI=tilapia, CC=channel catfish, Cp=carp, YB=yellow bullhead, TS=threadfin shad

**Table 3.** Physical condition (relative weight,  $W_r$ )<sup>b</sup> of largemouth bass sampled by electrofishing on Alamo Lake during the Spring of 2013.

SPECIES	Size Group (mm)	No. of Fish	Mean Relative Weight ( $W_r$ )	Standard error	Min Value	Max Value
LmB	150-199	7	98.8	3.0	90.1	109.4
	200-299	106	99.6	0.5	88.4	112.3
	300-379	163	94.5	0.5	76.2	114.3
	380-509	77	93.1	0.9	74.0	116.7
	510-629	1	99.9	-	99.9	99.9
<b>LmB Total</b>		<b>354</b>	<b>95.9</b>	<b>0.4</b>	<b>74.0</b>	<b>116.7</b>

<sup>b</sup> A fish's relative weight is the relationship between the actual weight of a fish at a given length to the national average weight (standard weight  $W_s$ ) of a fish of the same species and length (Anderson and Neumann 1996). A  $W_r$  value of 100 generally indicates that a fish is in good condition when compared to the national standard (75<sup>th</sup> percentile) for that species. The index is defined as  $W_r = W/W_s \times 100$ , where  $W$  is the weight (g) of an individual fish and  $W_s$  is the standard weight of a fish of the same total length (mm). Standard weight ( $W_s$ ) was derived from a standard weight-length ( $\log_{10}$ ) relationship, defined in Anderson and Neumann (1996). Largemouth bass less than 150 mm were excluded from calculations of  $W_r$ , as variability can be significant for small young of the year fish.

Anderson, R. O. and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in Murphy, B. R. and D. W. Willis, editors. Fisheries Techniques, 2<sup>nd</sup> edition. American Fisheries Society, Bethesda, Maryland.

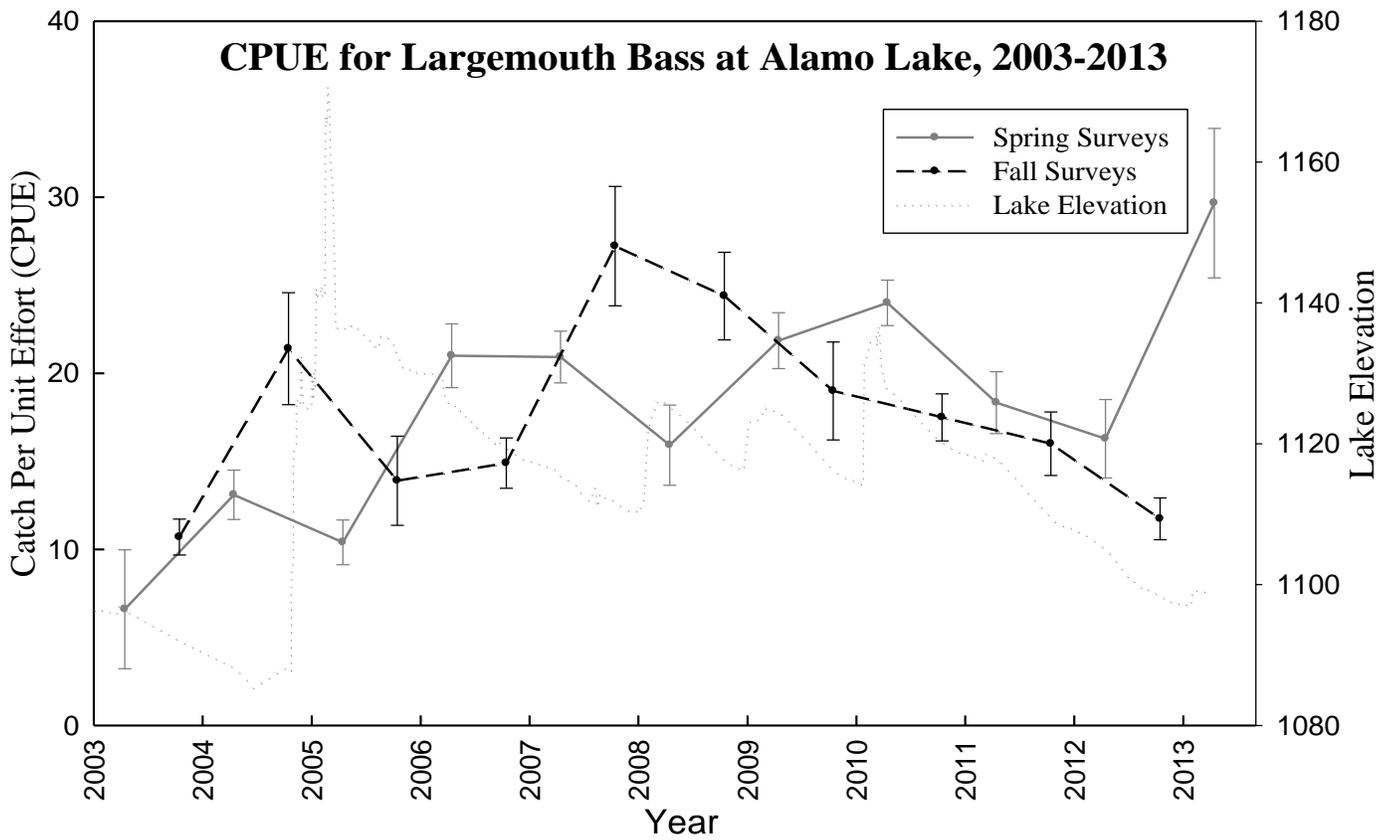
**Table 4.** Proportional and relative stock densities (PSD and RSD) of largemouth bass sampled by electrofishing on Alamo Lake during the Spring of 2013.

SPECIES	No. of Fish	No. of Stock-size Fish <sup>a</sup>	% Stock-size Fish	PSD <sup>b</sup>	RSD S-Q <sup>c</sup>	RSD Q-P	RSD P-M	RSD M-T
LMB	356	347	97.5	69	31	47	22	0

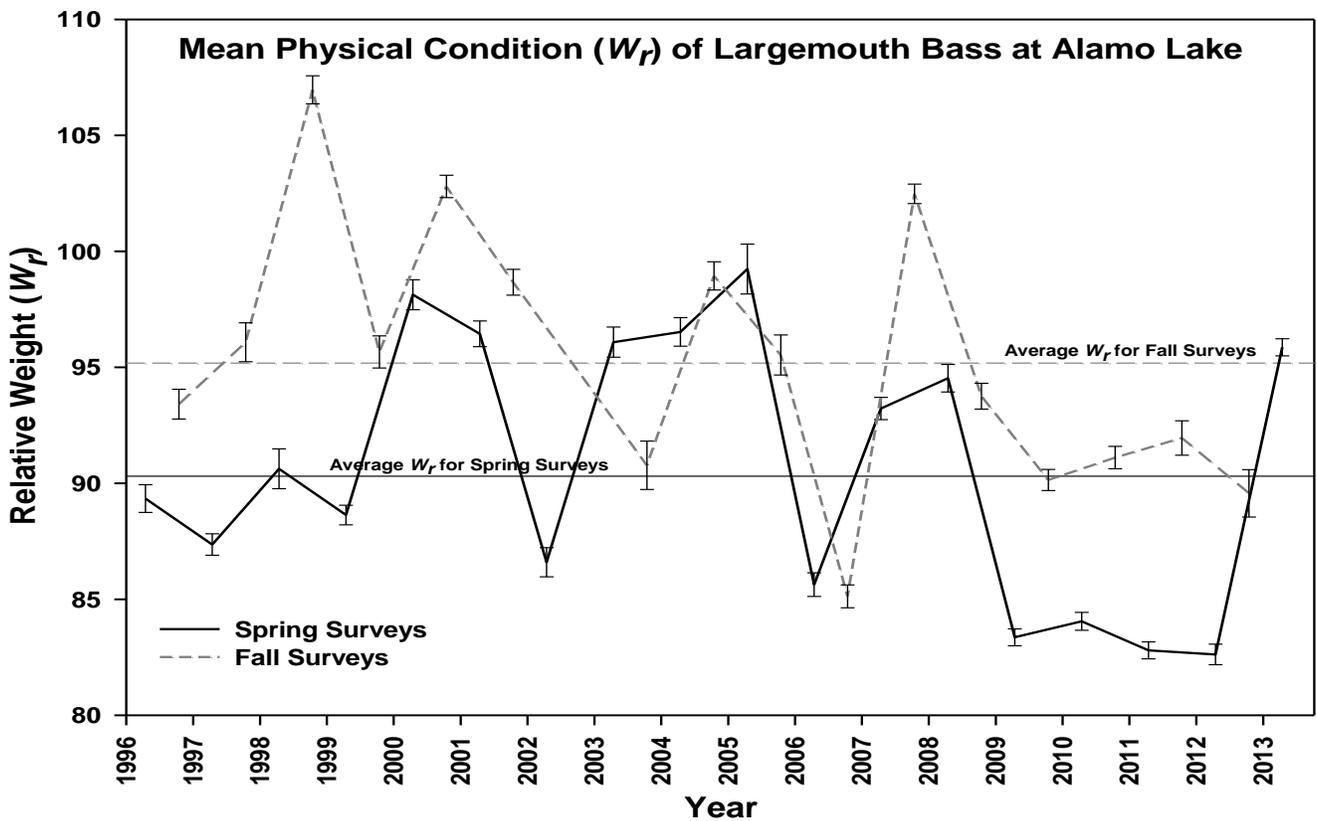
<sup>a</sup> Stock-size Fish = LmB >199 mm, CC>279mm, or BC>130mm

<sup>b</sup> PSD = Percent of stock-size fish >299 mm(LmB), >409 mm(CC), >200 mm(BC)

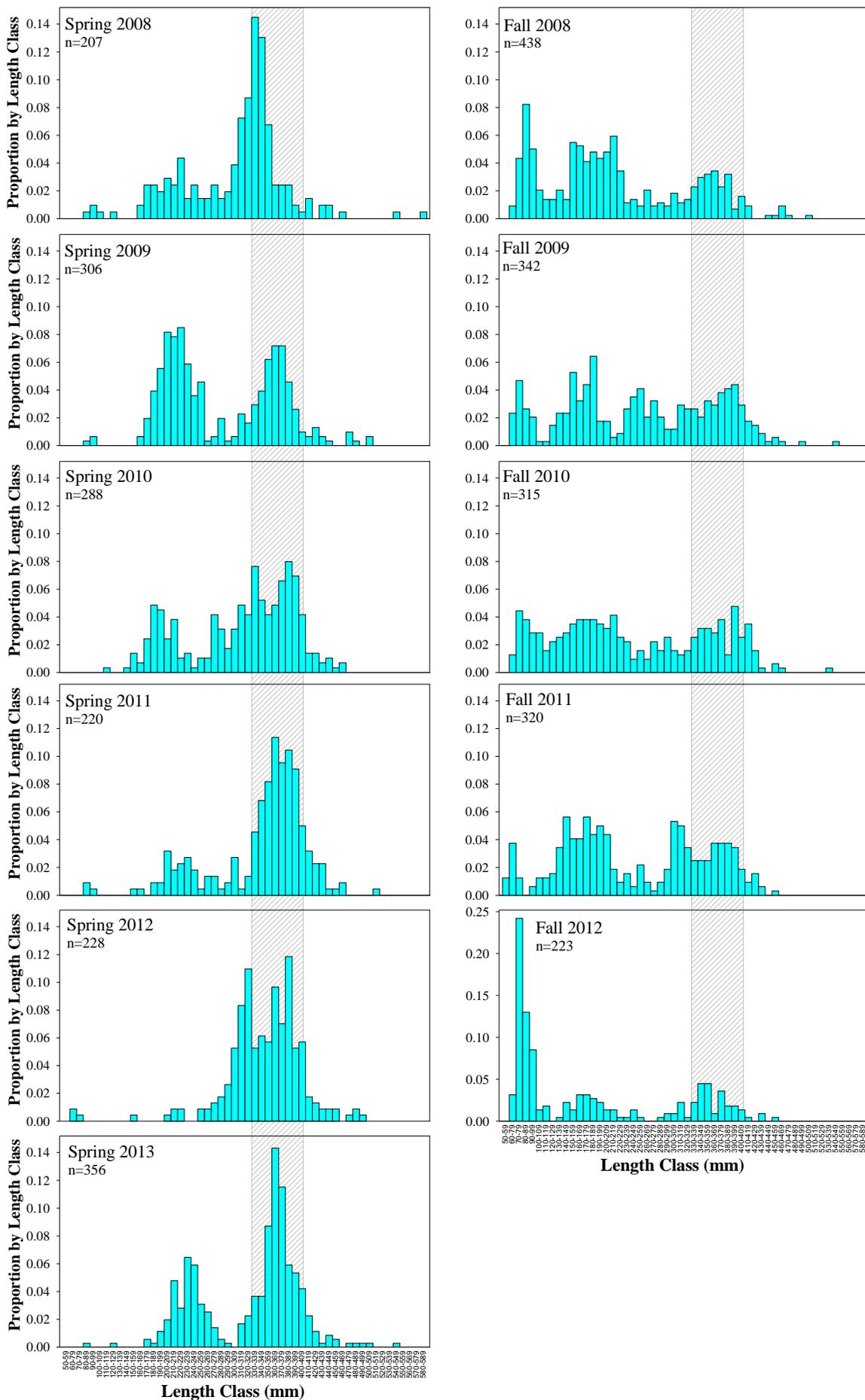
<sup>c</sup>S-Q=Stock to Quality, Q-P=Quality to Preferred, P-M=Preferred to Memorable, M-T=Memorable to Trophy



**Figure 1.** Capture rates (CPUE) for largemouth bass at Alamo Lake, over time.



**Figure 2.** Mean relative weights for largemouth bass at Alamo Lake, over time.



**Figure 3.** Length frequency distributions of largemouth bass at Alamo Lake from fall and spring electrofishing surveys, 2008-2013. Shaded area denotes the slot-size classification.