

POINT A RESERVOIR MANAGEMENT REPORT

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Introduction

Point A Reservoir (Figure 1) is a 600-acre impoundment located on the Conecuh River in Covington County, Alabama. Largemouth bass, bluegill sunfish, and redear sunfish were sampled during the spring of 2007 according to the guidelines established by the Alabama Reservoir Management Manual (Cook 1999). Point A Reservoir had previously been sampled in 2005, 2001, 1997, and 1987. Currently the only size restriction at Point A is a 9-inch minimum length limit for crappie. Gantt and Point A dams are both very old and require frequent maintenance by Alabama Electric Cooperative. Point A Reservoir was drawn down 22 feet from mid-October 2005 until mid-December 2005 to allow AEC to install sensors at the base of Gantt Dam. During this period fish were confined to the original river channel. Several sources including local conservation officers reported that angling pressure and harvest were extremely high during this time. A survey by AL WFF Aquatic Biodiversity Center personnel noted many dead mussels and snails due to the draw-down. Only a few dead bluegill trapped in pools were noted. Florida largemouth bass, channel catfish, black crappie, and bluegill sunfish were stocked in the winter of 2006 following the draw-down (Table 2).

Methods

Largemouth bass, redear sunfish, and bluegill sunfish were collected by electrofishing as described in the 1987 Management Report (Newman et al. 1987). Eight fixed sites throughout the lake were sampled by electrofishing on April 24 and May 1, 2007 (Figure 1). Otoliths were collected from a maximum of 10 bass from each 25 mm group. All other bass were released after lengths and weights were recorded. Whole otoliths were used for aging largemouth bass. The von Bertalanffy growth equation with L_{inf} constrained to 520 mm (the length of the largest bass observed in the creel survey) was used to calculate growth rates (Ricker 1975).

Results and Discussion

Largemouth bass

Largemouth bass (N = 178) were captured at a rate of 45 fish per hour, similar to the lake average catch rate of 44 fish per hour. Bass ranged in size from 77 to 425 mm TL (mode = 325 mm), and from 1 to 7 years old (Figure 2). Nearly 38% of the bass collected were 3 years old or older, compared to 60 % in 2005. RSD analysis (Anderson and Neumann 1996) indicates that the vast majority of the sample was in the stock and quality size classes, with only 5% RSD-P (Table 3, Figure 3). RSD-P and RSD-M were both below the 75th percentile for state-wide averages. Bass exhibited a PSD of 44, as compared with 59 observed in 2005. Growth rates were still low for the bass population, with bass requiring 3.2 years to reach 12 inches and 6.4 years to reach 16 inches in length (Figure 4). Condition factors were higher than in years past, ranging from 91 for RSD-Q to 97 for RSD-P (Table 3). Mortality was much higher than observed in previous samples. While 2001 and 2005 sampling indicated bass mortality in the low 30's, the 2007 catch curve indicated mortality of 62% for bass 3 years and older (Figure 5). This is very high mortality for bass in any reservoir, and is very unusual since the spring creel survey indicated a voluntary release rate of 95.6% (Appendix B). Overall, the bass population still exhibits slow growth for older fish. The biggest change noted when comparing the 2007 sample with previous collections is the high mortality rate and lack of older fish. This is probably a direct result of the 22 foot draw-down in fall 2005.

Bluegill

Bluegill sunfish (N = 100) were captured at a rate of 83 fish per hour, higher than the lake average catch rate of 74 fish per hour. Bluegill ranged in size from 81 to 218 mm TL (mode =

110 mm, Figure 6). Bluegill exhibited a PSD of 7, as compared with 18 in 2005 and 29 observed in 2001. RSD-Q was well below the 75th percentile for state-wide averages (Figure 7). Condition factors were still in the mid 90's (Table 3). The lack of quality size bluegill is unusual since Point A and Gantt both have reputations for quality bream fishing. Overall, the 2007 sample indicates a shift towards smaller bluegill. This is probably another result of the 2005 draw-down, as many adult bream were harvested and natural mortality was certainly higher. Bluegill would have spawned heavily in 2006 to fill the void, resulting in the smaller size structure of the bluegill population.

Redear sunfish

Redear sunfish (N = 116) were captured at a rate of 108 fish per hour, much higher than the lake average catch rate of 69 fish per hour. Redear ranged in size from 81 to 277 mm TL (mode = 130mm, Figure 8). Redear exhibited a PSD of 29, as compared with 35 observed in 2005. Condition factors were high for all RSD groups, ranging from 125 to 130. Overall, the redear population demonstrated good population size structure for a reservoir fishery, and showed no detrimental effect from the draw-down.

Creel Survey Results

Gantt and Point A were combined in the 2007 angler access creel survey since together they only account for approximately 3,500 acres of water. This was the first creel survey ever conducted on either of these lakes, and some results were expected while others were very surprising. As expected, Gantt produced nearly twice as many interviews, with 33 at Point A compared to 59 at Gantt (Appendix B). However, Point A interviews accounted for 1,095 angler hours while Gantt interviews only accounted for 538 angler hours. This was due to 2 bass tournaments with over

50 anglers each occurring during the time for Point A creels (over 100 anglers in 2 surveys), while there were not any tournaments during the Gantt creel periods. Bass catch and harvest rates were much higher at Gantt (0.78 and 0.16 bass/hour, respectively) than at Point A (0.1 and 0.04 bass/hour, respectively). Bream were the main target species on Point A, and the length frequency for harvested redear illustrates why Point A is known for quality shellcrackers. The big surprise at Gantt was the success of crappie anglers. Crappie anglers caught 1.8 crappie/hour, and harvested 1.3 crappie per hour. Length frequency indicates that most of these fish were not very big, but most anglers were happy and did not really care if they were catching black or white crappie. As noted in the angler comment section, when anglers were asked if they had any comments about the lakes, the majority stated they really enjoyed both lakes. A few anglers said they would like to see a change in regulations or that the fishing was better years ago, but the vast majority of anglers were happy with the status quo. As expected at Point A, all of the anglers were from the surrounding counties. However, at Gantt six (10%) of the parties interviewed were from Florida. Even many of the local anglers were people who had recently moved into the area.

Summary

Point A Reservoir is a shallow body of water with a substantial amount of aquatic macrophytes. Much of the nutrient load is trapped by Gantt Reservoir located directly upstream, and water quality data is generally indicative of moderately soft water reservoirs. In a fishery such as this where bass are mainly consuming sunfish and fertility is relatively low, bass would not be expected to grow very fast after their first year. Another factor in the moderate bass growth and density levels is the abundance of other predators, such as bowfin, spotted gar, and chain pickerel. Flathead catfish are also fairly abundant at Point A, and have been caught in the 40 to

50 pound range. In addition to these species, lake chubsuckers, spotted suckers, blacktail redhorse, blacktail shiners, golden shiners, warmouth, redbreast sunfish, white crappie, and hybrid striped bass were also observed during the 2007 collection. This lake provides a good bream fishery as indicated by the bluegill and redear samples, although the abundance of quality size bluegill was lower than in the past. White crappie are also fairly abundant as indicated in the 2006 Fall Reservoir Report. However, the creel survey indicated crappie are not targeted as much on Point A as they are at Gantt. One of the most detrimental factors affecting this fishery is the drastic reduction in water levels conducted by Alabama Electric Cooperative for periodic dam and turbine maintenance. The 22-foot draw-down in fall of 2005 was probably responsible for the increase in bass mortality rates and the absence of very many larger bluegill. The Reservoir Fact Sheet and General Reconnaissance Survey published in the 2001 Point A Reservoir Report have not changed except for the addition of a handicap accessible pier located at the AEC Park.

Conclusions

1. Communication and cooperation between AEC and the Wildlife and Freshwater Fisheries Division should be consistent in order to maintain this fishery to the full benefit of the angling public. Point A Dam requires frequent maintenance since the facilities are over 75 years old, but water level reductions should be conducted in late fall/winter when possible. Reservoir draw-downs should be used as opportunities for habitat improvement projects.

2. Restrictions on bass size limits would not be beneficial for this reservoir and are not recommended.

3. Encourage more participation in the B.A.I.T. Program by leaving B.A.I.T. literature at local bait and tackle stores around Point A Reservoir. Two tournaments contacted during the

creel survey agreed to begin participating in the program.

Literature Cited

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Appendix A

Tables and Figures

Table 1. Point A Reservoir morphometric, physical, and chemical characteristics

Surface area	600 acres
Drainage area	1344 square miles
Full pool elevation	170 feet-msl
Mean annual fluctuation	1 foot
Shoreline distance	19 miles
Shoreline development index	5.6 (Welch 1948)
Mean depth	3.3 feet
Outlet depth	35 feet
Total dissolved solids	43 mg/l
Growing season	233 frost free days (Jenkins 1967)
Date of Impoundment	1926

Table 2. Fish stocking history for Point A Reservoir, 1974 - 2007.

Species	Year	No/Ac	Size (in)	Total
Florida largemouth bass	1974	48.3	1 - 2	29,000
Channel catfish	1982	50.0	2 - 3	30,000
Hybrid striped bass	1982	10.0	2 - 3	6,000
Florida largemouth bass	1986	2.3	1 - 2	1,400
Bluegill	1991	234.2	1 - 2	140,500
Bluegill	1992	87.5	1 - 2	52,500
Channel catfish	1992	52.5	3 - 5	31,500
Bluegill	1994	20.0	1 - 2	12,000
Redear sunfish	1994	10.0	1 - 2	6,000
Channel catfish	2005	10.5	8 - 16	6,300
Bluegill	2005	102.0	1	61,000
Florida largemouth bass	2005	10.5	1	6,300
Black Crappie	2006	10.5	2 - 4	6,312
Bluegill	2006	502.6	1	301,560
Channel catfish	2006	12.5	4 - 5	7,520
Florida largemouth bass	2006	25.2	1 - 2	15,130

TABLE 3. Relative stock density (RSD), catch per effort (CPE), and relative weight (Wr) of target species in Point A Reservoir.

Largemouth Bass																								
Year	Gear	Number		SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				TOTAL	
		Samples	Effort	no.	cpe	ratio	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe
1997	E	4	1.89	36	19	56	36	19	56	89	22	12	34	78	5	3	8	80					100	53
2001	E	7	3.10	33	11	33	62	20	62	87	24	8	24	88	10	3	10	97	4	1	4	98	133	43
2005	E	7	3.08	23	8	27	36	12	42	94	37	12	43	86	13	4	15	89					109	35
2007	E	8	4.00	54	14	44	56	14	45	96	62	16	50	91	6	2	5	97					178	45
LAKE AVERAGE				13	40		16	51	92		12	38	86		3	9	91		0.3	1.0	98		44	

Bluegill																								
Year	Gear	Number		SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				TOTAL	
		Samples	Effort	no.	cpe	ratio	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe
1997	E	3	1.20				75	62	74	89	27	22	26	81									102	85
2001	E	3	1.22				71	59	71	85	28	23	28	82	1	1	1	84					100	82
2005	E	4	2.24				84	38	82	99	12	5	12	91	6	3	6	95					102	46
2007	E	3	1.21				93	77	93	99	4	3	4	93	3	3	3	94					100	83
LAKE AVERAGE							59	80	93		13	18	87		2	3	91						74	

Redear Sunfish																								
Year	Gear	Number		SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				TOTAL	
		Samples	Effort	no.	cpe	ratio	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe	pct.	Wr	no.	cpe
1997	E	3	1.51	10	7	11	75	50	82	118	13	9	14	120	3	2	3	109					101	67
2001	E	5	2.24	7	3	8	60	27	64	88	23	10	25	96	9	4	10	98	1	0	1	85	100	45
2005	E	4	1.74	3	2	3	64	37	65	133	31	18	32	122	3	2	3	123					101	58
2007	E	3	1.07	8	8	7	77	72	71	125	24	22	22	130	7	7	6	130					116	108
LAKE AVERAGE				5	7		46	71	116		15	23	117		4	6	115		0.3	85			69	

Table 4. Age composition and mean length of largemouth bass from Point A Reservoir , spring 2007.

Age	Year Class	Number	Percent	CPE	Mean TL	SE
1	2006	77	43.3	19.3	155.6	7.0
2	2005	33	18.5	8.3	274.1	5.1
3	2004	34	19.1	8.5	324.1	3.6
4	2003	14	7.9	3.5	341.5	6.0
5	2002	18	10.1	4.5	365.1	6.4
6	2001	1	0.6	0.3	405.0	
7	2000	1	0.6	0.3	376.0	
Total		178	100.0	44.5		

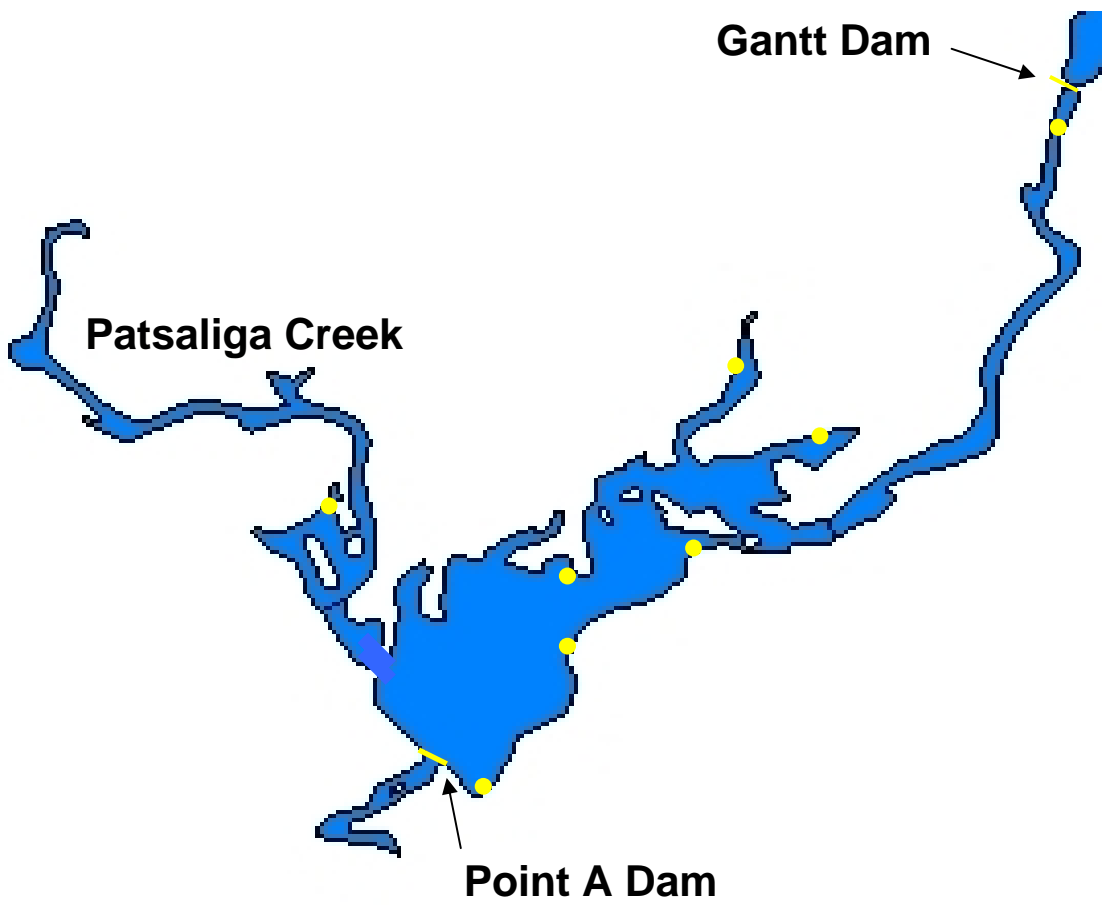


Figure 1. Sampling sites for spring electrofishing on Point A Reservoir, 2007

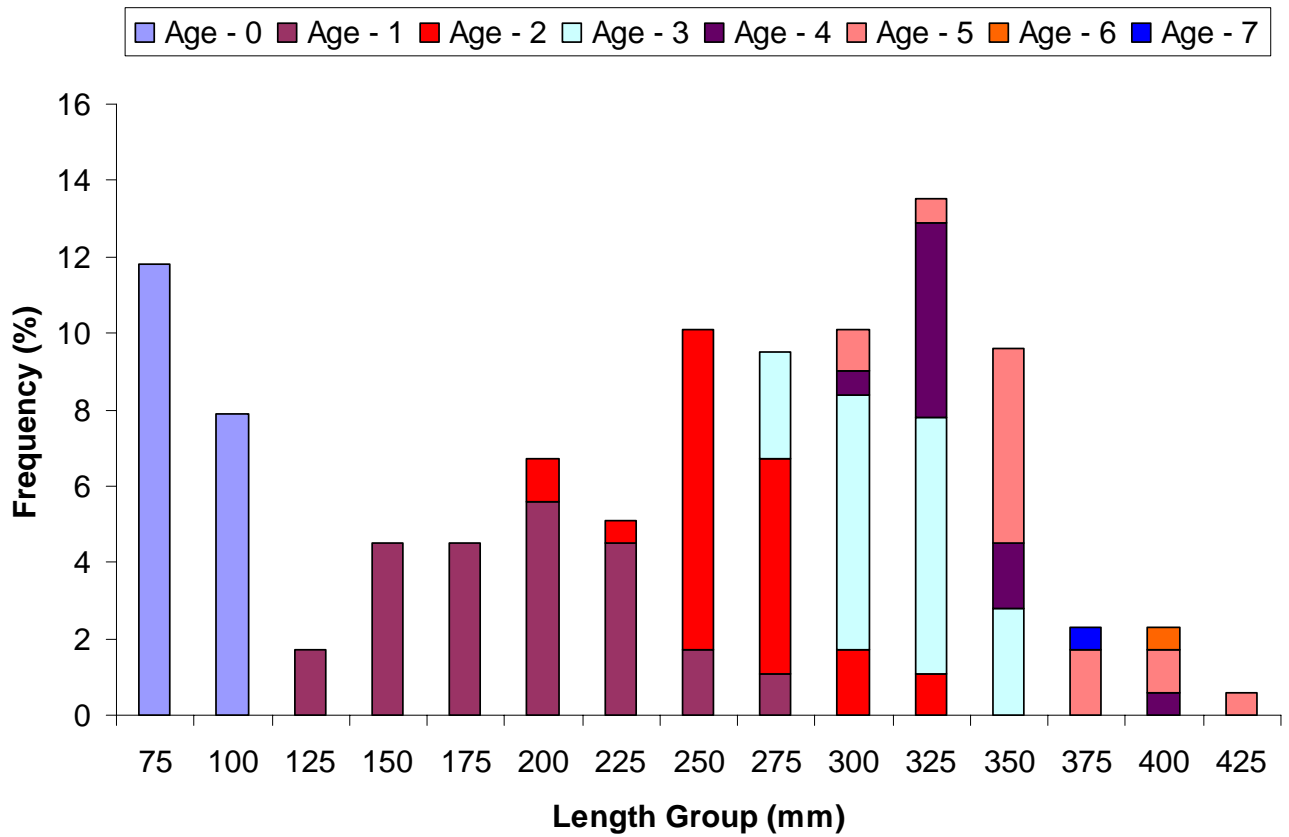


Figure 2. Length at age frequency for Point A Reservoir largemouth bass (n=178), Spring 2007.

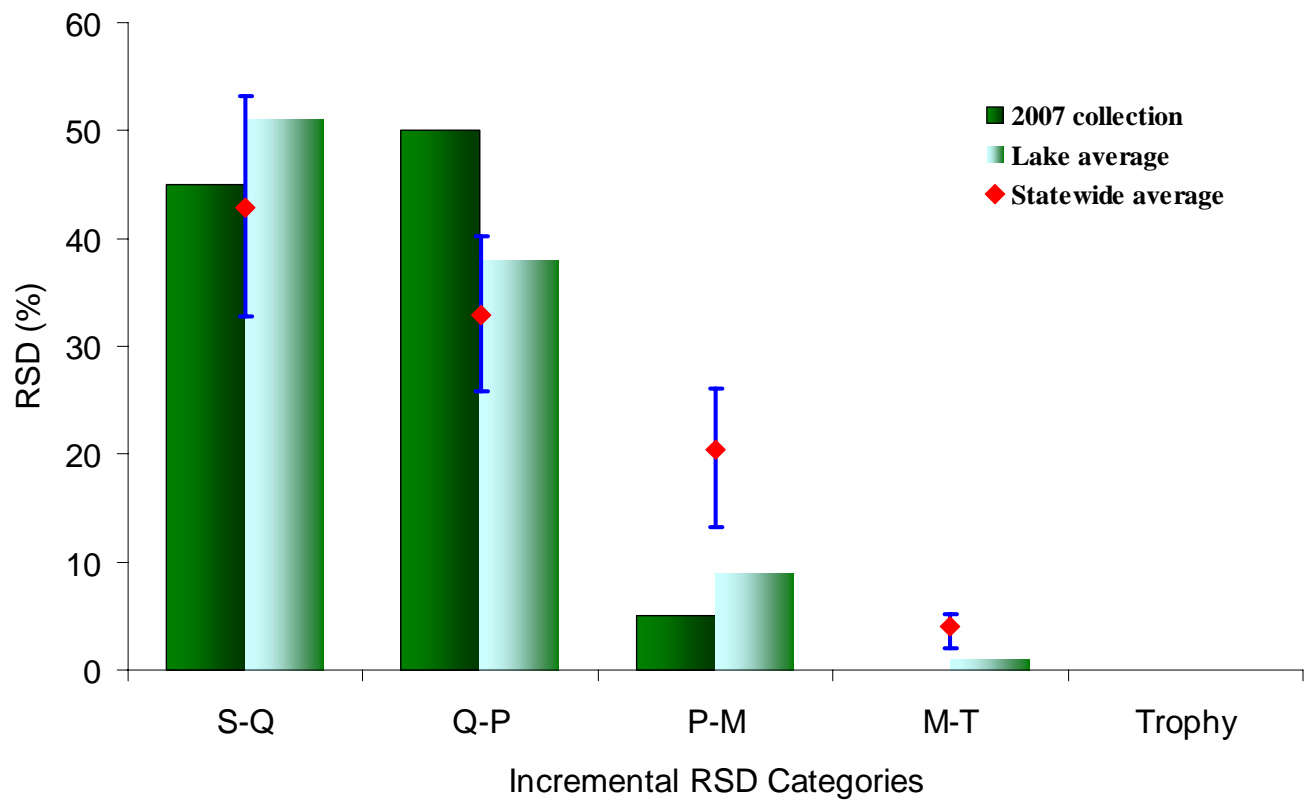


Figure 3. Relative stock density (RSD) of largemouth bass (N=178) at Point A Reservoir, spring 2007. I Beams represent the 25th and 75th percentile of RSD values of largemouth bass, statewide.

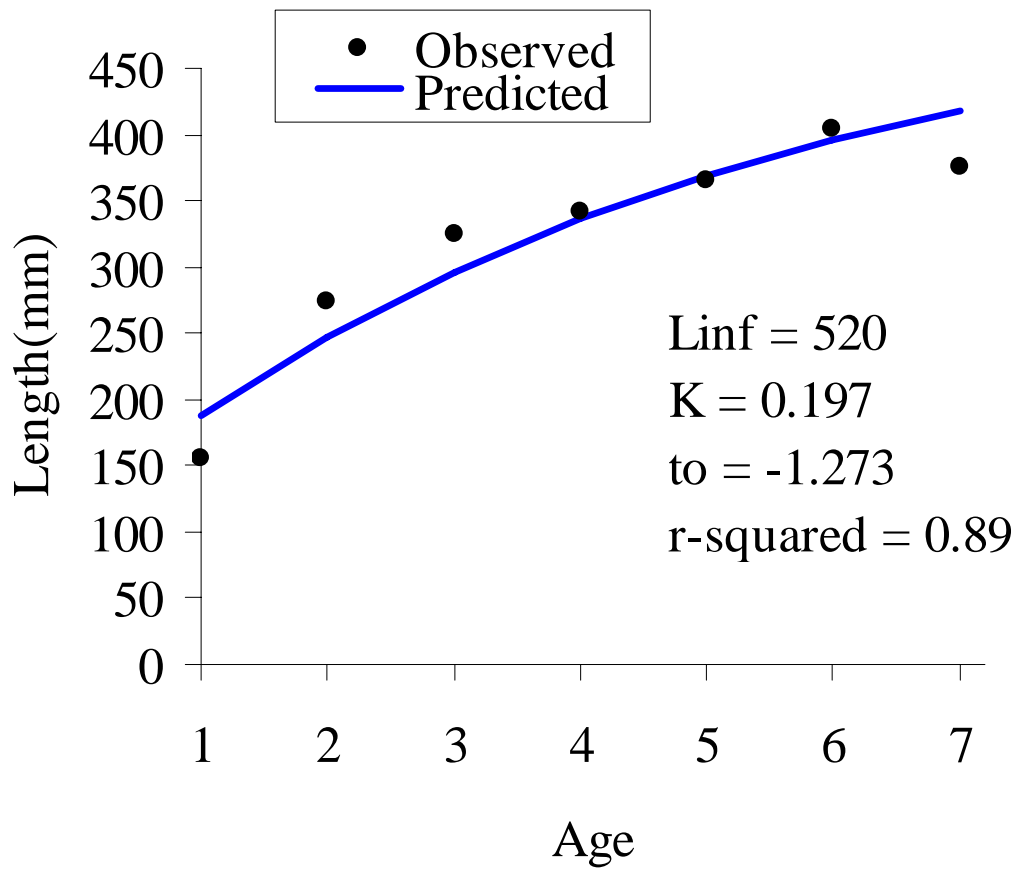


Figure 4. Von Bertalanffy growth curve for largemouth bass from Point A Reservoir, spring 2007. Length infinity was constrained to 520 mm since a fish this size was collected in the creel survey.

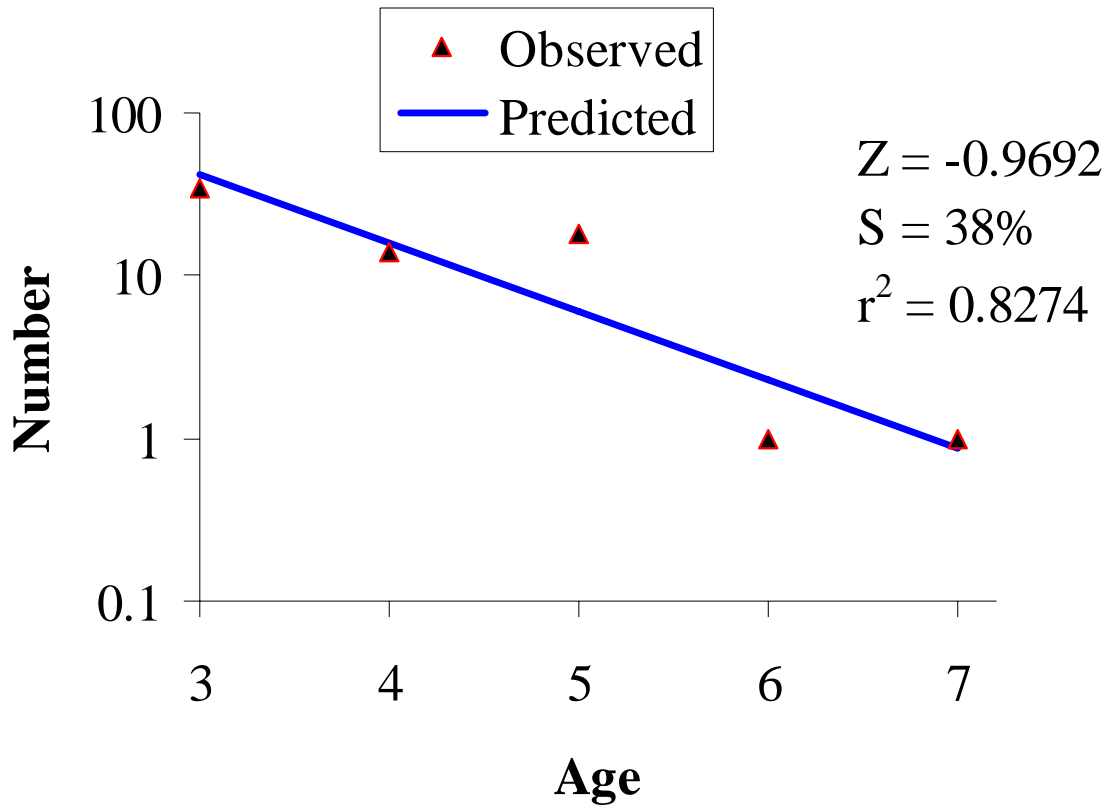


Figure 5. Catch curve regression for largemouth bass 3 years old and older from Point A Reservoir, spring 2007.

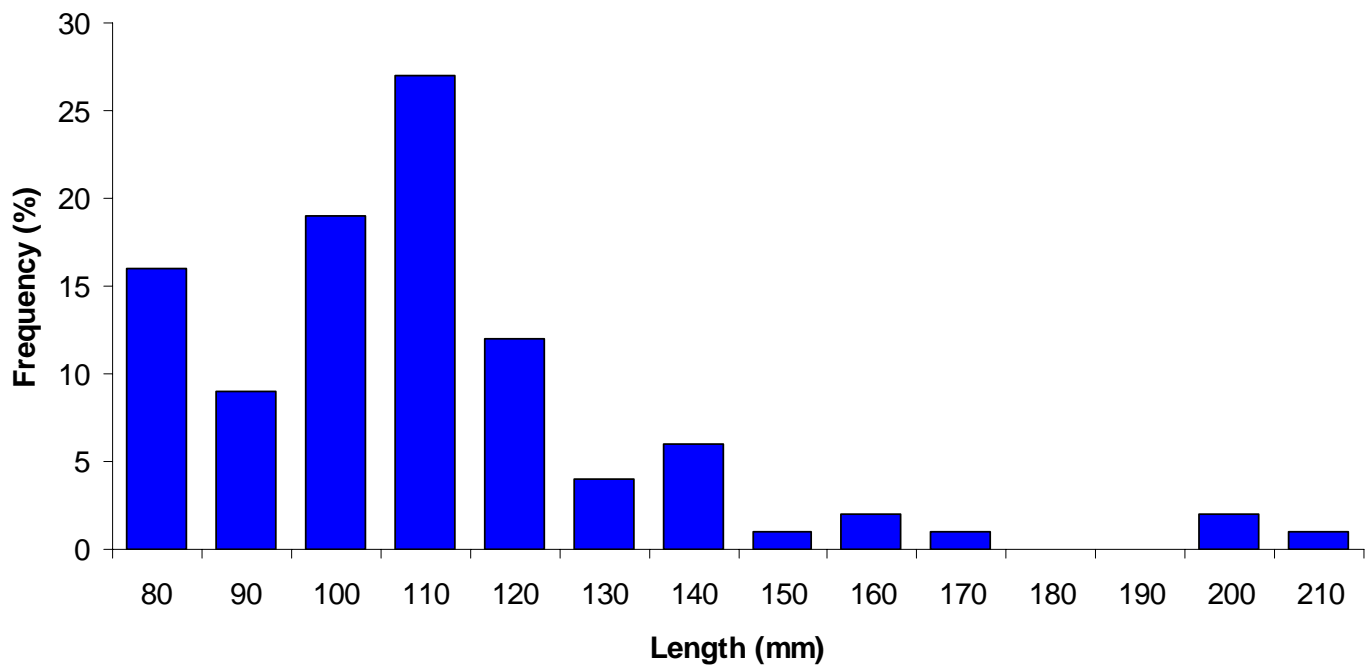


Figure 6. Length frequency for bluegill sunfish collected during spring electrofishing at Point A Reservoir, 2007.

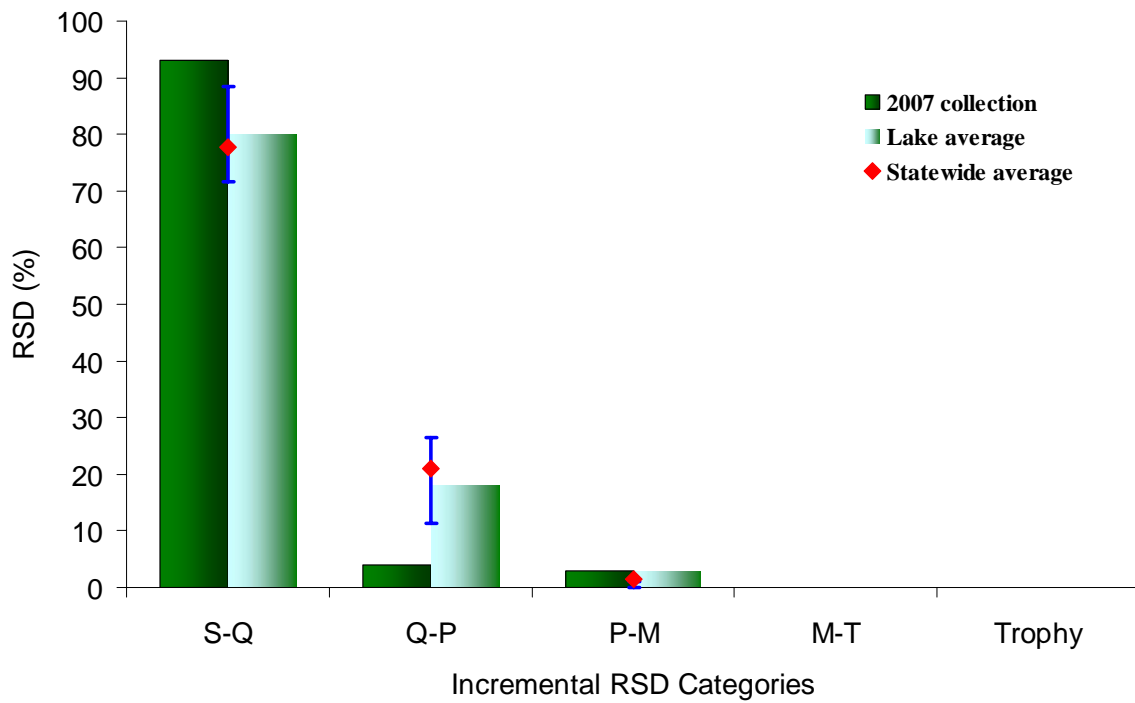


Figure 7. Relative stock density (RSD) of bluegill sunfish (N=100) at Point A Reservoir, spring 2007. I-Beams represent the statewide 25th and 75th percentile of RSD values for bluegill sunfish.

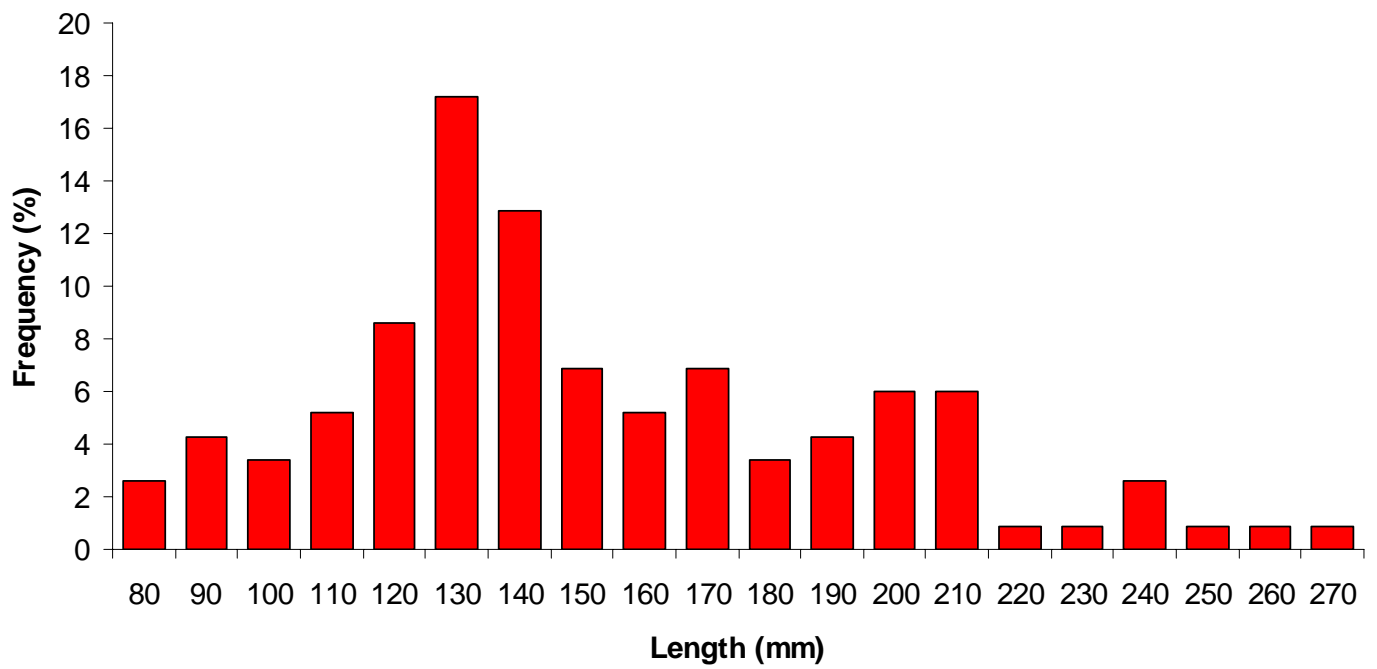


Figure 8. Length Frequency distribution for redear sunfish collected during spring electrofishing at Point A Reservoir, 2007.

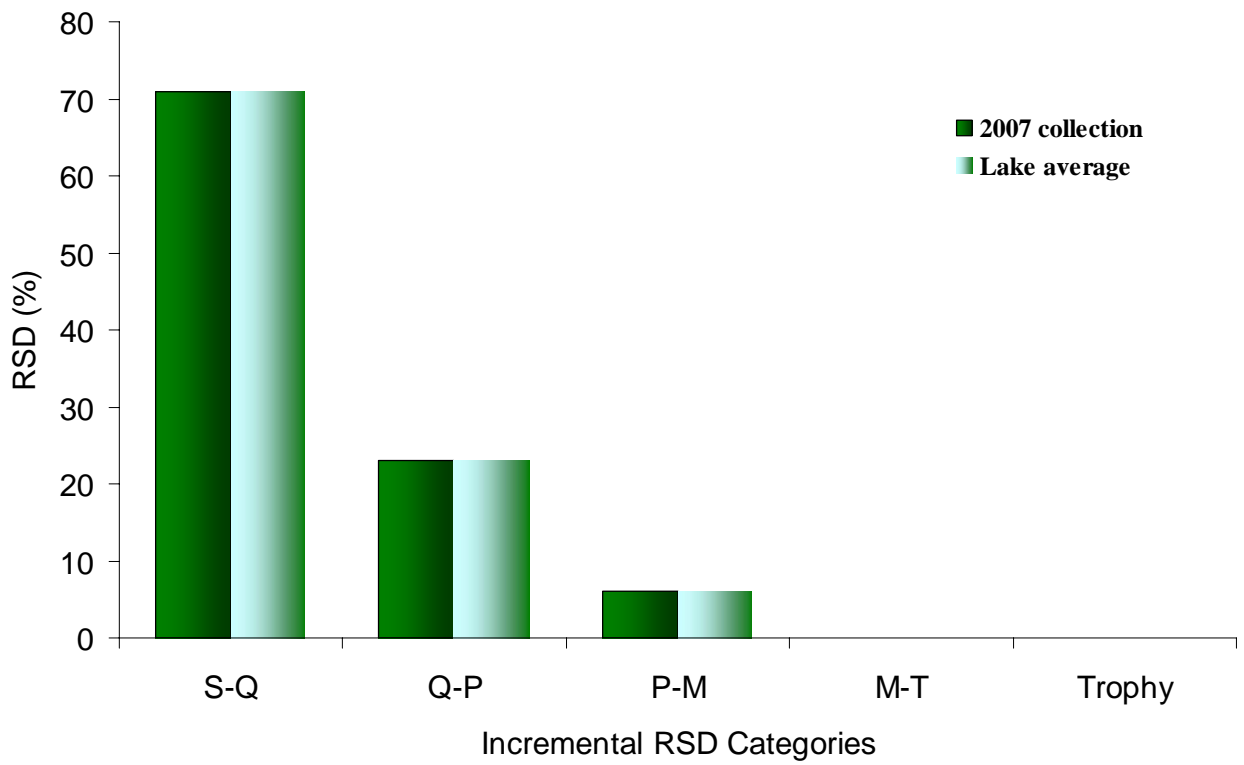


Figure 9. Relative stock density (RSD) of redear sunfish (N=100) at Point A Reservoir, spring 2007.

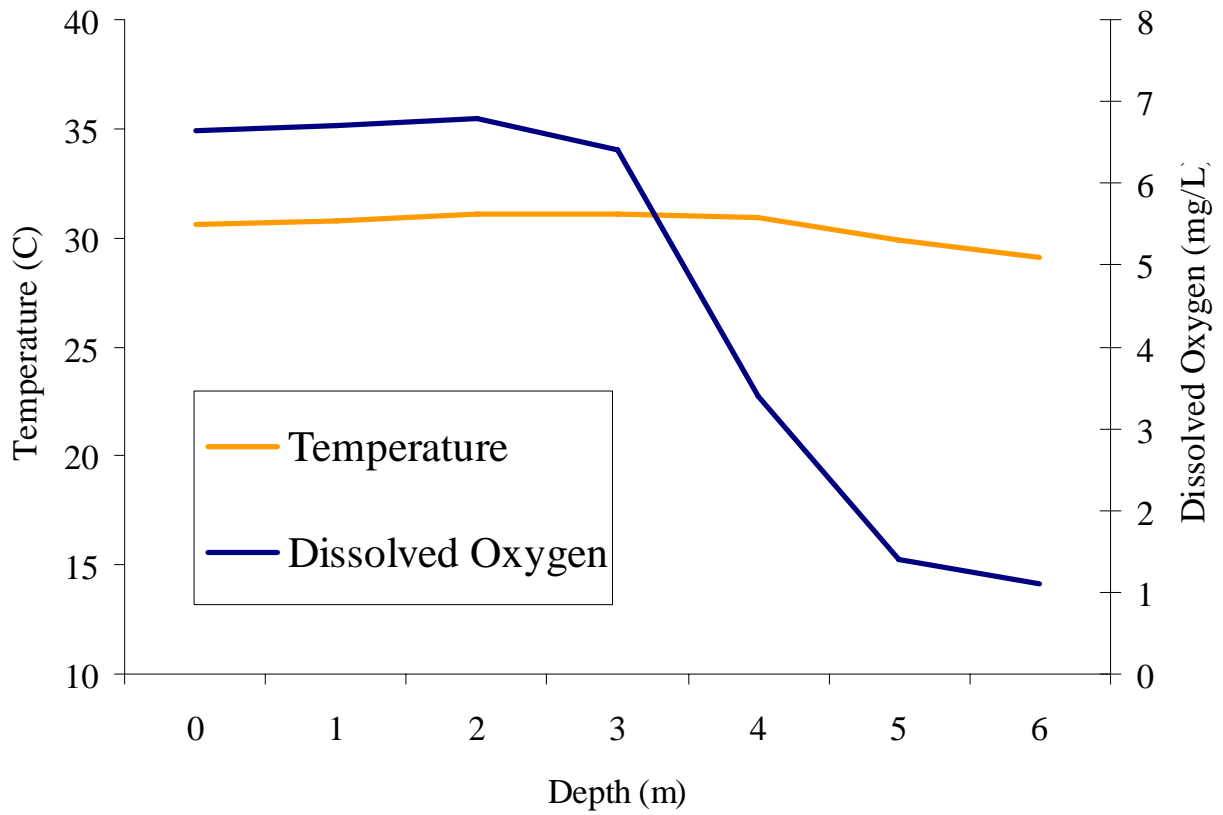


Figure 10. Water temperature and dissolved oxygen profile for Point A Reservoir, August 24, 2007.

Appendix B

Results of 2007 Creel Survey on
Point A and Gantt Reservoirs

Summary of the 2007 spring access creel survey at

Point A Reservoir

1. Number of fishing parties interviewed = 33
2. Number of anglers interviewed = 166
3. Total angler effort (hours) = 1,095
4. Total bass tournament angler effort (hours) = 848
5. Percent tournament effort = 77.4%
6. Percent of crappie in the total fish measured in creel survey = 2.9 %
7. Percent of bass in the total fish measured in creel survey = 2.9 %
8. Percent of bluegill sunfish in the total fish measured in creel survey = 18.4 %
9. Percent of redear sunfish in the total fish measured in creel survey = 74.9 %
10. Percent of white bass in the total fish measured in creel survey = 1.0 %
11. Bass catch rates (fish/hour) for bass anglers = 0.15
12. Bass harvest rates (fish/hour) for bass anglers = 0.04
13. Crappie catch rates (fish/hour) for crappie anglers = 0.65
14. Crappie harvest rates (fish/hour) for crappie anglers = 0.26
15. Catch rates (fish/hour) of bass and crappie for both bass and crappie anglers = 0.16
16. Harvest rate (fish/hour) of bass and crappie for both bass and crappie anglers = 0.01
17. Modal length of largemouth bass harvested: 350 mm
18. Modal length of crappie harvested: 220 mm

19. What state did you travel from to fish at Point A?

<u>State</u>	<u>Number of parties (percent)</u>	
Alabama	33	(100%)

20. What Alabama county did you travel from to fish at Point A?

<u>County</u>	<u>No. Parties</u>	<u>Percent</u>
Butler	3	9.1
Coffee	6	18.2
Covington	21	63.6
Crenshaw	1	3.0
Escambia	1	3.0
Pike	1	3.0
Total	33	

21. What is your fishing party fishing for today?

<u>Species</u>	<u>No. (Pct.)</u>
Bream & Crappie	1 (3.0)
Bass only	11 (30.3)
Bream	10 (30.3)
Catfish	1 (3.0)
Crappie only	2 (6.0)
Any Kind	8 (24.4)
Total	33

22. Percent of crappie released from total crappie catch = 60.0%

23. Percent of crappie greater than 9 inches released from total crappie catch = 13.3%

24. Percent of bass released from total bass catch = 95.6%

25. Percent of bass greater than 14 inches released from total bass catch = 35.6%

26. A summary of the total catch data by survey date.

<u>Date</u>	<u>Bass</u>	<u>Crappie</u>	<u>Bream</u>	<u>White Bass</u>
3/3/2007	3	2		
3/10/2007	41			
3/17/2007	0	8	1	
3/24/2007	2			
3/31/2007	82		4	2
4/7/2007				
4/15/2007				
4/22/2007	3		111	
4/29/2007		4	41	
5/5/2007	4		16	
5/19/2007		1	20	
Total	135	15	193	2

27. Angler comments to the Alabama Wildlife and Freshwater Fisheries Division during the 2007 Point A creel survey.

<u>No. of responses</u>	<u>Type of Comment</u>
10	Good lake / Enjoy fishing this lake
1	Need to stock more bass
2	Need to stock more fish of all kinds
1	Need to dredge more
1	Complaints on the water level
2	Complaints on water level/draw-downs
1	Channels should be marked better
2	Complaints on water skiers or jet skiers
2	Need new dock at boat ramp
2	Need size limit on bass
1	Complaint about weeds

Summary of the 2007 spring access creel survey at Gantt Reservoir

1. Number of fishing parties interviewed = 59
2. Number of anglers interviewed = 124
3. Total angler effort (hours) = 538
4. Total bass tournament angler effort (hours) = 0
5. Percent tournament effort = 0%
6. Percent of crappie in the total fish measured in creel survey = 54.0 %
7. Percent of bass in the total fish measured in creel survey = 5.7 %
8. Percent of bluegill sunfish in the total fish measured in creel survey = 9.5 %
9. Percent of redear sunfish in the total fish measured in creel survey = 28.7 %
10. Percent of white bass in the total fish measured in creel survey = 2.1 %
11. Bass catch rates (fish/hour) for bass anglers = 0.78
12. Bass harvest rates (fish/hour) for bass anglers = 0.16
13. Crappie catch rates (fish/hour) for crappie anglers = 1.8
14. Crappie harvest rates (fish/hour) for crappie anglers = 1.3
15. Catch rates (fish/hour) of bass and crappie for both bass and crappie anglers = 1.45
16. Harvest rate (fish/hour) of bass and crappie for both bass and crappie anglers = 0.86
17. Modal length of largemouth bass harvested: 325 mm
18. Modal length of crappie harvested: 300 mm

20. What state did you travel from to fish at Gantt Reservoir?

<u>State</u>	<u>Number of parties (percent)</u>	
Alabama	53	(90%)
Florida	6	(10%)

20. What Alabama county did you travel from to fish at Gantt Reservoir?

<u>County</u>	<u>No. Parties</u>	<u>Percent</u>
Butler	2	3.8
Coffee	6	11.3
Covington	39	73.6
Conecuh	1	1.9
Crenshaw	3	5.7
Escambia	2	3.8
Total	53	

21. What is your fishing party fishing for today?

<u>Species</u>	<u>No. (Pct.)</u>
Bass & Bream	1 (1.7)
Bass & White Bass	1 (1.7)
Bass only	13 (22.0)
Bream only	9 (15.3)
Bream and Crappie	2 (3.4)
Crappie only	18 (30.5)
Any Kind	15 (25.4)
Total	59

22. Percent of crappie released from total crappie catch = 32.8 %

23. Percent of crappie greater than 9 inches released from total crappie catch = 1.3 %

24. Percent of bass released from total bass catch = 24.5 %

25. Percent of bass greater than 14 inches released from total bass catch = 16.4 %

26. A summary of the total catch data by survey date.

<u>Date</u>	<u>Bass</u>	<u>Crappie</u>	<u>Bream</u>	<u>White Bass</u>
3/3/2007	19	3		
3/10/2007	6	9	2	1
3/17/2007	30	13		7
3/24/2007	4	206	11	
3/31/2007	14	112	93	
4/7/2007				
4/15/2007				
4/22/2007	7	1	38	1
4/29/2007		25	30	
5/5/2007	16			1
5/19/2007	14	12	7	
Total	110	381	181	10

27. Angler comments to the Alabama Wildlife and Freshwater Fisheries Division during the 2007 Gantt Reservoir creel survey.

<u>No. of responses</u>	<u>Type of Comment</u>
19	Good lake / Enjoy fishing this lake
1	Need size limit on crappie
1	Need size limit on bass
1	Need to stock more bass
1	Need to stock more fish of all kinds
1	Not as many big bass as used to be
2	Need to dredge more
1	Complaints on the water level
1	Complaints on water level/draw-downs
1	Channels should be marked better
1	Complaints on water skiers or jet skiers
2	Need new dock at boat ramp
2	Need size limit on bass
1	Need garbage cans at ramp

Summary of bass and crappie catch and harvest rates from 2007 spring creel survey for Gantt and Point A Reservoirs combined

1. Number of fishing parties interviewed = 92
2. Number of anglers interviewed = 290
3. Total angler effort (hours) = 1,633
4. Total bass tournament angler effort (hours) = 848
5. Percent tournament effort = 51.9%
6. Bass catch rates (fish/hour) for bass anglers = 0.23
7. Bass harvest rates (fish/hour) for bass anglers = 0.02
8. Crappie catch rates (fish/hour) for crappie anglers = 1.71
9. Crappie harvest rates (fish/hour) for crappie anglers = 1.15
10. Percent of crappie released from total crappie catch = 33.0 %
11. Percent of crappie greater than 9 inches released from total crappie catch = 2.6 %
12. Percent of bass released from total bass catch = 86.5%
13. Percent of bass greater than 14 inches released from total bass catch = 26.9%

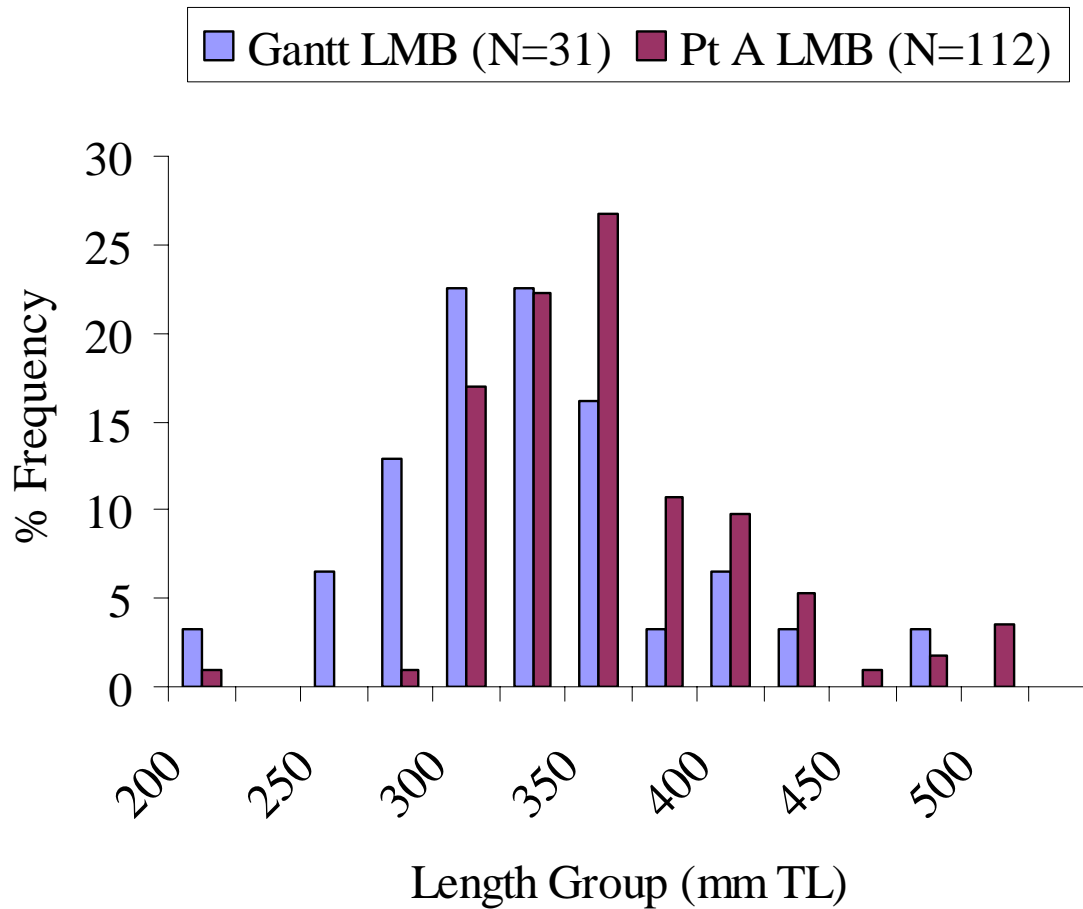


Figure 1. Length frequency for largemouth bass measured during 2007 spring access creel survey on Gantt and Point A Reservoirs. All of the Gantt fish were harvested by anglers, while all but 6 of the Point A fish were measured before being released by tournament anglers.

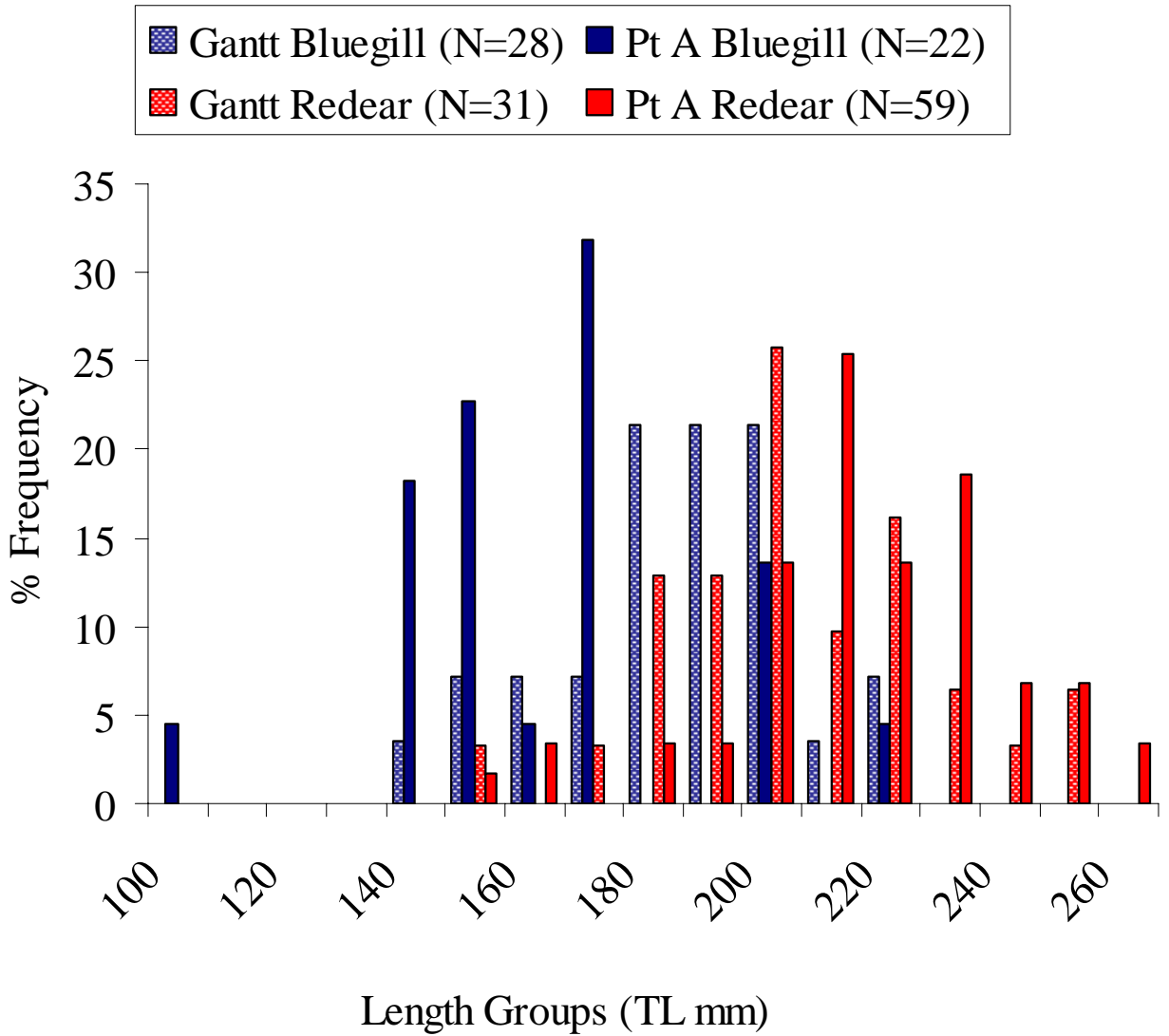


Figure 2. Length frequency for bluegill and redear sunfish harvested by anglers during the spring 2007 creel survey conducted on Gantt and Point A reservoirs.

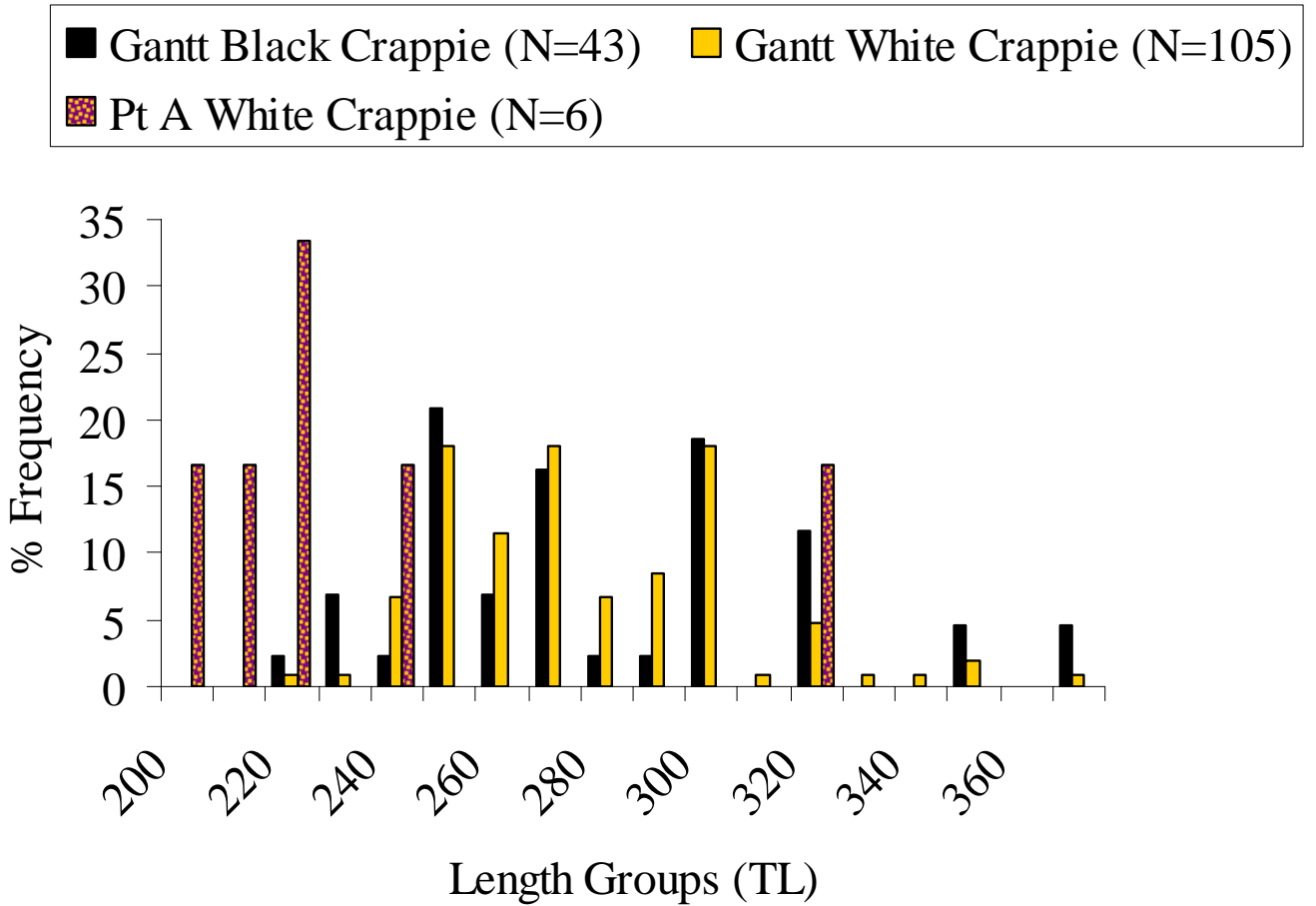


Figure 3. Length frequency for black and white crappie harvested by anglers during the spring 2007 creel survey on Gantt and Point A Reservoirs.