

Melton Hill Reservoir

Annual Report 2007

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## Melton Hill Reservoir – 2007

### Largemouth Bass

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Good	Substock CPUE	Electrofishing	11.3/hr
Structure	Poor	PSD	Electrofishing	40
Density	Excellent	CPUE $\geq$ Stock Size (8-inches)	Electrofishing	87.0/hr
	Fair	CPUE $\geq$ Minimum Size Limit (15-inches)	Electrofishing	8.3/hr
Angling Pressure*	Fair	Fishing Effort	Creel Survey	23,804 hr
Fishing Success	Good	Angler Catch Rate	Creel Survey	1.0/hr
Quality	Good	Average Weight	Creel Survey	2.8 lbs
Value of Fishery*	Fair	Trip Expenditures	Creel Survey	\$110,260

\*all black bass

Fishery Forecast: Excellent recruitment of the 2001-2005 year classes will continue to improve the density of the fishery for the next several years. The electrofishing catch rate of greater than 356 mm largemouth is less than ideal.

Management Recommendations: A 15-inch creel limit was imposed in 2002 in response to the very low catch rates of preferred size largemouth bass. It appears that this regulation has had little effect on improving the size structure of the population and we are in the process of evaluating other possible solutions to this issue.

### White Crappie

Population Parameter	Annual Rating	Measure	Gear	Value
Structure	Good	PSD	Electrofishing	97
Density	Good	CPUE $\geq$ Stock Size (5-inches)	Electrofishing	22.7/hr
	Good	CPUE $\geq$ Minimum size limit (10-inches)	Electrofishing	11.7/hr
Angling Pressure	Fair	Fishing Effort	Creel Survey	14,995 hr
Fishing Success	Good	Angler Catch Rate	Creel Survey	1.0/hr
Quality	Good	Average Weight	Creel Survey	0.8 lbs
Value of Fishery	Good	Trip Expenditures	Creel Survey	\$53,160

Fishery Forecast: The white crappie population appears to be doing very well.

Management Recommendations: No changes in creel limits are planned for the future.

## Musky

Population Parameter	Annual Rating	Measure	Gear	Value
Angling Pressure	Fair	Fishing Effort	Creel Survey	3,802 hr
Fishing Success	Fair	Angler Catch Rate	Creel Survey	0.02/hr
Value of Fishery	Good	Trip Expenditures	Creel Survey	\$16,960

Fishery Forecast: This unique fishery has sparked a lot of interest throughout the southeast. Although the fishery is relatively new, it is progressing remarkably well and producing several fish in the 50-inch range.

Management Recommendations: Although many anglers have expressed the desire to increase the size limit, no changes in creel limits are planned for the future.

## Stocking and Stocking Evaluations

Species	Number Stocked	Mark	Evaluation	Value
Musky	3,162	NA	NA	NA

## Habitat Enhancement and Monitoring

Fish Attractors	New	none
	Renovated	none

## Tables

Table 1. Melton Hill Reservoir physical and chemical characteristics.

Surface Area	5,690 acres
Drainage Area	3,343 sq. mi.
Full Pool Elevation	795 feet-msl
Mean Annual Fluctuation	5 feet
Shoreline Distance	193 miles
Total Developed Shoreline	18%
Maximum Depth	60 feet
Outlet Depth	9 feet
Thermocline Depth	10 feet (Aug 1998)
Trophic Status (Forebay)	Mesotrophic
Mean Chlorophyll (Forebay)	5.6 mg/L
Trophic Index Value	47.5
Hydraulic Retention Time	12 days
Reservoir Age	44 years

Table 2. Melton Hill Reservoir fish stockings 1993 - 2007.

<b>Species</b>	<b>Year</b>	<b>Rate (per acre)</b>	<b>Total Stocked</b>
Musky	1998	0.3	1,873
	1999	1.2	7,010
	2000	0.0	0
	2001	1.3	7,200
	2002	0.3	1,621
	2003	0.2	1,145
	2004	0.0	0
	2005	0.4	2,537
	2006	1.1	6,169
	2007	0.6	3,162

Table 3. Relative stock density, mean relative weight, and catch per unit effort by RSD category for target species collected in Melton Hill Reservoir 1998-2007.

Species	Year	Gear	Samples	Substock			RSD-stock			RSD-quality			RSD-preferred			RSD-memorabile			RSD-trophy			Total		PSD					
				No.	CPE	Pct.	No.	CPE	Pct.	Wr	No.	CPE	Pct.	Wr	No.	CPE	Pct.	Wr	No.	CPE	Pct.	Wr	No.	CPE	Pct.				
Largemouth Bass	1998	Electro	20	78	15.6	28.3	97	19.4	35.1	85.7	75	15.0	27.2	84.0	23	4.6	8.3	80.4	3	0.6	1.1	86.4	0	0.0	0.0	0.0	276	55.2	51
	1999	Electro	20	67	13.4	45.9	46	9.2	31.5	87.7	28	5.6	19.2	83.8	3	0.6	2.1	84.5	2	0.4	1.4	91.5	0	0.0	0.0	0.0	146	29.2	42
	2000	Electro	20	34	6.8	31.8	46	9.2	43.0	83.7	23	4.6	21.5	86.5	3	0.6	2.8	86.4	1	0.2	0.9	84.5	0	0.0	0.0	0.0	107	21.4	37
	2002	Electro	16	107	26.8	21.9	242	60.5	49.6	81.3	120	30.0	24.6	85.1	19	4.8	3.9	89.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	488	122.0	36
	2003	Electro	14	118	33.7	28.1	153	43.7	36.4	79.3	126	36.0	30.0	80.0	22	6.3	5.2	83.2	1	0.3	0.2	na	0	0.0	0.0	0.0	420	120.0	49
	2004	Electro	12	41	13.7	17.1	98	32.7	40.8	73.9	85	28.3	35.4	79.4	15	5.0	6.3	83.0	1	0.3	0.4	78.7	0	0.0	0.0	0.0	240	80.0	51
	2005	Electro	12	57	19.0	27.4	43	14.3	20.7	91.1	83	27.7	39.9	89.0	23	7.7	11.1	92.1	2	0.7	1.0	95.5	0	0.0	0.0	0.0	208	69.3	72
	2006	Electro	12	122	40.7	33.0	169	56.3	45.7	87.4	56	18.7	15.1	87.0	22	7.3	5.9	87.9	1	0.3	0.3	77.7	0	0.0	0.0	0.0	370	123.3	32
2007	Electro	12	34	11.3	11.5	157	52.3	53.2	85.0	79	26.3	26.8	87.1	24	8.0	8.1	87.3	1	0.3	0.3	83.9	0	0.0	0.0	0.0	295	98.3	40	
Smallmouth Bass	1998	Electro	20	3	0.6	9.4	10	2.0	31.3	71.8	12	2.4	37.5	78.2	6	1.2	18.8	74.8	1	0.2	3.1	82.7	0	0.0	0.0	0.0	32	6.4	66
	1999	Electro	20	9	1.8	33.3	10	2.0	37.0	86.5	6	1.2	22.2	83.9	2	0.4	7.4	87.4	0	0.0	0.0	0.0	0	0.0	0.0	0.0	27	5.4	44
	2000	Electro	20	3	0.6	75.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	1	0.2	25.0	79.3	0	0.0	0.0	0.0	0	0.0	0.0	0.0	4	0.8	
	2002	Electro	16	3	0.8	27.3	2	0.5	18.2	76.3	4	1.0	36.4	81.0	2	0.5	18.2	76.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	11	2.8	75
	2003	Electro	14	6	1.7	33.3	4	1.1	22.2	73.6	4	1.1	22.2	74.7	3	0.9	16.7	77.1	1	0.3	5.6	67.2	0	0.0	0.0	0.0	18	5.1	67
	2004	Electro	12	4	1.3	28.6	3	1.0	21.4	67.9	2	0.7	14.3	69.8	3	1.0	21.4	75.1	2	0.7	14.3	74.8	0	0.0	0.0	0.0	14	4.7	70
	2005	Electro	12	0	0.0	0.0	1	0.3	100.0	87.7	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	100
	2006	Electro	12	6	2.0	24.0	7	2.3	28.0	82.4	10	3.3	40.0	81.7	2	0.7	8.0	80.5	0	0.0	0.0	0.0	0	0.0	0.0	0.0	25	8.3	63
2007	Electro	12	3	1.0	13.0	11	3.7	47.8	86.5	7	2.3	30.4	81.8	2	0.7	8.7	79.5	0	0.0	0.0	0.0	0	0.0	0.0	0.0	23	7.7	45	
Spotted Bass	1998	Electro	20	1	0.2	16.7	5	1.0	83.3	87.6	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	6	1.2	
	1999	Electro	20	5	1.6	62.5	3	0.6	37.5	84.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	8	1.6	
	2000	Electro	20	0	0.0	0.0	5	1.0	71.4	87.8	2	0.4	28.6	93.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	7	1.4	
	2002	Electro	16	4	1.0	25.0	10	2.5	62.5	85.1	2	0.5	12.5	90.4	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	16	4.0	17
	2003	Electro	14	0	0.0	0.0	8	2.3	100.0	82.5	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	8	2.3	
	2004	Electro	12	2	0.7	28.6	3	1.0	42.9	84.1	1	0.3	14.3	71.8	1	0.3	14.3	82.9	0	0.0	0.0	0.0	0	0.0	0.0	0.0	7	2.3	
	2005	Electro	12	1	0.3	12.5	5	1.7	62.5	91.9	2	0.7	25.0	80.6	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	8	2.7	29
	2006	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	100.0	101.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	100
2007	Electro	12	2	0.7	33.3	4	1.3	66.6	96.6	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	6	2.0		
White Crappie	1998	Electro	20	0	0.0	0.0	0	0.0	0.0	0.0	12	2.4	31.6	82.3	20	0.0	52.6	84.6	6	1.2	15.8	80.6	0	0.0	0.0	0.0	38	7.6	100
	1999	Electro	20	0	0.0	0.0	6	1.2	37.5	93.7	1	0.2	6.3	95.3	7	1.4	43.8	81.5	2	0.4	12.5	78.9	0	0.0	0.0	0.0	16	3.2	63
	2000	Electro	20	0	0.0	0.0	2	0.4	20.0	84.6	1	0.2	10.0	86.4	4	0.8	40.0	78.9	3	0.6	30.0	81.1	0	0.0	0.0	0.0	10	2.0	80
	2002	Electro	16	0	0.0	0.0	0	0.0	0.0	0.0	20	5.0	39.2	84.5	26	6.5	51.0	84.0	5	1.3	9.8	78.4	0	0.0	0.0	0.0	51	12.8	100
	2003	Electro	14	0	0.0	0.0	2	0.6	6.9	80.7	12	3.4	41.4	87.1	11	3.1	37.9	83.1	4	1.1	13.8	81.9	0	0.0	0.0	0.0	29	4.1	93
	2004	Electro	12	0	0.0	0.0	5	1.7	22.7	79.9	3	1.0	13.6	86.5	13	4.3	59.1	91.6	1	0.3	4.5	91.5	0	0.0	0.0	0.0	22	7.3	77
	2005	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	4	1.3	13.3	87.1	22	7.3	73.3	91.4	4	1.3	13.3	85.0	0	0.0	0.0	0.0	30	10.0	100
	2006	Electro	12	0	0.0	0.0	3	1.0	4.1	91.9	25	8.3	33.8	92.8	30	10.0	40.5	85.9	16	5.3	21.6	85.9	0	0.0	0.0	0.0	74	24.7	96
2007	Electro	12	0	0.0	0.0	2	0.7	2.9	85.3	31	10.3	45.6	86.6	24	8.0	35.3	83.8	11	3.7	16.2	83.6	0	0.0	0.0	0.0	68	22.7	97	
Black Crappie	2006	Electro	12	0	0.0	0.0	4	1.3	19.9	87.6	15	5.0	75.0	90.0	0	0.0	0.0	0.0	1	0.3	5.0	74.2	0	0.0	0.0	0.0	20	6.7	80
	2007	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	10.0	78.1	7	2.3	70.0	86.5	2	0.7	20.0	79.4	0	0.0	0.0	0.0	10	3.3	100
Blacknose Crappie	2006	Electro	12	0	0.0	0.0	1	0.3	8.3	94.0	10	3.3	83.3	94.4	1	0.3	8.3	83.2	0	0.0	0.0	0.0	0	0.0	0.0	0.0	12	4.0	92
2007	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	50.0	86.7	1	0.3	50.0	87.8	0	0.0	0.0	0.0	0	0.0	0.0	0.0	2	0.7	100	
Musky	2003	Electro	14	1	0.9	20.0	0	0.0	0.0	0.0	4	0.6	80.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	5	1.4	100
	2004	Electro	14	1	0.3	12.5	7	2.3	87.5	94.3	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	8	2.7	
	2005	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	6	2.0	100.0	84.9	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	6	2.0	100
	2006	Electro	12	1	0.3	16.7	0	0.0	0.0	0.0	3	1.0	50.0	nr	1	0.3	16.7	nr	1	0.3	16.7	nr	0	0.0	0.0	0.0	6	2.0	100
	2007	Electro	12	0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	100.0	91.1	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	1	0.3	100
Channel cat	2001	Gill	8	7	0.9	8.9	19	2.4	24.0	0.0	44	5.5	55.7	0.0	9	1.1	11.4	0.0	0										

Table 4. Mean relative weight and standard error values by size class for Melton Hill Reservoir largemouth bass collected during the 2007 electrofishing sample.

Size Class	Mean Wr	Std. Error	N
5	90.3		1
6	85.6	2.9	7
7	83.3	2.6	9
8	82.2	1.0	17
9	84.5	1.1	41
10	85.1	0.8	63
11	87.1	1.2	40
12	87.5	0.9	40
13	87.3	1.4	23
14	84.1	2.6	8
15	86.5	3.0	6
16	89.8	1.9	9
17	85.5	3.4	3
18	86.2	0.2	2
19	84.7	4.4	4
20	83.9		1

**Total Catch** 274

Table 5. Mean relative weight and standard error values by size class for Melton Hill Reservoir smallmouth bass collected during the 2007 electrofishing sample.

Size Class	Mean Wr	Std. Error	N
7	88.7		1
8	83.5	2.0	7
9	89.0	15.7	2
10	101.0		1
11	81.5	2.5	6
12	83.9		1
13			
14	79.5	2.9	2
15	86.5	3.0	6

**Total Catch** 26



Table 6. Mean relative weight and standard error values by size class for Melton Hill Reservoir white crappie collected during the 2007 electrofishing sample.

<b>Size Class</b>	<b>Mean Wr</b>	<b>Std. Error</b>	<b>N</b>
7	83.4	1.8	5
8	87.4	1.2	17
9	86.0	1.8	13
10	83.0	1.1	14
11	84.6	1.6	12
12	83.3	1.4	5
13	85.8	1.4	2

**Total Catch** 68

Table 7. Length range and weighted mean length by age of largemouth from Melton Hill Reservoir's 2007 electrofishing sample.

<b>AGE</b>	<b>Minimum length at capture</b>	<b>Weighted mean length at capture</b>	<b>Maximum length at capture</b>	<b>N</b>
1	3.9	<b>5.6</b>	7.8	25
2	4.5	<b>9.5</b>	11.7	109
3	10.0	<b>11.5</b>	13.5	97
4	11.0	<b>13.3</b>	15.7	37
5	11.7	<b>15.1</b>	16.2	7
6	15.1	<b>16.5</b>	18.4	10
7	13.8	<b>16.6</b>	19.9	7
8	17.5	<b>19.0</b>	20.7	4
9	19.4	<b>19.4</b>	19.4	1

Table 8. Melton Hill Reservoir water levels for 2007. (TVA)

ELEVATION	MONTH	DAY	ELEVATION	MONTH	DAY	ELEVATION	MONTH	DAY
793.89	JANUARY	1	792.84	FEBRUARY	24	793.70	APRIL	19
793.18	JANUARY	2	792.85	FEBRUARY	25	793.93	APRIL	20
792.93	JANUARY	3	793.17	FEBRUARY	26	793.89	APRIL	21
793.35	JANUARY	4	793.22	FEBRUARY	27	793.56	APRIL	22
793.80	JANUARY	5	793.31	FEBRUARY	28	793.76	APRIL	23
794.13	JANUARY	6	793.55	MARCH	1	794.03	APRIL	24
794.11	JANUARY	7	794.67	MARCH	2	793.95	APRIL	25
793.94	JANUARY	8	794.60	MARCH	3	793.71	APRIL	26
794.46	JANUARY	9	794.69	MARCH	4	793.87	APRIL	27
793.77	JANUARY	10	794.05	MARCH	5	793.78	APRIL	28
793.16	JANUARY	11	794.04	MARCH	6	793.96	APRIL	29
792.78	JANUARY	12	793.86	MARCH	7	793.68	APRIL	30
793.48	JANUARY	13	793.72	MARCH	8	793.74	MAY	1
793.72	JANUARY	14	793.72	MARCH	9	794.05	MAY	2
793.92	JANUARY	15	793.65	MARCH	10	794.00	MAY	3
793.89	JANUARY	16	793.85	MARCH	11	794.11	MAY	4
794.10	JANUARY	17	793.86	MARCH	12	794.17	MAY	5
793.63	JANUARY	18	793.78	MARCH	13	794.29	MAY	6
793.16	JANUARY	19	793.45	MARCH	14	793.72	MAY	7
793.57	JANUARY	20	793.65	MARCH	15	793.78	MAY	8
793.88	JANUARY	21	794.72	MARCH	16	793.82	MAY	9
794.16	JANUARY	22	794.20	MARCH	17	793.71	MAY	10
793.63	JANUARY	23	794.07	MARCH	18	793.93	MAY	11
793.08	JANUARY	24	793.52	MARCH	19	794.04	MAY	12
793.45	JANUARY	25	792.49	MARCH	20	793.98	MAY	13
793.61	JANUARY	26	791.90	MARCH	21	794.05	MAY	14
793.56	JANUARY	27	791.53	MARCH	22	794.04	MAY	15
793.68	JANUARY	28	791.40	MARCH	23	793.58	MAY	16
793.57	JANUARY	29	791.50	MARCH	24	792.84	MAY	17
793.12	JANUARY	30	791.27	MARCH	25	793.18	MAY	18
793.05	JANUARY	31	791.28	MARCH	26	793.37	MAY	19
793.06	FEBRUARY	1	791.35	MARCH	27	793.60	MAY	20
793.03	FEBRUARY	2	791.35	MARCH	28	793.63	MAY	21
793.40	FEBRUARY	3	791.50	MARCH	29	793.83	MAY	22
793.59	FEBRUARY	4	791.35	MARCH	30	793.96	MAY	23
792.98	FEBRUARY	5	791.46	MARCH	31	793.98	MAY	24
792.47	FEBRUARY	6	791.91	APRIL	1	793.78	MAY	25
792.56	FEBRUARY	7	792.33	APRIL	2	794.18	MAY	26
792.82	FEBRUARY	8	792.64	APRIL	3	794.28	MAY	27
793.48	FEBRUARY	9	793.21	APRIL	4	793.61	MAY	28
794.21	FEBRUARY	10	793.71	APRIL	5	793.75	MAY	29
793.98	FEBRUARY	11	794.11	APRIL	6	793.24	MAY	30
793.61	FEBRUARY	12	794.03	APRIL	7	793.43	MAY	31
792.61	FEBRUARY	13	794.17	APRIL	8	793.67	JUNE	1
792.26	FEBRUARY	14	793.65	APRIL	9	793.86	JUNE	2
792.20	FEBRUARY	15	793.76	APRIL	10	794.14	JUNE	3
792.76	FEBRUARY	16	794.10	APRIL	11	792.88	JUNE	4
792.97	FEBRUARY	17	794.25	APRIL	12	793.69	JUNE	5
792.77	FEBRUARY	18	793.90	APRIL	13	793.66	JUNE	6
792.88	FEBRUARY	19	794.26	APRIL	14	793.40	JUNE	7
792.45	FEBRUARY	20	794.56	APRIL	15	793.73	JUNE	8
792.32	FEBRUARY	21	793.51	APRIL	16	793.89	JUNE	9
792.69	FEBRUARY	22	793.79	APRIL	17	794.15	JUNE	10
792.78	FEBRUARY	23	794.14	APRIL	18	793.69	JUNE	11

Table 9. Melton Hill Reservoir water levels for 2007. (TVA)

ELEVATION	MONTH	DAY	ELEVATION	MONTH	DAY	ELEVATION	MONTH	DAY
793.85	JUNE	12	794.03	AUGUST	5	793.87	SEPTEMBER	28
793.80	JUNE	13	794.35	AUGUST	6	793.98	SEPTEMBER	29
793.96	JUNE	14	793.77	AUGUST	7	794.04	SEPTEMBER	30
794.07	JUNE	15	793.83	AUGUST	8	793.95	OCTOBER	1
793.89	JUNE	16	792.71	AUGUST	9	793.89	OCTOBER	2
793.85	JUNE	17	793.37	AUGUST	10	793.77	OCTOBER	3
793.96	JUNE	18	793.65	AUGUST	11	794.05	OCTOBER	4
793.89	JUNE	19	793.43	AUGUST	12	794.40	OCTOBER	5
793.83	JUNE	20	793.26	AUGUST	13	794.48	OCTOBER	6
793.64	JUNE	21	793.48	AUGUST	14	794.27	OCTOBER	7
793.81	JUNE	22	793.65	AUGUST	15	794.13	OCTOBER	8
793.96	JUNE	23	793.82	AUGUST	16	793.40	OCTOBER	9
793.61	JUNE	24	793.72	AUGUST	17	793.54	OCTOBER	10
793.98	JUNE	25	793.98	AUGUST	18	793.55	OCTOBER	11
793.89	JUNE	26	794.20	AUGUST	19	793.76	OCTOBER	12
793.76	JUNE	27	793.32	AUGUST	20	793.91	OCTOBER	13
794.04	JUNE	28	793.75	AUGUST	21	794.05	OCTOBER	14
793.81	JUNE	29	793.09	AUGUST	22	794.71	OCTOBER	15
793.74	JUNE	30	793.26	AUGUST	23	793.69	OCTOBER	16
793.76	JULY	1	793.39	AUGUST	24	794.37	OCTOBER	17
793.75	JULY	2	793.78	AUGUST	25	794.07	OCTOBER	18
794.20	JULY	3	793.74	AUGUST	26	794.39	OCTOBER	19
793.86	JULY	4	793.55	AUGUST	27	793.76	OCTOBER	20
793.70	JULY	5	793.48	AUGUST	28	793.50	OCTOBER	21
793.34	JULY	6	793.51	AUGUST	29	793.92	OCTOBER	22
793.84	JULY	7	793.76	AUGUST	30	794.05	OCTOBER	23
793.85	JULY	8	793.95	AUGUST	31	794.14	OCTOBER	24
793.24	JULY	9	793.80	SEPTEMBER	1	794.12	OCTOBER	25
793.81	JULY	10	793.90	SEPTEMBER	2	793.92	OCTOBER	26
794.20	JULY	11	792.98	SEPTEMBER	3	793.56	OCTOBER	27
794.06	JULY	12	793.19	SEPTEMBER	4	793.69	OCTOBER	28
793.85	JULY	13	793.51	SEPTEMBER	5	793.87	OCTOBER	29
793.93	JULY	14	793.87	SEPTEMBER	6	793.89	OCTOBER	30
793.67	JULY	15	794.04	SEPTEMBER	7	794.03	OCTOBER	31
794.06	JULY	16	794.05	SEPTEMBER	8	793.99	NOVEMBER	1
794.06	JULY	17	793.93	SEPTEMBER	9	793.97	NOVEMBER	2
793.69	JULY	18	793.83	SEPTEMBER	10	793.88	NOVEMBER	3
793.95	JULY	19	794.15	SEPTEMBER	11	793.83	NOVEMBER	4
794.13	JULY	20	793.89	SEPTEMBER	12	793.92	NOVEMBER	5
793.19	JULY	21	793.60	SEPTEMBER	13	794.04	NOVEMBER	6
794.07	JULY	22	793.99	SEPTEMBER	14	794.09	NOVEMBER	7
794.00	JULY	23	794.09	SEPTEMBER	15	794.11	NOVEMBER	8
794.00	JULY	24	793.81	SEPTEMBER	16	793.95	NOVEMBER	9
793.71	JULY	25	793.63	SEPTEMBER	17	794.09	NOVEMBER	10
793.42	JULY	26	793.63	SEPTEMBER	18	794.10	NOVEMBER	11
793.55	JULY	27	793.63	SEPTEMBER	19	794.06	NOVEMBER	12
794.40	JULY	28	793.85	SEPTEMBER	20	794.08	NOVEMBER	13
793.52	JULY	29	794.00	SEPTEMBER	21	794.31	NOVEMBER	14
793.36	JULY	30	793.91	SEPTEMBER	22	794.23	NOVEMBER	15
793.40	JULY	31	793.80	SEPTEMBER	23	794.25	NOVEMBER	16
793.47	AUGUST	1	793.65	SEPTEMBER	24	794.00	NOVEMBER	17
793.68	AUGUST	2	793.81	SEPTEMBER	25	793.69	NOVEMBER	18
793.78	AUGUST	3	793.98	SEPTEMBER	26	793.88	NOVEMBER	19
794.15	AUGUST	4	793.88	SEPTEMBER	27	793.94	NOVEMBER	20

Table 10. Melton Hill Reservoir water levels for 2007. (TVA)

ELEVATION	MONTH	DAY
793.95	NOVEMBER	21
794.18	NOVEMBER	22
794.01	NOVEMBER	23
793.82	NOVEMBER	24
793.92	NOVEMBER	25
794.33	NOVEMBER	26
794.11	NOVEMBER	27
794.06	NOVEMBER	28
793.94	NOVEMBER	29
794.08	NOVEMBER	30
794.00	DECEMBER	1
793.89	DECEMBER	2
793.95	DECEMBER	3
794.03	DECEMBER	4
794.18	DECEMBER	5
794.15	DECEMBER	6
794.14	DECEMBER	7
793.91	DECEMBER	8
793.91	DECEMBER	9
793.79	DECEMBER	10
793.84	DECEMBER	11
793.97	DECEMBER	12
794.05	DECEMBER	13
794.29	DECEMBER	14
794.24	DECEMBER	15
794.45	DECEMBER	16
794.24	DECEMBER	17
794.29	DECEMBER	18
794.16	DECEMBER	19
794.18	DECEMBER	20
794.03	DECEMBER	21
794.16	DECEMBER	22
794.02	DECEMBER	23
794.22	DECEMBER	24
794.20	DECEMBER	25
793.80	DECEMBER	26
793.70	DECEMBER	27
793.91	DECEMBER	28
794.23	DECEMBER	29
793.62	DECEMBER	30
793.77	DECEMBER	31

## Figures

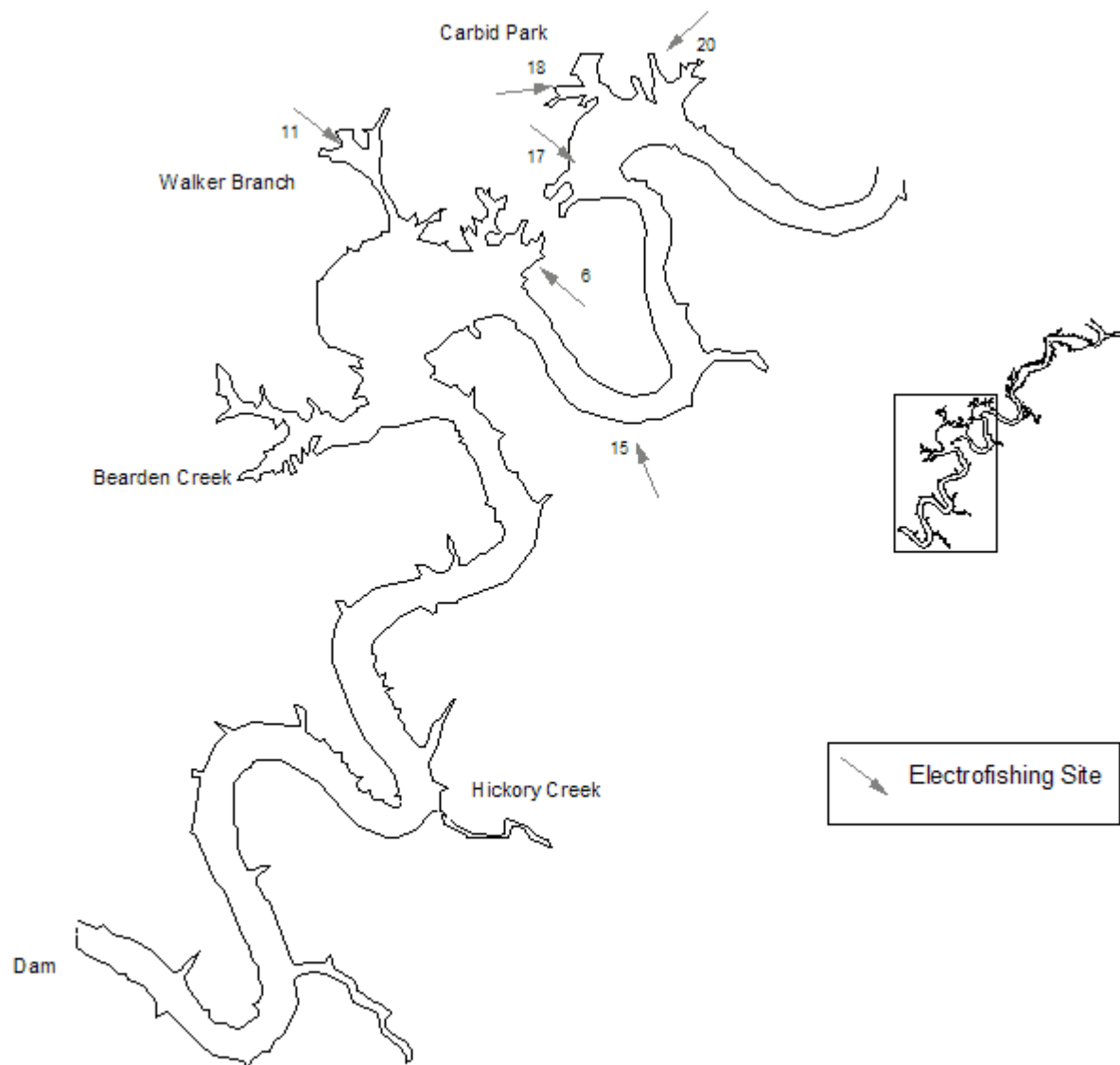


Figure 1. Electrofishing sites in the lower section of Melton Hill Reservoir in 2007.

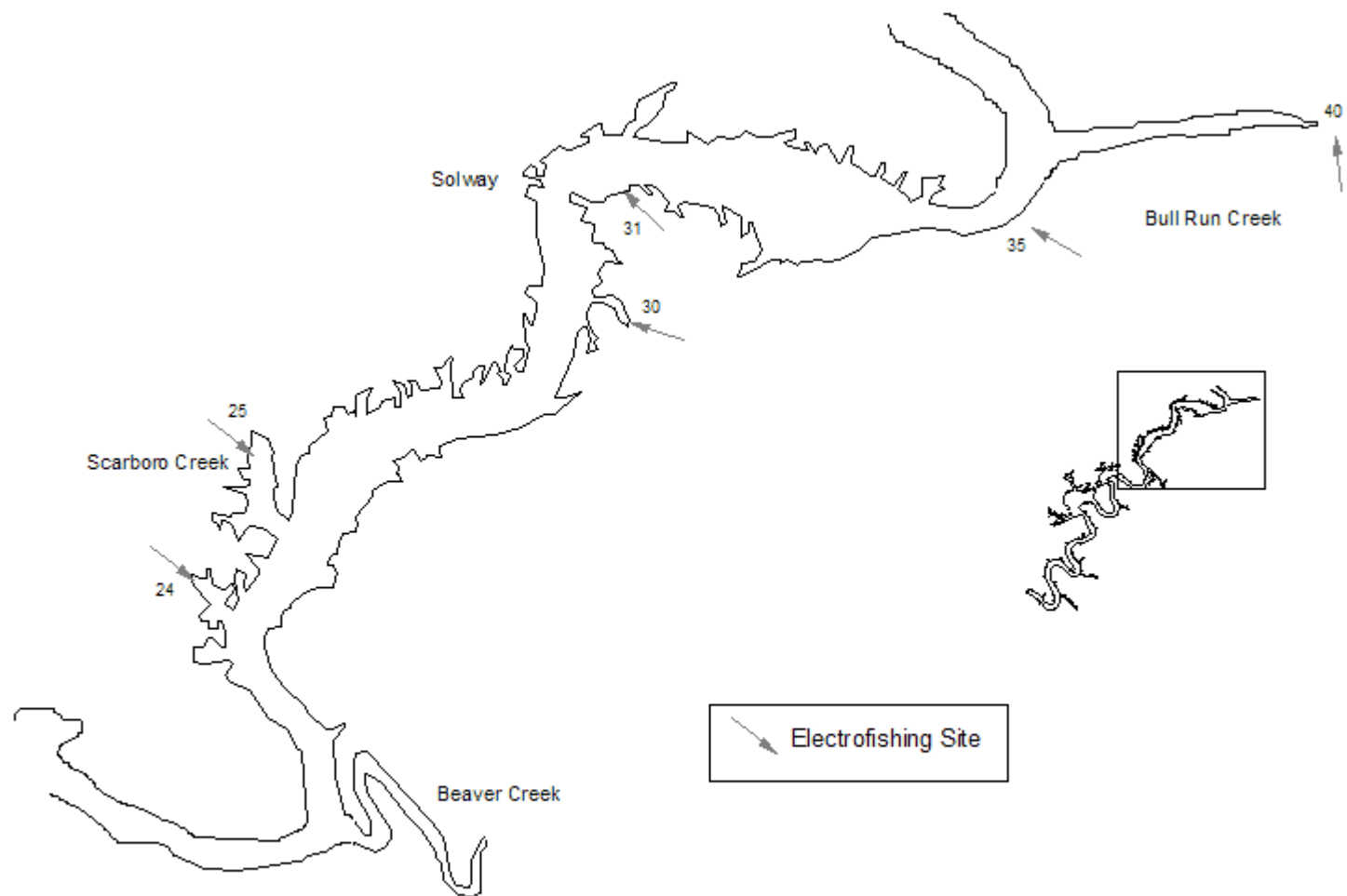


Figure 2. Electrofishing sites in the upper section of Melton Hill Reservoir in 2007.

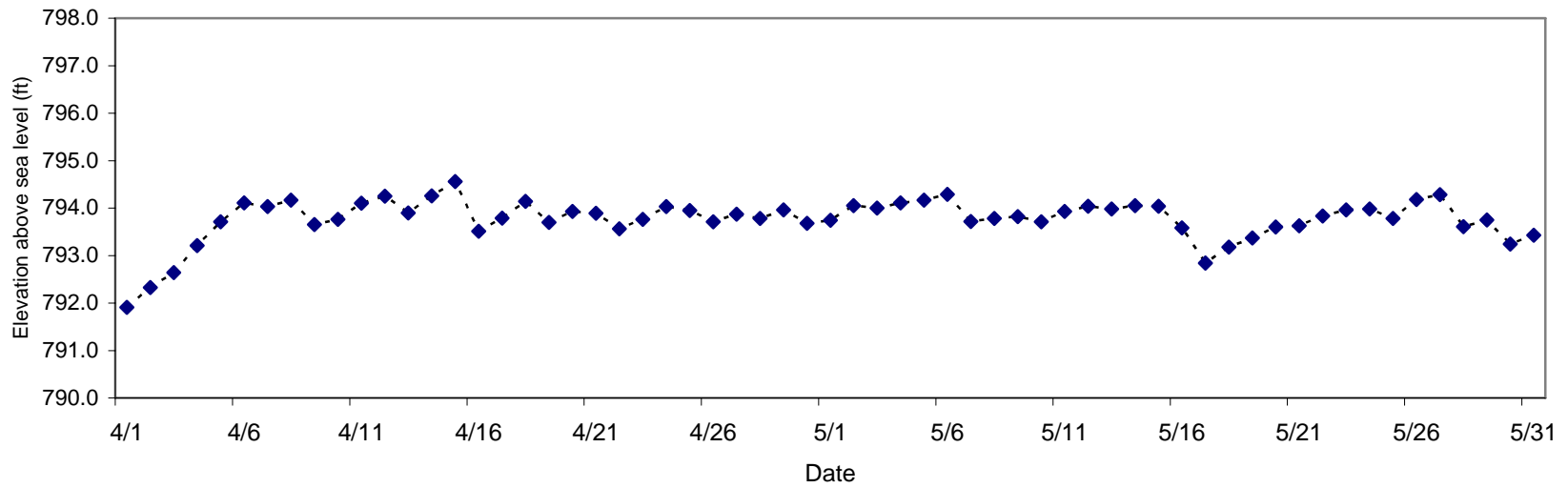


Figure 3. April and May water levels in Melton Hill Reservoir in 2007 (TVA data).



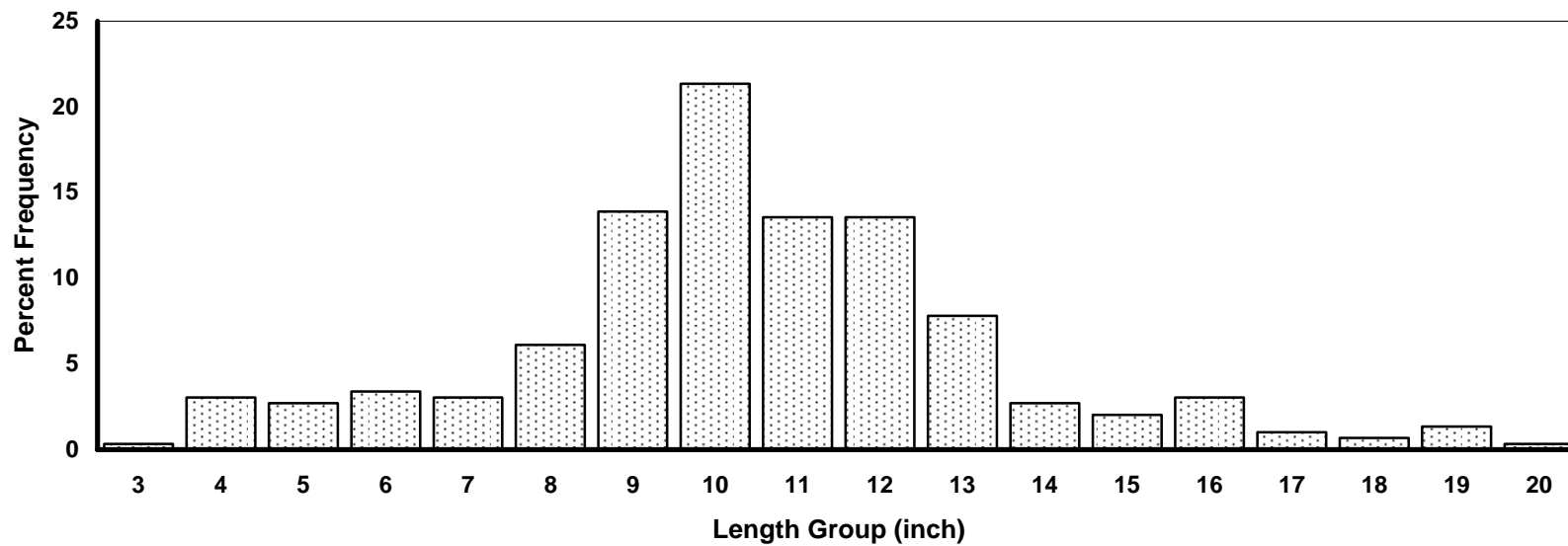


Figure 4. Melton Hill Reservoir largemouth bass length frequency by percent for the 2007 electrofishing sample (n=295).

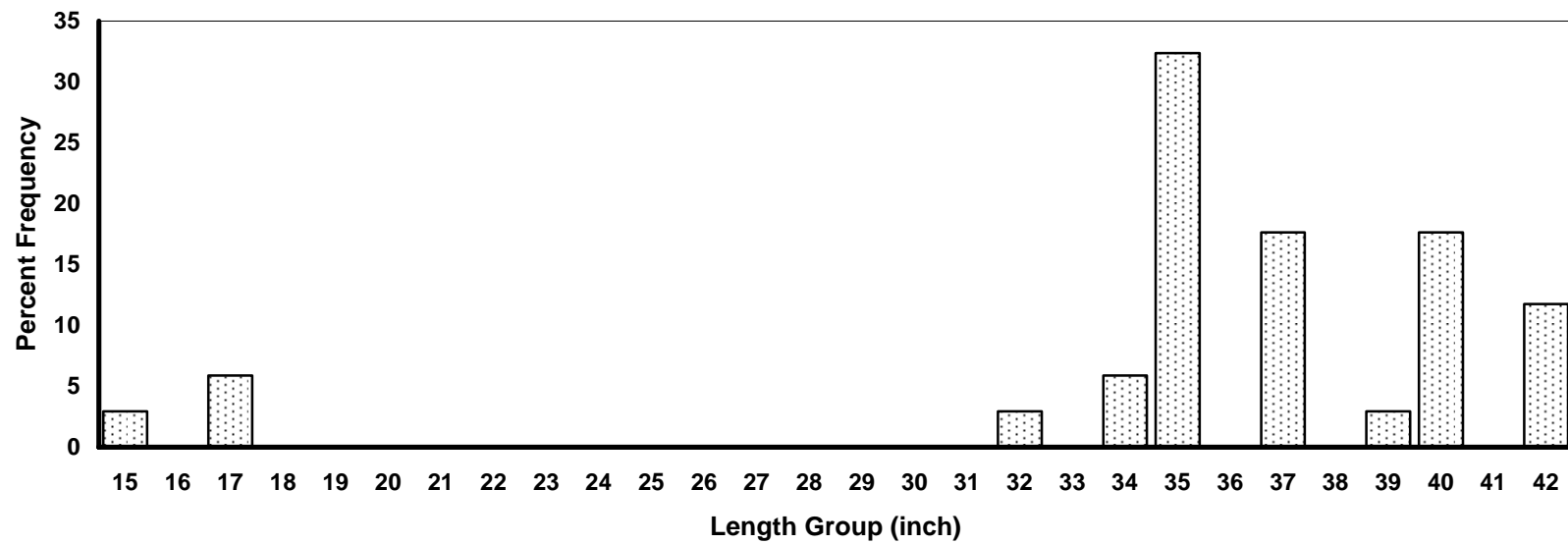


Figure 5. Melton Hill Reservoir musky length frequency by percent for all the fish electrofished during the Spring of 2007 (n=34).

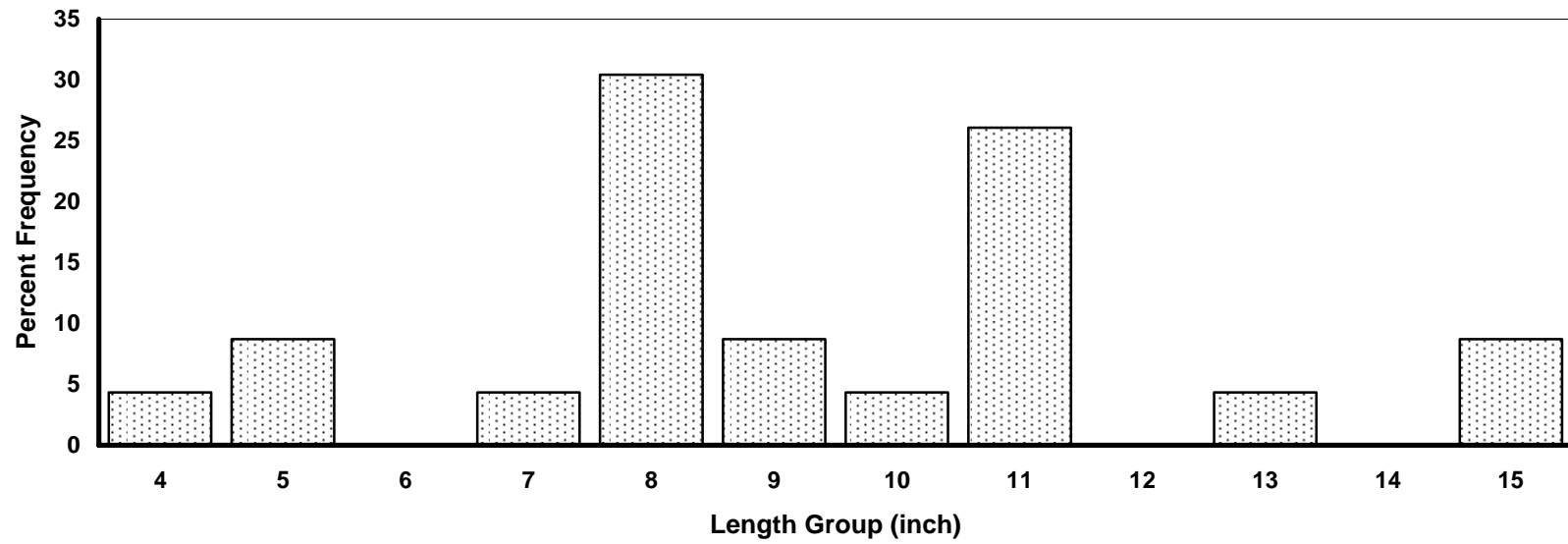


Figure 6. Melton Hill Reservoir smallmouth bass length frequency by percent for the 2007 electrofishing sample (n=23).

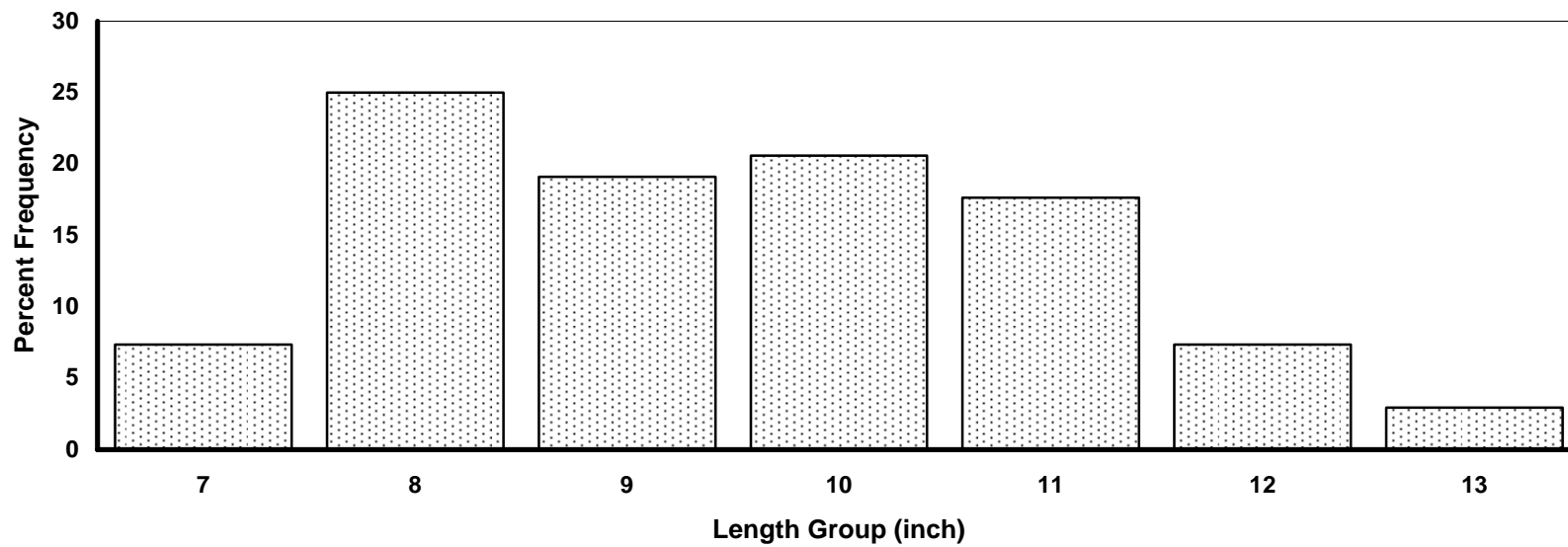


Figure 7. Melton Hill Reservoir white crappie length frequency by percent for the 2007 electrofishing sample (n=68).

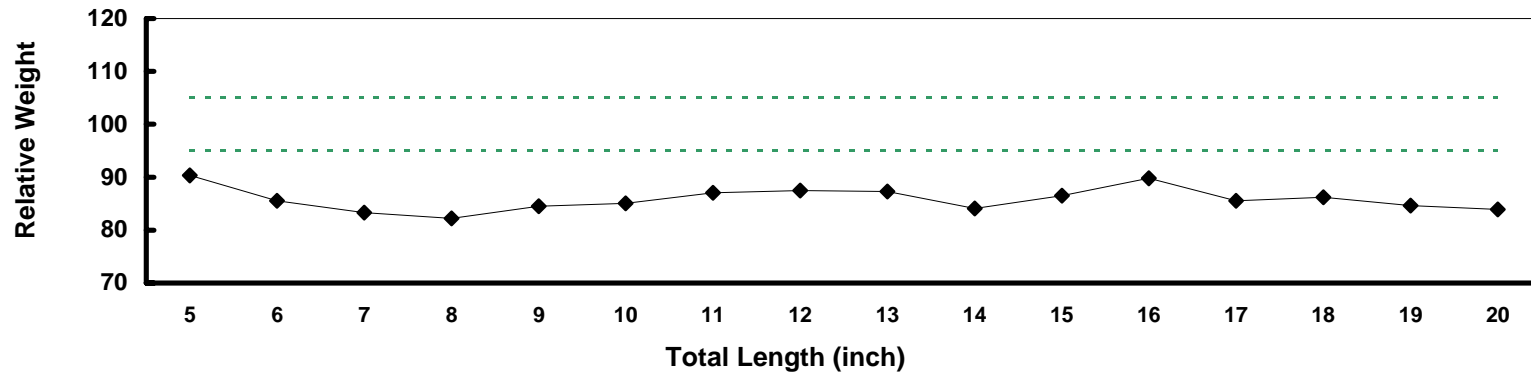


Figure 8. Melton Hill Reservoir largemouth bass mean relative weight values from the 2007 electrofishing sample (n=274).

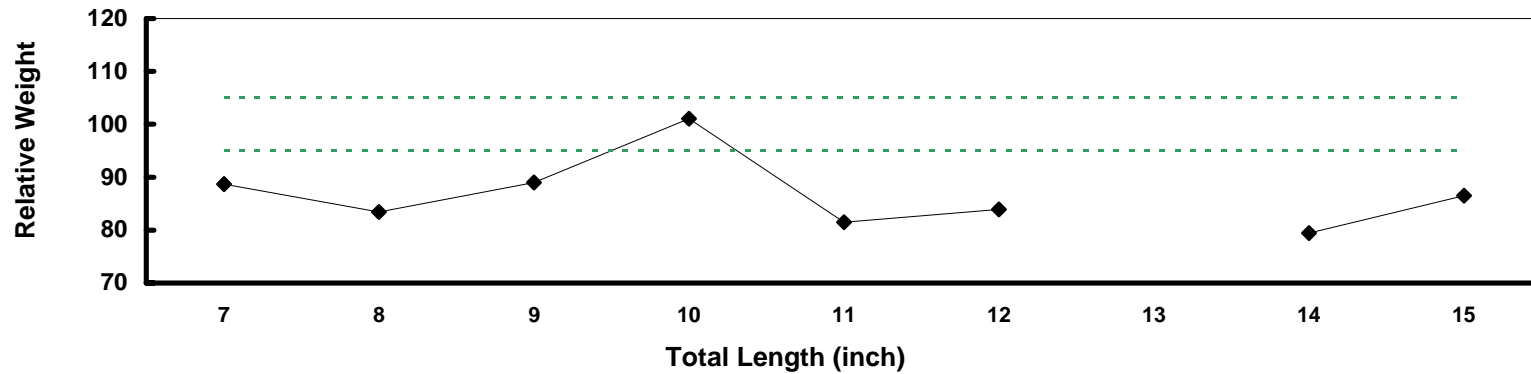


Figure 9. Melton Hill Reservoir smallmouth bass mean relative weight values from the 2007 electrofishing sample (n=26).

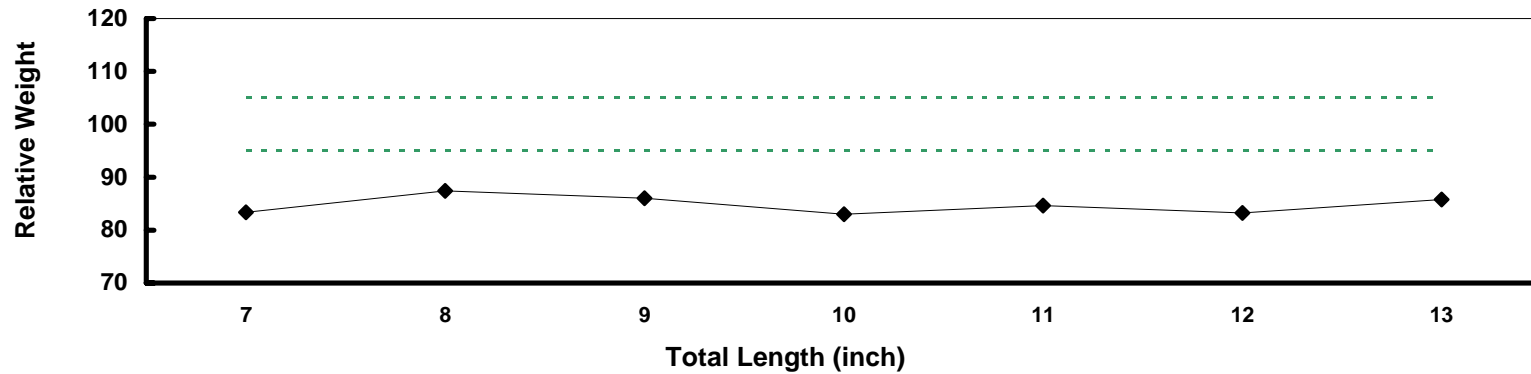


Figure 10. Melton Hill Reservoir white crappie mean relative weight values from the 2007 electrofishing sample (n=68).

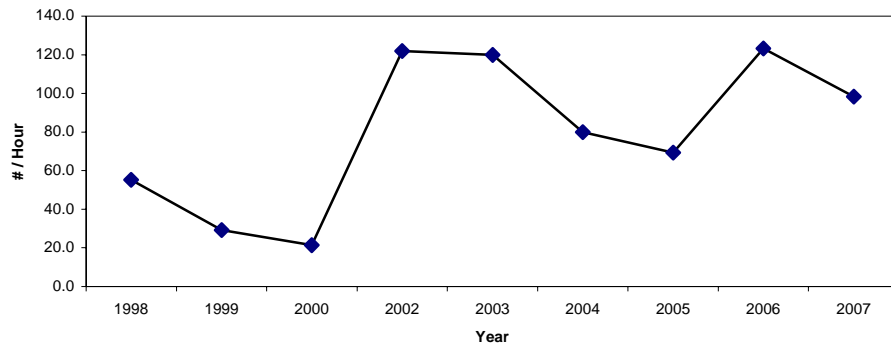


Figure 11. Melton Hill Reservoir largemouth bass electrofishing catch rates from 1998 to 2007.

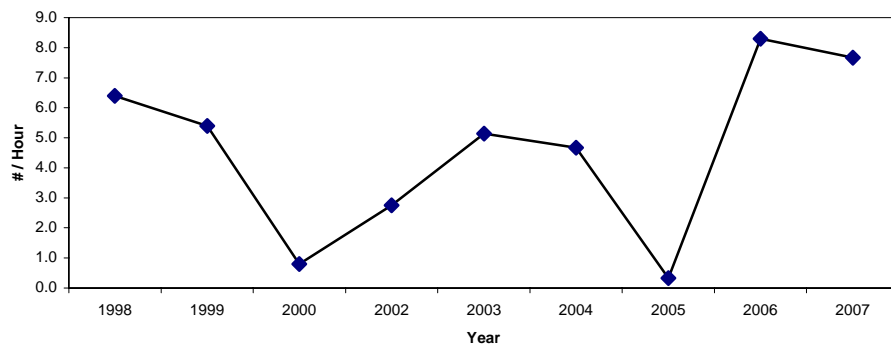


Figure 12. Melton Hill Reservoir smallmouth bass electrofishing catch rates from 1998 to 2007.

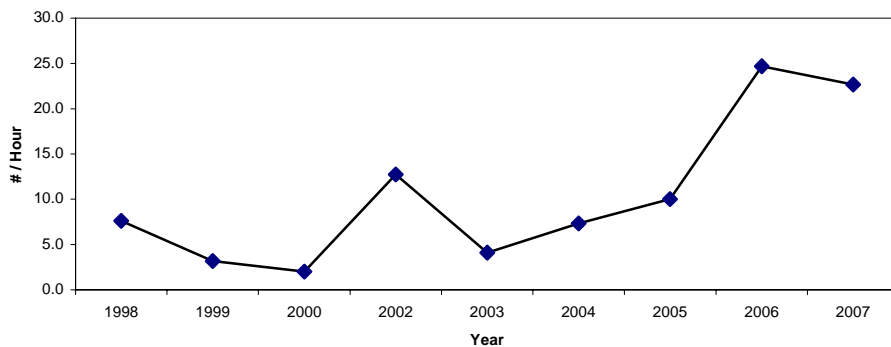


Figure 13. Melton Hill Reservoir white crappie electrofishing catch rates from 1998 to 2007.



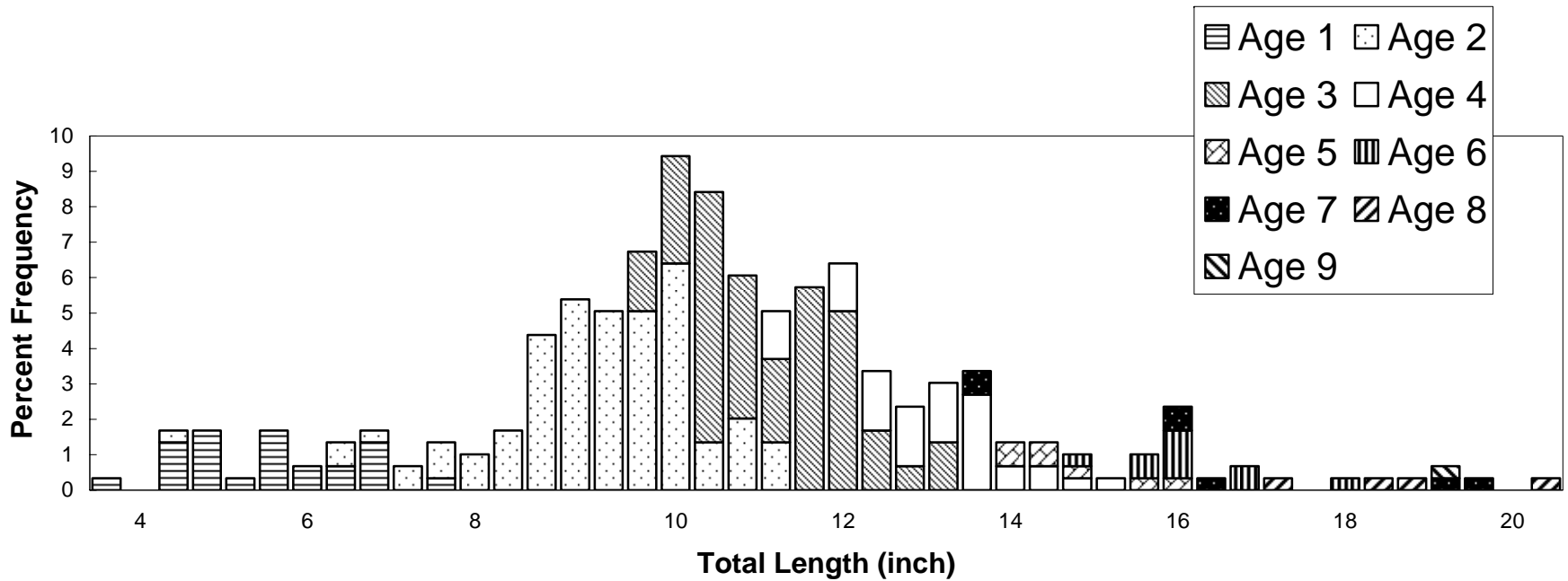


Figure 14. Length frequency at age of Melton Hill Reservoir largemouth from the 2007 electrofishing sample. (n = 297) (CPUE = 98/hr)

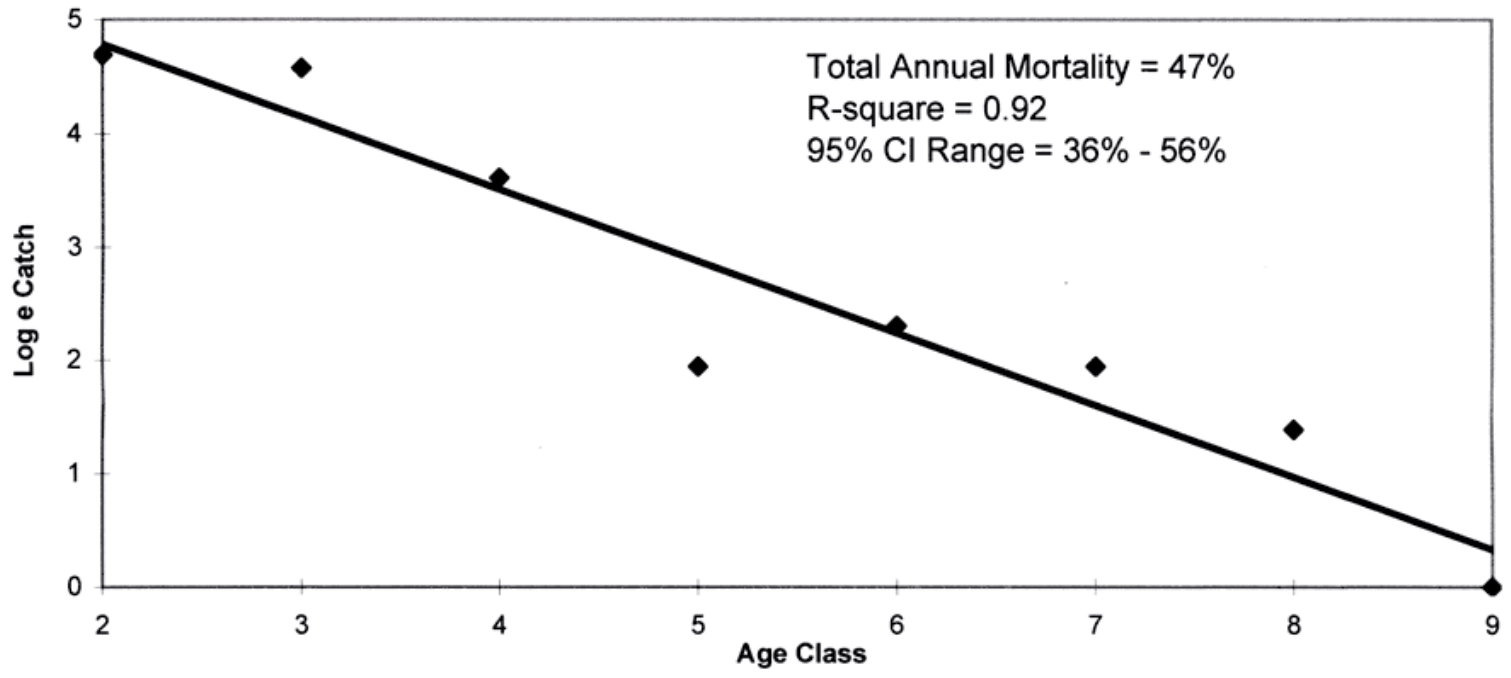


Figure 15. Largemouth bass mortality determined using 2007 electrofishing data.

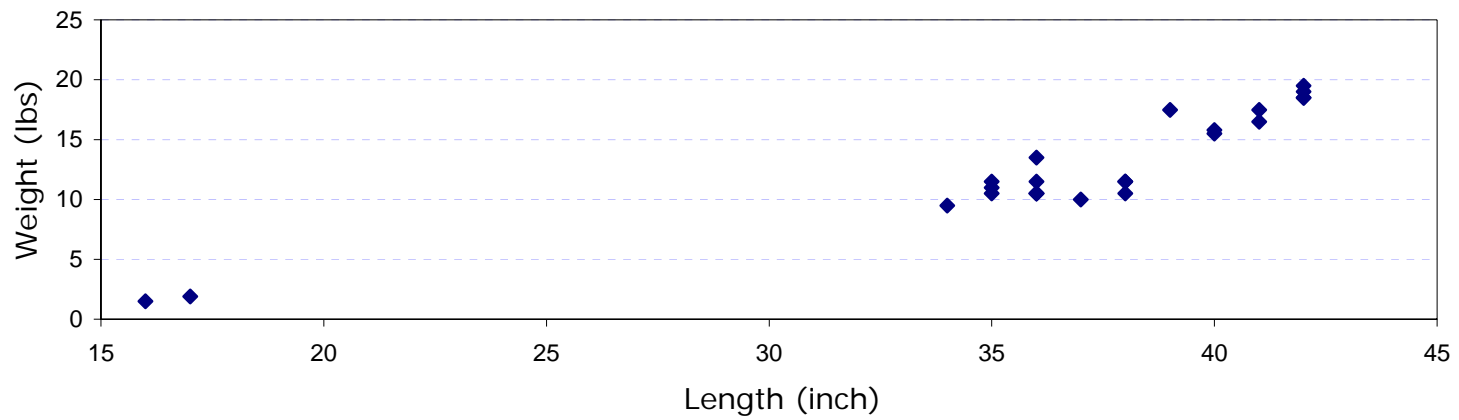


Figure 16. Melton Hill musky length weight relationship from targeted electrofishing in 2007 (n=24)

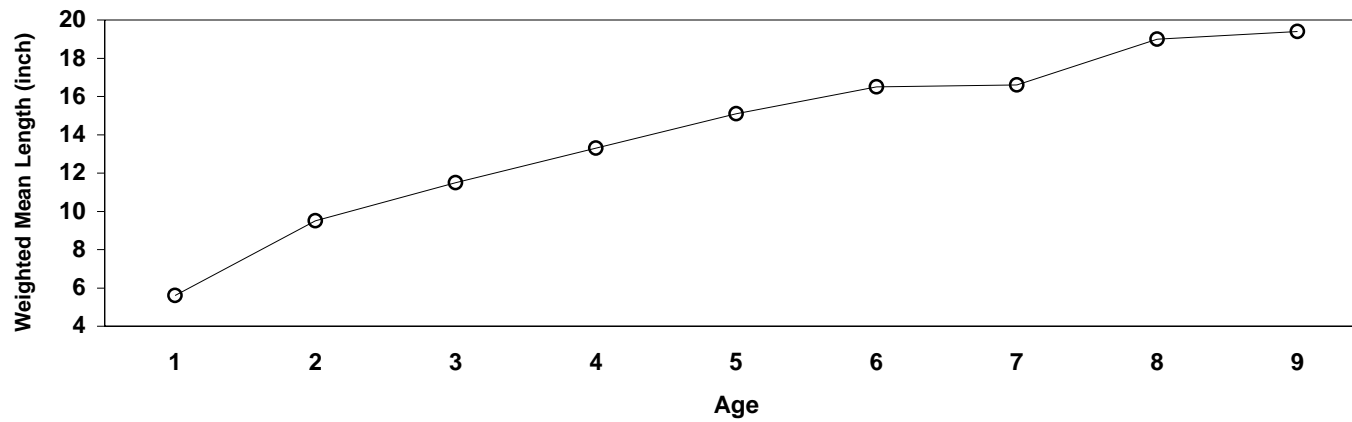


Figure 17. Weighted mean length at age of largemouth bass from Melton Hill Reservoir's 2007 electrofishing sample.

## Appendix – Creel

MONTHLY ANGLING EFFORT FOR ALL ANGLERS - 2007

LAKE=MELTON HILL

MONTH	ANGLER HOURS	RELATIVE STANDARD ERROR	HOURS PER ACRE	ANGLER TRIPS	TRIPS PER ACRE	PERCENT EFFORT
01 JANUARY	2661	41.5	0.5	741	0.1	3.6
02 FEBRUARY	1149	51.2	0.2	340	0.1	1.5
03 MARCH	4833	21.6	0.8	1097	0.2	6.5
04 APRIL	9500	38.7	1.7	2262	0.4	12.8
05 MAY	11384	5.2	2.0	2425	0.4	15.3
06 JUNE	7928	18.9	1.4	2201	0.4	10.7
07 JULY	10149	13.6	1.8	2944	0.5	13.7
08 AUGUST	4863	0.0	0.9	1444	0.3	6.6
09 SEPTEMBER	8128	11.8	1.4	1915	0.3	11.0
10 OCTOBER	7103	36.0	1.2	1752	0.3	9.6
11 NOVEMBER	6487	31.9	1.1	1922	0.3	8.7
----- <b>TOTAL</b>	<b>74185</b>			----- <b>19043</b>		

MONTHLY CATCH STATISTICS FOR ALL ANGLERS - 2007

LAKE=MELTON HILL

MONTH	NUMBER FISH CAUGHT	RSE FOR CATCH	FISH CAUGHT PER HOUR	RSE FOR CATCH RATE	NUMBER FISH HARVESTED	RSE FOR HARVEST	FISH HARVESTED PER HOUR	RSE FOR HARVEST RATE
01 JANUARY	2129	45.1	0.80	16.5	186	102.7	0.07	81.5
02 FEBRUARY	0	.	0.00	.	0	.	0.00	.
03 MARCH	5655	32.8	1.17	24.1	483	44.9	0.10	40.2
04 APRIL	7885	56.0	0.83	37.8	1140	77.2	0.12	61.4
05 MAY	15255	10.3	1.34	8.8	1138	9.6	0.10	8.2
06 JUNE	6977	31.0	0.88	24.2	79	65.4	0.01	63.2
07 JULY	10048	25.7	0.99	21.7	203	67.6	0.02	79.8
08 AUGUST	1216	98.9	0.25	100.0	0	.	0.00	.
09 SEPTEMBER	7315	15.8	0.90	10.4	813	75.3	0.10	76.2
10 OCTOBER	6890	53.0	0.97	36.6	497	74.2	0.07	57.2
11 NOVEMBER	4995	35.1	0.77	13.8	0	.	0.00	.
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<b>TOTAL</b>	<b>68365</b>				<b>4539</b>			

**SUMMARY OF SPECIES CATCH STATISTICS - 2007**

**LAKE=MELTON HILL**

SPECIES	TOTAL NUMBER FISH CAUGHT	RSE FOR CATCH	SPECIES CATCH COMPOSITION (%)	INTENDED NUMBER CAUGHT	TOTAL NUMBER FISH HARVESTED	RSE FOR HARVEST	SPECIES HARVEST COMPOSITION (%)	INTENDED NUMBER HARVESTED	% OF CAUGHT FISH RELEASED	AVERAGE WEIGHT (LBS)	NUMBER FISH RECORDED
SKIPJACK HERRING	55	634.9	0.1	0	0	.	0.0	0	100.0	.	0
CARP	923	216.7	1.3	923	0	.	0.0	0	100.0	.	0
MUSKELLUNGE	118	492.1	0.2	118	0	.	0.0	0	100.0	.	0
WHITE BASS	1082	234.3	1.6	618	0	.	0.0	0	100.0	.	0
YELLOW BASS	710	210.5	1.0	152	361	159.0	8.0	0	49.2	0.43	8
STRIPED BASS	1554	137.2	2.3	799	40	105.8	0.9	40	97.4	38.80	1
BLUEGILL	14980	25.4	21.9	12769	725	62.1	16.0	725	95.2	0.45	16
SMALLMOUTH BASS	4252	66.2	6.2	4059	0	.	0.0	0	100.0	.	0
SPOTTED BASS	1405	198.8	2.1	859	0	.	0.0	0	100.0	.	0
LARGEMOUTH BASS	23463	19.6	34.3	21531	141	56.9	3.1	106	99.4	2.76	4
WHITE CRAPPIE	15031	24.9	21.9	14681	2810	25.6	61.9	2810	81.3	0.75	82
BLACK CRAPPIE	918	199.1	1.3	918	191	153.2	4.2	191	79.2	0.86	5
YELLOW PERCH	117	867.5	0.2	117	0	.	0.0	0	100.0	.	0
FRESHWATER DRUM	370	446.8	0.5	370	0	.	0.0	0	100.0	.	0



SUMMARY OF FISHING EFFORT AND CATCH RATES FOR INTENDED SPECIES GROUPS - 2007

LAKE=MELTON HILL

INTENDED SPECIES	ANGLER HOURS	RSE FOR ANGLER HOURS	ANGLER TRIPS	PERCENT EFFORT	NUMBER CAUGHT PER HOUR	RSE FOR CATCH PER HOUR	NUMBER HARVESTED PER HOUR	RSE FOR HARVEST PER HOUR	NUMBER OF INTERVIEWS
ANY CATFISH	1877	35.3	460	2.5	0.72	51.4	0.08	0.0	12
MUSKELLUNGE	3802	24.9	969	5.1	0.02	95.0	0.00		35
WHITE BASS	71	117.2	16	0.1	1.00		0.00		1
STRIPED BASS	4159	26.2	1165	5.6	0.10	52.8	0.03	173.3	17
ANY SUNFISH	796	45.3	201	1.1	1.80	56.2	0.00		4
ANY BLACK BASS	23804	11.0	6161	32.1	0.97	31.9	0.00	248.2	133
ANY CRAPPIE	14995	14.0	3730	20.2	0.95	27.1	0.24	56.4	94
ANY SPECIES	24517	11.0	6297	33.0	0.85	26.5	0.04	133.0	121
OTHER	164	94.0	40	0.2	0.00		0.00		2
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<b>TOTAL</b>	<b>74185</b>		<b>19039</b>						

SUMMARY OF RELATIVE SPECIES CATCH RATES  
WITHIN TARGET GROUPS - 2007

LAKE=MELTON HILL

TARGET GROUP	SPECIES WITHIN TARGET GROUPS	RELATIVE CATCH RATE	RELATIVE HARVEST RATE
ANY CATFISH	ANY CATFISH	0.00	0.00
ANY SUNFISH	BLUEGILL	1.80	0.00
ANY BLACK BASS	SMALLMOUTH BASS	0.17	0.00
	SPOTTED BASS	0.04	0.00
	LARGEMOUTH BASS	0.90	0.00
ANY CRAPPIE	WHITE CRAPPIE	0.89	0.22
	BLACK CRAPPIE	0.06	0.02

COMPARISON OF BLACK BASS CATCH RATES (# FISH/HOUR) BETWEEN TOURNAMENT AND NON-TOURNAMENT ANGLERS  
(MONTHS ARE LISTED ONLY IF > 90% OF BLACK BASS ANGLERS RESPONDED TO THE QUESTION ON TOURNAMENT PARTICIPATION)

LAKE=MELTON HILL

MONTH	% BLACK BASS EFFORT BY TOURNAMENT ANGLERS	CATCH RATE FOR TOURNAMENT ANGLERS	# OF INTERVIEWS (TOURNAMENT)	CATCH RATE FOR NON-TOURNAMENT ANGLERS	# OF INTERVIEWS (NON-TOURNAMENT)
01 JANUARY	0		0	0.79	10
02 FEBRUARY	0		0	0.00	1
03 MARCH	0		0	1.67	10
04 APRIL	0		0	1.58	12
05 MAY	0		0	1.49	22
06 JUNE	17	1.00	4	0.67	16
07 JULY	0		0	0.88	15
08 AUGUST	28	0.38	2	0.15	2
09 SEPTEMBER	2	0.00	3	0.61	14
10 OCTOBER	0		0	1.06	18
11 NOVEMBER	0		0	0.64	4

**SUMMARY OF TRIP EXPENDITURES AND CONSUMER SURPLUS  
FOR INTENDED SPECIES - 2007**

**LAKE=MELTON HILL**

<b>INTENDED SPECIES</b>	<b>TOTAL TRIP EXPENDITURES</b>	<b>TOTAL CONSUMER SURPLUS</b>	<b>TOTAL VALUE BY ANGLERS</b>	<b>NUMBER OF INTERVIEWS</b>
ANY CATFISH	5550	7300	12860	12
MUSKELLUNGE	16960	21260	38210	35
WHITE BASS	80	80	160	1
STRIPED BASS	13630	23000	36630	17
ANY SUNFISH	2270	0	2270	4
ANY BLACK BASS	110260	54270	164530	133
ANY CRAPPIE	53160	25320	78480	94
ANY SPECIES	55950	22780	78730	121
OTHER	500	400	900	2
<b>TOTAL</b>	<b>258360</b>	<b>154410</b>	<b>412770</b>	<b>419</b>

**SUMMARY OF SOCIOLOGICAL QUESTIONS - 2007**

**LAKE=MELTON HILL**

**DISTRIBUTION OF STATES OF RESIDENCE OF INTERVIEWED ANGLERS**

<b>STATE</b>	<b>NUMBER ANGLERS INTERVIEWED</b>	<b>PERCENT CONTRIBUTION</b>
TN	703	97.9
OTHERS	15	2.1

**DISTRIBUTION OF COUNTIES OF RESIDENCE OF INTERVIEWED ANGLERS**

<b>COUNTY</b>	<b>NUMBER ANGLERS INTERVIEWED</b>	<b>PERCENT CONTRIBUTION</b>
ANDERSON	267	38.0
KNOX	368	52.3
LOUDON	42	6.0
OTHERS IN TN	26	3.7

**DISTRIBUTION OF ONE-WAY MILEAGE OF ANGLERS INTERVIEWED**

<b>ONE-WAY MILES TRAVELED</b>	<b>NUMBER ANGLERS INTERVIEWED</b>	<b>PERCENT CONTRIBUTION</b>
A) 0-25	670	93.6
B) 26-100	31	4.3
C) 101-250	5	0.7
D) > 250	10	1.4

**DISTRIBUTION OF REASONS WHY INTERVIEWED ANGLERS MADE THE TRIP**

<b>REASON FOR TRIP</b>	<b>NUMBER ANGLERS INTERVIEWED</b>	<b>PERCENT CONTRIBUTION</b>
A) FISHING	407	97.1
B) VACATION	12	2.9

**DISTRIBUTION OF NUMBER OF DAYS IN TRIPS OF INTERVIEWED ANGLERS**

<b>NUMBER DAYS IN TRIP</b>	<b>NUMBER ANGLERS INTERVIEWED</b>	<b>PERCENT CONTRIBUTION</b>
A) 1	399	95.2
B) 2-5	16	3.8
C) 6-10	3	0.7
F) >20	1	0.2