Watauga Reservoir

Annual Report 2008

Prepared By:

John Hammonds
and
Douglas C. Peterson

Tennessee Wildlife Resources Agency
Region IV
3030 Wildlife Way
Morristown, TN 37814

All activities covered in this report were conducted under the following TWRA cost centers: 4311, 4312, and 4313. Development of this report was financed in part by funds from Federal Aid in Fish and Wildlife Restoration (Public Law 91-503) as documented in Federal Aid Project FW-6.

Table of contents

Page

Watauga Reservoir

Description

Surface Area: 6,430 acres
Counties: Carter, Johnson
Full Pool Elevation: 1,959 feet above mean sea level
Maximum Depth: 312 feet
Mean Chlorophyll (Forebay): 4.0 parts per million
Trophic Status (Forebay): Mesotrophic
Hydraulic Retention Time: 400 days
***Total Fishing Effort:** 145,666 hours
*Creel was ran only from January to August

Shoreline Distance: 105 miles
Drainage Area: 468 square miles
Mean Annual Fluctuation: 44 feet
Thermocline Depth: 30 feet
Shoreline Development: 21%
Trophic Index, Carlson (1977): 44.3
Reservoir Age: 60 years (dam completed 1948)
***Total Value by Anglers:** $1,065,510

Habitat Enhancement and Monitoring

	New Sites			Renovated Sites			Expanded Sites		
Location	**Number**	**Units**	**Acres**	**Number**	**Units**	**Acres**	**Number**	**Units**	**Acres**
Head of Elk River*	1	150	3.00						
Elk River Mile 2.25 L*				1	120	2.40			
Elk River Mile 2.50 R*				1	125	2.50			
Elk River Mile 3.25 R*				1	40	0.80			
Elk River Mile 1.10R*	1	50	1.00						
Roan Creek Mile 0.90 L*				1	80	1.60			
WRM 44.60 L*				1	120	2.40			
WRM 50.25 L**	1	50	1.00	1	120	2.40			
WRM 50.30 L**	1	25	0.50						
WRM 49.80 R**	1	40	0.80						
WRM 47.25 L**	1	25	0.50						
WRM 47.50 L**	1	10	0.20						
Total	***7***	***350***	***7***	***6***	***605***	***12***	***0***	***0***	***0***

*Christmas Trees
**Stake Beds

Parameter	Date Collected
Temperature, pH, Conductivity, and D.O.	July, August, September

Black Bass

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data)												
All Black Bass	(hrs)	103,435	178,485	No Survey	126,408	No Survey	109,991	87,482	No Survey	No Survey	64,427	111,705
	(hrs/acre)	16.1	27.8		19.7		17.1	13.6			10.0	17.4
Any Black Bass	(hrs)	103,011	155,509		118,076		97,770	78,384			62,941	102,615
	(hrs/acre)	16.0	24.2		18.4		15.2	12.2			9.8	16.0
Largemouth Bass	(hrs)	0	1,803		0		0	0			360	361
	(hrs/acre)	0.0	0.3		0.0		0.0	0.0			0.1	0.1
Smallmouth Bass	(hrs)	424	21,173		8,332		12,075	9,098			1,126	8,705
	(hrs/acre)	0.1	3.3		1.3		1.9	1.4			0.2	1.4
Spotted Bass	(hrs)	0	0		0		146	0			0	24
	(hrs/acre)	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Tournaments (BITE program & creel survey data)												
# Tournaments (BITE)				9	8	5	none reported	1	1	none reported	none reported	4.8
Pounds/Angler Day (BITE)				3.30	2.38	3.97		2.74	2.46			2.97
Bass/Angler Day (BITE)				1.80	1.30	2.41		1.46	1.43			1.68
Value of Fishery (creel survey data - trip expenditures)												
All Black Bass		not calculated	$377,620	No Survey	$191,500	No Survey	$216,730	$172,120	No Survey	No Survey	$259,440	$243,482
Any Black Bass		not calculated	$326,480		$181,620		$202,160	$161,580			$254,040	$225,176
Largemouth Bass		not calculated	$5,630		$0		$0	$0			$4,320	$1,990
Smallmouth Bass		not calculated	$45,510		$9,880		$14,570	$10,540			$1,080	$16,316
Spotted Bass		not calculated	$0		$0		$0	$0			$0	$0

Largemouth Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data)											
Age-1 CPUE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	2.3	0.7	0.0	1.7	0.5	0.2	0.6	0.4	0.8	0.6	0.8
Density (electrofishing data - CPUE = # fish/hour)											
PSD	62%	70%	72%	79%	80%	91%	82%	78%	82%	94%	79.0%
RSD - Preferred	62%	41%	50%	58%	64%	64%	64%	48%	55%	75%	58.1%
CPUE	10.8	10.3	16.8	17.5	9.4	14.6	15.1	15.1	20.0	21.2	15.1
CPUE = Stock	8.5	9.6	16.8	15.8	8.9	14.4	14.5	14.7	19.2	20.6	14.3
CPUE = MSL (15")	5.0	3.9	7.9	7.7	5.5	12.9	11.9	11.2	15.6	19.4	10.1
Growth (electrofishing data)											
Mean TL at Age-1 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mean TL at Age-3 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Relative Weight (electrofishing data)											
Stock - Quality	89.5	93.0	90.3	87.4	92.5	101.5	88.5	84.2	84.2	86.4	89.7
Quality - Preferred	none	100.0	88.6	91.7	92.1	90.9	88.7	90.9	91.2	88.3	91.4
Preferred - Memorable	95.5	100.6	96.6	95.0	94.6	96.5	95.7	95.7	93.6	95.5	95.9
Memorable - Trophy	96.2	109.8	101.7	107.8	109.0	106.1	91.7	94.5	97.5	97.8	101.2
Trophy	none	none	none	none	none	none	none	none	none	none	N/A
Mortality (electrofishing data)											
Total Mortality	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	No	0.06	No	0.08	0.08	No	No	0.13	0.09
Harvest Rate	not calculated	not calculated		0.00		0.00	0.00			0.01	0.00
Percent Harvested	8.8%	7.1%	Survey	7.4%	Survey	5.2%	5.2%	Survey	Survey	6.3%	6.7%
Mean Weight (pounds)	2.1	3.89		1.95		2.04	2.55			2.29	2.47

Fishery Forecast

Due to the low primary production of Watauga Reservoir, the largemouth bass densities have never been high. However, densities have remained stable and this year, they were the highest that have been recorded since standardized sampling began in 1998. Also the percentage of largemouth bass over 381 mm (15-inches) has been above 40 percent since 1993, indicating a very good quality and stable largemouth bass fishery. The quality of the fishery is excellent and should remain stable for the 2008 season.

Management Recommendations

No change to the current 305 mm (12-inch) minimum length limit. Gather age, growth, and mortality data.

Smallmouth Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data)											
Age-1 CPUE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	7.5	1.8	5.8	5.0	1.3	0.4	0.4	1.2	3.8	0.6	2.8
Density (electrofishing data - CPUE = # fish/hour)											
PSD	57%	74%	79%	76%	77%	90%	88%	77%	66%	87%	77.1%
RSD - Preferred	30%	37%	52%	57%	51%	71%	71%	54%	47%	56%	52.6%
CPUE	40.3	24.2	36.8	27.5	15.5	21.5	14.1	19.9	28.2	30.8	25.9
CPUE = Stock	32.8	22.5	31.1	22.5	14.2	21.1	13.7	18.7	24.4	30.2	23.1
CPUE = MSL (12")*	5.8	12.7	21.4	16.2	6.2	17.9	10.9	12.7	14.6	8.2	12.7
Growth (electrofishing data)											
Mean TL at Age-1 (mm)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mean TL at Age-3 (mm)	246	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	246
Relative Weight (electrofishing data)											
Stock - Quality	97.4	93.2	96.2	91.3	87.7	92.3	92.9	93.1	82.1	84.6	91.1
Quality - Preferred	89.7	90.9	87.6	88.1	89.7	92.9	171.9	90.5	83.1	86.8	97.1
Preferred - Memorable	87.2	85.7	85.2	86.6	87.5	90.0	81.6	86.2	86.6	88.1	86.5
Memorable - Trophy	80.6	84.2	84.3	83.4	84.2	86.3	80.8	84.5	84.3	86.3	83.9
Trophy	none	none	none	none	none	none	none	none	none	none	
Mortality (electrofishing data)											
Total Mortality	48%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	48.0%
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	No	0.17	No	0.17	0.17	No	No	0.24	0.19
Harvest Rate	not calculated	not calculated		0.02		0.02	0.01			0.01	0.02
Percent Harvested	49.8%	14.2%	Survey	12.5%	Survey	9.6%	7.1%	Survey	Survey	5.7%	16.5%
Mean Weight (pounds)	0.54	3.00		2.32		2.51	2.41			2.72	2.25

* 18" MLL in effect in 2008

Fishery Forecast

Although we sampled excellent numbers of larger smallmouth bass in 2007, we had really good numbers of smallmouth from 8 to 10-inches. These size fish should recruit well into the quality and preferred size fish, especially with the incremental size limit being implemented March 1, 2008. As always, the quality of the smallmouth bass fishery is excellent and also very stable. We consistently collect large fish in our electrofishing samples and the data shows no decline in the percent of larger (>356 mm) smallmouth bass in the population. The smallmouth bass fishery should remain in good quality for the 2008 season.

Management Recommendations

Implement an incremental minimum size limit of 16-inches in 2008 and 18-inches in 2009. Monitor the impact of the new regulation to the smallmouth bass population. Continue to monitor the same concern about the “trout minnows” that seems to be an issue on Watauga as well as South Holston.

Spotted Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data)											
Substock CPUE	0.00	0.18	0.00	1.42	0.30	0.36	0.20	0.40	0.00	1.00	0.4
Density (electrofishing data - CPUE = # fish/hour)											
PSD	0%	0%	33%	61%	48%	35%	50%	52%	82%	49%	41%
RSD - Preferred	0%	0%	0%	17%	26%	10%	36%	4%	29%	7%	13%
CPUE	0.25	0.18	2.52	6.38	4.61	4.18	2.98	5.76	3.40	16.20	4.6
CPUE = Stock	0.25	0.00	2.52	4.96	4.31	3.81	2.78	5.36	3.40	15.20	4.3
CPUE = MSL	No Minimum Size Limit										
Relative Weight (electrofishing data)											
Stock - Quality	94.682	none	101.904	115.162	96.798	115.4	89.8	101.3	96.4	98.7	101.1
Quality - Preferred	none	none	111.726	110.614	104.028	105.2	99.1	101.1	95	95.4	102.8
Preferred - Memorable	none	none	none	121.898	96.931	126.1	101.2	104.7	115.8	102.3	109.8
Memorable - Trophy	none	none	none	none	none	none	none	none	none	none	N/A
Trophy	none	none	none	none	none	none	none	none	none	none	N/A
Fishing Success (creel survey data)											
Catch Rate	not calculated	0.35	No Survey	0.01	No Survey	0.03	0.02	No Survey	No Survey	0.15	0.11
Harvest Rate	not calculated	0.02		0.00		0.00	0.00			0.04	0.01
Percent Harvested	17.1%	0.9%		2.8%		2.7%	5.2%			27.5%	9.4%
Mean Weight (pounds)	N/A	1.15		3.00		2.97	2.55			1.23	2.18

Fishery Forecast

Spotted bass seem to be increasing in density. Wile this is not completely detrimental to the existing black bass population, it can be problematic. For example, spotted bass are usually more aggressive and easier to catch than the other black bass species, therefore making the more desirable largemouth and smallmouth bass even harder to catch. It is difficult to say if the densities will keep increasing in Watauga, but similar systems show a steady increase in density until they reach densities similar to smallmouth bass.

Management Recommendations

Possibly implement a no creel limit and no size limit fishery in the future to reduce competition with smallmouth bass.

White Crappie

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data) - CPUE = # fish/ hour											
Age-0 CPUE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Density (electrofishing data) - CPUE = # fish/ hour											
PSD	none	none	none	none	none	none	none	none	none	none	N/A
RSD - Preferred	none	none	none	none	none	none	none	none	none	none	N/A
CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CPUE = Stock	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CPUE = MSL (10")	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth (electrofishing data)											
Mean TL at Age-1 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mean TL at Age-3 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Relative Weight (electrofishing data)											
Stock - Quality	none	none	none	none	none	none	none	none	none	none	N/A
Quality - Preferred	none	none	none	none	none	none	none	none	none	none	N/A
Preferred - Memorable	none	none	none	none	none	none	none	none	none	none	N/A
Memorable - Trophy	none	none	none	none	none	none	none	none	none	none	N/A
Trophy	none	none	none	none	none	none	none	none	none	none	N/A
Mortality (electrofishing data)											
Total Mortality	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stocking											
# per Acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Angling Pressure (creel survey data - **any crappie**)											
Angler Hours	2,292	20,656	No Survey	7,737	No Survey	7,374	7,553	No Survey	No Survey	1,821	7,906
Angler Hours/Acre	0.4	3.2		1.2		1.1	1.2			0.3	1.2
Fishing Success (creel survey data)											
Catch Rate	0.00	0.00		0.00		0.00	0.00			0.00	0.00
Harvest Rate	0.00	0.00		0.00		0.00	0.00			0.00	0.00
Percent Harvested	none	none		none		none	none			none	N/A
Mean Weight (pounds)	none	none		none		none	none			none	N/A
Value of Fishery (creel survey data - trip expe											
Any Crappie	not calculated	$27,300		$11,140		$15,720	$11,240			$2,080	$13,496

Fishery Forecast

Watauga is a very clear cool, low productive reservoir. These conditions are not very suited for white crappie. While this fish still is part of the overall fishery of Watauga reservoir, it will never be a significant part. The population does, however, seem to remain stable.

Management Recommendations

Maintain current regulations.

Black Crappie

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data) - CPUE = # fish/ hour											
Age-0 CPUE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Density (electrofishing data) - CPUE = # fish/ hour											
PSD	100%	none	90%	100%	100%	100%	100%	100%	none	none	98.6%
RSD - Preferred	0%	none	20%	50%	67%	100%	50%	75%	none	none	51.7%
CPUE	0.25	0.00	2.86	1.12	0.64	0.57	0.40	0.80	0.00	0.00	0.66
CPUE = Stock	0.25	0.00	2.86	1.12	0.64	0.57	0.40	0.80	0.00	0.00	0.66
CPUE = MSL (10")	0.00	0.00	0.29	0.55	0.47	0.57	0.20	0.60	0.00	0.00	0.27
Growth (electrofishing data)											
Mean TL at Age-1 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mean TL at Age-3 (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Relative Weight (electrofishing data)											
Stock - Quality	none	none	108.3	none	none	none	none	none	none	none	
Quality - Preferred	81.5	none	93.5	98.6	93.9	none	110.3	98.1	none	none	96.0
Preferred - Memorable	none	none	91.5	93.6	none	91.7	none	84.7	none	none	90.4
Memorable - Trophy	none	none	none	99.2	83.9	85.4	90.4	89.3	none	none	89.6
Trophy	none	none	none	none	none	none	none	none	none	none	
Mortality (electrofishing data)											
Total Mortality		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stocking											
# per Acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0 *	1.0
Angling Pressure (creel survey data - **any crappie**)											
Angler Hours	2,292	20,656	No Survey	7,737	No Survey	7,374	7,553	No Survey	No Survey	1,821	7,906
Angler Hours/Acre	0.4	3.2		1.2		1.1	1.2			0.3	0.3
Fishing Success (creel survey data)											
Catch Rate	not calculated	0.66		0.30		0.24	0.08			0.00	0.26
Harvest Rate	not calculated	0.22		0.15		0.15	0.07			0.00	0.12
Percent Harvested	20.0%	44.1%		46.6%		70.1%	69.2%			none	50.0%
Mean Weight (pounds)	0.32	1.14		0.96		0.97	0.95			none	0.87
Value of Fishery (creel survey data - trip expe											
Any Crappie	not calculated	$27,300		$11,140		$15,720	$11,240			$2,080	$13,496

* Black and Blacknose Crappie

Fishery Forecast

Watauga is a very clear cool, low productive reservoir. These conditions are more suited for black crappie then white crappie, but because of the low productivity, the black crappie population remains lo. Same as with the white crappie, the black crappie is part of the overall fishery of Watauga reservoir, but it will never be a significant part. The population seems to be dropping, despite stocking efforts over the past couple of years.

Management Recommendations

Maintain current regulations.

Walleye

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Recruitment (winter gill net data)										
Substock CPUE	0.00	0.29	No Sample	0.04	No Sample	0.00	No Sample	0.04	0.00	0.00
Density (winter gill net data - CPUE = # fish/net night)										
PSD	89%	97%		97%		100%		99%	95%	82%
RSD - Preferred	32%	35%	No	54%	No	85%	No	51%	38%	43%
CPUE	32.00	11.57		9.08		5.20		6.29	9.43	12.30
CPUE = Stock	32.00	11.29	Sample	9.04	Sample	5.20	Sample	6.25	9.43	12.25
CPUE = MSL (18")	15.20	7.71		6.92		4.80		5.00	5.14	9.00
Growth (winter gill net data)										
Mean TL at Age-1 (mm)			No	271	No		No	424	429	431
Mean TL at Age-3 (mm)			Sample	496	Sample		Sample	494	485	534
Relative Weight (winter gill net data)										
Stock - Quality	99.4	106.2				none		102.7	98.4	93.3
Quality - Preferred	100.5	97.9	No		No	92.5	No	97.3	93.0	96.6
Preferred - Memorable	95.3	96.2				90.0		94.9	93.1	94.2
Memorable - Trophy	99.1	114.4	Sample		Sample	none	Sample	90.0	87.7	90.4
Trophy	none	none				none		none	none	none
Mortality (winter gill net data)										
Total Mortality										
Stocking										
# per Acre	15.2	0.0	155.5*	14.2	5.4	9.6	15.4	11.9	5.5	6.4
Angling Pressure (creel survey data)										
Angler Hours	43,130	41,205		25,722		19,361	16,980			13,148
Angler Hours/Acre	6.71	6.41		4.00		3.01	2.64			2.04
Fishing Success (creel survey data)										
Catch Rate	not calculated	not calculated		not calculated		not calculated	not calculated			not calculated
Harvest Rate	not calculated	not calculated		not calculated		not calculated	not calculated			not calculated
Percent Harvested	70.0%	63.6%		36.7%		61.9%	71.2%			71.6%
Mean Weight (pounds)	1.61	4.12		3.64		3.16	3.96			3.85
Value of Fishery (creel survey data - trip expe										
Walleye Data Only	not calculated	$80,250		$42,370		$28,600	$30,220			$47,990

No Survey

* Fry - Not calculated in the mean

Fishery Forecast

The quality of the walleye fishery is excellent. It is an underutilized opportunity for anglers wishing to catch very good quality fish. The samples taken in Watauga consistently have excellent percentages and numbers of quality size walleye. The fishery should remain stable for the 2009 season, due to stocking efforts.

Management Recommendations

Maintain current regulations and current stocking rates.

Trout

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data)												
All Trout	(hrs)	34,856	67,984	No Survey	42,182	No Survey	29,313	16,566	No Survey	No Survey	34,101	37,500
	(hrs/acre)	5.4	10.6		6.6		4.6	2.6			5.3	5.8
Any Trout	(hrs)	1,634	67,984		31,240		11,218	6,709			28,146	24,489
	(hrs/acre)	0.3	10.6		4.9		1.7	1.0			4.4	3.8
Rainbow Trout	(hrs)	30,288	0		1,276		4,585	3,663			558	6,728
	(hrs/acre)	4.7	0.0		0.2		0.7	0.6			0.1	1.0
Brown Trout	(hrs)	0	0		0		0	0			0	0
	(hrs/acre)	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Lake Trout	(hrs)	2,934	0		9,666		13,510	6,194			5,397	6,284
	(hrs/acre)	0.5	0.0		1.5		2.1	1.0			0.8	1.0
Value of Fishery (creel survey data - trip expenditures)												
All Trout		not calculated	$90,230	No Survey	$69,230	No Survey	$45,520	$24,430	No Survey	No Survey	$91,220	$64,126
Any Trout		not calculated	$90,230		$49,150		$13,260	$7,470			$64,770	$44,976
Rainbow Trout		not calculated	$0		$2,040		$4,730	$4,010			$720	$2,300
Brown Trout		not calculated	$0		$0		$0	$0			$0	$0
Lake Trout		not calculated	$0		$18,040		$27,530	$12,950			$25,730	$16,850

Fishery Forecast

The quality of the trout fishery should remain stable, due to TWRA stocking efforts. Tennessee Technological University is conducting a research project on trout species in Watauga Reservoir and we hope to learn a lot more about the size structure, age structure and recommended stocking rates in the near future.

Management Recommendations

None at this time. Maintain current regulations.

Rainbow Trout

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	No Survey	0.13	No Survey	0.05	0.02	No Survey	No Survey	0.23	0.11
Harvest Rate	not calculated	not calculated		0.03		0.00	0.02			0.16	0.05
Percent Harvested	88.7%	67.1%		20.2%		30.0%	72.0%			71.0%	58.2%
Mean Weight (pounds)	0.11	1.02		1.14		1.33	0.53			1.3	0.9

Brown Trout

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	No Survey	none	No Survey	none	none	No Survey	No Survey	0.00	0.00
Harvest Rate	not calculated	not calculated		none		none	none			0.00	0.00
Percent Harvested	none	none		none		none	none			0.0%	0.0%
Mean Weight (pounds)	none	none		none		none	none			N/A	#DIV/0!

Lake Trout

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	No Survey	not calculated	No Survey	not calculated	not calculated	No Survey	No Survey	not calculated	
Harvest Rate	not calculated	not calculated		not calculated		not calculated	not calculated			not calculated	
Percent Harvested	63.5%	55.1%		60.1%		7.7%	58.6%			64.7%	51.6%
Mean Weight (pounds)	0.38	8.5		4.18		6.55	6.68			3.09	4.9

Sunfish

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data - any sunfish)											
Angler Hours	* 8,337	29,143	No Survey	10,494	No Survey	2,016	1,529	No Survey	No Survey	5,821	9,557
Angler Hours/Acre	1.30	4.53		1.63		0.31	0.24			0.91	1.49
Fishing Success (creel survey data - bluegill c											
Catch Rate (bluegill)	not calculated	2.84		1.39		1.54	1.52			2.40	1.94
Harvest Rate (bluegill)	not calculated	0.57		0.17		0.12	0.28			0.42	0.31
% Harvested (bluegill)	7.3%	9.1%		3.7%		6.8%	9.6%			7.5%	7.3%
Mean Weight (bluegill)	0.31	0.34		0.24		0.20	0.02			0.20	0.22
Value of Fishery (creel survey data - trip expe											
Any Sunfish	not calculated	$20,720		$9,680		$1,640	$880			$21,080	$10,800

* Bluegill only

Catfish

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data - any catfish)											
Angler Hours	1,066	665	No Survey	1,141	No Survey	1,684	1,810	No Survey	No Survey	2,222	1,431
Angler Hours/Acre	0.17	0.10		0.18		0.26	0.28			0.35	0.05
Fishing Success (creel survey data)											
Catch Rate (channel cat)	not calculated	0.13		0.15		0.19	0.10			0.22	0.16
Harvest Rate (channel cat)	not calculated	0.00		0.09		0.19	0.10			0.10	0.10
% Harvested (channel cat)	47.4%	14.6%		27.2%		68.4%	56.1%			43.3%	42.8%
Mean Weight (channel cat)	1.13	3.5		2.75		3.6	3.91			2.98	2.98
Value of Fishery (creel survey data - trip expe											
Any Catfish	not calculated	$1,610		$1,580		$2,470	$4,010			$4,060	$2,746

Tables

Table 1. Watauga Reservoir fish stockings 1998 – 2008.

Species	Date	Rate (per acre)	Mean Length (in.)	Number
Walleye	May 1999	15.2	1.25 – 2.75	97,828
	May 2001	155.5	Fry	1,000,000
	May 2002	5.7	1.0 – 2.5	91,119
	May 2003	5.4	1.5	34,821
	May 2005	15.4	1.0 – 1.5	99,079
	May 2006	11.9	1.0 – 2.0	76,728
	May 2007	5.5	0.75 – 1.25	35,061
	May 2008	6.4	1.0 – 1.5	40,936
Blacknose	Dec. 1998	5.9	2.50	38,000
Black Crappie	Oct. 2007	12.7	1.5 – 5.0	81,599
	Oct. 2008	10.02	1.5 – 5.0	64,443
Rainbow Trout	1998	9.6	Adult	61,603
	1999	6.2	Adult	40,026
	2000	6.2	Adult	39,950
	2001	6.2	Adult	40,022
	2002	6.2	Adult	40,012
	2003	5.9	Adult	38,048
	2004	9.2	Adult	58,968
	2005	5.7	Adult	36,925
	2006	3.8	9.0 – 12.0	24,164
	Jan., Dec. 2007	8.8	9.0 – 10.0	56,629
	2008	5.6	7.9 – 10.0	35,964
Brown Trout	2008	6.2	5.7	40,084
Lake Trout	1998	13.8	Advanced Fing.	88,852
	2000	14.9	Advanced Fing.	95,784
	2001	16.1	Advanced Fing.	103,592
	2002	11.4	Advanced Fing.	73,356
	2003	7.7	Advanced Fing.	49,811
	2004	16.1	Advanced Fing.	103,495
	2005	20.3	Advanced Fing.	130,695
	2006	7.3	3.0 – 7.0	46,635
	Jan. 2007	12.6	5.0 – 6.0	80,937
	2008	7.3	5.6 – 5.9	47,110

Table 2. Number of species collected by gear type in Watauga Reservoir, 2008. Effort is represented in hours for electrofishing and net nights for gill netting.

	Winter Gill Netting			Spring Electrofishing		
Species	No.	CPUE (# fish / net night)	Total Effort	No.	CPUE (# fish / hour)	Total Effort
Largemouth Bass	X	X	X	106	21.2	5.0
Smallmouth Bass	X	X	X	154	30.8	5.0
Spotted Bass	X	X	X	81	16.2	5.0
Black Crappie	X	X	X	0	0.0	5.0
Black-Nose Crappie	X	X	X	0	0.0	5.0
White Crappie	X	X	X	0	0	5.0
Walleye	98	12.3	8	31	6.2	5.0
White Bass	0	0	0	0	0	5.0

X = non targeted species

Table 3. Catch; mean CPUE and relative stock density by incremental RSD category for largemouth and smallmouth bass in Watauga Reservoir, 1999 – 2008

Species	Year	Gear	Number of Samples	RSD Substock			RSD Stock - Quality			RSD Quality - Preferred			RSD Preferred-Memorable			RSD Memorable-Trophy			RSD Trophy			**PSD**	Total	
				#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	%	#	CPUE
Largemouth Bass	1999	EL	16	9	2.3	**21**	13	3.3	**39**				19	4.8	**56**	2	0.5	**6**				**62**	43	10.8
	2000	EL	22	4	0.7	**6.9**	16	9.5	**30**	16	2.8	**30**	19	3.4	**35**	3	0.5	**6**				**71**	58	10.2
	2001	EL	14	0	0	**0**	17	4.8	**28**	13	3.6	**22**	27	7.6	**45**	3	0.8	**5**				**72**	60	16.8
	2002	EL	14	6	1.7	**10**	12	3.3	**21**	12	3.3	**21**	32	8.9	**56**	1	0.2	**2**				**79**	63	12.4
	2003	EL	24	3	0.5	**5**	11	1.7	**20**	9	1.5	**16**	32	5.3	**58**	3	0.5	**5**				**79**	58	9.4
	2004	EL	20	1	0.2	**1**	7	1.4	**9**	20	3.8	**27**	45	8.6	**60**	3	0.6	**4**	0	0	**0**	**91**	76	14.58
	2005	EL	20	3	0.6	**4**	13	2.6	**18**	13	2.6	**18**	41	8.2	**56**	6	1.2	**8**	0	0	**0**	**82**	76	15.1
	2006	EL	20	2	0.4	**3**	16	3.2	**22**	22	4.4	**30**	32	6.4	**43**	4	0.8	**5**	0	0	**0**	**78**	76	15.14
	2007	EL	20	4	0.8	**4**	17	3.4	**18**	26	5.2	**27**	50	10	**52**	3	0.6	**3**	0	0	**0**	**82**	100	19.9
	2008	EL	20	3	0.6	**3**	6	1.2	**6**	20	4	**19**	70	14	**68**	7	1.4	**7**	0	0	**0**	**94**	106	21.2
Smallmouth Bass	1999	EL	16	30	7.5	**19**	56	14	**43**	36	9	**28**	28	7	**21**	11	2.8	**8**				**57**	161	40.3
	2000	EL	22	10	1.8	**7**	33	5.8	**26**	47	8.3	**37**	35	6.2	**28**	11	1.9	**9**	1	0.2	**1**	**74**	137	24.2
	2001	EL	14	21	5.8	**16**	23	6.4	**21**	31	8.6	**28**	43	12	**38**	15	4.2	**13**				**79**	133	36.8
	2002	EL	14	18	5	**18**	20	5.5	**24**	15	4.1	**18**	32	8.7	**39**	15	4.1	**18**				**75**	100	27.5
	2003	EL	24	8	1.3	**8**	20	3.2	**23**	23	3.8	**26**	26	4.3	**30**	16	2.6	**18**				**74**	95	15.5
	2004	EL	20	2	0.4	**2**	11	2.1	**10**	21	4.1	**19**	43	8.2	**39**	33	6.3	**30**	0	0	**0**	**88**	112	21.5
	2005	EL	20	2	0.4	**3**	8	1.6	**12**	12	2.4	**17**	26	5.2	**38**	16	3.2	**23**	7	1.4	**10**	**88**	71	14.1
	2006	EL	20	6	1.2	**6**	22	4.4	**23**	21	4.2	**22**	31	6.2	**33**	13	2.6	**14**	7	1.4	**7**	**77**	100	19.87
	2007	EL	20	19	3.8	**13**	41	8.2	**34**	24	4.8	**20**	33	6.6	**27**	21	4.2	**17**	3	0.6	**3**	**66**	141	28.2
	2008	EL	20	3	0.6	**2**	19	3.8	**13**	47	9.4	**31**	53	11	**35**	27	5.4	**18**	5	1	**3**	**87**	154	30.8

Table 4. Catch; mean CPUE and relative stock density by incremental RSD category for walleye in Watauga Reservoir, 1999 – 2008

				RSD Substock			RSD Stock - Quality			RSD Quality - Preferred			RSD Preferred-Memorable			RSD Memorable-Trophy			RSD Trophy			**PSD**	Total	
Species	Year	Gear	Number of Samples	#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	#	CPUE	%	%	#	CPUE
Walleye	1999	GN	5				17	3.4	**11**	92	18	**58**	47	9.4	**29**	4	0.8	**3**				**90**	160	32
	2000	GN	8	1	0.1	**2**	1	6.3	**2**	30	6.1	**60**	18	2.4	**36**	1	0.1	**2**				**98**	51	6.4
	2002	EL*	24	1	0		6	0.3	**3**	93	3.8	**43**	104	4.3	**48**	14	0.5	**6**				**97**	218	9.1
	2003	EL*	24	1	0.2	**2**	13	2.1	**27**	7	1.1	**14**	19	3.2	**39**	10	1.7	**20**	0	0	**0**	**73**	50	8.2
	2004	EL*	20	9	1.8	**12**	7	1.4	**10**	24	4.6	**36**	26	5	**39**	10	1.9	**15**	0	0	**0**	**90**	76	14.6
	2005	EL*	20	0	0	**0**	3	0.6	**9**	10	2	**29**	17	3.4	**49**	5	1	**14**	0	0	**0**	**91**	35	6.9
	2006	EL*	20	0	0	**0**	0	0	**0**	6	1.2	**35**	10	2	**59**	1	0.2	**6**	0	0	**0**	**100**	17	3.38
	2007	EL*	20	0	0	**0**	3	0.6	**9**	7	1.4	**22**	18	3.6	**56**	4	0.8	**13**	0	0	**0**	**91**	32	6.4
	2008	EL*	20	0	0	**0**	0	0	**0**	10	2	**32**	19	3.8	**61**	2	0.4	**6**	0	0	**0**	**100**	31	6.2

Table 5. Largemouth bass mean relative weights (Wr) in Watauga Reservoir, spring 2008.

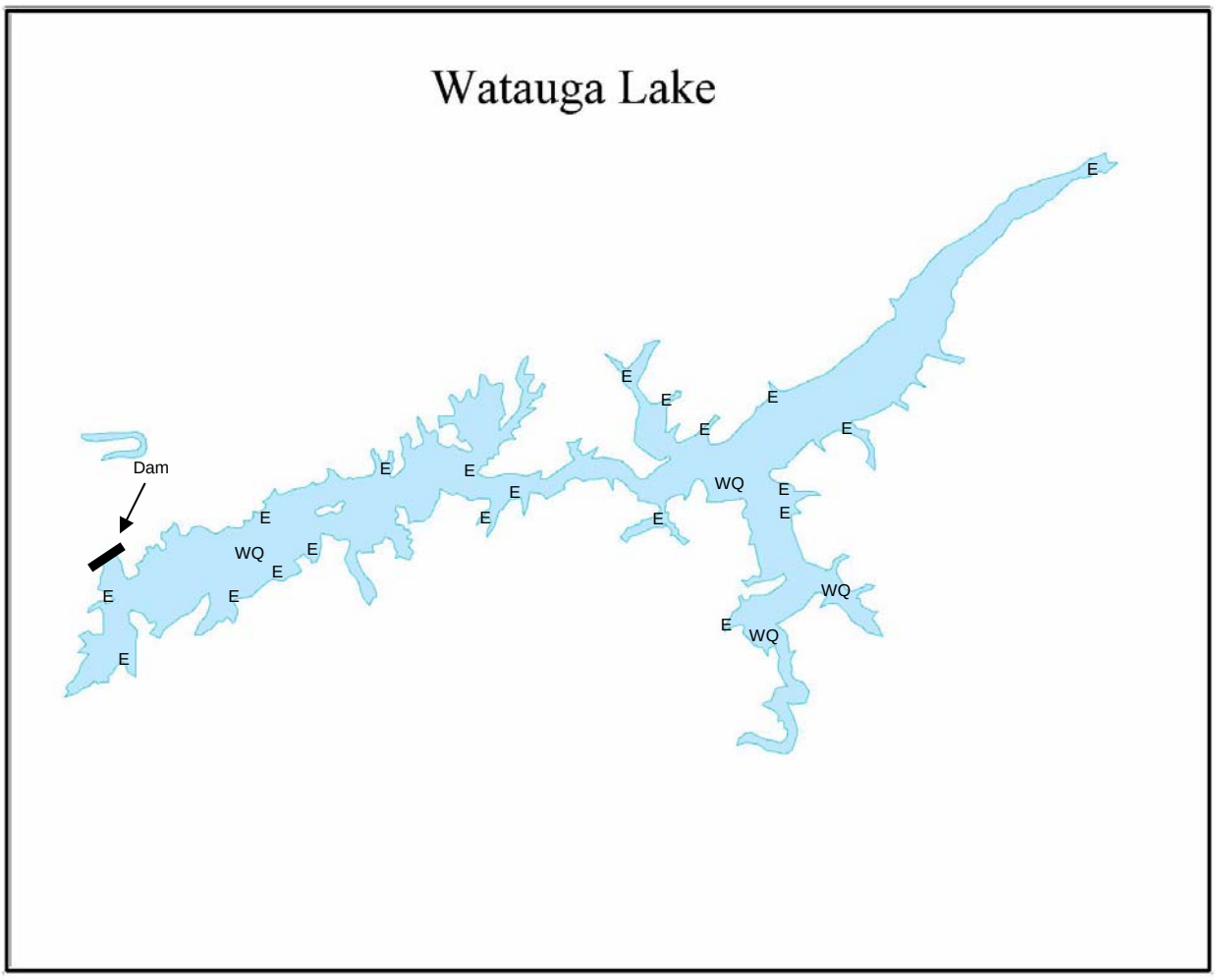
Length Group	Mean Wr	Std. Error	N
150			
175	83.540		1
200	86.408		1
225			
250	85.403	3.093	2
275	87.116	2.481	3
300	84.599	11.020	2
325	87.730	2.201	9
350	89.641	2.075	8
375	93.033	1.170	19
400	94.775	1.788	9
425	95.722	2.782	13
450	98.531	1.846	19
475	91.943	1.941	8
500	98.576	2.978	7
525	98.825	6.898	3
		Total =	**104**

Table 6. Smallmouth bass mean relative weights (Wr) in Watauga Reservoir, spring 2008.

Length Group	Mean Wr	Std. Error	N
150	79.275	1.554	2
175	88.587		1
200	80.941	1.989	3
225	86.553	3.602	7
250	84.382	4.250	6
275	88.544	1.958	10
300	87.080	1.501	16
325	85.542	1.178	23
350	89.019	1.188	21
375	87.713	1.155	20
400	87.198	1.862	12
425	85.343	1.961	8
450	87.801	1.842	12
475	82.129	3.004	5
500	83.954	3.264	5
525	73.962		1
550	76.265		1
575			
600			
		Total =	**153**

Figures

Figure 1. Sites sampled on Watauga Reservoir in 2008.



E = Electrofishing
G = Gill Netting
WQ = Water Quality

Largemouth Bass

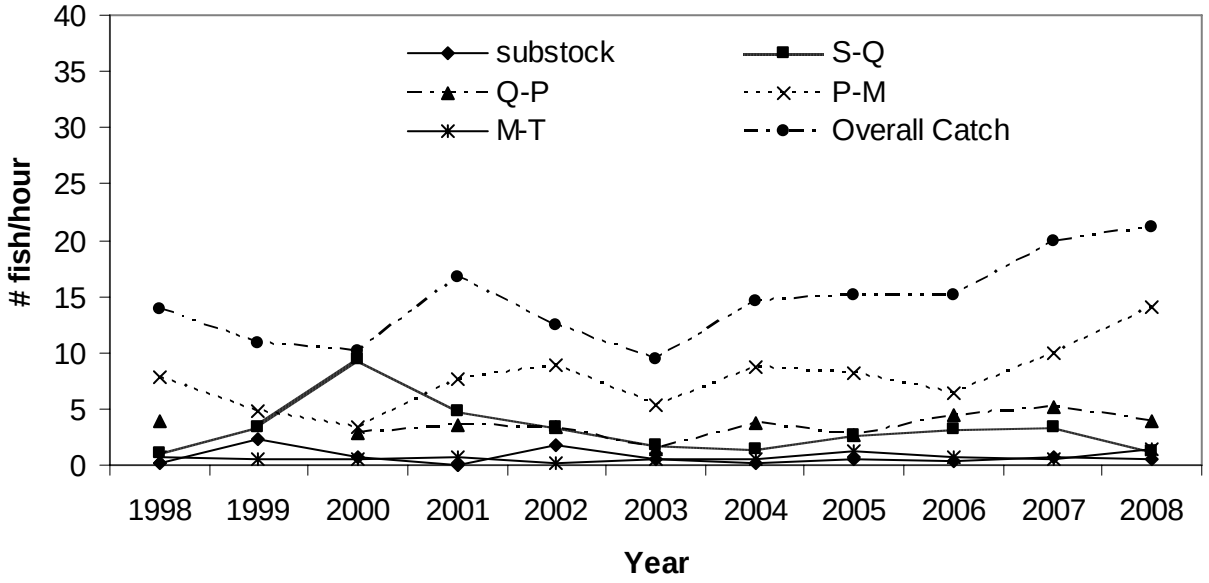


Figure 2. Largemouth bass CPUE values by incremental length category in Watauga Reservoir, 1998 - 2008.

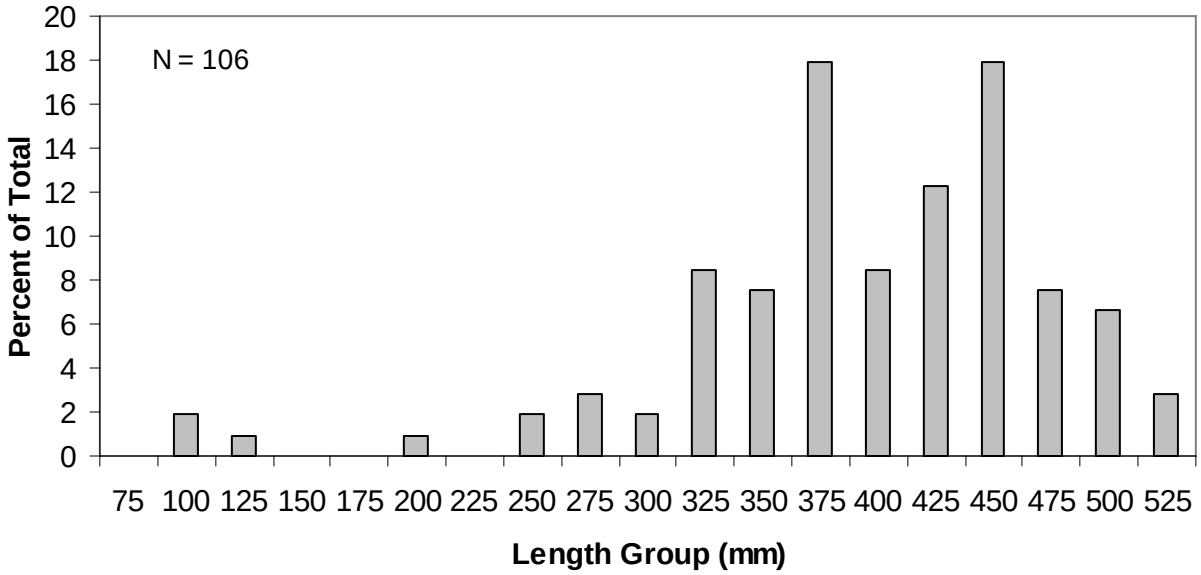


Figure 3. Largemouth bass length frequency by percent in Watauga Reservoir, spring 2008.

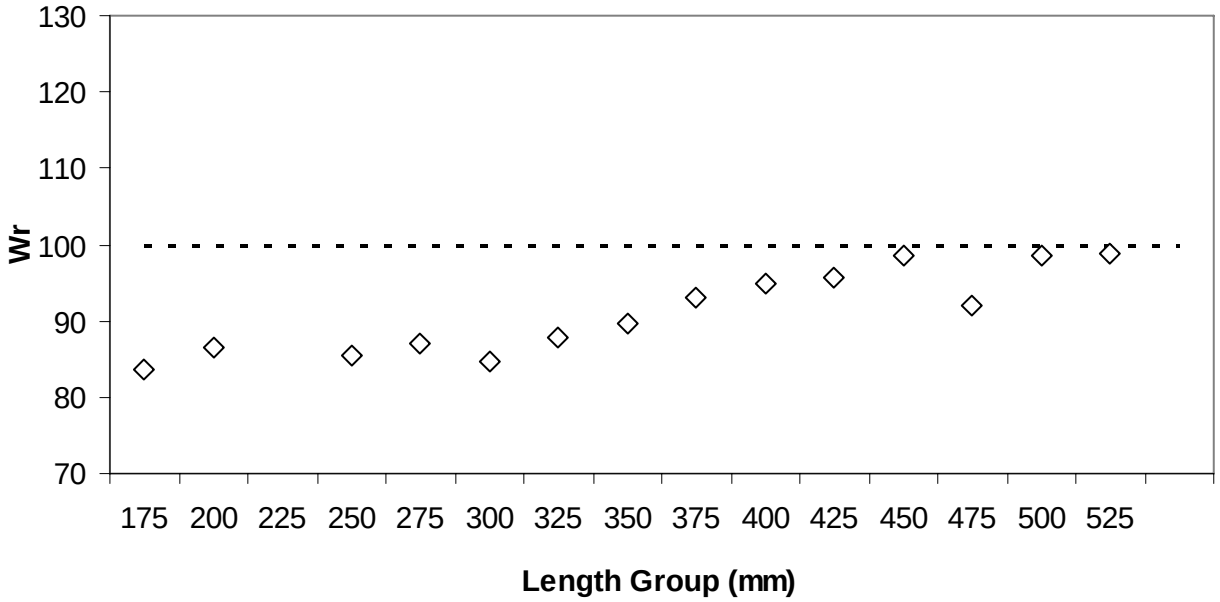


Figure 4. Largemouth bass mean relative weights (Wr) in Watauga Reservoir, spring 2008.

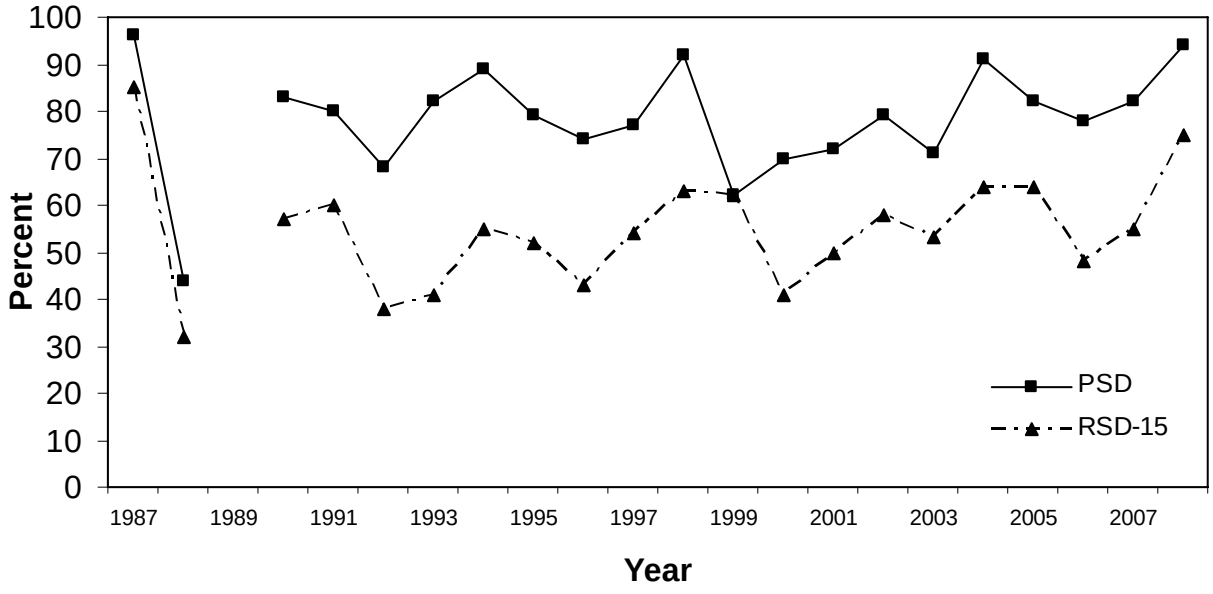


Figure 5. Largemouth bass traditional PSD and RSD-15 values in Watauga Reservoir 1987 – 2008.

Smallmouth Bass

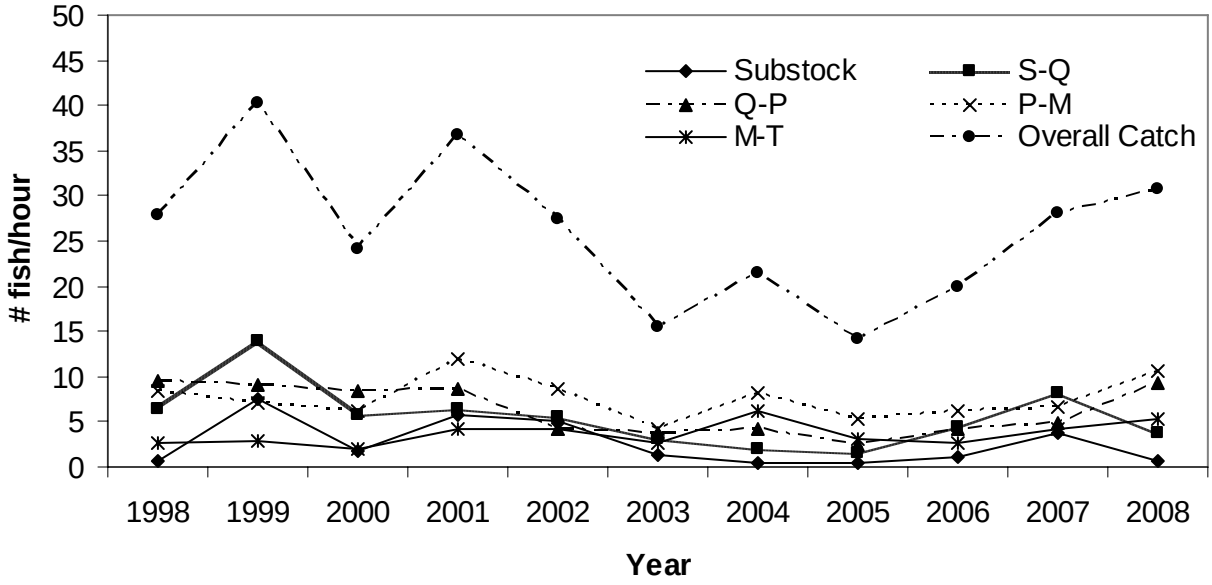


Figure 6. Smallmouth bass CPUE values by incremental length category in Watauga Reservoir, 1998 - 2008.

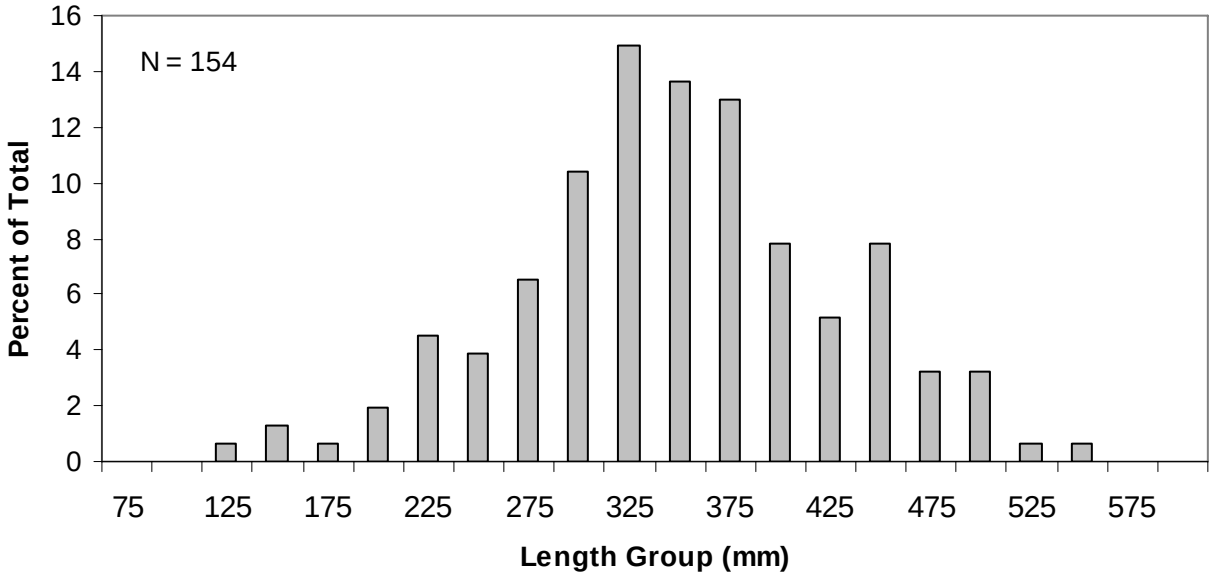


Figure 7. Smallmouth bass length frequency by percent in Watauga Reservoir, spring 2008.

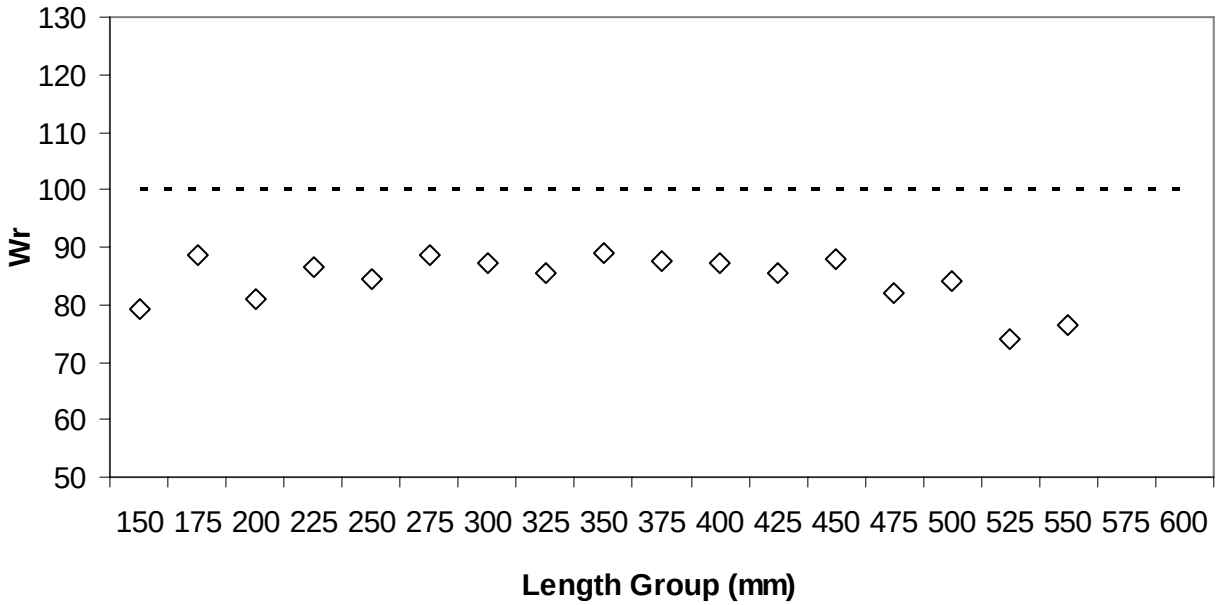


Figure 8. Smallmouth bass mean relative weights (Wr) in Watauga Reservoir, spring 2008.

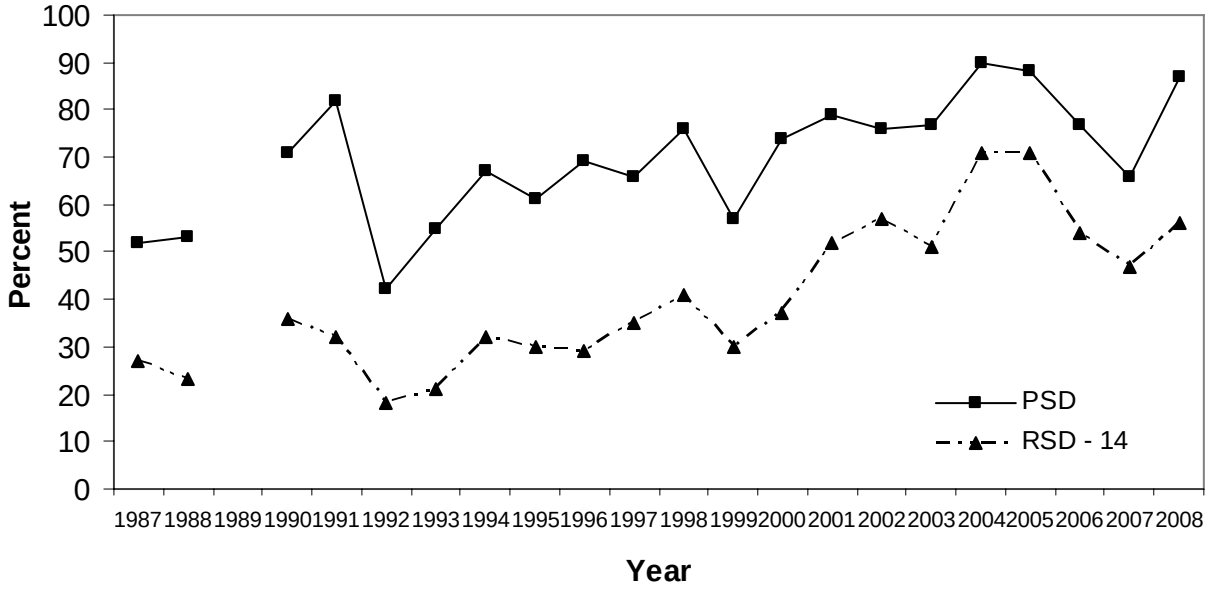


Figure 9. Smallmouth bass traditional PSD and RSD - 14 values in Watauga Reservoir 1987 – 2008.

Appendix A

Water Quality

Table A1. Watauga Reservoir, water quality data at **WRM 39**, July 2, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	22.6	162	8.9	W39	2.6	0922
1	22.6	162	9.0			
2	22.6	162	9.0			
3	22.6	162	9.0			
4	22.6	162	9.0			
5	22.6	162	9.0			
6	22.5	162	9.0			
7	22.5	162	9.0			
8	22.5	162	9.0			
9	16.5	165	10.7			
10	15.8	165	10.0			
11	15.2	165	8.7			
12	14.3	166	8.7			
13	13.7	166	8.4			
14	13.4	166	8.3			
15	12.8	166	8.2			
16	12.1	167	8.3			
17	11.4	168	8.4			
18	11.1	167	8.4			
19	10.7	167	8.5			
20	9.9	168	8.6			
21	9.4	168	8.7			
22	9.2	168	8.7			
23	8.9	167	8.8			
24	8.7	167	8.9			
25	8.4	168	8.9			
26	8.2	168	9.0			
27	8.1	168	8.9			
28	8.0	168	9.0			
29	7.9	168	8.9			
30	7.8	167	8.8			

Table A2. Watauga Reservoir, water quality data at **WRM 45**, July 2, 2008.

Depth (m)	Temp C	Cond	DO	Site	Secchi (m)	Time
0	24.2	161	8.5	W45	3.0	1000
1	24.2	162	8.5			
2	24.2	163	8.6			
3	24.2	163	8.6			
4	24.2	163	8.6			
5	24.1	163	8.7			
6	23.4	164	8.9			
7	21.0	164	9.6			
8	17.8	166	9.6			
9	16.3	166	7.8			
10	15.0	166	7.5			
11	14.3	165	7.2			
12	13.8	165	7.2			
13	13.3	165	7.1			
14	12.9	166	7.2			
15	12.2	166	7.3			
16	11.5	166	7.4			
17	10.7	167	7.5			
18	9.9	168	7.6			
19	9.2	168	7.7			
20	8.8	168	7.7			
21	8.6	168	7.5			
22	8.5	168	7.4			
23	8.4	168	7.4			
24	8.3	168	7.4			
25	8.2	168	7.3			
26	8.1	169	7.3			
27	7.9	169	7.2			
28	7.9	169	7.1			
29	7.9	168	7.1			
30	7.8	168	7.1			

Table A3. Watauga Reservoir, water quality data at **WRM 49**, July 2, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	24.8	156	7.8	W49	2.4	1030
1	24.7	157	7.9			
2	24.6	157	8.0			
3	24.5	157	8.0			
4	24.5	157	8.0			
5	24.3	158	7.9			
6	22.6	156	5.6			
7	19.7	160	4.3			
8	16.9	165	4.7			
9	15.5	166	4.9			
10	14.6	166	5.0			
11	14.1	166	5.1			
12	13.4	167	5.2			
13	12.8	168	5.2			
14	12.6	168	5.2			
15	11.7	170	5.1			
16	11.2	171	4.1			
17	10.4	173	4.0			
18	9.9	176	3.8			
19	9.4	177	3.7			
20	9.2	176	3.5			
21	9.0	177	3.6			
22	8.8	176	3.6			
23	8.6	174	3.7			
24	Bottom					
25						
26						
27						
28						
29						
30						

Table A4. Watauga Reservoir, water quality data at **ERM 2**, July 2, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	24.6	162	8.7	E2	2.5	1055
1	24.6	163	8.8			
2	24.6	164	8.8			
3	24.5	164	8.9			
4	24.4	164	9.0			
5	24.1	164	9.0			
6	23.3	167	7.8			
7	19.9	171	5.5			
8	17.3	169	6.0			
9	16.0	169	5.6			
10	15.2	168	5.4			
11	14.1	167	5.6			
12	13.8	167	5.6			
13	13.5	167	5.7			
14	12.6	167	5.9			
15	12.2	168	6.0			
16	11.8	169	5.9			
17	11.5	169	5.5			
18	10.8	170	5.2			
19	10.1	171	5.0			
20	10.0	171	4.8			
21	9.5	171	4.7			
22	Bottom					
23						
24						
25						
26						
27						
28						
29						
30						

Table A5. Watauga Reservoir, water quality data at **WRM 39**, August 5, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	26.2	147	8.7	W39	3.5	1010
1	26.2	147	8.7			
2	26.2	147	8.8			
3	26.1	147	8.8			
4	26.1	147	8.8			
5	26.1	146	8.8			
6	26.1	147	8.8			
7	25.4	146	9.0			
8	22.2	149	9.9			
9	20.1	149	9.3			
10	18.0	150	8.6			
11	17.2	149	8.1			
12	15.2	150	6.9			
13	14.6	149	6.3			
14	14.1	149	6.3			
15	13.3	150	6.4			
16	12.9	150	6.5			
17	12.6	149	6.7			
18	11.9	149	6.9			
19	11.5	150	7.1			
20	11.0	150	7.3			
21	10.3	150	7.6			
22	10.0	150	7.8			
23	9.5	150	8.1			
24	9.1	150	8.3			
25	8.8	150	8.4			
26	8.6	150	8.5			
27	8.5	150	8.5			
28	8.3	150	8.5			
29	8.2	150	8.4			
30	8.1	151	8.4			

Table A6. Watauga Reservoir, water quality data at **WRM 45**, August 5, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	28.6	148	8.8	W45	2.5	1315
1	27.6	148	9.5			
2	26.8	148	9.7			
3	26.8	148	9.8			
4	26.7	148	9.8			
5	26.3	148	9.7			
6	25.3	148	9.8			
7	23.5	146	8.5			
8	21.3	150	6.5			
9	19.0	150	5.5			
10	17.9	150	5.2			
11	16.5	150	5.2			
12	15.0	150	5.2			
13	14.5	150	5.2			
14	14.1	150	5.3			
15	13.6	150	5.4			
16	13.0	150	5.6			
17	12.2	151	5.8			
18	11.9	150	6.1			
19	11.5	151	6.2			
20	11.1	151	6.3			
21	10.5	151	6.5			
22	10.0	152	6.6			
23	9.6	153	6.5			
24	9.3	153	6.5			
25	9.1	153	6.5			
26	8.8	154	6.4			
27	8.5	154	6.3			
28	8.4	154	6.1			
29	8.3	155	5.8			
30	8.3	155	5.7			

Table A7. Watauga Reservoir, water quality data at **WRM 49**, August 5, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	28.4	142	8.9	W49	2.5	1245
1	27.8	142	9.2			
2	27.4	142	9.2			
3	27.3	142	9.3			
4	27.0	142	8.7			
5	26.4	142	7.4			
6	24.9	141	5.1			
7	23.5	137	3.0			
8	21.4	137	1.4			
9	20.5	144	1.2			
10	18.4	149	1.4			
11	16.7	151	1.7			
12	15.7	151	1.7			
13	14.6	152	1.7			
14	14.2	154	1.4			
15	13.5	155	1.2			
16	13.1	156	1.2			
17	12.6	158	1.0			
18	12.2	163	0.8			
19	11.9	166	0.5			
20	11.4	169	0.3			
21	11.0	170	0.2			
22	10.5	172	0.2			
23	10.2	174	0.2			
24	Bottom					
25						
26						
27						
28						
29						
30						

Table A8. Watauga Reservoir, water quality data at **ERM 2**, August 5, 2008.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	26.8	148	8.8	E2	2.0	1100
1	27.1	148	9.3			
2	27.0	148	9.4			
3	26.9	149	9.4			
4	26.9	149	9.4			
5	26.4	150	9.5			
6	25.2	154	7.1			
7	23.2	154	3.7			
8	21.6	147	2.1			
9	20.5	148	1.6			
10	18.8	150	1.5			
11	16.7	152	1.4			
12	15.3	153	1.4			
13	14.7	152	1.7			
14	14.3	152	2.4			
15	13.4	152	2.5			
16	13.5	153	2.5			
17	12.8	153	2.3			
18	12.3	154	2.0			
19	11.8	155	1.6			
20	11.0	155	1.4			
21	Bottom					
22						
23						
24						
25						
26						
27						
28						
29						
30						

No water quality taken in September 2008.

Figure A1. Watauga Reservoir water quality at WRM 39, July 2008.

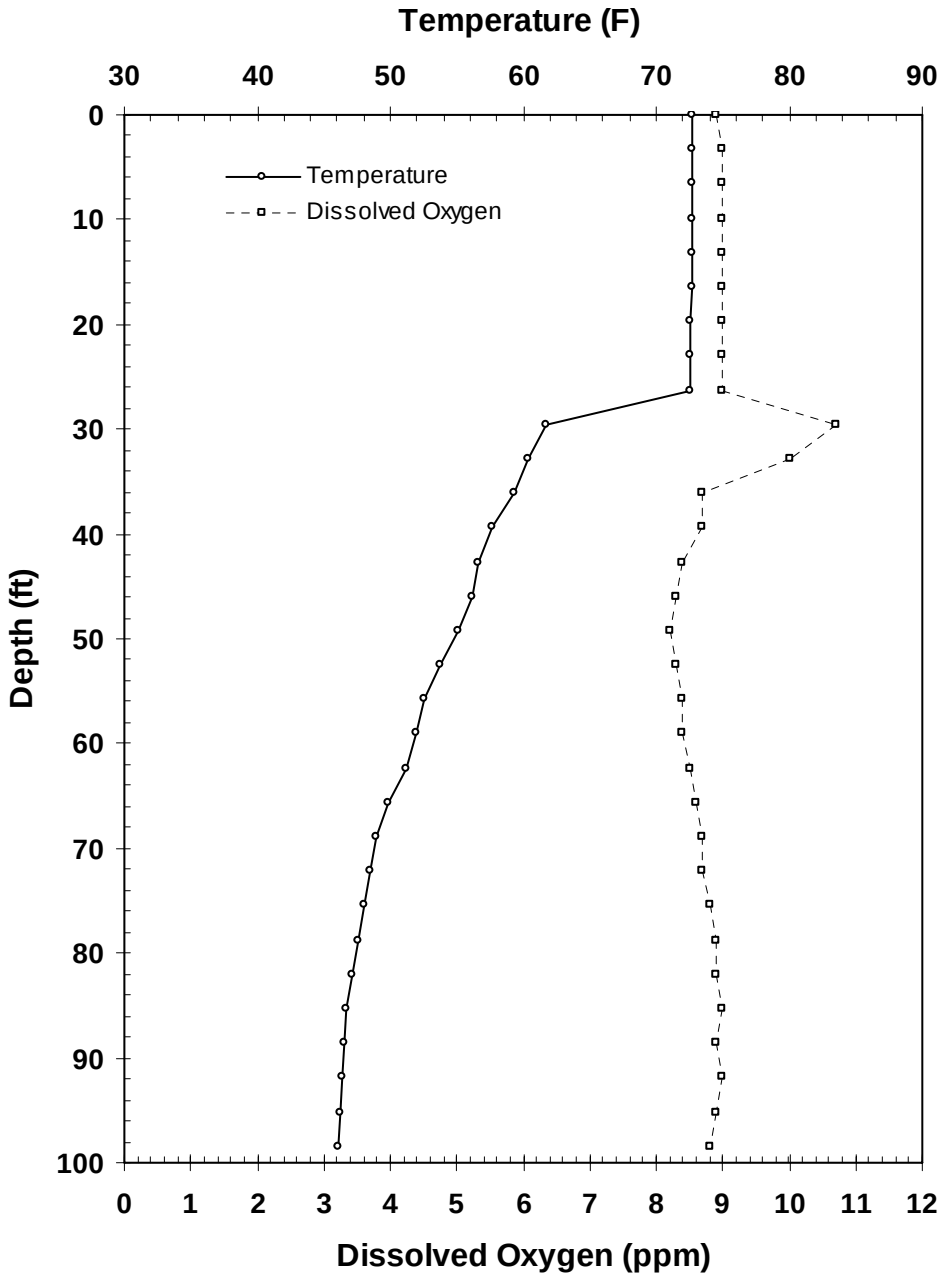


Figure A2. Watauga Reservoir water quality at WRM 45, July 2008.

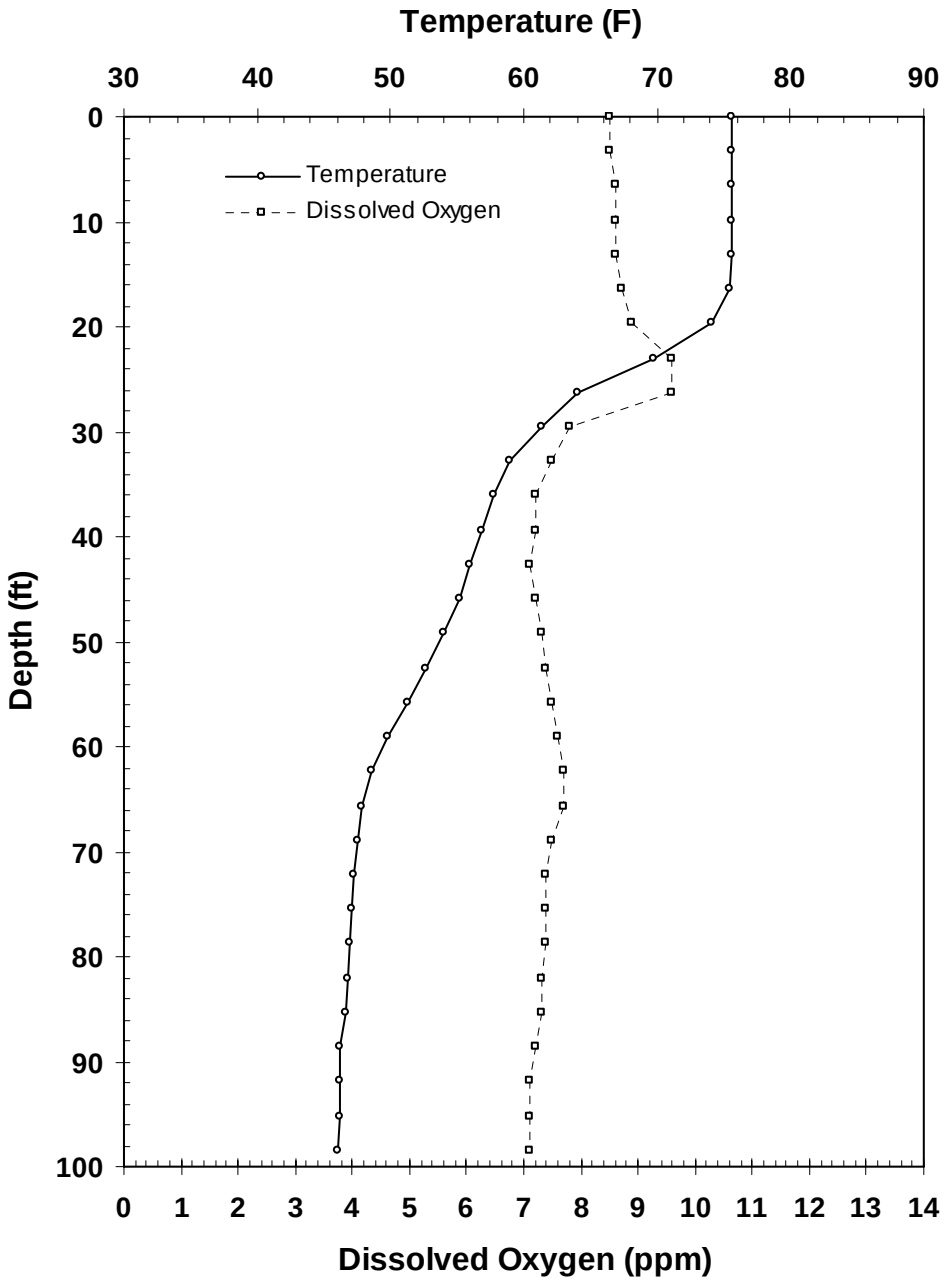


Figure A3. Watauga Reservoir water quality at WRM 49, July 2008.

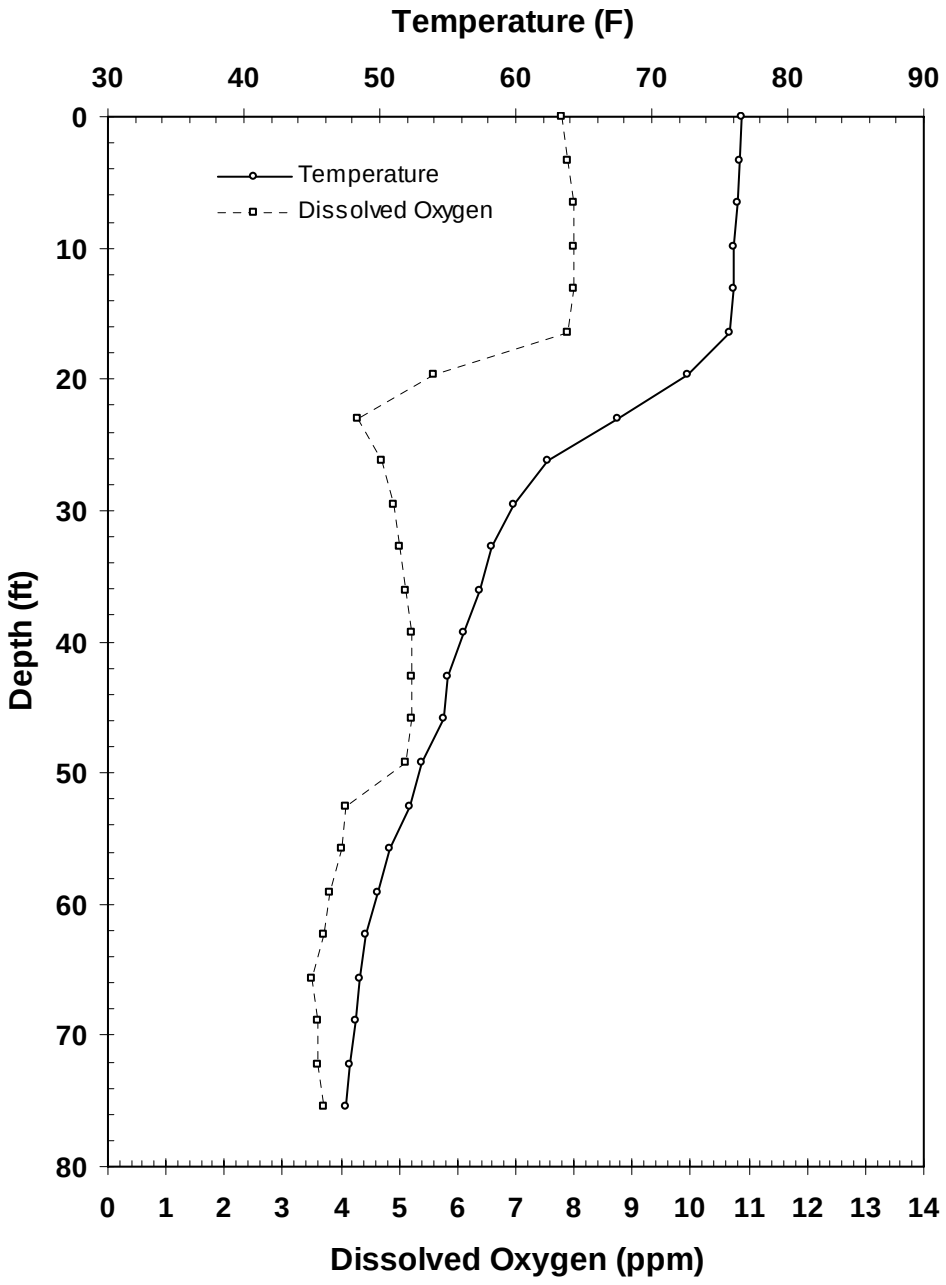


Figure A4. Watauga Reservoir water quality at ERM 2, July 2008.

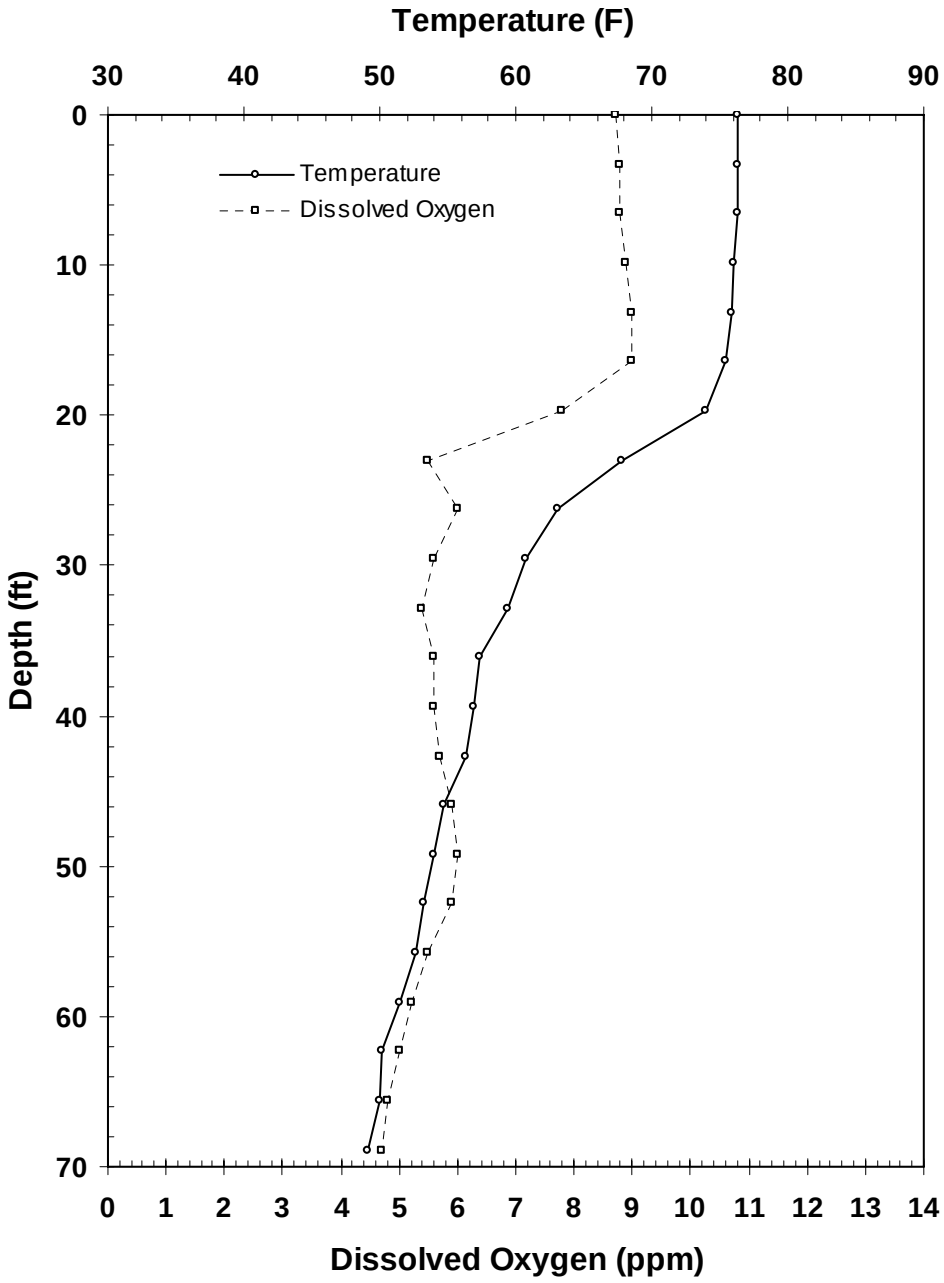


Figure A5. Watauga Reservoir water quality at WRM 39, August 2008.

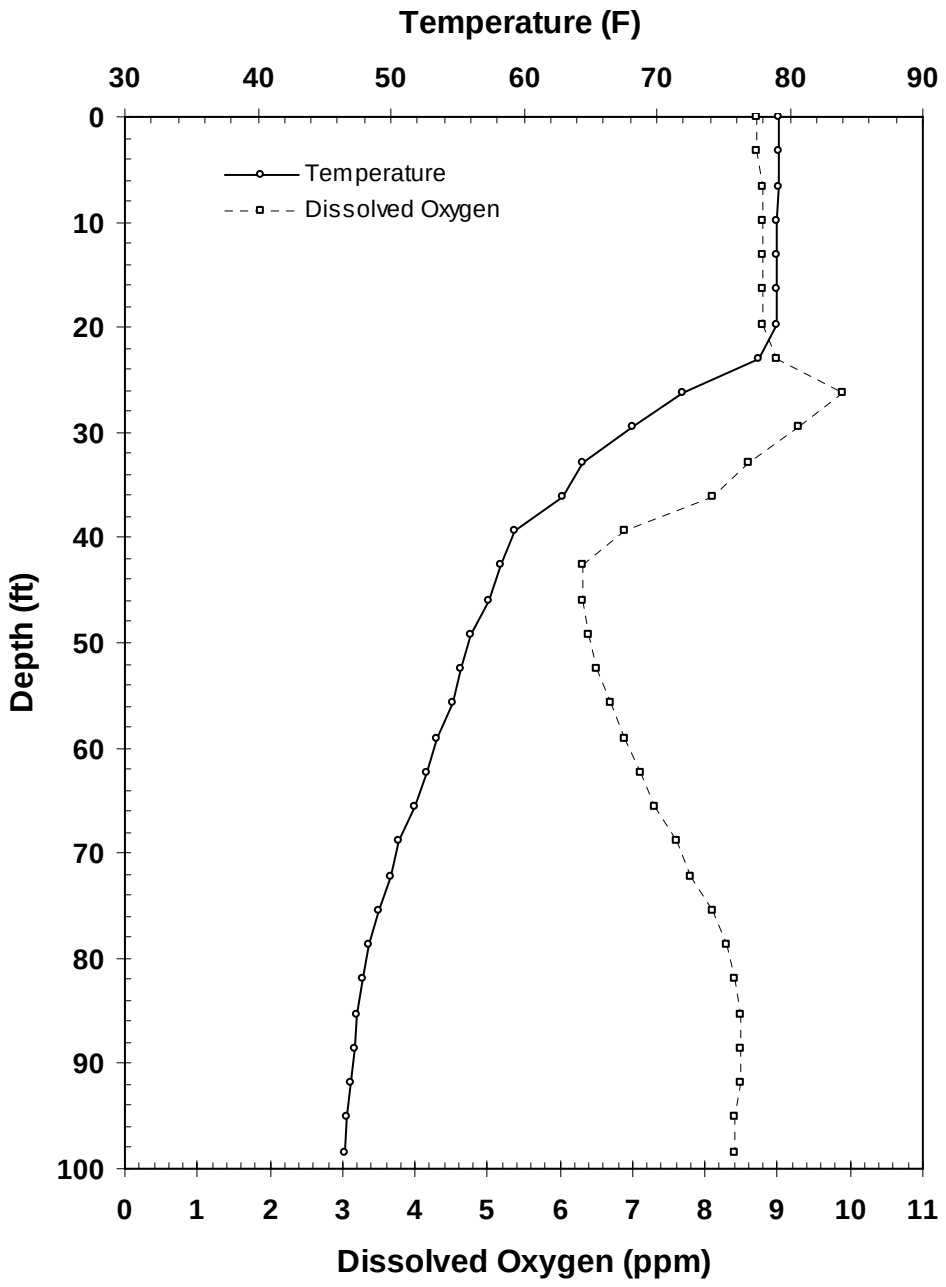


Figure A6. Watauga Reservoir water quality at WRM 45, August 2008.

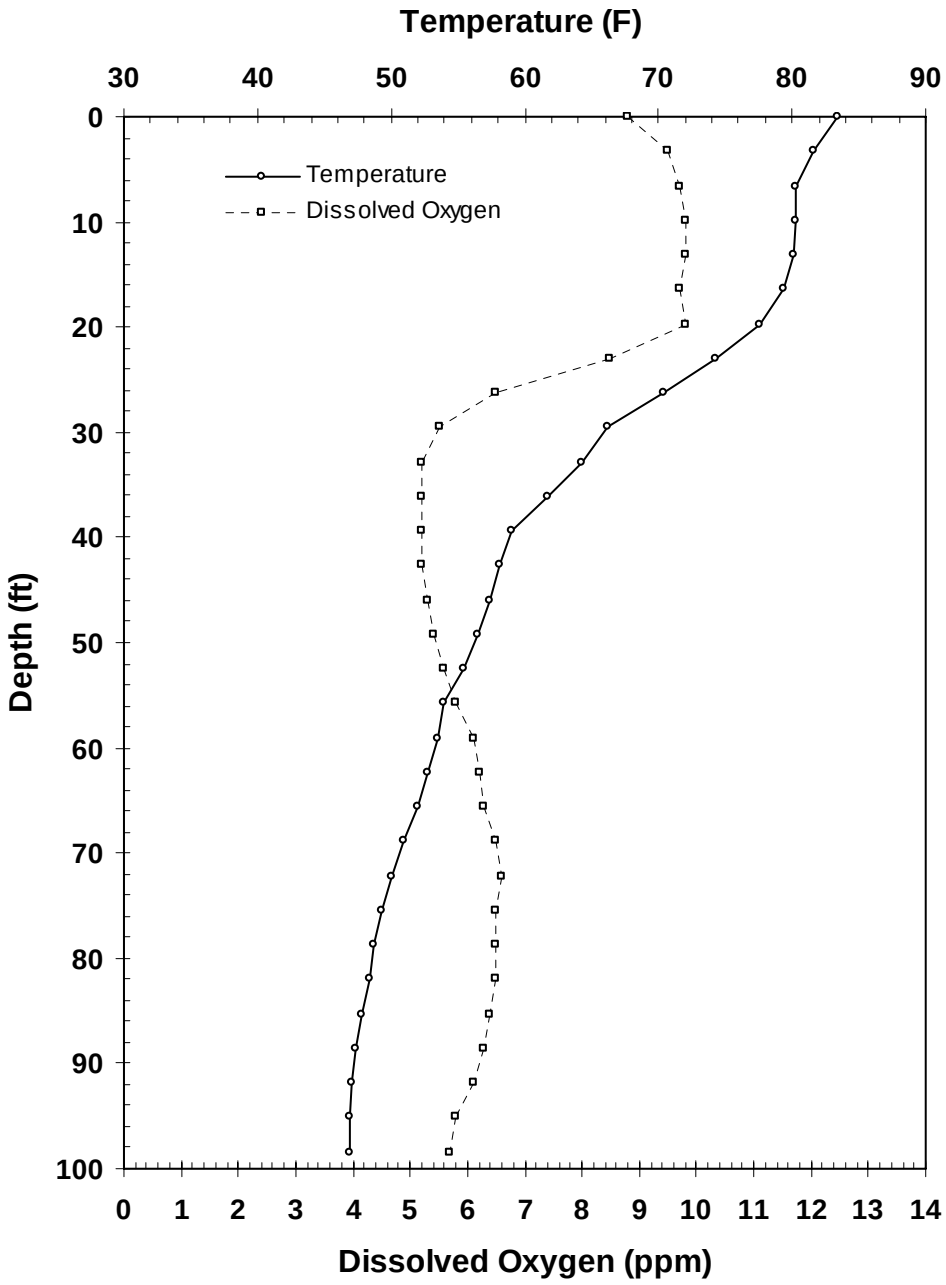


Figure A7. Watauga Reservoir water quality at WRM 49, August 2008.

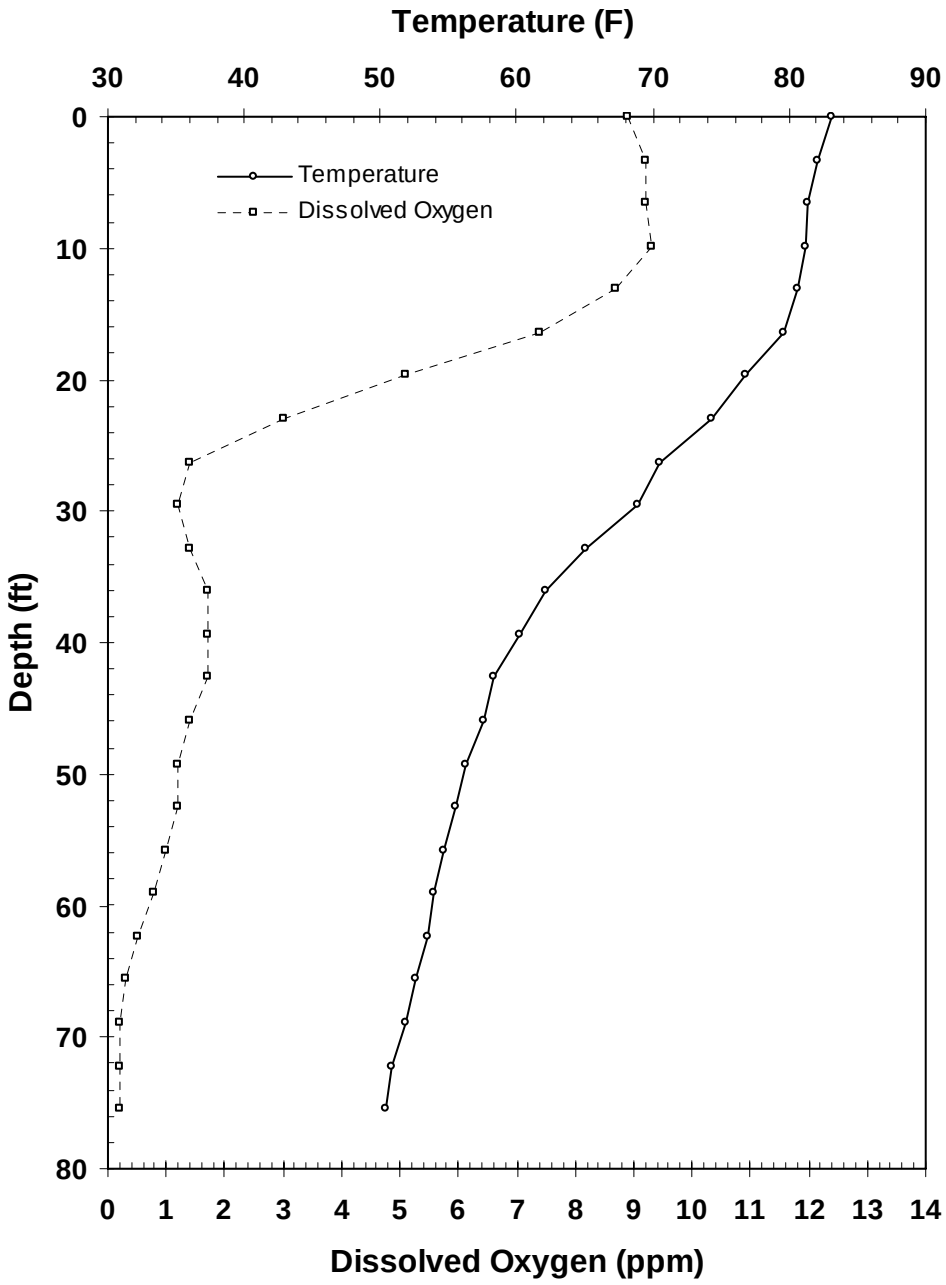
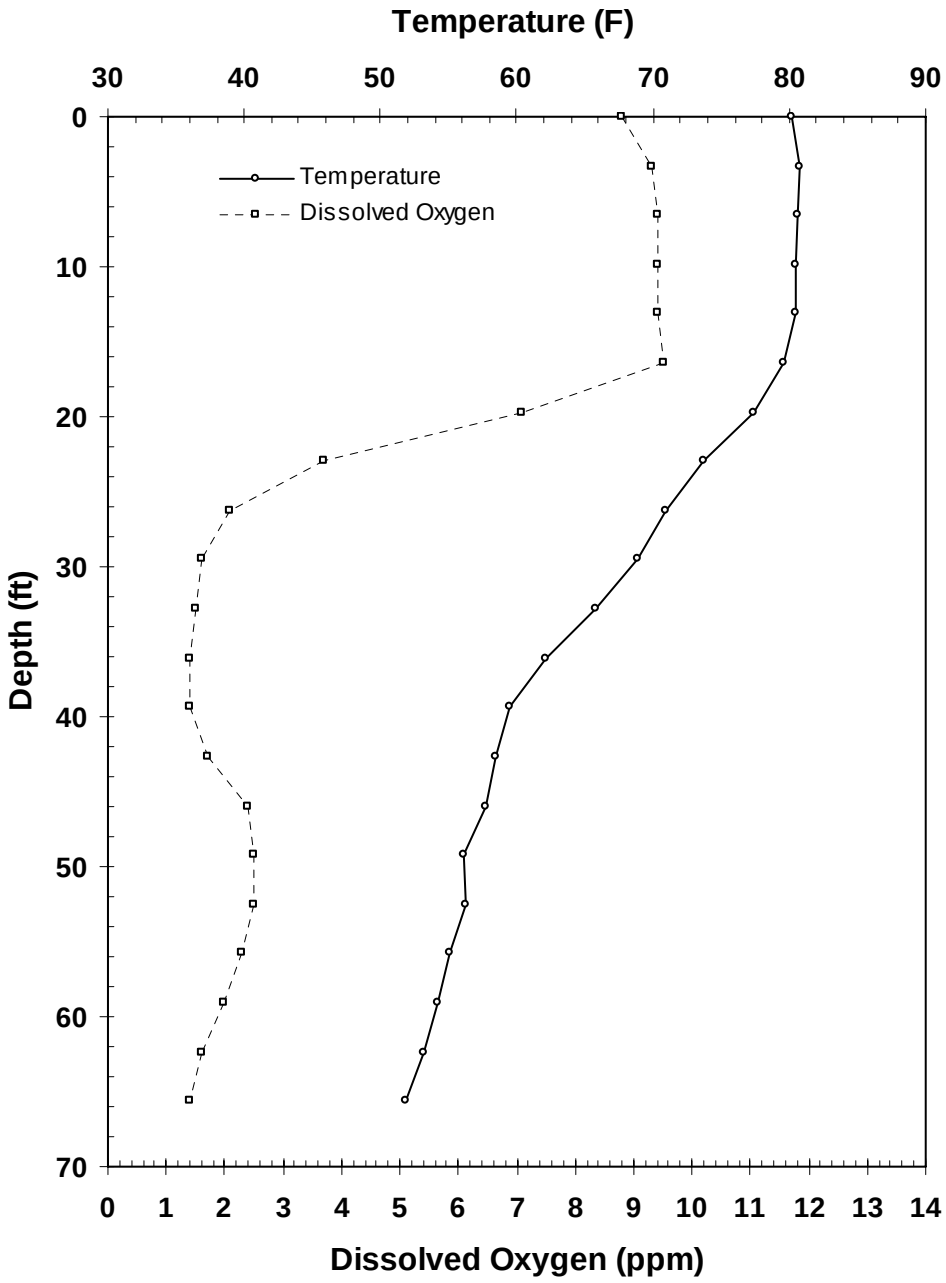


Figure A8. Watauga Reservoir water quality at ERM 2, August 2008.



Appendix B

Reservoir Elevations

Table B1. Watauga Reservoir elevation data for 2008. Data is courtesy of TVA.

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
1936.48	January	1	1941.14	February	24	1952.26	April	18
1936.51	January	2	1941.24	February	25	1952.32	April	19
1936.57	January	3	1941.40	February	26	1952.42	April	20
1936.61	January	4	1941.55	February	27	1952.45	April	21
1936.67	January	5	1941.66	February	28	1952.47	April	22
1936.73	January	6	1941.78	February	29	1952.47	April	23
1936.75	January	7	1941.91	March	1	1952.49	April	24
1936.73	January	8	1942.07	March	2	1952.47	April	25
1936.69	January	9	1942.30	March	3	1952.44	April	26
1936.72	January	10	1943.50	March	4	1952.45	April	27
1936.72	January	11	1945.01	March	5	1952.50	April	28
1936.85	January	12	1945.62	March	6	1952.53	April	29
1936.92	January	13	1946.13	March	7	1952.59	April	30
1936.98	January	14	1946.46	March	8	1952.68	May	1
1937.02	January	15	1946.73	March	9	1952.78	May	2
1937.09	January	16	1946.95	March	10	1952.80	May	3
1937.16	January	17	1947.13	March	11	1952.80	May	4
1937.20	January	18	1947.31	March	12	1952.80	May	5
1937.25	January	19	1947.44	March	13	1952.80	May	6
1937.25	January	20	1947.61	March	14	1952.80	May	7
1937.30	January	21	1947.85	March	15	1952.80	May	8
1937.33	January	22	1948.15	March	16	1952.83	May	9
1937.39	January	23	1948.45	March	17	1952.81	May	10
1937.46	January	24	1948.63	March	18	1952.77	May	11
1937.50	January	25	1948.89	March	19	1952.78	May	12
1937.53	January	26	1949.30	March	20	1952.81	May	13
1937.56	January	27	1949.67	March	21	1952.81	May	14
1937.65	January	28	1949.92	March	22	1952.85	May	15
1937.67	January	29	1950.11	March	23	1952.85	May	16
1937.74	January	30	1950.28	March	24	1952.86	May	17
1937.83	January	31	1950.43	March	25	1952.89	May	18
1937.89	February	1	1950.56	March	26	1952.89	May	19
1938.03	February	2	1950.69	March	27	1952.86	May	20
1938.13	February	3	1950.75	March	28	1952.81	May	21
1938.34	February	4	1950.91	March	29	1952.76	May	22
1938.67	February	5	1951.00	March	30	1952.71	May	23
1938.97	February	6	1950.94	March	31	1952.59	May	24
1939.30	February	7	1950.91	April	1	1952.62	May	25
1939.51	February	8	1950.90	April	2	1952.59	May	26
1939.66	February	9	1950.90	April	3	1952.53	May	27
1939.74	February	10	1951.00	April	4	1952.52	May	28
1939.86	February	11	1951.18	April	5	1952.45	May	29
1939.96	February	12	1951.36	April	6	1952.38	May	30
1940.01	February	13	1951.53	April	7	1952.31	May	31
1940.09	February	14	1951.67	April	8	1952.23	June	1
1940.16	February	15	1951.81	April	9	1951.96	June	2
1940.30	February	16	1951.93	April	10	1951.81	June	3
1940.35	February	17	1952.03	April	11	1951.67	June	4
1940.53	February	18	1952.13	April	12	1951.53	June	5
1940.68	February	19	1952.20	April	13	1951.31	June	6
1940.80	February	20	1952.23	April	14	1951.16	June	7
1940.92	February	21	1952.26	April	15	1951.04	June	8
1940.98	February	22	1952.23	April	16	1950.83	June	9
1941.07	February	23	1952.23	April	17	1950.70	June	10

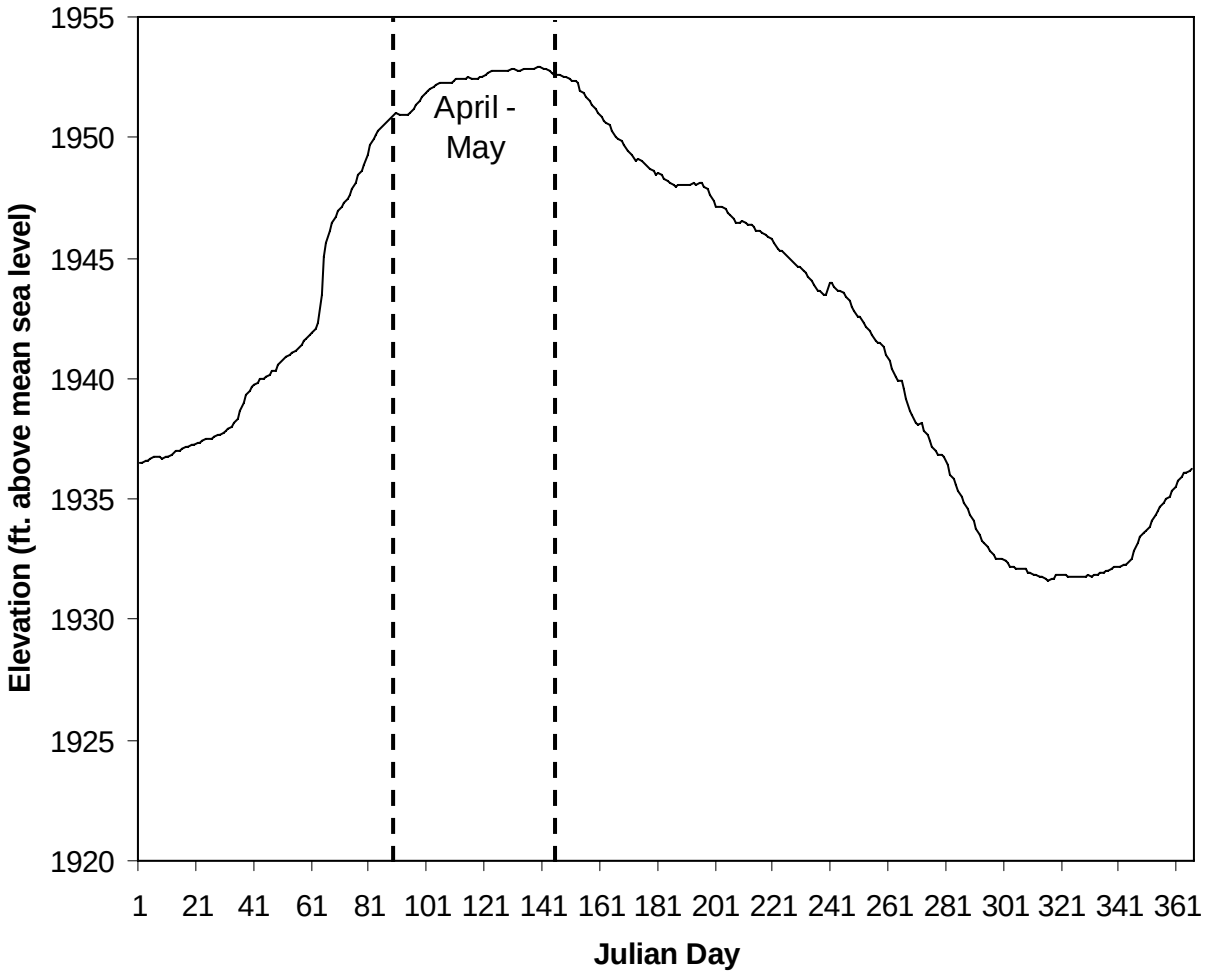
Table B1. Continued.

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
1950.63	June	11	1946.05	August	4	1938.08	September	27
1950.50	June	12	1945.96	August	5	1938.15	September	28
1950.24	June	13	1945.87	August	6	1937.86	September	29
1950.04	June	14	1945.76	August	7	1937.64	September	30
1949.90	June	15	1945.63	August	8	1937.38	October	1
1949.83	June	16	1945.40	August	9	1937.14	October	2
1949.67	June	17	1945.30	August	10	1936.98	October	3
1949.47	June	18	1945.27	August	11	1936.85	October	4
1949.36	June	19	1945.13	August	12	1936.85	October	5
1949.25	June	20	1945.01	August	13	1936.78	October	6
1949.05	June	21	1944.91	August	14	1936.39	October	7
1949.07	June	22	1944.79	August	15	1936.03	October	8
1949.02	June	23	1944.61	August	16	1935.80	October	9
1948.95	June	24	1944.61	August	17	1935.60	October	10
1948.81	June	25	1944.49	August	18	1935.37	October	11
1948.72	June	26	1944.38	August	19	1935.10	October	12
1948.61	June	27	1944.21	August	20	1934.84	October	13
1948.48	June	28	1944.05	August	21	1934.56	October	14
1948.55	June	29	1943.91	August	22	1934.33	October	15
1948.46	June	30	1943.66	August	23	1934.09	October	16
1948.32	July	1	1943.66	August	24	1933.78	October	17
1948.21	July	2	1943.49	August	25	1933.48	October	18
1948.12	July	3	1943.47	August	26	1933.30	October	19
1948.03	July	4	1943.94	August	27	1933.17	October	20
1947.91	July	5	1943.95	August	28	1933.03	October	21
1948.00	July	6	1943.80	August	29	1932.86	October	22
1948.03	July	7	1943.61	August	30	1932.70	October	23
1948.03	July	8	1943.63	August	31	1932.55	October	24
1948.01	July	9	1943.56	September	1	1932.50	October	25
1948.07	July	10	1943.42	September	2	1932.56	October	26
1948.09	July	11	1943.20	September	3	1932.46	October	27
1948.00	July	12	1942.99	September	4	1932.37	October	28
1948.09	July	13	1942.81	September	5	1932.23	October	29
1948.09	July	14	1942.60	September	6	1932.17	October	30
1947.99	July	15	1942.53	September	7	1932.10	October	31
1947.87	July	16	1942.28	September	8	1932.10	November	1
1947.64	July	17	1942.11	September	9	1932.11	November	2
1947.37	July	18	1941.97	September	10	1932.07	November	3
1947.15	July	19	1941.78	September	11	1931.98	November	4
1947.15	July	20	1941.58	September	12	1931.92	November	5
1947.09	July	21	1941.50	September	13	1931.86	November	6
1947.00	July	22	1941.52	September	14	1931.84	November	7
1946.88	July	23	1941.31	September	15	1931.81	November	8
1946.76	July	24	1941.00	September	16	1931.80	November	9
1946.63	July	25	1940.71	September	17	1931.71	November	10
1946.44	July	26	1940.41	September	18	1931.65	November	11
1946.46	July	27	1940.06	September	19	1931.67	November	12
1946.50	July	28	1939.91	September	20	1931.73	November	13
1946.44	July	29	1939.90	September	21	1931.84	November	14
1946.35	July	30	1939.55	September	22	1931.88	November	15
1946.34	July	31	1939.15	September	23	1931.90	November	16
1946.30	August	1	1938.70	September	24	1931.86	November	17
1946.11	August	2	1938.50	September	25	1931.81	November	18
1946.11	August	3	1938.16	September	26	1931.75	November	19

Table B1. Continued.

Elevation	Month	Day
1931.74	November	20
1931.74	November	21
1931.75	November	22
1931.77	November	23
1931.81	November	24
1931.84	November	25
1931.81	November	26
1931.84	November	27
1931.86	November	28
1931.94	November	29
1931.98	November	30
1932.03	December	1
1932.05	December	2
1932.10	December	3
1932.16	December	4
1932.19	December	5
1932.23	December	6
1932.26	December	7
1932.30	December	8
1932.40	December	9
1932.49	December	10
1932.86	December	11
1933.21	December	12
1933.43	December	13
1933.57	December	14
1933.72	December	15
1933.88	December	16
1934.08	December	17
1934.32	December	18
1934.50	December	19
1934.70	December	20
1934.84	December	21
1935.01	December	22
1935.11	December	23
1935.32	December	24
1935.53	December	25
1935.74	December	26
1935.91	December	27
1936.05	December	28
1936.12	December	29
1936.21	December	30
1936.26	December	31

Figure B1. Watauga Reservoir daily reservoir elevations for 2008 (TVA data).



Appendix C

Angler Creel Survey

MONTHLY ANGLING EFFORT FOR ALL ANGLERS - 2008

LAKE=WATAUGA

MONTH	ANGLER HOURS	RELATIVE STANDARD ERROR	HOURS PER ACRE	ANGLER TRIPS	TRIPS PER ACRE	PERCENT EFFORT
01 JANUARY	4925	13.2	0.8	949	0.1	3.4
03 MARCH	11098	29.3	1.7	1967	0.3	7.6
04 APRIL	21775	13.8	3.4	3702	0.6	14.9
05 MAY	32040	18.2	5.0	5332	0.8	22.0
06 JUNE	22048	16.9	3.4	3651	0.6	15.1
07 JULY	32199	25.3	5.0	5852	0.9	22.1
08 AUGUST	21578	22.6	3.4	4056	0.6	14.8
TOTAL	**145663**			**25509**		

MONTHLY CATCH STATISTICS FOR ALL ANGLERS - 2008

LAKE=WATAUGA

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	887	34.3	0.18	31.5	443	61.0	0.09	57.1
03 MARCH	2775	43.0	0.25	29.7	888	107.8	0.08	100.0
04 APRIL	11541	28.6	0.53	25.1	1307	38.9	0.06	35.1
05 MAY	20185	28.0	0.63	20.8	2884	34.8	0.09	27.9
06 JUNE	11244	21.1	0.51	12.6	2646	25.0	0.12	17.8
07 JULY	12236	42.4	0.38	32.8	2898	63.0	0.09	57.1
08 AUGUST	22010	47.1	1.02	40.3	5395	69.5	0.25	63.0
TOTAL	**80878**				**16461**			

SUMMARY OF SPECIES CATCH STATISTICS - 2008

LAKE=WATAUGA

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
CARP	1035	254.3	1.3	0	0		0.0	0	100.0		0
BLUE CATFISH	44	854.7	0.1	0	44	854.7	0.3	0	0.0	5.60	1
CHANNEL CATFISH	937	171.5	1.2	441	406	201.9	2.5	232	56.7	2.98	6
FLATHEAD CATFISH	555	332.6	0.7	62	372	330.7	2.3	62	33.0	3.92	6
RAINBOW TROUT	7688	31.5	9.5	7139	5459	37.1	33.2	5362	29.0	1.30	108
BROWN TROUT	53	1306.2	0.1	53	0		0.0	0	100.0		0
LAKE TROUT	2947	66.5	3.7	648	1908	57.0	11.6	537	35.3	3.09	30
ROCK BASS	1673	144.2	2.1	279	89	212.3	0.5	89	94.7	0.55	2
WARMOUTH	617	483.5	0.8	88	150	723.2	0.9	150	75.7	0.50	1
BLUEGILL	26297	27.7	32.6	18701	1970	63.8	12.0	1478	92.5	0.20	23
LONGEAR SUNFISH	292	605.9	0.4	0	0		0.0	0	100.0		0
SMALLMOUTH BASS	17396	22.9	21.6	15181	998	62.8	6.1	881	94.3	2.72	17
SPOTTED BASS	10006	41.6	12.4	9937	2755	80.6	16.7	2755	72.5	1.23	32
LARGEMOUTH BASS	8556	36.1	10.6	8088	535	58.9	3.3	494	93.7	2.29	13
BLACKNOSE CRAPPIE	44	854.7	0.1	44	44	854.7	0.3	44	0.0	1.00	1
WALLEYE	2414	105.6	3.0	2153	1729	85.2	10.5	1482	28.4	3.85	27

SUMMARY OF FISHING EFFORT AND CATCH RATES FOR INTENDED SPECIES GROUPS - 2008

LAKE=WATAUGA

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	2222	44.8	408	1.5	0.25	42.4	0.13	121.0	5
RAINBOW TROUT	558	64.0	104	0.4	1.10	16.2	1.01	22.2	6
ANY TROUT	28146	15.5	4973	19.3	0.23	29.9	0.16	37.5	78
LAKE TROUT	5397	25.5	935	3.7	0.13	75.7	0.12	78.1	19
ANY SUNFISH	5821	29.6	1058	4.0	2.41	64.6	0.46	123.2	15
ANY BLACK BASS	62941	9.9	10882	43.2	0.37	22.5	0.05	69.9	211
SMALLMOUTH BASS	1126	30.1	217	0.8	0.15	48.2	0.12	58.7	10
LARGEMOUTH BASS	360	106.0	63	0.2	0.11		0.00		2
ANY CRAPPIE	1821	43.1	309	1.3	0.04	141.2	0.04	141.2	6
WALLEYE	13148	18.3	2291	9.0	0.09	55.7	0.07	54.0	46
ANY SPECIES	23505	15.1	4166	16.1	0.50	75.8	0.04	162.3	53
OTHER	621	73.6	103	0.4	0.00		0.00		2
TOTAL	**145666**		**25509**						

SUMMARY OF RELATIVE SPECIES CATCH RATES WITHIN TARGET GROUPS - 2008

LAKE=WATAUGA

TARGET GROUP	SPECIES WITHIN TARGET GROUPS	RELATIVE CATCH RATE	RELATIVE HARVEST RATE
ANY CATFISH			
	BLUE CATFISH	0.00	0.00
	CHANNEL CATFISH	0.22	0.10
	FLATHEAD CATFISH	0.03	0.03
ANY TROUT			
	RAINBOW TROUT	0.23	0.16
	ANY TROUT	0.00	0.00
	BROWN TROUT	0.00	0.00
ANY SUNFISH			
	WARMOUTH	0.01	0.04
	BLUEGILL	2.40	0.42
	LONGEAR SUNFISH	0.00	0.00
ANY BLACK BASS			
ANY BLACK BASS			
ANY BLACK BASS			
	SMALLMOUTH BASS	0.24	0.01
	SPOTTED BASS	0.15	0.04
	LARGEMOUTH BASS	0.13	0.01
ANY CRAPPIE			
	BLACKNOSE CRAPPIE	0.04	0.04

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=WATAUGA

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	0.18	23
03 MARCH	62	0.25	7	0.20	13
04 APRIL	19	0.31	12	0.47	41
05 MAY	16	0.41	8	0.38	54
06 JUNE	0		0	0.53	25
07 JULY	0		0	0.21	22
08 AUGUST	0		0	0.44	17

SUMMARY OF TRIP EXPENDITURES AND CONSUMER SURPLUS FOR INTENDED SPECIES - 2008

LAKE=WATAUGA

INTENDED SPECIES	TOTAL TRIP EXPENDITURES	TOTAL CONSUMER SURPLUS	TOTAL VALUE BY ANGLERS	NUMBER OF INTERVIEWS
ANY CATFISH	4060	4890	8680	5
RAINBOW TROUT	720	1070	1790	6
ANY TROUT	64770	153220	217990	78
LAKE TROUT	25730	16030	39050	18
ANY SUNFISH	21080	18130	39210	15
ANY BLACK BASS	254040	300080	554120	210
SMALLMOUTH BASS	1080	1080	2170	10
LARGEMOUTH BASS	4320	900	3610	2
ANY CRAPPIE	2080	4590	6670	6
WALLEYE	47990	45310	93290	46
ANY SPECIES	51000	46250	97250	52
OTHER	500	1180	1680	2
TOTAL	**477370**	**592730**	**1065510**	**450**

SUMMARY OF SOCIOLOGICAL QUESTIONS – 2008

LAKE=WATAUGA

DISTRIBUTION OF STATES OF RESIDENCE OF INTERVIEWED ANGLERS

STATE	NUMBER ANGLERS INTERVIEWED	PERCENT CONTRIBUTION
NC	99	10.8
TN	768	83.8
OTHERS	50	5.5

DISTRIBUTION OF COUNTIES OF RESIDENCE OF INTERVIEWED ANGLERS

COUNTY	NUMBER ANGLERS INTERVIEWED	PERCENT CONTRIBUTION
CARTER	437	57.0
JOHNSON	137	17.9
SULLIVAN	43	5.6
WASHINGTON	81	10.6
OTHERS IN TN	67	8.7
OUT-OF-STATE	1	0.1

DISTRIBUTION OF ONE-WAY MILEAGE OF ANGLERS INTERVIEWED

ONE-WAY MILES TRAVELED	NUMBER ANGLERS INTERVIEWED	PERCENT CONTRIBUTION
A) 0-25	620	67.5
B) 26-100	274	29.8
C) 101-250	12	1.3
D) > 250	13	1.4

DISTRIBUTION OF REASONS WHY INTERVIWED ANGLERS MADE THE TRIP

REASON FOR TRIP	NUMBER ANGLERS INTERVIEWED	PERCENT CONTRIBUTION
A) FISHING	448	98.5
B) VACATION	7	1.5

DISTRIBUTION OF NUMBER OF DAYS IN TRIPS OF INTERVIEWED ANGLERS

NUMBER DAYS IN TRIP	NUMBER ANGLERS INTERVIEWED	PERCENT CONTRIBUTION
A) 1	430	94.7
B) 2-5	21	4.6
C) 6-10	3	0.7