Douglas Reservoir

Annual Report 2008

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Douglas Reservoir

Description

Surface Area: 30,400 acres
Counties: Jefferson, Sevier, Cocke
Full Pool Elevation: 994 feet above mean sea level
Maximum Depth: 129 feet
Mean Chlorophyll (Forebay): 6.8 parts per million
Trophic Status (Forebay): Mesotrophic
Hydraulic Retention Time: 105 days
Total Fishing Effort: N/A in 2008
Shoreline Distance: 127 miles
Drainage Area: 4541 square miles
Mean Annual Fluctuation: 50 feet
Thermocline Depth: 23 feet
Shoreline Development: 17%
Trophic Index, Carlson (1977): 49.3
Reservoir Age: 65 years (dam closure 1943)
Total Value by Anglers: N/A in 2008

Habitat Enhancement and Monitoring

	New Sites			Renovated Sites			Expanded Sites		
Location	**Number**	**Units**	**Acres**	**Number**	**Units**	**Acres**	**Number**	**Units**	**Acres**
FBRM 44.3 L*	1	75	1.50						
FBRM 44.0 L*	1	90	1.80						
FBRM 43.75 L*	1	78	1.56						
FBRM 44.0 L*	1	650	13.00						
Total	***4***	***893***	***18***	***0***	***0***	***0***	***0***	***0***	***0***

*Christmas Trees with block

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)	96,018	138,920	300,140	No Survey	225,947	No Survey	189,271	No Survey	204,725	No Survey	192,504
	(hrs/acre)	3.2	4.6	9.9		7.4		6.2		6.7		6.3
Any Black Bass	(hrs)	0	87,596	1,021		30,219		330		116,281		39,241
	(hrs/acre)	0.0	2.9	0.0		1.0		0.0		3.8		1
Largemouth Bass	(hrs)	96,018	50,801	298,727		195,728		188,941		88,444		153,110
	(hrs/acre)	3.2	1.7	9.8		6.4		6.2		2.9		5
Smallmouth Bass	(hrs)	0	523	392		0		0		0		153
	(hrs/acre)	0.0	0.0	0.0		0.0		0.0		0.0		0
Spotted Bass	(hrs)	0	0	0		0		0		0		0
	(hrs/acre)	0.0	0.0	0.0		0.0		0.0		0.0		0
Tournaments (BITE program)												
# Tournaments (BITE)				31	32	18	5	10	9	4	3	14
Pounds/Angler Day (BITE)				4.70	4.32	4.68	5.53	4.96	4.89	4.29	3.73	4.64
Bass/Angler Day (BITE)				3.23	2.72	2.74	3.35	3.00	3.03	2.28	2.17	2.82
Value of Fishery (creel survey data - trip expenditures)												
All Black Bass		N/A	$345,150	$518,570	No Survey	$618,060	No Survey	$698,920	No Survey	$1,013,420	No Survey	$638,824
Any Black Bass		N/A	$180,530	$1,030		$93,390		$960		$610,600		$177,302
Largemouth Bass		N/A	$164,050	$517,060		$524,670		$697,960		$402,820		$461,312
Smallmouth Bass		N/A	$570	$480		$0		$0		$0		$210
Spotted Bass		N/A	$0	$0		$0		$0		$0		$0

Largemouth Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data - CPUE = # fish/hour)											
Age-1 CPUE	N/A	46.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	46.5
Substock CPUE	52.7	50.3	38.6	25.1	14.3	19.9	26.9	17.3	42.6	45.7	33.3
Density (electrofishing data - CPUE = # fish/hour)											
PSD	36%	49%	54%	74%	62%	50%	62%	65%	44%	68%	56.4%
RSD - Preferred	12%	7%	11%	16%	33%	15%	21%	18%	10%	13%	15.6%
CPUE	168.0	179.6	133.4	152.2	69.2	115.8	196.0	121.3	132.3	153.7	142.2
CPUE = Stock	115.3	129.3	94.7	127.1	54.9	95.9	169.1	104.1	89.7	108.0	108.8
CPUE = MSL	No Minimum Size Limit										
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	
Mean TL at Age-3 (mm)	N/A	342	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	342
Relative Weight (electrofishing data)											
Stock - Quality	89.9	85.2	83.3	90.9	87.1	85.7	92.0	85.9	92.0	87.7	88.0
Quality - Preferred	94.0	88.1	86.4	90.4	92.9	91.0	91.8	88.1	88.5	90.3	90.2
Preferred - Memorable	97.2	86.9	91.0	92.3	90.4	93.1	96.8	91.2	93.0	91.0	92.3
Memorable - Trophy	103.6	94.0	92.2	53.6	101.1	none	111.3	100.7	98.8	102.4	95.3
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	
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	1.01	No	1.3	No	0.99	No	1.20	No	1.13
Harvest Rate	not calculated	not calculated	0.04		0.06		0.03		0.04		0.04
Percent Harvested	10.5%	13.9%	7.1%	Survey	7.7%	Survey	5.2%	Survey	6.1%	Survey	8.4%
Mean Weight (pounds)	3.2	1.44	1.11		1.23		1.33		1.45		1.6

Fishery Forecast

The largemouth bass population has potential to be comprised of larger fish due to excellent growth rates and recruitment. The percentages of preferred size largemouth (15-inches and bigger) in the population are consistently low. However, due to the excellent productivity of the reservoir, we manage to see several fish in that size range. In 2008, we saw really high numbers of all sizes of largemouth which will maintain the stability of that fishery.

Management Recommendations:

Maintain current regulations, but consider a slot limit because of the potential of the fast growth and steady reproduction and recruitment of the largemouth bass in Douglas Reservoir.

Smallmouth Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data - CPUE = # fish/hour)											
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	0.0	0.0	0.0	2.3	0.3	0.6	0.0	0.0	0.0	0.0	0.3
***Density** (electrofishing data - CPUE = # fish/hour)											
PSD	0%	100%	75%	64%	0%	62%	58%	61%	29%	46%	49.5%
RSD - Preferred	0%	0%	0%	45%	0%	35%	44%	36%	9%	30%	19.9%
CPUE	0.7	0.7	1.3	5.9	0.3	19.9	15.5	17.1	19.8	44.9	12.6
CPUE = Stock	0.7	0.7	1.3	3.6	0.0	19.4	15.5	17.1	19.8	44.9	12.3
CPUE = MSL (20")	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.0	0.0	0.1
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	84.7	none	77.8	79.3	none	86.2	89.4	81.1	82.8	86.9	83.5
Quality - Preferred	none	77.2	78.6	80.1	none	86.6	83.0	84.0	80.9	86.1	82.1
Preferred - Memorable	none	none	none	91.7	none	82.2	81.8	89.6	79.8	87.0	85.4
Memorable - Trophy	none	none	none	92.3	none	81.7	91.7	91.7	71.0	87.1	85.9
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	N/A
Stocking											
# per Acre	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.03
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	not calculated	No	0.01	No	0.00	No	0.05	No	0.02
Harvest Rate	not calculated	not calculated	not calculated		0.00		0.00		0.00		0.00
Percent Harvested	17.4%	22.5%	38.0%	Survey	0.0%	Survey	0.8%	Survey	0.0%	Survey	13.1%
Mean Weight (pounds)	N/A	2.53	1.13		N/A		2.00		N/A		1.89

* 2004 - present data was collected from targetted smallmouth bass sample. Previous data was collected from standardized springtime electrofishing samples.

Fishery Forecast:

The highest number of smallmouth bass collected while electrofishing in Douglas Reservoir was collected in 2008. Supplemental stocking of smallmouth bass seems to be having a positive effect on the overall population density. The smallmouth bass population has the potential to become a nice trophy size fishery with the 20-inch minimum size limit in place. The fishery should remain stable and the number of smallmouth should increase with the large 2006 year class.

Management Recommendations:

Continue to monitor the effects of the 20-inch, 1 fish creel limit imposed in 2001. Collect a sample large enough to analyze age and growth.

Spotted Bass

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (electrofishing data - CPUE = # fish/hour)											
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	0	0	0	0	0	0	0	0	0	0	0.0
Density (electrofishing data - CPUE = # fish/hour)											
PSD	0%	none	none	none	none	none	none	none	none	none	0%
RSD - Preferred	0%	none	none	none	none	none	none	none	none	none	0%
CPUE	0.667	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.1
CPUE = Stock	0.667	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.1
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	89.2	none	none	none	none	none	none	none	none	none	89.2
Quality - Preferred	none	none	none	none	none	none	none	none	none	none	
Preferred - Memorable	none	none	none	none	none	none	none	none	none	none	
Memorable - Trophy	none	none	none	none	none	none	none	none	none	none	
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	N/A
Fishing Success (creel survey data)											
Catch Rate	not calculated	not calculated	not calculated	No	0.00	No	0.00	No	0.00	No	0.00
Harvest Rate	not calculated	not calculated	not calculated		0.00		0.00		0.00		0.00
Percent Harvested	N/A	N/A	N/A	Survey	N/A	Survey	N/A	Survey	N/A	Survey	
Mean Weight (pounds)	N/A	N/A	N/A		N/A		N/A		N/A		

Black Crappie

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (trap net data) - CPUE = # fish/ net night)											
Age-0 CPUE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	0.40	1.77	0.24	1.10	6.90	0.35	0.58	0.40	0.10	0.13	1.20
Density (trap net data) - CPUE = # fish/ net night)											
PSD	94%	84%	80%	69%	82%	88%	85%	98%	100%	82%	86.2%
RSD - Preferred	40%	35%	48%	27%	41%	37%	42%	66%	63%	58%	45.7%
CPUE	5.38	3.44	1.20	6.00	10.60	6.70	8.00	3.60	2.13	1.31	4.84
CPUE = Stock	4.98	1.67	0.97	4.85	4.90	6.30	7.40	3.20	2.03	1.18	3.75
CPUE = MSL (10")	1.48	0.44	0.43	1.11	1.30	1.61	2.33	1.80	1.10	0.60	1.22
Growth (trap net 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)	327.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Relative Weight (trap net data)											
Stock - Quality	107.5	156.2	90.3	85.3	90.7	91.0	94.2	113.1	none	105.8	103.8
Quality - Preferred	106.4	111.6	96.9	88.1	99.2	96.7	97.4	106.2	107.2	98.7	100.8
Preferred - Memorable	104.4	103.2	94.0	86.2	95.9	93.7	95.2	100.7	101.2	97.7	97.2
Memorable - Trophy	95.3	103.6	88.5	78.9	87.1	87.6	93.5	90.1	95.1	93.6	91.3
Trophy	none	none	none	none	none	none	none	none	none	none	
Mortality (trap net data)											
Total Mortality	73.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	73.00%
Stocking											
# per Acre	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Angling Pressure (creel survey data - **any crappie**)											
Angler Hours	206,814	156,002	310,674	No Survey	223,758	No Survey	231,877	No Survey	227,504	No Survey	226,105
Angler Hours/Acre	6.8	5.1	10.2		7.4		7.6		7.5		7.4
Fishing Success (creel survey data)											
Catch Rate	not calculated	0.14	0.02		0.1		0.12		0.31		0.14
Harvest Rate	not calculated	0.09	0.01		0.04		0.06		0.18		0.08
Percent Harvested	87.4%	59.7%	89.9%		33.3%		47.7%		55.7%		62.3%
Mean Weight (pounds)	0.22	0.95	0.87		0.76		0.74		0.81		0.73
Value of Fishery (creel survey data - trip expenditures)											
Any Crappie	not calculated	$203,450	$208,070		$173,960		$171,420		$229,760		$197,332

Fishery Forecast:

For the third year in a row, the crappie population in Douglas Reservoir has shown a decline. In addition, good levels of natural reproduction have not been detected by trap netting or seining since 2003. Therefore, the crappie fishing will most likely be down when compared to the last few years. In response to the decline in the crappie population, TWRA is stocking crappie in hopes to supplement natural reproduction and in turn will help stabilize the overall population.

Management Recommendations:

1. Maintain current size and creel limit.
2. The TWRA is recommending to TVA that an elevation of 975 feet msl be attained by April 1.
3. Continue to use Henderson Island pond for a crappie nursery pond.

White Crappie

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (trap net data) - CPUE = # fish/ net night)											
Age-0 CPUE		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Substock CPUE	0.02	0.35	0.09	0.28	8.76	0.10	1.13	0.06	0.02	0.01	1.08
Density (trap net data) - CPUE = # fish/ net night)											
PSD	94%	100%	88%	65%	65%	87%	91%	100%	100%	100%	89%
RSD - Preferred	65%	100%	75%	26%	48%	47%	67%	75%	40%	67%	61%
CPUE	0.29	0.44	0.18	0.99	9.02	0.50	1.50	0.20	0.18	0.04	1.33
CPUE = Stock	0.34	0.08	0.09	0.71	0.26	0.43	0.37	0.13	0.17	0.03	0.26
CPUE = MSL (10")	0.22	0.08	0.06	0.13	0.11	0.16	0.20	0.09	0.07	0.02	0.11
Growth (trap net 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)	312.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	312.5
Relative Weight (trap net data)											
Stock - Quality	111.3	none	69.9	78.3	93.2	87.4	91.0	none	none	none	88.5
Quality - Preferred	97.6	none	107.1	89.3	99.9	91.0	93.7	105.7	97.4	97.8	97.7
Preferred - Memorable	97.4	78.4	102.4	97.3	97.9	99.0	95.5	99.3	101.3	92.4	96.1
Memorable - Trophy	102.0	97.8	96.9	67.0	96.2	90.2	94.8	93.7	112.8	none	94.6
Trophy	none	none	none	none	none	none	none	none	none	none	
Mortality (trap net 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	0.8	0.0	0.0	0.5	0.0	0.5	1.2	0.3
Angling Pressure (creel survey data - **any crappie**)											
Angler Hours	206,814	156,002	310,674	No Survey	223,758	No Survey	231,877	No Survey	227,504	No Survey	226,105
Angler Hours/Acre	6.8	5.1	10.2		7.4		7.6		7.5		7.4
Fishing Success (creel survey data)											
Catch Rate	not calculated	0.67	0.83		1.7		1.68		1.57		1.29
Harvest Rate	not calculated	0.38	0.60		0.63		0.69		0.67		0.59
Percent Harvested	52.0%	53.6%	68.3%		30.9%		36.5%		39.9%		46.9%
Mean Weight (pounds)	0.13	0.95	0.90		0.73		0.68		0.64		0.67
Value of Fishery (creel survey data - trip expenditures)											
Any Crappie	not calculated	$203,450	$208,070		$173,960		$171,420		$229,760		$197,332

Fishery Forecast:

As with black crappie, for the third year in a row, the crappie population in Douglas Reservoir has shown a decline. In addition, good levels of natural reproduction have not been detected by trap netting or seining since 2003. Therefore, the crappie fishing will most likely be down when compared to the last few years. In response to the decline in the crappie population, TWRA is stocking crappie in hopes to supplement natural reproduction and in turn will help stabilize the overall population.

Management Recommendations:

1. Maintain current size and creel limit.
2. The TWRA is recommending that an elevation of 975 feet msl be attained by April 1.
3. Continue to use Henderson Island pond for a crappie nursery pond.

Sauger

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (winter gill net data)											
Substock CPUE	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Density (winter gill net data - CPUE = # fish/net night)											
PSD	100%	97%	100%	58%	88%	88%	93%	74%	100%	65%	86%
RSD - Preferred	79%	57%	43%	24%	45%	14%	47%	37%	37%	36%	42%
CPUE	4.22	5.08	20.00	10.71	0.48	7.00	13.00	11.29	5.83	9.43	8.70
CPUE = Stock	4.22	5.08	20.00	10.57	0.48	7.00	13.00	11.29	5.83	9.43	8.69
CPUE = MSL (15")	2.67	2.33	6.33	2.00	0.19	1.00	5.10	3.30	2.00	N/A	2.77
Growth (winter gill net data)											
Mean TL at Age-1 (mm)			377	268		340	333	342	360	370	341.4
Mean TL at Age-3 (mm)			443	455	426	425	none	409	367	448	424.7
Relative Weight (winter gill net data)											
Stock - Quality	none	98.1	none	90.4	90.1	89.0	87.1	88.7	none	91.8	90.7
Quality - Preferred	89.8	98.7	100.2	99.7	91.2	91.2	92.4	90.9	95.1	99.0	94.8
Preferred - Memorable	81.9	100.5	99.1	103.8	98.5	92.0	93.0	96.2	92.8	95.5	95.3
Memorable - Trophy	96.2	none	none	none	92.9	none	none	none	none	96.3	95.1
Trophy	none	none	none	none	none	none	none	none	none	none	
Mortality (winter gill net 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	3.7	5.6	0.0	4.8	1.2	1.7	0.9	2.2	2.0	2.2
Angling Pressure (creel survey data - sauger data only)											
Angler Hours	463	239	35,171	No	26,566	No	11,140	No	15,001	No	14,763
Angler Hours/Acre	0.02	0.01	1.16		0.87		0.37		0.49		0.49
Fishing Success (creel survey data - sauger data only)											
Percent Harvested	59.0%	36.5%	22.9%		20.6%		17.4%		21.3%		29.6%
Mean Weight (pounds)	N/A	1.60	1.29		1.54		0.92		1.27		1.32
Value of Fishery (creel survey data - trip expenditures)				Survey		Survey		Survey		Survey	
All Sanders	not calculated	$8,770	$34,020		$20,440		$24,260		$33,040		$24,106
Sauger Data Only	not calculated	$310	$31,280		$19,170		$13,150		$28,030		$18,388

Fishery Forecast:

A good sample of sauger was collected in 2008. A new "experimental" sauger regulation went into effect March 1, 2008 and will be evaluated with creel surveys and continued gill netting and electrofishing surveys each year. Currently, about 85% of the sauger harvested from Douglas Reservoir consists of mature females and the purpose of this new regulation is to protect the mature females from being harvested.

Management Recommendations:

Maintain current sauger/walleye regulations. Monitor angler harvest composition, in response to the new regulation, with a creel survey targeting sauger anglers on Douglas Reservoir.

Walleye

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Recruitment (winter gill net data)											
Substock CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.01
Density (winter gill net data - CPUE = # fish/net night)											
PSD	100%	57%	75%	11%	0%	80%	100%	27%	86%	57%	59.3%
RSD - Preferred	100%	0%	0%	0%	0%	0%	38%	9%	4%	11%	16.2%
CPUE	0.11	0.58	1.33	1.29	0.08	1.00	1.14	6.43	4.67	4.00	2.06
CPUE = Stock	0.11	0.58	1.33	1.29	0.08	1.00	1.14	6.29	4.67	4.00	2.05
CPUE = MSL (15")	0.11	0.33	0.00	0.14	0.00	0.40	1.14	1.71	4.40	2.29	1.05
Growth (winter gill net data)											
Mean TL at Age-1 (mm)									402	N/A	402.0
Mean TL at Age-3 (mm)									458	450	454.0
Relative Weight (winter gill net data)											
Stock - Quality	no weights	92.9	95.8	88.8	none	72.2	none	91.2	87.1	91.7	88.5
Quality - Preferred	no weights	90.4	95.5	none	none	84.7	84.6	87.3	84.2	88.4	87.9
Preferred - Memorable	no weights	none	none	none	none	none	87.7	93.7	80.6	94.3	89.1
Memorable - Trophy	no weights	none	none	none	none	none	none	none	none	97.2	97.2
Trophy	no weights	none	none	none	none	none	none	none	none	none	
Mortality (winter gill net 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	0.0	0.0
Angling Pressure (creel survey data - walleye data only)											
Angler Hours	231	3,137	8,305	No Survey	625	No Survey	9,499	No Survey	5,178	No Survey	4,496
Angler Hours/Acre	0.01	0.10	0.27		0.02		0.31		0.17		0.15
Fishing Success (creel survey data - walleye data only)											
Percent Harvested	74.4%	N/A	21.4%		35.9%		14.3%		21.6%		33.5%
Mean Weight (pounds)	N/A	N/A	1.78		1.95		1.36		1.89		1.75
Value of Fishery (creel survey data - trip expenditures)											
All Sanders	not calculated	$8,770	$34,020		$20,440		$24,260		$33,040		$24,106
Walleye Data Only	not calculated	$8,460	$2,010		$1,270		$11,110		$5,010		$5,572

Fishery Forecast:

Walleye numbers have been steadily increasing in Douglas Reservoir the last few years. Natural reproduction still occurs in the reservoir due to the absence of alewives which allows walleye to be managed with no stocking. The population is made up of good size individuals and should continue to contribute to the *stizostedion* fishery in Douglas Reservoir.

Management Recommendations:

Maintain current sauger/walleye regulations. Monitor angler harvest composition, in response to the new regulation, with a creel survey targeting sauger anglers on Douglas Reservoir.

Sunfish

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data - any sunfish)											
Angler Hours	* 29,229	27,222	46,661	No Survey	49,700	No Survey	26,311	No Survey	31,338	No Survey	35,077
Angler Hours/Acre	0.96	0.90	1.53		1.63		0.87		1.03		1.15
Fishing Success (creel survey data - bluegill only)											
Catch Rate (bluegill)	not calculated	2.90	2.77		not reported		not reported		5.23		3.63
Harvest Rate (bluegill)	not calculated	2.01	2.19		not reported		not reported		3.32		2.51
% Harvested (bluegill)	60.6%	61.2%	56.6%		not reported		not reported		55.5%		58.5%
Mean Weight (bluegill)	0.13	0.40	0.52		not reported		not reported		0.28		0.33
Value of Fishery (creel survey data - trip expenditures)											
Any Sunfish	not calculated	$16,770	$22,600		$10,580		$5,970		$12,640		$13,712

* Bluegill only

Catfish

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Angling Pressure (creel survey data - any catfish)											
Angler Hours	4,239	16,790	35,734	No Survey	21,578	No Survey	46,630	No Survey	46,155	No Survey	28,521
Angler Hours/Acre	0.14	0.55	1.18		0.71		1.53		1.52		0.94
Fishing Success (creel survey data)											
Catch Rate (channel cat)	not calculated	0.94	0.68		1.21		0.93		0.93		0.94
Harvest Rate (channel cat)	not calculated	0.94	0.60		0.75		0.63		0.61		0.71
% Harvested (channel cat)	68.6%	88.0%	88.5%		61.2%		63.9%		62.5%		72.1%
Mean Weight (channel cat)	1.24	2.16	1.74		1.65		1.75		1.66		1.70
Value of Fishery (creel survey data - trip expenditures)											
Any Catfish	not calculated	$14,130	$23,740		$10,630		$25,100		$23,200		$19,360

Shad

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean
Density (summer shad gill net data - geometric mean density)											
Gizzard Shad	No Survey								19.51	19.51	19.51
Threadfin Shad									91.43	42.75	67.09
Alewife									0.00	0.00	0.00

Tables

Table 1. Fish stocked in Douglas Reservoir 1993 – 2008.

Species	Month/Year	Rate (per acre)	Length Range (in)	Number
Sauger	May 1993	0.1	1.5	1,760
	May 2000	3.6	1.0 – 2.0	111,158
	May 2001	5.6	1.0 – 2.0	169,904
	May 2003	4.8	1.25 – 2.25	145,245
	June 2004	0.7	2.0 – 3.0	20,000
	May 2005	1.7	1.5 – 2.25	50,848
	May 2006	0.9	1.0 – 2.0	27,883
	May 2007	2.3	1.0 – 1.75	68,610
	May 2008	1.98	1.0 – 2.1	60,134
White Crappie	Oct 2002	0.8	2.0 – 6.0	22,959
	June 2005	0.5	2.0 – 5.0	15,000
	July 2007	0.5	2.0 – 2.5	15,000
	July, Sept., Oct. 2008	1.2	1.0 – 7.0	36,090
Smallmouth Bass	June 2005	0.25	2.0 – 3.5	7,650
	July 2006	0.08	3.0 – 5.5	2,500
Black Crappie	Oct 2002	5.3	1.25 – 4.5	161,786

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

	Winter Gill Netting			Spring Electrofishing			Fall Trapnetting		
Species	No.	CPUE (# fish / net night)	Total Effort	No.	CPUE (# fish / hour)	Total Effort	No.	CPUE (# fish / net night)	Total Effort
Largemouth Bass	X	X	X	538	153.7	3.5	X	X	X
Smallmouth Bass	X	X	X	76	44.9	1.7	X	X	X
Spotted Bass	X	X	X	0	0.0	3.5	X	X	X
Black Crappie	X	X	X	82	23.4	3.5	118	1.3	90
Black-Nose Crappie	X	X	X	0	0.0	3.5	0	0.0	90
White Crappie	X	X	X	2	0.6	3.5	4	0.0	90
Walleye	28	4.0	7	1	0.3	3.5	X	X	X
Sauger	66	9.4	7	0	0.0	3.5	X	X	X
White Bass	75	10.7	7	X	X	X	X	X	X
Gizzard Shad	X	X	X	X	X	X	X	X	X
Threadfin Shad	X	X	X	X	X	X	X	X	X
Alewife	X	X	X	X	X	X	X	X	X
Bluegill	X	X	X	X	X	X	X	X	X

X = non targeted species

Table 3. Mean catch per unit effort and relative stock density for black bass species by RSD category for Douglas Reservoir 2000 – 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	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD		#	CPUE
Largemouth	2000	EL	6	76	50	**28**	100	66	**51**	82	54	**42**	7	8.6	**7**	1	0.1	**1**				**49**	272	179
Bass	2001	EL	12	120	39	**29**	134	43	**46**	129	42	**44**	30	10	**10**	1	0.3					**54**	414	133
	2002	EL	12	77	25	**17**	99	33	**26**	225	74	**58**	60	20	**16**	1	0.3					**74**	462	152
	2003	EL	13	50	14	**21**	73	21	**38**	55	16	**29**	57	21	**30**	7	3	**4**				**62**	242	80
	2004	EL	12	61	20	**17**	147	48	**50**	102	34	**35**	45	15	**15**	0	0	**0**	0	0	**0**	**50**	355	115.8
	2005	EL	12	82	27	**14**	194	64	**38**	216	71	**42**	100	33	**19**	6	2	**1**	0	0	**0**	**62**	598	196
	2006	EL	14	61	17	**14**	130	37	**35**	171	48	**46**	59	17	**16**	9	2.5	**2**	0	0	**0**	**65**	430	121.3
	2007	EL	14	149	43	**32**	177	51	**56**	105	30	**33**	30	8.6	**10**	2	0.6	**1**	0	0	**0**	**44**	463	132.3
	2008	EL	14	160	46	**30**	122	35	**32**	208	59	**55**	41	12	**11**	7	2	**2**	0	0	**0**	**68**	538	153.7
Smallmouth	2004	EL	2	1	0.6	**3**	13	7.4	**38**	9	5.1	**26**	8	4.6	**24**	3	1.7	**9**	0	0	**0**	**62**	35	19.9
Bass	2005	EL	2	0	0	**0**	15	6.5	**42**	5	2.1	**14**	11	4.7	**31**	4	1.7	**11**	1	0.4	**3**	**58**	36	15.5
	2006	EL	2	0	0	**0**	13	6.7	**39**	8	4.1	**24**	4	2.1	**12**	7	3.6	**21**	1	0.5	**3**	**61**	33	17.1
	2007	EL	1	0	0	**0**	32	14	**71**	9	4	**20**	3	1.3	**7**	1	0.4	**2**	0	0	**0**	**29**	45	19.8
	2008	EL	1	0	0	**0**	41	24	**54**	12	7.1	**16**	19	11	**25**	4	2.4	**5**	0	0	**0**	**46**	76	44.9

Table 4. Mean catch per unit effort and relative stock density for crappie species by RSD category for Douglas Reservoir 2000 – 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	**RSD**	#	CPUE	**RSD**	#	CPUE	**RSD**	#	CPUE	**RSD**	#	CPUE	**RSD**	#	CPUE	**RSD**		#	CPUE
Black Crappie	2000	TN	90	85	0.9	**52**	13	0.1	**16**	39	0.4	**49**	26	0.3	**33**	2	0	**3**					165	1.8
	2001	TN	89	21	0.2	**20**	17	0.2	**20**	28	0.3	**33**	27	0.3	**31**	13	0.2	**15**					107	1.2
	2002	TN	90	97	1.1	**19**	134	1.5	**31**	177	2	**41**	105	1.1	**25**	11	0.1	**3**					525	6
	2003	TN	89	619	6.9	**66**	58	0.7	**18**	112	1.4	**35**	112	1.3	**35**	18	0.2	**6**					935	10.6
	2004	TN	89	31	0.4	**5**	69	0.8	**12**	283	3.2	**50**	197	2.2	**35**	12	0.1	**2**	0	0	**0**	**88**	592	6.7
	2005	TN	90	52	0.6	**7**	104	1.2	**15**	287	3.2	**43**	253	2.8	**38**	27	0.3	**4**	0	0	**0**	**85**	723	8
	2006	TN	90	35	0.4	**11**	7	0.1	**2**	91	1	**31**	168	1.9	**58**	23	0.3	**8**	0	0	**0**	**98**	324	3.6
	2007*	TN	60	6	0.1	**5**	0	0	**0**	45	0.8	**37**	57	1	**47**	18	0.3	**15**	2	0	**2**	**100**	128	2.13
	2008	TN	90	12	0.1	**10**	19	0.2	**18**	25	2.8	**24**	43	0.5	**41**	19	0.2	**18**	0	0	**0**	**82**	118	1.31
White Crappie	2000	TN	90	16	0.2	**76**	0	0	**0**	0	0	**0**	1	0	**5**	3	0	**14**					21	0.2
	2001	TN	89	8	0.1	**50**	1	0	**13**	1	0	**13**	3	0	**38**	3	0	**38**					16	0.2
	2002	TN	90	1	0.2	**2**	22	0.2	**35**	24	0.3	**39**	7	0.1	**11**	8	0.1	**13**					87	1
	2003	TN	89	780	8.8	**97**	8	0.1	**35**	4	0.1	**17**	6	0.1	**26**	5	0.1	**22**					803	9
	2004	TN	89	9	0.1	**19**	5	0.1	**13**	15	0.2	**39**	16	0.2	**39**	3	0	**8**	0	0	**0**	**87**	47	0.5
	2005	TN	90	102	1.1	**76**	3	0	**9.1**	8	0.1	**24**	15	0.2	**46**	7	0.1	**21**	0	0	**0**	**91**	135	1.5
	2006	TN	90	5	0.1	**29**	0	0	**0**	3	0.03	**25**	5	0.1	**42**	4	0.04	**33**	0	0	**0**	**100**	17	0.2
	2007*	TN	60	1	0	**9**	0	0	**0**	6	0.1	**60**	2	0	**20**	2	0.03	**20**	0	0	**0**	**100**	11	0.18
	2008	TN	90	1	0	**25**	0	0	**0**	1	0.01	**33**	1	0	**33**	0	0	**0**	1	0	**33**	**100**	4	0.044

* Could not sample the upper end because of low water. Main Channel was only 7 feet deep at Indian Creek. Only netted 30 sites instead of 45.

Table 5. Largemouth bass mean relative weights (Wr) in Douglas reservoir, spring 2008.

Length Group	Mean Wr	Std. Error	N
150	87.131	2.244	57
175	84.698	0.845	67
200	85.953	1.058	37
225	89.011	1.147	13
250	86.858	1.153	16
275	88.736	0.882	56
300	90.233	0.647	83
325	89.970	0.864	70
350	90.837	1.122	45
375	86.983	2.015	19
400	91.313	1.948	10
425	94.299	4.171	6
450	94.322	3.390	5
475	93.190	1.161	6
500	100.333	2.345	6
525	103.690	8.089	3
550			
575			
		Total =	**499**

Table 6. Black crappie mean relative weights (Wr) in Douglas Reservoir fall 2008.

Length Group	Mean Wr	Std. Error	N
125	107.061	10.422	3
150	108.842	2.121	6
175	103.645	2.505	10
200	99.512	1.769	7
225	98.344	2.073	18
250	97.921	1.887	17
275	97.577	1.377	26
300	94.429	1.818	16
325	89.488	5.407	3
350			
375			
400			
		Total =	**106**

Table 7. White crappie mean relative weights (Wr) in Douglas Reservoir fall 2008.

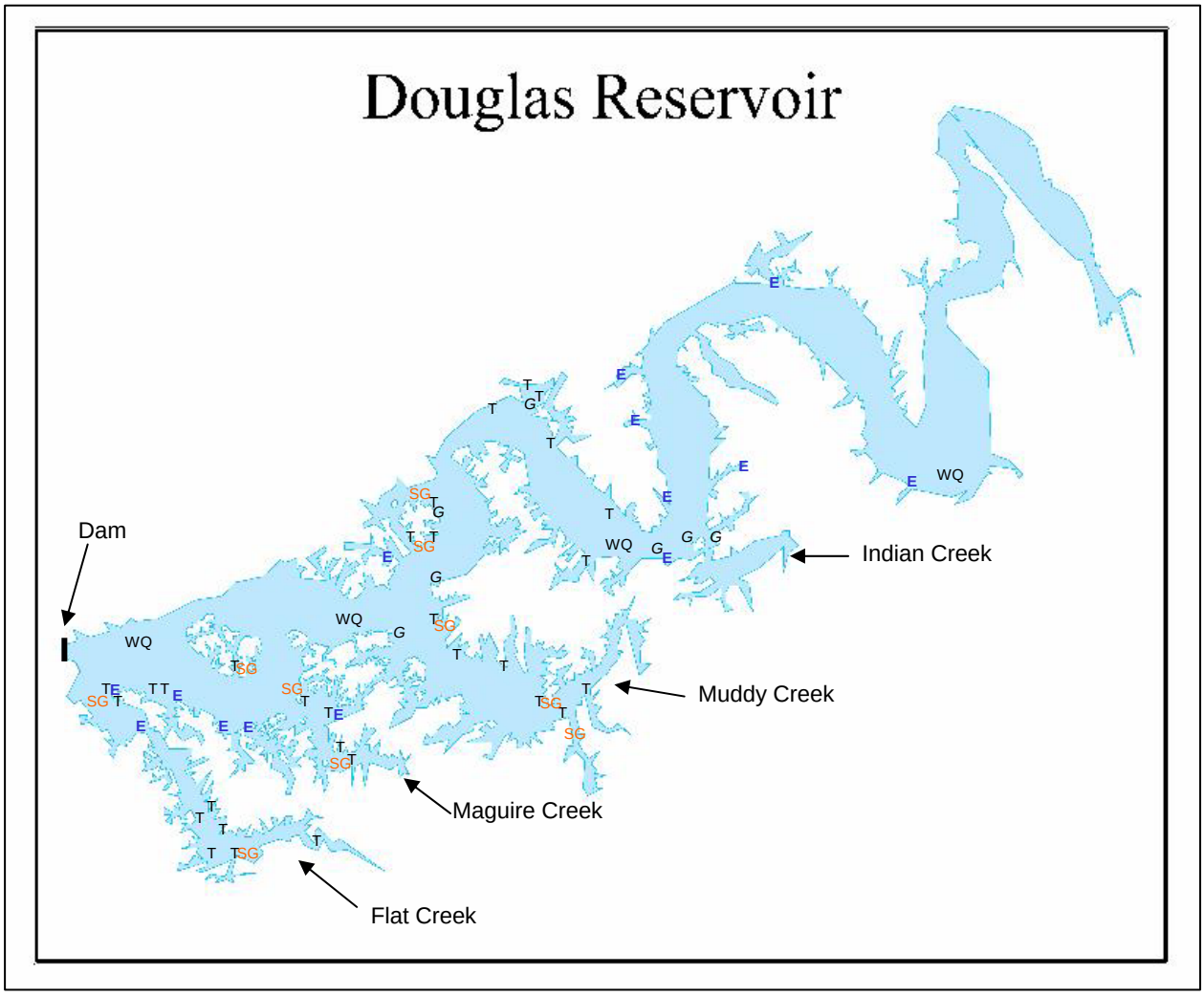
Length Group	Mean Wr	Std. Error	N
125			
150			
175			
200			
225	97.792		1
250			
275	92.431		1
300			
325			
350			
375	90.489		1
400			
		Total =	**3**

Table 8. Sauger mean relative weights in Douglas Reservoir December 2008.

Length Group	Mean Wr	Std. Error	N
150			
175			
200			
225			
250	89.450	1.931	14
275	95.464	2.092	9
300	108.691	7.457	3
325	100.977	0.654	3
350	96.407	1.417	12
375	93.178	2.641	9
400	98.494	3.103	2
425	104.057	6.507	2
450	100.290	2.414	7
475	77.166	19.082	2
500	96.324	6.490	3
		Total =	**66**

Figures

Figure 1. Douglas Reservoir with sites sampled in 2008.



E = Electrofishing
G = Sauger Gill Netting
SG = Shad Gill Netting
T = Trap Netting
WQ = Water Quality

Largemouth Bass

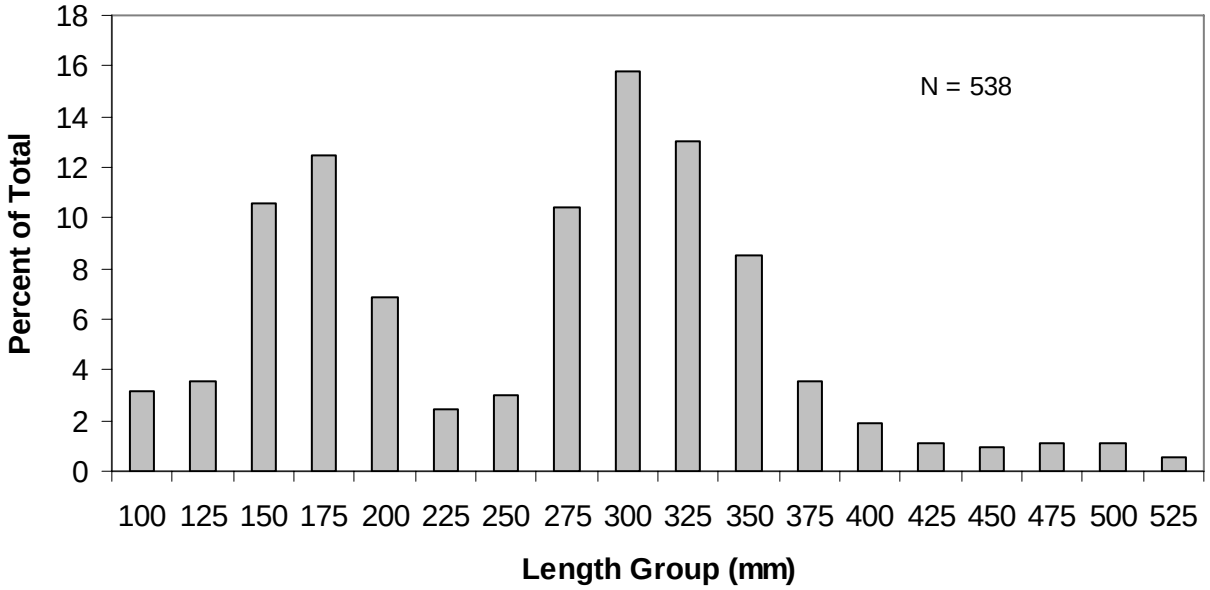


Figure 2. Largemouth bass length frequency in Douglas Reservoir, spring 2008.

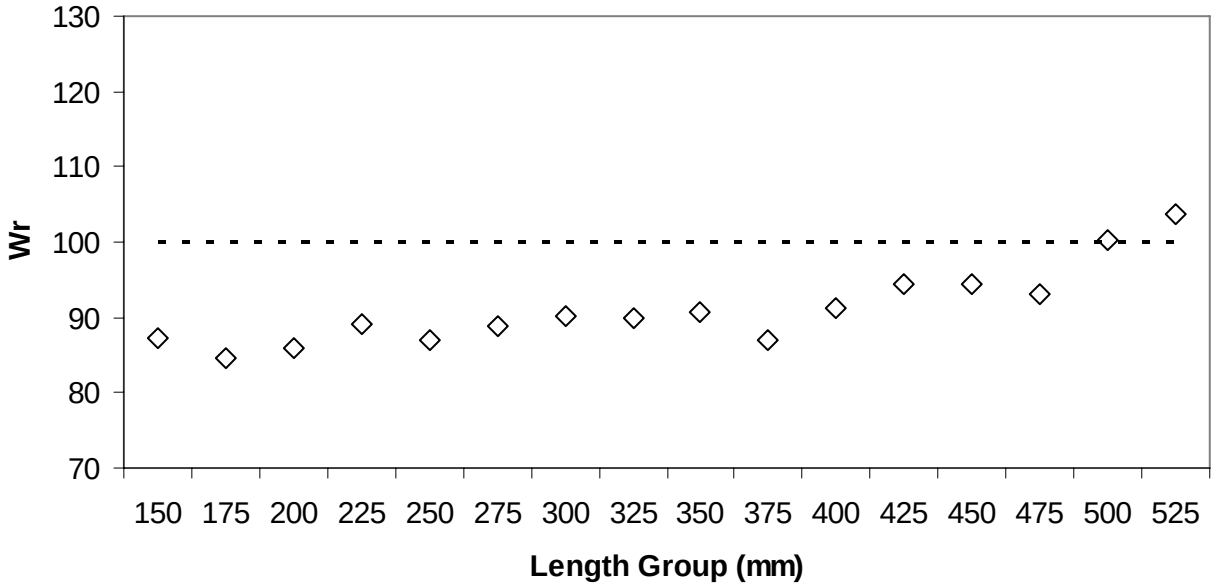


Figure 3. Largemouth bass mean relative weights (Wr) in Douglas Reservoir, spring 2008.

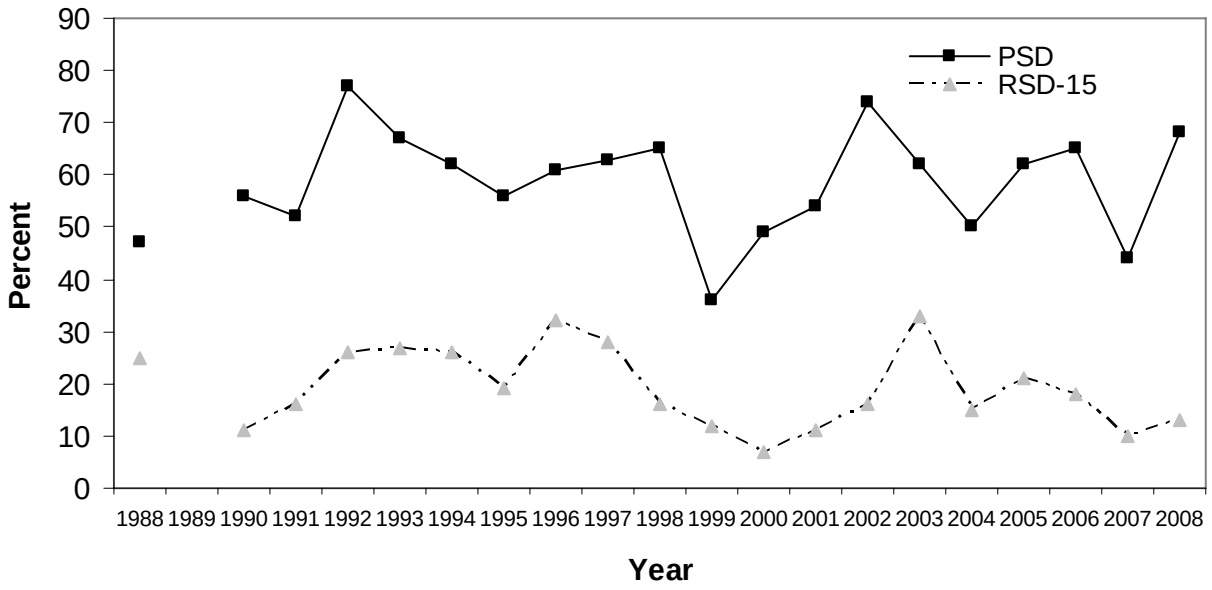


Figure 4. Largemouth bass traditional PSD and RSD-15 values in Douglas Reservoir 1988 – 2008.

Black Crappie

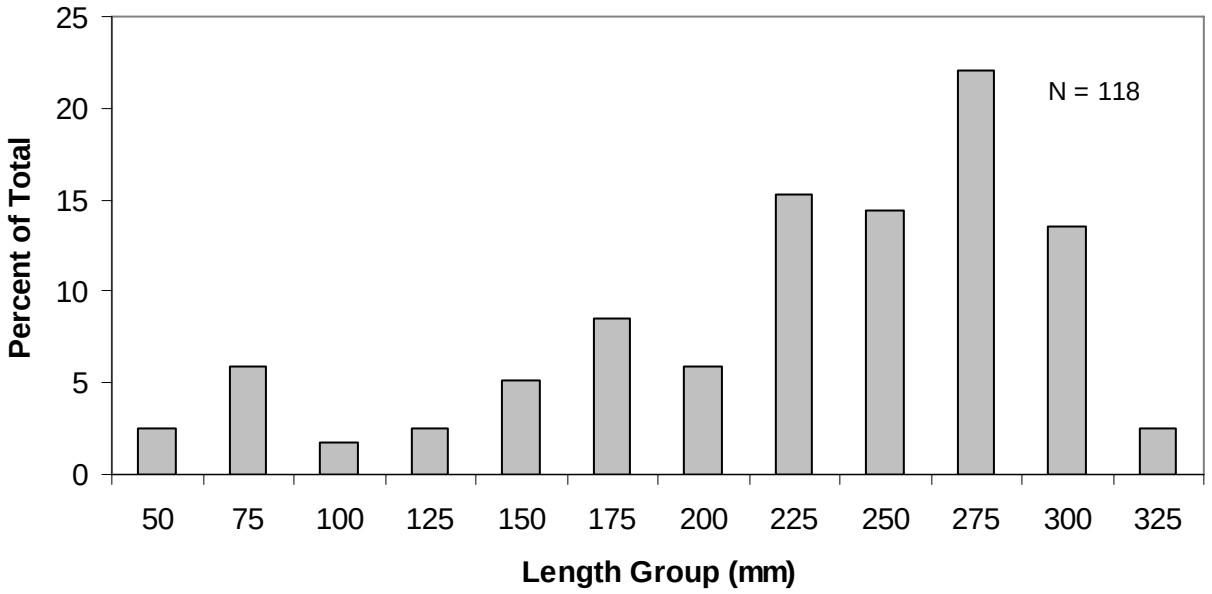


Figure 5. Black Crappie length frequency in Douglas Reservoir, fall 2008.

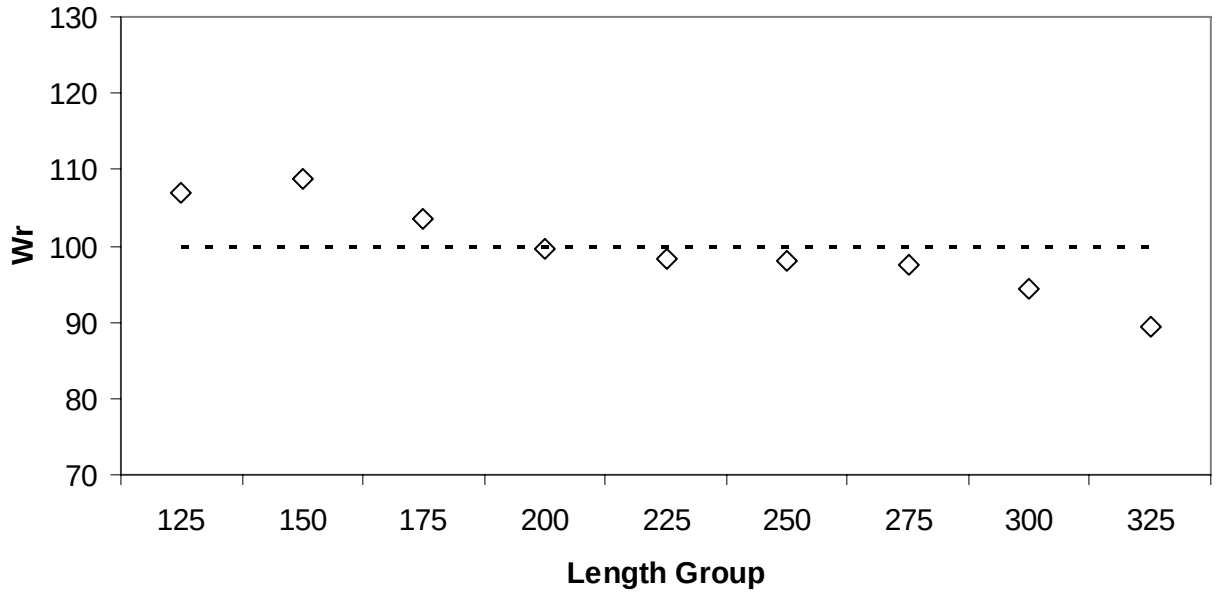


Figure 6. Black crappie mean relative weights (Wr) in Douglas Reservoir, fall 2008.

White Crappie

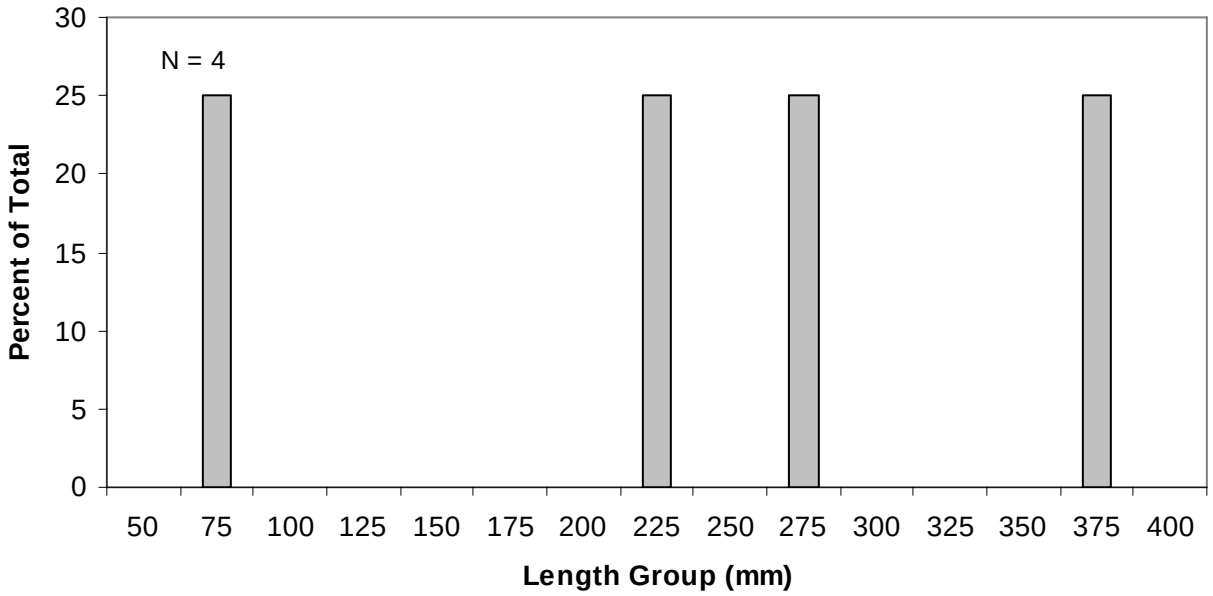


Figure 7. White Crappie length frequency in Douglas Reservoir, fall 2008.

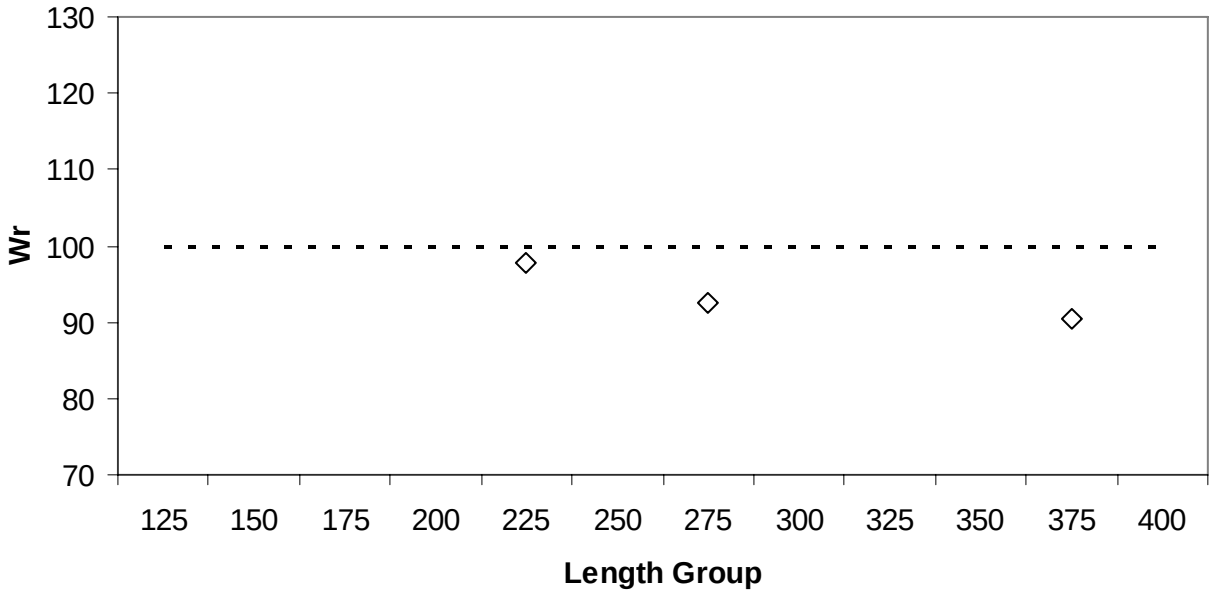


Figure 8. White crappie mean relative weights (Wr) in Douglas Reservoir, fall 2008.

Sauger

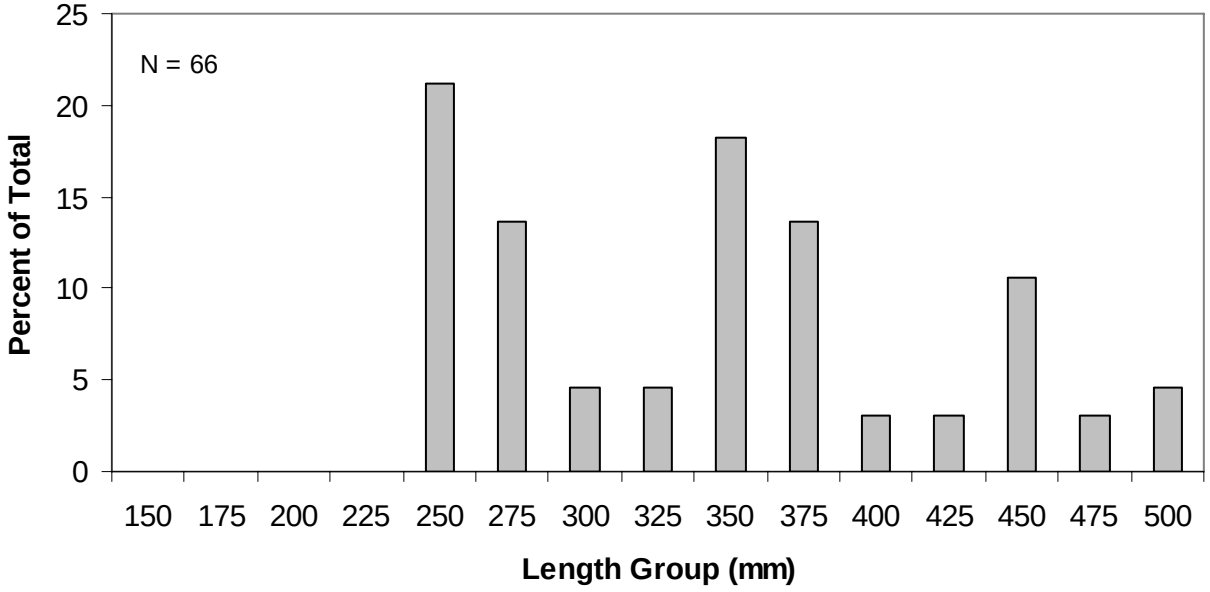


Figure 9. Sauger length frequency in Douglas Reservoir, winter 2008.

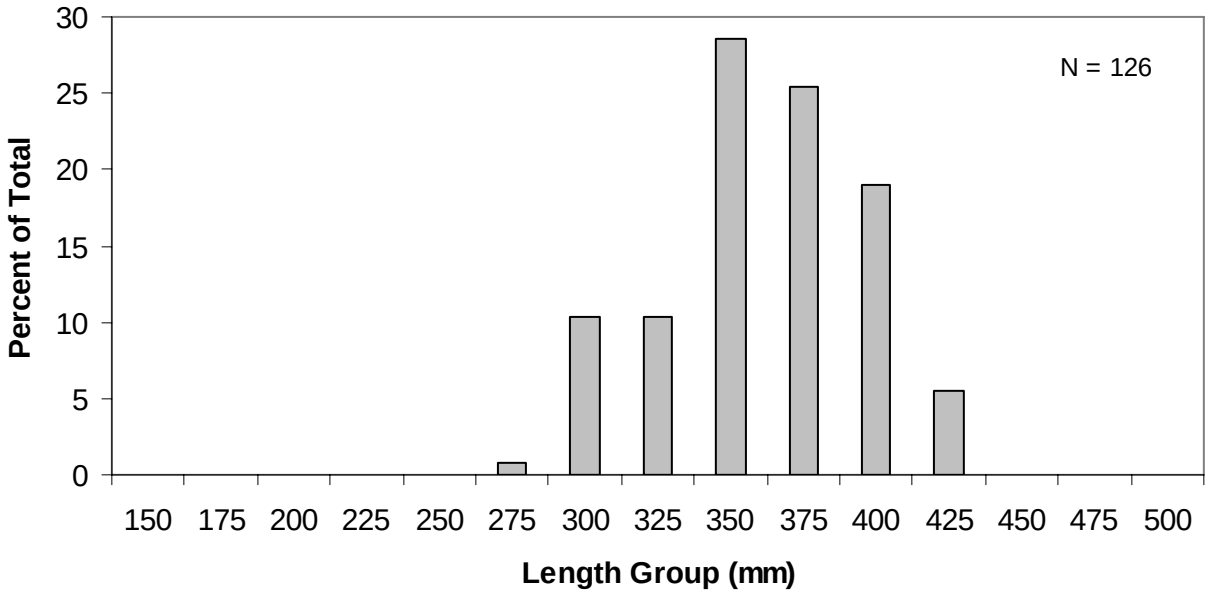


Figure 10. Sauger length frequency in Douglas Reservoir, spring 2008.

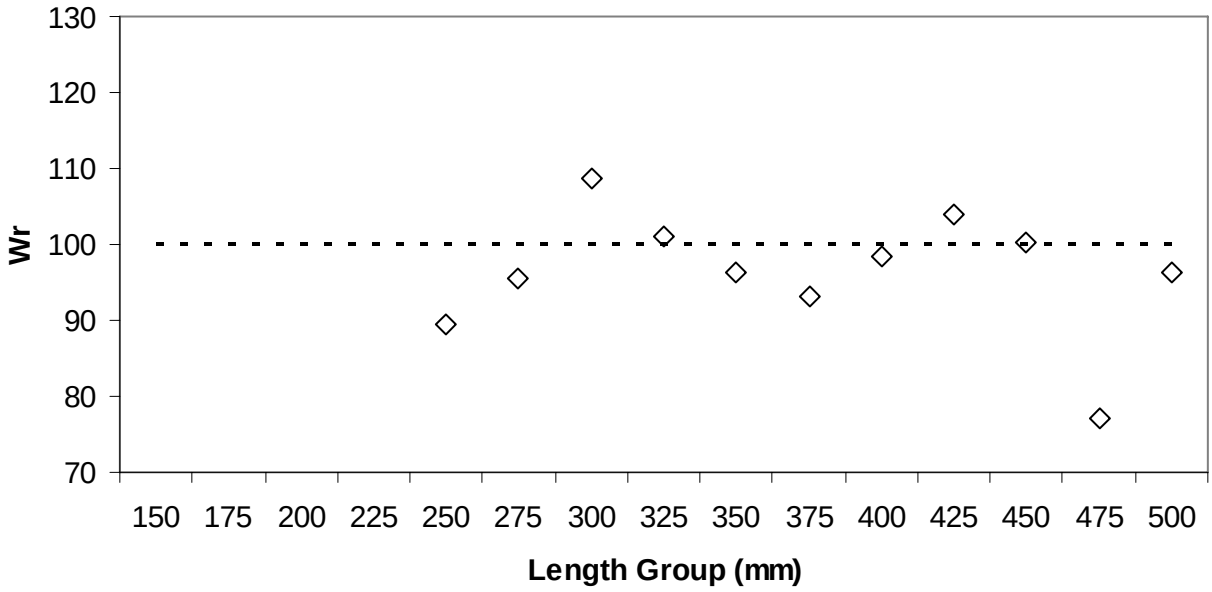


Figure 11. Sauger mean relative weights (Wr) in Douglas Reservoir, winter 2008.

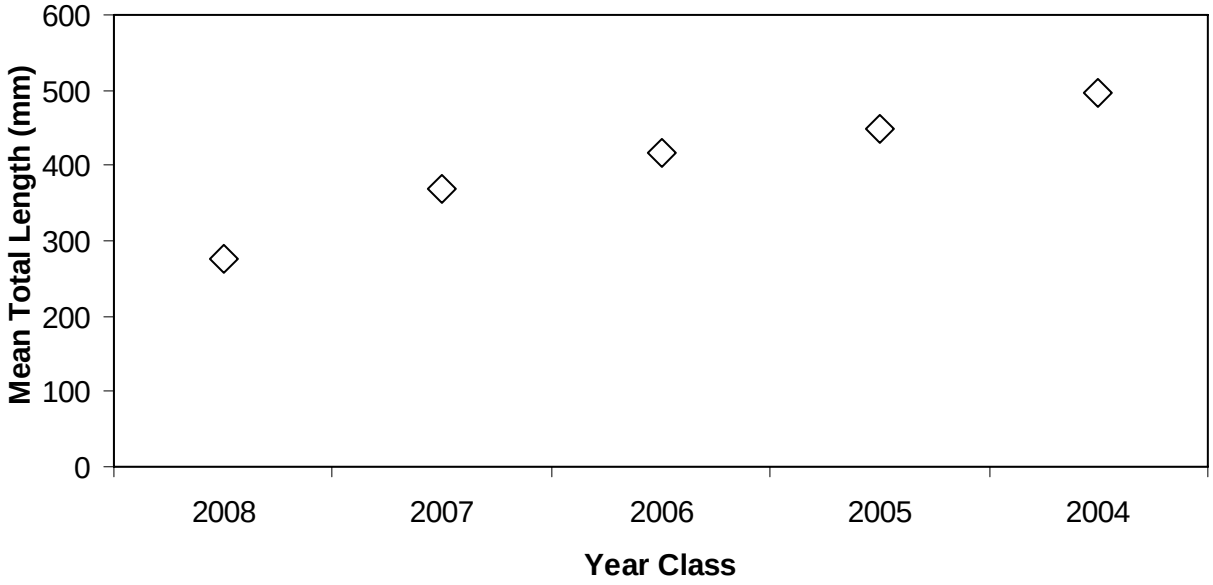


Figure 12. Sauger mean length at age in Douglas Reservoir, December 2008.

Appendix A

Water Quality

Table A1. Douglas Reservoir, water quality data at FB 34, July 3, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	25.6	198	8.3	FB34	2.2	0910
1	25.6	198	8.3			
2	25.5	198	8.4			
3	25.3	198	8.4			
4	25.2	198	8.4			
5	25.1	198	8.3			
6	25.0	198	8.3			
7	24.7	198	8.3			
8	23.0	199	7.1			
9	20.5	200	2.8			
10	19.8	199	2.3			
11	18.9	200	1.8			
12	18.6	201	1.6			
13	18.2	199	1.6			
14	17.3	198	1.7			
15	16.8	199	1.8			
16	16.5	197	1.9			
17	15.9	197	2.2			
18	15.4	197	2.4			
19	14.7	196	2.4			
20	14.2	195	2.2			
21	13.9	196	1.8			
22	13.6	195	1.5			
23	13.2	196	1.2			
24	12.9	196	1.0			
25	12.6	195	0.9			
26	12.4	196	0.8			
27	12.2	196	0.9			
28	12.0	196	0.7			
29	11.8	197	0.6			
30	11.7	198	0.5			

Table A2. Douglas Reservoir, water quality data at FB 40, July 3, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	26.0	198	7.9	FB40	2.1	0940
1	25.9	198	7.9			
2	25.8	198	8.0			
3	25.8	198	8.0			
4	25.8	198	8.0			
5	25.5	199	7.4			
6	25.3	199	6.5			
7	24.4	199	5.4			
8	22.7	199	3.2			
9	20.9	198	1.9			
10	19.8	198	0.8			
11	18.4	197	0.9			
12	18.1	196	0.9			
13	17.6	196	1.0			
14	17.0	196	1.3			
15	16.9	195	1.4			
16	16.6	196	1.5			
17	16.2	195	1.5			
18	16.0	195	1.5			
19	15.1	197	0.7			
20	15.0	196	0.4			
21	14.5	197	0.3			
22	13.9	197	0.2			
23	13.3	198	0.2			
24	12.9	199	0.2			
25	12.5	199	0.2			
26	12.3	199	0.2			
27	12.2	199	0.2			
28	12.1	199	0.2			
29	12.0	204	0.2			
30	Bottom					

Table A3. Douglas Reservoir, water quality data at FB 50, July 3, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	26.7	199	8.1	FB50	2.2	1030
1	26.6	200	8.3			
2	26.4	200	8.3			
3	26.2	201	7.4			
4	26.1	202	7.2			
5	25.9	203	6.7			
6	25.9	202	6.6			
7	25.5	202	5.8			
8	24.4	207	2.5			
9	22.7	205	0.8			
10	19.3	201	0.3			
11	18.4	201	0.3			
12	17.4	203	0.3			
13	16.5	203	0.3			
14	16.2	202	0.2			
15	15.9	202	0.2			
16	15.6	206	0.2			
17	15.6	208	0.2			
18	15.5	209	0.2			
19	Bottom					
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Table A4. Douglas Reservoir, water quality data at FB 60, July 3, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	27.3	207	9.5	FB60	1.2	1105
1	27.1	207	10.0			
2	26.9	207	8.9			
3	26.7	207	6.9			
4	26.5	208	6.4			
5	26.4	208	6.1			
6	26.2	210	6.0			
7	25.6	217	5.0			
8	23.9	223	0.6			
9	20.8	213	0.4			
10	19.8	221	0.4			
11	19.1	223	0.3			
12	18.4	229	0.3			
13	18.4	230	0.3			
14	Bottom					
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Table A5. Douglas Reservoir, water quality data at FB 34, August 1, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	28.5	180	8.0	FB34	2	1255
1	27.9	180	8.2			
2	27.7	180	8.2			
3	27.6	180	8.2			
4	27.6	180	8.1			
5	26.9	181	6.4			
6	26.0	183	3.9			
7	25.4	181	3.9			
8	24.7	181	3.1			
9	23.6	181	1.8			
10	21.5	182	1.0			
11	20.6	180	0.9			
12	19.2	179	1.1			
13	18.6	179	0.6			
14	18.1	178	0.5			
15	17.6	178	0.5			
16	17.1	178	0.5			
17	16.8	178	0.4			
18	16.5	178	0.3			
19	16.1	178	0.3			
20	15.7	178	0.3			
21	15.4	178	0.2			
22	15.0	179	0.2			
23	14.8	180	0.2			
24	14.3	180	0.2			
25	14.0	181	0.2			
26	13.6	181	0.2			
27	13.4	182	0.1			
28	13.1	184	0.1			
29	12.9	184	0.1			
30	12.6	186	0.1			

Table A6. Douglas Reservoir, water quality data at FB 40, August 1, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	28.5	182	7.6	FB40	2.5	1155
1	28.2	182	7.7			
2	28.1	182	7.7			
3	28.0	182	7.7			
4	28.0	181	7.6			
5	27.8	183	7.0			
6	27.6	185	5.9			
7	26.8	191	2.6			
8	24.8	186	0.6			
9	23.2	185	0.5			
10	21.7	184	0.3			
11	20.3	184	0.3			
12	19.4	180	0.2			
13	18.7	180	0.2			
14	18.1	179	0.2			
15	17.5	180	0.2			
16	17.2	181	0.2			
17	16.8	182	0.1			
18	16.5	183	0.1			
19	16.0	184	0.1			
20	15.8	185	0.1			
21	15.4	185	0.1			
22	15.1	186	0.1			
23	14.9	188	0.1			
24	14.4	192	0.1			
25	14.2	193	0.1			
26	13.5	195	0.1			
27	13.2	197	0.1			
28	12.9	206	0.1			
29	Bottom					
30						

Table A7. Douglas Reservoir, water quality data at FB 50, August 1, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	28.7	188	7.9	FB50	2.0	1115
1	28.6	188	7.9			
2	28.4	188	7.9			
3	28.3	188	7.9			
4	28.2	188	7.4			
5	27.9	192	5.8			
6	27.2	200	2.4			
7	26.8	206	0.9			
8	26.1	200	0.3			
9	25.2	204	0.3			
10	22.5	191	0.3			
11	20.3	192	0.3			
12	18.9	191	0.2			
13	18.6	193	0.2			
14	18.0	205	0.1			
15	17.3	209	0.1			
16	17.0	209	0.1			
17	Bottom					
18						
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Table A8. Douglas Reservoir, water quality data at FB 60, August 1, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	29.2	200	7.9	FB60	1.3	1046
1	28.6	200	8.0			
2	28.5	200	8.0			
3	28.5	198	7.8			
4	28.4	198	7.7			
5	28.4	199	7.6			
6	28.3	202	6.8			
7	27.9	207	4.9			
8	27.2	215	2.3			
9	25.1	249	0.5			
10	22.1	253	0.4			
11	20.4	257	0.4			
12	Bottom					
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Table A9. Douglas Reservoir, water quality data at FB 34, September 4, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	27.4	184	9.6	FB34	3.3	1015
1	27.4	185	9.7			
2	27.4	185	9.8			
3	27.4	185	9.8			
4	27.3	185	9.7			
5	26.7	186	8.9			
6	26.1	187	7.4			
7	25.7	188	6.3			
8	25.5	188	6.1			
9	25.4	189	4.6			
10	25.1	192	3.5			
11	24.8	194	1.9			
12	24.4	190	0.8			
13	24.2	188	0.6			
14	23.7	184	0.5			
15	22.5	178	0.6			
16	21.7	178	0.9			
17	20.8	178	0.9			
18	20.2	180	0.7			
19	19.6	183	0.5			
20	19.0	181	4.2			
21	18.6	182	1.3			
22	18.2	182	1.1			
23	17.8	189	0.7			
24	17.5	192	0.3			
25	17.2	192	0.2			
26	16.9	192	0.1			
27	16.3	195	0.1			
28	Bottom					
29						
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Table A10. Douglas Reservoir, water quality data at FB 40, September 4, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	27.1	191	10.0	FB40	2.4	0930
1	27.0	191	10.1			
2	27.1	191	10.1			
3	27.1	191	10.1			
4	27.0	190	10.1			
5	26.7	188	10.0			
6	26.3	185	8.5			
7	26.1	185	7.6			
8	25.9	186	7.3			
9	25.7	189	6.1			
10	25.5	192	4.6			
11	25.1	203	2.4			
12	24.8	208	1.3			
13	24.3	221	0.8			
14	23.9	223	0.4			
15	23.5	222	0.3			
16	22.2	207	0.1			
17	20.6	197	0.1			
18	19.8	201	0.1			
19	19.3	202	0.04			
20	18.9	202	0.03			
21	18.4	202	0.03			
22	17.5	201	0.03			
23	17.1	201	0.02			
24	16.7	206	0.01			
25	Bottom					
26						
27						
28						
29						
30						

Table A11. Douglas Reservoir, water quality data at FB 50, September 4, 2008.

Depth (m)	Temp °C	Cond	DO	Site	Secchi (m)	Time
0	26.8	210	10.0	FB50	1.4	0900
1	26.8	210	10.2			
2	26.7	209	10.0			
3	26.5	208	8.1			
4	26.1	206	6.4			
5	25.8	205	5.0			
6	25.5	211	3.6			
7	25.2	218	2.0			
8	24.8	216	1.0			
9	24.3	211	0.9			
10	23.1	176	0.8			
11	23.0	175	0.4			
12	22.7	174	0.3			
13	Bottom					
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No data taken for FB 60 in September, 2008.

Figure A1. Douglas Reservoir water quality at FBRM 34, July 2008.

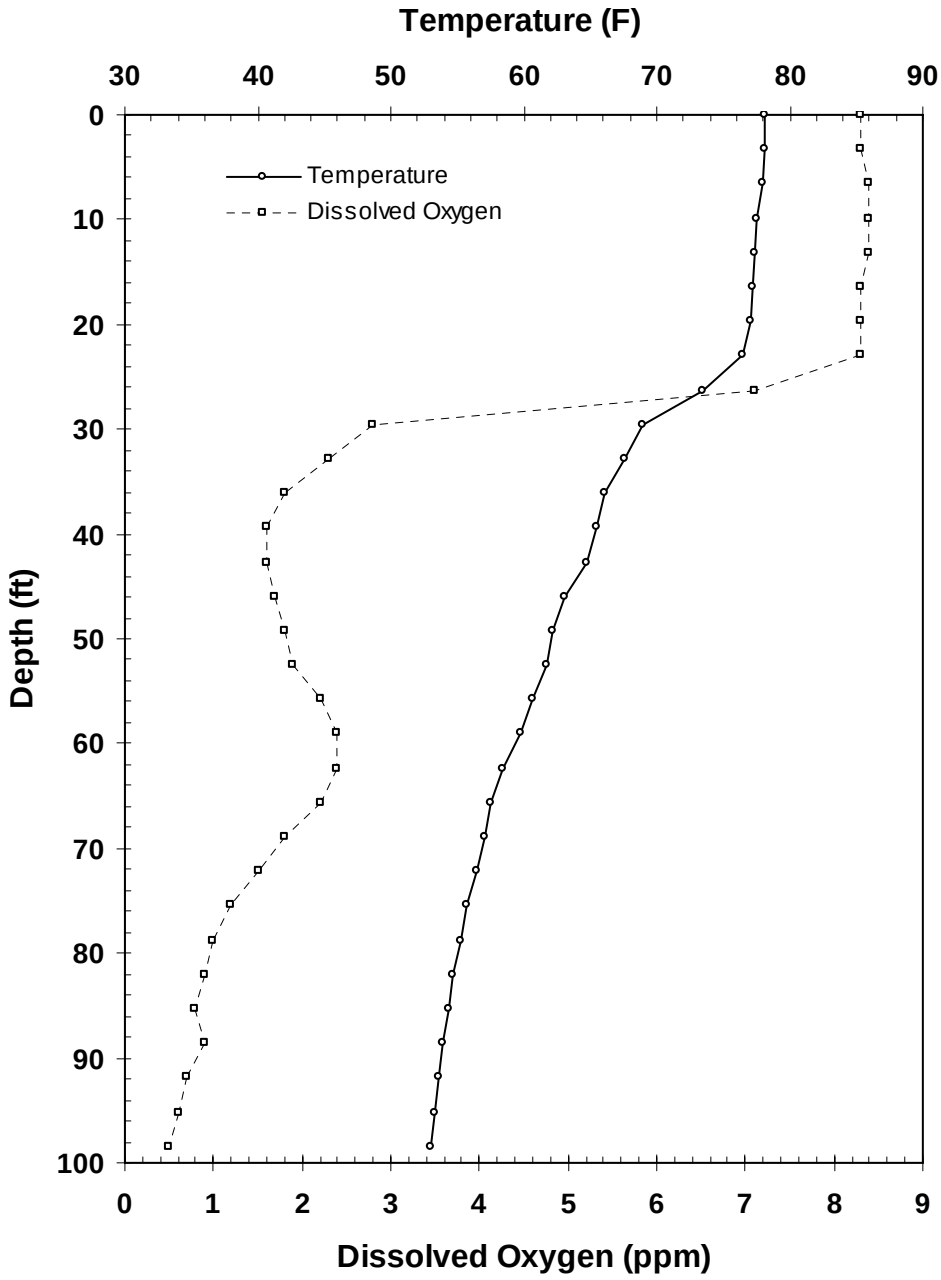


Figure A2. Douglas Reservoir water quality at FBRM 40, July 2008.

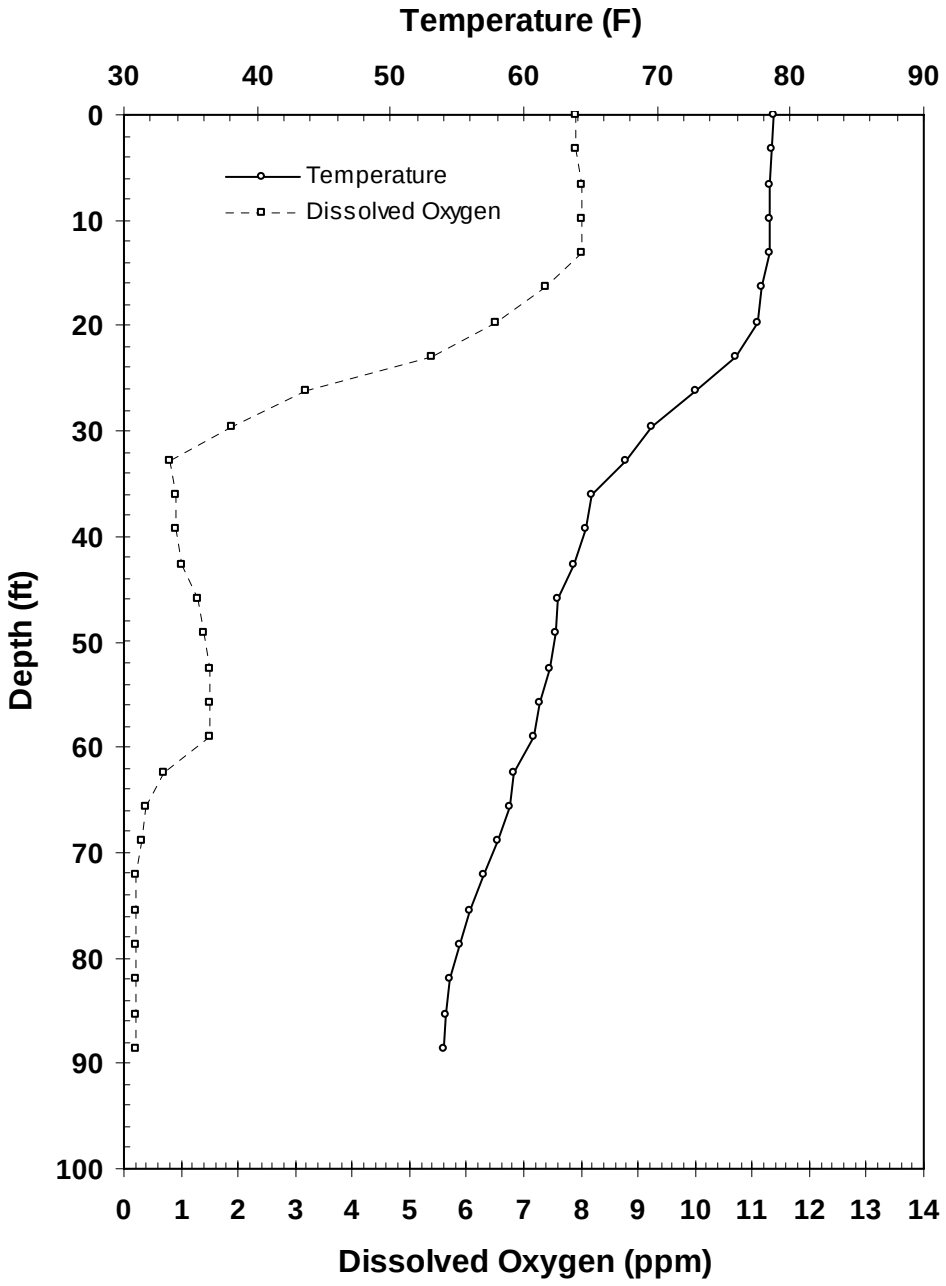


Figure A3. Douglas Reservoir water quality at FBRM 50, July 2008.

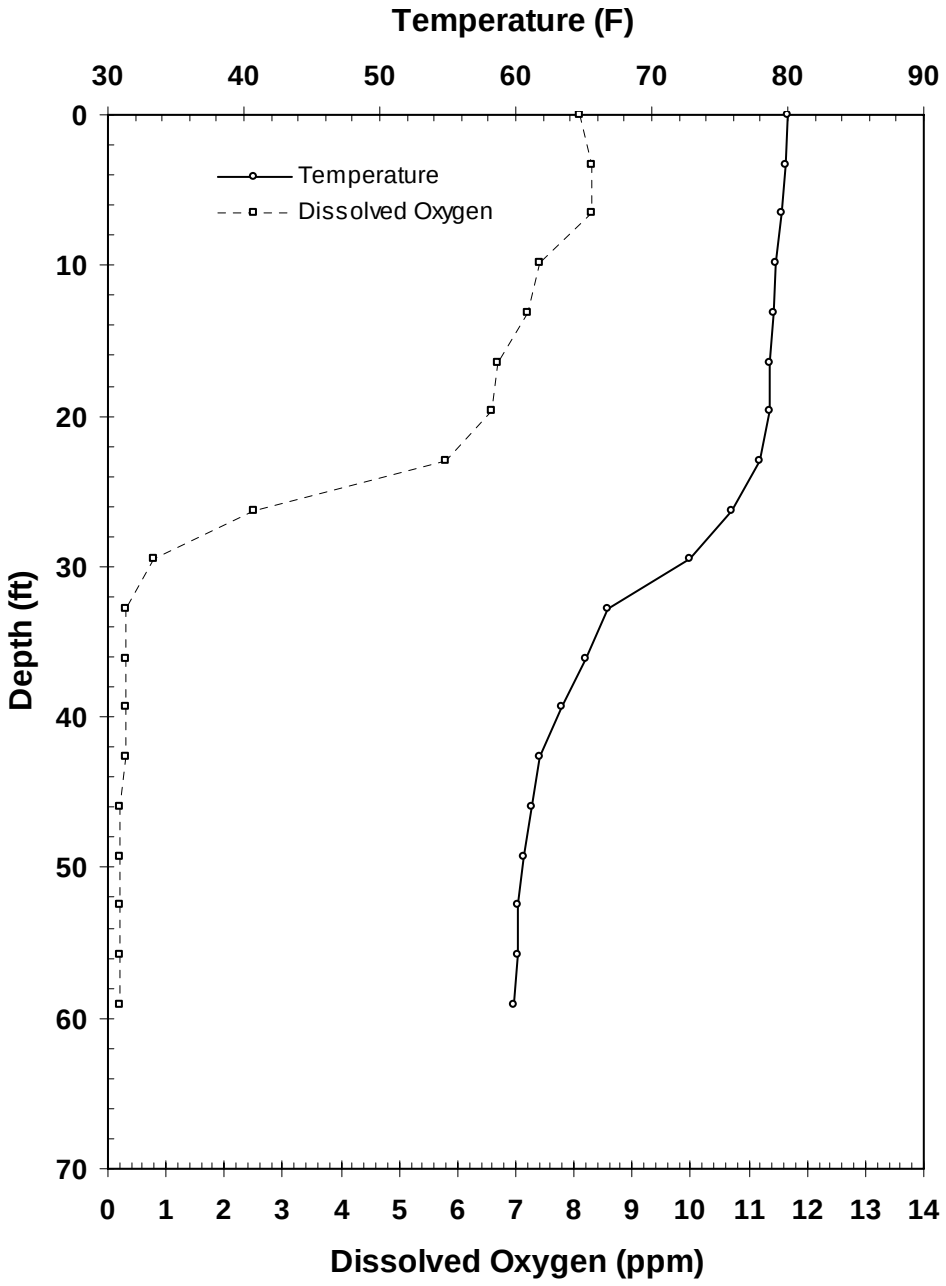


Figure A4. Douglas Reservoir water quality at FBRM 60, July 2008.

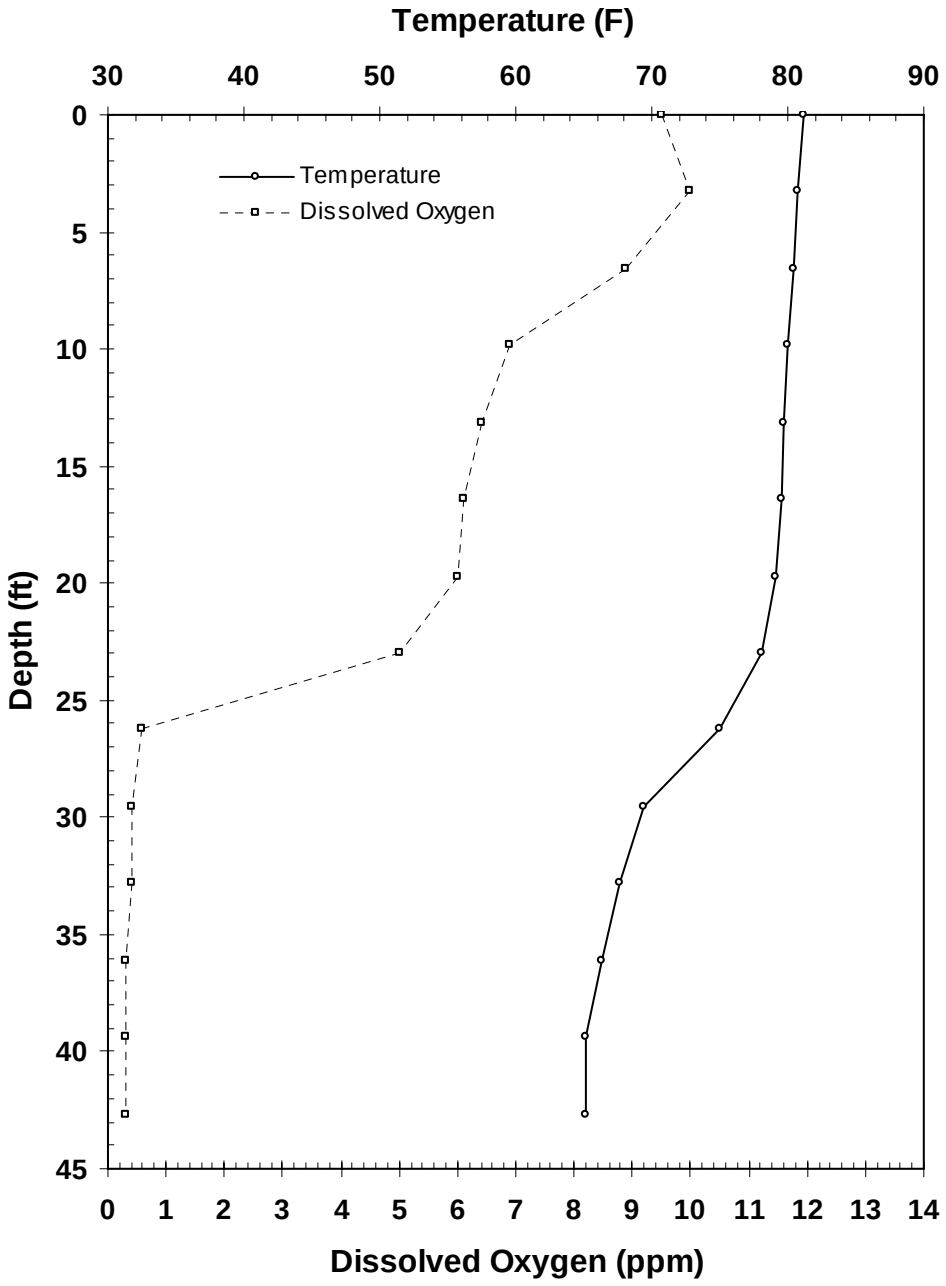


Figure A5. Douglas Reservoir water quality at FBRM 34, August 2008.

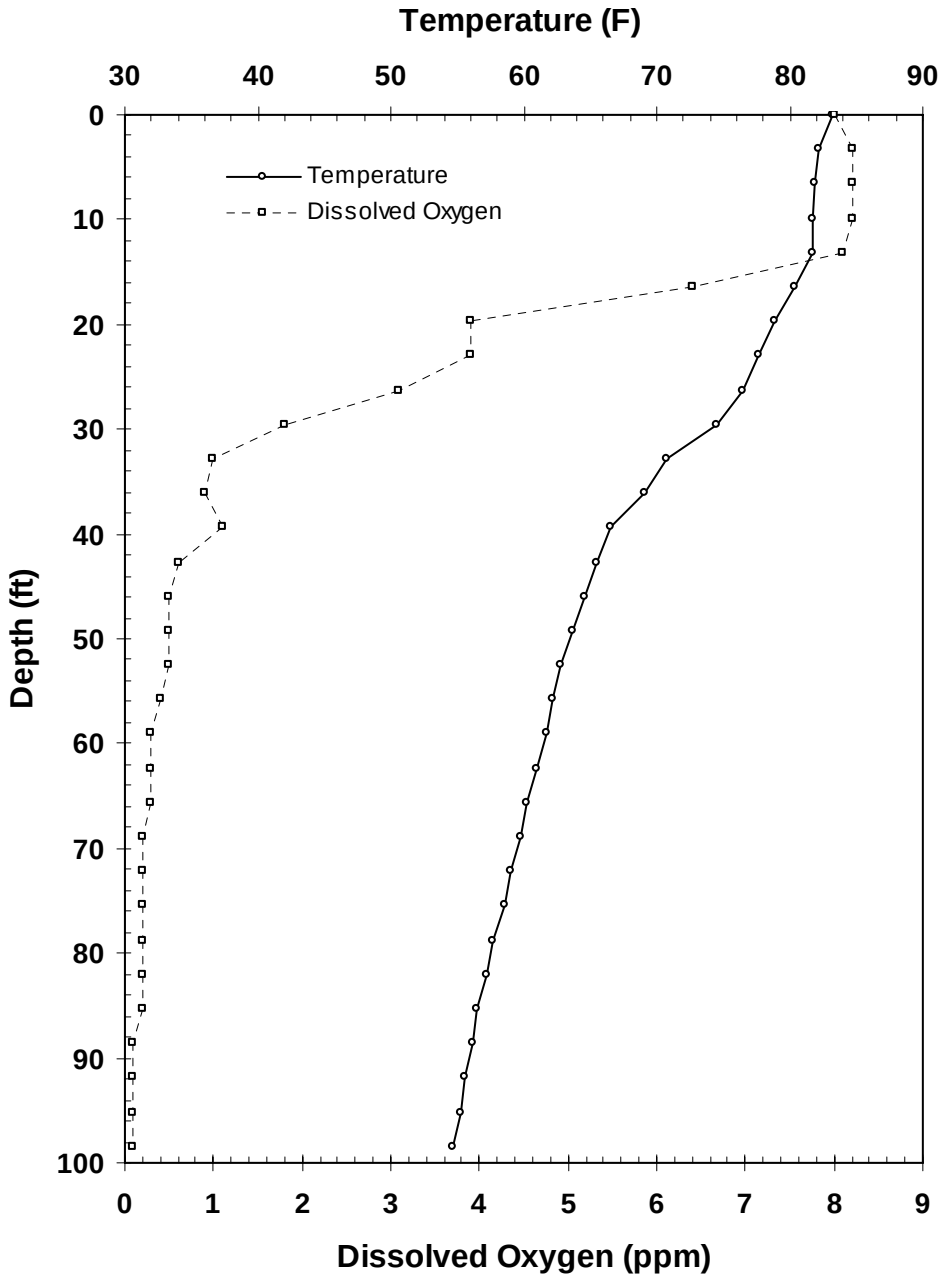


Figure A6. Douglas Reservoir water quality at FBRM 40, August 2008.

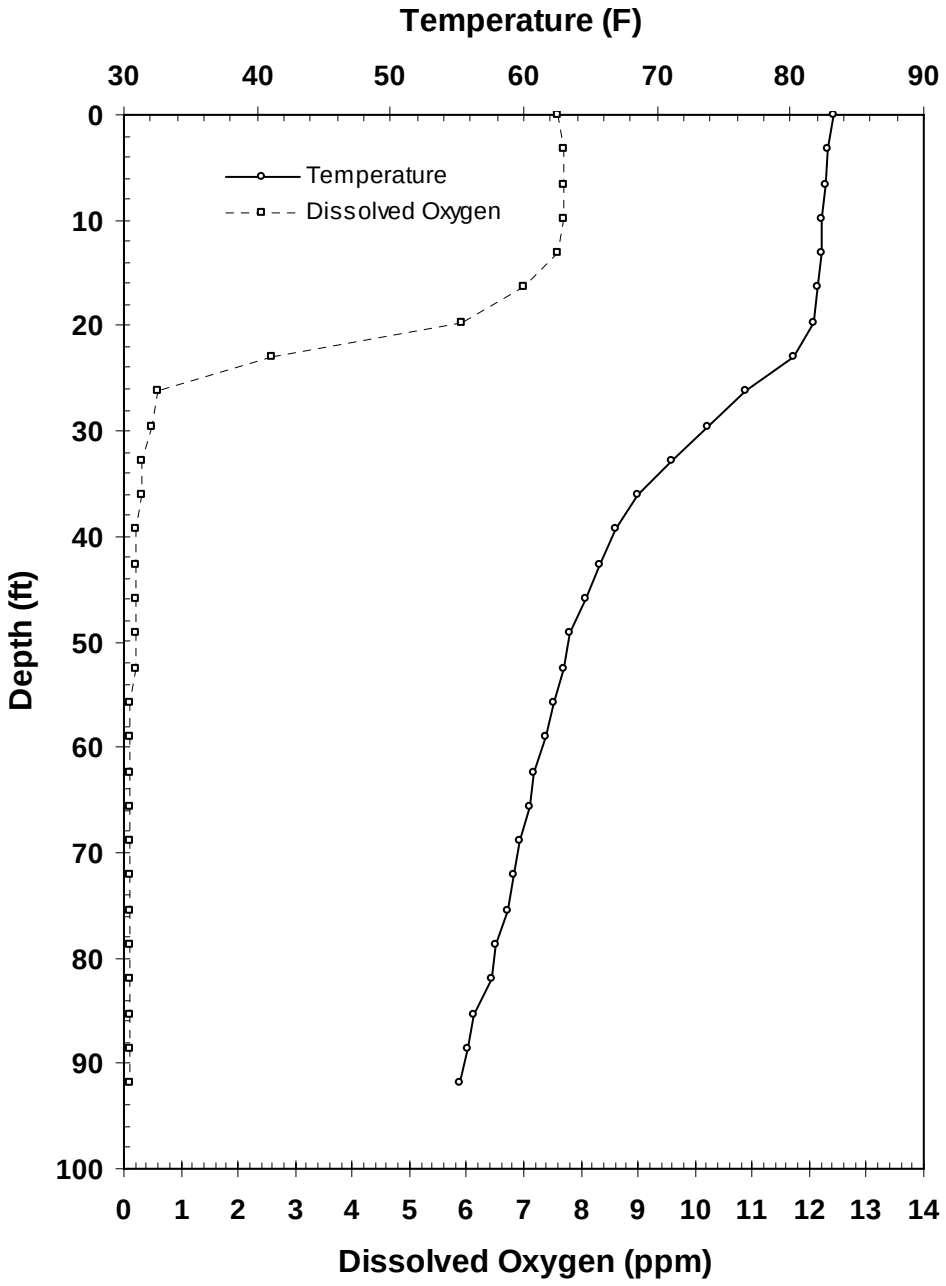


Figure A7. Douglas Reservoir water quality at FBRM 50, August 2008.

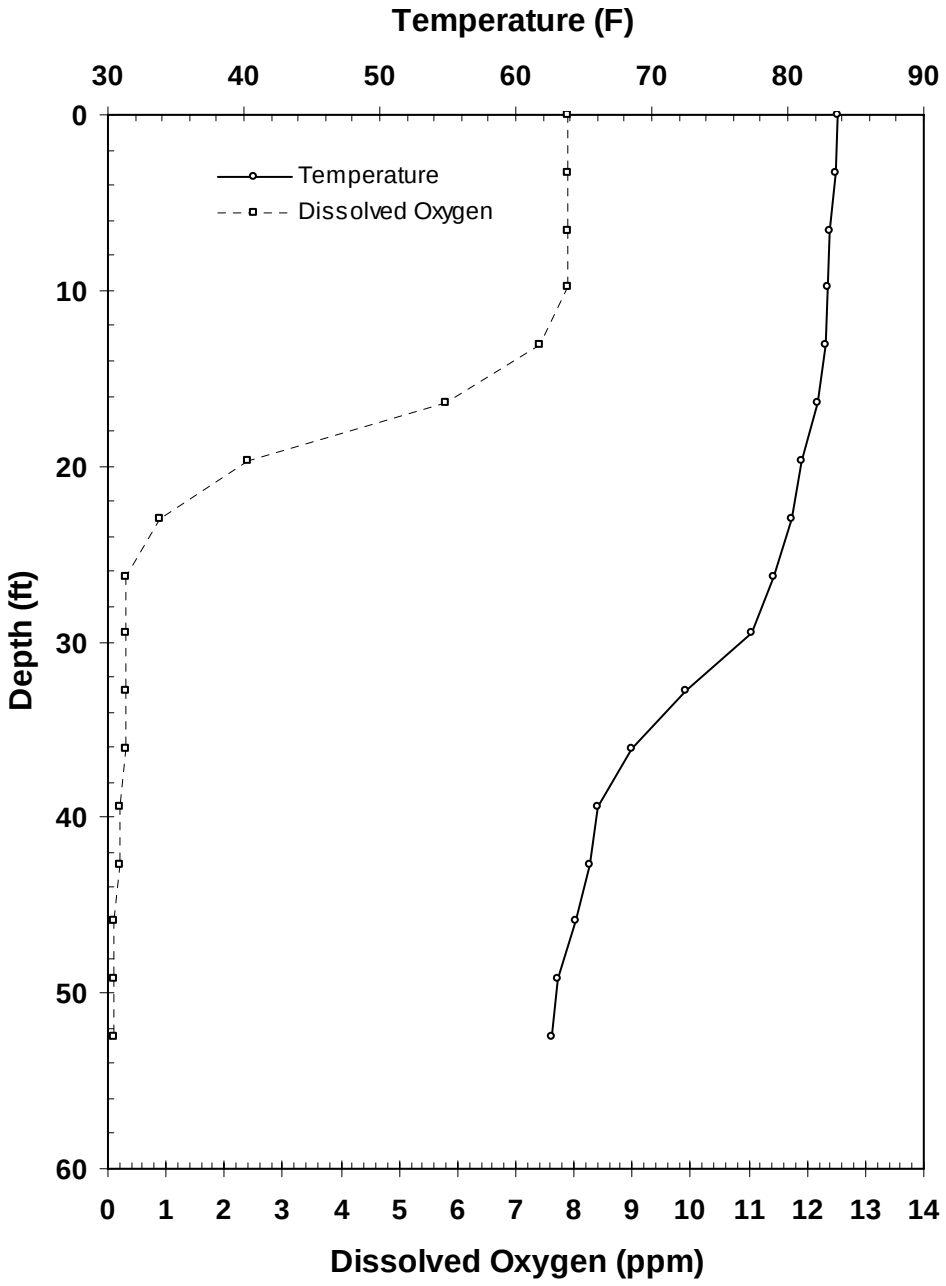


Figure A8. Douglas Reservoir water quality at FBRM 60, August 2008.

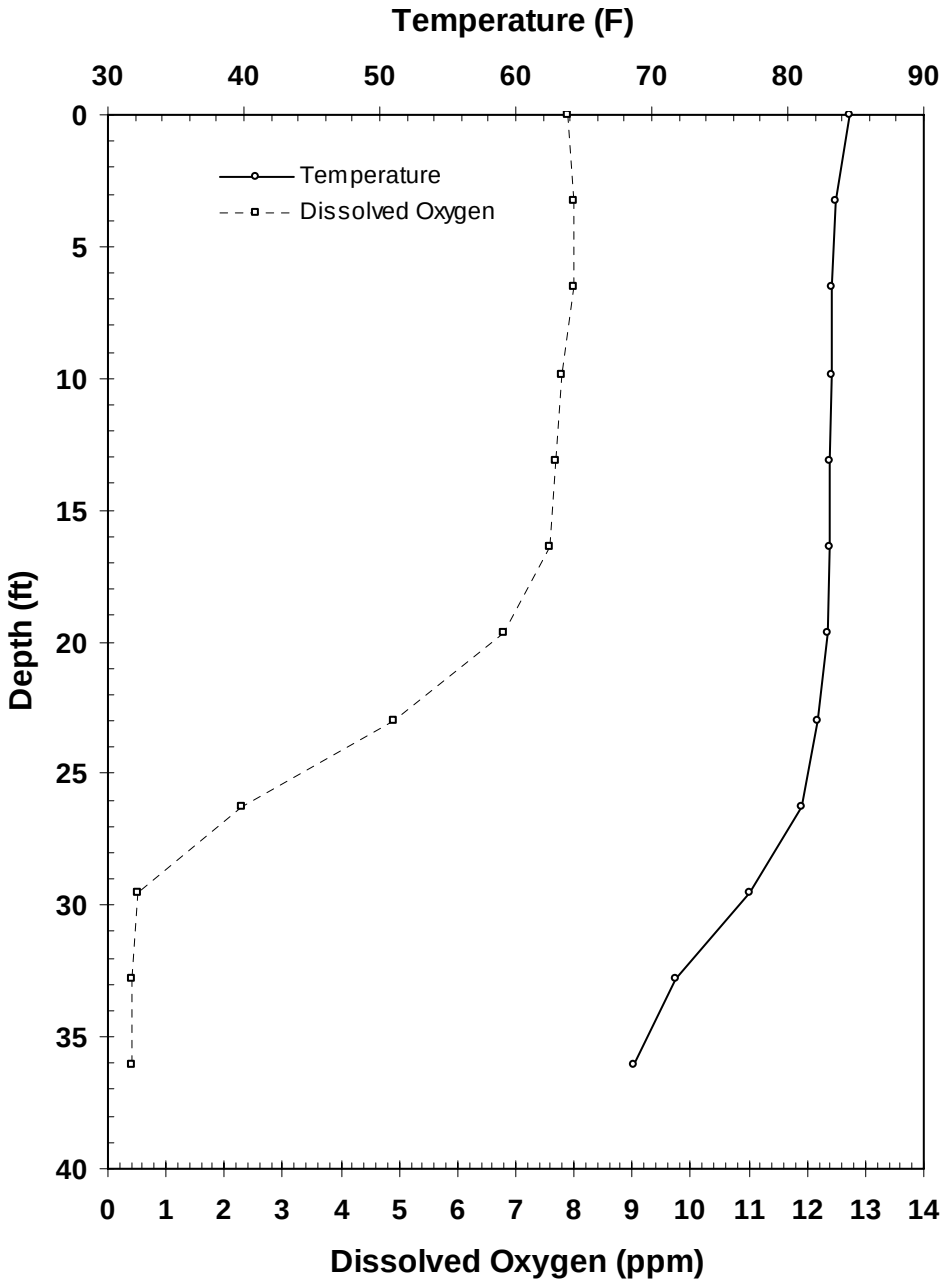


Figure A9. Douglas Reservoir water quality at FBRM 34, September 2008.

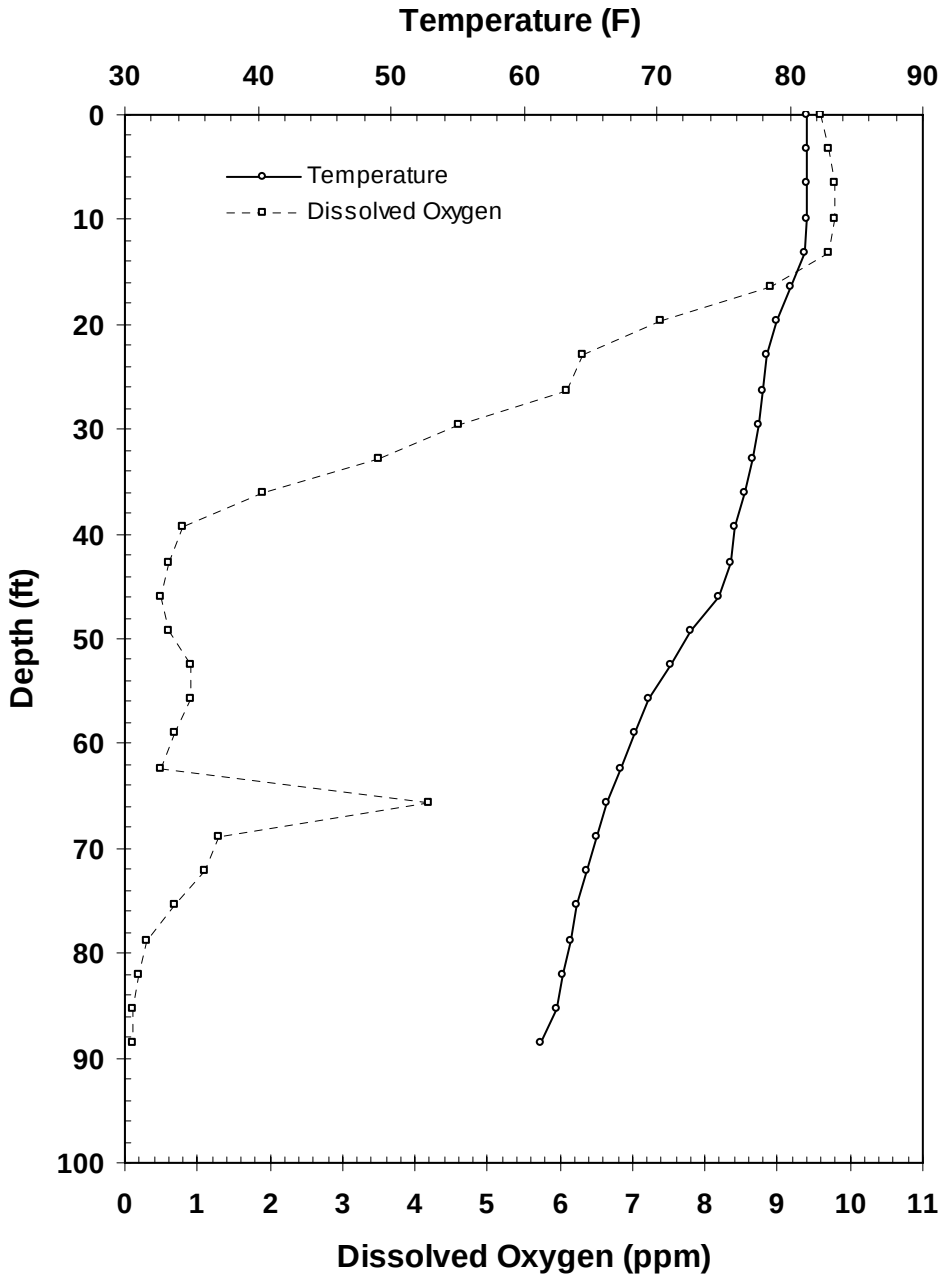


Figure A10. Douglas Reservoir water quality at FBRM 40, September 2008.

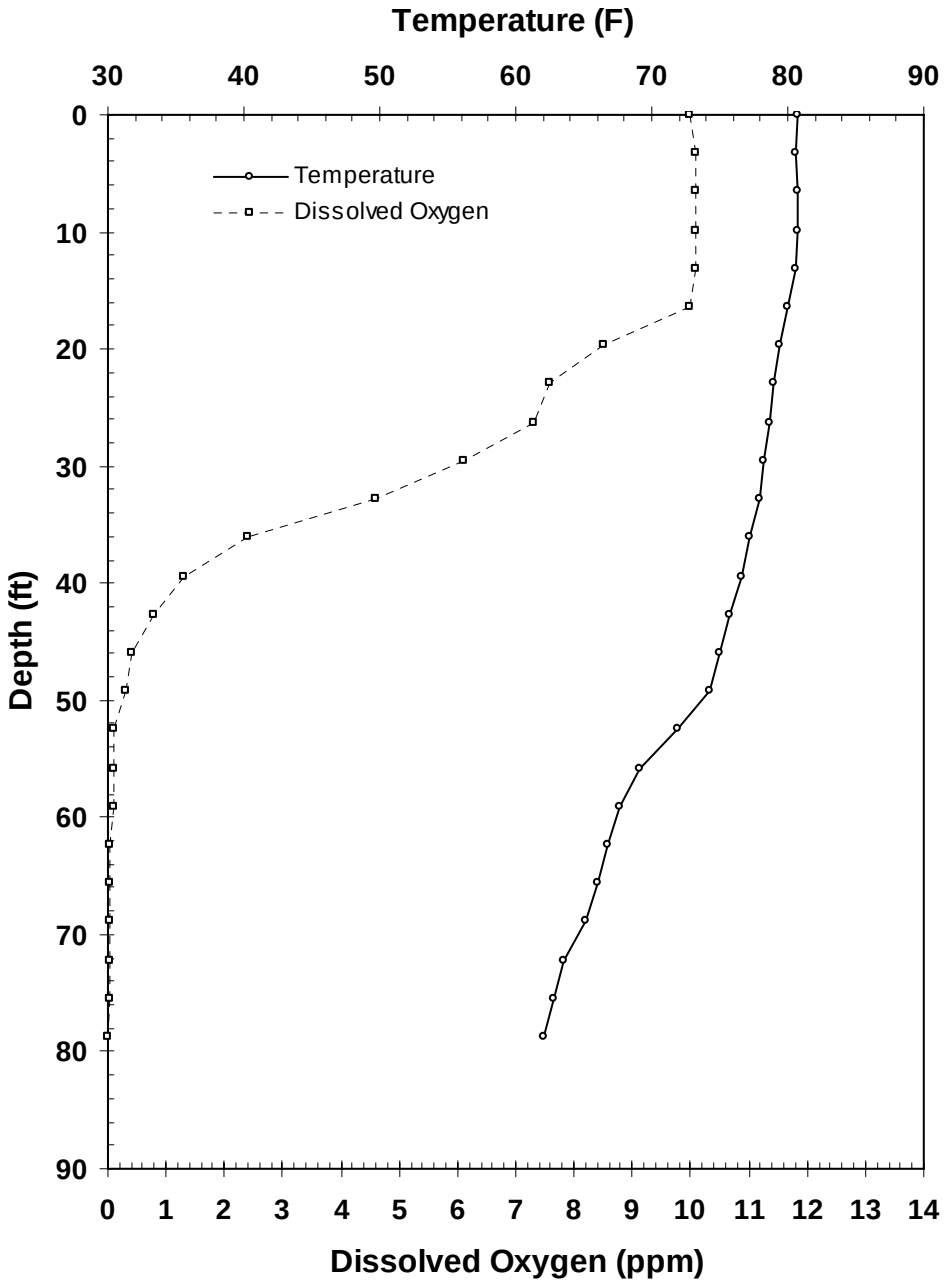
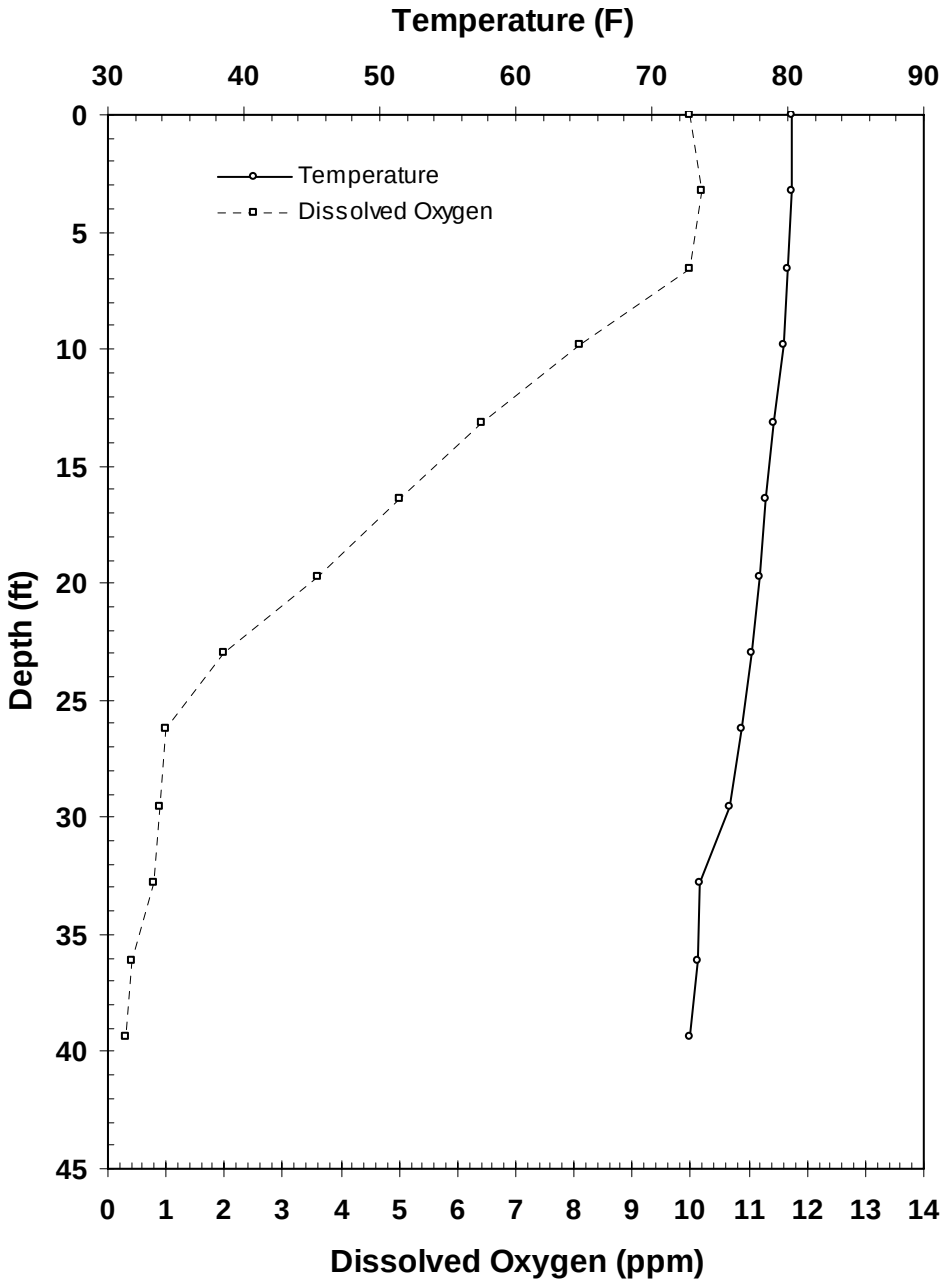


Figure A11. Douglas Reservoir water quality at FBRM 50, September 2008.



Appendix B

Elevation Data

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

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
954.25	January	1	956.63	February	24	981.54	April	18
954.19	January	2	956.53	February	25	981.78	April	19
954.06	January	3	956.65	February	26	982.01	April	20
954.42	January	4	956.53	February	27	982.25	April	21
954.65	January	5	956.62	February	28	982.49	April	22
954.81	January	6	956.60	February	29	982.71	April	23
954.89	January	7	956.87	March	1	982.89	April	24
955.01	January	8	957.30	March	2	983.09	April	25
955.16	January	9	957.80	March	3	983.25	April	26
955.43	January	10	958.51	March	4	983.46	April	27
955.78	January	11	961.10	March	5	983.62	April	28
956.37	January	12	963.37	March	6	983.89	April	29
956.84	January	13	964.87	March	7	984.21	April	30
956.88	January	14	965.68	March	8	984.46	May	1
956.92	January	15	966.46	March	9	984.63	May	2
956.86	January	16	966.95	March	10	984.83	May	3
956.74	January	17	967.36	March	11	984.95	May	4
956.52	January	18	967.58	March	12	985.02	May	5
956.41	January	19	967.69	March	13	985.06	May	6
956.37	January	20	967.75	March	14	985.10	May	7
956.10	January	21	967.89	March	15	985.20	May	8
955.85	January	22	968.33	March	16	985.27	May	9
955.61	January	23	968.71	March	17	985.38	May	10
955.30	January	24	969.00	March	18	985.57	May	11
955.09	January	25	969.35	March	19	985.71	May	12
955.15	January	26	969.89	March	20	985.89	May	13
955.19	January	27	970.60	March	21	986.08	May	14
955.11	January	28	971.22	March	22	986.23	May	15
955.02	January	29	971.68	March	23	986.40	May	16
954.95	January	30	971.91	March	24	986.50	May	17
954.91	January	31	971.99	March	25	986.66	May	18
955.19	February	1	972.35	March	26	986.77	May	19
956.01	February	2	972.70	March	27	986.91	May	20
956.76	February	3	973.06	March	28	986.99	May	21

Table B1. Continued.

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
988.32	June	11	982.37	August	4	967.60	September	27
988.34	June	12	981.98	August	5	967.46	September	28
988.32	June	13	981.49	August	6	967.00	September	29
988.33	June	14	980.95	August	7	966.50	September	30
988.29	June	15	980.39	August	8	965.85	October	1
988.26	June	16	979.91	August	9	965.26	October	2
988.22	June	17	979.63	August	10	964.83	October	3
988.14	June	18	979.08	August	11	964.73	October	4
988.06	June	19	978.47	August	12	964.43	October	5
987.97	June	20	977.74	August	13	963.94	October	6
987.90	June	21	976.96	August	14	963.46	October	7
987.86	June	22	976.05	August	15	963.06	October	8
987.73	June	23	975.36	August	16	962.59	October	9
987.62	June	24	974.76	August	17	962.23	October	10
987.54	June	25	974.03	August	18	962.20	October	11
987.39	June	26	973.38	August	19	962.15	October	12
987.29	June	27	972.70	August	20	961.82	October	13
987.11	June	28	972.05	August	21	961.59	October	14
987.08	June	29	971.40	August	22	961.36	October	15
986.72	June	30	970.97	August	23	961.06	October	16
986.56	July	1	970.57	August	24	960.87	October	17
986.43	July	2	969.96	August	25	960.73	October	18
986.23	July	3	969.43	August	26	960.67	October	19
986.05	July	4	969.73	August	27	960.40	October	20
985.96	July	5	970.76	August	28	960.19	October	21
985.83	July	6	970.96	August	29	959.98	October	22
985.69	July	7	971.09	August	30	959.72	October	23
985.58	July	8	971.15	August	31	959.52	October	24
985.39	July	9	970.32	September	1	959.38	October	25
985.39	July	10	969.99	September	2	959.38	October	26
985.38	July	11	969.86	September	3	959.43	October	27
985.40	July	12	969.69	September	4	959.43	October	28
985.43	July	13	969.50	September	5	959.43	October	29
985.28	July	14	969.41	September	6	959.41	October	30

Table B1. Continued.

Elevation	Month	Day
0.00	November	20
0.00	November	21
0.00	November	22
0.00	November	23
0.00	November	24
0.00	November	25
0.00	November	26
0.00	November	27
0.00	November	28
0.00	November	29
0.00	November	30
0.00	December	1
0.00	December	2
0.00	December	3
0.00	December	4
0.00	December	5
0.00	December	6
0.00	December	7
0.00	December	8
0.00	December	9
0.00	December	10
0.00	December	11
0.00	December	12
0.00	December	13
0.00	December	14
0.00	December	15
0.00	December	16
0.00	December	17
0.00	December	18
0.00	December	19
0.00	December	20
0.00	December	21
0.00	December	22
0.00	December	23
0.00	December	24
0.00	December	25
0.00	December	26
0.00	December	27
0.00	December	28
0.00	December	29
0.00	December	30
0.00	December	31

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