

Douglas Reservoir
Annual Report 2006

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Largemouth Bass

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Good	Sub-stock CPUE	Electrofishing	17.3 fish/hr.
<i>Growth*</i>	<i>Good</i>	<i>Mean TL at Age-3</i>	<i>Electrofishing</i>	<i>342 mm</i>
	Poor	RSD-P (380 mm)	Electrofishing	18 %
Density	Good	CPUE \geq Stock Size (203 mm)	Electrofishing	104.1 fish/hr.
		CPUE \geq Minimum Size Limit	Electrofishing	No limit
<i>Mortality*</i>	<i>High</i>	<i>Total Mortality (Z)</i>	<i>Electrofishing</i>	<i>71%*</i>
Angling Pressure		Fishing Effort (hours)	Creel Survey	N/A
Fishing Success		Angler Catch Rate (#fish/hour)	Creel Survey	N/A
Value of Fishery		Trip Expenditures	Creel Survey	N/A

* *Based on a 2000 data set.*

Fishery Forecast:

The largemouth bass population was almost identical to 2005; only the total CPUE was lower. As usual, recruitment remained stable in 2006 and the fishery should remain stable.

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

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Poor	Sub-stock CPUE	Electrofishing	0.0 fish/hr.
Growth	N/A	Mean TL at Age-3	Electrofishing	N/A
	Fair	RSD-P (350 mm)	Electrofishing	36%
Density	Good	CPUE > Stock Size (178 mm)	Electrofishing	17.1 fish/hr.
	Fair	CPUE > Minimum Size Limit	Electrofishing	0.5 fish/hr.
Mortality	N/A	Total Mortality (Z)	Electrofishing	N/A
Angling Pressure		Fishing Effort (hours)	Creel Survey	N/A
Fishing Success		Angler Catch Rate (#fish/hour)	Creel Survey	N/A
Value of Fishery		Trip Expenditures	Creel Survey	N/A

Fishery Forecast:

The smallmouth bass population still appears to be increasing. In fact, a trophy size smallmouth was collected this year and the number of large fish continue to increase each year.

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.

Black Crappie

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Poor	Sub-stock CPUE	Trap Net	0.4 fish/net night
<i>Growth*</i>	<i>Good</i>	<i>Mean TL at Age-3</i>	<i>Trap Net</i>	<i>327.5 mm</i>
	Excellent	RSD-P (250 mm)	Trap Net	66%
Density	Fair	CPUE > Stock Size (127 mm)	Trap Net	3.2 fish/net night
	Good	CPUE > Minimum size Limit	Trap Net	1.8 fish/net night
<i>Mortality*</i>	<i>High</i>	<i>Total Mortality (Z)</i>	<i>Trap Net</i>	<i>73%</i>
Angling Pressure		Fishing Effort (hours)	Creel Survey	N/A
Fishing Success		Angler Catch Rate (#fish/hour)	Creel Survey	N/A
Value of Fishery		Trip Expenditures	Creel Survey	N/A

* Based on an age data set collected in 1999.

Fishery Forecast:

CPUE's for crappie were down in 2006. However, most (98%) of the black crappie we collected were in the preferred category (250 mm). The downside to this is that there are not as many smaller fish left to recruit into the preferred size. We did see some reproduction this year, which should help maintain the fishery. However, this recruitment is considered poor for crappie

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.

White Crappie

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Poor	Sub-stock CPUE	Trap Net	0.1 fish/net night
<i>Growth*</i>	<i>Good</i>	<i>Mean TL at Age-3</i>	<i>Trap Net</i>	<i>312.49</i>
	Excellent	RSD-P (250 mm)	Trap Net	75%
Density	Poor	CPUE > Stock Size (5 inches)	Trap Net	0.1 fish/net night
	Poor	CPUE > Minimum size Limit	Trap Net	0.1 fish/net night
<i>Mortality*</i>	<i>High</i>	<i>Total Mortality (Z)</i>	<i>Trap Net</i>	<i>69 %</i>
Angling Pressure		Fishing Effort (hours)	Creel Survey	N/A
Fishing Success		Angler Catch Rate (#fish/hour)	Creel Survey	N/A
Value of Fishery		Trip Expenditures	Creel Survey	N/A

* Based on an age data set collected in 1999.

** any crappie

Fishery Forecast:

As with black crappie, CPUE's for white crappie were down and the sample was comprised of 100% preferred sized fish. The downside to this is that there are not as many smaller fish left to recruit into the preferred size. We did see some reproduction this year, which should help maintain the fishery. However, this recruitment is considered poor for crappie. Creel surveys indicate catch rates are normal for sub-legal fish which was not reflected by our trap net data.

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

Population Parameter	Annual Rating	Measure	Gear	Value
Recruitment	Good	Age-0 CPUE	Gill Net	2.6 fish/net night
	Poor	Sub-stock CPUE	Gill Net	0.0 fish/net night
Growth	Excellent	Mean TL at Age-3	Gill Net	409 mm
	Good	RSD-P (380 mm)	Gill Net	37 %
Density	Good	CPUE >Stock Size (200 mm)	Gill Net	11.3 fish/net night
	Good	CPUE > Minimum size Limit	Gill Net	3.3 fish/net night
Mortality*		Total Mortality (Z)	Gill Net	NA
Angling Pressure		Fishing Effort (hours)	Creel Survey	N/A
Fishing Success		Angler Catch Rate (#fish/hour)	Creel Survey	N/A
Value of Fishery		Trip Expenditures	Creel Survey	N/A

* Data set did not meet criteria for calculating mortality

Fishery Forecast:

The missing 2002 year class was noted again in the 2006 gill net data. However, not many sauger live past three years old in Douglas Reservoir, so this missing year class would no longer be noticed by anglers. We collected several age-0 fish in 2006, which indicates good reproduction and/or successful stocking.

Management Recommendations:

Evaluate introducing a regulation to protect mature females. Data indicate that the majority of the females in the spawning run are greater than 381 mm (minimum size limit) and the majority of the male sauger are less than 381 mm.

Stocking and Stocking Evaluations

Species	Number Stocked	Mark	Evaluation	# Fish / Net Night
White Crappie	0	None	Trap Netting	Substock CPUE = 0.1
Black Crappie	0	None	Trap Netting	Substock CPUE = 0.4

Habitat Enhancement and Monitoring

Type of Work	Details	Date
Shoreline Stabilization		See table 9.
Shoreline Seeding		"
Aquatic Plants		"
Fish Attractors (Shallow Water)		"
Fish Attractors (Deep Water)		"
Smallmouth Spawning Benches		"
Stake Beds		"
Water Quality Monitoring	Temperature, pH, Conductivity, and D.O.	July, August, September

Tables

Table 1. The morphometric, physical, and chemical characteristics associated with Douglas Reservoir.

Parameter	Measurement	
	<i>English</i>	<i>Metric</i>
Surface Area	30,400 ac	12,303 ha
Drainage Area	4,541 sq. mi	11,770 sq. km
Full Pool Elevation	1,000 ft msl	305 m msl
Mean Annual Fluctuation	60 feet	18 m
Shoreline Distance	513 mi	826 km
Maximum Depth	129 ft	39 m
Outlet Depth (upper)	99 ft	30 m
Outlet Depth (lower)	118 ft	36 m
Thermocline Depth	23 ft	7 m
Mean Chlorophyll (Forebay)	6.8 ppm	6.8 mg/l
Shoreline Development		17%
Trophic Status (Forebay)		mesotrophic
Trophic Index, Carlson (1977)		49.3
Hydraulic Retention Time		105 days
Reservoir Age		63 years

Table 2. Fish stocked in Douglas Reservoir 1993 – 2006.

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
White Crappie	Oct 2002	0.8	2.0 – 6.0	22,959
	June 2005	0.5	2.0 – 5.0	15,000
Smallmouth Bass	June 2005	0.25	2.0 – 3.5	7650
	July 2006	0.08	3.0 – 5.5	2500
Black Crappie	Oct 2002	5.3	1.25 – 4.5	161,786

Table 3. Number of species collected by gear type in Douglas Reservoir, 2006. Effort is represented in hours fished for electrofishing and gillnetting and net nights for trapnetting.

Species	Winter Gill Netting			Spring Electrofishing			Fall Trapnetting		
	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	430	121.4	3.5	X	X	X
Smallmouth Bass	X	X	X	33	17.1	1.9	X	X	X
Spotted Bass	X	X	X	0	0.0	3.5	X	X	X
Black Crappie	X	X	X	57	16.1	3.5	324	3.6	90
Black-Nose Crappie	X	X	X	0	0.0	3.5	3	0.03	90
White Crappie	X	X	X	24	6.8	3.5	17	0.2	90
Walleye	45	6.4	7	14	4.0	3.5	X	X	X
Sauger	79	11.3	7	2	0.6	3.5	X	X	X
White Bass	X	X	X	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 4. Mean catch per unit effort and relative stock density by RSD category for Douglas Reservoir 1999 – 2006.

Species	Year	Gear	Number of Samples	RSD Substock			RSD Stock - Quality			RSD Quality - Preferred			RSD Preferred-Memorabile			RSD Memorabile-Trophy			RSD Trophy			PSD	Total	
				#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	RSD	#	CPUE	
Largemouth Bass	1999	EL	6	79	53	31	109	73	64	43	29	25	19	13	11	1	0.7	1				36	252	168
	2000	EL	6	76	50	28	100	66	51	82	54	42	7	8.6	7	1	0.1	1				49	272	179
	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	
Smallmouth Bass	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
	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
Black Crappie	1999	TN	90	20	0.2	7	15	0.2	6	135	1.5	54	89	1	36	10	0.1	4					269	3
	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	
White Crappie	1999	TN	90	5	0.1	23	1	0	6	5	0.1	29	7	0.1	41	4	0	24					22	0.2
	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	

Table 5. Largemouth bass mean relative weights (Wr) in Douglas reservoir, spring 2006.

Length Group	Mean Wr	Std. Error	N
150	88.220	3.587	17
175	80.247	1.483	29
200	83.524	2.977	21
225	94.882	10.746	18
250	84.590	1.080	42
275	84.753	0.952	49
300	86.669	0.817	61
325	88.835	0.882	57
350	88.975	0.951	48
375	87.803	1.718	17
400	89.824	1.916	11
425	87.619	4.725	16
450	95.500	2.190	10
475	98.438	2.131	8
500	99.337	3.889	7
525	104.191	3.169	4
550			
575			
Total =			415

Table 6. Black crappie mean relative weights (Wr) in Douglas Reservoir fall 2006.

Length Group	Mean Wr	Std. Error	N
125			
150	115.307	6.586	3
175	111.502	5.937	4
200	107.618	1.170	28
225	105.590	0.963	63
250	101.857	0.710	103
275	98.993	0.855	65
300	91.517	3.086	18
325	85.224	5.001	5
350			
375			
400			
Total =			289

Table 7. White crappie mean relative weights (Wr) in Douglas Reservoir fall 2006.

Length Group	Mean Wr	Std. Error	N
125			
150			
175			
200			
225	105.683	2.127	3
250	99.344	7.788	5
275			
300	93.698	2.108	4
325			
350			
375			
400			
*Total =			12

Table 8. Sauger mean relative weights in Douglas Reservoir December 2006.

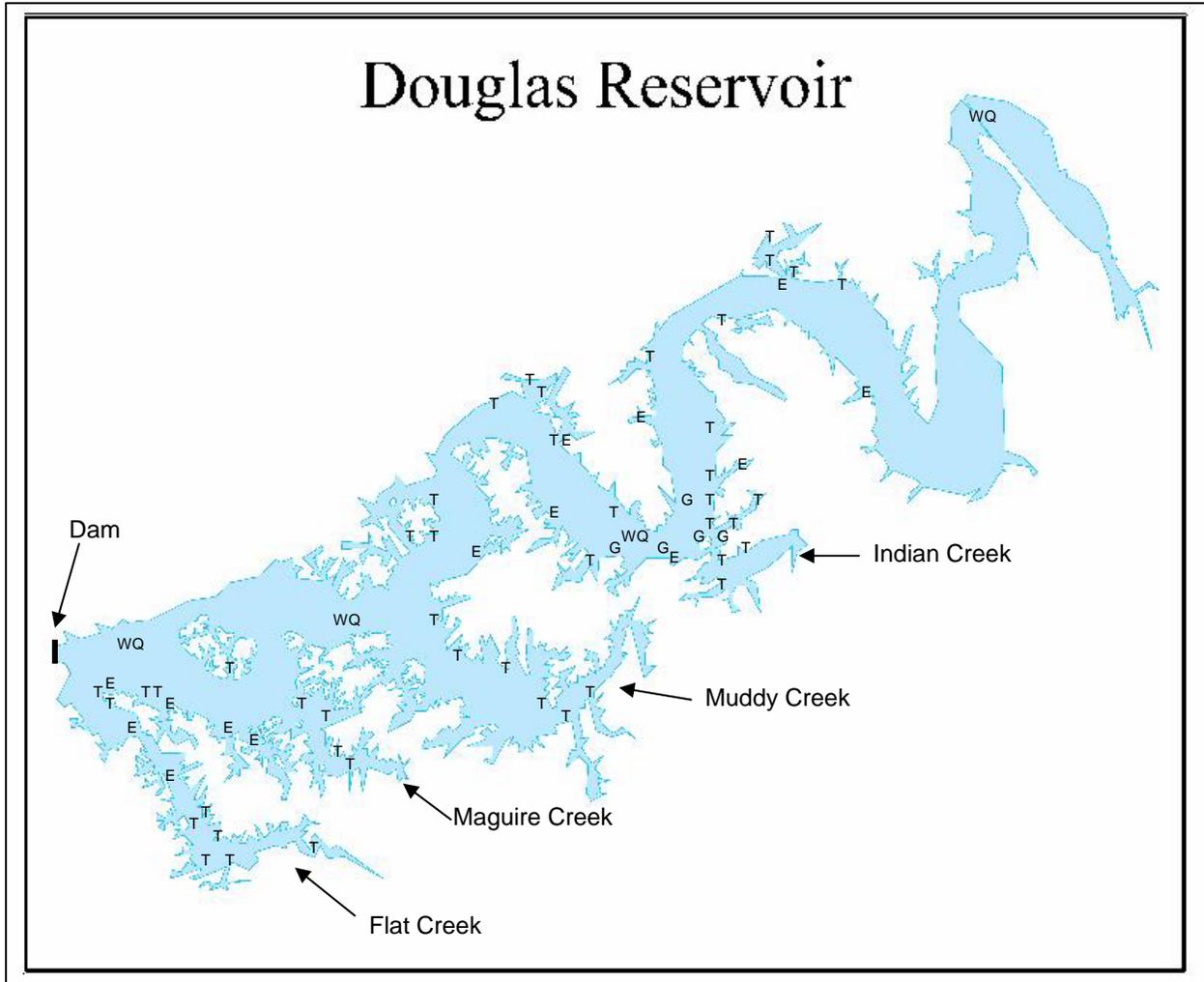
Length Group	Mean Wr	Std. Error	N
150			
175			
200			
225	87.698	4.140	5
250	86.468	1.138	12
275	96.779	4.521	4
300	93.243	4.865	4
325	95.552	3.616	8
350	88.381	1.494	16
375	94.613	2.518	13
400	95.003	1.552	9
425	98.013	3.406	6
450	100.644	0.810	2
475			
500			
Total =			79

Table 9. Douglas Reservoir fish habitat enhancement summary for 2006.

Location	New Sites			Renovated Sites			Expanded Sites			
	Number	Units	Acres	Number	Units	Acres	Number	Units	Acres	
		None			in		2006			
<i>Total</i>	0	0	0	0	0	0	0	0	0	0

Figures

Figure 1. Douglas Reservoir with sites sampled in 2006.



E = Electrofishing
G = Gill Netting
T = Trap Netting
WQ = Water Quality

Largemouth Bass

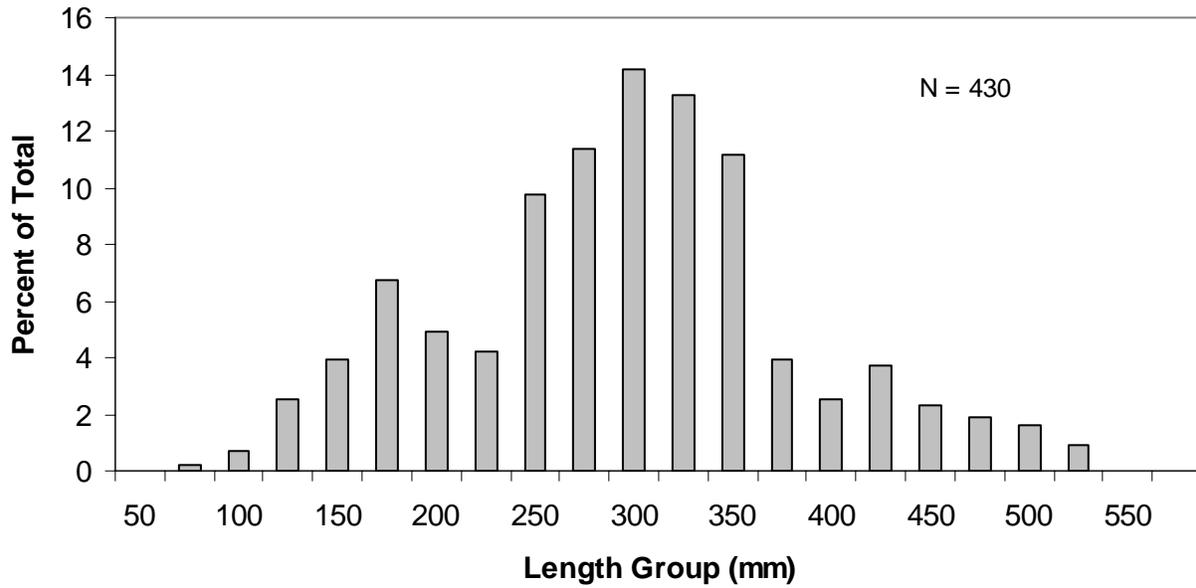


Figure 2. Largemouth bass length frequency in Douglas Reservoir, spring 2006.

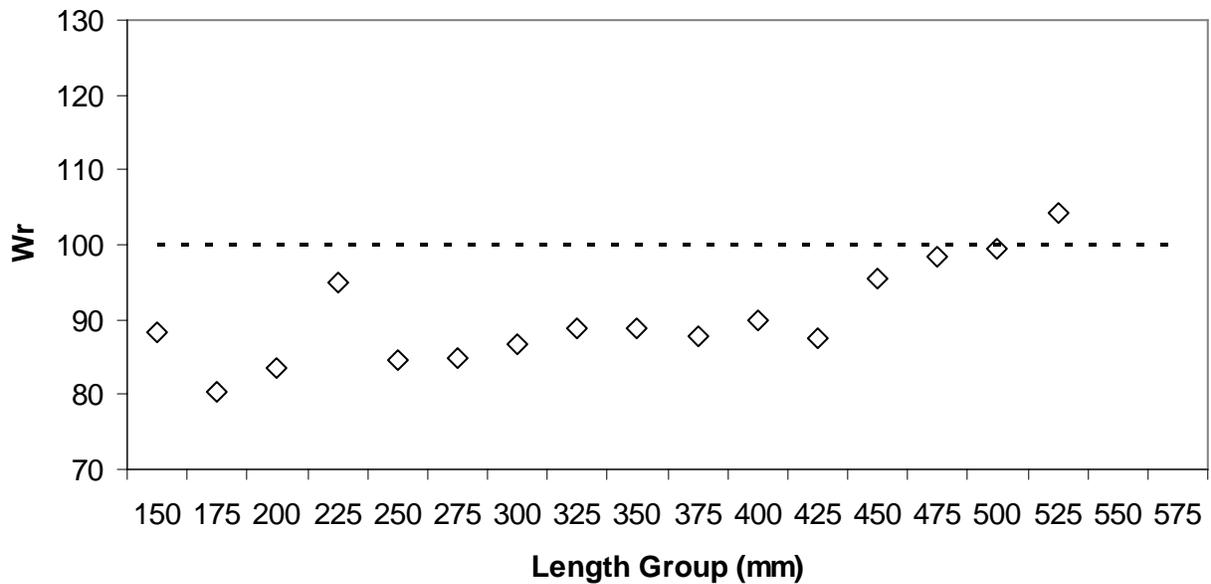


Figure 3. Largemouth bass mean relative weights (Wr) in Douglas Reservoir, spring 2006.

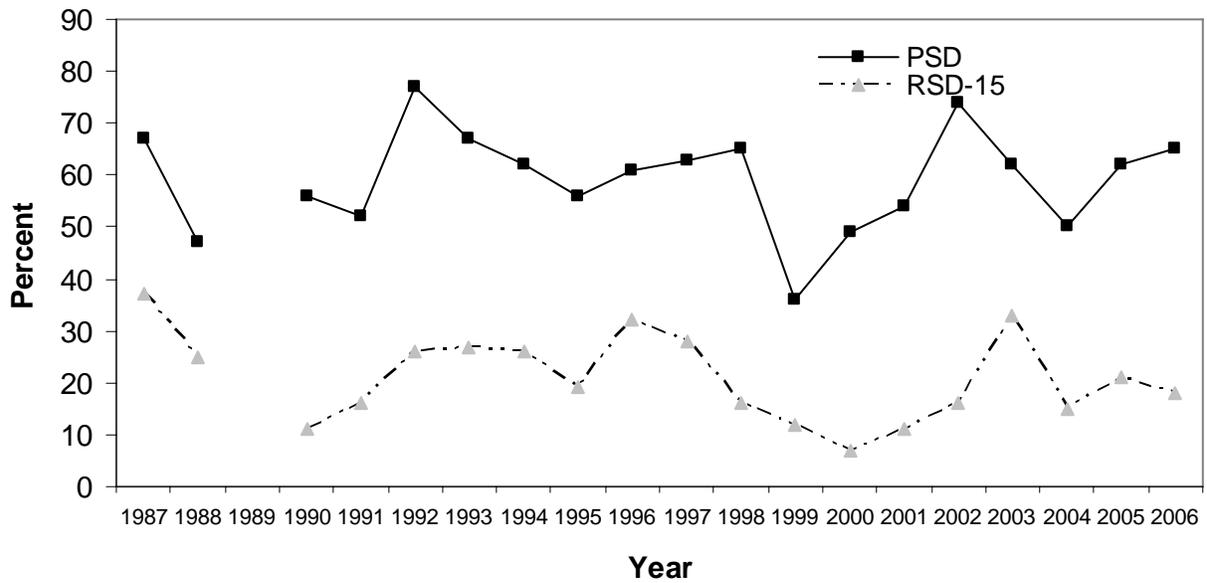


Figure 4. Largemouth bass traditional PSD and RSD-15 values in Douglas Reservoir 1986 – 2006.

Black Crappie

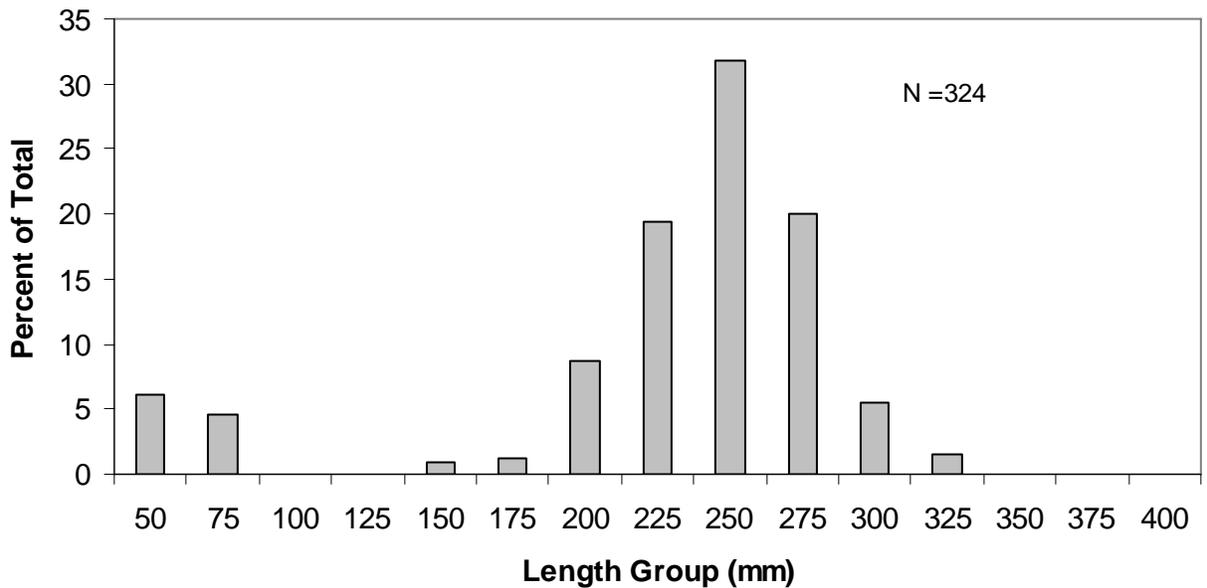


Figure 5. Black Crappie length frequency in Douglas Reservoir, fall 2006.

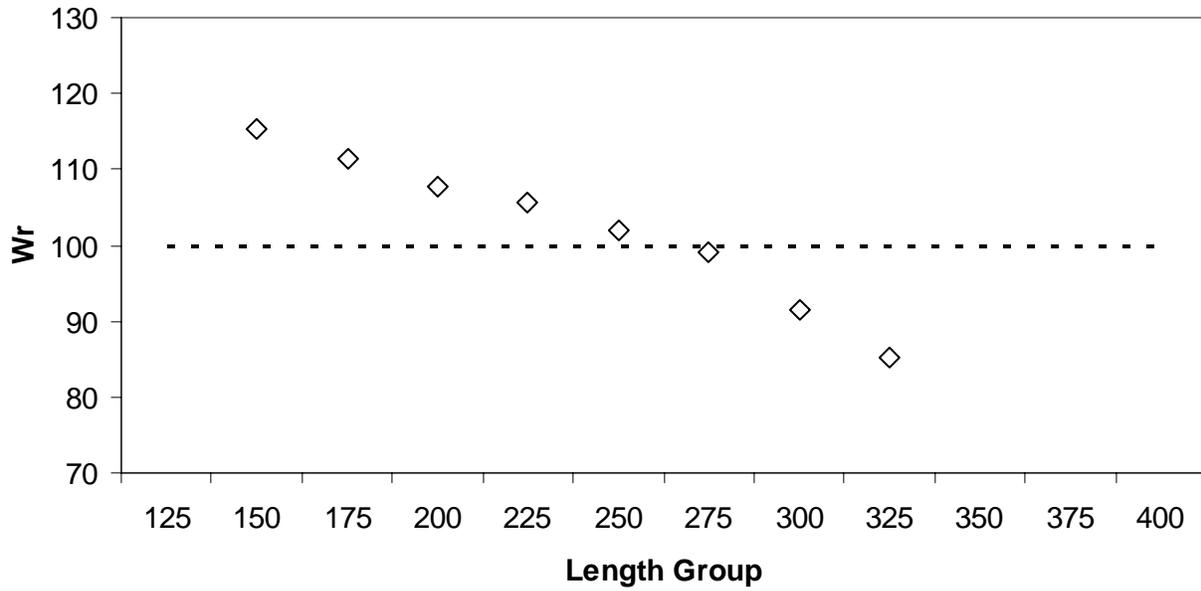


Figure 6. Black crappie mean relative weights (Wr) in Douglas Reservoir, fall 2006.

White Crappie

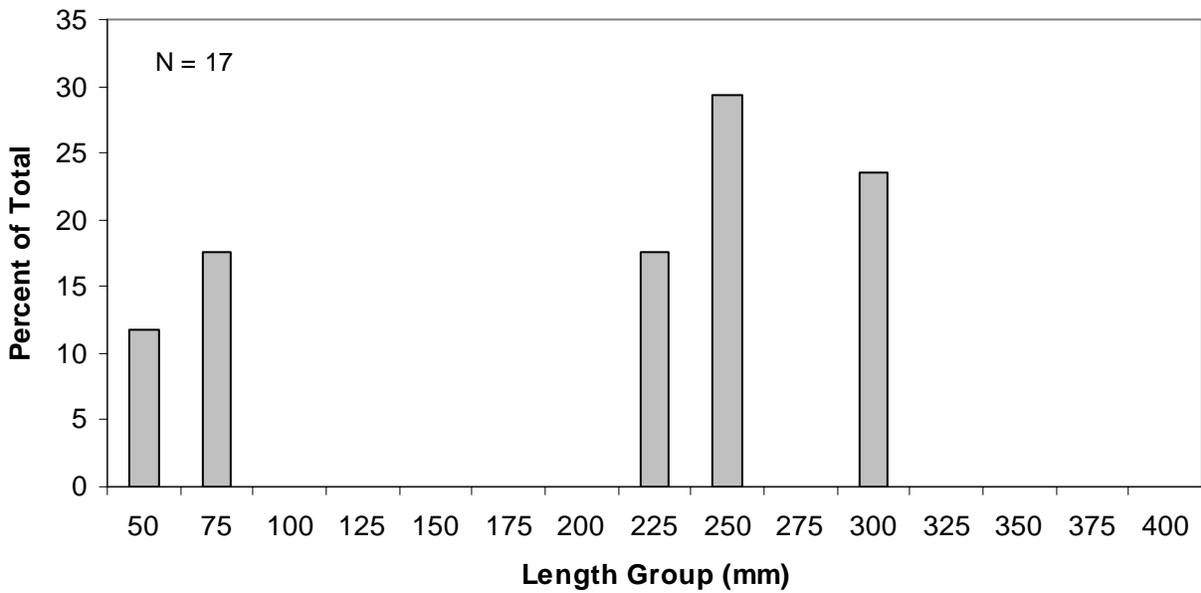


Figure 7. White Crappie length frequency in Douglas Reservoir, fall 2006.

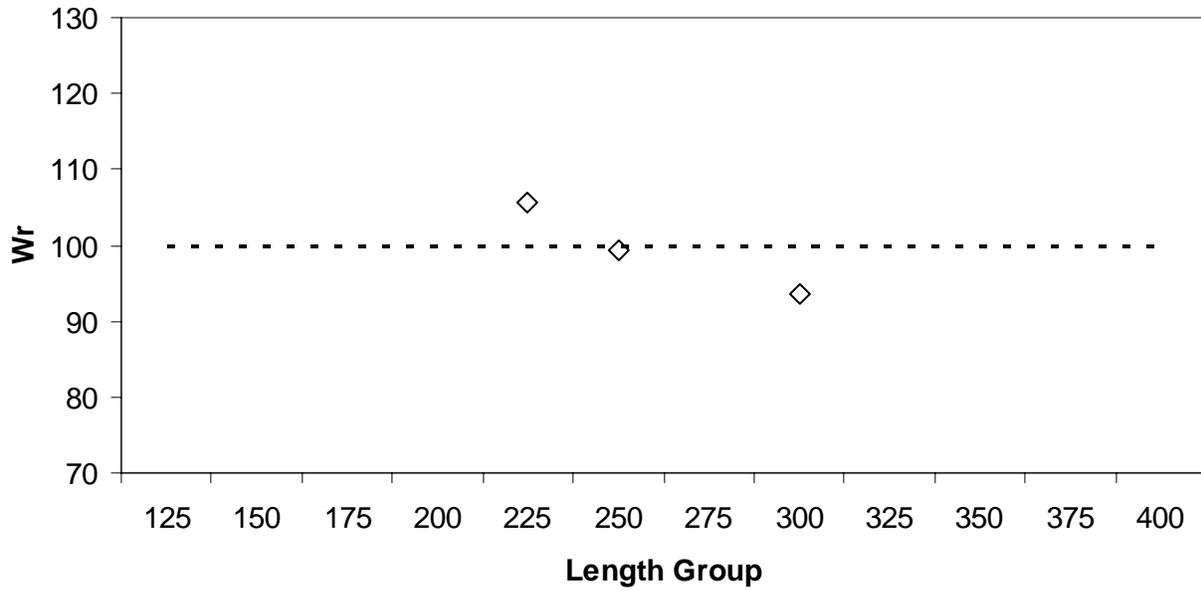


Figure 8. White crappie mean relative weights (Wr) in Douglas Reservoir, fall 2006.

Sauger

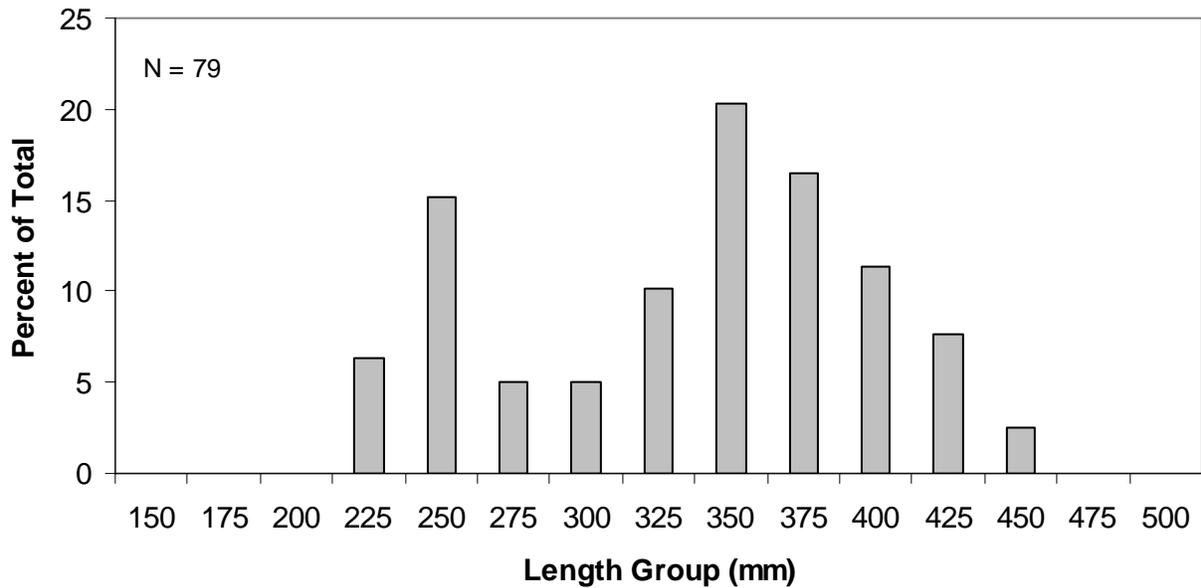


Figure 9. Sauger length frequency in Douglas Reservoir, winter 2006.

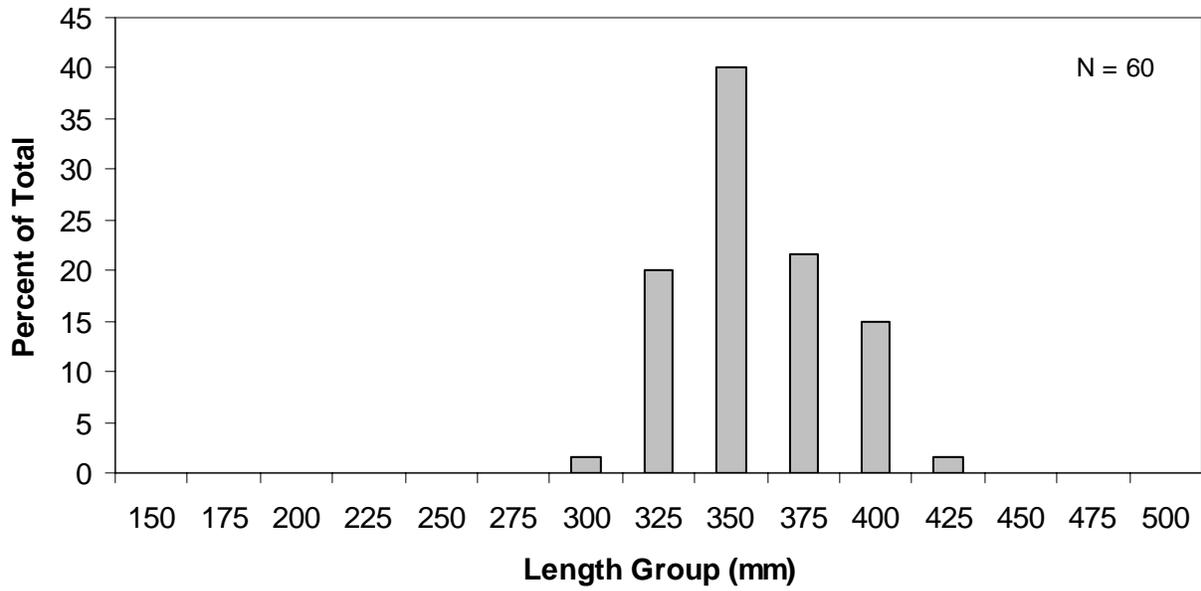


Figure 10. Sauger length frequency in Douglas Reservoir, spring 2006.

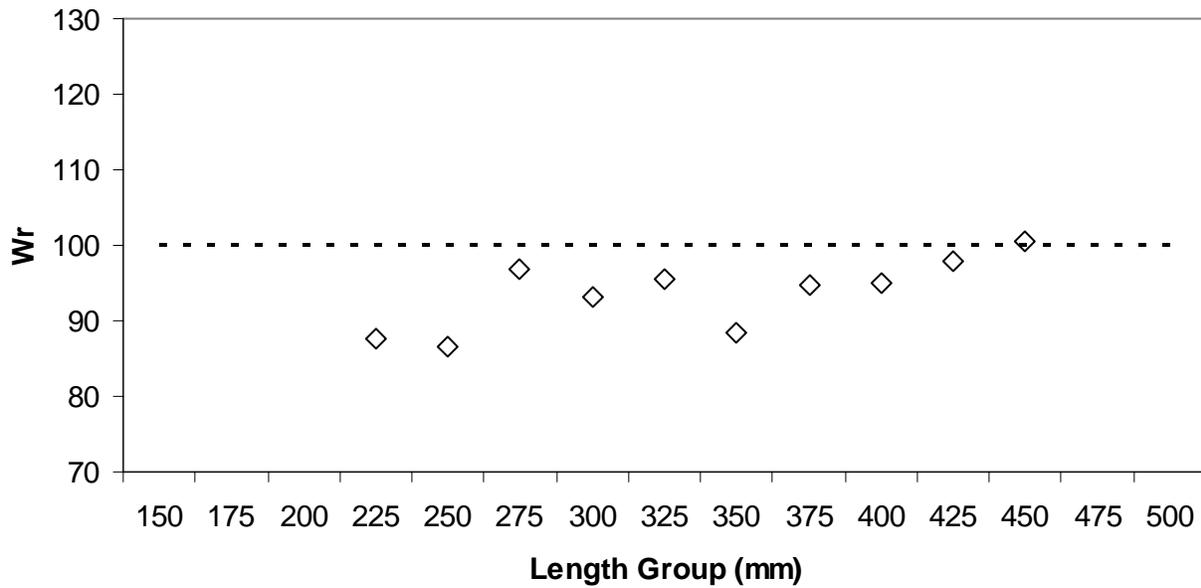


Figure 11. Sauger mean relative weights (Wr) in Douglas Reservoir, winter 2006.

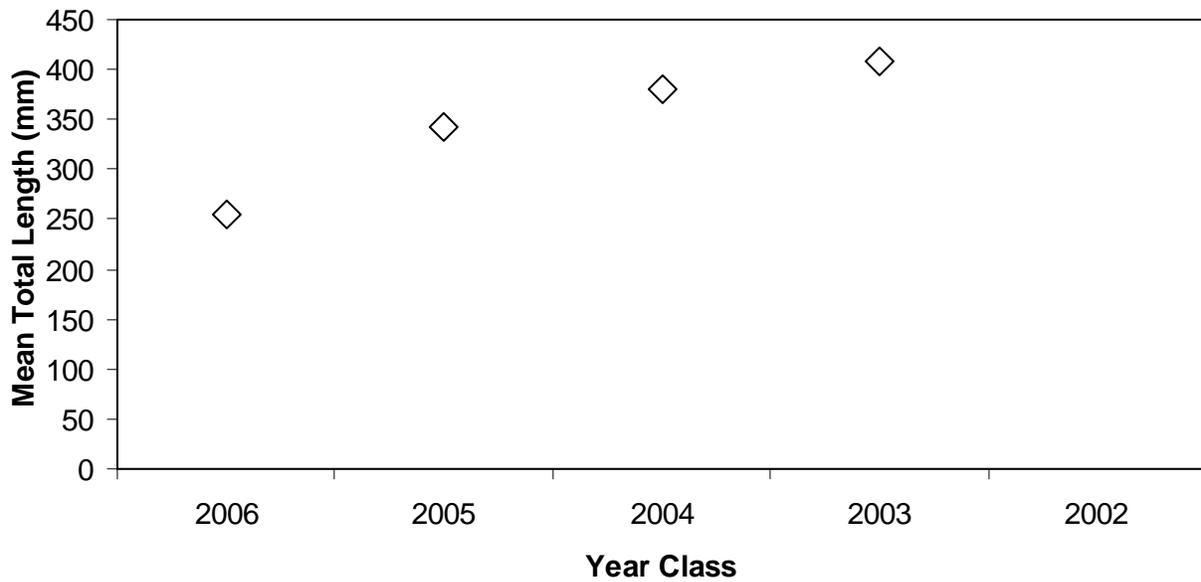


Figure 12. Sauger mean length at age in Douglas Reservoir, December 2006.

Appendix A
Water Quality

Table A1. Douglas Reservoir, water quality data at FB 34, July 11, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	26.8	338	8.1	FB34	1.8	0840
1	26.8	342	8.1			
2	26.8	344	8.1			
3	26.7	345	7.9			
4	26.6	346	7.8			
5	25.5	349	2.5			
6	24.6	348	0.4			
7	23.9	349	0.2			
8	22.9	346	0.2			
9	21.9	344	0.2			
10	20.8	340	0.1			
11	20.0	337	0.2			
12	19.6	335	0.2			
13	19.2	334	0.1			
14	18.9	334	0.3			
15	18.5	333	0.5			
16	18.4	331	1.0			
17	18.3	330	0.9			
18	18.1	330	0.8			
19	18.0	329	0.9			
20	17.8	329	0.9			
21	17.7	328	1.0			
22	17.6	328	0.9			
23	17.5	327	0.7			
24	17.4	329	0.5			
25	17.2	328	0.2			
26	17.0	329	0.2			
27	16.8	331	0.1			
28	16.6	331	0.1			
29	16.5	330	0.1			
30	16.2	330	0.1			

Table A2. Douglas Reservoir, water quality data at FB 40, July 11, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	27.5	354	8.4	FB40	1.6	1220
1	27.4	353	8.4			
2	27.4	351	8.4			
3	27.3	351	8.2			
4	27.3	350	8.1			
5	27.2	350	7.8			
6	25.8	354	2.9			
7	23.7	356	0.3			
8	22.5	351	0.2			
9	22.0	346	0.1			
10	20.9	343	0.1			
11	20.1	340	0.1			
12	19.6	337	0.1			
13	19.1	336	0.1			
14	18.8	335	0.2			
15	18.5	333	0.3			
16	18.3	331	0.3			
17	18.1	331	0.2			
18	18.0	331	0.2			
19	17.8	331	0.1			
20	17.8	330	0.1			
21	17.6	330	0.1			
22	17.5	330	0.1			
23	17.3	331	0.1			
24	17.1	332	0.1			
25	17.0	333	0.1			
26	16.8	336	0.1			
27	16.5	339	0.1			
28	16.5	339	0.1			
29	16.1	343	0.1			
30	15.5	348	0.1			

Table A3. Douglas Reservoir, water quality data at FB 50, July 11, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	27.9	343	11.4	FB50	1.3	1050
1	27.8	345	11.3			
2	27.7	346	11.0			
3	27.3	347	10.5			
4	26.9	346	7.4			
5	26.4	350	3.3			
6	26.0	352	2.2			
7	24.2	349	0.9			
8	23.3	348	0.6			
9	22.8	345	0.3			
10	21.5	348	0.2			
11	21.1	343	0.2			
12	20.5	341	0.1			
13	19.9	339	0.1			
14	19.2	335	0.1			
15	18.9	335	0.1			
16	18.6	336	0.1			
17	18.3	335	0.1			
18	17.7	331	0.1			
19	17.5	343	0.1			
20	17.4	344	0.1			
21	17.2	348	0.1			
22	Botom					
23						
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29						
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Table A4. Douglas Reservoir, water quality data at FB 60, July 11, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	28.0	354	15.0	FB60	1.2	1005
1	28.0	360	15.2			
2	27.9	363	15.3			
3	27.3	350	12.1			
4	27.2	350	12.0			
5	26.8	347	9.0			
6	25.1	349	3.6			
7	24.6	349	6.2			
8	24.0	342	3.6			
9	22.8	331	4.0			
10	22.4	329	2.5			
11	21.6	323	2.6			
12	19.8	338	0.3			
13	18.8	346	0.1			
14	18.3	348	0.1			
15	18.0	352	0.1			
16	Bottom					
17						
18						
19						
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24						
25						
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27						
28						
29						
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Table A5. Douglas Reservoir, water quality data at FB 34, August 2, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	29.4	343	8.0	FB34	1.6	0850
1	29.4	343	7.9			
2	29.1	344	8.0			
3	28.7	344	7.9			
4	28.2	344	7.9			
5	27.9	343	7.6			
6	27.3	343	6.2			
7	26.7	342	3.0			
8	25.1	343	1.1			
9	24.3	341	0.2			
10	23.1	340	0.3			
11	22.6	335	1.1			
12	21.8	334	1.2			
13	20.8	332	1.5			
14	20.3	330	1.8			
15	19.6	328	3.9			
16	19.0	326	3.5			
17	18.7	326	2.3			
18	18.4	325	2.1			
19	18.2	324	0.3			
20	18.1	324	2.9			
21	18.0	323	4.7			
22	17.8	323	5.3			
23	17.8	323	5.5			
24	17.7	323	5.4			
25	17.7	323	5.2			
26	17.6	323	5.2			
27	17.6	323	5.2			
28	17.5	323	3.7			
29	17.1	325	2.0			
30	17.0	325	0.2			

Table A6. Douglas Reservoir, water quality data at FB 40, August 2, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	30.3	349	8.3	FB40	1.4	1240
1	30.1	344	8.3			
2	29.6	345	8.0			
3	28.7	344	8.2			
4	28.1	342	7.1			
5	27.7	342	5.5			
6	27.5	342	4.1			
7	26.3	342	0.6			
8	25.0	340	0.2			
9	24.1	338	0.1			
10	23.3	335	0.1			
11	22.7	335	0.1			
12	21.4	336	0.1			
13	21.0	334	0.1			
14	20.1	332	0.1			
15	19.8	334	0.1			
16	19.5	331	0.1			
17	19.0	330	0.1			
18	18.7	328	0.1			
19	18.5	328	0.1			
20	18.2	327	0.1			
21	18.1	326	0.1			
22	18.0	327	0.1			
23	17.9	328	0.1			
24	17.8	330	0.0			
25	17.6	331	0.0			
26	17.5	333	0.0			
27	17.4	333	0.0			
28	17.0	337	0.0			
29	16.6	339	0.0			
30						

Table A7. Douglas Reservoir, water quality data at FB 50, August 2, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	30.4	338	10.8	FB50	1.2	1120
1	29.9	341	11.2			
2	29.2	342	12.4			
3	28.3	339	9.1			
4	27.9	337	6.2			
5	27.8	336	4.8			
6	27.5	338	2.0			
7	27.1	341	0.2			
8	25.3	344	0.1			
9	24.2	338	0.1			
10	22.7	333	0.1			
11	21.8	329	0.1			
12	21.2	331	0.1			
13	20.7	331	0.1			
14	20.4	330	0.1			
15	19.8	332	0.1			
16	18.8	338	0.1			
17	18.7	338	0.1			
18	18.4	342	0.0			
19	18.3	342	0.0			
20	Bottom					
21						
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23						
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29						
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Table A8. Douglas Reservoir, water quality data at FB 60, August 2, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	30.1	352	12.1	FB60	1.0	1020
1	29.8	354	12.5			
2	28.4	348	9.9			
3	28.2	342	8.0			
4	28.1	339	6.0			
5	27.9	339	4.4			
6	27.7	341	2.6			
7	27.0	344	2.3			
8	25.6	338	1.3			
9	24.5	336	0.3			
10	22.8	333	0.1			
11	22.1	329	0.1			
12	20.8	338	0.1			
13	20.2	344	0.1			
14	19.4	354	0.1			
15	Bottom					
16						
17						
18						
19						
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23						
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25						
26						
27						
28						
29						
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Table A9. Douglas Reservoir, water quality data at FB 34, September 5, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	26.9	276	5.7	FB34	1.9	1330
1	26.9	279	5.6			
2	27.0	281	5.6			
3	27.0	281	5.6			
4	27.0	281	5.5			
5	27.0	282	5.5			
6	27.0	283	5.5			
7	26.9	283	5.4			
8	26.9	283	5.4			
9	26.9	283	5.4			
10	26.9	284	5.5			
11	26.9	284	5.6			
12	25.5	283	0.3			
13	24.9	283	0.2			
14	24.3	283	0.2			
15	23.9	283	0.2			
16	23.3	282	0.2			
17	22.4	280	0.2			
18	22.1	279	0.2			
19	21.7	276	0.1			
20	21.0	276	0.1			
21	20.8	276	0.1			
22	20.4	278	0.1			
23	19.9	278	0.1			
24	19.7	278	0.1			
25	19.5	277	0.1			
26	19.0	278	0.1			
27	18.8	279	0.1			
28	18.7	278	0.1			
29	18.6	278	0.1			
30	18.4	290	0.1			

Table A10. Douglas Reservoir, water quality data at FB 40, September 5, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	27.0	274	5.6	FB40	1.9	1225
1	27.0	278	5.5			
2	27.0	279	5.5			
3	27.0	279	5.5			
4	27.0	280	5.4			
5	27.0	281	5.4			
6	27.0	281	5.4			
7	27.0	282	5.3			
8	26.9	282	5.1			
9	26.6	282	2.8			
10	25.7	281	0.2			
11	25.3	278	0.2			
12	24.8	277	0.2			
13	24.7	274	0.2			
14	23.9	278	0.2			
15	23.6	278	0.2			
16	23.0	278	0.2			
17	22.6	277	0.1			
18	22.4	278	0.1			
19	21.7	280	0.1			
20	21.5	279	0.1			
21	21.1	281	0.1			
22	20.4	283	0.1			
23	20.0	284	0.1			
24	19.9	283	0.1			
25	19.4	285	0.1			
26	18.8	287	0.1			
27	18.3	288	0.1			
28	17.9	290	0.1			
29	Bottom					
30						

Table A11. Douglas Reservoir, water quality data at FB 50, September 5, 2006.

Depth (m)	Temp ©	Cond	DO	Site	Secchi (m)	Time
0	27.1	282	5.7	FB50	1.7	1130
1	27.1	282	5.6			
2	27.1	282	5.6			
3	27.1	283	5.6			
4	27.1	283	5.6			
5	27.0	283	5.5			
6	26.9	283	3.5			
7	26.5	283	1.5			
8	25.9	280	1.2			
9	25.7	279	1.0			
10	25.5	278	1.1			
11	24.6	276	0.3			
12	23.5	268	1.8			
13	23.3	266	2.1			
14	23.2	265	2.6			
15	23.1	264	2.7			
16	23.1	264	2.5			
17	23.1	264	2.1			
18	23.0	264	2.0			
19	Bottom					
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
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No data taken for FB 60 in September, 2005.

Figure A1. Douglas Reservoir water quality data at FBRM 34, July 2006.

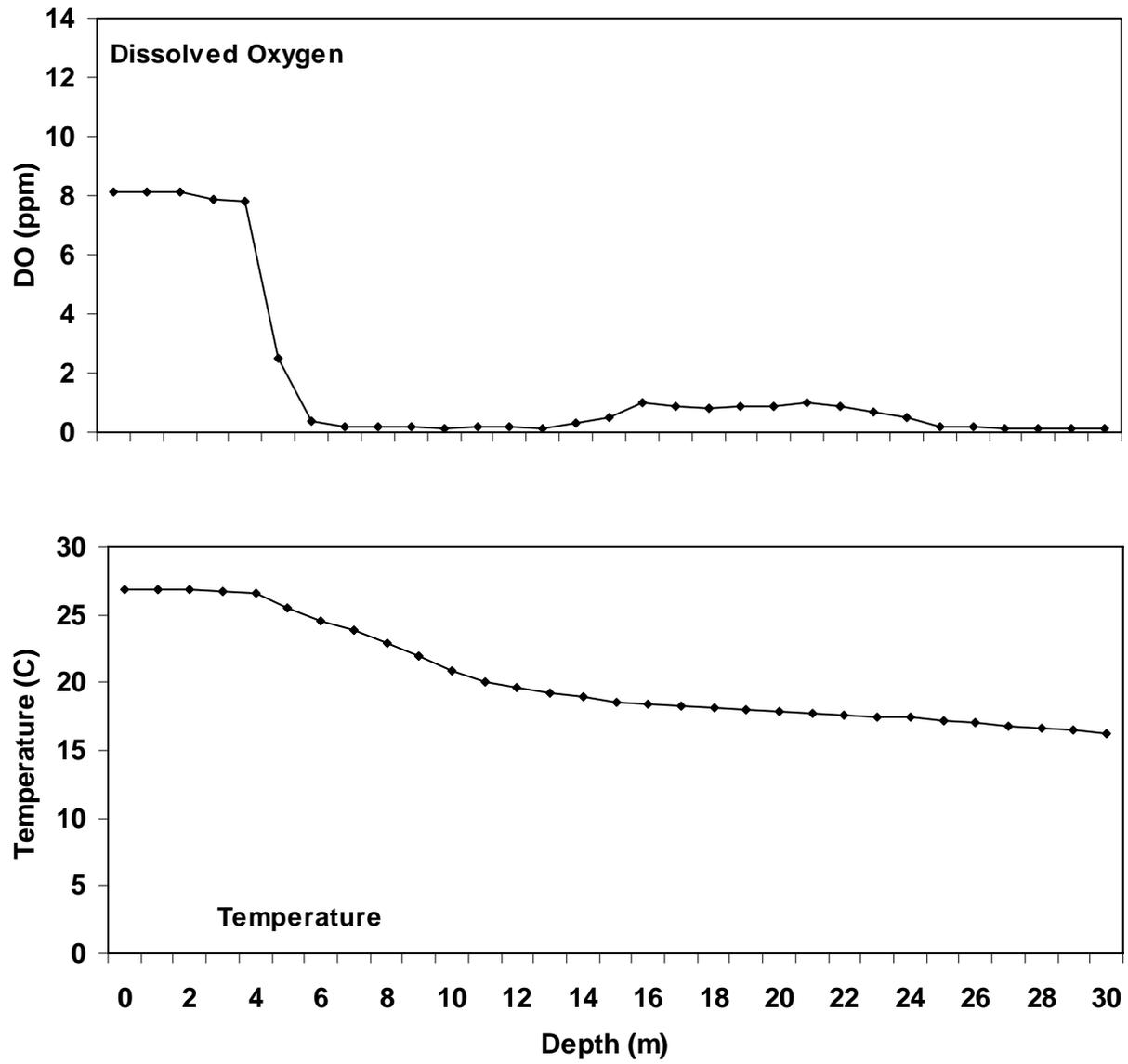


Figure A2. Douglas Reservoir water quality data at FBRM 40, July 2006.

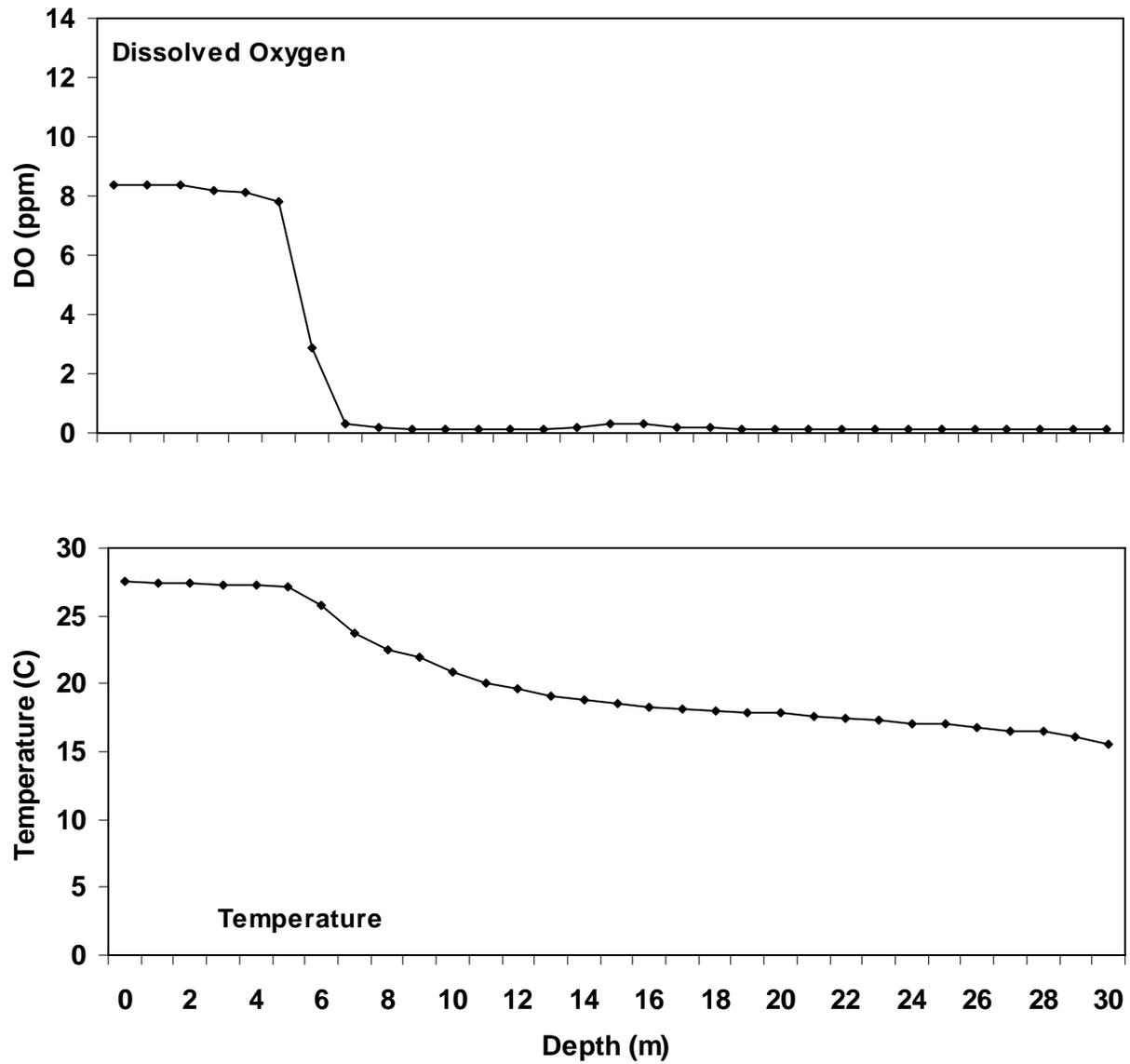


Figure A3. Douglas Reservoir water quality data at FBRM 50, July 2006.

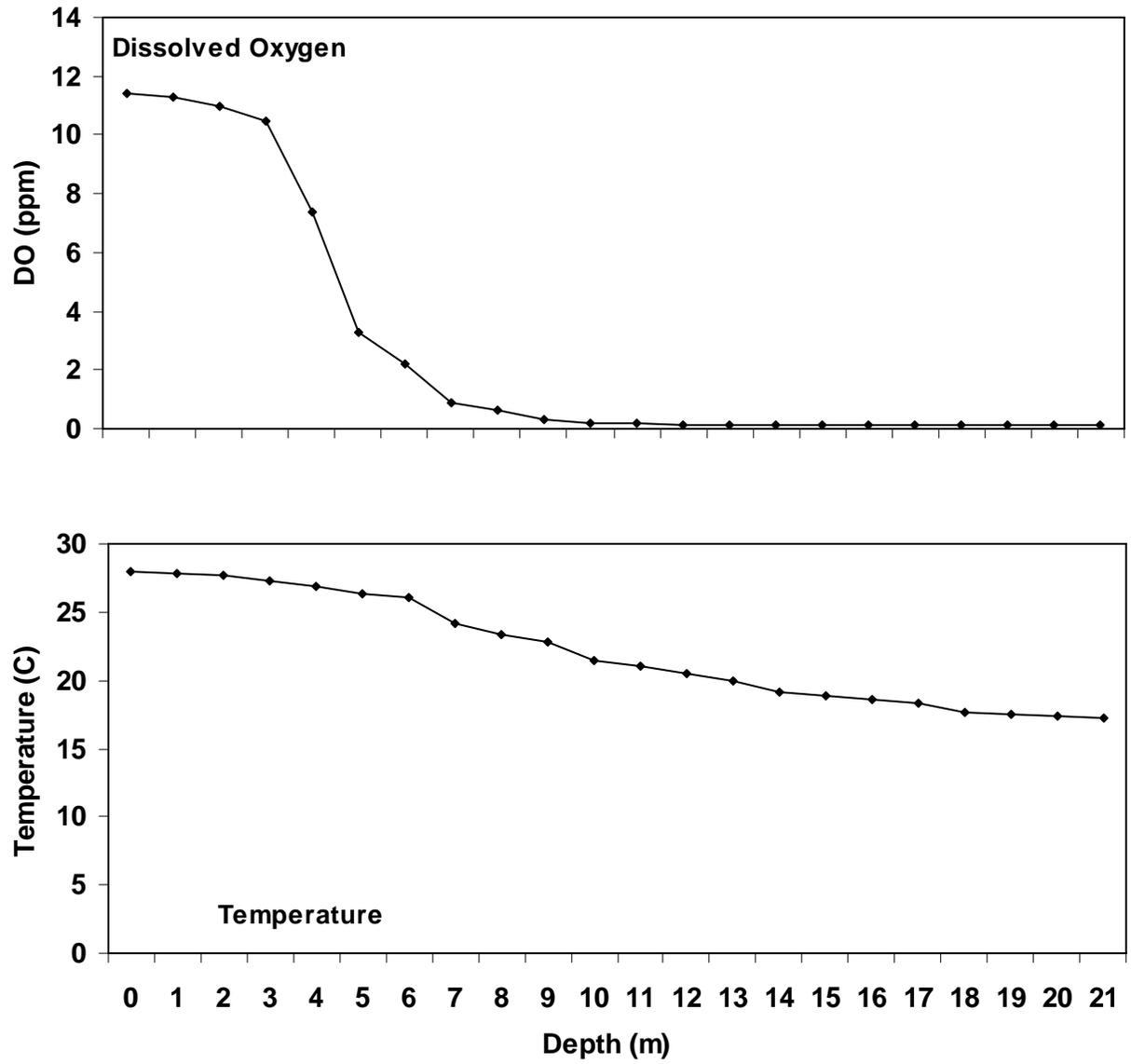


Figure A4. Douglas Reservoir water quality data at FBRM 60, July 2006.

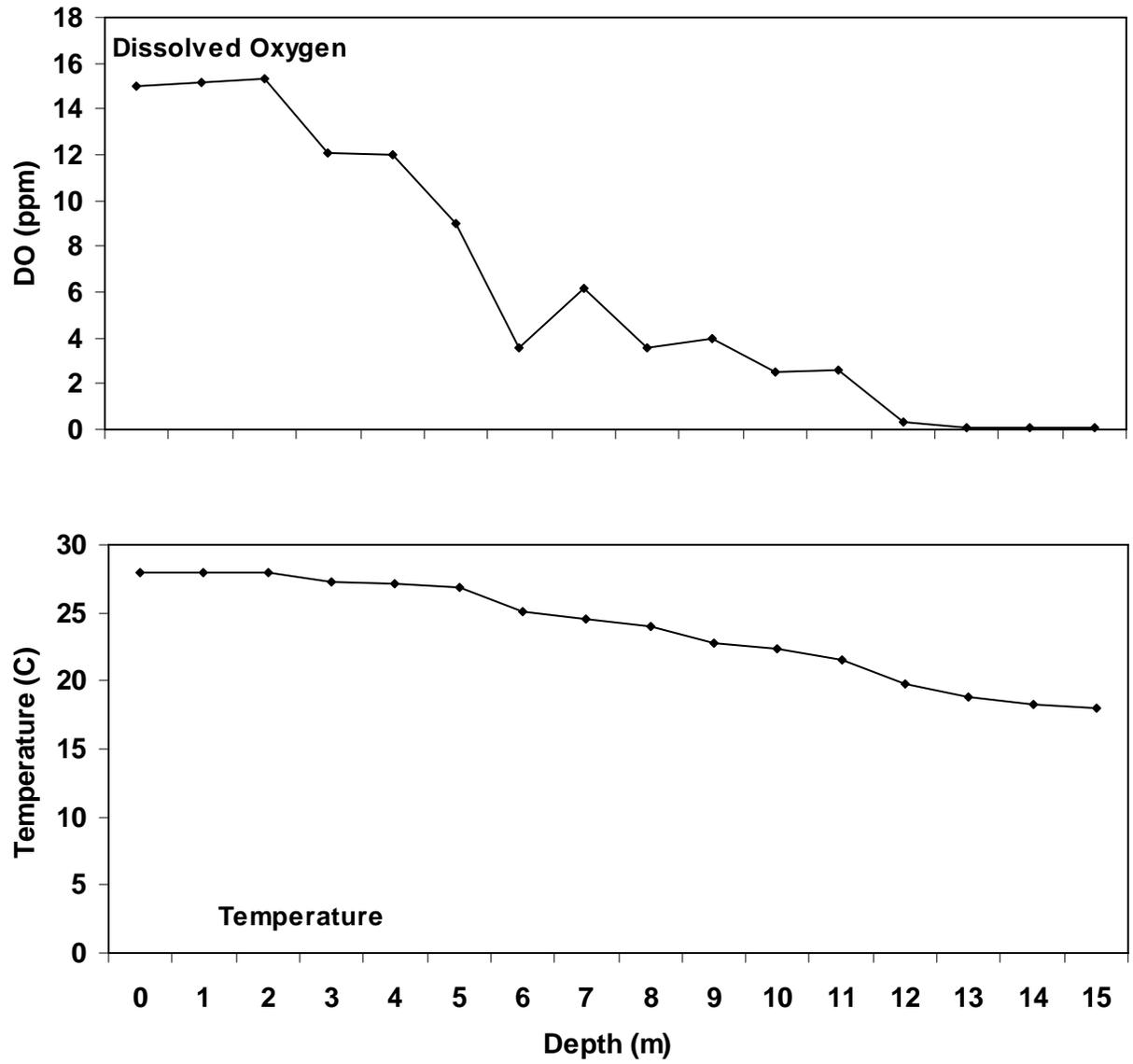


Figure A5. Douglas Reservoir water quality data at FBRM 34, August 2006.

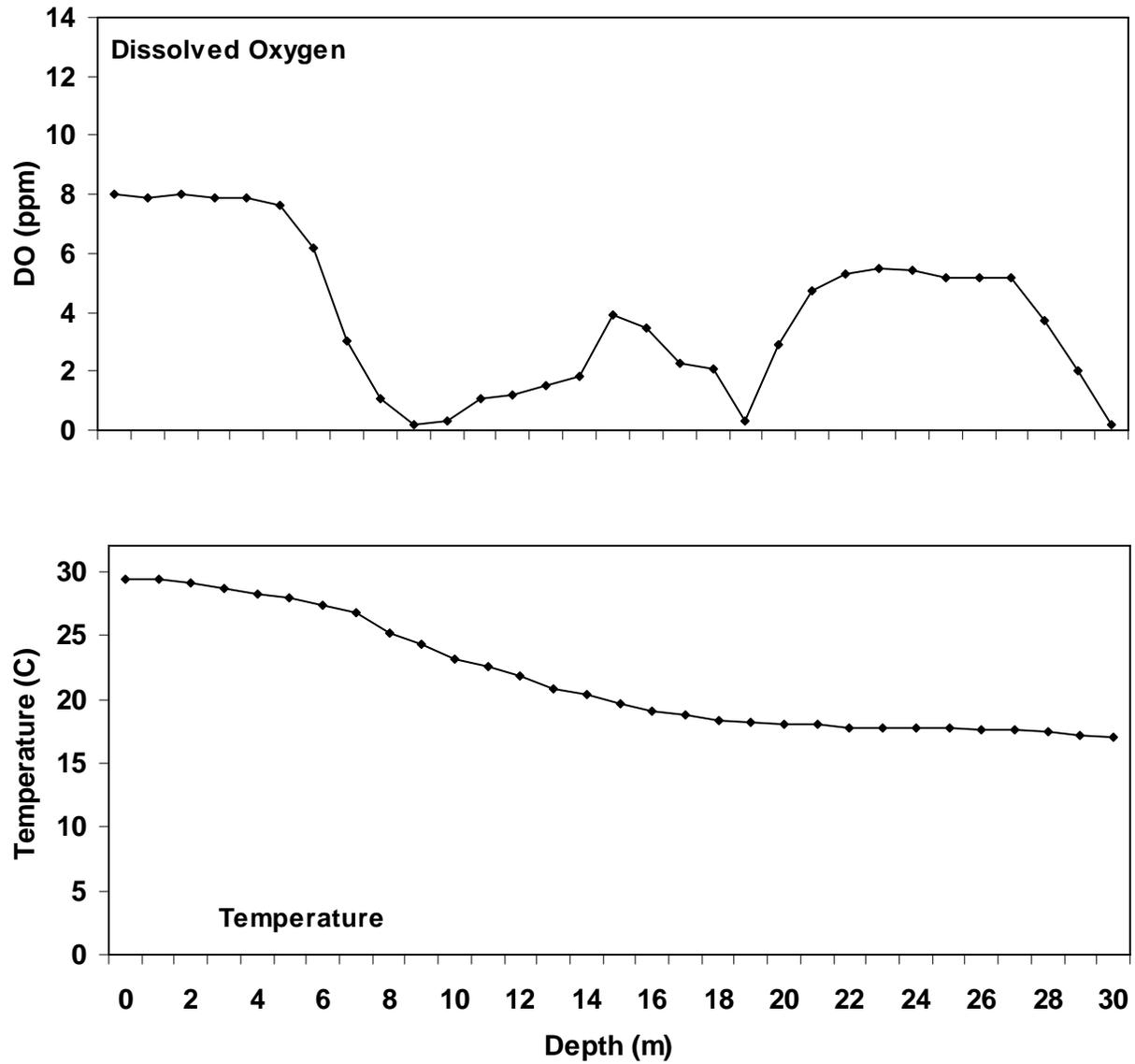


Figure A6. Douglas Reservoir water quality data at FBRM 40, August 2006.

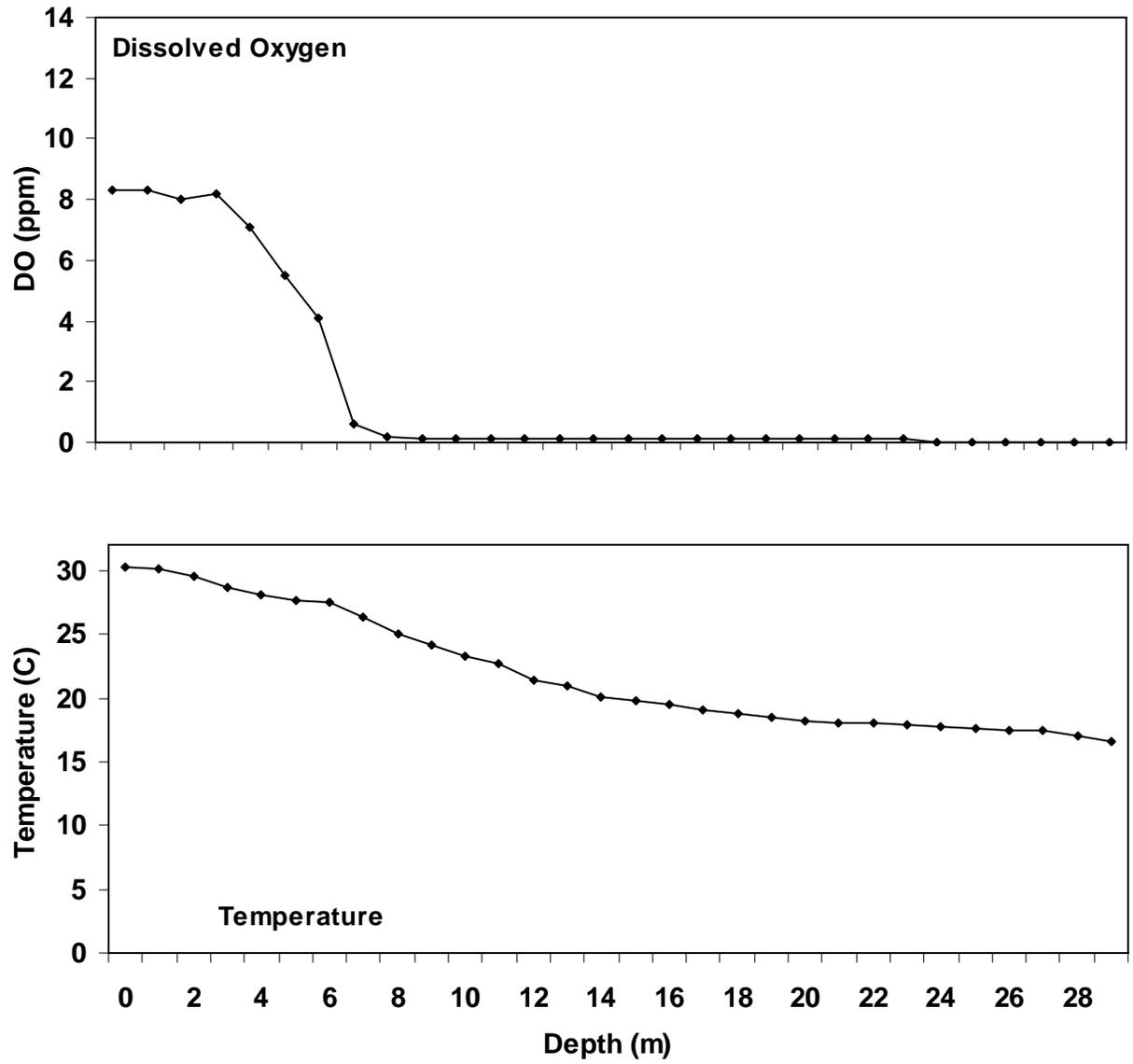


Figure A7. Douglas Reservoir water quality data at FBRM 50, August 2006.

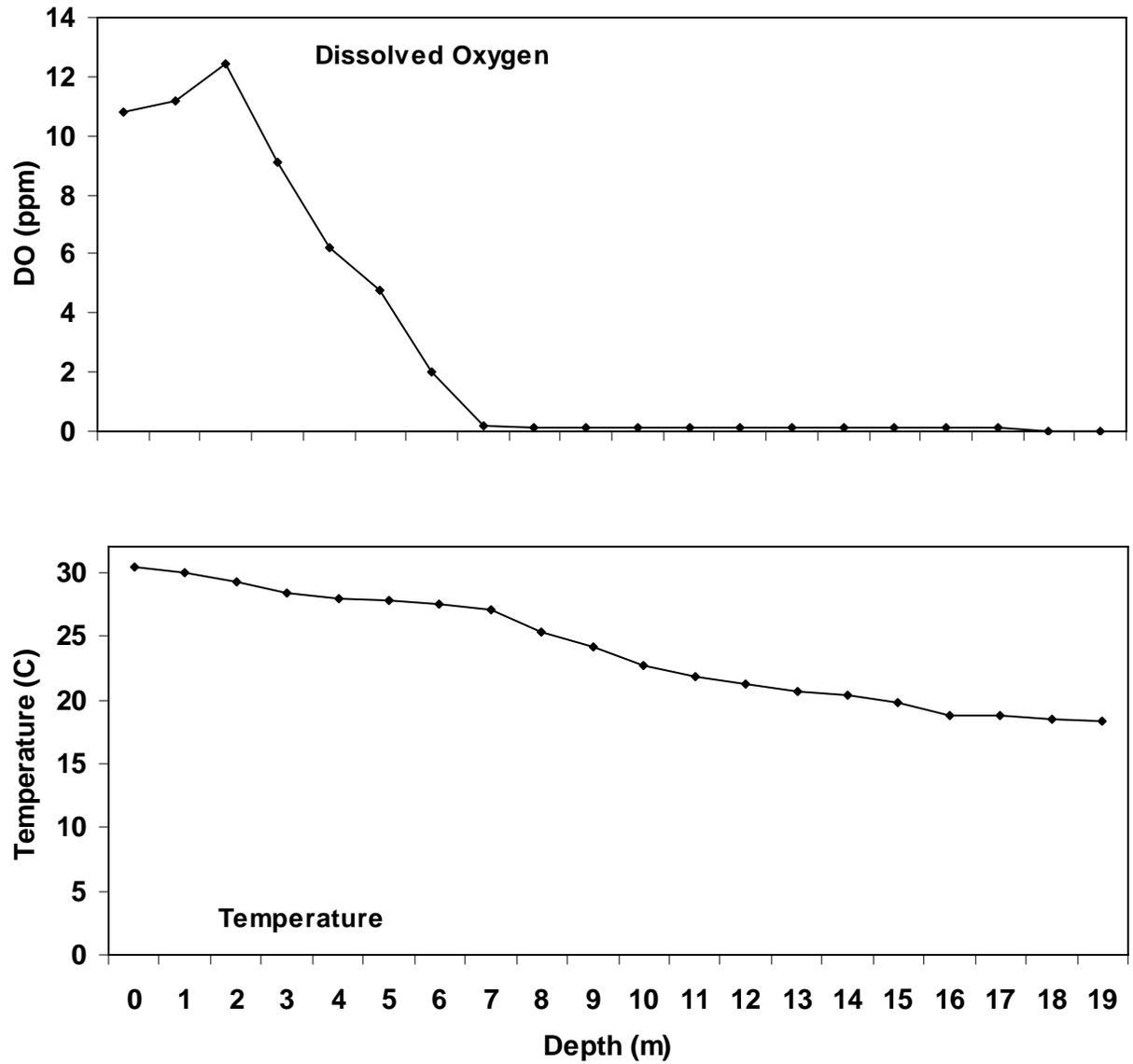


Figure A8. Douglas Reservoir water quality data at FBRM 60, August 2006.

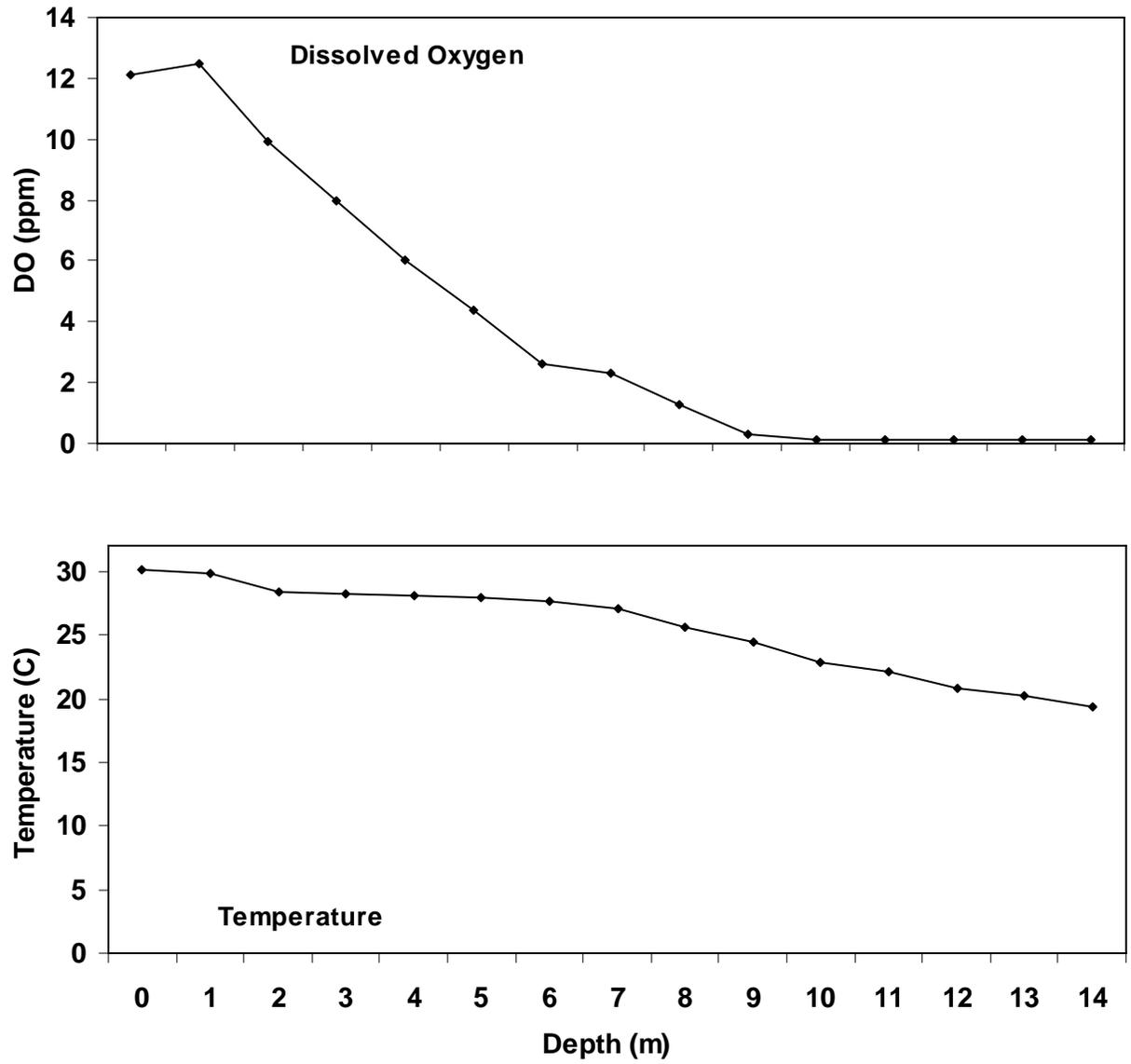


Figure A9. Douglas Reservoir water quality data at FBRM 34, September 2006.

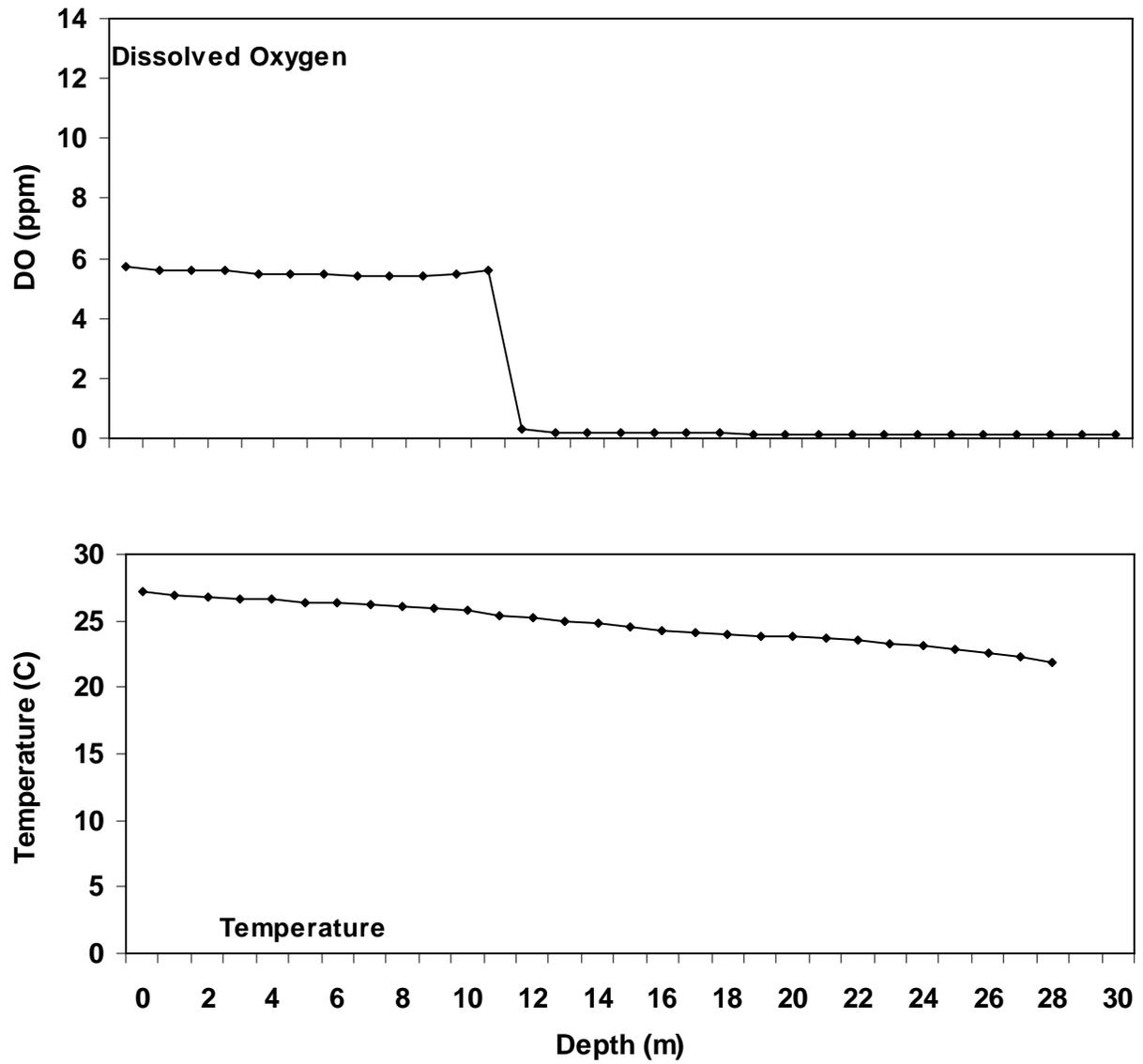


Figure A10. Douglas Reservoir water quality data at FBRM 40, September 2006.

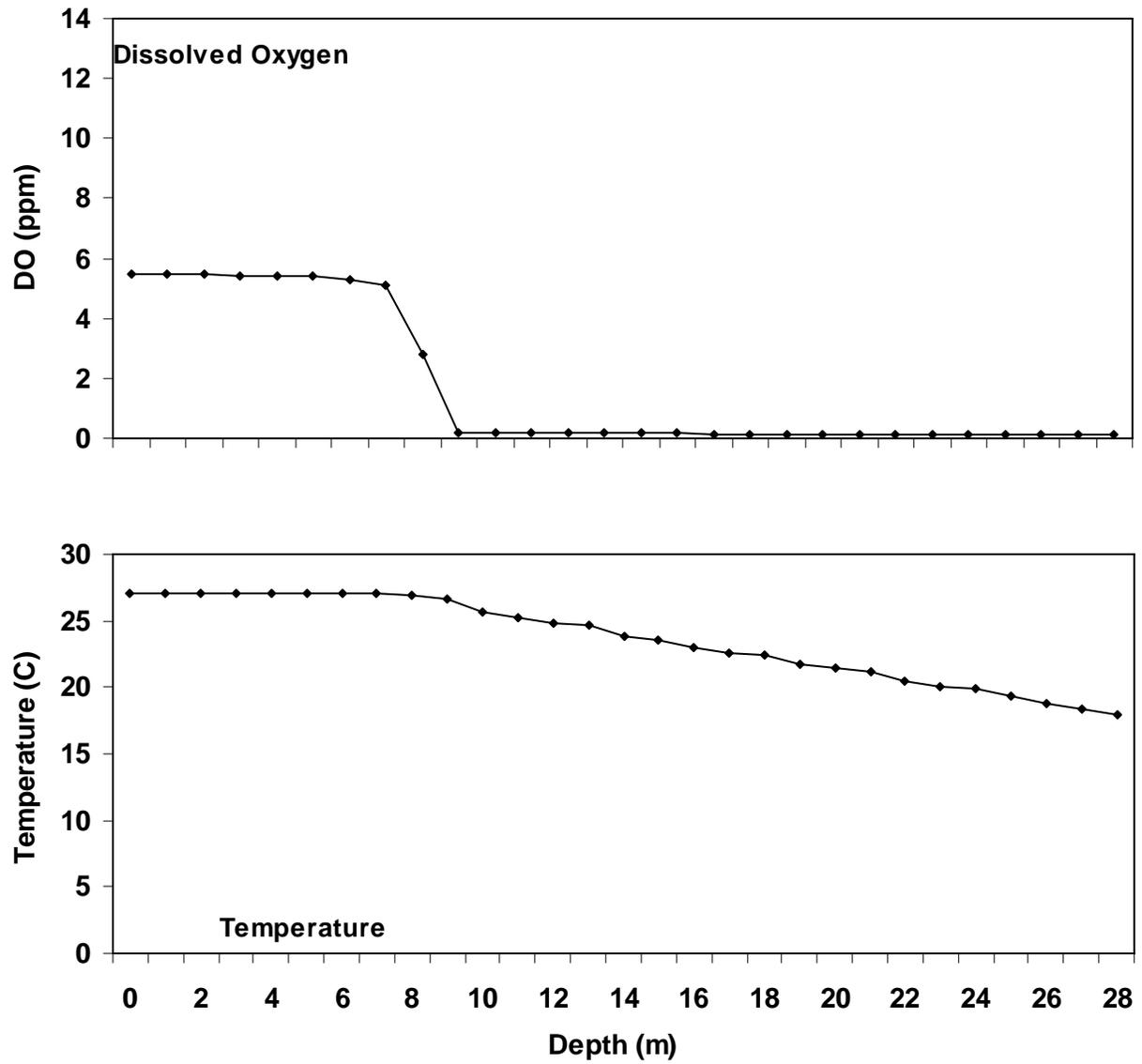
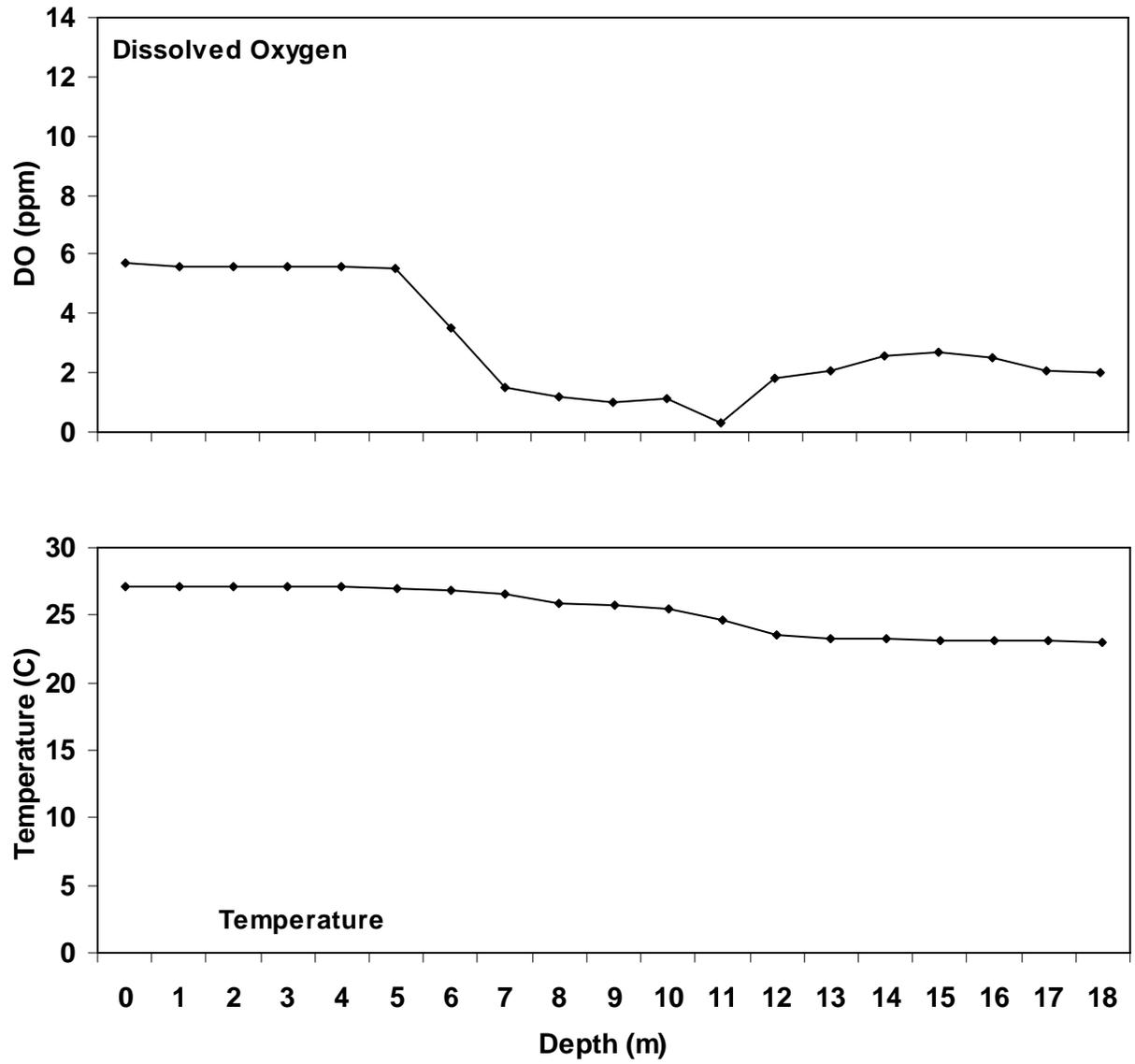


Figure A11. Douglas Reservoir water quality data at FBRM 50, September 2006.



Appendix B
Elevation Data

Table B1. Douglas Reservoir elevation data for 2006. Data is courtesy of TVA.

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
952.20	January	1	954.19	February	24	974.78	April	19
952.86	January	2	955.20	February	25	975.70	April	20
953.50	January	3	956.01	February	26	977.09	April	21
954.24	January	4	956.16	February	27	979.86	April	22
953.10	January	5	956.10	February	28	982.20	April	23
952.27	January	6	956.69	March	1	983.59	April	24
953.01	January	7	956.58	March	2	983.87	April	25
953.52	January	8	955.45	March	3	984.68	April	26
952.50	January	9	955.96	March	4	986.01	April	27
952.37	January	10	956.36	March	5	987.43	April	28
952.32	January	11	956.78	March	6	988.31	April	29
952.47	January	12	955.77	March	7	988.99	April	30
952.47	January	13	955.64	March	8	989.24	May	1
951.44	January	14	954.57	March	9	989.42	May	2
952.17	January	15	954.92	March	10	989.55	May	3
950.52	January	16	955.24	March	11	989.87	May	4
949.41	January	17	955.57	March	12	990.31	May	5
951.10	January	18	956.08	March	13	990.77	May	6
952.93	January	19	956.64	March	14	991.21	May	7
953.88	January	20	957.11	March	15	991.63	May	8
955.23	January	21	957.24	March	16	991.98	May	9
956.43	January	22	957.51	March	17	992.12	May	10
955.48	January	23	957.88	March	18	992.19	May	11
955.58	January	24	958.21	March	19	992.29	May	12
955.60	January	25	958.69	March	20	992.55	May	13
955.20	January	26	959.43	March	21	992.88	May	14
954.71	January	27	960.21	March	22	993.03	May	15
954.99	January	28	960.99	March	23	993.20	May	16
955.28	January	29	961.66	March	24	993.41	May	17
955.01	January	30	962.26	March	25	993.64	May	18
954.60	January	31	962.77	March	26	993.88	May	19
954.17	February	1	963.21	March	27	994.41	May	20
954.84	February	2	963.65	March	28	994.86	May	21
954.92	February	3	964.00	March	29	994.94	May	22
954.96	February	4	964.35	March	30	994.92	May	23
954.77	February	5	964.77	March	31	994.81	May	24
954.99	February	6	965.15	April	1	994.66	May	25
954.97	February	7	965.53	April	2	994.62	May	26
954.74	February	8	966.41	April	3	994.55	May	27
954.41	February	9	967.08	April	4	994.71	May	28
953.72	February	10	967.68	April	5	994.60	May	29
953.71	February	11	968.14	April	6	994.37	May	30
953.75	February	12	968.59	April	7	994.29	May	31
952.49	February	13	969.49	April	8	994.22	June	1
951.15	February	14	970.26	April	9	994.35	June	2
951.74	February	15	970.95	April	10	994.73	June	3
952.44	February	16	971.51	April	11	995.11	June	4
953.26	February	17	972.01	April	12	995.06	June	5
952.78	February	18	972.46	April	13	994.98	June	6
952.44	February	19	972.82	April	14	994.74	June	7
951.30	February	20	973.21	April	15	994.31	June	8
950.65	February	21	973.54	April	16	993.77	June	9
951.64	February	22	973.88	April	17	993.79	June	10
952.88	February	23	974.2	April	18	993.79	June	11

Table B1. Continued.

Elevation	Month	Day	Elevation	Month	Day	Elevation	Month	Day
993.71	June	12	987.98	August	5	977.22	September	28
993.75	June	13	987.83	August	6	977.27	September	29
993.71	June	14	987.47	August	7	977.42	September	30
993.64	June	15	987.14	August	8	977.44	October	1
993.54	June	16	986.77	August	9	976.79	October	2
993.59	June	17	986.45	August	10	976.16	October	3
993.66	June	18	986.29	August	11	975.54	October	4
993.41	June	19	986.69	August	12	975.27	October	5
993.05	June	20	987.29	August	13	974.79	October	6
992.94	June	21	986.95	August	14	975.03	October	7
992.73	June	22	986.60	August	15	975.19	October	8
992.74	June	23	986.32	August	16	974.86	October	9
992.88	June	24	985.98	August	17	974.35	October	10
993.00	June	25	985.64	August	18	973.70	October	11
993.12	June	26	985.51	August	19	973.26	October	12
993.75	June	27	985.44	August	20	972.82	October	13
994.06	June	28	985.27	August	21	972.35	October	14
994.08	June	29	985.04	August	22	972.45	October	15
993.89	June	30	984.68	August	23	972.08	October	16
993.64	July	1	984.20	August	24	971.69	October	17
993.19	July	2	983.69	August	25	971.55	October	18
993.05	July	3	983.56	August	26	971.70	October	19
992.81	July	4	983.35	August	27	971.69	October	20
992.82	July	5	982.95	August	28	972.00	October	21
993.09	July	6	982.64	August	29	972.25	October	22
993.08	July	7	982.32	August	30	971.84	October	23
992.82	July	8	982.39	August	31	971.40	October	24
992.72	July	9	982.83	September	1	970.83	October	25
992.25	July	10	983.22	September	2	970.27	October	26
992.05	July	11	983.19	September	3	969.93	October	27
992.12	July	12	983.36	September	4	969.97	October	28
991.85	July	13	983.76	September	5	970.14	October	29
991.53	July	14	984.17	September	6	970.19	October	30
991.50	July	15	984.15	September	7	970.05	October	31
991.64	July	16	983.46	September	8	970.01	November	1
991.10	July	17	982.77	September	9	969.74	November	2
990.99	July	18	982.29	September	10	969.37	November	3
990.90	July	19	981.38	September	11	969.42	November	4
990.49	July	20	980.48	September	12	969.40	November	5
990.50	July	21	980.03	September	13	968.79	November	6
990.40	July	22	979.49	September	14	968.41	November	7
990.31	July	23	978.99	September	15	968.52	November	8
990.18	July	24	978.35	September	16	968.99	November	9
990.18	July	25	977.22	September	17	969.18	November	10
990.06	July	26	976.08	September	18	969.17	November	11
990.00	July	27	976.16	September	19	969.08	November	12
989.89	July	28	976.41	September	20	968.77	November	13
989.97	July	29	976.55	September	21	968.35	November	14
990.01	July	30	976.58	September	22	968.15	November	15
989.64	July	31	976.75	September	23	968.17	November	16
989.24	August	1	976.99	September	24	968.42	November	17
988.83	August	2	977.27	September	25	968.55	November	18
988.48	August	3	977.37	September	26	968.33	November	19
988.07	August	4	977.15	September	27	967.49	November	20

Table B1. Continued.

Elevation	Month	Day
966.48	November	21
965.40	November	22
965.23	November	23
964.95	November	24
964.72	November	25
964.36	November	26
963.14	November	27
962.01	November	28
961.37	November	29
960.85	November	30
960.39	December	1
960.36	December	2
960.36	December	3
959.14	December	4
958.30	December	5
957.38	December	6
956.65	December	7
955.49	December	8
954.86	December	9
954.49	December	10
954.03	December	11
953.71	December	12
953.96	December	13
953.70	December	14
953.39	December	15
953.63	December	16
953.76	December	17
953.80	December	18
953.89	December	19
953.90	December	20
954.07	December	21
953.39	December	22
954.02	December	23
955.07	December	24
955.69	December	25
955.56	December	26
955.83	December	27
956.04	December	28
956.12	December	29
956.36	December	30
956.65	December	31

Figure B1. Douglas Reservoir daily reservoir elevations 2006 (TVA data).

