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Date: 10/5/04 9:57AM
Subject: Outgoing NRC Correspondence Serial No. 04-587: Response to August 2004 Request for Additional Information - North Anna Early Site Permit Application

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04-587_Ltr&AttOnly.pdf	3404571	
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Options

Expiration Date: None

Priority: Standard

Reply Requested: No

Return Notification: None

Concealed Subject: No

Security: Standard



October 4, 2004

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 04-587
ESP/JDH
Docket No. 52-008

DOMINION NUCLEAR NORTH ANNA, LLC
NORTH ANNA EARLY SITE PERMIT APPLICATION
RESPONSE TO AUGUST 2004 REQUEST FOR ADDITIONAL INFORMATION

In August 2004, Dominion Nuclear North Anna (Dominion) and the NRC staff held a series of telephone calls pertaining to the environmental review of the North Anna Early Site Permit application. During the calls, NRC requested additional information on five topics. The calls were documented by the NRC on August 17, 2004 (ADAMS Accession No. ML042310737). Dominion's responses to the five questions are provided in the enclosure.

It is our intent to update the North Anna ESP application to reflect our responses to these and other RAIs to support issuance of the NRC staff's draft safety and environmental evaluations scheduled for later this year. In this instance, no update to the application was required as a result of our responses.

If you have any questions or require additional information, please contact Mr. Tony Banks at 804-273-2170.

Very truly yours,

A handwritten signature in black ink, appearing to read "L. Hartz", written over a horizontal line.

Leslie N. Hartz
Vice President-Nuclear Engineering

Enclosures: 1. Responses to August 2004 Request for Additional Information
2. Environmental Study of Lake Anna (2001 Annual Report)
3. Park Visitor and Boat Launch Data Sheets

Commitments made in this letter: None

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COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Engineering, of Dominion Nuclear North Anna, LLC. She has affirmed before me that she is duly authorized to execute and file the foregoing document on behalf of Dominion Nuclear North Anna, LLC, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 4TH day of October, 2004.

My Commission expires: May 31, 2006

Vicki L. Hull
Notary Public

(SEAL)

Enclosure 1

**Response to August 2004 Request for Additional Information
Pertaining to the Environmental Report**

Environmental RAI 1 (August 17, 2004 NRC document)

Provide a figure to show location of intake structure for Unit 3 in greater detail. The area in the center of Figure 1.1-1 that covers the shoreline from north of the Unit 3 intake canal to the shoreline west of the Unit 1&2 intake is approximately what needs to be covered.

Response

The requested figure has been provided to NRC and is available in ADAMS at Accession No. ML042510382.

Application Revision

None

Environmental RAI 2 (August 17, 2004 NRC document)

Provide the reports for the past 5 years from Dominion to the State that cover the sampling and monitoring of fish and other aquatic resources downstream of the North Anna Dam. Include any analysis and conclusions that cover the recent drought years.

Response

The "Environmental Study of Lake Anna and the Lower North Anna River" annual monitoring reports prepared by Dominion for the years 1998, 1999 and 2000 have been provided to the NRC and are available in ADAMS at Accession Nos. ML020230033, ML020230115, and ML021680344, respectively. A copy of the 2001 report is provided as Enclosure 2. The 2002 and 2003 reports are in production.

A 2004 North Anna River Low Flow Monitoring Report prepared by Dominion has been provided to NRC and is available in ADAMS at Accession No. ML042450399. The report includes analysis and conclusions that cover the 2001-2002 drought years.

Application Revision

None

Environmental RAI 3 (August 17, 2004 NRC document)

Provide the recreational data (Lake Anna and Lake Anna State Park) for the years 1999 through 2003 that is available from the Virginia Department of Conservation and Recreation (VDCR). The purpose is to ascertain the potential drought impacts, if any, on recreational use of the lake and park.

Response

The 1998-2003 VDCR recreational data sheets for Virginia state parks, which identify Lake Anna State Park attendance and Lake Anna State Park boat launch (ramp) usage, are provided in Enclosure 3. Some of the data sheets were previously provided to the NRC and Pacific Northwest National Laboratory reviewers and were discussed on the telephone conference calls between NRC staff and Dominion in August 2004.

Application Revision

None

Environmental RAI 4 (August 17, 2004 NRC document)

Provide a full description and detailed analysis of the environmental effects of the transportation of advanced LWR and gas-cooled reactor spent fuel that meets the intent of 10 CFR 51.52(b). Use an acceptable methodology, such as RADTRAN 5. The transportation risk assessment must describe key input parameters and assumptions and provide justification that the best available information has been used in developing the RADTRAN 5 input values.

Response

The requested information has been provided to the NRC and is available in ADAMS at Accession No. ML042640344.

Application Revision

None

Environmental RAI 5 (August 17, 2004 NRC document)

Clarify whether or not the barking tree frog (*Hyla gratiosa*) is present at the Surry site.

Response

The requested information has been provided to NRC and is available in ADAMS at Accession No. ML042440689.

Application Revision

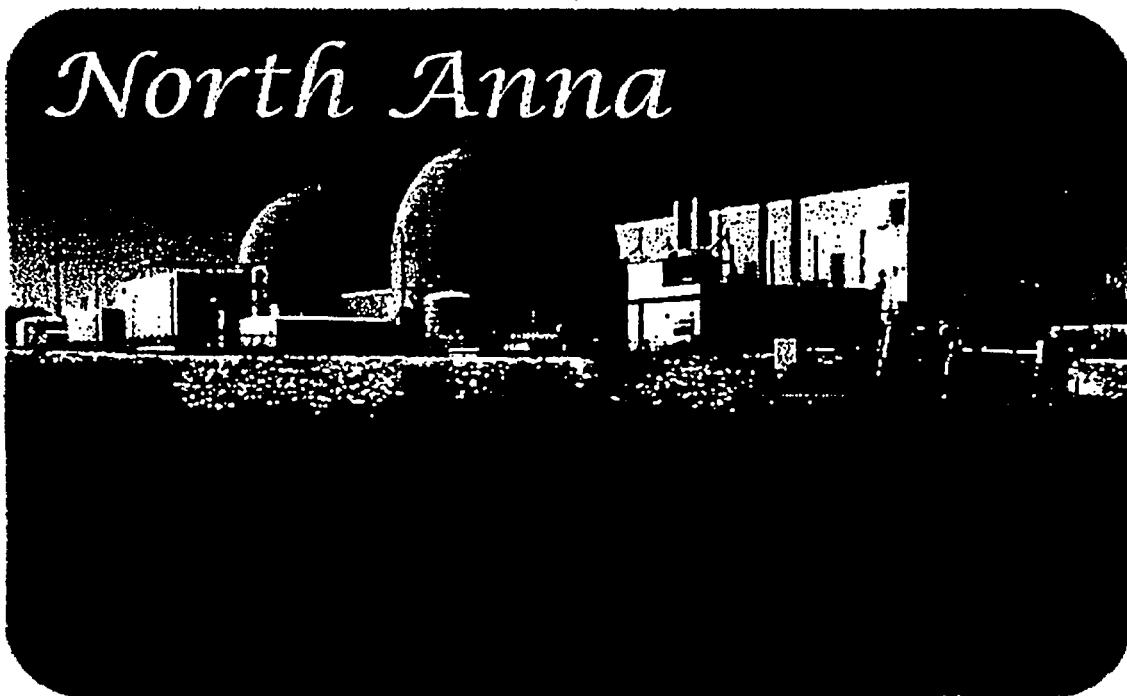
None

Enclosure 2

**Environmental Study of Lake Anna
And the Lower North Anna River
Annual Report for 2001**

ENVIRONMENTAL STUDY OF LAKE ANNA
AND THE LOWER NORTH ANNA RIVER

ANNUAL REPORT FOR 2001



Prepared by:

ENVIRONMENTAL BIOLOGY
ELECTRIC ENVIRONMENTAL SERVICES

In an effort to conserve our natural resources, this report is being printed on both sides of recycled paper.

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Executive Summary

Following the successful completion of the North Anna Power Station 316(a) Demonstration in 1986, Dominion (the Company) agreed to continue selected environmental monitoring studies on Lake Anna and the North Anna River. Correspondent with the recommendations in the three-year review of post-316(a) studies for 1989-1991, the Company requested and was granted a reduction in certain of the monitoring programs by the Department of Environmental Quality (DEQ). The revised annual study program was to be continued with a review every three years for possible revisions or changes. This report represents findings from monitoring programs conducted during 2001, the first year of the three year study period 2001 through 2003.

Station generation for 2001 was again outstanding with levels comparable to 1990 and 1991. Water temperature data for 2001 both in the lake and downstream were similar to historical data. A record number of fish was collected by electrofishing in 2001, hypothesized to be due primarily to a dramatic drop in lake levels during the fourth quarter sampling. This lake level drop in 2001, as in 1998, concentrated bluegill sunfish Lepomis macrochirus at several sample sites resulting in the relatively large numbers of fish collected during that period. The sampling for the first three quarters of 2001 occurred at or near normal lake level. Gill netting numbers in 2001 were higher than in 2000 but similar to historical data. In 2001, Lake Anna anglers reported 50 citation largemouth bass Micropterus salmoides (greater than 55.9 cm in length or 36 kg in weight) ranking Lake Anna as the second best trophy bass lake in the state. The 2001 hydrilla Hydrilla verticillata survey was not conducted due to air space restriction because of the September 11, 2001 incident as well as low lake levels.

In the lower North Anna River below North Anna dam the total number of fish collected by electrofishing in 2001 was greater than the 2000 catch with increases at all four stations. Also,

underwater observations of largemouth bass and smallmouth bass in 2001 continued to indicate that largemouth bass are more abundant in the upper reaches of the river below Lake Anna and smallmouth bass more abundant in the lower reaches.

In summary, the 2001 data indicate that both the lake and river downstream of the lake support a diverse and healthy fishery.

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1.0

Introduction

In 1972, the North Anna River was impounded to create Lake Anna, a 3885 hectare (9600 acres) reservoir (lake) that provides condenser cooling water for the North Anna Power Station (NAPS). Adjacent to Lake Anna is a 1376 hectare (3400 acre) Waste Heat Treatment Facility (WHTF) that receives the cooling water and transfers excess heat from the water to the atmosphere before discharging into the lake.

Aquatic monitoring studies have been conducted on Lake Anna since its inception. In January, 1984, the Company initiated an extensive Section 316(a) demonstration study (P.L. 95-500) to determine if proposed effluent limitations on thermal discharges from the power station were more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in Lake Anna and the lower North Anna River. The final report (Virginia Power 316(a) Report 1986) successfully demonstrated that the operation of the power station had not resulted in appreciable harm to the biological community. The Virginia Water Control Board (VWCB) accepted the study as a successful demonstration in September, 1986.

Subsequent to the 316(a) study, the Company committed with the VWCB to continue environmental monitoring on Lake Anna and the lower North Anna River as part of a post 316(a) agreement. Also, following each three year period of data collection, a summary report is provided with recommendations for future studies. This report presents the findings for calendar year 2001, the first year of the three year period 2001-2003.

2.0 Station Operation

North Anna Power Station (NAPS) operated at an average of 81% of capacity for 2001. The station operated at 84% and 94% of capacity for the first quarter and second quarter respectively and 80% for the third and 67.8% in the fourth quarter. The Station's Unit 1 was shutdown in September for a scheduled refueling outage. This outage resulted in the lower capacity during the third quarter. Unit 2 was out from 10/28 through 12/15 for repair to the reactor head. This combined with a short outage on 12/23 resulted in the fourth quarter percentage of 67%. The yearly average of 81% for 2001 was comparable to generation capacity in 1990, 1991 and 1996 thereby placing North Anna Power Station as an industry leader in low cost generation (Table 2.0-1).

TABLE 2.0-1 Seasonal summary of North Anna Power Station operation (percent of total station load) 1978-2001.

<u>Year</u>	<u>Winter</u>	<u>Spring</u>	<u>Summer</u>	<u>Fall</u>	<u>Quarterly Average</u>
1978	0	23	42	45	27.5
1979	43	31	44	0	29.5
1980	31	37	53	65	46.5
1981	46	80	67	82	68.8
1982	78	26	19	48	42.8
1983	53	58	96	84	72.8
1984	76	64	16	66	55.5
1985	87	96	82	62	81.8
1986	75	88	62	80	76.3
1987	92	45	23	47	51.8
1988	75	99	94	97	91.3
1989	47	26	87	65	56.3
1990	98	98	69	61	81.5
1991	63	89	84	92	82
1992	35	80	92	71	69.5
1993	49	83	79	82	73.3
1994	96	91	75	91	88.5
1995	87	64	98	97	86.5
1996	76	98	83	66	80.8
1997	98	80	97	97	93
1998	96	81	85	94	89
1999	97	90	87	93	92
2000	84	91	100	100	94
2001	84	94	80	67	81
Quarters at 75-100%	15	15	14	12	

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3.0 Lake Anna

3.1 Temperature

Methods

Lake water temperature data in 2001 were collected using continuous monitors (fixed temperature recorders) and instantaneous field surveys. Continuous temperatures were measured using Onset Optical Stowaway temperature recorders which measure and record the water temperature at one hour intervals at seven (7) stations in the lake and three (3) stations in the WHTF. These instruments were located one meter below the lake surface at the stations depicted in Figure 3.1-1, the lone exception being Station NALST10. The instrument at this station was located at a depth of three meters to account for the turbulence associated with mixing. A summary of the data recorded by these instruments for 2001 is presented in Table 3.1-1 as daily high, mean and low temperatures.

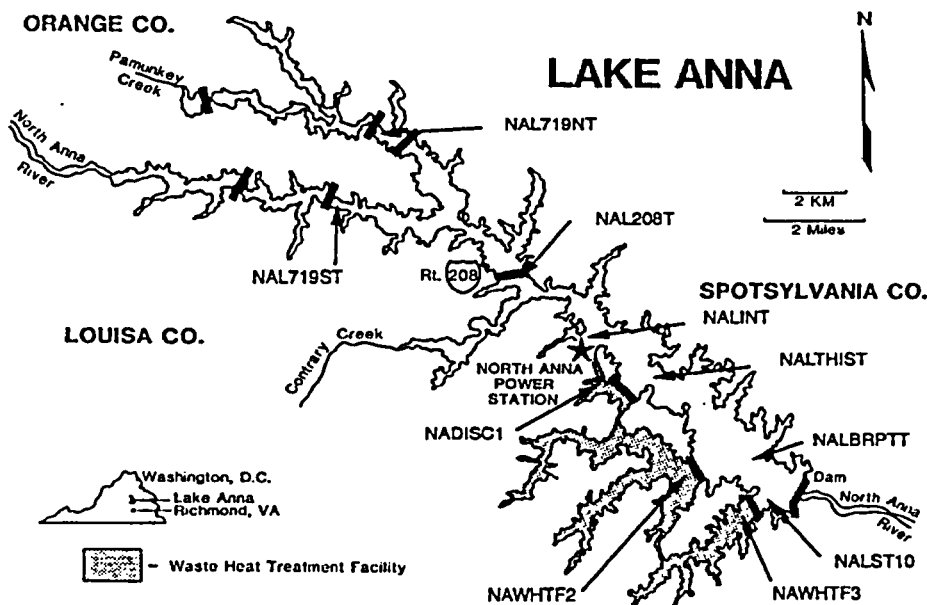


FIGURE 3.1-1 Approximate location of fixed Endeco and Onset temperature recorders in Lake Anna and WHTF

TABLE 3.1-1. SUMMARY OF NORTH ANNA FIXED RECORDER TEMPERATURE DATA DURING 2001. ALL RESULTS ARE CALCULATED FROM HOURLY TEMPERATURES (IN DEGREES CELSIUS). ALL ARE SURFACE INSTRUMENTS EXCEPT FOR NALST10 WHICH IS AT MID-DEPTH.
A *** INDICATES DATA MISSING DUE TO INSTRUMENT MALFUNCTION OR DAMAGE.

YEAR=2001 MONTH=JANUARY

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHITF2 8	NAWHITF3 9	NARIV601 11
HOURLY HIGH	5.0	5.1	*	8.8	7.7	13.3	12.4	20.8	14.1	14.8	10.9
HOURLY MEAN	4.2	3.9	*	5.5	5.6	10.0	10.2	17.9	12.4	11.9	8.7
HOURLY LOW	3.5	2.8	*	3.5	4.7	6.9	8.0	13.1	10.2	10.2	5.0

YEAR=2001 MONTH=FEBRUARY

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHITF2 8	NAWHITF3 9	NARIV601 11
HOURLY HIGH	8.8	7.3	*	8.0	9.2	10.9	11.6	19.7	16.2	14.8	11.3
HOURLY MEAN	6.4	5.6	*	5.9	7.4	9.5	10.6	18.2	14.4	12.8	9.4
HOURLY LOW	5.0	4.3	*	4.3	5.8	8.0	9.1	16.9	12.0	11.3	5.8

YEAR=2001 MONTH=MARCH

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHITF2 8	NAWHITF3 9	NARIV601 11
HOURLY HIGH	11.3	10.2	*	9.5	10.6	11.6	12.3	20.4	16.6	14.8	12.0
HOURLY MEAN	8.6	7.7	*	7.6	9.0	10.4	11.5	19.1	14.2	13.4	10.5
HOURLY LOW	6.6	5.4	*	6.1	7.3	9.5	10.2	14.8	12.3	12.3	8.4

YEAR=2001 MONTH=APRIL

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHITF2 8	NAWHITF3 9	NARIV601 11
HOURLY HIGH	21.1	20.8	*	19.0	19.4	20.0	18.2	28.6	25.7	24.0	21.0
HOURLY MEAN	15.6	15.4	*	14.4	15.2	15.5	14.7	22.9	20.2	18.9	15.5
HOURLY LOW	9.9	8.8	*	8.4	9.5	10.6	10.9	14.1	14.5	13.4	10.2

TABLE 3.1-1(CONT.). SUMMARY OF NORTH ANNA FIXED RECORDER TEMPERATURE DATA DURING 2001. ALL RESULTS ARE CALCULATED FROM HOURLY TEMPERATURES (IN DEGREES CELSIUS). ALL ARE SURFACE INSTRUMENTS EXCEPT FOR NALST10 WHICH IS AT MID-DEPTH.

A *** INDICATES DATA MISSING DUE TO INSTRUMENT MALFUNCTION OR DAMAGE.

STATION NO. 6 5 4 2 1 3 10 7 8 9

YEAR-2001 MONTH-MAY

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	25.3	25.3	24.3	23.9	23.5	23.9	22.8	31.5	29.7	27.5	24.7
HOURLY MEAN	21.9	21.8	21.8	21.7	21.7	22.1	20.1	29.8	27.1	25.6	21.8
HOURLY LOW	19.3	18.7	18.3	18.7	18.7	19.8	16.9	27.5	24.6	22.5	18.4

YEAR-2001 MONTH-JUNE

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	31.5	31.5	31.1	31.1	30.8	31.1	28.9	37.3	36.1	34.2	31.5
HOURLY MEAN	27.8	27.8	26.9	26.7	26.6	26.9	25.2	33.9	31.6	30.1	26.6
HOURLY LOW	21.8	21.5	22.1	22.1	22.1	22.8	21.7	30.8	27.1	25.7	22.8

YEAR-2001 MONTH-JULY

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	38.8	38.8	38.4	38.8	38.8	38.4	38.3	37.3	35.8	33.1	30.5
HOURLY MEAN	28.1	28.2	28.4	28.4	28.7	29.1	28.8	35.8	33.2	31.4	28.3
HOURLY LOW	25.7	25.7	26.4	26.8	27.1	27.8	27.1	34.2	30.8	29.3	26.2

YEAR-2001 MONTH-AUGUST

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	32.3	32.5	32.3	31.5	32.8	30.9	30.3	37.3	35.9	34.3	32.2
HOURLY MEAN	29.3	29.2	29.5	29.6	29.3	29.5	29.4	35.8	33.5	32.8	29.3
HOURLY LOW	26.4	26.1	26.8	27.1	27.5	27.6	28.8	34.2	31.2	29.7	26.3

TABLE 3.1-1(CONT.). SUMMARY OF NORTH ANNA FIXED RECORDER TEMPERATURE DATA DURING 2001. ALL RESULTS ARE CALCULATED FROM HOURLY TEMPERATURES (IN DEGREES CELSIUS). ALL ARE SURFACE INSTRUMENTS EXCEPT FOR NALST10 WHICH IS AT MID-DEPTH.
A *** INDICATES DATA MISSING DUE TO INSTRUMENT MALFUNCTION OR DAMAGE.

YEAR=2001 MONTH=SEPTEMBER

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	28.9	29.0	29.3	30.0	29.1	29.7	29.9	36.0	33.7	31.7	29.9
HOURLY MEAN	25.6	25.5	26.5	27.2	26.4	26.8	27.2	33.6	29.9	28.2	26.1
HOURLY LOW	21.1	21.1	22.5	23.2	22.2	22.8	22.9	30.0	25.1	23.2	21.3

YEAR=2001 MONTH=OCTOBER

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	22.3	23.3	25.4	24.3	23.2	24.0	23.2	30.2	27.3	24.7	23.4
HOURLY MEAN	18.7	19.1	20.0	20.2	20.4	20.5	21.5	27.8	24.7	22.8	20.2
HOURLY LOW	14.6	15.2	16.6	17.0	17.5	9.1	19.0	22.8	20.4	20.1	16.8

YEAR=2001 MONTH=NOVEMBER

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	17.1	17.3	18.4	18.7	18.8	*	19.4	24.7	22.3	20.8	19.6
HOURLY MEAN	13.6	13.8	15.4	15.7	16.0	*	17.0	22.1	19.1	17.9	16.0
HOURLY LOW	11.5	11.5	13.5	13.8	14.3	*	15.5	20.0	17.2	15.9	13.4

YEAR=2001 MONTH=DECEMBER

STATISTIC/ STATION	NAL719ST 6	NAL719NT 5	NAL208T 4	NALINT 2	NALTHIST 1	NALBRPTT 3	NALST10 10	NADISC1 7	NAWHIT2 8	NAWHIT3 9	NARIV601 11
HOURLY HIGH	15.0	15.4	16.1	16.0	16.5	16.6	16.6	23.8	20.4	18.3	16.8
HOURLY MEAN	10.7	11.1	12.4	12.9	13.3	14.1	14.8	21.7	17.6	15.8	13.5
HOURLY LOW	5.7	6.3	7.9	9.0	9.6	10.6	12.0	18.1	15.2	12.7	9.3

The instantaneous temperatures were measured using a Yellow Springs Model 3000 T-L-C field temperature instrument. Temperatures were measured at one (1) meter intervals, surface to bottom, at the stations shown in Figure 3.1-2. The results of these surveys are shown in Table 3.1-2.

FIGURE 3.1-2 Approximate location of thermal plume sampling stations on Lake Anna

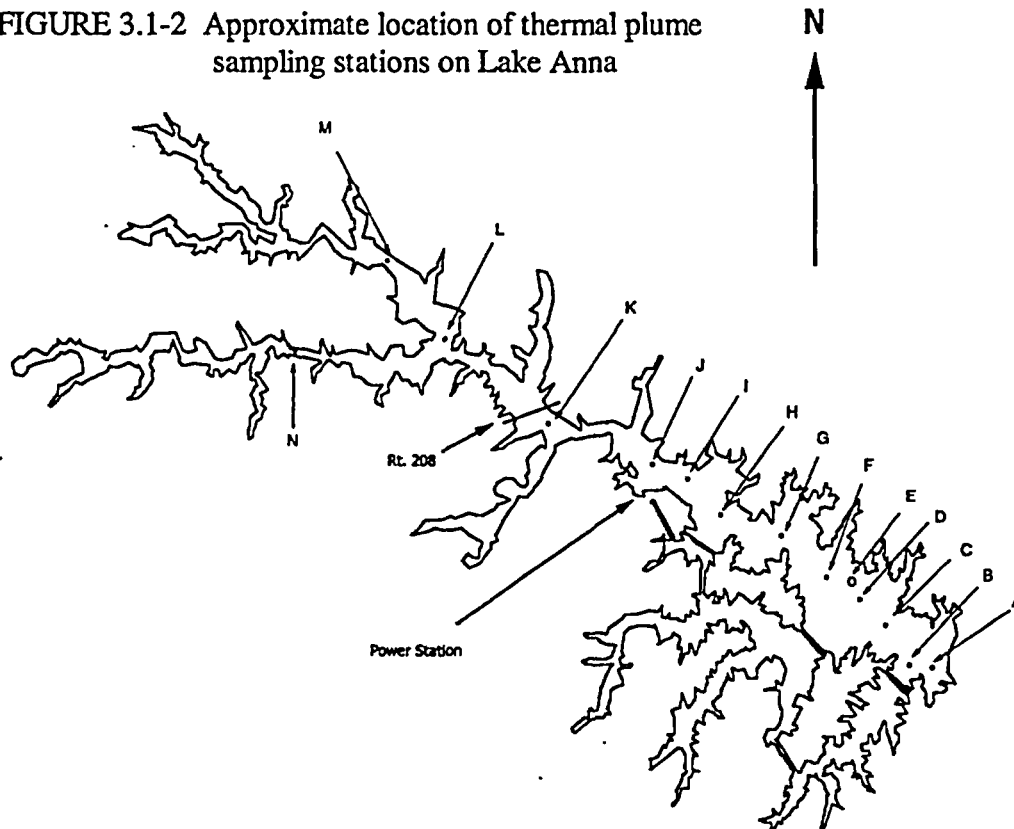


TABLE 3.1-2. NORTH ANNA LAKE SURVEY SHOWING TEMPERATURES (IN CELSIUS DEGREES) MEASURED AT ONE METER INTERVAL DEPTHS FOR STATIONS IN LAKE ANNA.

DATE	DEPTH (M)	STATION													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
02/07/2001	0	10.3	10.5	10.1	10.1	10.1	9.5	8.7	8.1	7.9	7.3	6.2	5.2	5.6	5.5
	1	10.0	10.5	10.0	10.0	10.0	9.2	8.5	7.9	7.7	7.1	5.8	5.0	5.3	5.3
	2	10.0	10.4	9.7	9.8	9.8	8.9	8.4	7.7	7.4	7.0	5.7	4.8	5.3	5.3
	3	9.9	10.4	9.0	9.2	9.2	8.8	8.3	7.6	7.3	7.0	5.6	4.8	5.3	5.2
	4	9.8	10.3	8.9	8.9	9.1	8.8	8.3	7.5	7.3	6.9	5.5	4.8	5.3	5.2
	5	9.8	10.2	8.8	8.9	9.0	8.7	8.3	7.4	7.2	6.9	5.3	4.8	5.3	5.2
	6	9.6	10.0	8.8	8.8	9.0	8.7	8.2	7.4	7.2	6.9	5.2	4.8	5.3	5.2
	7	9.5	9.8	8.8	8.8	8.9	8.7	8.2	7.3	7.2	6.8	5.1	4.8	5.3	5.2
	8	9.3	9.5	8.8	8.8	8.9	8.6	8.1	7.1	7.1	6.7	5.1		5.3	
	9	9.1	9.2	8.8	8.7	8.8	8.5	8.1	7.0	7.0	6.6	5.1			
	10	8.8	8.9	8.7	8.7	8.7	8.4	7.9	6.8	6.9	6.5	5.1			
	11	8.7	8.9	8.7	8.7	8.5	8.3	7.8	6.6	6.8	6.2	5.1			
	12	8.6	8.8	8.7	8.7	8.5	8.2	7.6	6.3	6.5	5.9	5.1			
	13	8.6	8.8	8.7	8.7	8.5	8.0	7.4	6.1	6.2	5.9	5.1			
	14	8.6	8.8	8.6	8.6	8.5	8.0	7.3	6.1		5.9				
	15	8.5	8.8	8.6	8.6	8.5	7.8	7.2	6.1						
	16	8.5	8.8	8.5	8.5	8.5	7.8	7.1							
	17	8.5		8.3	8.4	8.5	7.8	7.1							
	18	8.5		8.3	8.4	8.5	7.8	6.9							
	19	8.4		8.3	8.4		7.8	6.9							
	20	8.4					7.8								
	21	8.4													

TABLE 3.1-2(CONT.), NORTH ANNA LAKE SURVEY SHOWING TEMPERATURES (IN CELSIUS DEGREES) MEASURED AT ONE METER INTERVAL DEPTHS FOR STATIONS IN LAKE ANNA.

DATE	DEPTH (M)	STATION													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
06/06/2001	0	24.8	24.3	24.6	24.6	24.6	25.2	25.8	24.8	24.7	24.8	24.4	24.1	25.8	24.7
	1	24.6	24.3	24.5	24.3	24.3	24.4	24.4	24.2	23.9	23.9	23.8	23.5	23.7	23.5
	2	24.4	24.1	24.2	24.0	24.2	24.2	24.3	23.8	23.6	23.7	23.1	23.1	22.9	22.8
	3	24.3	24.8	23.8	23.7	24.8	25.9	24.0	23.1	23.0	23.2	22.6	22.5	22.4	22.2
	4	24.2	23.6	23.5	23.5	23.7	23.7	23.6	22.8	22.6	22.9	22.4	22.3	22.1	21.9
	5	24.1	22.9	23.3	23.3	23.4	23.6	23.2	22.6	22.7	22.8	22.2	22.1	21.6	21.7
	6	23.9	22.4	23.1	23.1	23.1	23.3	22.9	22.5	22.5	22.5	22.1	22.0	21.4	21.5
	7	23.8	21.9	23.0	22.9	22.9	22.9	22.6	22.3	22.3	22.2	21.9	22.0	21.2	21.4
	8	23.3	21.4	22.8	22.8	22.8	22.6	22.3	22.0	22.1	22.8	21.6		21.1	
	9	22.6	21.2	22.5	22.6	22.5	22.4	21.8	21.7	21.8	21.9	21.3			
	10	22.1	20.9	22.3	22.2	22.2	22.0	21.5	21.3	21.6	21.4	20.9			
	11	21.4	20.5	21.7	21.7	21.6	21.4	20.9	21.1	21.3	20.5	20.4			
	12	20.6	19.6	21.0	21.8	21.8	20.6	20.2	20.6	20.9	20.4	20.3			
	13	19.6	19.0	20.2	20.2	20.0	19.9	19.8	20.4	20.5	20.3	20.5			
	14	18.9	18.9	19.3	19.4	19.6	19.5	19.5	20.1		20.0				
	15	18.4	19.0	18.8	18.9	19.1	19.0	19.3	20.0						
	16	17.6	19.2	18.3	18.2	18.3	18.5	19.0							
	17	16.5		16.9	17.3	17.6	17.9	18.1							
	18	15.4		16.0	15.7	17.4	16.7	17.1							
	19	14.8		16.3	15.5		15.5	16.1							
	20	14.5					15.7								
	21	14.5													

TABLE 3.1-2(CONT.). NORTH ANNA LAKE SURVEY SHOWING TEMPERATURES (IN CELSIUS DEGREES) MEASURED AT ONE METER INTERVAL DEPTHS FOR STATIONS IN LAKE ANNA.

		STATION													
DATE	DEPTH (M)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
11/27/2001	0	16.0	16.1	16.0	15.8	15.9	15.8	15.5	15.4	15.1	15.0	14.6	13.9	13.2	13.4
	1	15.9	16.1	15.8	15.7	15.8	15.0	15.5	15.2	15.0	15.0	14.3	13.9	13.1	13.3
	2	15.9	16.0	15.6	15.6	15.7	15.6	15.4	15.1	14.9	14.9	14.3	13.5	13.0	13.2
	3	15.8	16.0	15.5	15.5	15.6	15.6	15.3	15.8	14.7	14.8	14.1	13.1	12.9	12.7
	4	15.8	15.9	15.4	15.3	15.1	15.5	15.2	14.7	14.5	14.7	14.2	13.8	12.4	11.9
	5	15.7	15.8	15.3	15.2	15.3	15.5	15.1	14.5	14.4	14.5	13.1	12.9	11.7	11.6
	6	15.6	15.7	15.2	15.2	15.3	15.4	14.9	14.4	14.3	14.3	13.0	12.8	11.4	11.7
	7	15.4	15.6	15.2	15.2	15.2	15.2	14.7	14.3	14.3	14.0	12.8	12.8	11.4	11.7
	8	15.1	15.6	15.1	15.1	15.2	15.1	14.5	14.2	14.1	13.4	12.6			
	9	15.0	15.5	15.1	15.1	15.1	15.0	14.3	14.0	13.8	13.2	12.6			
	10	15.0	15.4	15.1	15.1	15.1	14.8	14.2	13.9	13.4	13.0	12.5			
	11	15.0	15.5	15.1	15.0	15.0	14.6	14.1	13.6	13.2	12.9	12.4			
	12	15.0	15.2	15.0	14.9	15.1	14.4	13.9	13.5	13.1	12.9	12.3			
	13	15.0	15.2	15.0	14.9	15.1	14.1	13.8	13.4	13.1	12.9	12.3			
	14	14.9	15.2	15.0	14.9	15.1	14.0	13.7	13.1		12.9	12.2			
	15	14.9	15.2	14.9	14.8	15.1	14.0	13.7	13.4			12.2			
	16	14.9	15.2	14.9	14.8		14.0	13.6							
	17	14.9		14.8	14.8		14.0	13.6							
	18	14.9		14.8	14.9		14.0	13.7							
	19	14.9		14.8	14.9		14.0	13.8							
	20	14.9					14.0								
	21	14.9													

Results

The maximum high temperature recorded for the lake in 2001 by continuous monitors was 32.5°C in August at Station NA7I9NT which is located on the Pamunkey Arm of the upper lake (Table 3.1-1). The lowest monthly temperature recorded was 2.8°C in January again at Station NAL7I9NT. The 2001 monthly temperature data in Table 3.1-1 are within the ranges of data reported in previous years.

The instantaneous temperature surveys were conducted in February, June and November to provide temperature data to assess seasonal thermal stratification patterns in the lake (Table 3.1-2). The February survey shows a consistent change of approximately 2°C from surface to bottom in the deeper portion of the lake.

The June survey results show a thermocline at the 12 to 15 meter depth in the lower lake which disappears in the upper, shallow portion of the lake. The November survey again shows little stratification with surface to bottom temperature of approximately 2°C from the lower lake and continuing in the upper lake. This stratification pattern in the lake is not unusual and is similar to previously reported patterns (Virginia Power 1986-2000).

3.2 Fish Population Studies - Gill Netting

Methods

The monitoring of fish assemblage abundance and species composition for Lake Anna and the WHTF continued in 2001 using the same basic sampling technologies applied since 1972. Experimental gill netting was used to capture fishes which normally inhabit the deeper strata of the lake, or exhibit a diel movement to and from the shoreline. Similar to previous years, 2001 gill net surveys were conducted during February, May, August, and December at the stations shown in Figure 3.2-1. Experimental gill nets were set near littoral drop-off areas with procedures remaining unchanged since 1972. Fish collected by gill netting were returned to the laboratory where all individuals were measured to the nearest millimeter total length and weighed to the nearest 0.1 gram. Surface water temperature (°C), dissolved oxygen (mg/l), pH and conductivity (Φmhos) were recorded at the time of each sample collection (Table 3.2-1).

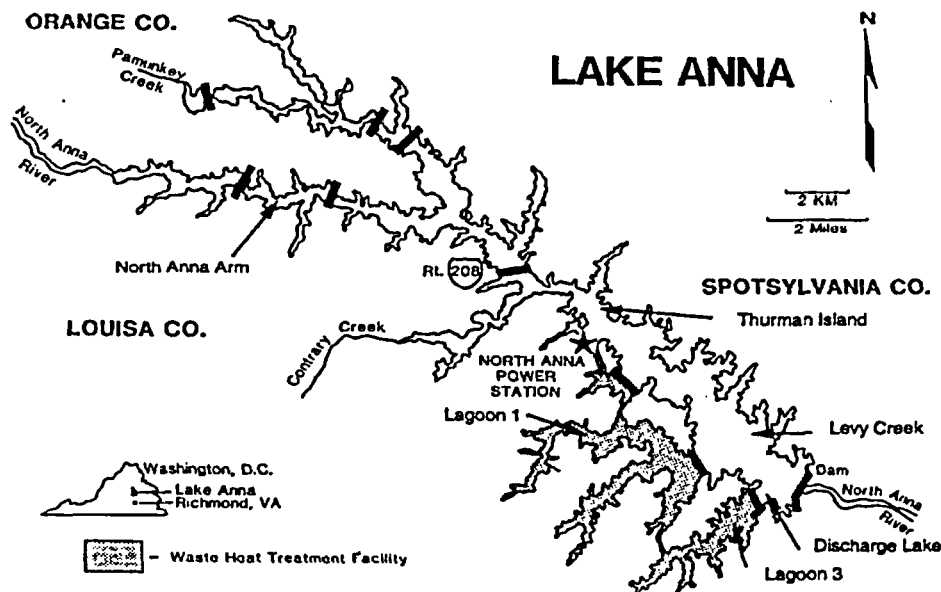


FIGURE 3.2-1 Location of Gill Netting stations on Lake Anna and WHTF

Results

Seventeen (17) species of fish representing seven (7) families were collected in Lake Anna and the WHTF by quarterly gill netting in 2001 (Table 3.2-2). In 2001, a total of 926 fish weighing 288.0 kg was collected from four stations in the lake and two stations in the WHTF (Table 3.2-3). The 2001 total number of fish (926) was higher than 2000 (710) and 1999 (670), while gill net biomass in 2001 (288.0 kg) was the same as biomass totals in 2000 and lower than 1999 (296.5 kg). Of the 926 fish collected, 764 (214.8 kg) were collected in the lake and 162 (73.1 kg) were collected in the WHTF. The February survey yielded the greatest total weight of fish collected (83.5kg) representing approximately 30% of the total weight of all fish collected from all stations and surveys combined. Striped bass and common carp accounted for approximately 50% of the biomass taken in February (Table 3.2-4). The August survey yielded the greatest total numbers of fish collected from the 2001 gill netting representing 46% of the total of all fish collected (44% of the August collection were threadfin shad Dorosoma petense).

Table 3.2-2. Fishes collected in Lake Anna by gill netting during 2001.

FAMILY	SPECIES	LAKE	WHTF
Clupeidae	Dorosoma cepedianum	X	X
	Dorosoma petenense	X	
Cyprinidae	Ctenopharyngodon idella	X	
	Cyprinus carpio	X	X
	Notropis hudsonius	X	
Catostomidae	Carpoides cyprinus	X	
Ictaluridae	Ameiurus catus	X	X
	Ameiurus nebulosus	X	
	Ictalurus punctatus	X	X
Moronidae	Morone americana	X	X
	Morone saxatilis	X	X
Centrarchidae	Lepomis gulosus	X	
	Lepomis macrochirus	X	X
	Lepomis microlophus		X
	Micropterus salmoides	X	X
	Pomoxis nigromaculatus	X	X
Percidae	Stizostedion vitreum	X	X

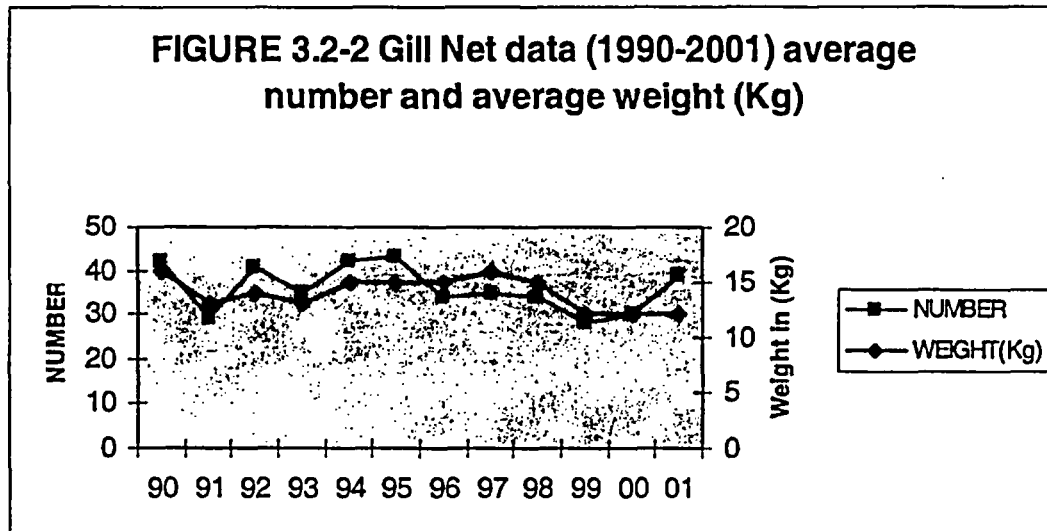
Table 3.2-3 also includes the average number and weight of fish collected per net set for each station for comparison of catch per unit effort by number (CPUE-N) and weight (CPUE-W). CPUE-N for all stations combined in 2001 was 38.6 fish per net while CPUE-W was 12.0 kg per net.

TABLE 3.2-3 NUMBER AND WEIGHT (g) OF FISHES BY STATION COLLECTED BY GILL NETTING AT LAKE ANNA DURING 2001

STATION	FEBRUARY	MAY	AUGUST	DECEMBER	TOTAL	CPUE
LAGOON 1						
NUMBER	30	35	4	23	92	23
WEIGHT	16072.8	13321	3947.5	8105	41446.3	10361.575
LAGOON 3						
NUMBER	25	16	18	11	70	17.5
WEIGHT	16883.6	4774.7	3772	6222.5	31652.8	7913.2
LEVY CREEK						
NUMBER	5	28	22	7	62	15.5
WEIGHT	4145	7658.5	3515.5	2369.7	17688.7	4422.175
LOWER LAKE						
NUMBER	9	47	17	18	91	22.75
WEIGHT	8859.1	15431.5	4380.5	12767	41438.1	10359.525
NORTH ANNA ARM						
NUMBER	51	41	352	71	515	128.75
WEIGHT	30533.9	21294.5	49175.6	22981.5	123985.5	30996.375
THURMAN ISLAND						
NUMBER	9	39	15	33	96	24
WEIGHT	7009.7	10287.5	6745	7694	31736.2	7934.05
TOTALS						
NUMBER	129	206	428	163	926	38.6
WEIGHT	83504.1	72767.7	71536.1	60139.7	287947.6	11997.8

These values are compared to CPUE in previous years in Figure 3.2-2. Over the last 10 years, CPUE-N has ranged from 42 to 28 with a mean of 30, while CPUE-W has ranged from 16 kg to 12 kg with a mean of 14 kg. Figure 3.2-2 also indicates that the size of fish collected by gill net has decreased in recent years (1999-2001) because CPUE-N has increased during this period while CPUE-W has remained steady. As mentioned above, relatively high

numbers of threadfin shad (188) were collected in August yet these small fish represented only 2.2% of the biomass that survey.



When the catch per unit effort is compared among stations in 2001, CPUE-N ranged from a low of 15.5 fish per net at the Levy Creek Station to a high of 128.8 fish per net at the North Anna Arm Station (Table 3.2-3). CPUE-W ranged from a low of 7.9 kg per net at the Lagoon 3 Station to a high of 30.9 kg at the North Anna Arm Station. This is consistent with past data.

The numerically dominant species collected by gill netting in the lake were gizzard shad Dorosoma cepedianum (32%), and threadfin shad (26%, Table 3.2-4). These results are similar to data collected in 2000 and 1999 and are also consistent with other years. The dominant species in the lake relative to biomass was striped bass Morone saxatilis (23%), followed by gizzard shad (20%) and common carp (19%).

The numerically dominant species collected in the WHTF in 2001 was channel catfish Ictalurus punctatus, followed by gizzard shad. The weight-dominant species in the WHTF in 2001 was common carp followed by gizzard shad, channel catfish.

Due to their relatively high numbers, gizzard shad have generally ranked high in biomass catch in both the lake and WHTF. The larger but less collected channel catfish, common carp and white catfish have consistently ranked high in biomass in both places with annual ranking depending on the variation in catch. Striped bass have consistently comprised a large portion of the biomass in the lake but not in the WHTF. A new species, quillback carp sucker Carpoides cyprinus, was collected by gill netting in 2001. The new species was collected at the North Anna Arm Station in August. The origin of this fish is unknown but is probably the result of release from a bait bucket.

3.3 Fish Population Studies - Electrofishing

Methods

Boat electrofishing was used in 2001 to evaluate the assemblage and abundance of fish populations which normally occupy the shoreline habitat. The techniques, stations, and frequency have remained virtually unchanged since 1972. Sampling was performed in February, June, August, and December at the stations identified in Figure 3.2-1. Each station is 100 meters in length and normally includes a brush pile except for the dike stations which are comprised of uniform rip-rap.

All fish collected were either returned to the laboratory for processing or released in the field, e.g., larger game fish were measured, weighed, and released in the field. In the laboratory, at least twenty-five (25) individuals per species from each station were measured to the nearest millimeter total length and weighed to the nearest 0.1 gram. Those individuals over twenty-five (25) per species were enumerated and bulk weighed. Surface water temperature (°C), dissolved oxygen (mg/l), pH and conductivity (Φmhos) were recorded at the time of each sample collection (Table 3.2-1).

Results

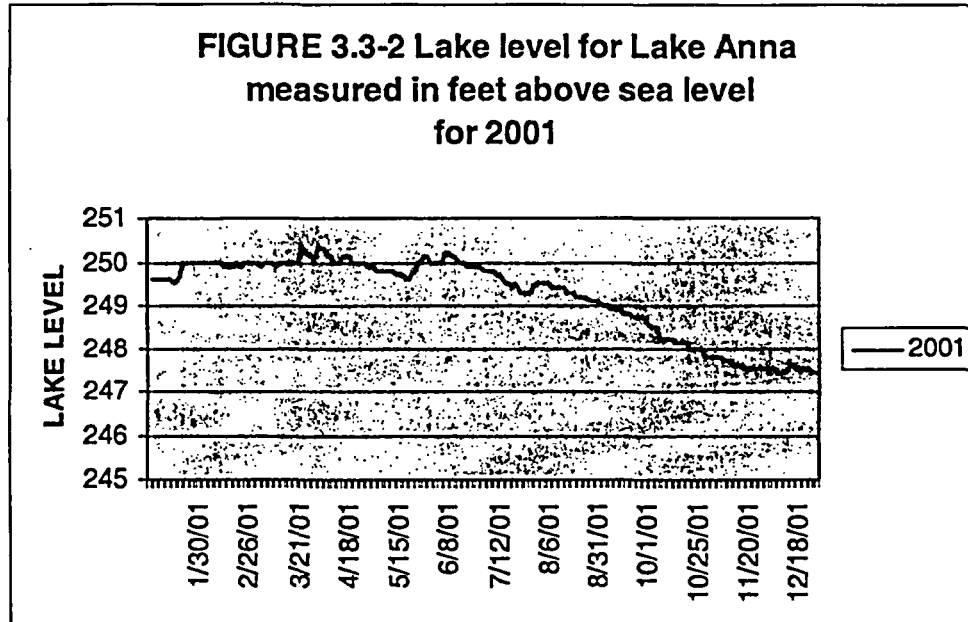
Twenty-five (25) species of fish representing ten (10) families were collected by electrofishing operations in the lake and WHTF in 2001 (Table 3.3-1).

Table 3.3-1 Fishes collected in Lake Anna and the WHTF by electrofishing during 2001.

FAMILY	SPECIES	LAKE	WHTF
Clupeidae	<i>Alosa aestivalis</i>	X	
	<i>Dorosoma cepedianum</i>	X	
Esocidae	<i>Esox niger</i>	X	
Cyprinidae	<i>Cyprinella analostana</i>	X	X
	<i>Cyprinus carpio</i>	X	
	<i>Notropis hudsonius</i>	X	X
	<i>Notropis procne</i>	X	X
Ictaluridae	<i>Ameiurus catus</i>	X	X
	<i>Ameiurus natalis</i>	X	X
	<i>Ameiurus nebulosus</i>	X	
	<i>Ictalurus punctatus</i>	X	X
Aphredoderidae	<i>Aphredoderus sayanus</i>	X	
Cyprinodontidae	<i>Fundulus diaphanus</i>	X	
Poeciliidae	<i>Gambusia affinis</i>		X
Moronidae	<i>Morone americana</i>	X	
Centrarchidae	<i>Lepomis aurtis</i>	X	X
	<i>Lepomis cyanellus</i>	X	X
	<i>Lepomis gibbosus</i>	X	
	<i>Lepomis gulosus</i>	X	X
	<i>Lepomis macrochirus</i>	X	X
	<i>Lepomis microlophus</i>	X	X
	<i>Micropterus salmoides</i>	X	X
	<i>Pomoxis nigromaculatus</i>	X	X
Percidae	<i>Etheostoma olmsted</i>	X	X
	<i>Perca flavescens</i>	X	

A record total of 7,213 fish weighing 88.2 kg was collected from the five stations in the lake and the four stations in the WHTF during the 2001 sampling period (Table 3.3-2). The total number of 7,213 is greater than the 1998 total of 6,991 which was the previously recorded high. Electrofishing biomass in 2001 (88.2 kg) was lower than that of 2000 (105.4 kg) as well as 1999 (106.9 kg).

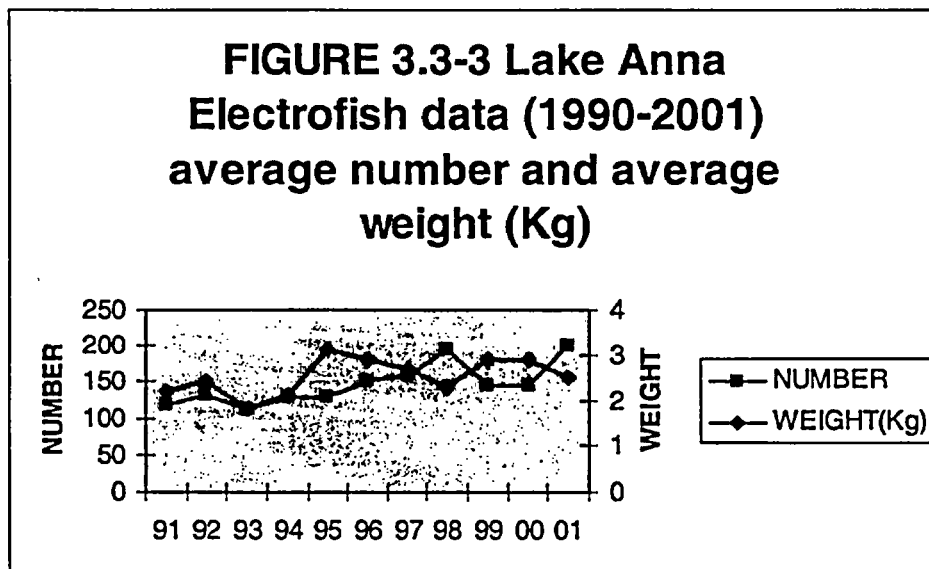
During 2001, Virginia continued under a prolonged period of reduced rainfall. For the first three quarters of 2001, Lake Anna remained at a stable level ranging from 250.4 feet (normal pool is 250 feet above mean sea level) to a low of 249.4 feet. This fluctuation of less than a foot is not unusual for the lake during a normal year. The lake level began a precipitous drop in September to 247.4 feet in December (Figure 3.3-2). The first three quarter samples were collected at or near normal full pool level; first quarter (February) level at 249.9 feet; second quarter (June), level at 249.7 feet and third quarter (August) level at 249.4 feet. The fourth quarter samples were collected in December with the lake level at 247.5 feet. This drop of over 2.5 feet below normal pool dewatered much of the shallow shoreline. This lake level reduction may have concentrated shoreline fishes around remaining structure such as the dike rip-raps and resulted in a record catch of 3,564 fish (86%, bluegill) in the December collection. This is above the historical average for the fall sample and resulted in the record catch for 2001. A similar increase in numbers was also reported in 1998 when the lake level dropped due to drought conditions.



Of the 7,213 fish collected in 2001, 3,712 (51.8 kg) were collected from the lake and 3,501 (36.4 kg) were collected from the WHTF (Table 3.3-2). When the data are compared seasonally, the 2001 electrofishing results are similar to previous years with the greatest numbers of fish being collected in the winter (February – 1,895 individuals) and fall (December – 3,564 individuals) surveys. Typically, in the fall, recruitment of the young-of-year (YOY) plus the return of fish to shallow water as the weather moderates, combine to increase the number of fish available to collection by shoreline electrofishing.

Table 3.2-2 also includes the average number and weight of fish collected per electrofishing sample for each station for comparison of catch per unit effort by number (CPUE-N) and weight (CPUE-W). CPUE-N for all stations combined in 2001 was 200 fish per sample while CPUE-W was 2.5 kg per sample.

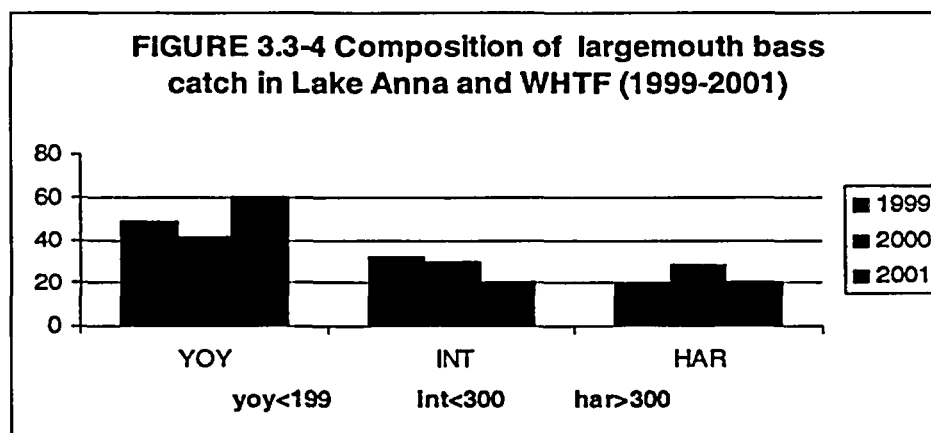
These values are compared to CPUE in previous years (Figure 3.3-3). Over the last 10 years, CPUE-N has ranged from 112 to 200 with a mean of 143, while CPUE-W has ranged from 1.8 kg to 3.1 kg with a mean of 2.5 kg. The high 2001 CPUE-N was, as discussed previously, probably the result of a low lake level in the fourth quarter thereby concentrating large numbers of small fish at dike stations. CPUE-W was average in 2001 and within the range of previous biomass estimates. It is interesting to note that biomass decreased in 2001 while fish numbers increased reflecting the relatively high numbers of small fish concentrated at dike stations. This was also noted in the 1998 collections.



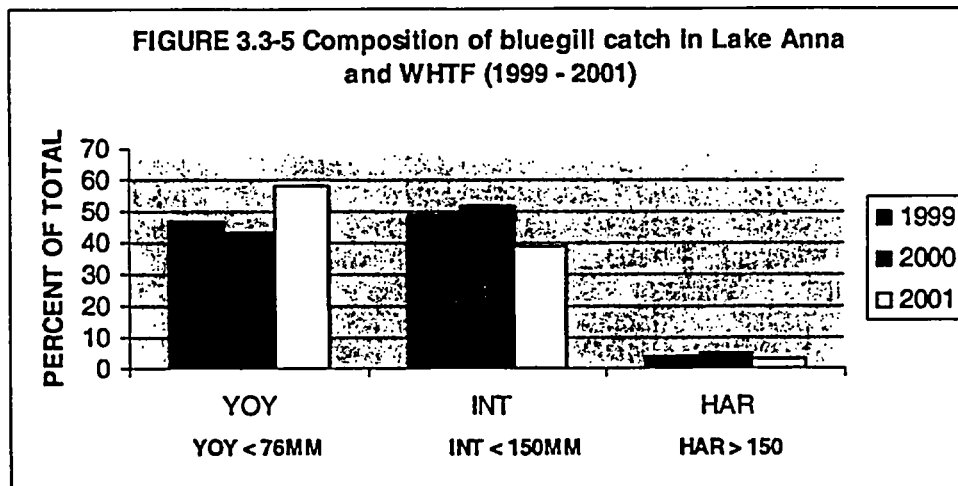
When the catch per unit effort among stations in 2001 is compared, CPUE-N ranged from a low of 97 fish per sample at the North Anna Arm Station to a high of 336 fish per sample at the Dike 1 – Lake Station (Table 3.3-3). CPUE-W ranged from a low of 0.9 kg per sample at the Lower Lake Station (consisting of mostly small bluegill) to a high of 3.7 kg at the North Anna Arm Station (primarily due to the capture of common carp at this station).

The numerically dominant species collected in both the lake and WHTF by boat electrofishing in 2001 was the bluegill (Table 3.3-3). Bluegill ranked also first in terms of weight in both the lake and WHTF. Largemouth bass ranked second in weight in both the lake and WHTF. These results are similar to those of 2000 and 1999 as well as those in the historical records.

When lake gill netting and electrofishing data for selected species are combined and examined for size class distribution, the data indicate certain population trends. Similar to 1999 and 2000, young-of-year (YOY) was the predominant size class of largemouth bass in 2001 although all the three size classes were fairly well represented each year (Figure 3.3-4). Fewer intermediate (INT) and harvestable (HAR) size bass were collected in 2001 than in 1999 and 2000, while more YOY bass were caught.



Performing a similar analysis for bluegill (Figure 3.3-5) demonstrates an increase in the relative abundance of the YOY class and a decrease in the relative abundance of bluegill intermediate and harvestable size classes from 1999 to 2001. The increase in YOY bluegill was influenced by the result of the record December catch and the number of smaller bluegill.



Lake Anna ranked second in 2001 among lakes in the State of Virginia for largemouth bass citations with 50 being reported. A citation for largemouth bass is awarded for fish greater than 55.9 cm in length or 3.6 kg in weight. The lake was also third in black crappie citations as well with 18 being reported in 2001 (greater than 38.1 cm in length of 0.91 kg in weight).

Overall, the data for gill netting and electrofishing in 2001 reveal no major changes in the lake ecosystem when compared to past data. Lake Anna continues to support a healthy, well-balanced fish community.

3.4 Aquatic Vegetation

Methods

Hydrilla is an exotic, submerged, aquatic macrophyte which, in most bodies of water, has the ability to grow and spread rapidly. The primary method of reproduction is by fragmentation. Hydrilla also produces overwintering structures in two (2) separate areas of

the plant: tubers, produced by the roots in the hydrosol; and turions, formed at the leaf axils of the plant. Each has the ability to produce new plants at the beginning of each new growing season.

An annual aerial survey is normally conducted to map hydrilla growth in Lake Anna. Due to the tragedy that occurred on September 11, 2001, the security for North Anna Power Station was increased for the protection of the power station and also the citizens of Virginia. Consequently, a national no-fly restriction was issued for all nuclear power stations including Surry and North Anna Power Station. This no-fly restriction was in effect during October and November when the aerial survey is normally conducted.

In addition to the air space restriction, a drop of 2.7 feet in lake level occurred from September to December 2001. This drop resulted in the dewatering of a major portion of the lake that typically supports hydrilla growth. The combination of the no-fly restrictions during the peak growth period and the drop in lake levels reducing the area that would be inhabited by hydrilla would not provide accurate information as to hydrilla growth in 2001 and resulted in the cancellation of the survey. The survey will continue in 2002.

3.5 Conclusions

- ° North Anna Power Station in 2001 operated at generation levels comparable to 1990, 1991 and 1996.
- ° The 2001 water temperature data from the continuous recorders indicated water temperatures within the historical ranges.

- Thermal stratification patterns measured in 2001 indicated similar stratification patterns to those in 1998 and 1999 and followed closely previously reported data.
- Gill netting and electrofishing data showed increases in composition of the fish population for 2001.
- Based on numbers of citation largemouth bass and black crappie reported by anglers, Lake Anna ranked as the second best trophy lake for both largemouth bass and black crappie in the state for 2001.

3.6 Recommendations

- Continue the biological monitoring of Lake Anna and the WHTF at its present level.
- Reduce the lake temperature surveys to twice a year. The data collected continues to show consistent thermal patterns which have been historically reported. Reducing the surveys to twice a year will have no adverse effect on the environmental monitoring of Lake Anna and will fully meet the permit requirements.

4.0 North Anna River

4.1 Temperature

Methods

Water temperatures ($^{\circ}\text{C}$) were recorded hourly at station NAR-1 in the lower North Anna River during 2001 (Figure 4.1-1) using an Onset temperature recorder. This instrument has an accuracy range of $\pm 0.5^{\circ}\text{C}$. Station NAR-1 is located approximately 1 km below the Lake Anna dam.

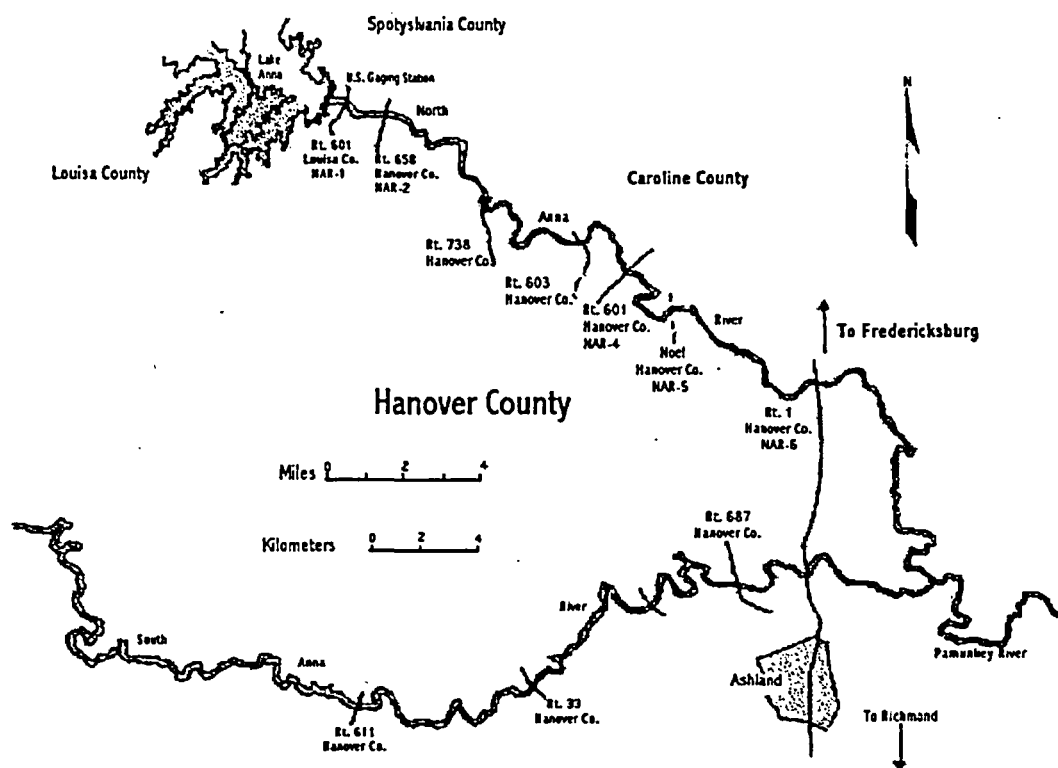


Figure 4.1-1 Location of North Anna River temperature recording, electrofishing, and snorkel survey stations.

Results and Discussions

Water temperatures in the lower North Anna River for 2001 were highest from June through September (Table 4.1-1). The maximum water temperature measured was 32.2°C in August 2001. Historically, maximum water temperatures have been recorded during July and/or August. The lowest water temperature measured was 5.0°C in January 2001.

Table 4.1-1 Mean, Maximum, and minimum hourly water temperatures (C) recorded in the North Anna River, at station NAR-1 by month, during 2001. Sample size (n) equals the number of hourly observations recorded each month.

NAR-1				
<u>Month</u>	<u>Mean</u>	<u>Max</u>	<u>Min</u>	<u>n</u>
January	8.7	10.9	5.0	744
February	9.4	11.3	5.8	672
March	10.5	12.0	8.4	744
April	15.5	21.0	10.2	719
May	21.8	24.7	18.4	744
June	26.6	31.5	22.8	720
July	28.3	30.5	26.2	744
August	29.3	32.2	26.3	744
September	26.1	29.9	21.3	720
October	20.2	23.4	16.8	744
November	16.0	19.6	13.4	720
December	13.5	16.8	9.3	744

4.2 River Flow

Methods

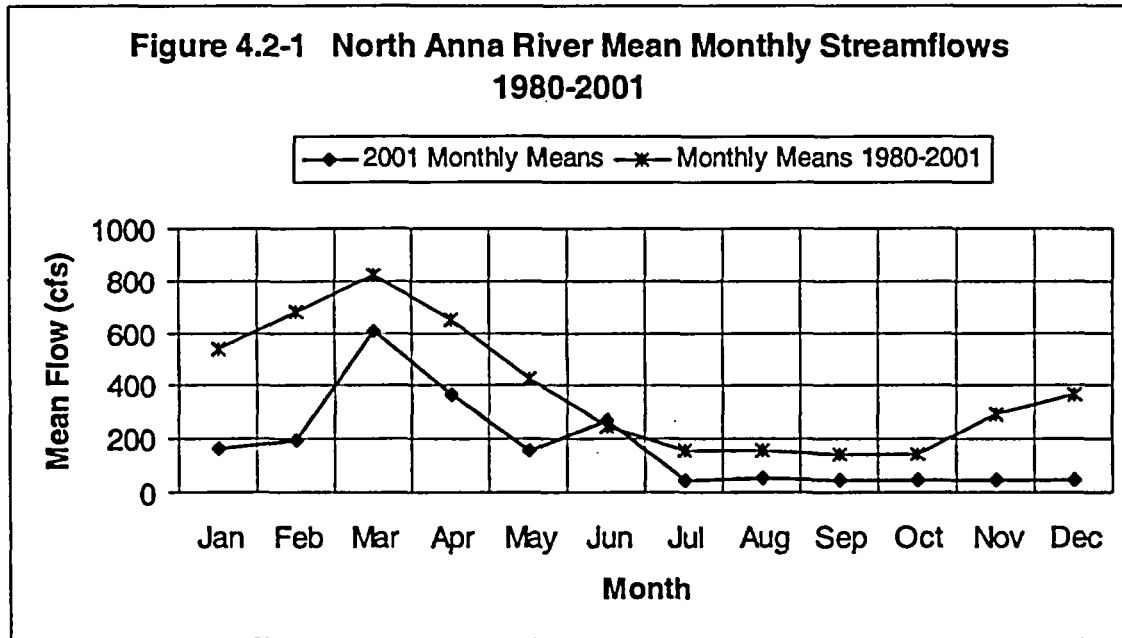
River discharge (cfs) data were obtained from the United States Geological Survey (USGS) to document the timing and magnitude of hydrologic events. These events, along with water temperature, are among the most important abiotic factors affecting the abundance and distribution of stream organisms. Data were obtained from USGS gaging station 01671020 (Hart's Corner) near Doswell, Virginia. The station is located approximately 37 km downstream of the Lake Anna dam at NAR-6 (Figure 4.1-1).

Results and Discussion

The historical pattern of seasonal flows in the North Anna River has generally been characterized by high flows in the winter and spring, reduced flows during summer, and even lower flows during late summer and early autumn. This is a pattern commonly exhibited by many rivers draining the eastern United States, and is generally reflective of annual rainfall patterns.

In 2001, North Anna River flows for the period January - March were below the 1980-2001 average with mean monthly flows between 150 and 600 cfs (Figure 4.2-1). River flows generally decreased from March to July with the exception of a "spike" in June following a two day rain event early in the month (flows exceeding 1250 cfs). The maximum daily mean recorded in 2001 was 3670 cfs on March 31 and was associated with a short-term rain event. Three additional days where flows ranged from 1800-2750 cfs occurred in March

and were also associated with rain events. Eighty-five percent, or 155 of the 182 days during the six month period, were below 50 cfs.



For the period 1999-2001, central Virginia experienced ongoing extreme drought conditions resulting in decreases in the water level of Lake Anna. In an effort to slow lake level reductions, in October 2001, flow releases from the Lake Anna dam were reduced from 40 cfs (minimum flow) to a new minimum flow of 20 cfs. A low-flow plan that included monitoring for various parameters was established as a part of the recent NPDES permit for North Anna Power Station (Attachment 1). Results of the monitoring will be reported separately from this report.

4.3 Fish Population Studies-Electrofishing

Methods

Abundance and species composition data for the North Anna River fish assemblage in 2001 were collected during electrofishing surveys. Consistent sampling techniques have been used in all North Anna River electrofishing surveys since 1981.

An approximately 70-m reach of riffle/run type habitat is sampled at each station with an electric seine (Virginia Power 1986). Prior to sampling, each reach is blocked at the downstream ends with a 6.5-mm mesh net. Sampling is conducted by working the electric seine from bank to bank in a zigzag pattern from the upstream to the downstream end of the section. Nearby pool type habitats are then sampled for 10 minutes of effort with a backpack electrofisher. Fish sampled by electric seine and backpack electrofisher are collected using 6.5-mm mesh dip nets.

Most fish collected are preserved in 10% formalin and transported to the laboratory for appropriate processing. Some larger fish are weighed and measured in the field and released. In the laboratory, a maximum of 15 individual specimens of each species is weighed to the nearest 0.1 g and measured to the nearest one (1) mm total length (TL). If more than 15 specimens of a species are collected, those in excess of 15 are counted and weighed in bulk. Electric seine and backpack electrofisher collections are then pooled by station and survey month for analyses.

Sample frequency for electrofishing is typically once per month each year in May, July and September. In 2001, electrofishing surveys on the North Anna River were conducted in May, August, and October.

Results and Discussion

A total of 1,675 fish was collected from the North Anna River during electrofishing surveys conducted in 2001 (Table 4.3-1). The 2001 collection includes 27 species representing eight (8) families. Over the past 20 years of collections, 49 species of fish have been collected from the North Anna River (Table 4.3-2) with annual totals ranging from 18 to 32 species.

Table 4.3-1. Number of biomass (g) of fishes collected during May, August and September, 2001 electrofishing surveys of the North Anna River.

Family Species	NAR-1		NAR-2		NAR-4		NAR-8		Total	
	Number	Total Weight	Number	Total Weight	Number	Total Weight	Number	Total Weight	Number	Total Weight
<i>Petromyzonidae</i>										
<i>Petromyzon marinus</i>			1	8.2			1	2.3	2	7.5
<i>Anguillidae</i>										
<i>Anguilla rostrata</i>	148	2996.6	37	313.1	81	1090.8	18	195.4	254	4593.9
<i>Cyprinidae</i>										
<i>Cyprinella anostomae</i>	7	17.2	55	90.5	47	84	56	94	165	285.7
<i>Lythrurus ardens</i>	178	836.8	72	144.9	44	80.5	39	68.7	331	929.9
<i>Nocomis biguttatus</i>			1	4.5	8	100.6			7	105.1
<i>Nocomis micropogon</i>					36	554.1	6	101.8	44	655.9
<i>Notemigonus crysoleucas</i>					1	11.2			1	11.2
<i>Notropis anogenus</i>			3	8.2	1	0.2	2	0.9	6	9.3
<i>Notropis tuesonius</i>					1	14.2			1	14.2
<i>Notropis procerus</i>	1	1.2	11	17	7	10.1	63	50.5	82	78.8
<i>Notropis rubellus</i>	2	6.1	23	41.2	4	3.8			29	50.9
<i>Semotilus corporalis</i>	2	77.7	21	218.9	42	257.8	21	255.3	86	810.8
<i>Catostomidae</i>										
<i>Erimyzon oblongus</i>			1	4.8			4	40.9	5	45.7
<i>Hypentelium nigricans</i>	4	475.3	3	82.1	8	257.8	1	64.3	13	849.3
<i>Ictaluridae</i>										
<i>Amelurus natalis</i>					1	1.9			1	1.9
<i>Ictalurus punctatus</i>					1	2.3			1	2.3
<i>Noturus gyrinus</i>							3	13.0	3	13.0
<i>Noturus insignis</i>	52	307.3	39	142.2	36	143.7	26	138.8	152	732.0
<i>Centrarchidae</i>										
<i>Lepomis auritus</i>	98	1963.8	88	649.3	94	979.1	59	583.0	339	4175.2
<i>Lepomis macrochirus</i>	7	167.5	3	24.2	1	8.4	6	21.5	16	219.6
<i>Lepomis microlophus</i>	1	145.7							1	145.7
<i>Micropterus dolomieu</i>	3	437.7			1	2.9			4	440.6
<i>Micropterus salmoides</i>	8	1072.5	3	200.0			1	12.5	12	1285.0
<i>Percidae</i>										
<i>Etheostoma olmstedii</i>	7	14.3	18	22.2	34	31.7	10	8.3	69	76.5
<i>Etheostoma vitreum</i>							22	34.0	22	34.0
<i>Percina peltata</i>	12	45.5	18	32.4	3	11.7	4	9.2	37	98.8
<i>Esocidae</i>										
<i>Esox niger</i>							2	102.5	2	102.5
Total	626	8364.2	397	1981.7	407	3644.5	343	1774.9	1675	15765.3
Number of species	16		17		20		19		27	

Table 4.3-2 Fishes collected from the North Anna River during annual electrofishing surveys, 1981-2001.

Family	Species	NAR-1	NAR-2	NAR-4	NAR-6
Petromyzontidae	<i>Lampetra appendix</i>		X	X	X
	<i>Petromyzon marinus</i>	X	X	X	X
Anguillidae	<i>Anguilla rostrata</i>	X	X	X	X
Clupeidae	<i>Alosa aestivalis</i>	X			
	<i>Dorosoma cepedianum</i>	X			
Esocidae	<i>Esox americanus</i>				X
	<i>Esox niger</i>	X	X	X	X
Cyprinidae	<i>Cyprinella analostana</i>	X	X	X	X
	<i>Hyboganthus regius</i>			X	X
	<i>Luxilus cornutus</i>			X	
	<i>Lythrurus ardens</i>	X	X	X	X
	<i>Nocomis leptcephalus</i>	X	X	X	X
	<i>Nocomis micropogon</i>	X	X	X	X
	<i>Notemigonus crysoleucas</i>	X	X	X	X
	<i>Notropis amoenus</i>	X	X	X	X
	<i>Notropis hudsonius</i>				X
	<i>Notropis procne</i>	X	X	X	X
	<i>Notropis rubellus</i>	X	X	X	X
	<i>Phoxinus oreas</i>			X	
	<i>Rhinichthys atratulus</i>				X
	<i>Semotilus corporalis</i>	X	X	X	X
Catostomidae	<i>Catostomus commersoni</i>		X		X
	<i>Erimyzon oblongus</i>	X	X	X	
	<i>Hypentelium nigricans</i>	X	X	X	X
	<i>Moxostoma macrolepidotum</i>		X	X	X
Ictaluridae	<i>Ameriurus natalis</i>	X	X	X	X
	<i>Ameriurus nebulosus</i>	X	X		X
	<i>Ictalurus punctatus</i>				X
	<i>Noturus gyrinus</i>				X
	<i>Noturus insignis</i>	X	X	X	X
Aphredoderidae	<i>Aphredoderus sayanus</i>			X	X
Percichthyidae	<i>Morone americana</i>	X			
Centrarchidae	<i>Acantharchur pomotis</i>	X			
	<i>Centrarchus macropterus</i>				X
	<i>Enneacanthus gloriosus</i>				X
	<i>Lepomis auritus</i>	X	X	X	X
	<i>Lepomis gibbosus</i>	X	X	X	X
	<i>Lepomis gulosus</i>				X
	<i>Lepomis macrochirus</i>	X	X	X	X
	<i>Lepomis microlophus</i>	X	X		X
	<i>Micropterus dolomieu</i>	X		X	X
	<i>Micropterus salmoides</i>	X	X	X	X
	<i>Pomoxis nigromaculatus</i>	X	X	X	X
Percidae	<i>Etheostoma olmstedii</i>	X	X	X	X
	<i>Etheostoma vitreum</i>	X	X	X	X
	<i>Perca flavescens</i>	X			X
	<i>Percina notogramma</i>		X	X	X
	<i>Percina pellata</i>	X	X	X	X
Soleidae	<i>Trinectes maculatus</i>				X

na/x/042298

A common characteristic of stream systems is the tendency for a few species to numerically dominate the stream fish assemblage (Matthews 1982). Six (6) to 10 species have accounted for greater than 80 percent of the North Anna River electrofishing catch from all stations in any year since sampling began in a consistent manner in 1981 (Table 4.3-3).

This trend continued in 2001 with seven (7) species accounting for greater than 80 percent of all fish collected. These seven (7) species are presented in decreasing order: redbreast sunfish Lepomis auritus; redbreast shiner Lythrurus ardens; american eel Anguilla rostrata; satinfish shiner Cyprinella analostana; margined madtom Noturus insignis; fallfish Semotilus corporalis; and swallowtail shiner Notropis procne. These species have routinely been collected in relatively high numbers during electrofishing surveys of the North Anna River since 1981.

Table 4.3-4 indicates that in 2001 station NAR-1 yielded the greatest numerical catch followed by in decreasing order, NAR-4, NAR-2 and NAR-6. Biomass (total weight) in 2001 ranked in the same order as the catch numbers.

Table 4.3-4 Station total numbers and weights for 1999-2001 in the North Anna River

	1999		2000		2001	
<u>Station</u>	<u>#</u>	<u>weight</u>	<u>#</u>	<u>weight</u>	<u>#</u>	<u>weight</u>
NAR-1	624	7741.0	252	4167.0	528	8364.0
NAR-2	693	2476.0	104	1418.0	397	1982.0
NAR-4	609	3146.0	204	1130.0	407	3645.0
NAR-6	332	2212.0	128	1295.5	343	1775.0

Past surveys have indicated that high winter and spring flows often result in decreased North Anna River catches. In 1993, the relationships between flow and annual fish abundance were examined. Based on the results of Spearman's correlation analysis (Hollander and Wolf 1973), low late winter/early spring flows tend to be conducive to relatively high electrofishing catches later in the year, and conversely, the high flows early in the year tend to result in low electrofishing catches (Virginia Power, 1994). This may have contributed somewhat to the lower numbers of fishes collected in 2000 when early spring flows were near the normal high flow conditions for the twenty year period 1980-2000. However, in 2001, moderately low flows occurred in March which is somewhat atypical of early spring flows, based on historical data (Virginia Power, 1994). These low flows continued throughout the summer and into the fall and winter months (Figure 4.2-1) and may have resulted in higher catches in 2001 compared to 2000.

4.4 Fish Population Studies- Direct Observation

Methods

To further amplify and understand fish population studies in the North Anna River, abundance and distribution data for smallmouth bass Micropterus dolomieu and largemouth bass are gathered via direct observation using snorkel surveys. Consistent observation techniques have been used in snorkel surveys since 1987 with some variation in sampling frequency at some stations among years due to instances of high river flow conditions, electrical storms, etc.

Snorkel surveys are conducted during July, August, and September. Four (4) stations (NAR-1, NAR-2, NAR-4 and NAR-5) are monitored twice per month in July and August (Figure 4.1-1). Only one survey was conducted in September, 2001, as opposed to the normal two (2) surveys due to a number of issues including scheduling conflicts.

Abundance estimate procedures are identical to those employed since 1987 (Virginia Power 1988). Counts of smallmouth bass (SMB) and largemouth bass (LMB) are made while swimming 100 m transects along the north and south banks of each station. Transects follow an approximately one meter depth contour.

All bass sighted are categorized by species as to young-of-year (YOY) (≤ 120 mm), stock-size ($120 < \text{SMB} < 280$ mm or $120 < \text{LMB} < 305$ mm), or quality-size ($\text{SMB} \geq 280$ mm or $\text{LMB} \geq 305$ mm). In addition to size group, all bass sighted are categorized as to type of cover being used; bedrock ledge (Ledge), boulders (Boulder), instream woody debris (Wood), aquatic vegetation (Vegetation), or no apparent cover use (Open). Fish have to be within

0.5 m of a cover object at the moment of sighting to be included in a cover use category other than the Open category. Aquatic vegetation was included as a cover type beginning in 1993 due to annual increases in the amount of vegetation observed from 1990 through 1992, and apparent associated increased use by fish.

During each survey, three successive counts at each station are made at each bankside transect. Each observer makes an independent estimate of the distance that YOY smallmouth bass ($TL \leq 120$ mm) could be distinguished from YOY largemouth bass ($TL \leq 120$ mm) at each station. Lateral visibility at each station is estimated by averaging the independent estimates of both observers. Counts of smallmouth bass and largemouth bass are converted to density estimates (number/hectare of bankside channel) to account for differences in average visibility among survey days and sampling stations. Density estimates for all smallmouth bass and largemouth bass larger than YOY size are then pooled by species, station, and sample year to facilitate identification of species-specific and station-specific changes over time. Calculations of median density estimates by sample year and associated 95% confidence intervals are based on Walsh averages (Hollander and Wolfe 1973). YOY densities are not calculated as it was doubtful that YOY are as susceptible to the observation technique as are larger fish, due primarily to their small size and cryptic nature.

Cover utilization data from the first of three sets of observations obtained during each snorkel survey are used to examine differences in cover use by smallmouth bass and largemouth bass. Data from only the first count are used because it is assumed fish observed during the first count would be relatively undisturbed by divers, whereas fish observed on the second and third counts may change their positions in response to divers passing by during the first count.

Results and Discussion

Snorkel surveys for 2001 were conducted between 0812 and 1400 hours. River temperatures at time of surveys ranged from 20.0 to 30.1°C and average visibility ranged from 1.5 to 4.0 meters. In 2001, observations were typical of surveys prior to 2000 where largemouth bass generally dominated the upper stations (NAR-1 and NAR-2) and smallmouth bass the lower (NAR-4 and NAR-5) (Table 4.4-1). However, both species are occupying the entire study area. Variability between the north and south bank at any station appeared to be related to habitat complexity, i.e., fewer fish were observed along banks characterized by monotypic habitat than along banks with a variety of habitat types.

Table 4.4-1. Number of smallmouth bass and largemouth bass observed during North Anna River snorkel surveys conducted in 2001. Sample size (n) equals the number of times each count was performed in 2001.

Station	Bank	Count	n	Smallmouth bass ¹			Largemouth bass ²		
				SMBYOY	SMB<11	SMB>11	LMBYOY	LMB<12	LMB>12
NAR-1	North	1	5	1	0	0	24	7	10
		2	5	0	0	0	22	7	3
		3	5	2	1	0	26	5	1
	South	1	5	1	0	0	10	4	17
		2	5	2	0	0	10	7	13
		3	5	3	1	0	5	8	16
NAR-2	North	1	5	4	0	0	3	7	1
		2	5	4	1	1	2	5	3
		3	5	4	4	0	1	5	3
	South	1	5	4	0	0	4	6	5
		2	5	2	2	0	3	8	3
		3	5	3	2	0	1	8	4
NAR-4	North	1	5	1	4	1	4	9	3
		2	5	1	2	2	3	3	3
		3	5	1	1	2	5	5	0
	South	1	5	5	7	4	2	4	1
		2	5	5	3	3	1	2	0
		3	5	2	10	2	1	5	0
NAR-5	North	1	5	4	12	11	2	7	4
		2	5	3	13	6	0	8	3
		3	5	2	7	12	2	3	2
	South	1	5	0	4	4	3	10	2
		2	5	2	5	2	6	5	2
		3	5	1	5	5	2	3	1

¹ SMYOY were less than or equal to 120 mm, SMB<11 were 121-279 mm, SMB>11 were larger than or equal to 280 mm TL.

² LMBYOY were less than or equal to 120 mm, LMB<11 were 121-304 mm, LMB>11 were larger than or equal to 305 mm TL.

Density estimates for largemouth bass and smallmouth bass observed in 2001 for stations NAR-1, NAR-2, NAR-4 and NAR-5 are compared to historical density estimates in Figures 4.4-1 through 4.4-4. These estimates do not include young of year (YOY) size fish (TL# 120 mm) as it is doubtful that the smaller individuals are as susceptible to the observation techniques as are larger fish. Largemouth bass densities in 2001 at NAR-1 and NAR-2 averaged approximately 55 and 33 fish/hectare respectively while densities for

largemouth averaged approximately 21 and 17 fish/hectare at NAR-4 and NAR-5. A comparison of largemouth bass densities in 2001 with those of 2000 indicates an overall increase in the number of fish/hectare at all four stations.

Figure 4.4-1. NAR-1 smallmouth and largemouth bass median densities, and mean visibilities, 1987-2001.

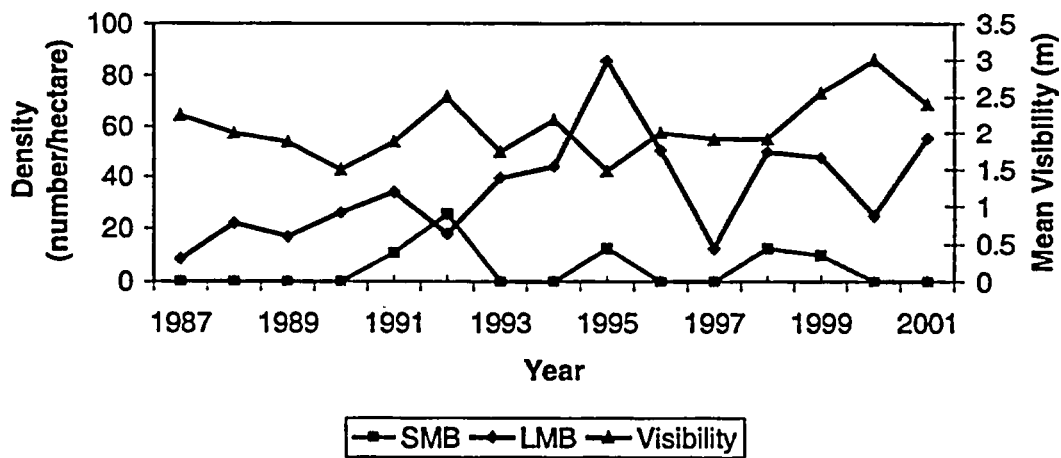


Figure 4. 4-2. NAR-2 smallmouth and largemouth bass median densities, and mean visibilities, 1987-2001.

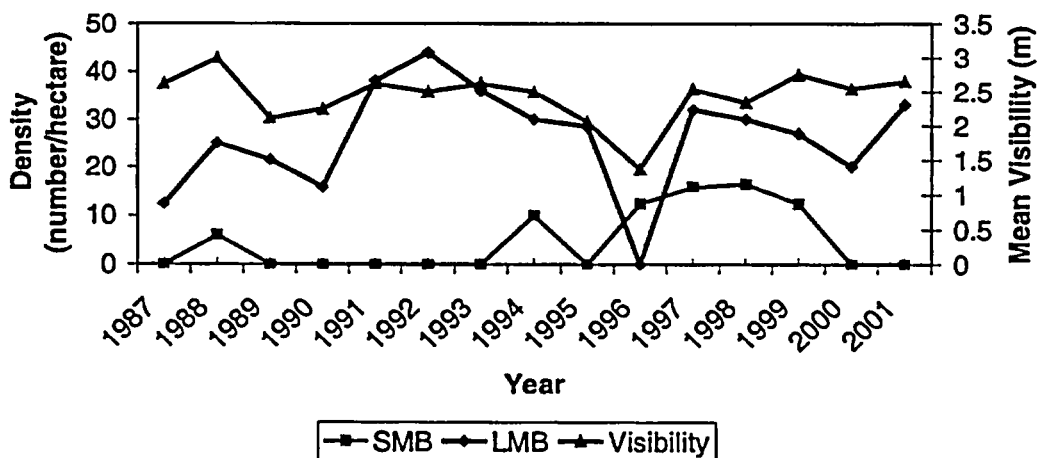


Figure 4. 4-3. NAR-4 smallmouth and largemouth bass median densities, and mean visibilities, 1987-2001.

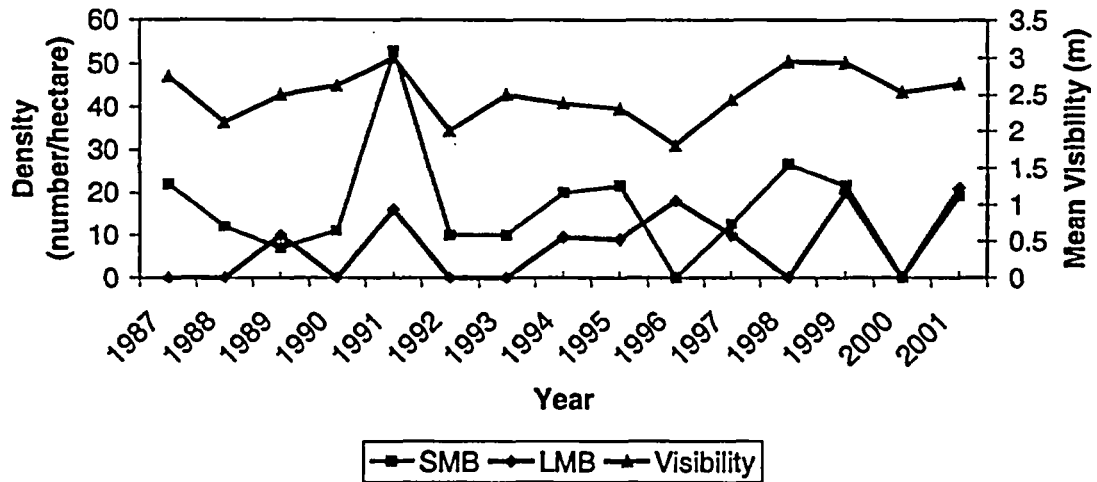
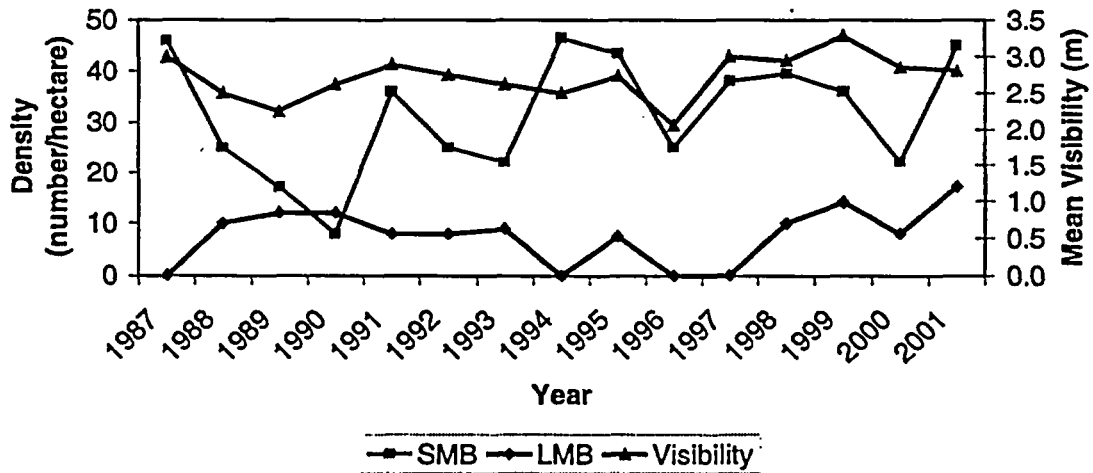


Figure 4. 4-4 . NAR-5 smallmouth and largemouth bass median densities, and mean visibilities, 1987-2001.



Smallmouth bass densities for 2001 at stations NAR-1 and NAR-2 were calculated to be zero which also held true in 2000. Since 1998, smallmouth densities have decreased at NAR-1 and NAR-2 (Figure 4.4-1 and Figure 4.4-2). This is in contrast to the results from NAR-5 where smallmouth densities have remained relatively high (Figure 4.4-4). At NAR-4 (Figure 4.4-3), smallmouth bass and largemouth bass densities were about equal.

Observations of cover use by smallmouth bass and largemouth bass are difficult to interpret without accounting for the availability of various cover types. For this reason, cover use data obtained in 2001 are primarily presented for documentation purposes (Table 4.4-2). When cover use data are pooled for all stations in 2001 (Table 4.4-3) smallmouth bass were usually associated with boulder, open water, vegetation and wood when it was available. Largemouth bass were mostly associated with vegetation (63%) and to a lesser degree with boulder (16%) and wood (13%). With the recent increases in the abundance of aquatic vegetation in the lower North Anna River, largemouth bass and smallmouth bass appear to be shifting from making nearly exclusive use of wood and boulder habitat to aquatic vegetation.

Table 4.4-2. Cover use by smallmouth bass and largemouth bass in the North Anna River observed during the first of three counts made during snorkel surveys conducted in 2001.

Cover Type						Cover Type					
NAR-1	Ledge	Boulder	Wood	Vegetation	Open*	NAR-4	Ledge	Boulder	Wood	Vegetation	Open
SMBYOY**	0	0	0	1	1	SMBYOY	0	2	1	3	0
SMB<11	0	0	0	0	0	SMB<11	0	6	1	2	2
SMB>11	0	0	0	0	0	SMB>11	0	2	1	0	1
LMBYOY	0	0	2	31	3	LMBYOY	0	0	0	5	1
LMB<12	0	0	2	5	0	LMB<12	0	5	4	3	1
LMB>12	0	0	2	8	0	LMB>12	0	1	1	0	2
NAR-2	Ledge	Boulder	Wood	Vegetation	Open	NAR-5	Ledge	Boulder	Wood	Vegetation	Open
SMBYOY	0	0	0	6	2	SMBYOY	0	2	0	1	1
SMB<11	0	0	0	0	0	SMB<11	0	5	2	2	7
SMB>11	0	0	0	0	0	SMB>11	4	4	4	0	0
LMBYOY	0	0	0	6	0	LMBYOY	0	0	0	6	0
LMB<12	0	0	3	9	1	LMB<12	0	9	1	7	0
LMB>12	0	0	1	4	1	LMB>12	1	4	0	1	0

*Fish observed in open water were farther than 0.5 m from any cover type.

**See Table 4.3-1 for size category definitions.

North Anna/td/12/07/98

Table 4.4-3. Cover use by smallmouth bass and largemouth bass in the North Anna River observed during the first of three counts made during snorkel surveys conducted in 2001. Data for observations at all stations are pooled.

All Stations	Cover Type				
	Ledge	Boulder	Wood	Vegetation	Open
SMBYOY	0	4	1	10	4
SMB<11	0	11	3	4	9
SMB>11	4	6	5	0	1
LMBYOY	0	0	2	48	4
LMB<12	0	14	10	24	2
LMB>12	1	5	4	4	3

Hydrilla growth continues to pose problems for observers during the surveys. The North Anna River apparently provides excellent conditions for hydrilla colonization. Consequently, each year, the observed use of wood structure by fish is being reduced due to the increase in areas of hydrilla. Each station has either one or both shorelines impacted by hydrilla which typically extends 10-15 feet out from the bank. Observations made during the survey runs are generally limited to the outer edge of the hydrilla and an open channel that commonly runs mid-river between both shorelines of hydrilla. Consequently, this is a factor that is reducing the ability of the observer to make accurate fish counts.

4.5 Conclusions

- ° River flows were lower than normal throughout the year with the exception of several short-term rain events. Mean daily flows rarely exceeded 50 cfs July through October and only fifteen percent of the mean daily flows for the latter half of the year (July-December) exceeded 50 cfs.
- ° Numbers of fish collected in the North Anna River in 2001 by electrofishing were higher at all four stations than the 2000 numbers.
- ° Species composition of the 2001 North Anna River electrofish catch was similar to previous years with seven (7) species comprising 80% of the electrofishing catch.

- Underwater observations of smallmouth bass and largemouth bass made in 2001 between the Lake Anna dam and U.S. Route 1 indicate similar findings as observed in previous years: smallmouth are numerically dominant in the lower reaches of the river and largemouth in the upper. As noticed during previous survey years, smallmouth appear to be slowly colonizing upstream and likewise, largemouth slowly colonizing downstream.
- Density estimates for smallmouth bass at NAR-1 and NAR-2 were similar to the low values calculated in 2000, however densities at NAR-4 and NAR-5 increased. Largemouth bass densities at all four stations increased from the 2000 values.
- Observation of cover use in 2001 indicated that largemouth were more associated with vegetation and smallmouth bass with boulder, open water, vegetation and wood debris.
- Dense hydrilla growth adjacent to the shoreline continues to limit the observers ability to see and count fish and may be affecting the numbers of observed fish.

Recommendations

- Over the last 20 years of monitoring, the fish assemblage of the North Anna River below the Lake Anna dam has remained relatively stable with some fluctuations in fish numbers year to year due to natural occurrences such as flood events. After such

events, fish assemblages typically demonstrated recovery. No changes in effort are recommended at this time because of concerns over reduced flows in the river due to persistent drought conditions.

- Direct underwater observations were initiated in 1987 to monitor species abundance, size, habitat preference and the ranges of largemouth bass and smallmouth bass. These observations should also continue at the current level of effort.

5.0 Literature Cited

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Enclosure 3

**Virginia Department of Conservation and Recreation
Park Visitor and Boat Launch Data Sheets**

VIRGINIA STATE PARKS 1998 ATTENDANCE

[illegible]

Department of Conservation & Recreation
Division of State Parks
Calendar Year 1999 Totals

	Paying				Non Paying	Grand
	Camping	Cabins	Day Use	Total	Day Use	Total
DISTRICT 1						
737 KIPTOPEKE STATE PARK	32,099	-	44,942	77,041	45,474	122,515
752 CHIPP PLANT ST PARK	6,991	1,608	49,705	58,304	19,074	77,378
757 FALSE CAPE ST PARK	1,836	1,187	504	3,527	18,437	21,964
770 FIRST LANDING ST PARK	66,622	16,023	157,622	240,267	1,400,782	1,641,049
776 YORK RIVER	-	-	21,687	21,687	28,821	50,508
Subtotal	107,548	18,818	274,460	400,826	1,512,588	1,913,414
DISTRICT 2						
751 CALEDON NATURAL ARE	-	-	-	-	46,696	46,696
764 LAKE ANNA ST PARK	-	-	49,813	49,813	61,220	111,033
775 WESTMORELAND ST PA	38,784	24,078	34,952	97,814	6,074	103,888
794 BELLE ISLE ST PA	-	-	7,571	7,571	11,605	19,176
Subtotal	38,784	24,078	92,336	155,198	125,595	280,793
DISTRICT 3						
733 ANDY GUEST ST PARK	654	-	21,790	22,444	11,666	34,110
765 LEESYLVANIA ST PA	-	-	206,188	206,188	46,493	252,681
766 MASON NECK ST PARK	-	-	41,503	41,503	78,147	119,650
772 SKY MEADOWS ST PARK	3,223	-	64,188	57,411	37,588	94,999
Subtotal	3,877	-	323,669	327,546	173,894	501,440
DISTRICT 4						
730 ST RIV BATT HIST SP	-	-	-	-	33,726	33,726
734 JAMES RIVER ST PARKS	4,099	-	15,956	20,055	8,315	28,370
741 SAILORS CREEK	-	-	-	-	33,467	33,467
750 BEAR CREEK LAKE ST PA	16,964	-	26,967	43,931	32,008	75,939
758 TWIN LAKES ST PARK	10,683	8,676	42,536	61,895	37,583	99,478
762 HOLL LAKE ST PARK	6,874	-	27,278	34,152	4,038	38,190
768 OCCONEECHEE ST PARK	16,822	-	42,597	59,419	202,283	261,702
769 POCAHONTAS ST PARK	22,483	19,354	103,463	145,300	53,892	199,192
774 STAUNTON RIVER	9,845	5,896	30,749	46,490	89,808	136,298
Subtotal	87,770	33,926	289,546	411,242	495,120	906,362
DISTRICT 5						
753 CLAYTOR LAKE STATE PA	39,369	9,016	166,000	214,385	173,560	387,945
755 DOUTHAT STATE PARK	34,360	26,573	45,649	106,582	62,479	169,061
756 FAIRY STONE STATE PA	17,420	15,023	68,988	101,431	14,546	115,977
773 SMITH MOUN LAKE ST PA	13,642	12,525	83,312	109,479	167,910	277,389
780 NEW RIVER TRAIL	4,616	-	54,610	59,226	312,421	371,647
Subtotal	109,407	63,137	418,559	691,103	730,916	1,322,019
DISTRICT 6						
732 WILDERNESS ROAD ST PA	-	-	-	-	30,748	30,748
743 SW VA MUS HIST ST PA	-	-	7,442	7,442	3,783	11,225
760 GRAY HIGHLANDS ST PA	33,983	-	87,599	121,582	23,875	145,457
763 HUNGRY MOTH ST PA	21,199	17,267	90,353	128,819	58,627	187,446
HEMLOCK HAVEN CC	-	6,297	16,573	22,870	-	22,870
767 NATURAL TUNNEL ST PA	9,504	-	33,712	43,216	144,670	187,886
Subtotal	64,686	23,564	235,679	323,929	261,703	585,632
BREAKS INTERSTATE PARK*						376,250
Total	412,072	163,523	1,634,249	2,209,844	3,299,816	5,885,910

* Only total attendance figures available

Department of Conservation & Recreation
Division of State Parks
Calendar Year 2000 Totals

	Paying				Non Paying Day Use	Grand Total	
	Camping	Cabins	Day Use	Total			
DISTRICT 1							
737	Kiptopeke State Park	40,143	-	50,024	90,167	50,657	140,824
752	Chippokes State Park	10,594	2,167	50,976	63,737	16,743	80,480
757	False Cape State Park	2,039	1,655	1,189	4,883	16,381	21,264
770	First Landing State Park	77,016	15,280	192,808	285,104	1,436,277	1,721,381
776	York River State Park	140	-	23,528	23,668	39,796	63,464
	Subtotal	129,932	19,102	318,525	467,559	1,559,854	2,027,413
DISTRICT 2							
751	Caledon State Park	-	-	-	-	53,605	53,605
764	Lake Anna State Park	-	-	52,545	52,545	105,630	158,175
775	Westmoreland State Park	43,421	27,222	34,569	105,212	4,782	109,994
794	Belle Isle State Park	-	565	11,198	11,763	11,621	23,384
	Subtotal	43,421	27,787	98,312	169,520	175,638	345,158
DISTRICT 3							
733	Shenandoah State Park	5,168	-	35,400	40,568	77,665	118,233
765	Leesylvania State Park	-	-	244,624	244,624	45,829	290,453
766	Mason Neck State Park	-	-	61,412	61,412	19,533	80,945
772	Sky Meadows State Park	2,239	-	38,024	40,263	41,929	82,192
	Subtotal	7,407	-	379,460	386,867	184,956	571,823
DISTRICT 4							
730	Stauton River Battlefield	-	-	-	-	33,954	33,954
734	James River State Park	5,418	-	20,125	25,543	3,076	28,619
741	Sailor's Creek	-	-	-	-	35,522	35,522
750	Bear Creek Lake State Park	22,005	-	39,161	61,166	10,803	71,969
758	Twin Lakes State Park	9,346	8,584	43,498	61,428	30,669	92,097
762	Holiday Lake State Park	6,630	-	24,777	31,407	2,594	34,001
768	Occoneechee State Park	17,471	-	44,874	62,345	127,182	189,527
769	Pocahontas State Park	25,250	23,482	90,119	138,851	56,637	195,488
774	Stauton River State Park	12,346	7,253	28,317	47,916	66,652	114,568
	Subtotal	98,466	39,319	290,871	428,656	367,089	795,745
DISTRICT 5							
753	Claytor Lake State Park	39,591	10,394	156,385	206,370	125,866	332,236
755	Douthat State Park	38,971	27,456	40,330	106,757	61,063	167,820
756	Fairy Stone State Park	18,721	15,793	58,195	92,709	19,180	111,889
773	Smith Mountain State Park	13,154	15,112	72,227	100,493	157,596	258,089
780	New River State Park	7,006	-	242,224	249,230	434,610	683,840
	Subtotal	117,443	68,755	569,361	755,559	798,315	1,553,874
DISTRICT 6							
	Hemlock Haven Conference Facility	-	5,093	16,931	22,024	-	22,024
732	Wilderness Road	-	-	-	-	32,891	32,891
743	Southwest Virginia Museum	-	-	6,425	6,425	4,567	10,992
760	Grayson Highlands State Park	34,620	-	82,488	117,108	26,947	144,055
763	Hungry Mother State Park	20,889	17,447	78,436	116,772	67,760	184,532
767	Natural Tunnel State Park	9,260	-	37,024	46,284	203,135	249,419
	Subtotal	64,769	22,540	221,304	308,613	335,300	643,913
Breaks Interstate Park*							
							381,374
	Total	461,438	177,503	1,877,833	2,516,774	3,421,152	6,319,300

*Only total attendance figures available

Department of Conservation & Recreation
Division of State Parks
From 1/1/2001 to 12/31/2001.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	47,676	-	53,952	101,628	83,553	185,181
752	Chippokes State Park	13,106	2,588	60,924	76,618	19,044	95,662
757	False Cape State Park	2,375	1,442	966	4,783	17,211	21,994
770	First Landing State Park	83,086	14,964	206,674	304,724	1,428,686	1,733,410
776	York River State Park	293	-	24,567	24,860	49,894	74,754
	Subtotal	146,536	18,994	347,083	512,613	1,598,388	2,111,001
DISTRICT 2							
751	Caledon State Park	-	-	-	-	22,641	22,641
764	Lake Anna State Park	-	-	65,244	65,244	113,072	178,316
775	Westmoreland State Park	50,066	28,922	39,729	118,717	4,591	123,308
794	Belle Isle State Park	-	1,464	13,462	14,926	13,722	28,648
	Subtotal	50,066	30,386	118,435	198,887	154,026	352,913
DISTRICT 3							
733	Shenandoah State Park	5,715	-	38,973	44,688	109,488	154,176
765	Leesylvania State Park	1,047	-	239,203	240,250	44,207	284,457
766	Mason Neck State Park	-	-	61,671	61,671	27,194	88,865
772	Sky Meadows State Park	2,984	-	50,226	53,210	56,897	110,107
	Subtotal	9,746	-	390,073	399,819	237,786	637,605
DISTRICT 4							
730	Staunton River Battlefield	-	-	-	-	38,865	38,865
734	James River State Park	7,513	-	20,943	28,456	3,297	31,753
741	Sailor's Creek	-	-	-	-	42,505	42,505
750	Bear Creek Lake State Park	26,758	-	24,736	51,494	2,679	54,173
758	Twin Lakes State Park	9,732	5,464	24,894	40,090	28,233	68,323
762	Holiday Lake State Park	7,387	-	25,912	33,299	3,243	36,542
768	Occoneechee State Park	20,163	-	60,200	80,363	88,045	168,408
769	Pocahontas State Park	24,506	28,005	111,340	163,851	55,976	219,827
774	Staunton River State Park	15,023	7,626	37,884	60,533	55,988	116,521
	Subtotal	111,082	41,095	305,909	458,086	318,831	776,917
DISTRICT 5							
753	Claytor Lake State Park	40,578	10,867	141,306	192,751	120,871	313,622
755	Douthat State Park	41,901	29,784	41,362	113,047	62,444	175,491
758	Fairy Stone State Park	19,043	18,868	64,633	100,544	36,670	137,214
773	Smith Mountain State Park	15,213	16,527	84,529	116,269	296,366	412,635
780	New River State Park	8,369	-	297,977	306,346	737,807	1,044,153
	Subtotal	125,104	74,046	629,807	828,957	1,254,158	2,083,115
DISTRICT 6							
732	Wilderness Road	-	-	-	-	40,919	40,919
743	Southwest Virginia Museum	-	-	9,794	9,794	4,878	14,672
760	Grayson Highlands State Park	35,872	-	81,858	117,730	22,572	140,302
763	Hungry Mother State Park	22,947	17,495	76,914	117,356	65,129	182,485
	Hemlock Haven Conference Facility	-	5,287	18,517	23,804	-	23,804
767	Natural Tunnel State Park	9,803	2,488	36,888	49,179	218,140	267,319
	Subtotal	68,622	25,270	223,971	317,863	351,638	669,501
Breaks Interstate Park*							386,000
	Total	511,156	189,791	2,015,278	2,716,225	3,914,827	7,017,052

*Only total attendance figures available

Department of Conservation & Recreation
Division of State Parks
From 1/1/2002 to 12/31/2002.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	50,806	-	49,334	100,140	50,945	151,085
752	Chippokes State Park	12,434	2,595	55,488	70,517	18,239	88,756
757	False Cape State Park	2,263	2,004	1,793	6,060	17,245	23,305
770	First Landing State Park	80,016	15,667	211,992	307,675	1,373,458	1,681,133
776	York River State Park	599	-	29,078	29,677	49,028	78,705
	Subtotal	146,118	20,266	347,685	514,069	1,508,915	2,022,984
DISTRICT 2							
751	Caledon State Park	-	-	13,583	13,583	3,077	16,660
764	Lake Anna State Park	14	-	82,533	82,547	99,307	181,854
775	Westmoreland State Park	48,417	29,056	43,314	120,787	4,567	125,354
794	Belle Isle State Park	32	1,490	16,062	17,584	14,368	31,952
	Subtotal	48,463	30,546	155,492	234,501	121,319	355,820
DISTRICT 3							
733	Shenandoah State Park	5,806	-	35,047	40,853	100,808	141,661
765	Leesylvania State Park	1,068	-	269,728	270,796	47,384	318,180
766	Mason Neck State Park	-	-	68,058	68,058	19,047	87,105
772	Sky Meadows State Park	3,231	-	52,666	55,897	42,505	98,402
	Subtotal	10,105	-	425,499	435,604	209,744	645,348
DISTRICT 4							
730	Staunton River Battlefield	-	-	35,506	35,506	-	35,506
734	James River State Park	8,709	-	16,541	25,250	3,115	28,365
741	Sailor's Creek	-	-	-	-	38,113	38,113
750	Bear Creek Lake State Park	20,158	-	26,756	46,914	2,508	49,422
758	Twin Lakes State Park	6,705	4,899	48,275	59,879	54,937	114,816
762	Holiday Lake State Park	8,215	-	25,064	33,279	3,329	36,608
768	Ocoonechee State Park	20,414	-	49,955	70,369	74,652	145,021
769	Pocahontas State Park	23,771	28,636	79,604	132,011	50,518	182,529
774	Staunton River State Park	15,871	6,671	32,506	55,048	68,449	123,497
	Subtotal	103,843	40,206	314,207	458,256	295,621	753,877
DISTRICT 5							
753	Claytor Lake State Park	41,578	10,293	139,623	191,494	112,624	304,118
755	Douthat State Park	43,741	29,218	51,316	124,275	62,444	186,719
756	Fairy Stone State Park	18,623	16,435	60,203	95,261	34,965	130,226
773	Smith Mountain State Park	16,785	16,052	80,672	113,509	215,750	329,259
780	New River State Park	9,070	-	399,043	408,113	790,711	1,198,824
	Subtotal	129,797	71,998	730,857	932,652	1,216,494	2,149,146
DISTRICT 6							
	Hemlock Haven Conference Facility	-	6,773	10,161	16,934	-	16,934
732	Wilderness Road	-	-	21,054	21,054	41,512	62,566
743	Southwest Virginia Museum	-	-	8,923	8,923	4,225	13,148
760	Grayson Highlands State Park	37,399	-	72,872	110,271	22,526	132,797
763	Hungry Mother State Park	22,557	17,537	79,695	119,789	90,047	209,836
767	Natural Tunnel State Park	10,713	1,681	32,980	45,374	195,603	240,977
	Subtotal	70,669	25,991	225,685	322,345	353,913	676,258
	Breaks Interstate State Park						404,571
	Total	508,995	189,007	2,199,425	2,897,427	3,706,006	7,008,004

Department of Conservation & Recreation
Division of State Parks
From 01/01/2003 to 01/31/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	-	-	258	258	1,958	2,212
752 Chippokes State Park	-	112	444	556	222	778
757 False Cape State Park	-	-	-	-	1,790	1,790
770 First Landing State Park	-	352	2,588	2,920	50,213	53,133
776 York River State Park	-	-	588	588	1,433	2,041
Subtotal	-	464	3,856	4,320	55,634	59,954
DISTRICT 2						
751 Caledon State Park	-	-	484	484	150	634
764 Lake Anna State Park	-	-	475	475	3,671	4,146
775 Westmoreland State Park	-	772	508	1,280	240	1,520
794 Belle Isle State Park	-	6	200	206	1,095	1,301
Subtotal	-	778	1,667	2,445	5,156	7,601
DISTRICT 3						
733 Shenandoah State Park	43	-	676	719	1,824	2,543
765 Leesylvania State Park	-	-	1,275	1,275	1,380	2,655
766 Mason Neck State Park	-	-	3,148	3,148	1,631	4,779
772 Sky Meadows State Park	-	-	1,080	1,080	1,564	2,644
Subtotal	43	-	6,179	6,222	6,379	12,601
DISTRICT 4						
730 Staunton River Battlefield	-	-	1,894	1,894	-	1,894
734 James River State Park	6	-	130	136	82	218
741 Sailor's Creek	-	-	-	-	1,440	1,440
750 Bear Creek Lake State Park	-	-	259	259	134	393
758 Twin Lakes State Park	-	104	1,032	1,136	1,908	3,044
762 Holiday Lake State Park	-	-	60	60	79	139
768 Oconeechee State Park	-	-	372	372	2,654	3,026
769 Pocahontas State Park	-	425	1,304	1,729	2,540	4,269
774 Staunton River State Park	-	-	208	208	6,456	6,664
Subtotal	6	529	5,259	5,794	15,293	21,067
DISTRICT 5						
753 Claytor Lake State Park	-	134	480	594	4,425	5,019
755 Douthat State Park	-	494	580	1,054	2,263	3,317
756 Fairy Stone State Park	-	253	444	697	395	1,092
773 Smith Mountain State Park	-	260	304	564	5,138	5,700
780 New River State Park	9	-	9,847	9,856	8,434	18,290
Subtotal	9	1,141	11,615	12,765	20,653	33,418
DISTRICT 6						
Hemlock Haven Conference Facility	-	221	232	453	2,788	3,241
732 Wilderness Road	-	-	1,188	1,188	-	1,188
743 Southwest Virginia Museum	-	-	-	-	129	129
760 Grayson Highlands State Park	15	-	1,217	1,232	822	2,054
763 Hungry Mother State Park	-	221	232	453	2,788	3,241
767 Natural Tunnel State Park	-	67	12	79	3,201	3,280
Subtotal	15	509	2,881	3,405	9,728	13,133
Total	73	3,421	31,457	34,951	112,843	147,794

Department of Conservation & Recreation
Division of State Parks
From 02/01/2003 to 02/28/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	-	-	150	150	1,768	1,918
752 Chippokes State Park	-	16	428	444	214	658
757 False Cape State Park	-	-	-	-	1,640	1,640
770 First Landing State Park	-	268	1,865	2,133	44,997	47,130
776 York River State Park	-	-	401	401	1,703	2,104
Subtotal	-	284	2,844	3,128	50,322	53,450
DISTRICT 2						
751 Caledon State Park	-	-	421	421	102	523
764 Lake Anna State Park	-	-	288	288	1,672	1,960
775 Westmoreland State Park	-	591	388	979	160	1,139
794 Belle Isle State Park	-	12	164	176	840	1,016
Subtotal	-	603	1,261	1,864	2,774	4,638
DISTRICT 3						
733 Shenandoah State Park	-	-	328	328	884	1,212
765 Leesylvania State Park	-	-	2,848	2,848	1,507	4,355
766 Mason Neck State Park	-	-	1,752	1,752	643	2,395
772 Sky Meadows State Park	-	-	586	586	1,070	1,656
Subtotal	-	-	5,514	5,514	4,104	9,618
DISTRICT 4						
730 Staunton River Battlefield	-	-	1,624	1,624	-	1,624
734 James River State Park	2	-	76	78	69	147
741 Sallor's Creek	-	-	-	-	452	452
750 Bear Creek Lake State Park	-	-	134	134	90	224
758 Twin Lakes State Park	-	134	28	162	1,448	1,610
762 Holliday Lake State Park	-	-	48	48	77	125
768 Occoneechee State Park	-	-	224	224	2,462	2,686

769	Pocahontas State Park	-	575	700	1,275	2,480	3,755
774	Staunton River State Park	-	-	199	199	3,758	3,957
	Subtotal	2	709	3,033	3,744	10,836	14,580
DISTRICT 5							
753	Claytor Lake State Park	-	253	185	438	4,075	4,513
755	Douthat State Park	-	440	406	846	1,596	2,442
756	Fairy Stone State Park	-	222	96	318	150	468
773	Smith Mountain State Park	-	292	268	560	4,402	4,962
780	New River State Park	4	-	3,081	3,085	7,620	10,705
	Subtotal	4	1,207	4,036	5,247	17,843	23,090
DISTRICT 6							
	Hemlock Haven Conference Facility	-	191	-	191	2,700	2,891
732	Wilderness Road	-	-	1,684	1,684	-	1,684
743	Southwest Virginia Museum	-	-	40	40	-	40
760	Grayson Highlands State Park	10	-	684	694	681	1,375
763	Hungry Mother State Park	-	191	-	191	2,700	2,891
767	Natural Tunnel State Park	-	17	8	25	4,116	4,141
	Subtotal	10	399	2,416	2,825	10,197	13,022
	Total	16	3,202	19,104	22,322	96,076	118,398

Department of Conservation & Recreation
Division of State Parks
From 03/01/2003 to 03/31/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	424	-	534	958	3,278	4,236
752 Chippokes State Park	278	52	1,090	1,420	545	1,965
757 False Cape State Park	-	-	-	-	1,850	1,850
770 First Landing State Park	680	900	4,321	5,901	73,343	79,244
776 York River State Park	-	70	1,514	1,584	3,486	5,070
Subtotal	1,382	1,022	7,459	9,863	82,502	92,365
DISTRICT 2						
751 Caledon State Park	-	-	636	636	146	782
764 Lake Anna State Park	-	-	1,767	1,767	5,729	7,496
775 Westmoreland State Park	588	1,452	1,386	3,426	358	3,784
794 Belle Isle State Park	-	16	436	452	1,095	1,547
Subtotal	588	1,468	4,225	6,281	7,328	13,609
DISTRICT 3						
733 Shenandoah State Park	250	-	1,440	1,690	3,205	4,895
765 Leesylvania State Park	-	-	10,096	10,096	3,410	13,506
766 Mason Neck State Park	-	-	4,171	4,171	942	5,113
772 Sky Meadows State Park	-	-	2,360	2,360	2,444	4,804
Subtotal	250	-	18,067	18,317	10,001	28,318
DISTRICT 4						
730 Staunton River Battlefield	-	-	2,281	2,281	-	2,281
734 James River State Park	143	-	608	751	120	871
741 Sailor's Creek	-	-	-	-	2,562	2,562
750 Bear Creek Lake State Park	634	-	579	1,213	174	1,387
758 Twin Lakes State Park	243	181	1,420	1,844	4,596	6,440
762 Holliday Lake State Park	214	-	716	930	151	1,081
768 Occoneechee State Park	300	-	2,404	2,704	3,985	6,689

769	Pocahontas State Park	1,163	1,225	5,576	7,964	3,000	10,964
774	Staunton River State Park	5	344	520	869	6,397	7,266
	Subtotal	2,702	1,750	14,104	18,556	20,985	39,541
DISTRICT 5							
753	Claytor Lake State Park	270	210	2,130	2,610	6,780	9,390
755	Douthat State Park	388	1,112	2,804	4,304	4,433	8,737
756	Fairy Stone State Park	133	327	308	768	410	1,178
773	Smith Mountain State Park	194	604	2,184	2,982	9,686	12,668
780	New River State Park	355	-	8,339	8,694	29,874	38,568
	Subtotal	1,340	2,253	15,765	19,358	51,183	70,541
DISTRICT 6							
	Hemlock Haven Conference Facility	425	976	486	1,887	4,275	6,162
732	Wilderness Road	-	-	2,824	2,824	-	2,824
743	Southwest Virginia Museum	-	-	116	116	159	275
760	Grayson Highlands State Park	240	-	2,018	2,258	970	3,228
763	Hungry Mother State Park	425	976	486	1,887	4,275	6,162
767	Natural Tunnel State Park	679	40	40	759	7,599	8,358
	Subtotal	1,769	1,992	5,970	9,731	17,278	27,009
	Total	8,031	8,485	65,590	82,106	189,277	271,383

Department of Conservation & Recreation
Division of State Parks
From 04/01/2003 to 04/30/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	1,889	-	1,216	3,105	4,909	8,014
752 Chippokes State Park	1,548	196	2,185	3,929	1,093	5,022
757 False Cape State Park	180	102	-	282	2,610	2,892
770 First Landing State Park	3,272	1,263	21,345	25,880	115,031	140,911
776 York River State Park	96	-	3,283	3,379	4,600	7,979
Subtotal	6,985	1,561	28,029	36,575	128,243	164,818
DISTRICT 2						
751 Caledon State Park	-	-	680	680	647	1,327
764 Lake Anna State Park	-	-	2,696	2,696	6,708	9,404
775 Westmoreland State Park	2,627	2,115	2,040	6,782	388	7,170
794 Belle Isle State Park	-	154	1,024	1,178	1,200	2,378
Subtotal	2,627	2,269	6,440	11,336	8,943	20,279
DISTRICT 3						
733 Shenandoah State Park	495	-	2,134	2,629	7,195	9,824
765 Leesylvania State Park	66	-	21,306	21,372	7,106	28,478
766 Mason Neck State Park	-	-	5,050	5,050	1,000	6,050
772 Sky Meadows State Park	154	-	3,384	3,538	5,066	8,604
Subtotal	715	-	31,874	32,589	20,367	52,956
DISTRICT 4						
730 Staunton River Battlefield	-	-	3,168	3,168	-	3,168
734 James River State Park	585	-	1,096	1,681	226	1,907
741 Sailor's Creek	-	-	-	-	3,480	3,480
750 Bear Creek Lake State Park	1,646	-	1,001	2,647	230	2,877
758 Twin Lakes State Park	804	425	1,332	2,561	5,552	8,113
762 Holiday Lake State Park	367	-	1,020	1,387	250	1,637
768 Occoneechee State Park	1,547	-	6,848	8,395	7,330	15,725

769	Pocahontas State Park	3,005	2,613	7,323	12,941	4,000	16,941
774	Staunton River State Park	491	560	1,232	2,283	10,569	12,852
	Subtotal	8,445	3,598	23,020	35,063	31,637	66,700
DISTRICT 5							
753	Claytor Lake State Park	1,646	622	5,725	7,993	6,200	14,193
755	Douthat State Park	4,657	2,505	4,042	11,204	5,670	16,874
756	Fairy Stone State Park	1,231	1,136	1,144	3,511	235	3,746
773	Smith Mountain State Park	712	1,308	3,264	5,284	16,324	21,608
780	New River State Park	315	-	20,724	21,039	38,511	59,550
	Subtotal	8,561	5,571	34,899	49,031	66,940	115,971
DISTRICT 6							
	Hemlock Haven Conference Facility	1,230	1,237	3,008	5,475	6,184	11,659
732	Wilderness Road	-	-	5,063	5,063	-	5,063
743	Southwest Virginia Museum	-	-	225	225	290	515
760	Grayson Highlands State Park	472	-	2,797	3,269	1,226	4,495
763	Hungry Mother State Park	1,230	1,237	3,008	5,475	6,184	11,659
767	Natural Tunnel State Park	597	160	304	1,061	15,742	16,803
	Subtotal	3,529	2,634	14,405	20,568	29,626	50,194
	Total	30,862	15,633	138,667	185,162	285,756	470,918

Department of Conservation & Recreation
Division of State Parks
From 05/01/2003 to 05/31/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	5,391	-	6,250	11,641	13,249	24,890
752 Chippokes State Park	1,857	204	2,456	4,517	1,231	5,748
757 False Cape State Park	191	202	94	487	2,775	3,262
770 First Landing State Park	5,536	1,324	32,163	39,023	157,634	196,657
776 York River State Park	150	15	3,379	3,544	4,560	8,104
Subtotal	13,125	1,745	44,342	59,212	179,449	238,661
DISTRICT 2						
751 Caledon State Park	-	-	374	374	630	1,004
764 Lake Anna State Park	1	-	3,148	3,149	7,575	10,724
775 Westmoreland State Park	5,075	2,553	2,258	9,886	524	10,410
794 Belle Isle State Park	-	140	1,377	1,517	1,435	2,952
Subtotal	5,076	2,693	7,157	14,926	10,164	25,090
DISTRICT 3						
733 Shenandoah State Park	775	-	2,628	3,403	6,223	9,626
765 Leesylvania State Park	40	-	22,634	22,674	4,968	27,642
766 Mason Neck State Park	-	-	3,879	3,879	975	4,854
772 Sky Meadows State Park	263	-	9,036	9,299	20,170	29,469
Subtotal	1,078	-	38,177	39,255	32,336	71,591
DISTRICT 4						
730 Staunton River Battlefield	-	-	3,466	3,466	-	3,466
734 James River State Park	1,283	-	1,489	2,772	357	3,129
741 Sailor's Creek	-	-	-	-	3,016	3,016
750 Bear Creek Lake State Park	1,984	-	1,060	3,044	254	3,298
758 Twin Lakes State Park	1,313	444	4,100	5,857	7,452	13,309
762 Holliday Lake State Park	634	-	1,180	1,814	365	2,179
768 Occoneechee State Park	2,636	-	5,852	8,488	8,119	16,607

769	Pocahontas State Park	3,613	4,190	6,220	14,023	4,859	18,882
774	Staunton River State Park	1,097	474	2,168	3,739	12,673	16,412
	Subtotal	12,560	5,108	25,535	43,203	37,095	80,298
DISTRICT 5							
753	Claytor Lake State Park	4,085	900	16,310	21,295	11,055	32,350
755	Douthat State Park	4,931	2,187	5,103	12,221	6,820	19,041
756	Fairy Stone State Park	1,870	1,119	1,836	4,825	548	5,373
773	Smith Mountain State Park	1,501	1,524	4,336	7,361	20,656	28,017
780	New River State Park	814	-	54,321	55,135	35,886	91,021
	Subtotal	13,201	5,730	81,906	100,837	74,965	175,802
DISTRICT 6							
	Hemlock Haven Conference Facility	2,093	1,263	3,900	7,256	7,700	14,956
732	Wilderness Road	-	-	12,132	12,132	-	12,132
743	Southwest Virginia Museum	-	-	414	414	123	537
760	Grayson Highlands State Park	3,234	-	5,388	8,622	1,649	10,271
763	Hungry Mother State Park	2,093	1,263	3,900	7,256	7,700	14,956
767	Natural Tunnel State Park	1,088	78	1,792	2,958	33,730	36,688
	Subtotal	8,508	2,604	27,526	38,638	50,902	89,540
	Total	53,548	17,880	224,643	296,071	384,911	680,982

Department of Conservation & Recreation
Division of State Parks
From 06/01/2003 to 06/30/2003.

		Paying				Non Paying	Grand
		Camping	Cabins	Day Use	Total	Day Use	Total
DISTRICT 1							
737	Kiptopeke State Park	8,141	-	8,180	16,321	15,167	31,488
752	Chippokes State Park	2,126	268	5,426	7,820	2,716	10,536
757	False Cape State Park	269	160	128	557	2,655	3,212
770	First Landing State Park	13,160	2,056	52,067	67,283	176,744	244,027
776	York River State Park	-	-	4,739	4,739	3,560	8,299
	Subtotal	23,696	2,484	70,540	96,720	200,842	297,562
DISTRICT 2							
751	Caledon State Park	-	-	1,088	1,088	337	1,425
764	Lake Anna State Park	2	-	11,529	11,531	12,887	24,418
775	Westmoreland State Park	6,850	3,024	6,192	16,066	520	16,586
794	Belle Isle State Park	-	220	2,108	2,328	1,578	3,906
	Subtotal	6,852	3,244	20,917	31,013	15,322	46,335
DISTRICT 3							
733	Shenandoah State Park	643	-	3,848	4,491	5,447	9,938
765	Leesylvania State Park	76	-	39,276	39,352	7,072	46,424
766	Mason Neck State Park	-	-	5,432	5,432	1,447	6,879
772	Sky Meadows State Park	311	-	3,270	3,581	5,368	8,949
	Subtotal	1,030	-	51,826	52,856	19,334	72,190
DISTRICT 4							
730	Staunton River Battlefield	-	-	5,051	5,051	-	5,051
734	James River State Park	1,088	-	1,623	2,711	289	3,000
741	Sailor's Creek	-	-	-	-	3,300	3,300
750	Bear Creek Lake State Park	3,336	-	6,196	9,532	488	10,020
758	Twin Lakes State Park	1,006	318	6,008	7,332	8,896	16,228
762	Holliday Lake State Park	969	-	3,632	4,601	374	4,975
768	Oconeechee State Park	2,260	-	8,704	10,964	9,653	20,617

769	Pocahontas State Park	3,837	3,660	12,951	20,448	7,254	27,702
774	Staunton River State Park	2,226	562	7,207	9,995	10,326	20,321
	Subtotal	14,722	4,540	51,372	70,634	40,580	111,214
DISTRICT 5							
753	Claytor Lake State Park	6,981	1,285	21,670	29,936	12,855	42,791
755	Douthat State Park	6,503	3,208	4,481	14,190	7,740	21,930
756	Fairy Stone State Park	2,358	3,201	9,088	14,647	3,050	17,697
773	Smith Mountain State Park	2,126	2,288	13,448	17,862	22,662	40,524
780	New River State Park	1,075	-	69,927	71,002	30,943	101,945
	Subtotal	19,043	9,980	118,614	147,637	77,250	224,887
DISTRICT 6							
	Hemlock Haven Conference Facility	3,779	2,129	11,338	17,246	11,795	29,041
732	Wilderness Road	-	-	7,848	7,848	-	7,848
743	Southwest Virginia Museum	-	-	534	534	203	737
760	Grayson Highlands State Park	5,689	-	9,893	15,582	2,351	17,933
763	Hungry Mother State Park	3,779	2,129	11,338	17,246	11,795	29,041
767	Natural Tunnel State Park	1,295	376	7,210	8,881	40,432	49,313
	Subtotal	14,542	4,634	48,161	67,337	66,576	133,913
	Total	79,885	24,882	361,430	466,197	419,904	886,101

Department of Conservation & Recreation
Division of State Parks
From 07/01/2003 to 07/31/2003.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	11,271	-	10,616	21,887	12,641	34,528
752	Chippokes State Park	2,358	340	24,228	26,926	5,317	32,243
757	False Cape State Park	289	65	316	670	1,790	2,460
770	First Landing State Park	18,712	2,416	56,162	77,290	127,361	204,651
776	York River State Park	20	-	4,809	4,829	4,349	9,178
	Subtotal	32,650	2,821	96,131	131,602	151,458	283,060
DISTRICT 2							
751	Caledon State Park	-	-	813	813	240	1,053
764	Lake Anna State Park	1	-	25,598	25,599	7,233	32,832
775	Westmoreland State Park	8,425	3,953	12,422	24,800	596	25,396
794	Belle Isle State Park	-	126	1,276	1,402	1,475	2,877
	Subtotal	8,426	4,079	40,109	52,614	9,544	62,158
DISTRICT 3							
733	Shenandoah State Park	884	-	6,354	7,238	5,761	12,999
765	Leesylvania State Park	50	-	40,114	40,164	8,670	48,834
766	Mason Neck State Park	-	-	4,487	4,487	1,355	5,842
772	Sky Meadows State Park	432	-	3,772	4,204	6,423	10,627
	Subtotal	1,366	-	54,727	56,093	22,209	78,302
DISTRICT 4							
730	Staunton River Battlefield	-	-	3,326	3,326	-	3,326
734	James River State Park	1,280	-	1,753	3,033	328	3,361
741	Sailor's Creek	-	-	-	-	3,516	3,516
750	Bear Creek Lake State Park	5,236	-	5,402	10,638	1,376	12,014
758	Twin Lakes State Park	2,075	455	8,980	11,510	13,732	25,242
762	Holliday Lake State Park	1,406	-	7,144	8,550	578	9,128
768	Occoneechee State Park	4,183	-	14,228	18,411	12,728	31,139

769	Pocahontas State Park	4,898	4,325	38,404	47,627	6,868	54,495
774	Staunton River State Park	3,361	1,130	12,478	16,969	7,749	24,718
	Subtotal	22,439	5,910	91,715	120,064	46,875	166,939
DISTRICT 5							
753	Claytor Lake State Park	9,486	1,499	31,235	42,220	18,783	61,003
755	Douthat State Park	8,515	4,478	10,055	23,048	9,517	32,565
756	Fairy Stone State Park	3,493	4,737	17,596	25,826	4,215	30,041
773	Smith Mountain State Park	746	615	4,549	5,910	13,219	19,129
780	New River State Park	1,447	-	94,118	95,565	37,208	132,773
	Subtotal	23,687	11,329	157,553	192,569	82,942	275,511
DISTRICT 6							
	Hemlock Haven Conference Facility	5,003	2,987	28,490	36,480	13,446	49,926
732	Wilderness Road	-	-	8,225	8,225	-	8,225
743	Southwest Virginia Museum	-	-	646	646	177	823
760	Grayson Highlands State Park	7,777	-	9,861	17,638	2,491	20,129
763	Hungry Mother State Park	5,003	2,987	28,490	36,480	13,446	49,926
767	Natural Tunnel State Park	2,791	500	11,908	15,199	40,030	55,229
	Subtotal	20,574	6,474	87,620	114,668	69,590	184,258
	Total	109,142	30,613	527,855	667,610	382,618	1,050,228

Department of Conservation & Recreation
Division of State Parks
From 08/01/2003 to 08/31/2003.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	12,019	-	8,764	20,783	12,580	33,363
752	Chippokes State Park	1,638	255	5,355	7,248	3,966	11,214
757	False Cape State Park	322	413	42	777	1,944	2,721
770	First Landing State Park	18,324	2,312	51,787	72,423	167,571	239,994
776	York River State Park	20	-	4,046	4,066	2,987	7,053
	Subtotal	32,323	2,980	69,994	105,297	189,048	294,345
DISTRICT 2							
751	Caledon State Park	-	-	1,218	1,218	323	1,541
764	Lake Anna State Park	-	-	18,022	18,022	16,060	34,082
775	Westmoreland State Park	8,348	4,472	6,780	19,600	688	20,288
794	Belle Isle State Park	-	183	1,144	1,327	1,272	2,599
	Subtotal	8,348	4,655	27,164	40,167	18,343	58,510
DISTRICT 3							
733	Shenandoah State Park	1,000	-	5,808	6,808	12,367	19,175
765	Leesylvania State Park	36	-	38,418	38,454	9,526	47,980
766	Mason Neck State Park	-	-	4,120	4,120	1,342	5,462
772	Sky Meadows State Park	316	-	4,924	5,240	6,773	12,013
	Subtotal	1,352	-	53,270	54,622	30,008	84,630
DISTRICT 4							
730	Staunton River Battlefield	-	-	3,694	3,694	-	3,694
734	James River State Park	1,550	-	1,280	2,830	260	3,090
741	Sailor's Creek	-	-	-	-	3,672	3,672
750	Bear Creek Lake State Park	4,468	-	5,990	10,458	807	11,265
758	Twin Lakes State Park	1,761	613	7,572	9,946	11,320	21,266
768	Oconeechee State Park	2,877	-	5,684	8,561	7,605	16,166
769	Pocahontas State Park	4,248	3,887	27,445	35,580	8,785	44,365

774	Staunton River State Park	2,854	1,014	6,172	10,040	8,892	18,932
	Subtotal	17,758	5,514	57,837	81,109	41,341	122,450
DISTRICT 5							
753	Claytor Lake State Park	8,126	1,515	22,460	32,101	13,390	45,491
755	Douthat State Park	7,515	4,283	7,137	18,935	8,866	27,801
756	Fairy Stone State Park	3,198	3,700	8,558	15,456	3,840	19,296
773	Smith Mountain State Park	3,510	2,422	11,374	17,306	26,397	43,703
780	New River State Park	1,439	-	95,962	97,401	44,946	142,347
	Subtotal	23,788	11,920	145,491	181,199	97,439	278,638
DISTRICT 6							
	Hemlock Haven Conference Facility	4,334	2,937	12,328	19,599	12,122	31,721
732	Wilderness Road	-	-	8,404	8,404	-	8,404
743	Southwest Virginia Museum	-	-	505	505	104	609
760	Grayson Highlands State Park	7,175	-	10,456	17,631	2,055	19,686
763	Hungry Mother State Park	4,334	2,937	12,328	19,599	12,122	31,721
767	Natural Tunnel State Park	2,156	423	8,968	11,547	20,812	32,359
	Subtotal	17,999	6,297	52,989	77,285	47,215	124,500
	Total	101,568	31,366	406,745	539,679	423,394	963,073

Department of Conservation & Recreation
Division of State Parks
From 09/01/2003 to 09/30/2003.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	2,657	-	3,310	5,967	9,654	15,621
752	Chippokes State Park	543	34	863	1,440	430	1,870
757	False Cape State Park	92	82	-	174	1,290	1,464
770	First Landing State Park	4,236	1,156	13,658	19,050	120,942	139,992
776	York River State Park	40	-	1,909	1,949	1,328	3,277
	Subtotal	7,568	1,272	19,740	28,580	133,644	162,224
DISTRICT 2							
751	Caledon State Park	-	-	554	554	169	723
764	Lake Anna State Park	1	-	5,338	5,339	9,881	15,220
775	Westmoreland State Park	2,069	1,191	2,900	6,160	646	6,806
794	Belle Isle State Park	-	145	3,382	3,527	1,920	5,447
	Subtotal	2,070	1,336	12,174	15,580	12,616	28,196
DISTRICT 3							
733	Shenandoah State Park	244	-	1,554	1,798	4,141	5,939
765	Leesylvania State Park	-	-	14,188	14,188	2,700	16,888
766	Mason Neck State Park	-	-	3,218	3,218	876	4,094
772	Sky Meadows State Park	327	-	3,148	3,475	3,813	7,288
	Subtotal	571	-	22,108	22,679	11,530	34,209
DISTRICT 4							
730	Staunton River Battlefield	-	-	3,116	3,116	-	3,116
734	James River State Park	576	-	968	1,544	138	1,682
741	Sallor's Creek	-	-	-	-	2,744	2,744
750	Bear Creek Lake State Park	1,234	-	817	2,051	222	2,273
758	Twin Lakes State Park	476	162	5,136	5,774	4,760	10,534
762	Holliday Lake State Park	379	-	1,084	1,463	160	1,623
768	Oconeechee State Park	1,009	-	3,908	4,917	4,880	9,797

769	Pocahontas State Park	1,666	1,292	3,944	6,902	3,612	10,514
774	Staunton River State Park	346	253	784	1,383	10,561	11,944
	Subtotal	5,686	1,707	19,757	27,150	27,077	54,227
DISTRICT 5							
753	Claytor Lake State Park	2,834	849	8,860	12,543	6,675	19,218
755	Douthat State Park	3,047	1,890	2,405	7,342	6,240	13,582
756	Fairy Stone State Park	1,312	873	2,011	4,196	3,465	7,661
773	Smith Mountain State Park	1,222	1,123	4,826	7,171	15,706	22,877
780	New River State Park	975	-	66,186	67,161	31,225	98,386
	Subtotal	9,390	4,735	84,288	98,413	63,311	161,724
DISTRICT 6							
	Hemlock Haven Conference Facility	1,845	1,393	5,376	8,614	7,443	16,057
732	Wilderness Road	-	-	6,961	6,961	-	6,961
743	Southwest Virginia Museum	-	-	283	283	115	398
760	Grayson Highlands State Park	4,295	-	12,420	16,715	2,427	19,142
763	Hungry Mother State Park	1,845	1,393	5,376	8,614	7,443	16,057
767	Natural Tunnel State Park	1,154	360	1,500	3,014	16,152	19,166
	Subtotal	9,139	3,146	31,916	44,201	33,580	77,781
	Total	34,424	12,196	189,983	236,603	281,758	518,361

Department of Conservation & Recreation
Division of State Parks
From 10/01/2003 to 10/31/2003.

		Paying				Non Paying Day Use	Grand Total
		Camping	Cabins	Day Use	Total		
DISTRICT 1							
737	Kiptopeke State Park	4,021	-	2,698	6,719	10,776	17,495
752	Chilppokes State Park	273	88	6,110	6,471	322	6,793
757	False Cape State Park	105	16	-	121	1,229	1,350
770	First Landing State Park	2,268	1,064	8,177	11,509	101,147	112,656
776	York River State Park	-	-	259	259	1,108	1,367
	Subtotal	6,667	1,168	17,244	25,079	114,582	139,661
DISTRICT 2							
751	Caledon State Park	-	-	20	20	395	415
764	Lake Anna State Park	240	-	1,984	2,224	8,440	10,664
775	Westmoreland State Park	-	-	-	-	-	-
794	Belle Isle State Park	-	188	922	1,110	1,275	2,385
	Subtotal	240	188	2,926	3,354	10,110	13,464
DISTRICT 3							
733	Shenandoah State Park	530	-	3,012	3,542	6,522	10,064
765	Leesylvania State Park	-	-	6,676	6,676	3,460	10,136
766	Mason Neck State Park	-	-	4,494	4,494	1,002	5,496
772	Sky Meadows State Park	354	-	5,624	5,978	5,459	11,437
	Subtotal	884	-	19,806	20,690	16,443	37,133
DISTRICT 4							
730	Staunton River Battlefield	-	-	3,681	3,681	-	3,681
734	James River State Park	1,096	-	1,532	2,628	234	2,862
741	Sallor's Creek	-	-	-	-	3,188	3,188
750	Bear Creek Lake State Park	2,662	-	576	3,238	204	3,442
758	Twin Lakes State Park	710	619	5,868	7,197	2,500	9,697
762	Holliday Lake State Park	847	-	688	1,535	176	1,711
768	Occoneechee State Park	1,668	-	5,024	6,692	8,247	14,939

769	Pocahontas State Park	2,639	2,635	3,322	8,596	3,000	11,596
774	Staunton River State Park	667	567	424	1,658	10,230	11,888
	Subtotal	10,289	3,821	21,115	35,225	27,779	63,004
DISTRICT 5							
753	Claytor Lake State Park	2,996	1,083	5,012	9,091	4,750	13,841
755	Douthat State Park	4,965	2,966	2,570	10,501	3,751	14,252
756	Fairy Stone State Park	1,955	2,164	940	5,059	1,735	6,794
773	Smith Mountain State Park	1,197	1,301	2,720	5,218	12,230	17,448
780	New River State Park	1,043	-	84,169	85,212	22,931	108,143
	Subtotal	12,156	7,514	95,411	115,081	45,397	160,478
DISTRICT 6							
	Hemlock Haven Conference Facility	2,449	1,546	1,892	5,887	6,672	12,559
732	Wilderness Road	-	-	12,844	12,844	-	12,844
743	Southwest Virginia Museum	-	-	371	371	764	1,135
760	Grayson Highlands State Park	4,334	-	8,302	12,636	1,671	14,307
763	Hungry Mother State Park	2,449	1,546	1,892	5,887	6,672	12,559
767	Natural Tunnel State Park	1,484	96	532	2,112	14,733	16,845
	Subtotal	10,716	3,188	25,833	39,737	30,512	70,249
	Total	40,952	15,879	182,335	239,166	244,823	483,989

Department of Conservation & Recreation
Division of State Parks
From 11/01/2003 to 11/30/2003.

	Paying Camping	Cabins	Day Use	Total	Non Paying Day Use	Grand Total
DISTRICT 1						
737 Kiptopeke State Park	1,024	-	1,824	2,848	10,850	13,698
752 Chippokes State Park	497	153	745	1,395	374	1,769
757 False Cape State Park	57	208	-	265	1,500	1,765
770 First Landing State Park	660	928	5,121	6,709	82,799	89,508
776 York River State Park	-	-	157	157	1,077	1,234
Subtotal	2,238	1,289	7,847	11,374	96,600	107,974
DISTRICT 2						
751 Caledon State Park	-	-	-	-	145	145
764 Lake Anna State Park	20	-	1,944	1,964	6,788	8,752
775 Westmoreland State Park	225	512	532	1,269	216	1,485
794 Belle Isle State Park	-	138	334	472	1,055	1,527
Subtotal	245	650	2,810	3,705	8,204	11,909
DISTRICT 3						
733 Shenandoah State Park	278	-	1,832	2,110	5,257	7,367
765 Leesylvania State Park	-	-	11,540	11,540	3,694	15,234
766 Mason Neck State Park	-	-	3,734	3,734	930	4,664
772 Sky Meadows State Park	282	-	5,832	6,114	4,350	10,464
Subtotal	560	-	22,938	23,498	14,231	37,729
DISTRICT 4						
730 Staunton River Battlefield	-	-	2,553	2,553	-	2,553
734 James River State Park	286	-	472	758	236	994
741 Sailor's Creek	-	-	-	-	2,352	2,352
750 Bear Creek Lake State Park	1,828	-	580	2,408	208	2,616
758 Twin Lakes State Park	570	323	2,092	2,985	3,244	6,229
762 Holliday Lake State Park	420	-	472	892	120	1,012
768 Occoneechee State Park	1,062	-	4,352	5,414	6,624	12,038

769	Pocahontas State Park	2,145	945	2,900	5,990	3,500	9,490
774	Staunton River State Park	63	594	164	821	6,643	7,464
	Subtotal	6,374	1,862	13,585	21,821	22,927	44,748
DISTRICT 5							
753	Claytor Lake State Park	629	597	2,167	3,393	2,145	5,538
755	Douthat State Park	641	2,232	1,065	3,938	2,820	6,758
756	Fairy Stone State Park	417	1,809	724	2,950	960	3,910
773	Smith Mountain State Park	205	801	1,056	2,062	6,408	8,470
780	New River State Park	256	-	36,914	37,170	10,418	47,588
	Subtotal	2,148	5,439	41,926	49,513	22,751	72,264
DISTRICT 6							
	Hemlock Haven Conference Facility	406	932	320	1,658	5,629	7,287
732	Wilderness Road	-	-	2,905	2,905	-	2,905
743	Southwest Virginia Museum	-	-	715	715	485	1,200
760	Grayson Highlands State Park	472	-	3,456	3,928	1,368	5,296
763	Hungry Mother State Park	406	932	320	1,658	5,629	7,287
767	Natural Tunnel State Park	171	720	124	1,015	3,599	4,614
	Subtotal	1,455	2,584	7,840	11,879	16,710	28,589
	Total	13,020	11,824	96,946	121,790	181,423	303,213

PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

START DATE:

~~01/01/1998~~ END ~~12/31/1998~~

Start at Client:

CONTACT STATION

End at Client:

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EC00005	449	SMALL SHELTERS 1/2 DAY	20	480.00
EC00010	450	SMALL SHELTERS FULL DAY	37	1,480.00
EF00090	475	PONTOON BOAT TOURS/ADULT	380	1,140.00
EF00095	476	PONTOON BOAT TOURS/CHILD	134	268.00
EM00005	547	CHARILIFT SEASON PASS	2167	2,167.00
EM00008	548	WEEKDAY FEE MAIN SEAS. ADULT	3157	3,157.00
EM00055	1975	LA \$5 MAX PER CAR FEE	6630	33,150.00
EM00060	2555	PER PERSON ENTRANCE FEE	38	38.00
EM00070	2556	PER PERSON MAIN SEASON CHILD	891	891.00
EM00075	2557	PER PERSON MAIN SEASON ADULT	8517	17,034.00
EN00020	303	DAILY PARKING/D	334	668.00
EN00030	307	DAILY PARK. STAND. OFF SEAS.	868	868.00
EO00020	313	WEEKEND PARK/D	689	2,067.00
EO00035	317	WEEKEND PARK OFF SEASON	106	106.00
EP00015	321	DAILY PKG BUS/KP PO WE	11	165.00
EQ00010	324	AP PASS/SS-LA-SM-CL-LE-WE-PO	63	1,890.00
EQ00018	328	AP PASS SPECIAL AFTER 7/21	18	288.00
EQ00020	326	AP PASS SENIOR'S	13	195.00
EQ00023	1499	AP PASS SENIOR'S AFTER 7/21	4	32.00
ES00005	330	DAILY BL/STD	2092	4,184.00
ES00010	331	SS/SM DAILY BOAT LAUNCH	14	56.00
ES00035	334	2ND BOAT SURCHAR	117	234.00

LAKE ANNA STATE PARK

PAGE: 2

PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
ES00050	329	LA/SML DAILY PK/BL OFF SEASN	76	228.00
ES00055	337	SML WEEKEND/HOLIDAY PK/BL	86	430.00
ET00005	338	PARK/LAUNCH PASSPORT	27	1,755.00
ET00008	339	PARK/LAUNCH PLUS UP	4	140.00
ET00020	344	PARK/LAUNCH PASSPORT SENIORS	3	150.00
ET00023	345	AP/BL PASS/SR'S AFTER 7/21	3	84.00
EU00005	351	TRAILER PKING FEE	11	11.00
		TOTAL:	26510	73,356.00

1998 EST
(ET 11)

2792

LAKE ANNA STATE PARK

PAGE: 1

PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

START DATE: ~~07/21/1999~~ ~~07/21/1999~~

Start at Client:

CONTACT STATION

End at Client:

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EC00005	449	SMALL SHELTERS 1/2 DAY	1	24.00
EC00015	451	LARGE SHELTERS 1/2 DAY	1	40.00
EF00090	475	PONTOON BOAT TOURS/ADULT	162	486.00
EF00095	476	PONTOON BOAT TOURS/CHILD	66	132.00
EF00128	1820	INTER CANOE/KAYAK TOUR	2	20.00
EM00005	547	CHARILIFT SEASON PASS	2676	2,676.00
EM00008	548	WEEKDAY FEE MAIN SEAS. ADULT	3826	3,826.00
EM00055	1975	LA \$5 MAX PER CAR FEE	6446	32,230.00
EM00060	2555	PER PERSON ENTRANCE FEE	7295	7,295.00
EM00070	2556	PER PERSON MAIN SEASON CHILD	716	716.00
EM00075	2557	PER PERSON MAIN SEASON ADULT	8439	16,878.00
EP00015	321	DAILY PKG BUS/KP PO WE	26	390.00
EQ00010	324	AP PASS/SS-LA-SM-CL-LE-WE-PO	48	1,440.00
EQ00018	328	AP PASS SPECIAL AFTER 7/21	11	176.00
EQ00020	326	AP PASS SENIOR'S	17	255.00
EQ00023	1499	AP PASS SENIOR'S AFTER 7/21	2	16.00
ES00005	330	DAILY BL/STD	1906	3,812.00
ES00035	334	2ND BOAT SURCHAR	103	206.00
ET00005	338	PARK/LAUNCH PASSPORT	31	2,015.00
ET00008	339	PARK/LAUNCH PLUS UP	7	245.00
ET00020	344	PARK/LAUNCH PASSPORT SENIORS	2	100.00
EU00005	351	TRAILER PKING FEE	43	43.00

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LAKE ANNA STATE PARK
 PRODUCT SALES SUMMARY REPORT
 REQUESTED BY: User Name for Nurit

PAGE: 1

DATE: 11Aug2004

START DATE:

~~11/24/2000~~

~~END DATE~~

~~11/24/2000~~

Start at Client:

CONTACT STATION

End at Client:

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EC00040	455	GROUP PICNIC AREA	4	7.16
EF00090	475	PONTOON BOAT TOURS/ADULT	338	1,014.00
EF00095	476	PONTOON BOAT TOURS/CHILD	130	260.00
EM00005	547	CHARILIFT SEASON PASS	1979	1,979.00
EM00008	548	WEEKDAY FEE MAIN SEAS. ADULT	3198	3,198.00
EM00055	1975	LA \$5 MAX PER CAR FEE	6627	33,135.00
EM00060	2555	PER PERSON ENTRANCE FEE	10016	10,016.00
EM00070	2556	PER PERSON MAIN SEASON CHILD	891	891.00
EM00075	2557	PER PERSON MAIN SEASON ADULT	8734	17,468.00
EN00050	6741	DAILY NONPROFIT PARKING A	2	8.00
EN00055	6742	DAILY NONPROFIT PARKING B	2	18.00
EP00015	321	DAILY PKG BUS/KP PO WE	18	270.00
EQ00010	324	AP PASS/SS-LA-SM-CL-LE-WE-PO	1	30.00
EQ00020	326	AP PASS SENIOR'S	4	60.00
EQ00025	327	NATURALLY YOURS PASSPORT +	15	750.00
EQ00030	5187	LIFETIME SR PASSPORT PLUS	3	95.00
EQ00035	5178	SR NATURALLY YOURS PASSPORT+	9	135.00
EQ00040	285	NATURALLY YOURS PASSPORT	44	1,320.00
ES00005	330	DAILY BL/STD	1676	3,352.00
ES00035	334	2ND BOAT SURCHAR	112	224.00
ET00005	338	PARK/LAUNCH PASSPORT	24	1,560.00
ET00020	344	PARK/LAUNCH PASSPORT SENIORS	1	50.00

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PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
ET00030	348	PARK/LAUNCH PASSPORT SENIORS	1	90.00
ET00045	6599	PASSPORT PLUS FOR BOATERS	3	375.00
EU00005	351	TRAILER PKING FEE	52	52.00
		TOTAL:	33884	76,357.16

PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

START DATE:

Start at Client:

CONTACT STATION

End at Client:

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EC00010	450	SMALL SHELTERS FULL DAY	2	80.00
EF00090	475	PONTOON BOAT TOURS/ADULT	32	96.00
EF00095	476	PONTOON BOAT TOURS/CHILD	13	26.00
EM00005	547	CHARILIFT SEASON PASS	3954	3,954.00
EM00008	548	WEEKDAY FEE MAIN SEAS. ADULT	5621	5,621.00
EM00055	1975	LA \$5 MAX PER CAR FEE	8257	41,285.00
EM00060	2555	PER PERSON ENTRANCE FEE	7610	7,610.00
EM00070	2556	PER PERSON MAIN SEASON CHILD	1158	1,158.00
EM00075	2557	PER PERSON MAIN SEASON ADULT	10991	21,982.00
EN00040	6739	DAILY COMMERCIAL PARKING A	5	40.00
EN00045	6740	DAILY COMMERCIAL PARKING B	24	360.00
EN00050	6741	DAILY NONPROFIT PARKING A	4	16.00
EN00080	6947	BUS PARKING	28	420.00
EQ00025	327	NATURALLY YOURS PASSPORT +	23	1,150.00
EQ00030	5187	LIFETIME SR PASSPORT PLUS	3	45.00
EQ00035	5178	SR NATURALLY YOURS PASSPORT+	12	180.00
EQ00040	285	NATURALLY YOURS PASSPORT	56	1,680.00
ES00005	330	DAILY BL/STD	1904	3,808.00
ES00035	334	2ND BOAT SURCHAR	147	294.00
ET00005	338	PARK/LAUNCH PASSPORT	30	1,950.00
ET00020	344	PARK/LAUNCH PASSPORT SENIORS	1	50.00
ET00045	6599	PASSPORT PLUS FOR BOATERS	5	625.00

LAKE ANNA STATE PARK

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PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

START DATE:

Start at Client:

CONTACT STATION

End at Client:

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EC00010	450	SMALL SHELTERS FULL DAY	2	100.00
EF00090	475	PONTOON BOAT TOURS/ADULT	259	777.00
EF00095	476	PONTOON BOAT TOURS/CHILD	101	202.00
EF00170	491	INTERPRETIVE PROGRAM FEE	70	140.00
EF00260	2520	STANDARD INTERPRETIVE FAMILY	59	354.00
EM00055	1975	LA \$5 MAX PER CAR FEE	8	40.00
EM00060	2555	PER PERSON ENTRANCE FEE	3544	3,544.00
EN00040	6739	DAILY COMMERCIAL PARKING A	6	58.00
EN00050	6741	DAILY NONPROFIT PARKING A	11	44.00
EN00055	6742	DAILY NONPROFIT PARKING B	2	18.00
EN00060	6943	MAIN SEASON DAILY PARKING	5311	15,933.00
EN00065	6944	MAIN SEASON WKND PARKING	13260	53,040.00
EN00070	6945	OFF SEASON DAILY PARKING	350	700.00
EN00080	6947	BUS PARKING	39	585.00
EQ00005	323	HORSE ANNUAL TRAILER/VEHICLE	1	72.00
EQ00025	327	NATURALLY YOURS PASSPORT +	26	1,415.00
EQ00035	5178	SR NATURALLY YOURS PASSPORT+	7	105.00
EQ00040	285	NATURALLY YOURS PASSPORT	57	1,860.00
EQ00085	7398	SR NAT YOURS PASSPORT	7	140.00
ES00005	330	DAILY BL/STD	19	38.00
ES00035	334	2ND BOAT SURCHAR	198	396.00
ES00140	7000	BOAT LAUNCH	1633	6,532.00

2025

PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
ET00005	338	PARK/LAUNCH PASSPORT	1	65.00
ET00010	340	PARK /LAUNCH PASSPORT	17	1,496.00
ET00045	6599	PASSPORT PLUS FOR BOATERS	6	815.00
ET00080	7342	SR NAT YOURS PASS BOATERS +	1	285.00
EU00005	351	TRAILER PKING FEE	344	766.00
EU00020	7274	TRAILER FEE	95	98.00
EV00020	356	SPECIAL EVENT	325	1,950.00
		TOTAL:	25759	91,568.00

PAGE: 1

DATE: 11Aug2004

DATE: 11Aug2004

END DATE 31/Dec/2003

CONTACT STATION

VISITOR CENTER

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
EF00090	475	PONTOON BOAT TOURS/ADULT	218	654.00
EF00095	476	PONTOON BOAT TOURS/CHILD	68	136.00
EF00170	491	INTERPRETIVE PROGRAM FEE	50	100.00
EF00260	2520	STANDARD INTERPRETIVE FAMILY	51	306.00
EM00060	2555	PER PERSON ENTRANCE FEE	1	1.00
EN00040	6739	DAILY COMMERCIAL PARKING A	6	60.00
EN00050	6741	DAILY NONPROFIT PARKING A	2	8.00
EN00060	6943	MAIN SEASON DAILY PARKING	4249	12,747.00
EN00065	6944	MAIN SEASON WKND PARKING	11898	47,592.00
EN00070	6945	OFF SEASON DAILY PARKING	1285	2,570.00
EN00080	6947	BUS PARKING	30	450.00
EQ00005	323	HORSE ANNUAL TRAILER/VEHICLE	5	360.00
EQ00025	327	NATURALLY YOURS PASSPORT +	19	1,045.00
EQ00035	5178	SR NATURALLY YOURS PASSPORT+	2	60.00
EQ00040	285	NATURALLY YOURS PASSPORT	36	1,188.00
EQ00080	7340	LIFETIME PASSPORT + BOATERS	2	770.00
EQ00085	7398	SR NAT YOURS PASSPORT	15	300.00
ES00035	334	2ND BOAT SURCHAR	139	278.00
ES00130	6748	DAILY NONPROFIT PK/LAUNCH A	1	6.00
ES00140	7000	BOAT LAUNCH	1713	6,852.00
ET00005	338	PARK/LAUNCH PASSPORT	4}	464.00
ET00010	340	PARK /LAUNCH PASSPORT	11}	968.00

(2013)

LAKE ANNA STATE PARK

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PRODUCT SALES SUMMARY REPORT

REQUESTED BY: User Name for Nurit

DATE: 11Aug2004

PRODUCT	REFERENCE NUMBER	DESCRIPTION	QUANTITY	TOTAL SALE
ET00045	6599	PASSPORT PLUS FOR BOATERS	3	414.00
ET00080	7342	SR NAT YOURS PASS BOATERS +	1	285.00
ET00085	7343	SR PARK/LAUNCH PASSPORT	1	72.00
EU00005	351	TRAILER PKING FEE	424	848.00
EU00020	7274	TRAILER FEE	48	96.00
		TOTAL:	20282	78,630.00