FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Water Resource Management, Bureau of Watershed Management

NORTHWEST DISTRICT • CHOCTAWHATCHEE RIVER BASIN

TMDL Report

Fecal and Total Coliform TMDL for Choctawhatchee River WBID 49F

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2004 305(b) Report

http://www.dep.state.fl.us/water/docs/2004_Integrated_Report.pdf

Criteria for Surface Water Quality Classifications

http://www/dep.state.fl.us/legal/legaldocuments/rules/ruleslistnum.htm

Basin Status Report for the Choctawhatchee River Basin

http://www.dep.state.fl.us/water/tmdl/stat_rep.htm

Water Quality Assessment Report for the Choctawhatchee River Basin

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Allocation Technical Advisory Committee (ATAC) Report

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Chapter 1: INTRODUCTION

1.1 Purpose of Report

This report presents the Total Maximum Daily Loads (TMDLs) for fecal and total coliform for the upper Choctawhatchee River in the Choctawhatchee River Basin. The river was verified as impaired for fecal and total coliform, and was included on the Verified List of impaired waters for the Choctawhatchee River Basin that was adopted by Secretarial Order in June 2005. The TMDL establishes the allowable loadings to the Choctawhatchee River (WBID 49F) that would restore the waterbody so that it meets its applicable water quality criteria for fecal and total coliform.

It should be noted that the Environmental Protection Agency (EPA) previously developed TMDLs for the Choctawhatchee River (EPA, 2001), including one for fecal coliform for the upper segment (Alabama border to Wrights Creek) and another in the lower segment (Wrights Creek to Reedy Creek). The most recent TMDL (EPA, 2005) is for fecal coliform for Camp Branch Creek near Bonifay, FL (WBID 251). See **Table 1.2**.

1.2 Identification of Waterbody

The Choctawhatchee River headwaters are at the junction of the East and West Fork of the Choctawhatchee River, northwest of Dothan, Alabama (Figure 1.1). The drainage area of the river is 3,158 mi^2 at the FL-AL state line (River Mile 87.33 mi.) and 4,646 mi^2 at the river mouth. Major tributaries to the river in Florida include Parrot Creek, East Pittman Creek, Limestone Branch, West Pittman Creek, Sikes Creek, Wrights Creek, Morrison Spring Run, Reedy Creek, Blue Creek, Bruce Creek, Seven Runs Creek, and Holmes Creek. **Appendix H** contains a summary of the drainage areas of each tributary.

Major centers of population within the basin in Alabama include: Dothan, Ozark, Enterprise, and Geneva. In Florida, population centers include: Bonifay, Esto, Noma, Ponce de Leon, and Westville (Holmes County); Chipley, Vernon, Ebro, and Wausau (Washington County); Freeport and Defuniak Springs (Walton County); and Graceville (Jackson County).

The Choctawhatchee River is a third-order, alluvial river, and, along its length it exhibits characteristics associated with riverine aquatic environments. Additional information about the river's hydrology and geology are available in the Basin Status Report for the Choctawhatchee River Basin (Florida Department of Environmental Protection [FDEP], 2003) and Water Quality Assessment Report Choctawhatchee - St. Andrew Basins (FDEP, 2005).

For assessment purposes, the Department has divided the Choctawhatchee River Basin into water assessment polygons with a unique **w**ater**b**ody **id**entification (WBID) number for each watershed or stream reach. The Choctawhatchee River has been divided into 7 segments, as shown in **Figure 1.2,** and this TMDL addresses WBID 49F, which is the segment of the river from the state line to Wrights Creek (RM= 87.33 to 65.55 mi) as shown in **Figures 1.1 and 1.2**. While this TMDL only specifically addresses this segment of the river, the document provides information about upstream areas and adjacent WBIDs as potential sources of coliforms (Table 1.1).

Table 1.1. List of WBIDs West and East of 49F.

49F			
WEST WBID	NAME	EAST WBID	NAME
163	BAY BRANCH	97	CLOUIN BAY
126	DADA BRANCH	77	LITTLE CREEK
47	PARROT CREEK	69	UNNAMED BRANCH
164	TIMBER BRANCH	61A	SAND HAMMOCK POND
146	WEST PITTMAN CREEK	61	TEXAS BRANCH
136	PINE LOG CREEK	58	MILL BRANCH
119	WINDMILL BRANCH	56	TENMILE CREEK
115	CROOKED RUN	55	EAST PITTMAN CREEK
112	ANGELICO BRANCH	54	WRIGHTS CREEK
109	FOWLER BRANCH	53	CLARK MILL CREEK
		48	WHITEWATER BRANCH
		183	CATFISH BRANCH
		165	MILL BRANCH
		143	LIMESTONE BRANCH
		142	SIKES CREEK
		133	GINHOUSE BRANCH
		121	LITTLE CREEK
		120	UNNAMED BRANCH
		113	REGISTER BRANCH
		108	BEE BRANCH

Table 1.2. TMDL Determinations in the Choctawhatchee River Planning Unit EPA (2005)

WBID	Name	Parameter of Concern	TMDL Determination
251	Camp Branch	Total Coliforms	TMDL needed
49F	Choctawhatchee River	Total and Fecal Coliforms	TMDL needed
49E	Choctawhatchee River	Total and Fecal Coliforms	TMDL not needed
49	Choctawhatchee River	Total Coliforms	TMDL not needed (approve delisting)
343	Bruce Creek	Total Coliforms	TMDL not needed
142	Sikes Creek	Total Coliforms	TMDL not needed

Figure 1.1. Location of Choctawhatchee River and Major Geopolitical Features in the Choctawhatchee River Basin

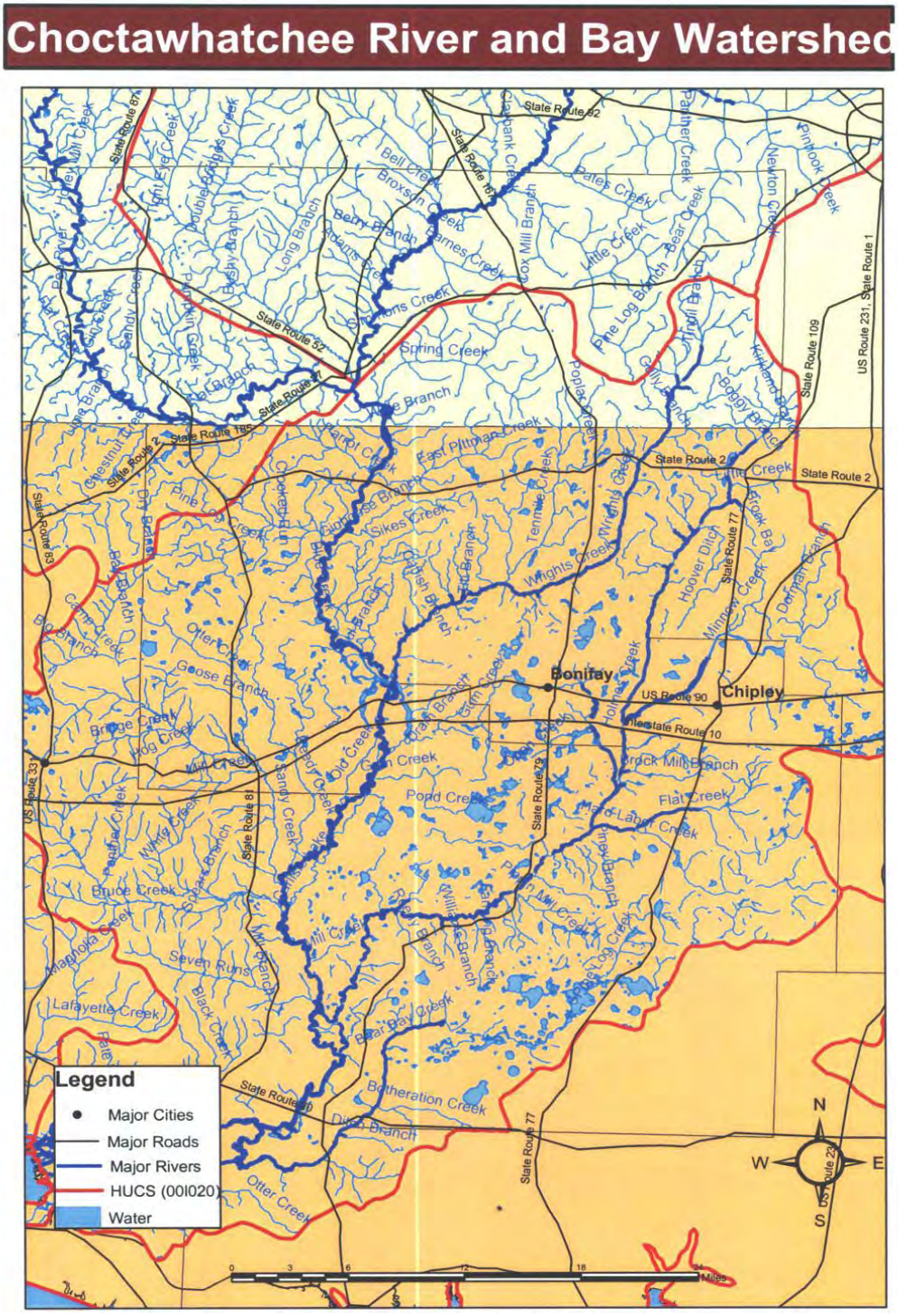
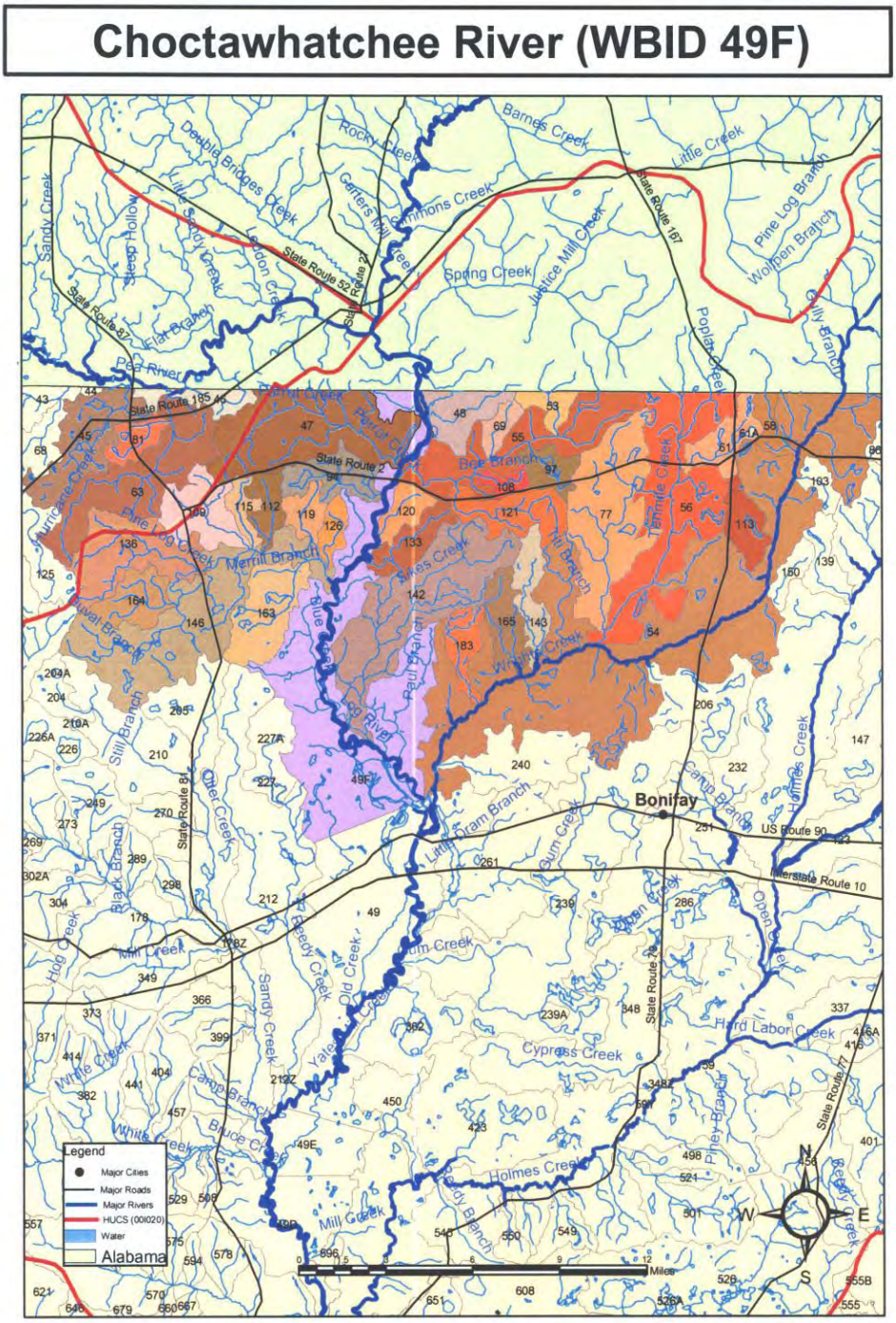


Figure 1.2. WBIDs in the Choctawhatchee River



1.3 Background

This report was developed as part of the Florida Department of Environmental Protection's (Department) watershed management approach for restoring and protecting state waters and addressing TMDL Program requirements. The watershed approach, which is implemented using a cyclical management process that rotates through the state's fifty-two river basins over a five-year cycle, provides a framework for implementing the TMDL Program–related requirements of the 1972 federal Clean Water Act and the 1999 Florida Watershed Restoration Act (FWRA, Chapter 99-223, Laws of Florida).

A TMDL represents the maximum amount of a given pollutant that a waterbody can assimilate and still meet water quality standards, including its applicable water quality criteria and its designated uses. TMDLs are developed for waterbodies that are verified as not meeting their water quality standards. TMDLs provide important water quality restoration goals that will guide restoration activities.

This TMDL Report will be followed by the development and implementation of a Basin Management Action Plan, or BMAP, to reduce the amount of coliform that caused the verified impairment of the Choctawhatchee River. These activities will depend heavily on the active participation of the Northwest Florida Water Management District, local governments, local businesses, and other stakeholders. The Department will work with these organizations and individuals to undertake or continue reductions in the discharge of pollutants and achieve the established TMDLs for impaired waterbodies.

Chapter 2: DESCRIPTION OF WATER QUALITY PROBLEM

2.1 Statutory Requirements and Rulemaking History

Section 303(d) of the federal Clean Water Act requires states to submit to the EPA a list of surface waters that do not meet applicable water quality standards (impaired waters) and establish a TMDL for each pollutant causing impairment of listed waters on a schedule. The Department has developed such lists, commonly referred to as 303(d) lists, since 1992. The list of impaired waters in each basin, referred to as the Verified List, is also required by the FWRA (Subsection 403.067[4)] Florida Statutes [F.S.])., and the state's 303(d) list is amended annually to include basin updates.

Florida's 1998 303(d) list included 12 waterbodies in the Choctawhatchee River Basin. However, the FWRA (Section 403.067, F.S.) stated that all previous Florida 303(d) lists were for planning purposes only and directed the Department to develop, and adopt by rule, a new science-based methodology to identify impaired waters. After a long rulemaking process, the Environmental Regulation Commission adopted the new methodology as Chapter 62-303, Florida Administrative Code (F.A.C.) (Identification of Impaired Surface Waters Rule, or IWR), in April 2001.

2.2 Information on Verified Impairment

The Department used the IWR to assess water quality impairments in the Choctawhatchee River Basin and has verified the impairments listed in **Table 2.1**. **Table 2.2** provides assessment results for coliform for the verification period for each waterbody segment.

Table 2.1. Verified Impaired Segments in the Choctawhatchee River Basin

WBID	Waterbody Segment	Parameters Identified Using the Impaired Surface Waters Rule	Priority for TMDL Development3	Projected Year for TMDL Development3
49, 49A-F	CHOCTAWHATCHEE RIVER	Mercury (in Fish Tissue)	Low	2011
49F	CHOCTAWHATCHEE RIVER	Total Coliform	Medium	2009
49F	CHOCTAWHATCHEE RIVER	Fecal Coliform	Medium	2009
8999	Gulf Coast	Mercury (in Fish Tissue)	Low	2011

Note: The parameters listed in Table 2.1 provide a complete picture of the impairment in the river, but this TMDL only addresses coliform impairment.

Table 2.2. Summary of Coliform Data

Station Number	Station Description	Date	Time (24 hr)	Fecal Coliform (N/100mL)	Total Coliform (N/100mL)
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	1/16/1992	1140	3000	6000
21FLNWFDS282	Choctawhatchee River above Parrot Creek	1/16/1992	1115		6000
21FLNWFDS282	Choctawhatchee River above Parrot Creek	1/16/1992	1115	3000	
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	4/22/1992	1330	550	
21FLNWFDS282	Choctawhatchee River above Parrot Creek	4/22/1992	1330	550	
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	7/22/1992	900	770	
21FLNWFDS282	Choctawhatchee River above Parrot Creek	7/22/1992	900	770	
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	10/20/1992	1245	18	
21FLGW 3548	S205	10/13/1998	1130	65	80
21FLGW 3548	S205	11/12/1998	1130	2500	
21FLGW 3548	S205	12/8/1998	1145	950	4700
21FLGW 3548	S205	12/8/1998	1146	850	4400
21FLGW 3548	S205	12/12/1998	1130		16000
21FLGW 3548	S205	1/13/1999	1145	260	3500
21FLGW 3548	S205	2/10/1999	1130	40	210
21FLGW 3548	S205	3/10/1999	1230	510	2000
21FLGW 3548	S205	3/10/1999	1231	570	2700
21FLGW 3548	S205	4/19/1999	1030	18	
21FLGW 3548	S205	5/17/1999	1130	150	3400
21FLGW 3548	S205	6/16/1999	1045	220	1100
21FLGW 3548	S205	7/13/1999	1530	230	1600
21FLGW 3548	S205	7/19/1999	1030		110Q
21FLGW 3548	S205	8/11/1999	1030	144	680
21FLGW 3548	S205	9/15/1999	1030	26	180
21FLGW 3548	S205	10/13/1999	1045	106	1500
21FLGW 3548	S205	11/18/1999	1210	14	100
21FLGW 3548	S205	12/21/1999	1000	560	2700
21FLGW 3548	S205	1/13/2000	1315	950	5750
21FLGW 3548	S205	2/16/2000	1300	2000	5700
21FLGW 3548	S205	3/21/2000	1000	1600	10000
21FLGW 3548	S205	3/21/2000	1030	1500	12000
21FLGW 3548	S205	4/12/2000	1200	14	210
21FLGW 3548	S205	5/18/2000	900	4	60
21FLGW 3548	S205	6/14/2000	1200	12	20
21FLGW 3548	S205	7/19/2000	1000	5	35
21FLGW 3548	S205	8/16/2000	1230	8	20
21FLGW 3548	S205	9/14/2000	1200	24	140
21FLGW 3548	S205	10/11/2000	1145	34	110
21FLGW 3548	S205	11/15/2000	1300	62	400

21FLGW 3548	S205	12/13/2000	1230	18	70
21FLGW 3548	S205	1/18/2001	1245	100	280
21FLGW 3548	S205	2/14/2001	1230	34	200
21FLGW 3548	S205	3/14/2001	1230	2400	10000
21FLGW 3548	S205	3/14/2001	1300	2700	10000
21FLGW 3548	S205	4/16/2001	1200	440	6200
21FLGW 3548	S205	5/16/2001	1145	80	400
21FLGW 3548	S205	6/18/2001	1230	44	900
21FLGW 3548	S205	7/18/2001	1200	20	
21FLGW 3548	S205	7/18/2001	1230	22	
21FLGW 3548	S205	8/15/2001	1200	600	
21FLGW 3548	S205	9/15/2001	1145	44	
21FLGW 3548	S205	10/10/2001	1230	10	
21FLGW 3548	S205	11/14/2001	1315	10	
21FLGW 3548	S205	12/11/2001	1245	64	
21FLGW 3548	S205	1/17/2002	1300	140	
21FLGW 3548	S205	2/14/2002	1300	142	
21FLGW 3548	S205	3/13/2002	1245	230	
21FLGW 3548	S205	4/10/2002	1230	4000	
21FLGW 3548	S205	5/15/2002	1315	86	
13699	NWC-SS-1037 LOG RIVER	5/21/2002		220 *	
21FLGW 3548	S205	6/12/2002	1245	20	
21FLGW 3548	S205	7/17/2002	1400	16	
21FLGW 3548	S205	8/14/2002	1320	16	
21FLGW 3548	S205	9/18/2002	1315	6	
14488	NWC-LR-1005 CHOCTAWHATCHEE RIVER	9/30/2002		260 *	
14507	NWC-LR-1031 CHOCTAWHATCHEE RIVER	9/30/2002		180 *	
21FLGW 3548	S205	10/21/2002	1220	24	
21FLGW 3548	S205	11/14/2002	1435	240	
19502	CHOCTAWHATCHEE BLUE SPRING (HOLMES)	12/3/2002		2 *	
19502	CHOCTAWHATCHEE BLUE SPRING (HOLMES)	12/3/2002		2 *	
21FLGW 3548	S205	12/18/2002	1315	40	
21FLGW 3548	S205	1/23/2003	1245	100	
21FLGW 3548	S205	2/19/2003	1245	760	
21FLGW 3548	S205	3/12/2003	1220	230	
21FLGW 3548	S205	4/9/2003	1345	1800	
21FLGW 3548	S205	5/20/2003	1300	10	
21FLGW 3548	S205	6/11/2003	1245	72	
21FLGW 3548	S205	7/10/2003	1230	46	
21FLGW 3548	S205	8/18/2003	1245	2600	
21FLGW 3548	S205	9/10/2003	1230	200	
21FLGW 3548	S205	10/14/2003	1215	96	
21FLGW 3548	S205	11/24/2003	1230	130	
21FLGW 3548	S205	12/10/2003	1220	100	
21FLGW 3548	S205	1/14/2004	1245	80	
21FLGW 3548	S205	2/11/2004	1215	530	

145	Choctawhatchee River nr Cerro Gordo, E of SR 179A, Buck Rogers Dr., E of Boles Ln	4/4/2005	1520	23 **	470 **

Data source is IWR Run 20_2 unless otherwise noted; then, FL STORET (*) or WAS Database (**).

Chapter 3. DESCRIPTION OF APPLICABLE WATER QUALITY STANDARDS

3.1 Classification of the Waterbody and Criteria Applicable to the TMDL

Florida's surface waters are protected for five designated use classifications, as follows:

Class I	**Potable water supplies**
Class II	**Shellfish propagation or harvesting**
Class III	**Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife**
Class IV	**Agricultural water supplies**
Class V	**Navigation, utility, and industrial use (there are no state waters currently in this class)**

The Choctawhatchee River, in Florida, is a Class III waterbody, with a designated use of recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife. The Class III water quality criteria applicable to the impairment addressed by this TMDL are fecal coliform and total coliform.

The Choctawhatchee River is also an Outstanding Florida Water (OFW), which entitles it to special protection in terms of direct discharge of wastewater and stormwater. Rule 62-302.700(1), F.A.C., states that "No degradation of water quality, other than that allowed in Rule 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource Waters, respectively, notwithstanding any other Department rules that allow water quality lowering." The degradation is to be measured against the baseline year (March 1, 1979) unless otherwise indicated.

3.2 Applicable Water Quality Standards

Numeric criteria for bacterial quality are expressed in terms of fecal coliform bacteria and total coliform bacteria concentrations. The water quality criteria for protection of Class III waters, as established by Chapter 62-302, F.A.C., states the following:

> ***Fecal Coliform Bacteria:***
> *The most probable number (MPN) or membrane filter (MF) counts per 100 ml of fecal coliform bacteria shall not exceed a monthly average of 200, nor exceed 400 in 10 percent of the samples, nor exceed 800 on any one day.*
>
> ***Total Coliform Bacteria:***
> *The MPN per 100 ml shall be less than or equal to 1,000 as a monthly average nor exceed 1,000 in more than 20 percent of the samples examined during any month; and less than or equal to 2,400 at any time.*

For both parameters, the criteria state that monthly averages shall be expressed as geometric means based on a minimum of ten samples taken over a thirty-day period. However, during the development of load curves for the impaired streams (as described in subsequent sections), there were insufficient data (less than 10 samples in a given month) available to evaluate the geometric mean criterion for either fecal coliform or total coliform bacteria. Therefore, the criteria selected for the TMDLs was not to exceed 400 counts/100 ml for fecal coliform and not to exceed 2,400 counts/100 ml for total coliform..

In Alabama, the water use classifications are slightly different than those for Florida. The Choctawhatchee River and Pea River are classified for Fish and Wildlife (ADEM, 2005a-d). Alabama Chapter 335-6-10 contains the bacteria criteria for fecal coliform, which is a maximum of 2000 cfu/100 ml or a geometric mean of 200 cfu/100 ml. There is no total coliform criterion. This means that waters meeting the Alabama criteria at the state line may not necessarily meet Florida criteria.

Chapter 4: ASSESSMENT OF SOURCES

4.1 Types of Sources

An important part of the TMDL analysis is the identification of pollutant source categories, source subcategories, or individual sources of coliforms in the watershed and the amount of pollutant loading contributed by each of these sources. Sources are broadly classified as either "point sources" or "nonpoint sources." Historically, the term point sources has meant discharges to surface waters that typically have a continuous flow via a discernable, confined, and discrete conveyance, such as a pipe. Domestic and industrial wastewater treatment facilities (WWTFs) are examples of traditional point sources. In contrast, the term "nonpoint sources" was used to describe intermittent, rainfall driven, diffuse sources of pollution associated with everyday human activities, including runoff from urban land uses, agriculture, silviculture, and mining; discharges from failing septic systems; and atmospheric deposition.

However, the 1987 amendments to the Clean Water Act redefined certain nonpoint sources of pollution as point sources subject to regulation under the EPA's National Pollutant Discharge Elimination Program (NPDES). These nonpoint sources included certain urban stormwater discharges, including those from local government master drainage systems, construction sites over five acres, and a wide variety of industries (see **Appendix A** for background information on the federal and state stormwater programs).

To be consistent with Clean Water Act definitions, the term "point source" will be used to describe traditional point sources (such as domestic and industrial wastewater discharges) **AND** stormwater systems requiring an NPDES stormwater permit when allocating pollutant load reductions required by a TMDL (see Section 6.1). However, the methodologies used to estimate nonpoint source loads do not distinguish between NPDES stormwater discharges and non-NPDES stormwater discharges, and as such, this source assessment section does not make any distinction between the two types of stormwater.

4.2 Potential Sources of Coliform in the Choctawhatchee River Watershed

4.2.1 Point Sources

There are 16 permitted wastewater treatment facilities in Florida that discharge coliform loads either directly or indirectly into the Choctawhatchee River, consisting of 13 domestic wastewater facilities and 3 industrial wastewater facilities **(Table 4.1)** These facilities, which are permitted through the NPDES Program, contribute to the annual average above-background coliform load to the Choctawhatchee River. However, all of the facilities discharge downstream of WBID 49F**.**.

There are 17 domestic wastewater facilities that discharge to surface waters in the Alabama portion of the basin (ADEM, 2002), 9 of which are major facilities (flow > 1.0 cfs) (EPA, 2001).

Some of these are also listed in **Table 4.1** and include effluent limits of 2000 to 3000 fecal coliform counts/100 ml (daily max). A summary of effluent coliform values is included as **Appendix E**. Reported data show numerous violations of the state or permitted criterion for fecal coliforms**. Appendix E** provides flow data from the facilities, also from PCS records.

Industrial dischargers in the basin include 56 mining operations in Alabama and 14 Industrial Process major facilities (ADEM, 2002). The only industrial wastewater facility with potentially significant coliform discharges to the Choctawhatchee River in Florida is Perdue Farms (formerly Showell Farms), which processes poultry. However, the facility is no longer permitted to discharge to surface waters. The disposal system for this facility was changed from direct discharge into Carpenter's Branch (a tributary of Bruce Creek) to a sprayfield in 1994. In 1994, wet weather discharge was discontinued and in February 2005, the facility withdrew its surface water discharge permit . The facility permit (FLA010247) now only allows effluent and residual land application on sites in Walton and Holmes County. The list of these sites is in **Appendix E**. There are no other chicken processors in the Florida portion of the basin. However, according to FDEP District records (Evans, 2005), several chicken farms exist in the area.

In addition to permitted discharges, a variety of spills of wastewater have occurred in the basin. No summaries for Alabama are known at this time. However, in Florida, the FDEP provides a daily link to the Warning Point System. Annual summaries (Ziegmont, 2005), by county, of the number and size of spills are also available. The spill summaries for the counties bordering the Choctawhatchee River and Bay are listed in **Appendix E.** In 2004, three spills occurred in Defuniak Springs (Walton County), one in Bonifay (Holmes County), and one in Ponce de Leon (Holmes County. During 2005, Ponce de Leon had another spill on 5/26/05, but did not appear to affect any waterways.

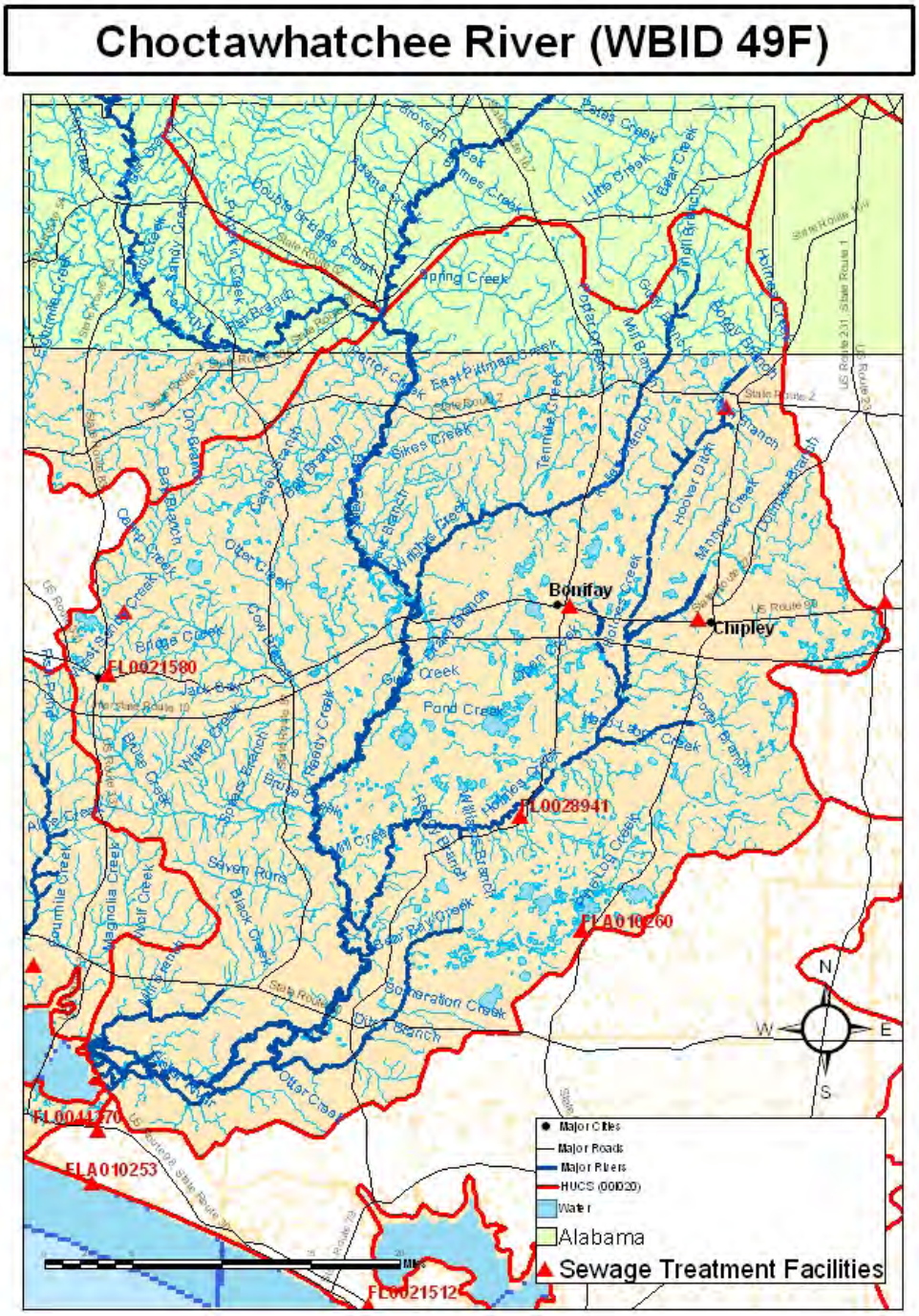
Table 4.1. Point Sources in the Choctawhatchee River Watershed

Facility ID	Design Flow (MGD)	Name	Facility Status	Description	Receiving Water
AL0060445	1.5	Union Springs Utlities Board			Bluff Creek
AL0032310	5.2	Troy, City of Walnut Creek WWTP			Walnut Creek
AL0020061	1.1	Enterprise Northeast Lagoon			Tributary
AL0020044	1.1	Enterprise Southeast Lagoon			Cowpen Creek
AL0056324	2.1	Ozark City of Southside WWTP			Hurricane Creek
AL0020036	1.5	Enterprise WWTP 2 College St.			Blanket Creek

AL0047465	7	Dothan City of Choctawhatchee			Little Choctawhatchee River
AL0022756	6	Dothan City of Beaver Creek			Beaver Creek
AL0020273	1.215	Geneva WWSB Sewage Treatment Plant			Pea River
Florida facilities downstream of WBID 49F					
FL0027731	1.4	Bonifay STP			Unnamed Trib to Camp Branch Creek to Holmes Creek
FL0027570	1.2	Chipley Water & Sewer System			Alligator Creek to Holmes Creek
FL0038555	1.1	Graceville WTP			Holmes Creek
FL0040207	0.025	Noma STP			Wrights Creek
FL0022158	1.0	Defuniak Springs STP	Inactive		West Branch Sandy Creek to Choctawhatchee R.
FLA102440	1.0	Defuniak Springs STP	Reuse		
FL0028941	0.1	Vernon STP			Trib to Holmes Creek
FL0027731	1.4	Bonifay, City of (STP)	Active	Domestic Waste	
FL0027570	1.2	Chipley, City of (STP)	Active	Domestic Waste	
FL0038555	1.1	Graceville, City of WWTP	Active	Domestic Waste	
FL0040207	0.025	Noma WWTP	Active	Domestic Waste	
FLA181234		Bethlehem K-12 School	Active	Domestic WWTP	Rapid rate absorption field
FLA010262		Caryville Work Camp WWTP	Active	Domestic WWTP	Effluent to drainfield: Caryville Vocational Center STP
FLA102440	1	Defuniak Springs, City of (STP)	Active	Domestic WWTP	Reuse system
FLA010259		Florida Gas Transmission C/S 13	Active	Industrial Wastewater	Effluent to percolation pond
FLA010259		Florida Gas Transmission C/S 13	Active	Industrial Wastewater	
FLA010247		Perdue Farms Inc.	Inactive as of 2/2005	Industrial Wastewater	Spray irrigation
FLA010109		Ponce de Leon WWTP	Active	Domestic WWTP	Effluent to percolation ponds: sampling point
FLA010258		Sunnyhills WWTF	Active	Domestic WWTP	Effluent to percolation pond: Sunnyhills STP
FLA102563		Vernon, City of (STP)	Active	Domestic WWTP	Rapid infiltration basin system

FLA010254		Walton Correctional Institution	Active	Domestic WWTP	Reuse system
FLA010260		Washington Co Correctional Inst	Active	Domestic WWTP	Effluent to reuse system R001
FLA010257		Washington Co Kennel Club (Ebro)	Active	Domestic WWTP	Reuse WAFR data

Figure 4.1. Wastewater Facilities in the Choctawhatchee River Watershed



Municipal Separate Storm Sewer System Permittees

Within the Choctawhatchee River Basin, the stormwater collection systems owned and operated by the Florida Department of Transportation District 3 – Chipley are covered by an NPDES municipal separate storm sewer system (MS4) permit. Several other local governments in the basin have also applied for coverage under the Phase 2 NPDES MS4 permit. These are included in **Appendix A**.

4.2.2 Land Uses and Nonpoint Sources

Additional coliform loadings to Choctawhatchee River are generated from nonpoint sources in the basin. Potential nonpoint sources of coliforms include loadings from surface runoff, wildlife, livestock, pets, and leaking sewer lines and failing septic tanks.

Land Uses

The spatial distribution and acreage of different Florida land use categories were identified using the 1995 land use coverage (scale 1:40,000) contained in the Department's GIS library. Land use categories in the watershed were aggregated using the simplified Level 1 codes tabulated in **Table 4.2. Figure 4.2** shows the acreage of the principal land uses in the watershed. As shown in **Table 4.2**, land uses in WBID 49F are dominated by upland forest (42.5%) and wetlands (32.6%). Non-natural land uses include urban and built-up (2.7%) and agriculture (13.6%). Adjacent basins to the west and east of WBID 49F contain similar amounts of urban, but much larger percentages of agriculture.

In the Alabama portion of the basin upstream of WBID 49F, land uses were obtained from USGS coverages from 1988-1993 (NWFWMD, 2001). In Alabama, agriculture occupies a larger percentage of land use, about 31.4% of the basin.

Table 4.2. Classification of Land Use Categories in the Choctawhatchee River Watershed

CODE	LAND USE	ACREAGE	SQUARE MILES	PERCENTAGE
49F				
0	Outside Study Area	6.3109	0.0099	0.0269
1000	Urban and Built Up	627.2132	0.9800	2.6764
2000	Agriculture	3192.7598	4.9887	13.6237
3000	Rangeland	943.6646	1.4745	4.0267
4000	Upland Forests	9956.4426	15.5570	42.4848
5000	Water	1001.3622	1.5646	4.2729
6000	Wetlands	7650.4788	11.9539	32.6451
7000	Barren Land	37.6158	0.0588	0.1605

8000	Transportation, Communication and Utilities	19.4380	0.0304	0.0829
TOTAL		23435.2859	36.6178	99.9999
CODE	LAND USE	ACREAGE	SQUARE MILES	PERCENTAGE
WBIDS EAST OF 49F				
1000	Urban and Built Up	2995.6706	4.6808	2.8997
2000	Agriculture	31882.4024	49.8165	30.8608
3000	Rangeland	1942.1928	3.0347	1.8800
4000	Upland Forests	45440.3861	71.0009	43.9844
5000	Water	1105.3264	1.7271	1.0699
6000	Wetlands	19816.6854	30.9637	19.1817
7000	Barren Land	9.6258	0.0150	0.0093
8000	Transportation, Communication and Utilities	117.9431	0.1843	0.1142
TOTAL		103310.2326	161.4230	100.0000
CODE	LAND USE	ACREAGE	SQUARE MILES	PERCENTAGE
WBIDS WEST OF 49F				
1000	Urban and Built Up	752.8716	1.4360	2.1652
2000	Agriculture	10906.4279	17.0414	25.6946
3000	Rangeland	1795.3616	2.8052	4.2296
4000	Upland Forests	23675.8709	36.9938	55.7784
5000	Water	4272.7071	1.3144	1.9818
6000	Wetlands	4272.7071	6.6762	10.0662
7000	Barren Land	0.0000	0.0000	0.0000
8000	Transportation, Communication and Utilities	35.7253	0.0558	0.0558
TOTAL		45711.6715	66.3228	99.9717
CODE	LAND USE	ACREAGE	SQUARE MILES	PERCENTAGE
HOLMES COUNTY, FLORIDA				
1000	Urban and Built Up	10159.2861	15.8739	3.2445
2000	Agriculture	77056.4392	120.4012	24.6086
3000	Rangeland	6581.6192	10.2838	2.1019
4000	Upland Forests	154021.8888	240.6602	49.1881
5000	Water	4876.3589	7.6193	1.5573
6000	Wetlands	59049.9621	92.2659	18.8581
7000	Barren Land	57.3663	0.0896	0.0183
8000	Transportation, Communication and Utilities	1242.2440	1.9410	0.3967
TOTAL		313045.1646	489.1349	99.9735
CODE	LAND USE	ACREAGE	SQUARE MILES	PERCENTAGE
ALABAMA				
	Low Intensity Residential	10494.07		
	High Intensity Residential	2414.47		
	Quarries/Strip Mines/Gravel Pits	288.12		

1000	Sum- Urban	13196.66	20.6198	0.661
	Pasture/Hay	221908.46		
	Row Crops	405349.35		
2000	Sum-Agriculture	627257.81	980.0903	31.4189
	Other Grasses (Urban/Recreational)	7137.63		
3000	Rangeland	7137.63	11.1525	0.3575
	Deciduous Upland Forest	306901.03		
	Evergreen Forest	355078.81		
	Mixed Forest	472514.21		
4000	Sum-Upland Forests	1134494.05	1772.647	56.826
	Open Water	11306.13		
5000	Sum-Water	11306.13	17.6658	0.5663
	Woody Wetlands	121822.09		
	Emergent Herbaceous Wetlands	4703.42		
6000	Sum-Wetlands	126525.51	197.6961	6.3376
	Bare Rock, Sand, or Clay	60.46		
	Transitional	68278.61		
7000	Sum-Barren Land	68339.07	106.7798	3.4231
	High Intensity Commercial, Industrial, and Transportation	8176.37		
8000	Sum-Transportation, Communication and Utilities	8176.37	12.7756	0.4095
TOTAL		1996433.23	3119.4269	100

Source: FDEP GIS, NWFWMD, 2001

Figure 4.2a. Principal Land Uses in the Choctawhatchee River Watershed

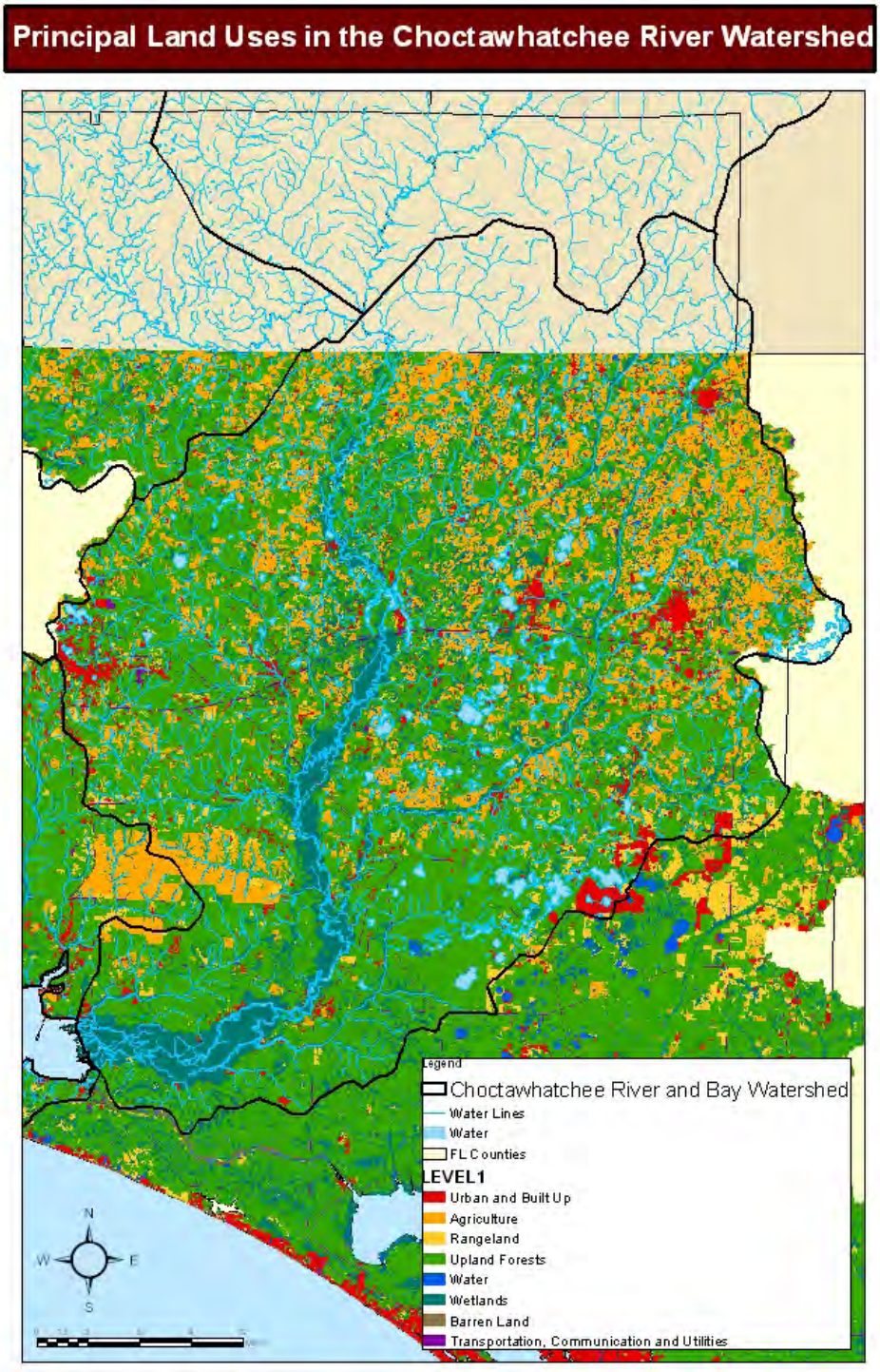
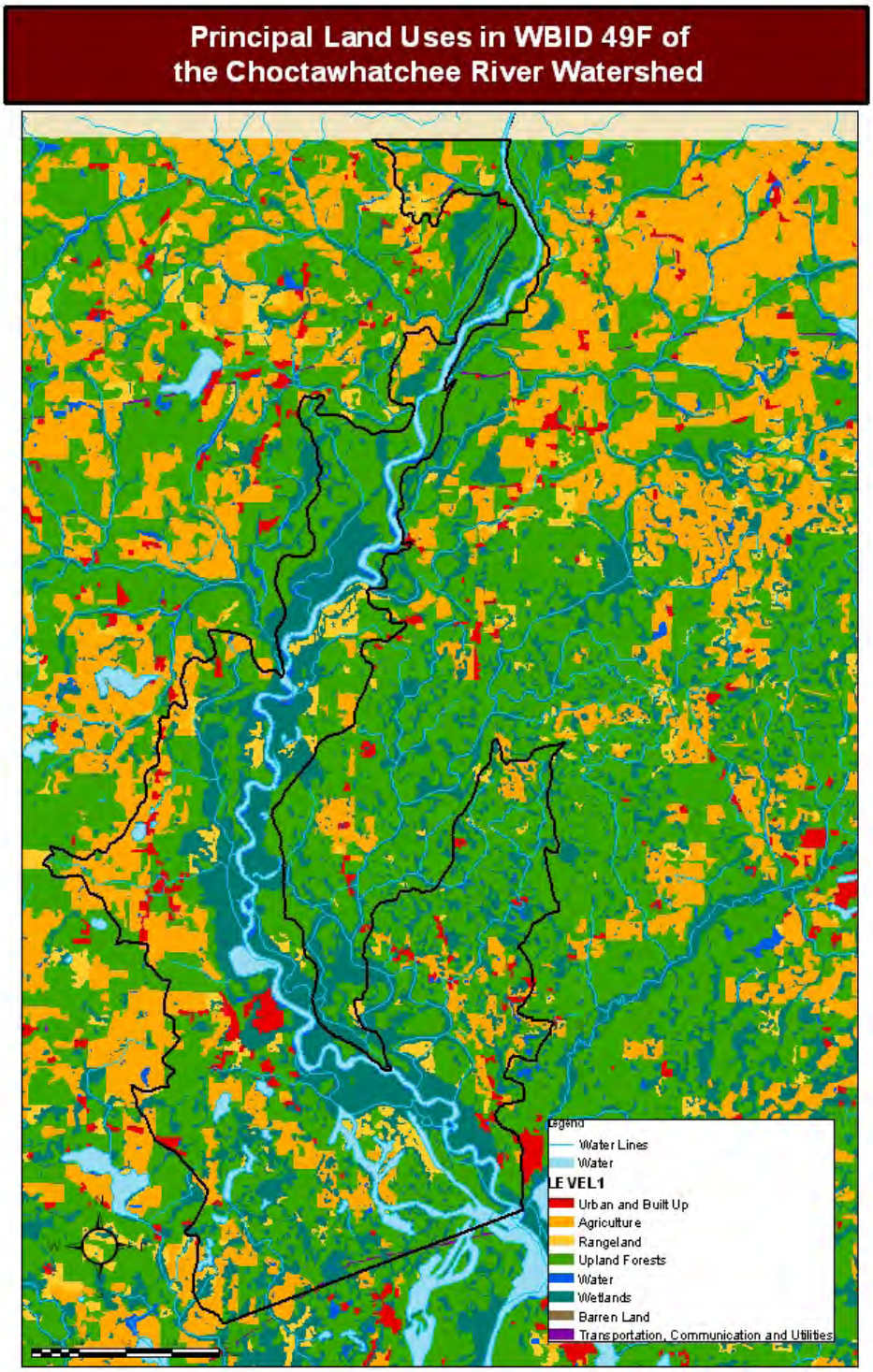


Figure 4.2b. Principal Land Uses in WBID 49 F of the Choctawhatchee River Watershed



Population

According to the U.S Census Bureau, the population density in and around WBID 49F in the year 2000 was at or less than 38.5 people per square mile **(Figure 4.3).** The Census Bureau reports that, in Holmes County, which includes (but is not exclusive to) WBID 49F, the total population for 2000 was 18,564, with 6921 households. For all of Holmes County (area about 482 mi^2), the Census Bureau reported a housing density of (6921/482) or 14.36 households per square mile. This places Holmes County among the lowest in housing densities in Florida (U.S. Census Bureau Web site, 2004). This is also supported by the land use, where only 2.68 percent of the land use in WBID 49F is dedicated to residences.

Figure 4.3. Population Density in Holmes County, Florida

Septic Tanks

Onsite sewage treatment and disposal systems (OSTDSs), including septic tanks, are commonly used where providing central sewer is not cost-effective or practical. When properly sited, designed, constructed, maintained, and operated, OSTDSs are a safe means of disposing of domestic waste. The effluent from a well-functioning OSTDS is comparable to secondarily treated wastewater from a sewage treatment plant. When not functioning properly, OSTDSs can be a source of coliforms, pathogens, and other pollutants to both ground water and surface water.

As of 2004, Holmes County had approximately 8,308 septic systems (Florida Department of Health Web site, 2004). Data for septic tanks are based on 1970 to 2004 Census results, with year-by-year additions based on new septic tank construction. The data do not reflect septic tanks that have been removed going back to 1970. From fiscal years 1993 to 2004, 465 permits (42.3/yr) for repairs were issued (Florida Department of Health Web site, 2004). This number is about 0.51% of the total at any time. Previous studies (CDM, 1998) have shown that failed septic tanks are not discovered for about 5 years. This means that the true failure rate at any time is approximately five times the repair rate of 0.51 percent, or 2.54%. As a margin of safety (MOS), the Department assumed the failure rate was twice that, or 5.0 percent of the total septic tanks within each WBID. Based on the number of permitted septic tanks and housing units located in the county in the 1990 Census (US Census,2004), approximately 19.17 percent of the housing units are connected to a wastewater treatment facility, with the remaining 80.83 percent utilizing septic tank or other systems.

WBID 49F comprises 35.04 mi^2, or approximately 7.28 percent of the land area of Holmes County (481.52 mi^2) and 6.17 percent of the Level 1 Urban and Built Up land use. The number of residences or households in WBID 49F is not known, but using the ratio of 0.0617 (Level 1 Urban and Built Up land use in the WBID/Level 1 in Holmes County) the number of households and septic tanks is estimated to be 513. Using these numbers (Florida Department of Health Web site, 2004) and 70 gallons/day/person (U.S. Environmental Protection Agency [USEPA], 2001), a loading of 6.89x 10^9 colonies/day per septic tank is derived. This equates to a load of 1.767E+11 (cfu/day) for the 513 tanks in WBID 49F. This is 0.1 percent of the estimated load in the waterbody. These estimations, as shown in **Table 4.3,** are much less than 1.0 percent of the total load to the Choctawhatchee River.

Sewer Line Leaks

Estimates of sewer line leaks are based on EPA guidance (EPA, 2003). The fraction of the households served by sewer was estimated from the 1990 US Census, and this fraction was then applied to the number of households in each WBID as shown in Appendix B. EPA estimates that 5% of the sewer flow is leaking to the environment. The same standard loading per household used for septic tanks was then used to estimate the leaking sewer line load.

Table 4.3. Estimation of Coliform Loading from Failed Septic Tanks in the Choctawhatchee River Watershed

Estimated Population Density and Area	Estimated Number of Septic Tanks in Area	Estimated Number of Tank Failures**	Estimated Concentration From Failed Tank (cfu/100mL)	Gallons/ Person/ Day	Estimated Number of People Per Household	Estimated Load From Failing Tanks (cfu/day)
Standard loading	1.0	1.0	1.000E+06	70	2.6	6.890E+09
WBID 49F	512.9	25.6	1.000E+06	70	2.6	1.767E+11
Holmes County	8308.0	415.4	1.000E+06	70	2.6	2.862E+12
Alabama	10792.0	539.6	1.000E+06	70	2.6	3.717E+12

WBIDs West of 49F	751.6	37.6	1.000E+06	70	2.6	2.589E+11
WBIDs East of 49F	2449.8	122.5	1.000E+06	70	2.6	8.438E+11

Livestock

Another potential nonpoint source of coliforms includes livestock and other agricultural animals. **Table 4.4** summarizes cattle populations in Holmes County from 1993 to 2002, and **Table 4.5** summarizes populations of other agricultural animals in the county in 1997. Holmes County ranked as the 29th highest county out of 67 in the state in terms of the number of cattle and calves and 31st in beef cows. Over 13.6 percent of WBID 49F is specifically categorized as agriculture under the Level 1 land use system.

Table 4.3a. Summary of Cattle Populations in Holmes County, 1993 – 2002

Year	Number of Milk Cows	Number of Cattle and Calves	Number of Beef Cows
1993	1700	18000	8000
1994	1700	16000	8000
1995	1400	17000	8500
1996	950	16000	8000
1997	1100	17000	9000
1998	1200	16000	8000
1999	1000	16000	8000
2000	1000	16000	7500
2001	800	16000	7000
2002	800	16000	7500

Source: Florida Agricultural Fast Facts, 2003.

Table 4.3b. Summary of Agricultural Animal Populations (Excluding Cattle) in Holmes County in 1997

Livestock	Year 1997	
	Inventory	Sold
Hogs and Pigs	306	1050
Poultry		
Layers and pullets 20 weeks and older	49745	26867
Broilers	2483278	12372800
Sheep and Lambs	85	ND
Horses	1161	133
Milk Goats	646	301

Goats, except Angora and Milk		
Ducks	53	ND
Geese	22	ND
Pheasants	ND	ND
Other Poultry	ND	ND
Mules, Burros, and Donkeys	16	ND
Rabbits	ND	ND

Source: U.S. Department of Agriculture, 2002, ND=No Data or Proprietary Data

Wildlife

Another possible source of fecal and total coliform bacteria to the Choctawhatchee River could be wild animals. Estimates of deer populations were provided by the Florida Fish and Wildlife Conservation Commission (FWC, 1999; EPA, 2001) by utilizing "track estimates" where deer tracks are counted on bare ground. It was assumed that deer habitat within the watersheds includes Forest/Vegetated, Cropland, Wetlands, Open Land, and Pasture. Three different densities were available for the watersheds representing different management areas. The highest density (6 deer/ mi^2) was found for the Forest/Vegetated, Cropland, and Wetlands areas, and the lower density (3 deer/ mi^2) was found in Open Land and Pasture areas. To simplify the analysis, a deer density of 6 deer/mi^2 was applied to all Level 1 land use categories except Urban and Transportation. Similarly, densities of 15.5 pigs/mi^2 and 12.4 waterfowl/mi^2 were used (Shields, 2001) to represent other wildlife.

Sludge (Residuals) and Landfills

Some of the Florida domestic sludge spreading operations in the upper Choctawhatchee River Basin are in Washington County. These are associated with the Chipley STP (FL0027570) and City of Bonifay STP (FL0027731). Industrial sludge from Perdue Farms (FLA010247) was distributed to 9 sites (until February 2005) in Holmes and Walton Counties as listed in **Appendix E**.

The FDEP Biology Section (FDEP, 2002) performed a bioassay of the Mudhill Landfill (FL0066659) near Wausau (Washington County) in 2002. However, no coliform data were collected for this study.

4.4 Source Summary

4.4.1 Summary of the Coliform Loadings into Choctawhatchee River from the Various Sources

Table 4.4 summarizes the annual average Coliform loadings (during the period from 1993 through 2004) from runoff, livestock, wildlife, domestic animals, failed septic tanks, and leaking sewer lines in the Choctawhatchee River WBID 49F basin. **Table 4.1** summarizes permitted wastewater facilities discharging to the Choctawhatchee River, and **Table 4.5** summarizes external loads to the Choctawhatchee River.

Table 4.4. Average Daily Quantity of Internal Fecal Coliform Loading into Choctawhatchee River WBID 49F–see Appendix B for complete table.*

Nonpoint Source Category	Internal Loads to WBID 49F (cfu/day)	% of Total Load
Livestock	2.5962E+14	89.2
Wildlife	2.8481E+13	9.8
Domestic	2.6581E+12	0.9
Septic and Sewer Line Leaks	2.0490E+11	0.1
TOTAL	**2.9096E+14**	**100.0**

* Table is summary of all nonpoint source categories in Appendix B.

Table 4.5. Summary of External Loads to the Choctawhatchee River WBID 49F (see Appendix B for complete table.*)

Nonpoint Source Category	Internal Loads to WBID 49F (cfu/day)		External Loads to WBID 49F (cfu/day)		
	WBID 49F	Holmes County	Alabama Basin	WBIDs W of 49F	WBIDs E of 49F*
Livestock	2.5962E+14	6.2658E+15	5.1005E+16	8.8685E+14	2.5925E+15
Wildlife	2.8481E+13	3.8055E+14	2.4269E+15	5.1599E+13	1.2559E+14
Domestic Animals	2.6581E+12	4.3056E+13	5.5928E+13	3.8949E+12	1.2696E+13
Septic and Sewer Line Leaks	2.0490E+11	3.3189E+12	4.3111E+12	3.0023E+11	9.7865E+11
TOTAL	**2.9096E+14**	**6.6927E+15**	**5.3492E+16**	**9.4264E+14**	**2.7318E+15**

*Not including Wrights Creek

Chapter 5: DETERMINATION OF ASSIMILATIVE CAPACITY

5.1 Determination of Loading Capacity

The methodology used for this TMDL is the "load duration curve." Also known as the "Kansas Approach" because it was developed by the state of Kansas (Stiles, 2003), this method has been well documented in the literature, with improved modifications used by EPA Region IV (Davis, 2004). Basically, the method relates the pollutant concentration to the flow of the stream to establish the existing loading capacity and the allowable pollutant load (TMDL) under a spectrum of flow conditions. It then determines the maximum allowable pollutant load and load reduction requirement based on the analysis of the critical flow conditions. Using this method, it takes five steps to develop the TMDL and establish the required load reduction:

1. Identify available flow and water quality data
2. Develop the flow duration curve
3. Develop the load duration curve for the existing loading
4. Define the critical conditions
5. Establish the needed load reduction by comparing the existing loading to the allowable load under critical conditions.

5.1.1 Data Used in the Determination of the TMDL

There are at least 7 sampling stations in WBID 49F that have historical coliform observations **(Figure 5.1).** The primary data collector of historical data are the FDEP and NWFWMD, which maintained a routine sampling site at what is commonly referred to as Choctawhatchee River at SR 2 near Pittman, FL (STORET ID: 21FLGW 3548). The site was sampled on a monthly basis from 10/13/1998 through 2/11/2004. Additional miscellaneous (randomized) sampling was conducted by FDEP's Ambient Monitoring section. **Figure 5.1** shows the locations of these sites, while **Table 5.1** provides a brief statistical overview of the observed data at these sites. **Figure 5.2** shows the observed historical data over time, and **Appendix G** contains the historical observations from these sites. The most recent 2004 coliform data from Alabama tributaries is also included in **Appendix G**.

In addition to the historical data, the Department conducted three intensive surveys of the Choctawhatchee River and tributaries on 8/31/2004, 9/28/2004, and 4/4/2005. There were no coliform exceedances found during these surveys. **Table 5.2** provides a brief statistical overview of these recent survey data. **Figure 5.3** shows the location of sites sampled, **Figures 5.4a and 5.4b** display the fecal and total coliform observations versus River Mile (RM and XRM= -RM) from the most recent survey, and **Appendix G** shows all observations. During the 4/4/2005 survey, fecal coliform concentrations decreased uniformly from the Choctawhatchee River at AL SR 52 site (RM=93.12) through all Florida sites, while Total coliforms were uniform in concentration throughout the river except for a decrease at the site at SR 20 (RM=20.66).

During this survey period, the Choctawhatchee River flow at Caryville was about 56,200 cfs, which was about 3 ft above flood conditions (USGS, 2005). Photos are shown in Appendix F.

Caffeine, boron, and optical brighteners were also collected during the intensive surveys as parameters that can be used for Bacterial Source Tracking (BST) (Hagedorn, 2003). These data have been plotted versus river miles (**Appendix G**), but are too limited to define any spatial trends at this time. Since the survey was conducted during a high flow and high turbidity condition, some interference with the optical brighteners is expected, especially at the river sites. The FDEP and University of South Florida (Harwood, 2004) are also conducting studies in the Cedar River in Jacksonville and Little St. Mary's River in rural Nassau County to examine Microbial Source Tracking (MST) techniques. These techniques will be used to quantify and link groups of microorganisms to various sources of fecal pollution.

Flow measurements for this study were obtained from a United States Geological Survey (USGS) gauging station located on the Choctawhatchee River at US 90 (USGS 02365500, Choctawhatchee River at Caryville, FL, Latitude: $30^{0}46'32"$, Longitude:$085^{0}49'40"$, **Figure 1.2**).

Figure 5.1. Historical Monitoring Sites in Choctawhatchee River Basin, WBID 49F

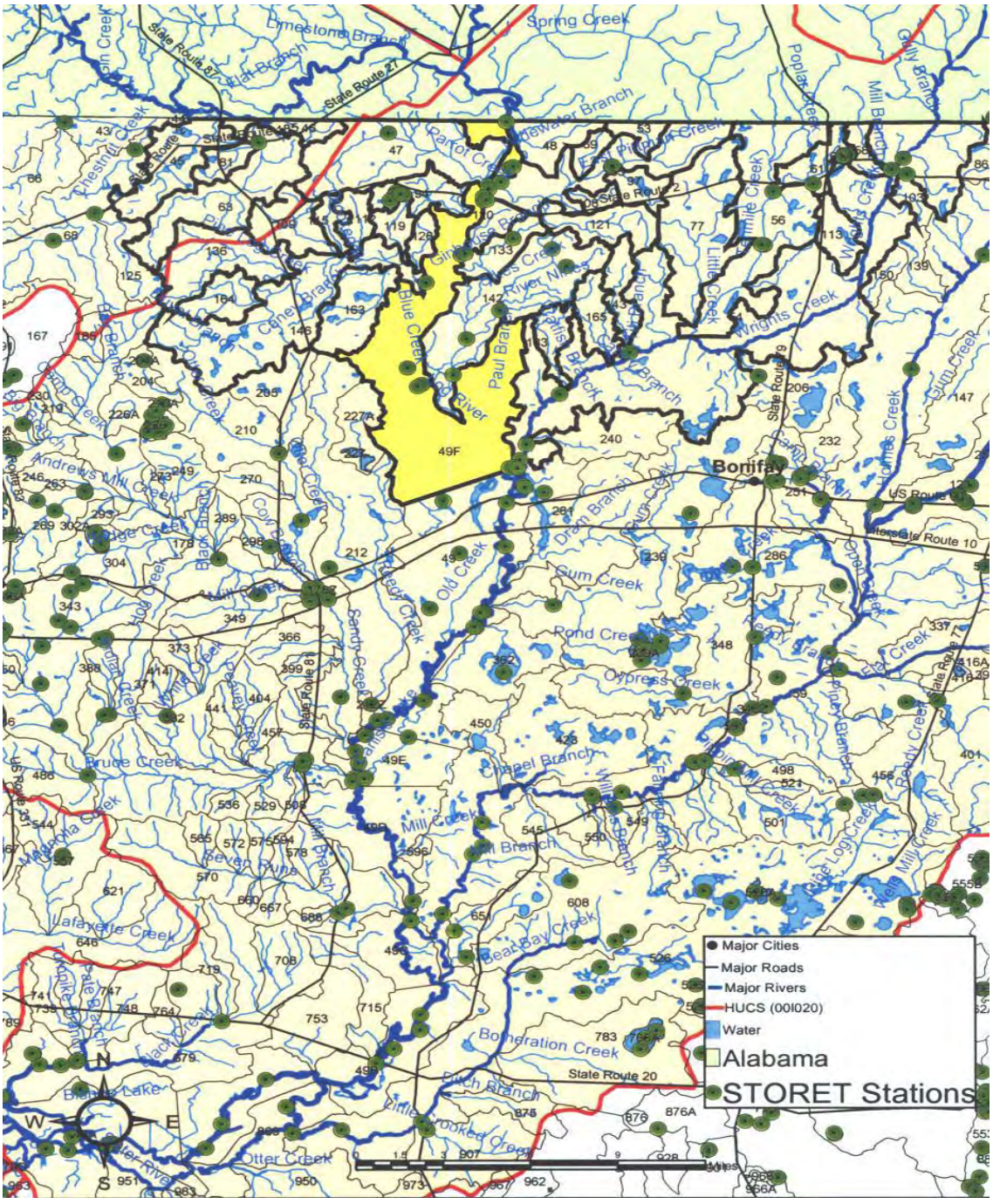


Table 5.1. Statistical Table of Observed Historical Data for Choctawhatchee River Basin, WBID 49F

WBID	Parameter	Total Number of Samples	Geometric Mean of Samples (N/100ml)	Number of Samples Above Standard Concentration (FC>400 and TC >2400 (N/100ml))	Minimum Concentration (N/100ml)	Maximum Concentration (N/100ml)
49 F	Fecal Coliform	77	103.19	18	4	4000
49 F	Total Coliform	35	615.32	11	20	16000

Historical period of data is defined as 1/1992 - 5/2004

Figure 5.2a. Chart of Historical Observations for Choctawhatchee River, WBID 49F

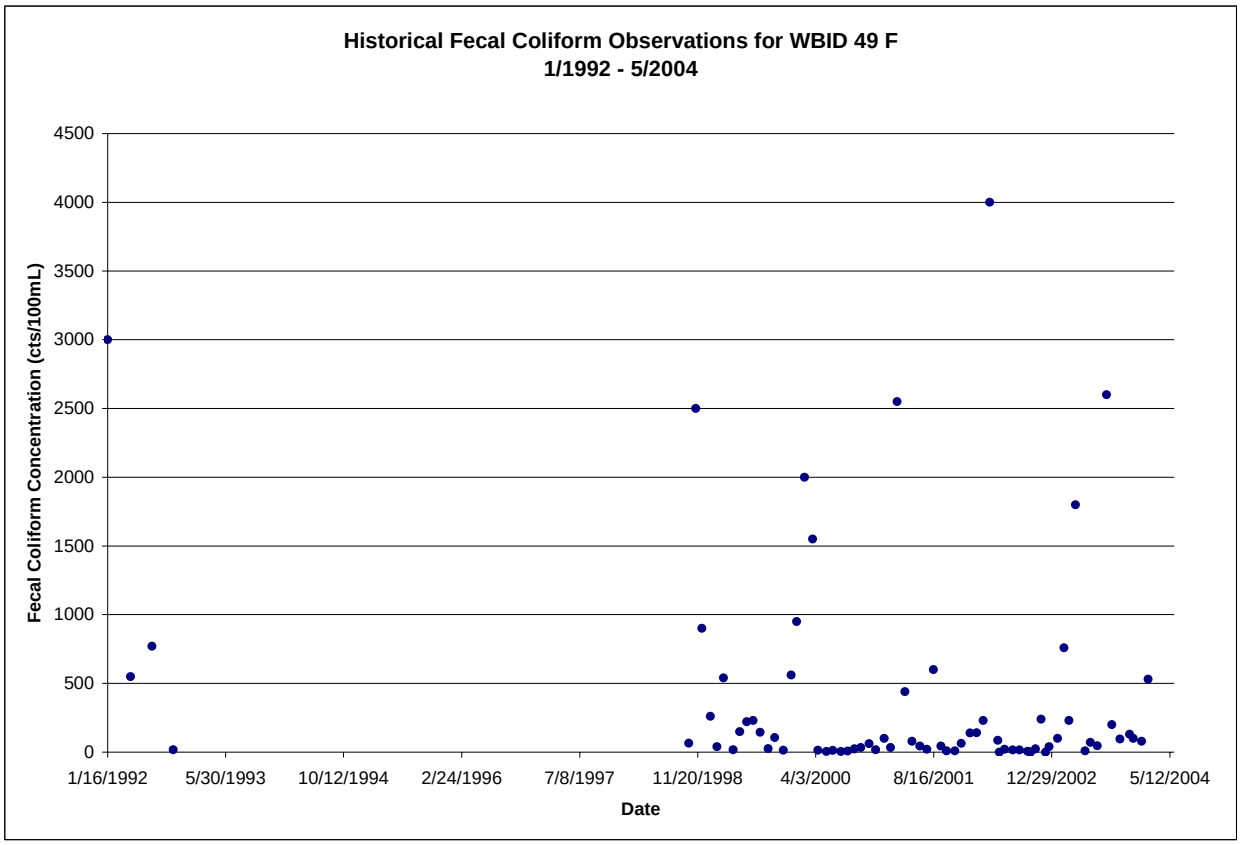


Figure 5.2b. Chart of Historical Observations for Choctawhatchee River , WBID 49F

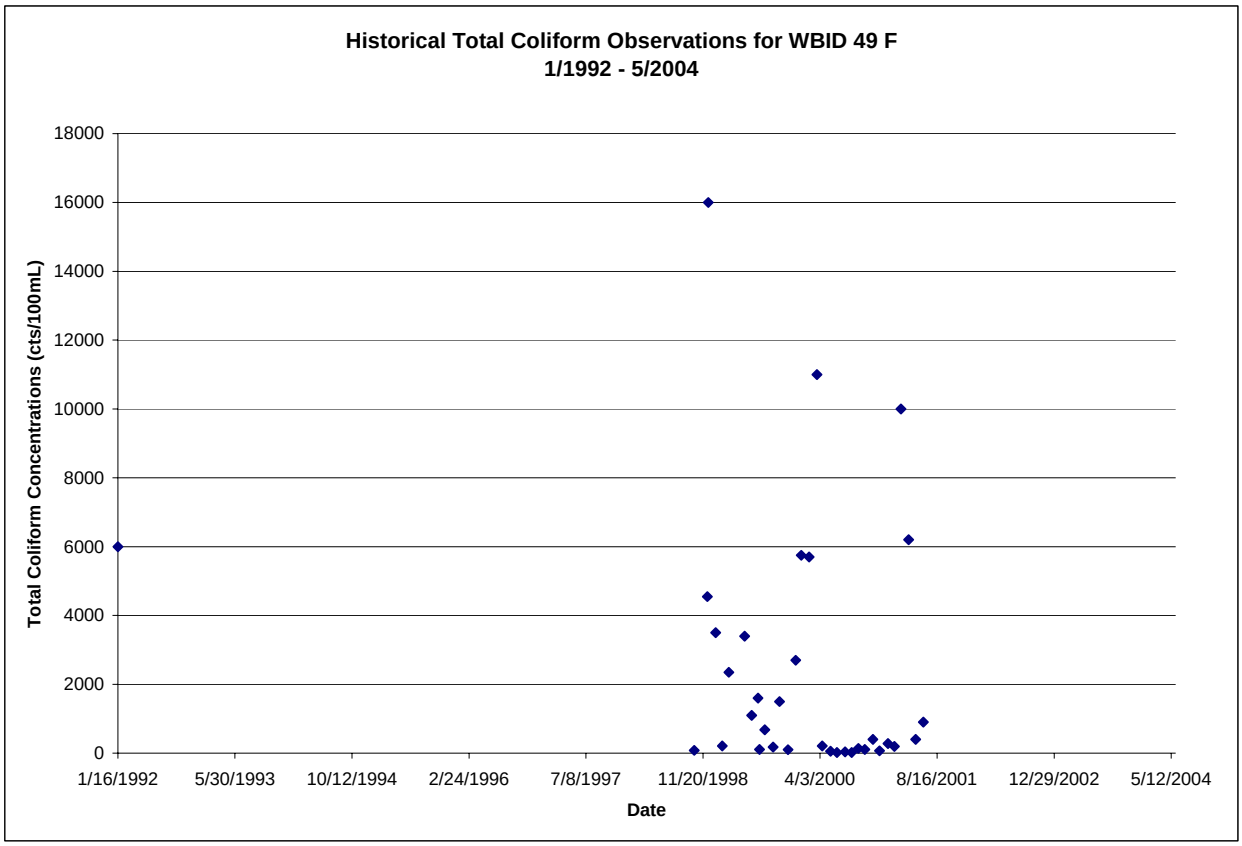


Figure 5.3. Department's Intensive Monitoring Sites on the Choctawhatchee River

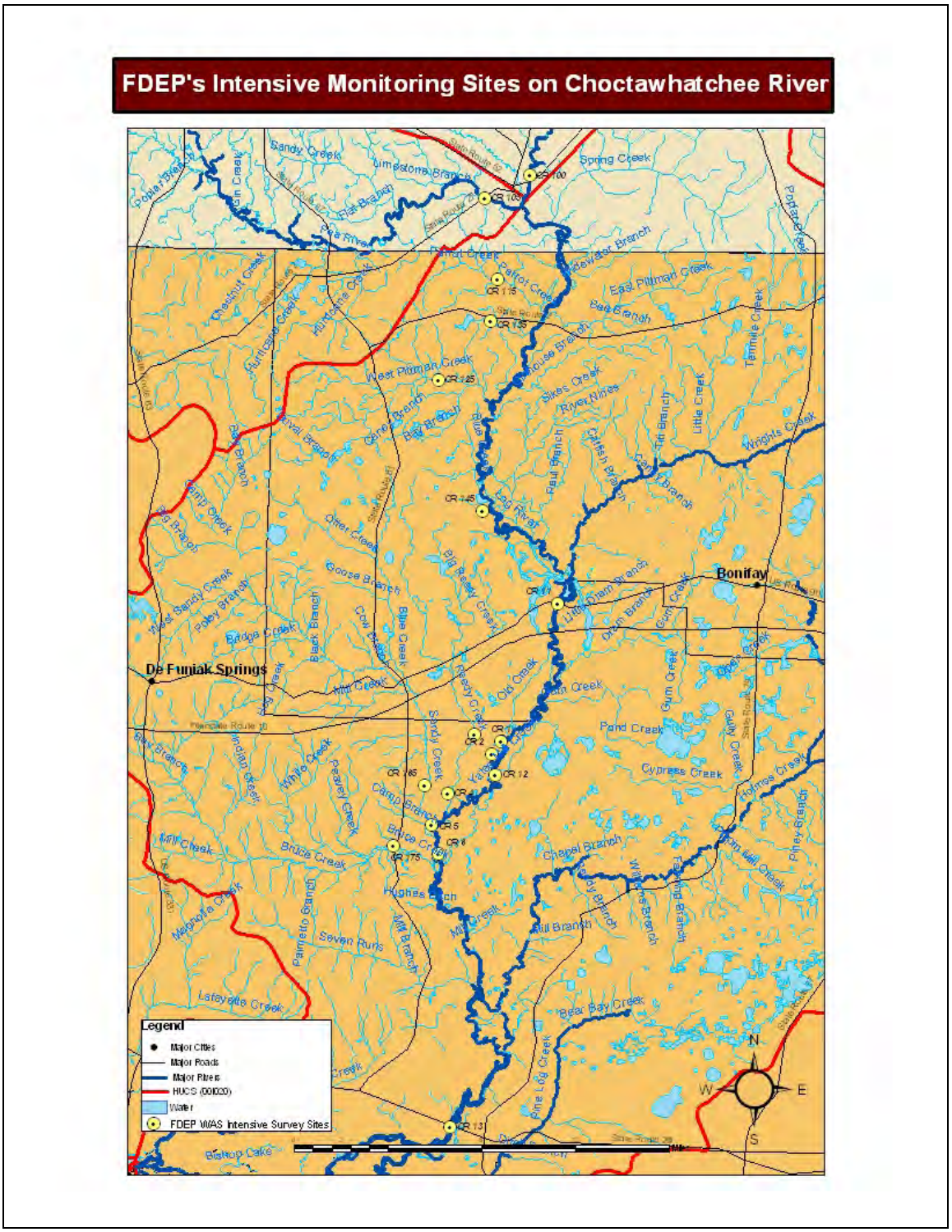
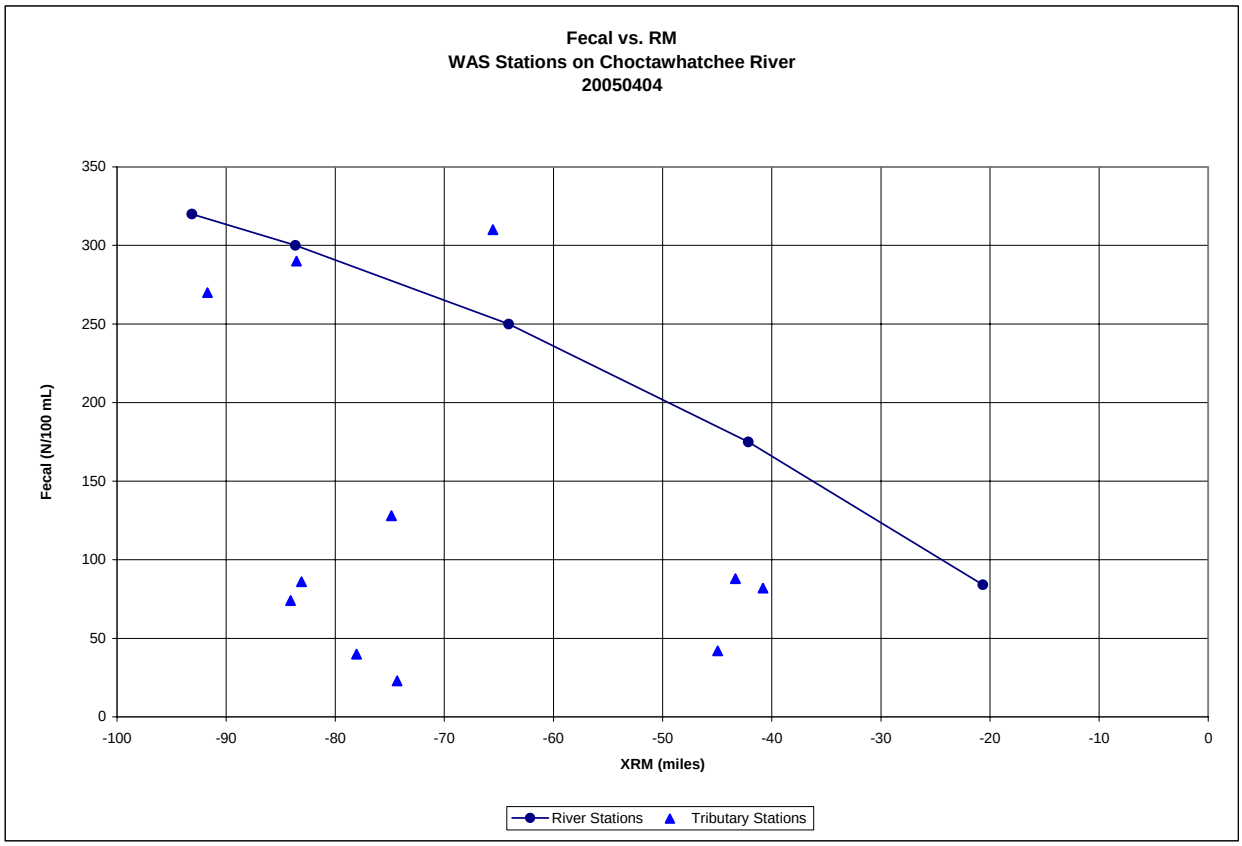
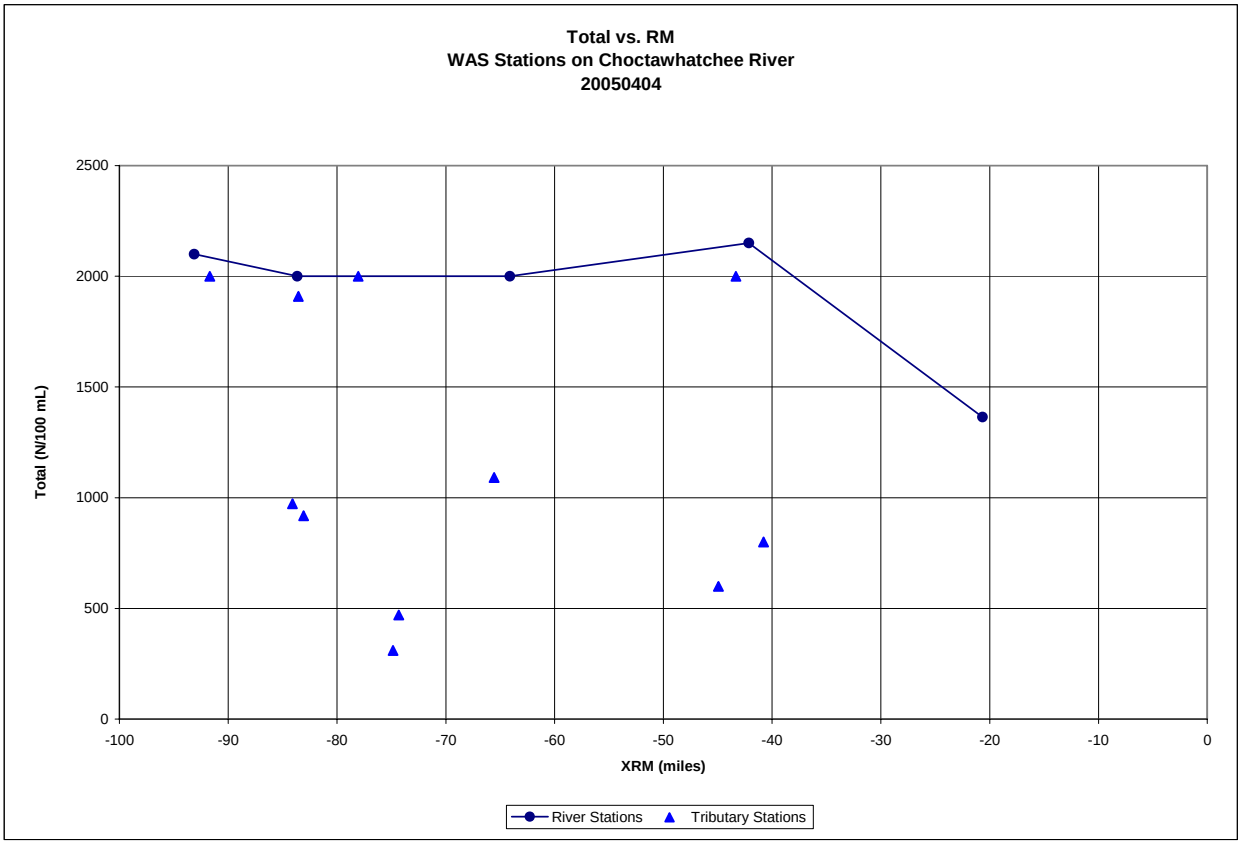


Figure 5.4a. Chart of Recent Observations for Fecal Coliform, Choctawhatchee River, WBID 49F



*Choctawhatchee River station at XRM -74.33 is a flood plain sample, not in the main channel.
The line connecting points on the main river is only intended as a visual aid and does not represent all of the detailed variations along the river.

Figure 5.4b. Chart of Recent Observations for Total Coliform, Choctawhatchee River, WBID 49F



*Choctawhatchee River station at XRM -74.33 is a flood plain sample, not in the main channel. The line connecting points on the main river is only intended as a visual aid and does not represent all of the detailed variations along the river.

Table 5.2. Statistical Table of Observed Recent Data from the Department's Intensive Surveys for Choctawhatchee River Basin

WBID	Parameter	Total Number of Samples, Year 2004 - Present	Geometric Mean of Samples (N/100ml)	Number of Samples Above Standard Concentration (FC>400 and TC >2400 (N/100ml))	Minimum Concentration (N/100ml)	Maximum Concentration (N/100ml)
47	Fecal Coliform	1	74	0	74	74
	Total Coliform	1	973	0	973	973

49	Fecal Coliform	9	79.4055	0	20	250
	Total Coliform	9	464.8031	0	230	2000
49 B	Fecal Coliform	3	53.7436	0	42	84
	Total Coliform	3	466.44	0	240	1364
49 E	Fecal Coliform	5	62.2606	0	27.5	175
	Total Coliform	5	567.8103	0	250	2150
49 F	Fecal Coliform	1	23	0	23	23
	Total Coliform	1	470	0	470	470
54	Fecal Coliform	1	310	0	310	310
	Total Coliform	1	1091	0	1091	1091
55	Fecal Coliform	1	290	0	290	290
	Total Coliform	1	1909	0	1909	1909
94	Fecal Coliform	1	86	0	86	86
	Total Coliform	1	919	0	919	919
142	Fecal Coliform	1	128	0	128	128
	Total Coliform	1	310	0	310	310
146	Fecal Coliform	1	40	0	40	40
	Total Coliform	1	2000	0	2000	2000
178	Fecal Coliform	1	88	0	88	88
	Total Coliform	1	2000	0	2000	2000
212	Fecal Coliform	1	42	0	42	42
	Total Coliform	1	600	0	600	600
212 Z	Fecal Coliform	2	20.4939	0	7	60
	Total Coliform	2	216.1481	0	64	730
343	Fecal Coliform	1	82	0	82	82
	Total Coliform	1	800	0	800	800
Alabama	Fecal Coliform	2	293.9388	0	270	320

	Total Coliform	2	2049.3902	0	2000	2100

5.1.2 TMDL Development Process

5.1.2.1 Development of the Flow Duration Curve

The first step in the development of load duration curves is to create flow duration curves. A flow duration curve displays the cumulative frequency distribution of daily flow data over the period of record. The duration curve relates flow values measured at a monitoring station to the percent of time the flow values were equaled or exceeded. Flows are ranked from low, which are exceeded nearly 100 percent of the time, to high, which are exceeded less than 1 percent of the time.

The flow duration curve was developed based on flow records (1991-2005) from the USGS gage 02365500 located at Choctawhatchee River at Caryville (US 90) (see **Appendix H), (Figure 5.5).**

5.1.2.2 Develop the load duration curve for existing loading

Using the flows from the flow duration curve, a load duration curve for Fecal Coliform **(Figure 5.6)** was calculated using the following equation:

(observed flow) x (conversion factor) x (state criteria) = ([parameter quantity]/day or daily load) (1)

The above equation yields the load duration curve or allowable load curve **(Figure 5.6).** Using Equation 1 (above), a table was calculated **(Table 5.3),** substituting the observed data for the state criteria value. Coliform observations were then plotted, noting where the samples are in relation to the allowable load curve (above or below the curve). Those above the curve **(Figure 5.6)** are noted as exceedances to the state criterion and are indicated by a triangle.

Figure 5.5. Flow Duration Curve for USGS Gage (02365500)

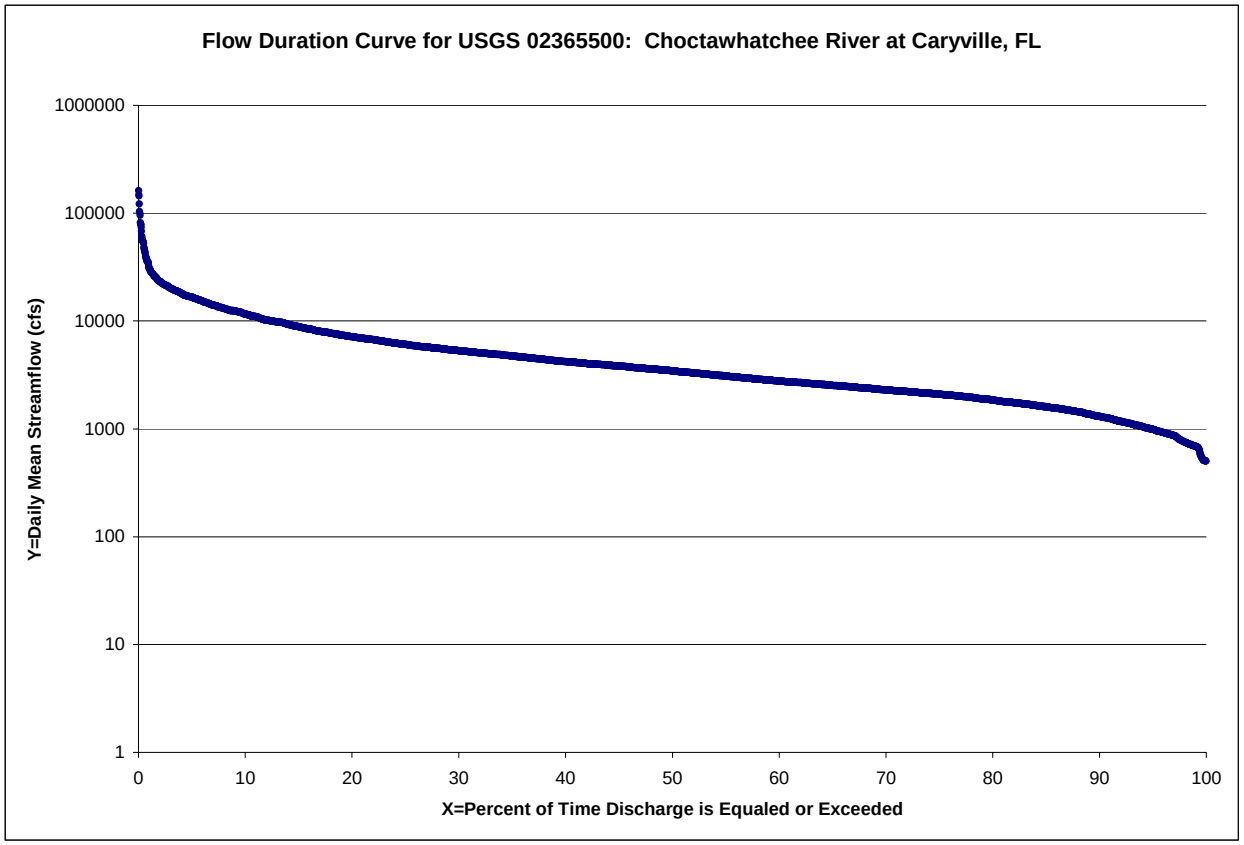


Figure 5.6a. Load Duration Curve for Fecal Coliform in WBID 49F with Line-of-Best-Fit (Exponential Curve)

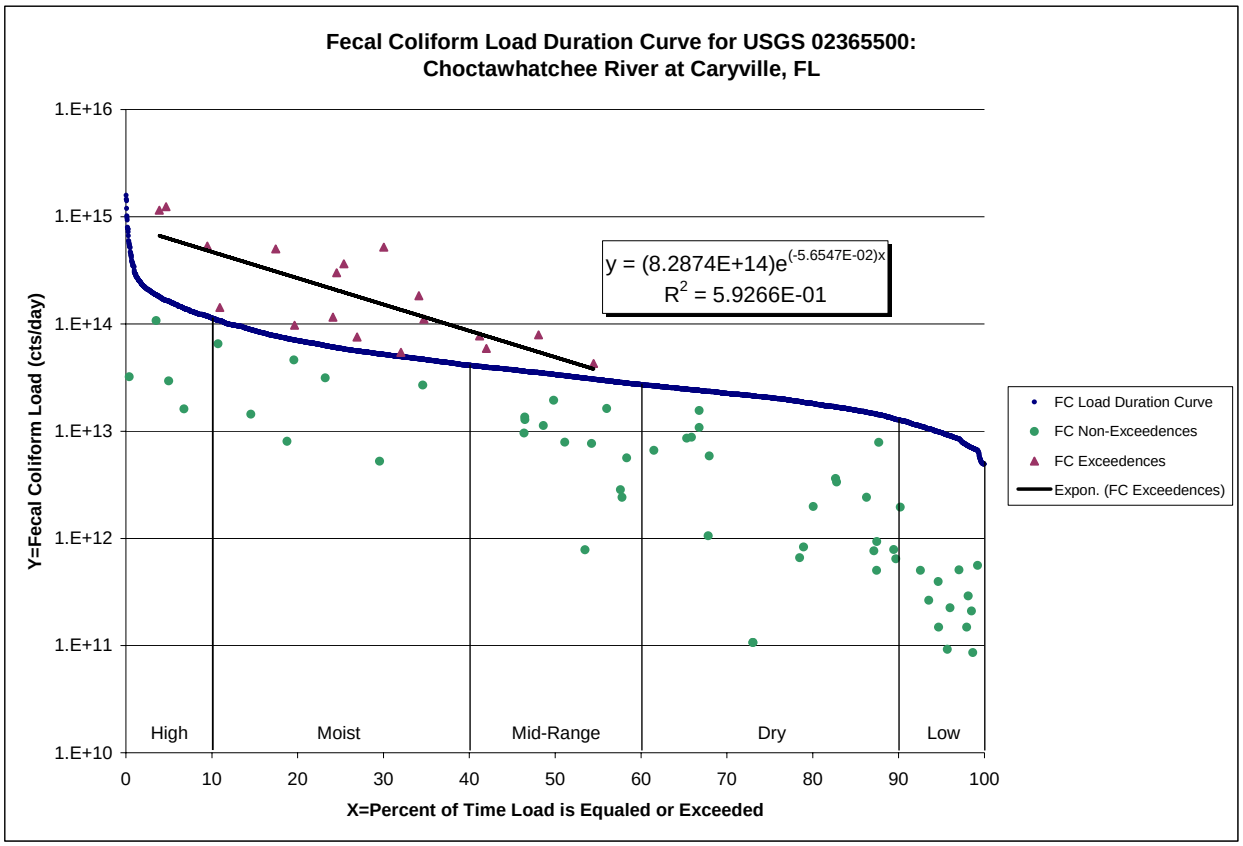


Figure 5.6b. Load Duration Curve for Total Coliform in WBID 49F with Line-of-Best-Fit (Exponential Curve)

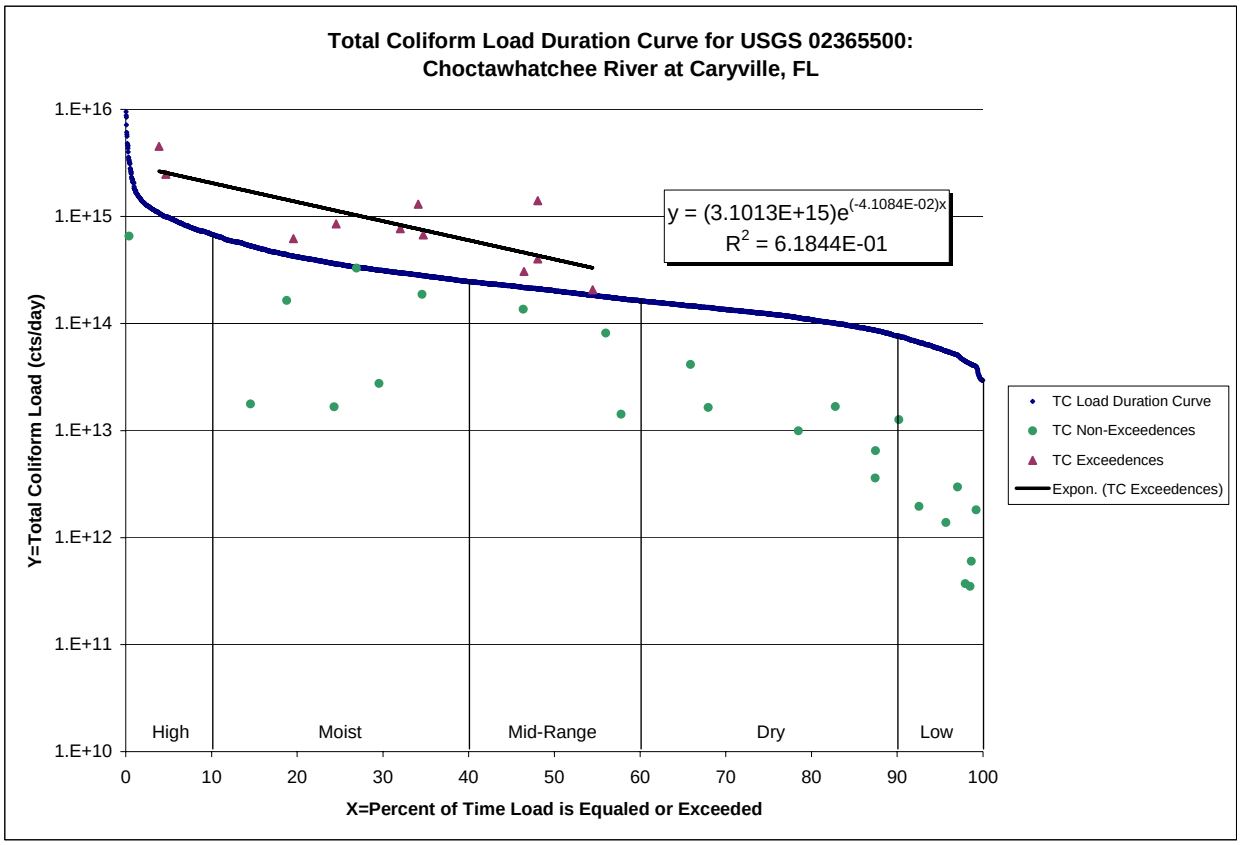


Table 5.3. Observed Data for Calculating Exceedances of the State Criterion for Choctawhatchee River , WBID 49F

Sample Date	Sample Time	Daily Mean Streamflow (cfs) at Carryville, USGS 02365500	Percent of Time Discharge is Equaled or Exceeded (T)	Fecal Coliform (cfu/100mL)	Total Coliform (cfu/100mL)	Fecal Coliform Load (cfu/day)	Total Coliform Load (cfu/day)
1/16/1992	1140	16900	4.679144385	3000	6000	1.24E+15	2.48E+15
1/16/1992	1115	16900	4.679144385	3000	6000	1.24E+15	2.48E+15
4/22/1992	1330	7230	19.63012478	550		9.73E+13	
4/22/1992	1330	7230	19.63012478	550		9.73E+13	
7/22/1992	900	4100	41.19875223	770		7.72E+13	
7/22/1992	900	4100	41.19875223	770		7.72E+13	
10/20/1992	1245	1890	78.92156863	18		8.32E+11	
10/13/1998	1130	9030	14.54991087	65	80	1.44E+13	1.77E+13
11/12/1998	1130	5970	25.37878788	2500		3.65E+14	
12/8/1998	**1145**	**3590**	**48.06149733**	**900**	**4550**	**7.91E+13**	**4E+14**
12/12/1998	1130	3590	48.06149733		16000		1.41E+15

1/13/1999	1145	7250	19.56327986	260	3500	4.61E+13	6.21E+14
2/10/1999	1130	5350	29.54545455	40	210	5.24E+12	2.75E+13
3/10/1999	**1230**	**5720**	**26.91622103**	**540**	**2350**	**7.56E+13**	**3.29E+14**
4/19/1999	1030	2400	67.82531194	18		1.06E+12	
5/17/1999	1130	3690	46.45721925	150	3400	1.35E+13	3.07E+14
6/16/1999	1045	3020	55.99376114	220	1100	1.63E+13	8.13E+13
7/13/1999	1530	4780	34.58110517	230	1600	2.69E+13	1.87E+14
7/19/1999	1030	6180	24.30926916		110		1.66E+13
8/11/1999	1030	2490	65.88680927	144	680	8.77E+12	4.14E+13
9/15/1999	1030	1470	87.45543672	26	180	9.35E+11	6.47E+12
10/13/1999	1045	3700	46.36809269	106	1500	9.6E+12	1.36E+14
11/18/1999	1210	1470	87.4442959	14	100	5.04E+11	3.6E+12
12/21/1999	1000	3120	54.45632799	560	2700	4.28E+13	2.06E+14
1/13/2000	1315	4770	34.69251337	950	5750	1.11E+14	6.71E+14
2/16/2000	1300	6130	24.53208556	2000	5700	3E+14	8.55E+14
3/21/2000	**1000**	**4840**	**34.11319073**	**1550**	**11000**	**1.84E+14**	**1.3E+15**
4/12/2000	1200	1930	78.47593583	14	210	6.61E+11	9.92E+12
5/18/2000	900	942	95.67736185	4	60	9.22E+10	1.38E+12
6/14/2000	1200	716	98.48484848	12	20	2.1E+11	3.5E+11
7/19/2000	1000	703	98.64081996	5	35	8.6E+10	6.02E+11
8/16/2000	1230	758	97.92780749	8	20	1.48E+11	3.71E+11
9/14/2000	1200	865	97.03654189	24	140	5.08E+11	2.96E+12
10/11/2000	1145	673	99.2201426	34	110	5.6E+11	1.81E+12
11/15/2000	1300	1290	90.19607843	62	400	1.96E+12	1.26E+13
12/13/2000	1230	1140	92.53565062	18	70	5.02E+11	1.95E+12
1/18/2001	1245	2400	67.95900178	100	280	5.87E+12	1.64E+13
2/14/2001	1230	2900	57.79857398	34	200	2.41E+12	1.42E+13
3/14/2001	**1230**	**18500**	**3.877005348**	**2550**	**10000**	**1.15E+15**	**4.53E+15**
4/16/2001	1200	5060	32.01871658	440	6200	5.45E+13	7.68E+14
5/16/2001	1145	1710	82.79857398	80	400	3.35E+12	1.67E+13
6/18/2001	1230	7450	18.76114082	44	900	8.02E+12	1.64E+14
7/18/2001	**1200**	**1490**	**87.12121212**	**21**		**7.66E+11**	
8/15/2001	1200	4030	41.97860963	600		5.92E+13	
9/15/2001	1145	1840	80.05793226	44		1.98E+12	
10/10/2001	1230	1080	93.51604278	10		2.64E+11	
11/14/2001	1315	922	95.98930481	10		2.26E+11	
12/11/2001	1245	1540	86.25222816	64		2.41E+12	
1/17/2002	1300	2510	65.32976827	140		8.6E+12	
2/14/2002	1300	3690	46.47950089	142		1.28E+13	
3/13/2002	1245	3460	49.82174688	230		1.95E+13	
4/10/2002	1230	5310	30.03565062	4000		5.2E+14	
5/15/2002	1315	1720	82.66488414	86		3.62E+12	
5/21/2002		1460	87.70053476	220		7.86E+12	
6/12/2002	1245	1320	89.68360071	20		6.46E+11	
7/17/2002	1400	1010	94.60784314	16		3.95E+11	
8/14/2002	1320	743	98.10606061	16		2.91E+11	

9/18/2002	1315	1010	94.65240642	6		1.48E+11	
9/30/2002		2450	66.77807487	260		1.56E+13	
9/30/2002		2450	66.77807487	180		1.08E+13	
10/21/2002	1220	1340	89.41622103	24		7.87E+11	
11/14/2002	1435	11100	10.71746881	240		6.52E+13	
12/3/2002		2180	73.03921569	2		1.07E+11	
12/3/2002		2180	73.03921569	2		1.07E+11	
12/18/2002	1315	2910	57.62032086	40		2.85E+12	
1/23/2003	1245	2710	61.4973262	100		6.63E+12	
2/19/2003	1245	6230	24.1087344	760		1.16E+14	
3/12/2003	1220	19100	3.520499109	230		1.07E+14	
4/9/2003	1345	12100	9.46969697	1800		5.33E+14	
5/20/2003	1300	3190	53.47593583	10		7.81E+11	
6/11/2003	1245	16700	4.968805704	72		2.94E+13	
7/10/2003	1230	14300	6.773618538	46		1.61E+13	
8/18/2003	1245	7890	17.44652406	2600		5.02E+14	
9/10/2003	1230	6410	23.21746881	200		3.14E+13	
10/14/2003	1215	3360	51.13636364	96		7.89E+12	
11/24/2003	1230	3550	48.61853832	130		1.13E+13	
12/10/2003	1220	3140	54.23351159	100		7.68E+12	
1/14/2004	1245	2870	58.33333333	80		5.62E+12	
2/11/2004	1215	11000	10.9402852	530		1.43E+14	
4/4/2005	1520	57000	0.378787879	23	470	3.21E+13	6.56E+14

Data highlighted in yellow was not included in analysis because it was duplicated data. Even though in some cases the station names are different, lat/longs are the same.

Data highlighted in orange does not have an associated flow. The average of flows on the nearest date before and after was used for an estimated flow. The same method was then used to calculate an estimate for percent of time discharge is equaled or exceeded.

Bold type indicates the presence of more than one sample on that date at that particular location. In these cases, an average of the data was used as the coliform concentration for that date.

Values on the load duration curve can generally be grouped by hydrologic conditions to identify the most likely potential sources. Exceedances falling into the 11th through 40th percentile flows are typically associated with moist conditions when stormwater loads are the most likely source, and exceedances falling in the 61st through 90th percentiles are typically associated with dry conditions when point sources are likely the dominant source **(Figure 5.7** and **Table 5.4).**

Figure 5.7. Loading Curve Showing Hydrologic Conditions

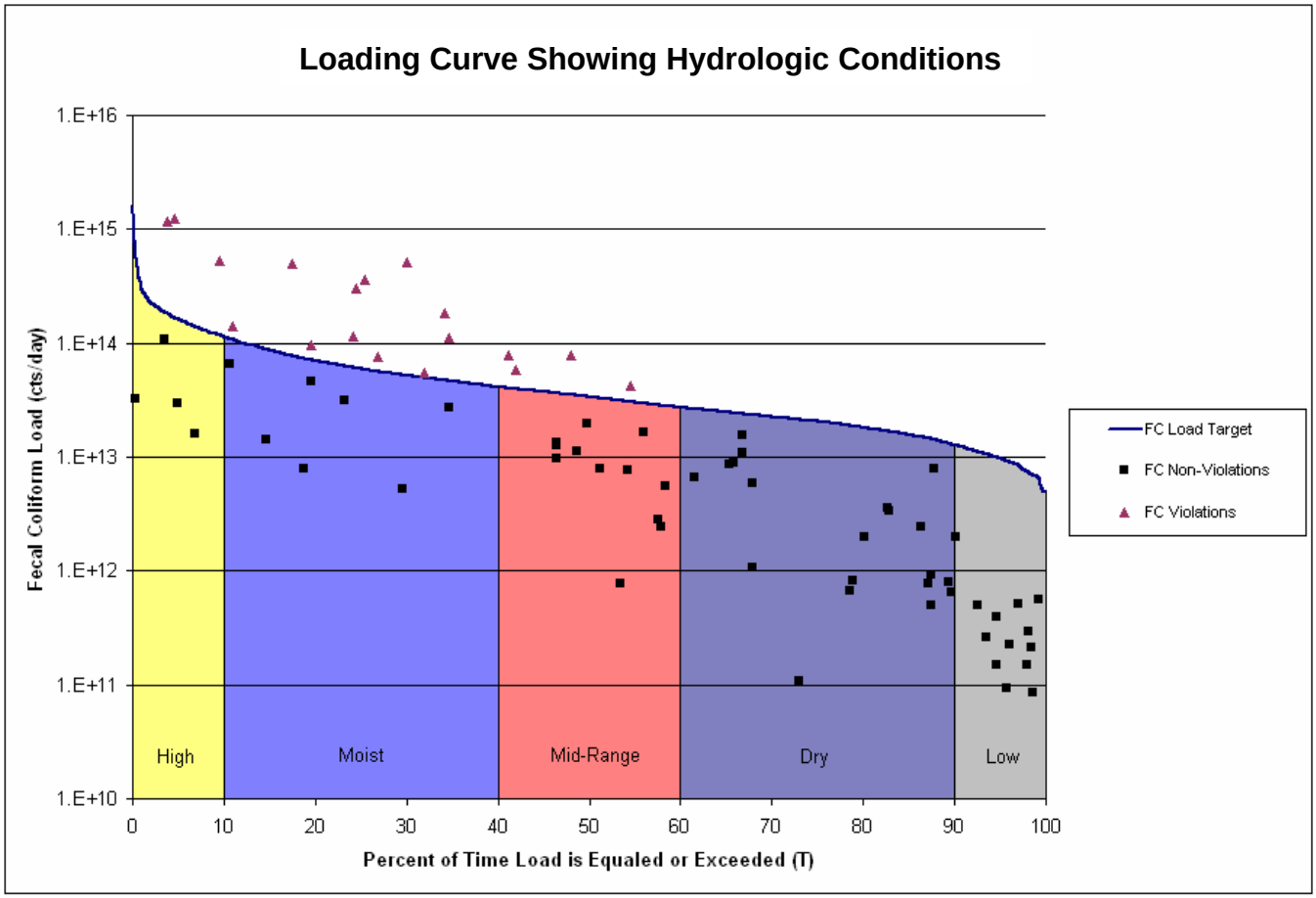


Table 5.4. Flow Conditions under Which Exceedances Occurred

Flow Condition	Flow Range %	Fecal N>400/100 ml	Total N>2400/100 ml
High	0-10	3	2
Moist	10-40	11	5
Mid-Range	40-60	4	4
Dry	60-90	0	0
Low	90-100	0	0
Total	0-100	18	11

5.1.2.3 Develop the Loading Capacity

To determine the loading capacity, a trendline of best-fit was applied through the exceedances **(Figure 5.8**). The best-fitting trend line was determined by evaluating different functions until

the highest R_2 value was found. In this case, an exponential function was determined to be the best fit, and took the following form:

(2) Y_{FC}= (8.2874 E+14)*(EXP(-0.0565*X)), where

Y_{FC} = Fecal Coliform Load (cfu/day) and x =% duration interval

This function (Equation 2) was used to determine the predicted loads by substituting different percentile numbers (from the 10th to 60th, in increments of 5; see **Table 5.5,** Column 1) for "x." The result yields a range of predicted loads within each 5th percentile (**(Table 5.5,** Column 2).

Finally, the percent reduction in loading needed for compliance with the state criterion was calculated. This calculation involved both the allowable load and predicted loads previously computed **(Table 5.5**). Using percentile increments of 5, (ranging from 10 to 60; see **Table 5.5,** Column 1), the needed reduction of daily load was computed using the following formula:

$$(3)\quad \frac{\text{(predicted load) – (allowable load))} \times 100}{\text{(predicted load)}}$$

The TMDL was then calculated as the median of the percent reductions needed over the data range where exceedances occurred, which in this case was High to Mid-Range flow conditions. Similarly, the trendline was computed for total coliform:

(4) Y_{TC}= (3.1013E+15)*(EXP(-0.0411*X))

Table 5.5. Table for Calculating Needed Reduction of Coliform

Fecal Coliform				Total Coliform			
Percent of Days Load Exceeded	Allowable Load (#colonies/day)	Predicted Load (#col./day)	Load Reduction Needed For Compliance (%)	Percent of Days Load Exceeded	Allowable Load (#colonies/day)	Predicted Load (#col./day)	Load Reduction Needed For Compliance (%)
10	1.135E+14	4.710E+14	75.90	10	6.812E+14	2.056E+15	66.87
15	8.662E+13	3.551E+14	75.61	15	5.197E+14	1.674E+15	68.96
20	6.998E+13	2.677E+14	73.86	20	4.199E+14	1.363E+15	69.20
25	5.931E+13	2.018E+14	70.61	25	3.559E+14	1.110E+15	67.94
30	5.197E+13	1.522E+14	65.84	30	3.118E+14	9.038E+14	65.50
35	4.629E+13	1.147E+14	59.64	35	2.778E+14	7.359E+14	62.25
40	4.111E+13	8.648E+13	52.47	40	2.466E+14	5.992E+14	58.84
45	3.729E+13	6.520E+13	42.80	45	2.237E+14	4.879E+14	54.14
50	3.367E+13	4.915E+13	31.50	50	2.020E+14	3.972E+14	49.15
55	3.015E+13	3.706E+13	18.65	55	1.809E+14	3.235E+14	44.08
60	2.711E+13	2.794E+13	2.95	60	1.627E+14	2.634E+14	38.24
Median:	**4.913E+13**	**1.147E+14**	**59.64**	**Median:**	**2.948E+14**	**7.359E+14**	**62.25**

The source loadings for fecal and total coliforms discussed in Section 4.4 above would need to be reduced by about 60% to meet the TMDL. In order to develop a relationship between the source loads within a basin and the amount delivered to the stream or river, one must consider the decay that occurs in the coliform population from point source and nonpoint source loads. The decay rate (Kb) is discussed in Appendices C and D. Point source locations on each stream system in Alabama were obtained (Shirley, 2005) to determine the River Mile distances above the Alabama-Florida state line. An estimate of stream velocities was then used to compute the Travel Time (T) and exponential loss function exp(-Kb*T). In Alabama, the permitted load at each outfall is sometimes a technology-based effluent limit (TBEL) for fecal coliform of 2000 to 3000 cfu/100 ml along with the permitted or design flow.

Since nonpoint source loads may be distributed randomly over a basin, it is difficult to estimate the travel time from each source to surface waters without a sophisticated GIS model such as WAMVIEW (Bottcher, 2005). It is also difficult to estimate the ground water contribution from sources such as wastewater percolation ponds, spray fields, landfills, sludge disposal areas, and storm ponds. Ground water data for the Choctawhatchee River basin have been summarized in **Appendix I**. These data show that the maximum fecal coliform value from 36 wells was 27 cfu/100 ml, while the maximum total coliform value from 17 wells was 170 cfu/100 ml.

5.2.3 Critical Conditions/Seasonality

The critical condition for coliform loadings in a given watershed depends on many factors, including the presence of point sources and the land use pattern in the watershed. Typically, the critical condition for nonpoint sources is an extended dry period followed by a rainfall runoff event. During the wet weather period, rainfall washes off coliform bacteria that have built up on the land surface under dry conditions, resulting in the wet weather exceedances. However, significant nonpoint source contributions can also appear under dry conditions without any major surface runoff event. This usually happens when nonpoint sources contaminate the surficial aquifer, and fecal coliform bacteria are brought into the receiving waters through baseflow. In addition, as described above, livestock that have direct access to the receiving water can also contribute to the exceedance during dry weather. The critical condition for point source loading typically occurs during periods of low stream flow, when dilution is minimized.

For the Choctawhatchee River watershed, exceedances occurred mainly in the High, Moist, and Mid-Range flow conditions. Most of the major point sources were identified in the Alabama portion of the watershed. However, exceedances that appeared in all these intervals were considered to be from nonpoint sources. Critical conditions are accounted for in the load curve analysis by using the flow records and water quality data available in the 10^{th} to 60^{th} percentile flow duration interval.

Chapter 6: DETERMINATION OF THE TMDL

6.1 Expression and Allocation of the TMDL

The objective of a TMDL is to provide a basis for allocating acceptable loads among all of the known pollutant sources in a watershed so that appropriate control measures can be implemented and water quality standards achieved. A TMDL is expressed as the sum of all point source loads (Waste Load Allocations, or WLAs), nonpoint source loads (Load Allocations, or LAs), and an appropriate margin of safety (MOS), which takes into account any uncertainty concerning the relationship between effluent limitations and water quality:

$$\mathbf{TMDL = \sum WLAs + \sum LAs + MOS}$$

As discussed earlier, the WLA is broken out into separate subcategories for wastewater discharges and stormwater discharges regulated under the NPDES Program:

$$\mathbf{TMDL \cong \sum WLAs_{wastewater} + \sum WLAs_{NPDES\ Stormwater} + \sum LAs + MOS}$$

It should be noted that the various components of the revised TMDL equation may not sum up to the value of the TMDL because a) the WLA for NPDES stormwater is typically based on the percent reduction needed for nonpoint sources and is also accounted for within the LA, and b) TMDL components can be expressed in different terms (for example, the WLA for stormwater is typically expressed as a percent reduction, and the WLA for wastewater is typically expressed as mass per day).

WLAs for stormwater discharges are typically expressed as "percent reduction" because it is very difficult to quantify the loads from MS4s (given the numerous discharge points) and to distinguish loads from MS4s from other nonpoint sources (given the nature of stormwater transport). The permitting of stormwater discharges also differs from the permitting of most wastewater point sources. Because stormwater discharges cannot be centrally collected, monitored, and treated, they are not subject to the same types of effluent limitations as wastewater facilities, and instead are required to meet a performance standard of providing treatment to the "maximum extent practical" through the implementation of BMPs.

This approach is consistent with federal regulations (40 CFR § 130.2[I]), which state that TMDLs can be expressed in terms of mass per time (e.g., pounds per day), toxicity, or **other appropriate measure**. TMDLs for the Choctawhatchee River are expressed in terms of percent reduction, and represent the maximum annual load the river can assimilate and maintain the coliform criteria **(Table 6.1).**

Table 6.1. TMDL Components for the Choctawhatchee River

WBID	Parameter	TMDL (Percent Reduction)	WLA		LA (Percent Reduction)	MOS
			Wastewater (count/100 mL)	NPDES Stormwater		
49F	Fecal Coliform	60%	Point sources must meet permit limits	NA	60%	Implicit
49F	Total Coliform	62%	Point sources must meet permit limits	NA	62%	Implicit

† The percent reduction is based on 10th – 60th percentile of recurrence intervals minus the WLA, see Table 5.

6.2 Load Allocation (LA)

Based on a load duration curve approach similar to that developed by Kansas (Stiles, 2002), a fecal coliform reduction of 60% and total coliform reduction of 62 % is needed from nonpoint sources. It should be noted that the LA includes loading from stormwater discharges regulated by the Department and the Water Management Districts that are not part of the NPDES Stormwater Program (see **Appendix A**).

6.3 Wasteload Allocation (WLA)

6.3.1 NPDES Wastewater Discharges

The Alabama facilities listed in **Table 4.1** have wastewater outfalls into tributaries of the Choctawhatchee or Pea River, above Florida, that include a permit limit for fecal coliforms. A fecal coliform load is allocated to each facility based on their permitted annual average flow (MGD) and the facility's current single-sample fecal coliform limit (counts/100mL).

The facilities are required to meet all Alabama state criteria as a condition of their permit, including that of fecal coliforms (2000 to 3000 counts/100 ml). As such, WLAs have been estimated for all facilities. **Table 6.2** estimates the loading capacity of these facilities based on design capacities if discharging the allowable geometric mean of 1,000 counts/100 ml. The facilities' loads were transported to the state line using a decay function as described in **Appendix C**.

Table 6.2. Maximum Fecal Coliform Loading From Permitted Facilities

Facility	NPDES No.	Discharge	Permitted Flow (MGD)	Permitted Flow (cfs)	Based on Fecal Coliform Loading of:	Maximum Fecal Coliform Load (# col./day)
UNION SPRINGS UTILITIES BOARD *	AL0060445	SURFACE	1.5	2.320845	No Limit	
TROY CITY OF WALNUT CREEK WWTP	AL0032310	SURFACE	5.2	8.045596	3000	5.9053E+11
ENTERPRISE NORTHEAST LAGOON	AL0020061	SURFACE	1.1	1.701953	2000	8.3280E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	SURFACE	1.1	1.701953	2000	8.3280E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	SURFACE	2.1	3.249183	2000	1.5899E+11
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	SURFACE	1.5	2.320845	2300	1.3060E+11
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	SURFACE	7	7.73615	2000	5.2996E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	SURFACE	6	9.28338	2300	5.2239E+11
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	SURFACE	1.215	1.87988445	2000	9.1986E+10

Florida facilities are located downstream of WBID 49F.

Table 6.3. Estimated Decay Rates of Coliforms for Permitted Dischargers in Basin

Facility	NPDES No.	Discharge Type	River Flow at USGS Gage 02365500 (cfs)	Concentration of Fecal Coliform in Choctawhatchee River at FL-AL Line (N/100mL)	Load of Fecal Coliform in Choctawhatchee River at FL-AL Line (cfu/day)
High Flow (10% Exceedence)					
Union Springs Utilities Board	AL0060445	SURFACE	9390		
Troy City of Walnut Creek WWTP	AL0032310	SURFACE	9390	4.3876E+02	8.6367E+10
Enterprise Northeast Lagoon	AL0020061	SURFACE	9390	8.4287E+02	3.5097E+10
Enterprise Southeast Lagoon	AL0020044	SURFACE	9390	8.9061E+02	3.7085E+10
Ozark City of Southside WWTP	AL0056324	SURFACE	9390	6.4538E+02	5.1304E+10
Enterprise WWTP 2 College St.	AL0020036	SURFACE	9390	1.1492E+03	6.5254E+10
Dothan City of Choctawhatchee	AL0047465	SURFACE	9390	7.8088E+02	2.0692E+11
Dothan City of Beaver Creek	AL0022756	SURFACE	9390	8.2071E+02	1.8641E+11
Geneva WWSB Sewage Treatment Plant	AL0020273	SURFACE	9390	1.7445E+03	8.0237E+10
Mid Flow (50% Exceedence)					
Union Springs Utilities Board	AL0060445	SURFACE	2400		
Troy City of Walnut Creek WWTP	AL0032310	SURFACE	2400	1.1165E+02	2.1977E+10

Enterprise Northeast Lagoon	AL0020061	SURFACE	2400	4.5561E+02	1.8972E+10
Enterprise Southeast Lagoon	AL0020044	SURFACE	2400	5.0067E+02	2.0848E+10
Ozark City of Southside WWTP	AL0056324	SURFACE	2400	2.8847E+02	2.2932E+10
Enterprise WWTP 2 College St.	AL0020036	SURFACE	2400	7.0124E+02	3.9818E+10
Dothan City of Choctawhatchee	AL0047465	SURFACE	2400	3.9976E+02	1.0593E+11
Dothan City of Beaver Creek	AL0022756	SURFACE	2400	3.9407E+02	8.9504E+10
Geneva WWSB Sewage Treatment Plant	AL0020273	SURFACE	2400	1.5828E+03	7.2798E+10
Low Flow (90% Exceedence)					
Union Springs Utilities Board	AL0060445	SURFACE	736		
Troy City of Walnut Creek WWTP	AL0032310	SURFACE	736	1.5842E+01	3.1184E+09
Enterprise Northeast Lagoon	AL0020061	SURFACE	736	1.8942E+02	7.8874E+09
Enterprise Southeast Lagoon	AL0020044	SURFACE	736	2.2013E+02	9.1662E+09
Ozark City of Southside WWTP	AL0056324	SURFACE	736	9.1445E+01	7.2693E+09
Enterprise WWTP 2 College St.	AL0020036	SURFACE	736	3.4657E+02	1.9679E+10
Dothan City of Choctawhatchee	AL0047465	SURFACE	736	1.5379E+02	4.0752E+10
Dothan City of Beaver Creek	AL0022756	SURFACE	736	1.3836E+02	3.1424E+10
Geneva WWSB Sewage Treatment Plant	AL0020273	SURFACE	736	1.3777E+03	6.3363E+10

As part of this TMDL, these facilities, and any future discharge permits issued within the Florida portion of the Choctawhatchee River Basin, will be required to meet state Class III criteria for fecal and total coliforms as well as the TMDL value, and therefore will not be allowed to exceed 200 counts/100 ml monthly average or 400 counts/100 ml at any given time for fecal coliform, and 1000 counts/100 ml monthly average or 2400 counts/100 ml at any given time for total coliform.

6.3.2 NPDES Stormwater Discharges

The WLA for the Florida DOT District 3 (Chipley) MS4 permit (FLR04E023) is a 60 percent reduction in current anthropogenic fecal coliform loading and a 62 percent reduction in current anthropogenic total coliform loading. It should be noted that any MS4 permittee will only be responsible for reducing the loads associated with stormwater outfalls for which it owns or otherwise has responsible control, and is not responsible for reducing other nonpoint source loads within its jurisdiction.

6.4 Margin of Safety (MOS)

Consistent with the recommendations of the Allocation Technical Advisory Committee (FDEP, February 2001), an implicit margin of safety (MOS) was used in the development of this TMDL. An implicit MOS was provided by the conservative decisions associated with a number of modeling assumptions and the development of the assimilative capacity as noted below.

For fecal coliform, an implicit MOS was inherently incorporated by using 400 MPN/100 ml of fecal coliform as the water quality target for each and every sampling event instead of setting the criteria as no more than 10% of the samples exceed 400 MPN/100 ml. For both fecal coliform and total coliform TMDLs, using the correlation lines fitting through only the existing loadings that exceeded the allowable loadings could overestimate the actual existing loading,

which makes the estimation more conservative and therefore adds to the MOS. An additional MOS was included in the TMDL by not allowing any exceedances of state criterion, even though intermittent natural exceedances of the criterion would be expected and would be taken into account when determining impairment.

Chapter 7: NEXT STEPS: IMPLEMENTATION PLAN DEVELOPMENT AND BEYOND

7.1 Basin Management Action Plan

Following the adoption of this TMDL by rule, the next step in the TMDL process is to develop an implementation plan for the TMDL, which will be a component of the Basin Management Action Plan (BMAP) for the Choctawhatchee River Basin. This document will be developed over the next year in cooperation with local stakeholders and will attempt to reach consensus on more detailed allocations and on how load reductions will be accomplished. The BMAP will include the following:

- Appropriate allocations among the affected parties,
- A description of the load reduction activities to be undertaken,
- Timetables for project implementation and completion,
- Funding mechanisms that may be utilized,
- Any applicable signed agreement,
- Local ordinances defining actions to be taken or prohibited,
- Local water quality standards, permits, or load limitation agreements, and
- Monitoring and follow-up measures.

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Appendices

Appendix A: Background Information on Federal and State Stormwater Programs

In 1982, Florida became the first state in the country to implement statewide regulations to address the issue of nonpoint source pollution by requiring new development and redevelopment to treat stormwater before it is discharged. The Stormwater Rule, as authorized in Chapter 403, F.S., was established as a technology-based program that relies on the implementation of BMPs that are designed to achieve a specific level of treatment (i.e., performance standards) as set forth in Chapter 62-40, F.A.C. In 1994, the Department's stormwater treatment requirements were integrated with the stormwater flood control requirements of the state's water management districts, along with wetland protection requirements, into the Environmental Resource Permit regulations.

Chapter 62-40, F.A.C., also requires the water management districts to establish stormwater pollutant load reduction goals (PLRGs) and adopt them as part of a SWIM plan, other watershed plan, or rule. Stormwater PLRGs are a major component of the load allocation part of a TMDL. To date, stormwater PLRGs have been established for Tampa Bay, Lake Thonotosassa, the Winter Haven Chain of Lakes, the Everglades, Lake Okeechobee, and Lake Apopka. No PLRG had been developed for Newnans Lake when this report was published.

In 1987, the U.S. Congress established Section 402(p) as part of the federal Clean Water Act Reauthorization. This section of the law amended the scope of the federal NPDES permitting program to designate certain stormwater discharges as "point sources" of pollution. The EPA promulgated regulations and began implementing the Phase I NPDES stormwater program in 1990. These stormwater discharges include certain discharges that are associated with industrial activities designated by specific standard industrial classification (SIC) codes, construction sites disturbing 5 or more acres of land, and master drainage systems of local governments with a population above 100,000, which are better known as municipal separate storm sewer systems (MS4s). However, because the master drainage systems of most local governments in Florida are interconnected, the EPA implemented Phase I of the MS4 permitting program on a countywide basis, which brought in all cities (incorporated areas), Chapter 298 urban water control districts, and the Florida Department of Transportation throughout the 15 counties meeting the population criteria. The Department received authorization to implement the NPDES stormwater program in 2000.

An important difference between the federal NPDES and the state's stormwater/environmental resource permitting programs is that the NPDES Program covers both new and existing discharges, while the state's program focuses on new discharges only. Additionally, Phase II of the NPDES Program, implemented in 2003, expands the need for these permits to construction sites between 1 and 5 acres, and to local governments with as few as 1,000 people. While these urban stormwater discharges are now technically referred to as "point sources" for the purpose of regulation, they are still diffuse sources of pollution that cannot be easily collected and treated by a central treatment facility, as are other point sources of pollution such as domestic and industrial wastewater discharges. It should be noted that all MS4 permits issued in

Florida include a re-opener clause that allows permit revisions to implement TMDLs when the implementation plan is formally adopted.

NPDES MS4	PERMITS IN NW FLORIDA*	
County Code	PERMIT_NAME	PERMIT_ID_NO
0	FDOT District 3	FLR04E023
3	Lynn Haven	FLR04E008
3	Tyndall Air Force Base	FLR04E004
3	Callaway	FLR04E055
3	Bay County	FLR04E054
3	Panama City	FLR04E053
3	Parker	FLR04E087
3	Cedar Grove	FLR04E089
3	Springfield	FLR04E097
3	Panama City Beach	FLR04E123
17	University of West Florida	FLR04E057
46	Destin	FLR04E034
46	Hurlburt Field	FLR04E002
46	Niceville	FLR04E015
46	Valparaiso	FLR04E038
46	Eglin Air Force Base	FLR04E007
46	Fort Walton Beach	FLR04E061
46	Okaloosa County	FLR04E073
46	Mary Esther	FLR04E081
57	Santa Rosa County	FLR04E069
57	Gulf Breeze	FLR04E085
57	Milton	FLR04E104
66	Walton County	FLR04E084

*Jozwiak, 2005

Appendix B: Summary of Land Use Loads by Category

TABLE 4.4
CHOCTAWHATCHEE RIVER WBID 49F FLOWS TO CHOCTAWHATCHEE RIVER WBID 49 AND 261
AVERAGE DAILY LOADING OF FECAL COLIFORM FROM

LAND USE LEVEL1		HOLMES COUNTY FL TOTAL		REFERENCES	WBID 49F TOTAL		HOLMES COUNTY FL TOTAL	
		SQMI	%		SQMI	%	SQMI	%
1000	URBAN AND BUILT UP	1.5874E+01	3.2453E+00		9.8000E-01	2.0035E-01	1.5874E+01	3.2453E+00
2000	AGRICULTURE	1.2040E+02	2.4615E+01		4.9087E+00	1.0199E+00	1.2040E+02	2.4615E+01
3000	RANGELAND	1.0284E+01	2.1024E+00		1.4745E+00	3.0145E-01	1.0284E+01	2.1024E+00
4000	UPLAND FORESTS	2.4066E+02	4.9201E+01		1.5557E+01	3.1805E+00	2.4066E+02	4.9201E+01
5000	WATER	7.6193E+00	1.5577E+00		1.5646E+00	3.1987E-01	7.6193E+00	1.5577E+00
6000	WETLANDS	9.2266E+01	1.8863E+01		1.1954E+01	2.4439E+00	9.2266E+01	1.8863E+01
7000	BARREN LAND	8.9600E-02	1.8318E-02		5.8800E-02	1.2021E-02	8.9600E-02	1.8318E-02
8000	TRANSPORTATION AND UTILITIES	1.9410E+00	3.9682E-01		3.0400E-02	6.2151E-03	1.9410E+00	3.9682E-01
	TOTAL LAND	4.8152E+02	9.8442E+01		3.5043E+01	9.5726E+01	4.8152E+02	9.8442E+01
	TOTAL LAND+WATER	4.8913E+02	1.0000E+02		3.6608E+01	1.0000E+02	4.8913E+02	1.0000E+02
	TOTAL CENSUS 2000	4.8200E+02					4.8200E+02	
	URBAN RATIO WBID/COUNTY	1			6.1737E-02		1.0000E+00	
	AGRICULTURE RATIO WBID/COUNTY				4.1434E-02		1.0000E+00	
	NATURAL RATIO WBID/COUNTY				7.3281E-02		1.0000E+00	
	TOTAL SEPTIC TANKS THRU 2004	8308			5.1291E+02		8308	
	TOTAL REPAIRS 1991 THRU 2004	470			2.9016E+01		470	
	TOTAL FAILURES	4.1540E+02			2.5645E+01		4.1540E+02	
	TOTAL 2000 HOUSEHOLDS	6821			4.2728E+02		6821	
	TOTAL HOUSEBOATS							
	TOTAL 1990 PUBLIC SEWER	1301			8.0319E+01		1301	
	TOTAL 1990 SEPTIC	5349			3.3023E+02		5349	
	TOTAL 1990 OTHER	135			8.3344E+00		135	
	TOTAL 2000 POPULATION	1.8564E+04			1.1461E+03		1.8564E+04	

LIVESTOCK, WILDLIFE, AND DOMESTIC ANIMALS					REFERENCES	WBID 49F			HOLMES COUNTY FL		
ANIMAL TYPE	FC PRODUCED LFC	ANIMALS PER COUNTY	COUNTY AREA	ANIMAL DENSITY		DA1	NDA1	LFC1	DA3	NDA3	LFC3
	CTS/ANIMAL/DAY		SQMI	N/SQMI		SQMI	N	CTS/DAY	SQMI	N	CTS/DAY
			4.8913E+02			3.6608E+01			4.8913E+02		
LIVESTOCK											
CATTLE AND CALVES INVENTORY	1.04E+11	19618	4.8913E+02			3.6608E+01	8.1286E+02	8.4537E+13	4.8913E+02	19618	2.0403E+16
CATTLE AND CALVES SOLD	1.04E+11	9620	4.8913E+02			3.6608E+01	3.9859E+02	4.1454E+13	4.8913E+02	9620	1.0005E+16
DAIRY CATTLE INVENTORY	1.01E+11	1325	4.8913E+02		C	3.6608E+01	5.4900E+01	5.5339E+12	4.8913E+02	1325	1.3356E+14
BEEF CATTLE INVENTORY	1.04E+11	9347	4.8913E+02		C	3.6608E+01	3.8728E+02	4.0277E+13	4.8913E+02	9347	9.7209E+14
SHEEP AND LAMBS INVENTORY	1.20E+10	85	4.8913E+02		C	3.6608E+01	3.5219E+00	4.2263E+10	4.8913E+02	85	1.0200E+12
SHEEP AND LAMBS SOLD	1.20E+10		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
HORSES AND PONIES INVENTORY	4.20E+08	1161	4.8913E+02		C	3.6608E+01	4.8105E+01	2.0204E+10	4.8913E+02	1161	4.8762E+11
HORSES AND PONIES SOLD	4.20E+08	133	4.8913E+02			3.6608E+01	5.5107E+00	2.3145E+09	4.8913E+02	133	5.5860E+10
MULES, BURROS, AND DONKEYS	4.20E+08	16	4.8913E+02		C,E	3.6608E+01	6.6294E-01	2.7844E+08	4.8913E+02	16	6.7200E+09
MULES, BURROS, AND DONKEYS	4.20E+08		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
LLAMAS (~SHEEP)	1.20E+10		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
BISON (~BEEF CATTLE)	1.04E+11		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
DEER	5.00E+08		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
ELK	5.00E+08		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
GOATS, ALL (~SHEEP) INVENTORY	1.20E+10	646	4.8913E+02		C,E	3.6608E+01	2.6768E+01	3.2120E+11	4.8913E+02	646	7.7520E+12
GOATS, ALL (~SHEEP) SOLD	1.20E+10	301	4.8913E+02			3.6608E+01	1.2472E+01	1.4966E+11	4.8913E+02	301	3.6120E+12
HOGS AND PIGS INVENTORY	1.08E+10	306	4.8913E+02		C	3.6608E+01	1.2679E+01	1.3693E+11	4.8913E+02	306	3.3048E+12
HOGS AND PIGS SOLD	1.08E+10	1050	4.8913E+02			3.6608E+01	4.3506E+01	4.6986E+11	4.8913E+02	1050	1.1340E+13
LAYER CHICKENS INVENTORY	1.40E+08	49745	4.8913E+02		C	3.6608E+01	2.0611E+03	2.8856E+11	4.8913E+02	49745	6.9643E+12
LAYER CHICKENS SOLD	1.40E+08	26867	4.8913E+02			3.6608E+01	1.1132E+03	1.5585E+11	4.8913E+02	26867	3.7614E+12
BROILERS INVENTORY	1.40E+08	2483278	4.8913E+02		C	3.6608E+01	1.0289E+05	1.4405E+13	4.8913E+02	2483278	3.4766E+14
BROILERS SOLD	1.40E+08	12372800	4.8913E+02			3.6608E+01	5.1265E+05	7.1772E+13	4.8913E+02	12372800	1.7322E+15
TURKEYS INVENTORY	9.50E+07		4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
TURKEYS SOLD	9.50E+07		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
DUCKS INVENTORY	2.50E+09	53	4.8913E+02		C	3.6608E+01	2.1960E+00	5.4900E+09	4.8913E+02	53	1.3250E+11
DUCKS SOLD	2.50E+09		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
GEESE INVENTORY	4.90E+10	22	4.8913E+02		C	3.6608E+01	9.1155E-01	4.4666E+10	4.8913E+02	22	1.0780E+12
GEESE SOLD	4.90E+10		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
EMUS (~GEESE)	4.90E+10		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
OSTRICHES (~GEESE)	4.90E+10		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
PHEASANTS (~GEESE) INVENTORY	4.90E+10		4.8913E+02		C,E	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
PHEASANTS (~GEESE) SOLD	4.90E+10		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
PIGEONS OR SQUAB INVENTORY	1.60E+08		4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
PIGEONS OR SQUAB SOLD	1.60E+08		4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
QUAIL (~PIGEON)	1.60E+08		4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
OTHER			4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
RABBITS INVENTORY			4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
RABBITS SOLD			4.8913E+02			3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02		0.0000E+00
TOTAL LIVESTOCK			4.8913E+02		C	3.6608E+01	0.0000E+00	**2.5962E+14**	4.8913E+02		**6.2658E+15**
WILDLIFE			4.8913E+02		C	3.6608E+01			4.8913E+02		
ALLIGATORS			4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02	0.0000E+00	0.0000E+00
BLACK BEARS			4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02	0.0000E+00	0.0000E+00
RACCOONS	1.25E+09		4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02	0.0000E+00	0.0000E+00
BEAVERS	2.50E+08		4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02	0.0000E+00	0.0000E+00
DEER	5.00E+08		4.8913E+02	6 CI		3.6608E+01	2.1965E+02	1.0982E+11	4.8913E+02	2.9348E+03	1.4674E+12
DOLPHIN, PORPOISE,MANATEE			4.8913E+02		C	3.6608E+01	0.0000E+00	0.0000E+00	4.8913E+02	0.0000E+00	0.0000E+00
WATERFOWL	4.90E+10		4.8913E+02	12.4 CI		3.6608E+01	4.6394E+02	2.2243E+13	4.8913E+02	6.0653E+03	2.9720E+14
WILD PIGS	1.08E+10		4.8913E+02	15.5 CI		3.6608E+01	5.6742E+02	6.1262E+12	4.8913E+02	7.5816E+03	8.1881E+13
TOTAL WILDLIFE			4.8913E+02		C	3.6608E+01		**2.8480SE+13**	4.8913E+02		**3.8055E+14**
DOMESTIC ANIMALS			4.8913E+02		C	3.6608E+01			4.8913E+02		
DOGS	5.00E+09	4.6389E+03	4.8913E+02	0.58*HH	F	3.6608E+01	2.4782E+02	1.2391E+12	4.8913E+02	4.0142E+03	2.0071E+13
CATS	5.00E+09	5.2707E+03	4.8913E+02	0.66*HH	F	3.6608E+01	2.8200E+02	1.4100E+12	4.8913E+02	4.5679E+03	2.2839E+13
HORSES AND PONIES PETS	4.20E+08	3.3980E+02	4.8913E+02	0.05*HH	F	3.6608E+01	2.1364E+01	8.9729E+09	4.8913E+02	3.4605E+02	1.4534E+11
TOTAL DOMESTIC			4.8913E+02			3.6608E+01		**2.6581E+12**	4.8913E+02		**4.3056E+13**
SEPTIC, HUMAN IMPACTS			4.8913E+02			3.6608E+01			4.8913E+02		
HUMAN	2.00E+09		4.8913E+02			3.6608E+01			4.8913E+02		0.0000E+00
SEWER LINE LEAKS	6.89E+09		4.8913E+02			3.6608E+01		2.0225E+10	4.8913E+02		4.5710E+11
HOUSEBOATS-NONMARINA	2.00E+09		4.8913E+02		C	3.6608E+01			4.8913E+02		0.0000E+00
BOATS MARINA SLIPS	2.00E+08		4.8913E+02			3.6608E+01			4.8913E+02		0.0000E+00
SEPTIC TANKS FAILED	6.89E+09		4.8913E+02			3.6608E+01	2.5645E+01	1.7667E+11	4.8913E+02	4.1540E+02	2.8617E+12
SEPTIC TANKS NORMAL			4.8913E+02			3.6608E+01			4.8913E+02		0.0000E+00
SEPTIC TANKS -ATU	2.76E+05		4.8913E+02		H	3.6608E+01			4.8913E+02		0.0000E+00
TOTAL SEPTIC			4.8913E+02			3.6608E+01		**2.0490E+11**	4.8913E+02		**3.3189E+12**
AQUACULTURE			4.8913E+02			3.6608E+01	0.0000E+00		4.8913E+02		
FISH FARMS			4.8913E+02			3.6608E+01	0.0000E+00		4.8913E+02		0.0000E+00
OYSTER HOUSES			4.8913E+02			3.6608E+01	0.0000E+00		4.8913E+02		0.0000E+00
TOTAL AQUACULTURE			4.8913E+02			3.6608E+01	0.0000E+00		4.8913E+02		0.0000E+00
TOTAL			4.8913E+02			3.6608E+01	0.0000E+00	**2.9096E+14**	4.8913E+02		**6.6927E+15**

TABLE 4.4

CHOCTAWHATCHEE RIVER WBID 49F FLOWS TO CHOCTAWHATCHEE RIVER WBID 49 AND 261

AVERAGE DAILY LOADING OF FECAL COLIFORM FROM

LAND USE LEVEL1		ALABAMA			WBIDS WEST OF 49F			WBIDS EAST OF 49F		
		TOTAL SQMI	%		TOTAL SQMI	%		TOTAL SQMI	%	
1000	URBAN AND BUI	2.0620E+01	6.6101E-01		1.4360E+00	2.1652E+00		4.6808E+00	2.8997E+00	
2000	AGRICULTURE	9.8009E+02	3.1419E+01		1.7041E+01	2.5695E+01		4.9817E+01	3.0861E+01	
3000	RANGELAND	1.1153E+01	3.5752E-01		2.8052E+00	4.2296E+00		3.0347E+00	1.8800E+00	
4000	UPLAND FORES	1.7726E+03	5.6826E+01		3.6894E+01	5.5778E+01		7.1001E+01	4.3984E+01	
5000	WATER	1.7666E+01	5.6632E-01		1.3144E+00	1.9818E+00		1.7271E+00	1.0699E+00	
6000	WETLANDS	1.9770E+02	6.3376E+00		6.6762E+00	1.0066E+01		3.0964E+01	1.9182E+01	
7000	BARREN LAND	1.0678E+02	3.4231E+00		0.0000E+00	0.0000E+00		1.5000E-02	9.2924E-03	
8000	TRANSPORTATIC	1.2776E+01	4.0955E-01		5.5800E-02	8.4134E-02		1.8430E-01	1.1417E-01	
	TOTAL LAND	3.1018E+03	9.9434E+01		6.5008E+01	9.8018E+01		1.5970E+02	9.8930E+01	
	TOTAL LAND+W	3.1194E+03	1.0000E+02		6.6323E+01	1.0000E+02		1.6142E+02	1.0000E+02	
	TOTAL CENSUS 2000									
	URBAN RATIO W	1.2990E+00			9.0463E-02			2.9487E-01		
	AGRICULTURE R	8.1402E+00			1.4154E-01			4.1375E-01		
	NATURAL RATIO	6.3881E+00			1.3700E-01			3.3393E-01		
	TOTAL SEPTIC T	1.0792E+04			7.5157E+02			2.4498E+03		
	TOTAL REPAIRS	6.1052E+02			4.2518E+01			1.3859E+02		
	TOTAL FAILURES	5.3959E+02			3.7578E+01			1.2249E+02		
	TOTAL 2000 HOU	8.9902E+03			6.2609E+02			2.0408E+03		
	TOTAL HOUSEBOATS									
	TOTAL 1990 PUB	1.6900E+03			1.1769E+02			3.8363E+02		
	TOTAL 1990 SEP	6.9482E+03			4.8389E+02			1.5773E+03		
	TOTAL 1990 OTH	1.7536E+02			1.2212E+01			3.9808E+01		
	TOTAL 2000 POP	2.4114E+04			1.6794E+03			5.4740E+03		

LIVESTOCK, WILDLIFE, AND DOMESTIC ANIMALS	ALABAMA				WBIDS WEST OF 49F				WBIDS EAST OF 49F			
ANIMAL TYPE	FC PRODUCED LFC CTS/ANIMAL/DA	DA3 SQMI	NDA3 N	LFC3 CTS/DAY	DA3 SQMI	NDA3 N	LFC3 CTS/DAY		DA3 SQMI	NDA3 N	LFC3 CTS/DAY	
		3.1194E+03			6.6323E+01				1.6142E+02			
LIVESTOCK												
CATTLE AND CALVES INVENTORY	1.04E+11	3.1194E+03	1.5969E+05	1.6608E+16	6.6323E+01	2.7767E+03	2.8878E+14		1.6142E+02	8.1170E+03	8.4417E+14	
CATTLE AND CALVES SOLD	1.04E+11	3.1194E+03	7.8309E+04	8.1441E+15	6.6323E+01	1.3616E+03	1.4161E+14		1.6142E+02	3.9603E+03	4.1395E+14	
DAIRY CATTLE INVENTORY	1.01E+11	3.1194E+03	1.0786E+04	1.0872E+15	6.6323E+01	1.8754E+02	1.8904E+13		1.6142E+02	5.4822E+02	5.5261E+13	
BEEF CATTLE INVENTORY	1.04E+11	3.1194E+03	7.6086E+04	7.9130E+15	6.6323E+01	1.3230E+03	1.3759E+14		1.6142E+02	3.8674E+03	4.0221E+14	
SHEEP AND LAMBS INVENTORY	1.20E+10	3.1194E+03	6.9192E+02	8.3030E+12	6.6323E+01	1.2031E+01	1.4437E+11		1.6142E+02	3.5169E+01	4.2203E+11	
SHEEP AND LAMBS SOLD	1.20E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
HORSES AND PONIES INVENTOR	4.20E+08	3.1194E+03	9.4508E+03	3.9693E+12	6.6323E+01	1.6433E+02	6.9017E+10		1.6142E+02	4.8037E+02	2.0175E+11	
HORSES AND PONIES SOLD	4.20E+08	3.1194E+03	1.0826E+03	4.5471E+11	6.6323E+01	1.8825E+01	7.9063E+09		1.6142E+02	5.5029E+01	2.3112E+10	
MULES, BURROS, AND DONKEYS	4.20E+08	3.1194E+03	1.3024E+02	5.4702E+10	6.6323E+01	2.2646E+00	9.5114E+08		1.6142E+02	6.6201E+00	2.7804E+09	
MULES, BURROS, AND DONKEYS	4.20E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
LLAMAS (~SHEEP)	1.20E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
BISON (~BEEF CATTLE)	1.04E+11	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
DEER	5.00E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
ELK	5.00E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
GOATS, ALL (~SHEEP) INVENTOR	1.20E+10	3.1194E+03	5.2686E+03	6.3103E+13	6.6323E+01	9.1434E+01	1.0972E+12		1.6142E+02	2.6729E+02	3.2074E+12	
GOATS, ALL (~SHEEP) SOLD	1.20E+10	3.1194E+03	2.4502E+03	2.9402E+13	6.6323E+01	4.2603E+01	5.1124E+11		1.6142E+02	1.2454E+02	1.4945E+12	
HOGS AND PIGS INVENTORY	1.08E+10	3.1194E+03	2.4909E+03	2.6902E+13	6.6323E+01	4.3311E+01	4.6776E+11		1.6142E+02	1.2661E+02	1.3674E+12	
HOGS AND PIGS SOLD	1.08E+10	3.1194E+03	8.6472E+03	9.2310E+13	6.6323E+01	1.4862E+02	1.6060E+12		1.6142E+02	4.3444E+02	4.6920E+12	
LAYER CHICKENS INVENTORY	1.40E+08	3.1194E+03	4.0493E+05	5.6691E+13	6.6323E+01	7.0408E+03	9.8572E+11		1.6142E+02	2.0582E+04	2.8815E+12	
LAYER CHICKENS SOLD	1.40E+08	3.1194E+03	2.1870E+05	3.0618E+13	6.6323E+01	3.8027E+03	5.3238E+11		1.6142E+02	1.1116E+04	1.5563E+12	
BROILERS INVENTORY	1.40E+08	3.1194E+03	2.0214E+07	2.8300E+15	6.6323E+01	3.5148E+05	4.9207E+13		1.6142E+02	1.0275E+06	1.4385E+14	
BROILERS SOLD	1.40E+08	3.1194E+03	1.0072E+08	1.4102E+16	6.6323E+01	1.7512E+06	2.4517E+14		1.6142E+02	5.1193E+06	7.1670E+14	
TURKEYS INVENTORY	9.50E+07	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
TURKEYS SOLD	9.50E+07	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
DUCKS INVENTORY	2.50E+09	3.1194E+03	4.3143E+02	1.0786E+12	6.6323E+01	7.5015E+00	1.8754E+10		1.6142E+02	2.1929E+01	5.4822E+10	
DUCKS SOLD	2.50E+09	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
GEESE INVENTORY	4.90E+10	3.1194E+03	1.7908E+02	8.7751E+12	6.6323E+01	3.1138E+00	1.5258E+11		1.6142E+02	9.1026E+00	4.4603E+11	
GEESE SOLD	4.90E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
EMUS (~GEESE)	4.90E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
OSTRICHES (~GEESE)	4.90E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
PHEASANTS (~GEESE) INVENTOR	4.90E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
PHEASANTS (~GEESE) SOLD	4.90E+10	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
PIGEONS OR SQUAB INVENTORY	1.60E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
PIGEONS OR SQUAB SOLD	1.60E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
QUAIL (~PIGEON)	1.60E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
OTHER		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
RABBITS INVENTORY		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
RABBITS SOLD		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
TOTAL LIVESTOCK		3.1194E+03	0.0000E+00	**5.1005E+16**	6.6323E+01	0.0000E+00	**8.8685E+14**		1.6142E+02	0.0000E+00	**2.5925E+15**	
WILDLIFE		3.1194E+03			6.6323E+01				1.6142E+02			
ALLIGATORS		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
BLACK BEARS		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
RACCOONS	1.25E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
BEAVERS	2.60E+08	3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
DEER	5.00E+08	3.1194E+03	1.8717E+04	9.3583E+12	6.6323E+01	3.9794E+02	1.9897E+11		1.6142E+02	9.6854E+02	4.8427E+11	
DOLPHIN, PORPOISE,MANATEE		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
WATERFOWL	4.90E+10	3.1194E+03	3.8681E+04	1.8954E+15	6.6323E+01	8.2240E+02	4.0298E+13		1.6142E+02	2.0016E+03	9.8081E+13	
WILD PIGS	1.08E+10	3.1194E+03	4.8351E+04	5.2219E+14	6.6323E+01	1.0280E+03	1.1102E+13		1.6142E+02	2.5021E+03	2.7022E+13	
TOTAL WILDLIFE		3.1194E+03		**2.4269E+15**	6.6323E+01		**5.1599E+13**		1.6142E+02		**1.2559E+14**	
DOMESTIC ANIMALS		3.1194E+03			6.6323E+01				1.6142E+02			
DOGS	5.00E+09	3.1194E+03	5.2143E+03	2.6072E+13	6.6323E+01	3.6313E+02	1.8157E+12		1.6142E+02	1.1837E+03	5.9184E+12	
CATS	5.00E+09	3.1194E+03	5.9335E+03	2.9668E+13	6.6323E+01	4.1322E+02	2.0661E+12		1.6142E+02	1.3469E+03	6.7347E+12	
HORSES AND PONIES-PETS	4.20E+08	3.1194E+03	4.4961E+02	1.8879E+11	6.6323E+01	3.1305E+01	1.3148E+10		1.6142E+02	1.0204E+02	4.2857E+10	
TOTAL DOMESTIC		3.1194E+03		**5.5928E+13**	6.6323E+01		**3.8949E+12**		1.6142E+02		**1.2696E+13**	
SEPTIC- HUMAN IMPACTS		3.1194E+03			6.6323E+01				1.6142E+02			
HUMAN	2.00E+09	3.1194E+03		0.0000E+00	6.6323E+01		0.0000E+00		1.6142E+02		0.0000E+00	
SEWER LINE LEAKS	6.89E+09	3.1194E+03		5.9386E+11	6.6323E+01		4.1368E+10		1.6142E+02		1.3481E+11	
HOUSEBOATS-NONMARINA	2.00E+09	3.1194E+03		0.0000E+00	6.6323E+01		0.0000E+00		1.6142E+02		0.0000E+00	
BOATS-MARINA SLIPS	2.00E+09	3.1194E+03		0.0000E+00	6.6323E+01		0.0000E+00		1.6142E+02		0.0000E+00	
SEPTIC TANKS FAILED	6.89E+09	3.1194E+03	5.3959E+02	3.7173E+12	6.6323E+01	3.7578E+01	2.5888E+11		1.6142E+02	1.2249E+02	8.4384E+11	
SEPTIC TANKS NORMAL		3.1194E+03		0.0000E+00	6.6323E+01		0.0000E+00		1.6142E+02		0.0000E+00	
SEPTIC TANKS -ATU	2.76E+08	3.1194E+03		0.0000E+00	6.6323E+01		0.0000E+00		1.6142E+02		0.0000E+00	
TOTAL SEPTIC		3.1194E+03		**4.3111E+12**	6.6323E+01		**3.0023E+11**		1.6142E+02		**9.7865E+11**	
AQUACULTURE		3.1194E+03	0.0000E+00		6.6323E+01	0.0000E+00			1.6142E+02	0.0000E+00		
FISH FARMS		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
OYSTER HOUSES		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
TOTAL AQUACULTURE		3.1194E+03	0.0000E+00	0.0000E+00	6.6323E+01	0.0000E+00	0.0000E+00		1.6142E+02	0.0000E+00	0.0000E+00	
TOTAL		3.1194E+03	0.0000E+00	**5.3492E+16**	6.6323E+01	0.0000E+00	**9.4264E+14**		1.6142E+02	0.0000E+00	**2.7317E+15**	

REFERENCES

A	USDA 2002 CENSUS, NOTE A-D INDICATES CONFIDENTIAL DATA NOT AVAILABLE AT
B	ASSUME 1 ANIMAL PER HOUSEHOLD* 7180 HOUSING UNITS=7180
C	EPA, 2001. PROTOCOL FOR DEVELOPING PATHOGEN TMDLS EPA 841-R-00-002
D	ASAE, 1998. HTTP://ASAE.ORG
E	ESTIMATED FROM SIMILAR ANIMALS
F	WWW.AVMA.ORG VETERINARY STATISTICS 2002 US PET OWNERSHIP- DOGS=0.58*HOUSEHOLDS, CATS=0.66*HH, HORSES=0.05*HH
G	SPEAS, 2004. RANGE OF 500 CFU-1900 CFU/100 ML OR 96% REMOVAL, USE ONE ATU=0.04*6.89E09 CFU/DAY
H	WWW.EPA.GOV/REGION1/ASSISTANCE/CEITTS/WASTEWATER/TECHS/DELTA.HTML
I	SHIELDS, 2001. ANNUAL REEVALUATION OF APALACHICOLA BAY HARVESTING AREA #16

Appendix C: Summary of Permitted Point Source Loads and Decay Rates

The major permitted point sources in the Alabama and Florida portion of the Choctawhatchee River Basin have been summarized in a spreadsheet. The maximum design flow and location were tabulated for each facility from PCS permit data and the Choctawhatchee-St. Andrews Basin Status Report. A maximum daily permit limit of fecal coliform (cfu/100ml) was assigned to each facility. The max loads in cfu/day were then computed at the outfall locations.

River mile locations on the main river and tributaries were assigned based on COE published river miles (COE, 1985), data provided by Alabama (Shirley, 2005), or derived from maps as needed. The total distance from each facility to the mouths of each tributary and the Choctawhatchee River was calculated.

The travel time from each facility to the Choctawhatchee River at the Florida-Alabama state line was computed from the average velocity function of the Choctawhatchee River at Caryville for various flow conditions. A logarithmic velocity-flow correlation

$V = \alpha Q^{\beta}$ where $\text{Ln}(V) = \text{Ln}\,\alpha + \beta\,(\text{Ln}(Q))$ and V =fps , Q= cfs.

was established from historical USGS records (USGS, 2004), then the velocity was computed for the Q10th%tile (high flow), Q50th%tile, and Q90th%tile (low flow) at the USGS gage Choctawhatchee River near Caryville (02365500). Q10th% is the flow that is exceeded 10 % of the time.

The decay rate K_b or Kb (1/day) of fecal coliform is defined in several literature sources (Chapra, 1997), (EPA, 2001) as:

$Kb = (0.8 + 0.02 * S) * (1.07 **(T-20)) + (\alpha * I0)/(Ke/H)*(1-\exp(-Ke*H))+ Fp* (Vs/H)$

where S=salinity (ppt), T =temperature (°C), α= constant, I0= surface light energy (ly/hr), Ke=light extinction coefficient (1/m), H=depth of water (m), Fp=fraction of bacteria attached to suspended solids, and Vs=solids settling velocity (m/day).

This shows that bacterial decay is a function of the salinity, temperature, light, depth, suspended solids, and settling rate. Given that seawater has a salinity S of 30-35 ppt, the base rate for freshwater decay of 0.8 /day is increased to 1.4 /day. Consequently, it can be seen that increased light and settling will increase water column decay rates. However, bacteria in sediments not exposed to light may remain for some time. Recent published reports (Fujioka, 2004) state that “Fecal indicator bacteria (fecal coliforms, E. coli, enterococci) can multiply and persist in soil, sediment, and water in some tropical/subtropical environments (Hawaii, Guam, Puerto Rico, south Florida)”.

The loss function exp (-Kb* T) was then computed for each facility to compute the fecal load delivered to the Choctawhatchee River at the Florida-Alabama state line.

CHOCTAWHATCHEE RIVER STPS FECAL COLIFORM DECAY						CONV
						FACTOR
TRAVEL TIME AND DECAY FOR INDIVIDUAL STPS IN THE BASIN						24465900
STP	FACILITY	DISCHARGE	QDESIGN	QDESIGN	CFC	LOAD FC
	ID	TYPE			AT OUTFALL	AT OUTFALL
					DAILY MAX	DAILY MAX
			MGD	CFS	N/100ML	CFU/DAY
UNION SPRINGS UTILITIES BOARD *	AL0060445	SURFACE	1.5	2.320845	No Limit	
TROY CITY OF WALNUT CREEK WWTP	AL0032310	SURFACE	5.2	8.045596	3000	5.9053E+11
ENTERPRISE NORTHEAST LAGOON	AL0020061	SURFACE	1.1	1.701953	2000	8.3280E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	SURFACE	1.1	1.701953	2000	8.3280E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	SURFACE	2.1	3.249183	2000	1.5899E+11
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	SURFACE	1.5	2.320845	2300	1.3060E+11
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	SURFACE	7	7.73615	2000	3.7854E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	SURFACE	6	9.28338	2300	5.2239E+11
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	SURFACE	1.215	1.8798845	2000	9.1986E+10
UNION SPRINGS UTILITIES BOARD *	AL0060445	SURFACE	1.5	2.320845	No Limit	
TROY CITY OF WALNUT CREEK WWTP	AL0032310	SURFACE	5.2	8.045596	3000	5.9053E+11
ENTERPRISE NORTHEAST LAGOON	AL0020061	SURFACE	1.1	1.701953	2000	8.3280E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	SURFACE	1.1	1.701953	2000	8.3280E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	SURFACE	2.1	3.249183	2000	1.5899E+11
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	SURFACE	1.5	2.320845	2300	1.3060E+11
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	SURFACE	7	7.73615	2000	3.7854E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	SURFACE	6	9.28338	2300	5.2239E+11
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	SURFACE	1.215	1.8798845	2000	9.1986E+10
UNION SPRINGS UTILITIES BOARD *	AL0060445	SURFACE	1.5	2.320845	No Limit	
TROY CITY OF WALNUT CREEK WWTP	AL0032310	SURFACE	5.2	8.045596	3000	5.9053E+11
ENTERPRISE NORTHEAST LAGOON	AL0020061	SURFACE	1.1	1.701953	2000	8.3280E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	SURFACE	1.1	1.701953	2000	8.3280E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	SURFACE	2.1	3.249183	2000	1.5899E+11
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	SURFACE	1.5	2.320845	2300	1.3060E+11
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	SURFACE	7	7.73615	2000	3.7854E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	SURFACE	6	9.28338	2300	5.2239E+11
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	SURFACE	1.215	1.8798845	2000	9.1986E+10

CHOCTAWHATCHEE RIVER STPS FECAL COLIFORM DECAY						
TRAVEL TIME AND DECAY FOR INDIVIDUAL STPS IN THE BASIN						
STP	FACILITY ID	XMTRIB1	XMTRIB2	XMTRIB3	XMTRIB4	XMRIVER CHOCTAW UPS FL LINE
		MI	MI	MI	MI	MI
UNION SPRINGS UTILITIES BOARD *	AL0060445					
TROY CITY OF WALNUT CREEK WWTP	AL0032310	6.5	22.81	5.23	61.17	4.45
ENTERPRISE NORTHEAST LAGOON	AL0020061			4.8	14.63	25.59
ENTERPRISE SOUTHEAST LAGOON	AL0020044		0.25	3.2	13.11	25.59
OZARK CITY OF SOUTHSIDE WWTP	AL0056324			0.44	13.75	44.74
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036			2.39	28.81	4.95
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465				13.75	35.25
DOTHAN CITY OF BEAVER CREEK	AL0022756		2.13	2.2	14.11	35.25
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273				2.67	4.45
UNION SPRINGS UTILITIES BOARD *	AL0060445					
TROY CITY OF WALNUT CREEK WWTP	AL0032310	6.5	22.81	5.23	61.17	4.45
ENTERPRISE NORTHEAST LAGOON	AL0020061			4.8	14.63	25.59
ENTERPRISE SOUTHEAST LAGOON	AL0020044		0.25	3.2	13.11	25.59
OZARK CITY OF SOUTHSIDE WWTP	AL0056324			0.44	13.75	44.74
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036			2.39	28.81	4.95
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465				13.75	35.25
DOTHAN CITY OF BEAVER CREEK	AL0022756		2.13	2.2	14.11	35.25
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273				2.67	4.45
UNION SPRINGS UTILITIES BOARD *	AL0060445					
TROY CITY OF WALNUT CREEK WWTP	AL0032310	6.5	22.81	5.23	61.17	4.45
ENTERPRISE NORTHEAST LAGOON	AL0020061			4.8	14.63	25.59
ENTERPRISE SOUTHEAST LAGOON	AL0020044		0.25	3.2	13.11	25.59
OZARK CITY OF SOUTHSIDE WWTP	AL0056324			0.44	13.75	44.74
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036			2.39	28.81	4.95
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465				13.75	35.25
DOTHAN CITY OF BEAVER CREEK	AL0022756		2.13	2.2	14.11	35.25
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273				2.67	4.45

CHOCTAWHATCHEE RIVER STPS FECAL COLIFORM DECAY				ALPHA1	CONV	
				0.043283	FACTOR	

TRAVEL TIME AND DECAY FOR INDIVIDUAL STPS IN THE BASIN				BETA1	16.3634	
				0.3941		
STP	FACILITY	XMTOT	QRIVER	VRIVER	VRIVER	T
	ID		2365500			
		UPS FL LINE				
		MI	CFS	FPS	MI/DAY	DAYS
			10%EXC.			
UNION SPRINGS UTILITIES BOARD *	AL0060445	0	9390	1.5920E+00	2.6051E+01	0.0000E+00
TROY CITY OF WALNUT CREEK WWTP	AL0032310	100.16	9390	1.5920E+00	2.6051E+01	3.8448E+00
ENTERPRISE NORTHEAST LAGOON	AL0020061	45.02	9390	1.5920E+00	2.6051E+01	1.7282E+00
ENTERPRISE SOUTHEAST LAGOON	AL0020044	42.15	9390	1.5920E+00	2.6051E+01	1.6180E+00
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	58.93	9390	1.5920E+00	2.6051E+01	2.2621E+00
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	36.15	9390	1.5920E+00	2.6051E+01	1.3877E+00
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	49	9390	1.5920E+00	2.6051E+01	1.8810E+00
DOTHAN CITY OF BEAVER CREEK	AL0022756	53.69	9390	1.5920E+00	2.6051E+01	2.0610E+00
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	7.12	9390	1.5920E+00	2.6051E+01	2.7331E-01
			50%EXC.			
UNION SPRINGS UTILITIES BOARD *	AL0060445	0	2400	9.2995E-01	1.5217E+01	0.0000E+00
TROY CITY OF WALNUT CREEK WWTP	AL0032310	100.16	2400	9.2995E-01	1.5217E+01	6.5821E+00
ENTERPRISE NORTHEAST LAGOON	AL0020061	45.02	2400	9.2995E-01	1.5217E+01	2.9585E+00
ENTERPRISE SOUTHEAST LAGOON	AL0020044	42.15	2400	9.2995E-01	1.5217E+01	2.7699E+00
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	58.93	2400	9.2995E-01	1.5217E+01	3.8726E+00
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	36.15	2400	9.2995E-01	1.5217E+01	2.3756E+00
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	49	2400	9.2995E-01	1.5217E+01	3.2201E+00
DOTHAN CITY OF BEAVER CREEK	AL0022756	53.69	2400	9.2995E-01	1.5217E+01	3.5283E+00
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	7.12	2400	9.2995E-01	1.5217E+01	4.6789E-01
			90%EXC.			
UNION SPRINGS UTILITIES BOARD *	AL0060445	0	736	5.8365E-01	9.5505E+00	0.0000E+00
TROY CITY OF WALNUT CREEK WWTP	AL0032310	100.16	736	5.8365E-01	9.5505E+00	1.0487E+01
ENTERPRISE NORTHEAST LAGOON	AL0020061	45.02	736	5.8365E-01	9.5505E+00	4.7139E+00
ENTERPRISE SOUTHEAST LAGOON	AL0020044	42.15	736	5.8365E-01	9.5505E+00	4.4134E+00
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	58.93	736	5.8365E-01	9.5505E+00	6.1703E+00
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	36.15	736	5.8365E-01	9.5505E+00	3.7851E+00
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	49	736	5.8365E-01	9.5505E+00	5.1306E+00
DOTHAN CITY OF BEAVER CREEK	AL0022756	53.69	736	5.8365E-01	9.5505E+00	5.6217E+00
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	7.12	736	5.8365E-01	9.5505E+00	7.4551E-01

CHOCTAWHATCHEE RIVER STPS FECAL COLIFORM DECAY					CONVERSION
					FACTOR
TRAVEL TIME AND DECAY FOR INDIVIDUAL STPS IN THE BASIN					24465900

STP	FACILITY ID	K TEMP= 20 DEGC 1/DAY	EXP(-K*T)	CFC AT FL-AL LINE CHOCTAW R. N/100ML	LOAD FC AT FL-AL LINE CHOCTAW R. CFU/DAY
UNION SPRINGS UTILITIES BOARD *	AL0060445	0.5	1		
TROY CITY OF WALNUT CREEK WWTP	AL0032310	0.5	0.146254135	4.3876E+02	8.6367E+10
ENTERPRISE NORTHEAST LAGOON	AL0020061	0.5	0.421436473	8.4287E+02	3.5097E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	0.5	0.445302607	8.9061E+02	3.7085E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	0.5	0.322689014	6.4538E+02	5.1304E+10
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	0.5	0.499653262	1.1492E+03	6.5254E+10
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	0.5	0.390441978	7.8088E+02	2.0692E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	0.5	0.356831041	8.2071E+02	1.8641E+11
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	0.5	0.872269444	1.7445E+03	8.0237E+10
UNION SPRINGS UTILITIES BOARD *	AL0060445	0.5	1		
TROY CITY OF WALNUT CREEK WWTP	AL0032310	0.5	0.037215405	1.1165E+02	2.1977E+10
ENTERPRISE NORTHEAST LAGOON	AL0020061	0.5	0.227807111	4.5561E+02	1.8972E+10
ENTERPRISE SOUTHEAST LAGOON	AL0020044	0.5	0.250335249	5.0067E+02	2.0848E+10
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	0.5	0.144235579	2.8847E+02	2.2932E+10
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	0.5	0.304888925	7.0124E+02	3.9818E+10
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	0.5	0.199881644	3.9976E+02	1.0593E+11
DOTHAN CITY OF BEAVER CREEK	AL0022756	0.5	0.171335317	3.9407E+02	8.9504E+10
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	0.5	0.791403603	1.5828E+03	7.2798E+10
UNION SPRINGS UTILITIES BOARD *	AL0060445	0.5	1		
TROY CITY OF WALNUT CREEK WWTP	AL0032310	0.5	0.005280744	1.5842E+01	3.1184E+09
ENTERPRISE NORTHEAST LAGOON	AL0020061	0.5	0.094709838	1.8942E+02	7.8874E+09
ENTERPRISE SOUTHEAST LAGOON	AL0020044	0.5	0.110065026	2.2013E+02	9.1662E+09
OZARK CITY OF SOUTHSIDE WWTP	AL0056324	0.5	0.045722294	9.1445E+01	7.2693E+09
ENTERPRISE WWTP 2 COLLEGE ST.	AL0020036	0.5	0.150684771	3.4657E+02	1.9679E+10
DOTHAN CITY OF CHOCTAWHATCHEE	AL0047465	0.5	0.076895893	1.5379E+02	4.0752E+10
DOTHAN CITY OF BEAVER CREEK	AL0022756	0.5	0.060154506	1.3836E+02	3.1424E+10
GENEVA WWSB SEWAGE TREATMENT PLANT	AL0020273	0.5	0.688834525	1.3777E+03	6.3363E+10

* Union Springs Utilities Board is now a reuse facility.

Appendix D: Summary of Measured External Loads and Decay Rates

A logarithmic velocity-flow correlation

$V = \alpha Q^{\beta}$ where $Ln(V) = Ln\,\alpha + \beta\,(Ln(Q))$ and V =fps , Q= cfs.

was established from historical USGS records (USGS, 2005), then the velocity was computed for the Q10th%tile (high flow), Q50th%tile, and Q90th%tile (low flow) at the USGS gage Choctawhatchee River at Caryville (02365500). Q10th% is the flow that is exceeded 10 % of the time. The travel velocity calculations focused primarily on the Q50th%tile flow.

The decay rate K_b or Kb (1/day) of fecal coliform is defined in several literature sources (Chapra, 1997), (EPA, 2001) as:

Kb = (0.8 + 0.02 * S) * (1.07 **(T-20)) + (α*I0)/(Ke/H)*(1-exp(-Ke*H))+ Fp* (Vs/H)

where S=salinity (ppt), T =temperature (°C), α= constant, I0= surface light energy (ly/hr), Ke=light extinction coefficient (1/m), H=depth of water (m), Fp=fraction of bacteria attached to suspended solids, and Vs=solids settling velocity (m/day).

This shows that bacterial decay is a function of the salinity, temperature, light, depth, suspended solids, and settling rate. Given that seawater has a salinity S of 30-35 ppt, the base rate for freshwater decay of 0.8 /day is increased to 1.4 /day. Consequently, it can be seen that increased light and settling will increase water column decay rates. However, bacteria in sediments not exposed to light may remain for some time. Recent published reports (Fujioka, 2004) state that “Fecal indicator bacteria (fecal coiforms, E. coli, enterococci) can multiply and persist in soil, sediment, and water in some tropical/subtropical environments (Hawaii, Guam, Puerto Rico, south Florida)”.

An estimate of fecal coliform decay in the Choctawhatchee River from Alabama SR 52 (RM=) to Florida SR 20 (RM=) was made for the FDEP survey of 4/04/2005.

FC (XRM) = FC (XRM =) EXP(-KB* XRM)

The results are plotted below assuming no additional flow or coliform loading.

Appendix E: Summary of Effluent Data

Active Florida Facilities Summary

Facility Name	Facility ID	Outfall Indicator	Date	WWTP Monthly Average Flow (mgd)	FC Daily Max (cts / 100mL)	Associated Limit (cts / 100mL)
Bonifay STP	FL0027731	001-1	07/31/91	0.7458	70	800
Bonifay STP	FL0027731	001-1	08/31/91	0.6390	<2	800
Bonifay STP	FL0027731	001-1	09/30/91	0.5502	4	800
Bonifay STP	FL0027731	001-1	10/31/91	0.4492	17	800
Bonifay STP	FL0027731	001-1	12/31/91		2	800
Bonifay STP	FL0027731	001-1	01/31/92		23	800
Bonifay STP	FL0027731	001-1	02/29/92		79	800
Bonifay STP	FL0027731	001-1	03/31/92		7	800
Bonifay STP	FL0027731	001-1	04/30/92	0.5626	11	800
Bonifay STP	FL0027731	001-1	05/31/92	0.4692	79	800
Bonifay STP	FL0027731	001-1	06/30/92	0.8920	8	800
Bonifay STP	FL0027731	001-1	07/31/92	0.7194	540	800
Bonifay STP	FL0027731	001-1	08/31/92	0.8741	23	800
Bonifay STP	FL0027731	001-1	09/30/92	0.8644	23	800
Bonifay STP	FL0027731	001-1	10/31/92	0.6066	17	800
Bonifay STP	FL0027731	001-1	11/30/92	0.8998	70	800
Bonifay STP	FL0027731	001-1	12/31/92	0.7791	49	800
Bonifay STP	FL0027731	001-1	01/31/93	1.0682	2	800
Bonifay STP	FL0027731	001-1	02/28/93	0.8347	49	800
Bonifay STP	FL0027731	001-1	03/31/93	1.0875	8	800
Bonifay STP	FL0027731	001-1	04/30/93	0.7481	49	800
Bonifay STP	FL0027731	001-1	05/31/93	0.5207	11	800
Bonifay STP	FL0027731	001-1	06/30/93	0.4867	8	800
Bonifay STP	FL0027731	001-1	07/31/93	0.5540	22	800
Bonifay STP	FL0027731	001-1	08/31/93	0.5830	4	800
Bonifay STP	FL0027731	001-1	09/30/93	0.6149	8	800
Bonifay STP	FL0027731	001-1	10/31/93	0.4936	<2	800
Bonifay STP	FL0027731	001-1	11/30/93	0.5740	46	800
Bonifay STP	FL0027731	001-1	12/31/93	0.6457	4	800
Bonifay STP	FL0027731	001-1	01/31/94	0.7521	33	800
Bonifay STP	FL0027731	001-1	02/28/94	0.9116	8	800
Bonifay STP	FL0027731	001-1	03/31/94	0.9370	27	800
Bonifay STP	FL0027731	001-1	04/30/94	0.8559	920	800
Bonifay STP	FL0027731	001-1	05/31/94	0.6442	540	800
Bonifay STP	FL0027731	001-1	06/30/94	0.9654	4	800
Bonifay STP	FL0027731	001-1	07/31/94	1.4503	<2	800
Bonifay STP	FL0027731	001-1	08/31/94	1.2236	170	800
Bonifay STP	FL0027731	001-1	09/30/94	0.9422	170	800
Bonifay STP	FL0027731	001-1	11/30/94	0.6515	24	800
Bonifay STP	FL0027731	001-1	12/31/94	0.7327	27	800
Bonifay STP	FL0027731	001-1	01/31/95	0.7693	82	800
Bonifay STP	FL0027731	001-1	02/28/95	0.8669	2	800
Bonifay STP	FL0027731	001-1	03/31/95	0.8225	>2400	800

Bonifay STP	FL0027731	001-1	04/30/95	0.8095	8	800
Bonifay STP	FL0027731	001-1	05/31/95	0.9019	<2	800
Bonifay STP	FL0027731	001-1	06/30/95	0.6524	170	800
Bonifay STP	FL0027731	001-1	07/31/95	0.6129	<2	800
Bonifay STP	FL0027731	001-1	08/31/95	0.6794	8	800
Bonifay STP	FL0027731	001-1	09/30/95	0.5464	<2	800
Bonifay STP	FL0027731	001-1	10/31/95	0.5489	79	800
Bonifay STP	FL0027731	001-1	11/30/95	0.5469	2	800
Bonifay STP	FL0027731	001-1	12/31/95	0.6294	4	800
Bonifay STP	FL0027731	001-1	01/31/96	6542.0000	1600	800
Bonifay STP	FL0027731	001-1	02/29/96	0.9543	2	800
Bonifay STP	FL0027731	001-1	03/31/96	1.1227	<2	800
Bonifay STP	FL0027731	001-1	04/30/96	0.9699	2	800
Bonifay STP	FL0027731	001-1	05/31/96	0.7798	13	800
Bonifay STP	FL0027731	001-1	06/30/96	0.6413	<2	800
Bonifay STP	FL0027731	001-1	07/31/96	0.6821	<2	800
Bonifay STP	FL0027731	001-1	08/31/96	0.6484	12	800
Bonifay STP	FL0027731	001-1	09/30/96	0.6965	<2	800
Bonifay STP	FL0027731	001-1	10/31/96	0.8646	2	800
Bonifay STP	FL0027731	001-1	11/30/96		17	800
Bonifay STP	FL0027731	001-1	12/31/96	0.7969	<2	800
Bonifay STP	FL0027731	001-1	01/31/97	0.9675	94	800
Bonifay STP	FL0027731	001-1	02/28/97	1.0759	170	800
Bonifay STP	FL0027731	001-1	03/31/97	0.8677	7	800
Bonifay STP	FL0027731	001-1	04/30/97	0.8630	<2	800
Bonifay STP	FL0027731	001-1	05/31/97	0.8993	2	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/89		<1	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/90		30	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/90		15	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/90		30	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/90		<1	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/91		40	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/91		<1	800

Chipley Water & Sewer System	FL0027570	001-1	03/31/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/91		5	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/91		15	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/91		10	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/91		27	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/91		<1	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/92		3	800
Chipley Water & Sewer System	FL0027570	001-1	02/29/92		49	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/92		49	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/92		350	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/92		2	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/92		79	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/92		8	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/92		63	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/92		94	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/92		4	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/92		79	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/92		170	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/93		2	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/93		27	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/93		79	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/93		49	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/93		180	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/93		220	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/93		1600	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/93		2	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/93		2	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/93		140	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/93		2	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/93		33	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/94		2	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/94		33	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/94		8	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/94		2	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/94		70	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/94		11	800
Chipley Water & Sewer System	FL0027570	001-1	07/31/94		4	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/94		170	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/94		13	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/94		8	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/94		2	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/94		<2	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/95	1.0360	170	800
Chipley Water & Sewer System	FL0027570	001-1	02/28/95	1.1560	2	800
Chipley Water & Sewer System	FL0027570	001-1	03/31/95	1.1650	2	800
Chipley Water & Sewer System	FL0027570	001-1	04/30/95	1.0850	8	800
Chipley Water & Sewer System	FL0027570	001-1	05/31/95	1.1550	23	800
Chipley Water & Sewer System	FL0027570	001-1	06/30/95	0.6200	2	800

Chipley Water & Sewer System	FL0027570	001-1	07/31/95	0.4980	22	800
Chipley Water & Sewer System	FL0027570	001-1	08/31/95	0.5320	23	800
Chipley Water & Sewer System	FL0027570	001-1	09/30/95	0.4510	2	800
Chipley Water & Sewer System	FL0027570	001-1	10/31/95	0.6150	2	800
Chipley Water & Sewer System	FL0027570	001-1	11/30/95	0.7260	<2400	800
Chipley Water & Sewer System	FL0027570	001-1	12/31/95	0.6900	<2	800
Chipley Water & Sewer System	FL0027570	001-1	01/31/96	0.7770	<2	800
Graceville WTP	FL0038555	001-1	03/31/90		4	800
Graceville WTP	FL0038555	001-1	04/30/90		2	800
Graceville WTP	FL0038555	001-1	05/31/90		4	800
Graceville WTP	FL0038555	001-1	06/30/90		2	800
Graceville WTP	FL0038555	001-1	07/31/90		2	800
Graceville WTP	FL0038555	001-1	08/31/90		1	800
Graceville WTP	FL0038555	001-1	09/30/90		1	800
Graceville WTP	FL0038555	001-1	10/31/90		1	800
Graceville WTP	FL0038555	001-1	11/30/90		<1	800
Graceville WTP	FL0038555	001-1	12/31/90		<1	800
Graceville WTP	FL0038555	001-1	01/31/91		1	800
Graceville WTP	FL0038555	001-1	02/28/91		2	800
Graceville WTP	FL0038555	001-1	03/31/91		7.5	800
Graceville WTP	FL0038555	001-1	04/30/91		15	800
Graceville WTP	FL0038555	001-1	05/31/91		<1	800
Graceville WTP	FL0038555	001-1	06/30/91		2	800
Graceville WTP	FL0038555	001-1	07/31/91		31	800
Graceville WTP	FL0038555	001-1	08/31/91		7	800
Graceville WTP	FL0038555	001-1	09/30/91		5.2	800
Graceville WTP	FL0038555	001-1	10/31/91		<2	800
Graceville WTP	FL0038555	001-1	11/30/91		<2	800
Graceville WTP	FL0038555	001-1	12/31/91		2	800
Graceville WTP	FL0038555	001-1	01/31/92		<2	800
Graceville WTP	FL0038555	001-1	02/29/92		<27.8	800
Graceville WTP	FL0038555	001-1	03/31/92		<13.2	800
Graceville WTP	FL0038555	001-1	04/30/92		<1.8	800
Graceville WTP	FL0038555	001-1	05/31/92		<1	800
Graceville WTP	FL0038555	001-1	06/30/92		<1	800
Graceville WTP	FL0038555	001-1	07/31/92		<1	800
Graceville WTP	FL0038555	001-1	08/31/92		1	800
Graceville WTP	FL0038555	001-1	09/30/92		<1	800
Graceville WTP	FL0038555	001-1	10/31/92		<1	800
Graceville WTP	FL0038555	001-1	11/30/92		1	800
Graceville WTP	FL0038555	001-1	12/31/92		<1	800
Graceville WTP	FL0038555	001-1	01/31/93		<1	800
Graceville WTP	FL0038555	001-1	02/28/93		1	800
Graceville WTP	FL0038555	001-1	03/31/93		1	800
Graceville WTP	FL0038555	001-1	04/30/93		20	800
Graceville WTP	FL0038555	001-1	05/31/93		20	800
Graceville WTP	FL0038555	001-1	06/30/93		10	800
Graceville WTP	FL0038555	001-1	07/31/93		10	800
Graceville WTP	FL0038555	001-1	08/31/93		10	800
Graceville WTP	FL0038555	001-1	09/30/93		10	800
Graceville WTP	FL0038555	001-1	10/31/93		>1	800
Graceville WTP	FL0038555	001-1	11/30/93		1	800

Graceville WTP	FL0038555	001-1	12/31/93		<1	800
Graceville WTP	FL0038555	001-1	01/31/94		<1	800
Graceville WTP	FL0038555	001-1	02/28/94		30	800
Graceville WTP	FL0038555	001-1	03/31/94		1	800
Graceville WTP	FL0038555	001-1	04/30/94		10	800
Graceville WTP	FL0038555	001-1	05/31/94		50	800
Graceville WTP	FL0038555	001-1	06/30/94		1	800
Graceville WTP	FL0038555	001-1	07/31/94		1	800
Graceville WTP	FL0038555	001-1	08/31/94		1	800
Graceville WTP	FL0038555	001-1	09/30/94		1	800
Graceville WTP	FL0038555	001-1	10/31/94		2	800
Graceville WTP	FL0038555	001-1	11/30/94		3	800
Graceville WTP	FL0038555	001-1	12/31/94		1	800
Graceville WTP	FL0038555	001-1	01/31/95		1	800
Graceville WTP	FL0038555	001-1	02/28/95		1	800
Graceville WTP	FL0038555	001-1	03/31/95		50	800
Graceville WTP	FL0038555	001-1	04/30/95		1	800
Graceville WTP	FL0038555	001-1	05/31/95		63	800
Graceville WTP	FL0038555	001-1	06/30/95		350	800
Graceville WTP	FL0038555	001-1	07/31/95		1	800
Graceville WTP	FL0038555	001-1	08/31/95		20	800
Graceville WTP	FL0038555	001-1	09/30/95		1	800
Graceville WTP	FL0038555	001-1	10/31/95		1	800
Graceville WTP	FL0038555	001-1	11/30/95		1	800
Graceville WTP	FL0038555	001-1	12/31/95		<1	800
Graceville WTP	FL0038555	001-1	01/31/96		10	800
Graceville WTP	FL0038555	001-1	02/29/96		40	800
Graceville WTP	FL0038555	001-1	03/31/96		80	800
Graceville WTP	FL0038555	001-1	04/30/96		50	800
Graceville WTP	FL0038555	001-1	05/31/96		30	800
Graceville WTP	FL0038555	001-1	06/30/96		1	800
Graceville WTP	FL0038555	001-1	07/31/96		90	800
Graceville WTP	FL0038555	001-1	08/31/96		10	800
Graceville WTP	FL0038555	001-1	09/30/96		20	800
Graceville WTP	FL0038555	001-1	10/31/96		40	800
Graceville WTP	FL0038555	001-1	11/30/96		1	800
Graceville WTP	FL0038555	001-1	12/31/96		14	800
Graceville WTP	FL0038555	001-1	01/31/97		5	800
Graceville WTP	FL0038555	001-1	02/28/97		30	800
Noma STP	FL0040207	001-1	01/31/93		0.2	800
Noma STP	FL0040207	001-1	02/28/93	0.0110	72	800
Noma STP	FL0040207	001-1	03/31/93	0.0250	72	800
Noma STP	FL0040207	001-1	04/30/93	0.0100	>2	800
Noma STP	FL0040207	001-1	05/31/93	0.0110	<2	800
Noma STP	FL0040207	001-1	06/30/93	0.0100	<2	800
Noma STP	FL0040207	001-1	07/31/93	0.0120	<2	800
Noma STP	FL0040207	001-1	08/31/93	0.0100	<2	800
Noma STP	FL0040207	001-1	09/30/93	0.0120	<2	800
Noma STP	FL0040207	001-1	10/31/93	0.0110	<2	800
Noma STP	FL0040207	001-1	11/30/93	0.0100	<2	800
Noma STP	FL0040207	001-1	12/31/93	0.0080	<2	800
Noma STP	FL0040207	001-1	01/31/94	0.0090	<2	800

Noma STP	FL0040207	001-1	03/31/94	0.0090	<2	800
Noma STP	FL0040207	001-1	04/30/94	0.0030	<2	800
Noma STP	FL0040207	001-1	05/31/94	0.0130	<2	800
Noma STP	FL0040207	001-1	06/30/94	0.0350	<2	800
Noma STP	FL0040207	001-1	07/31/94	0.0370	<2	800
Noma STP	FL0040207	001-1	08/31/94	0.0250	2400	800
Noma STP	FL0040207	001-1	09/30/94	0.0330	2	800
Noma STP	FL0040207	001-1	10/31/94	0.0270	2	800
Noma STP	FL0040207	001-1	11/30/94	0.0320	2	800
Noma STP	FL0040207	001-1	01/31/95	0.0250	2	800
Noma STP	FL0040207	001-1	02/28/95	0.0300	2	800
Noma STP	FL0040207	001-1	03/31/95	0.0330	<2	800
Noma STP	FL0040207	001-1	04/30/95	0.0300	17	800
Noma STP	FL0040207	001-1	05/31/95	0.0290	8	800
Noma STP	FL0040207	001-1	06/30/95	0.3100	2	800
Noma STP	FL0040207	001-1	07/31/95	0.0220	<2	800
Noma STP	FL0040207	001-1	08/31/95	0.0160	<2	800
Noma STP	FL0040207	001-1	09/30/95	0.0150	2	800
Noma STP	FL0040207	001-1	10/31/95	0.0130	<2	800
Noma STP	FL0040207	001-1	11/30/95	0.0130	2	800
Noma STP	FL0040207	001-1	12/31/95	0.0140	<2	800
Noma STP	FL0040207	001-1	01/31/96	0.0190	8	800
Noma STP	FL0040207	001-1	02/29/96	0.0180	<2	800
Noma STP	FL0040207	001-1	03/31/96	0.0150	<2	800
Noma STP	FL0040207	001-1	04/30/96	0.0150	4	800
Noma STP	FL0040207	001-1	05/31/96	0.0120	4	800
Noma STP	FL0040207	001-1	06/30/96	0.0140	2	800
Noma STP	FL0040207	001-1	07/31/96	0.0090	110	800
Noma STP	FL0040207	001-1	08/31/96	0.0010	<2	800
orange highlighting indicates FC value above permit limit (800 cts/100mL)						
yellow highlighting indicates FC value above Rule 62-302.530 criterion of 400 cts/100mL						

Inactive Florida Facilities Summary

Facility Name	Facility ID	Outfall Indicator	Date	WWTP Monthly Average Flow (mgd)	FC Daily Max (cts / 100mL)	Associated Limit (cts / 100mL)
Defuniak Springs STP	FL0021580	001-1	04/30/91	0.618	<1	800
Defuniak Springs STP	FL0021580	001-1	05/31/91	0.727	<1	800
Defuniak Springs STP	FL0021580	001-1	06/30/91	0.564	<1	800
Defuniak Springs STP	FL0021580	001-1	07/31/91	0.385	<1	800
Defuniak Springs STP	FL0021580	001-1	08/30/91	0.425	0	800
Defuniak Springs STP	FL0021580	001-1	09/30/91	0.439	0	800
Defuniak Springs STP	FL0021580	001-1	10/30/91	0.456	0	800
Defuniak Springs STP	FL0021580	001-1	11/30/91	0.436	0	800
Defuniak Springs STP	FL0021580	001-1	12/31/91	0.504	0	800
Defuniak Springs STP	FL0021580	001-1	01/31/92	0.505	0	800
Defuniak Springs STP	FL0021580	001-1	02/29/92	0.651	0	800
Defuniak Springs STP	FL0021580	001-1	03/19/92	0.599	0	800
Defuniak Springs STP	FL0021580	001-1	04/30/92	0.524	0	800
Defuniak Springs STP	FL0021580	001-1	05/31/92	0.508	46	800
Defuniak Springs STP	FL0021580	001-1	06/30/92	0.816	2	800
Defuniak Springs STP	FL0021580	001-1	09/30/92	0.631	4	800

Defuniak Springs STP	FL0021580	001-1	10/31/92	0.508	170	800
Defuniak Springs STP	FL0021580	001-1	11/30/92	0.649	170	800
Defuniak Springs STP	FL0021580	001-1	03/31/93	0.645	240	800
Defuniak Springs STP	FL0021580	001-1	04/30/93	0.645	240	800
Defuniak Springs STP	FL0021580	001-1	05/31/93	0.611	26	800
Defuniak Springs STP	FL0021580	001-1	02/28/94	0.567	4	800
Defuniak Springs STP	FL0021580	001-1	04/30/94	0.5685	110	800
Defuniak Springs STP	FL0021580	001-1	06/30/94	0.76	540	800
Defuniak Springs STP	FL0021580	001-1	09/30/94	0.575	540	800
Defuniak Springs STP	FL0021580	001-1	10/31/94	0.609	22	800
Defuniak Springs STP	FL0021580	001-1	11/30/94	0.465	1600	800
Defuniak Springs STP	FL0021580	001-1	12/31/94	0.429	220	800
Defuniak Springs STP	FL0021580	001-1	01/31/95	0.437	79	800
Defuniak Springs STP	FL0021580	001-1	02/28/95	0.463	2400	800
Defuniak Springs STP	FL0021580	001-1	03/31/95	0.581	920	800
Defuniak Springs STP	FL0021580	001-1	04/30/95	0.562	485	800
Defuniak Springs STP	FL0021580	001-1	06/30/95	0.579	0	800
Defuniak Springs STP	FL0021580	001-1	07/31/95	0.623	0	800
Defuniak Springs STP	FL0021580	001-1	09/30/95	0.616	2	800
Defuniak Springs STP	FL0021580	001-1	11/30/95	0.594	23	800
Defuniak Springs STP	FL0021580	001-1	12/31/95	0.481	2	800
Defuniak Springs STP	FL0021580	001-1	01/31/96	0.492	2	800
Defuniak Springs STP	FL0021580	001-1	02/29/96	0.632	4	800
Defuniak Springs STP	FL0021580	001-1	03/31/96	0.62	33	800
Defuniak Springs STP	FL0021580	001-1	04/30/96	0.557	7	800
Defuniak Springs STP	FL0021580	001-1	05/31/96	0.602	2	800
Defuniak Springs STP	FL0021580	001-1	06/30/96	0.559	2	800
Defuniak Springs STP	FL0021580	001-1	07/31/96	0.564	2	800
Defuniak Springs STP	FL0021580	001-1	08/31/96	0.595	2	800
Defuniak Springs STP	FL0021580	001-1	09/30/96	0.591	2	800
Defuniak Springs STP	FL0021580	001-1	10/31/96	0.559	2	800
Defuniak Springs STP	FL0021580	001-1	11/30/96	0.433	2	800
Defuniak Springs STP	FL0021580	001-1	12/31/96	0.412	2	800
Defuniak Springs STP	FL0021580	001-1	01/31/97	0.47	24	800
Defuniak Springs STP	FL0021580	001-1	02/28/97	0.455	33	800
Defuniak Springs STP	FL0021580	001-1	03/31/97	0.597	24	800
Defuniak Springs STP	FL0021580	001-1	04/30/97	0.491	2	800
Defuniak Springs STP	FL0021580	001-1	05/31/97	0.509	2	800
Defuniak Springs STP	FL0021580	001-1	06/30/97	0.623	2	800
Defuniak Springs STP	FL0021580	001-1	07/31/97	0.598	16	800
Defuniak Springs STP	FL0021580	001-1	08/31/97	0.438	24	800
Defuniak Springs STP	FL0021580	001-1	09/30/97	0.591	4	800
Defuniak Springs STP	FL0021580	001-1	10/31/97	0.559	49	800
Defuniak Springs STP	FL0021580	001-1	11/30/97	0.434	2	800
Defuniak Springs STP	FL0021580	001-1	12/31/97	0.466	11.4	800
Defuniak Springs STP	FL0021580	001-1	01/31/98	0.643	4	800
Defuniak Springs STP	FL0021580	001-1	02/28/98	0.571	<2	800
Defuniak Springs STP	FL0021580	001-1	03/31/98	0.723	<2	800
Defuniak Springs STP	FL0021580	001-1	04/30/98	0.566	8	800
Defuniak Springs STP	FL0021580	001-1	12/31/98	0.627	7	800
Vernon-STP	FL0028941	001-1	01/31/93	0.167	<2	800
Vernon-STP	FL0028941	001-1	02/28/93	0.141	<2	800

Vernon-STP	FL0028941	001-1	04/30/93	0.127	<2	800
Vernon-STP	FL0028941	001-1	05/31/93	0.082	<2	800
Vernon-STP	FL0028941	001-1	06/30/93	0.055	2	800
Vernon-STP	FL0028941	001-1	07/31/93	0.062	<2	800
Vernon-STP	FL0028941	001-1	08/31/93	0.059	<2	800
Vernon-STP	FL0028941	001-1	09/30/93	0.066	<2	800
Vernon-STP	FL0028941	001-1	10/31/93	0.057	<2	800
Vernon-STP	FL0028941	001-1	11/30/93	0.07	<2	800
Vernon-STP	FL0028941	001-1	12/31/93	0.071	<2	800
Vernon-STP	FL0028941	001-1	01/31/94	0.095	23	800
Vernon-STP	FL0028941	001-1	02/28/94	0.133	2400	800
Vernon-STP	FL0028941	001-1	03/31/94	0.148	2	800
Vernon-STP	FL0028941	001-1	04/30/94	0.127	<2	800
Vernon-STP	FL0028941	001-1	05/31/94	0.066	<2	800
Vernon-STP	FL0028941	001-1	06/30/94	0.15	<2	800
Vernon-STP	FL0028941	001-1	07/31/94	0.203	<2	800
Vernon-STP	FL0028941	001-1	08/31/94	0.176	2	800
Vernon-STP	FL0028941	001-1	09/30/94	0.144	2	800
Vernon-STP	FL0028941	001-1	10/31/94	0.134	8	800
Vernon-STP	FL0028941	001-1	11/30/94	0.065	<4	800
Vernon-STP	FL0028941	001-1	12/31/94	0.101	2	800
Vernon-STP	FL0028941	001-1	01/31/95	0.119	<2	800
Vernon-STP	FL0028941	001-1	02/28/95	0.137	<2	800
Vernon-STP	FL0028941	001-1	03/31/95	0.131	<2	800
Vernon-STP	FL0028941	001-1	04/30/95	0.146	<2.	800
Vernon-STP	FL0028941	001-1	05/31/95	0.123	<2.	800
Vernon-STP	FL0028941	001-1	06/30/95	0.069	<2	800
Vernon-STP	FL0028941	001-1	07/31/95	0.06	<2	800
Vernon-STP	FL0028941	001-1	08/31/95	0.077	<2	800
Vernon-STP	FL0028941	001-1	09/30/95	0.68	<2	800
Vernon-STP	FL0028941	001-1	10/31/95	0.074	<2	800
Vernon-STP	FL0028941	001-1	11/30/95		<2	800
Vernon-STP	FL0028941	001-1	12/31/95	0.065	<2	800
Vernon-STP	FL0028941	001-1	01/31/96	0.082	<2	800
Vernon-STP	FL0028941	001-1	02/29/96	0.1	<2	800
Vernon-STP	FL0028941	001-1	03/31/96	0.13	<2	800
Vernon-STP	FL0028941	001-1	04/30/96	0.135	<2	800
Vernon-STP	FL0028941	001-1	05/31/96	0.092	<2	800
Vernon-STP	FL0028941	001-1	06/30/96	0.065	<2	800
Vernon-STP	FL0028941	001-1	07/31/96	0.065	<2	800
Vernon-STP	FL0028941	001-1	08/31/96	0.102	<2	800
Vernon-STP	FL0028941	001-1	09/30/96	0.111	8	800
Vernon-STP	FL0028941	001-1	10/31/96	0.13	<2	800
Vernon-STP	FL0028941	001-1	11/30/96	0.069	<2	800
Vernon-STP	FL0028941	001-1	12/31/96	0.094	4	800
Vernon-STP	FL0028941	001-1	01/31/97	0.134	<2	800
Vernon-STP	FL0028941	001-1	02/28/97	0.132	<2	800
Vernon-STP	FL0028941	001-1	03/31/97	0.095	<2	800
Vernon-STP	FL0028941	001-1	04/30/97	0.097	<2	800
Vernon-STP	FL0028941	001-1	05/31/97	0.092	<2	800
Vernon-STP	FL0028941	001-1	06/30/97	0.065	<2	800
Vernon-STP	FL0028941	001-1	07/31/97	0.076	<2	800

Vernon-STP	FL0028941	001-1	08/31/97	0.088	<2	800
Vernon-STP	FL0028941	001-1	09/30/97	0.065	<2	800
Vernon-STP	FL0028941	001-1	10/31/97	0.072	<2	800
Vernon-STP	FL0028941	001-1	11/30/97	0.091	<2	800
Vernon-STP	FL0028941	001-1	12/31/97	0.104	<2	800
Vernon-STP	FL0028941	001-1	01/31/98	0.16	<2	800
orange highlighting indicates FC value above permit limit (800 cts/100mL)						

Summaries include Treated Domestic Wastewater station 001-1 daily maximum data only.

Florida Facilities Statistics

Facility Name	Number of FC Daily Max Values Greater Than 400 cts/100mL	Number of FC Daily Max Values Greater Than 2400 cts/100mL
Bonifay STP	2	3
Chipley Water & Sewer System	0	2
Graceville WTP	0	0
Noma STP	0	1
Defuniak Springs STP	0	3
Vernon-STP	0	1

Active Alabama Facilities Summary

Facility Name	Facility ID	Outfall Indicator	Date	WWTP Monthly Average Flow (mgd)	FC Daily Max (cts / 100mL)	Associated Limit (cts / 100mL)
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/94	4.22	3210	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/94	4.46	2466	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/94	5.68	893	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/95	6.61	238	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/95	8.75	1456	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/95	8.02	2350	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/95	4.91	3829	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/95	4.83	1120	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/95	4.63	3640	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/95	3.98	140	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/95	3.84	3526	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/95	3.5	3530	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/95	3.77	2540	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/95	4.53	1860	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/95	3.32	1820	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/96	3.85	2820	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/29/96	3.86	1862	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/96	4.56	280	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/96	5.07	2630	2000

Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/96	4.05	120	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/96	4.04	200	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/96	3.82	170	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/96	5.18	250	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/96	6.3	3890	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/96	5.55	2880	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/96	3.47	280	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/96	3.25	630	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/97	4.28	2720	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/97	4.71	700	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/97	4.31	146	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/97	3.52	83	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/97	3.48	2820	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/97	5.26	>4700	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/97	5.65	2500	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/97	4.3	300	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/97	3.26	140	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/97	3.55	87	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/97	5.66	133	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/97	7.97	800	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/98	7.59	117	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/98	8.43	19	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/98	8.12	46	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/98	3.98	30	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/98	3.02	36	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/98	2.63	7	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/98	2.66	14	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/98	2.53	9	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/98	3.51	72	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/98	3.96	66	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/98	3.26	102	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/98	3.09	>1616	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/99	4.81	91	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/99	3.61	48	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/99	3.23	50	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/99	2.48	43	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/99	2.84	362	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/99	3.72	75	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/99	5.45	44	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/99	3.27	14	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/99	2.57	21	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/99	2.52	8	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/99	2.46	19	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/99	2.539	1	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/00	2.86	25	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/29/00	2.82	67	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/00	3.12	31	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/00	2.81	10	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/00	2.44	105	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/00	2.48	23	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/00	2.47	22	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/00	2.54	8	2300

Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/00	2.88	4	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/00	2.34	38	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/00	3.21	97	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/00	4.48	44	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/01	3.44	31	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/01	3.08	34	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/01	7.48	77	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/01	4.5	14	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/01	3.09	120	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/01	4.34	270	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/01	3.21	42	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/01	5.05	58	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/01	3.26	18	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/01	2.64	4	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/01	2.57	>200	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/01	2.75	6	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/02	2.79	38	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/02	3.07	71	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/02	3.45	44	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/02	4.27	39	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/02	2.55	28	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/02	2.61	17	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/02	2.5	3	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/02	2.56	3	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/02	2.62	16	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/02	2.57	15	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/02	3.91	200	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/02	2.9	16	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/03	3.63	25	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/03	2.87	31	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/03	7.53	40	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/03	4.17	29	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/03	3.25	15	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/03	4.55	106	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/03	4.85	53	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/03	5.55	127	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/03	3.88	21	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/03	2.49	18	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/03	2.61	41	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/03	2.65	32	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/04	2.57	36	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/29/04	5.03	126	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/04	3.44	3	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/04	2.91	24	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/04	3.35	14	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	06/30/04	4.72	57	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	07/31/04	5.54	198	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	08/31/04	3.04	198	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	09/30/04	4.99	127	2300
Dothan City of Beaver Ck WWTP	AL0022756	001-1	10/31/04	3.46	133	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	11/30/04	3.77	232	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	12/31/04	4.85	102	2000

Dothan City of Beaver Ck WWTP	AL0022756	001-1	01/31/05	4.94	75	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	02/28/05	4.25	49	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	03/31/05	4.3	51	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	04/30/05	8.41	67	2000
Dothan City of Beaver Ck WWTP	AL0022756	001-1	05/31/05	4.75	190	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/94	3.41	728	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/94	3	1664	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/94	3.04	1963	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/95	3.31	60	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/95	5.03	322	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/95	4.46	26	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/95	4.46	26	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/95	3.38	30	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/95	3.36	300	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/95	2.82	30	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/95	3.17	147	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/95	2.8	90	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/95	2.99	23	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/95	3.31	320	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/95	2.92	380	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/96	3.31	60	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/29/96	4.21	38.8	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/96	4.17	80	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/96	4.17	50	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/96	3.3	90	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/96	2.97	30	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/96	2.84	60	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/96	3.14	110	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/96	4.21	230	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/96	4.05	90	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/96	2.79	59	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/96	3.15	120	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/97	4	182	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/97	4.36	77	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/97	3.28	97	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/97	2.98	67	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/97	2.99	36	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/97	3.67	596	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/97	3.61	98	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/97	3.2	2800	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/97	3.82	160	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/97	3.4	20	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/97	3.95	85	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/97	5.66	1400	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/98	5.87	2200	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/98	6.92	>1756	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/98	7.07	>1200	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/98	4.44	>46	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/98	3.98	13	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/98	4.32	>142	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/98	4.22	52	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/98	3.83	>185	2000

Dothan City of Choctawhatchee	AL0047465	001-1	09/30/98	4.32	>2700	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/98	5.08	54	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/98	3.84	38	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/98	3.92	83	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/99	4.42	38	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/99	3.97	68	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/99	3.85	32	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/99	3.86	49	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/99	3.89	21	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/99	4.19	37	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/99	5.44	65	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/99	4.07	42	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/99	3.74	34	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/99	3.72	38	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/99	3.53	53	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/99	3.59	10	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/00	3.74	125	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/29/00	3.88	64	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/00	3.77	38	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/00	3.55	78	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/00	3.36	83	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/00	3.35	43	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/00	3.55	145	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/00	3.5	167	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/00	3.11	127	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/00	3.37	170	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/00	3.76	189	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/01	3.99	28	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/01	3.26	29	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/01	5.7	51	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/01	4.14	50	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/01	2.95	27	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/01	3.63	35	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/01	2.99	92	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/01	3.91	87	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/01	3.29	33	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/01	2.8	36	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/01	2.73	27	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/01	2.79	32	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/02	2.83	35	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/02	2.74	44	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/02	3.02	78	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/02	3.39	34	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/02	2.69	49	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/02	2.52	105	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/02	2.56	63	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/02	2.6	200	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/02	2.59	19	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/02	2.65	29	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/02	3.42	72	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/02	2.87	27	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/03	2.93	21	2000

Dothan City of Choctawhatchee	AL0047465	001-1	02/28/03	2.81	26	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/03	4.72	32	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/03	3.35	9	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/03	2.72	26	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/03	3.1	10	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/03	3.87	119	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/03	3.72	28	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/03	2.94	192	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/03	2.33	26	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/03	2.23	177	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/03	2.08	9	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/04	1.99	29	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/29/04	3.84	52	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/04	3.46	180	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/04	3.13	16	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/04	3.4	46	2000
Dothan City of Choctawhatchee	AL0047465	001-1	06/30/04	4.11	39	2000
Dothan City of Choctawhatchee	AL0047465	001-1	07/31/04	4.91	181	2000
Dothan City of Choctawhatchee	AL0047465	001-1	08/31/04	3.64	37	2000
Dothan City of Choctawhatchee	AL0047465	001-1	09/30/04	4.27	21	2000
Dothan City of Choctawhatchee	AL0047465	001-1	10/31/04	3.62	145	2000
Dothan City of Choctawhatchee	AL0047465	001-1	11/30/04	3.42	200	2000
Dothan City of Choctawhatchee	AL0047465	001-1	12/31/04	3.5	27	2000
Dothan City of Choctawhatchee	AL0047465	001-1	01/31/05	3.56	31	2000
Dothan City of Choctawhatchee	AL0047465	001-1	02/28/05	3.18	35	2000
Dothan City of Choctawhatchee	AL0047465	001-1	03/31/05	3.3	85	2000
Dothan City of Choctawhatchee	AL0047465	001-1	04/30/05	6.06	180	2000
Dothan City of Choctawhatchee	AL0047465	001-1	05/31/05	4.69	12	2000
Enterprise College Street WWTP	AL0020036	001-1	07/31/95	4.43	160	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/95	1.3	149	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/95	0.996	82	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/95	1.183	180	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/95	1.43	109	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/95	1.02	117	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/96	0.982	191	2300
Enterprise College Street WWTP	AL0020036	001-1	02/29/96	1.11	125	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/96	1.145	72	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/96	1.21	243	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/96	0.953	280	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/96	0.986	179	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/96	0.832	100	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/96	0.775	76	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/96	0.853	117	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/96	0.839	75	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/96	0.816	88	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/96	0.892	110	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/97	1.011	69	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/97	0.902	45	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/97	1.047	47	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/97	0.886	48	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/97	0.831	101	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/97	0.833	75	2300

Enterprise College Street WWTP	AL0020036	001-1	07/31/97	0.774	29	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/97	0.794	68	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/97	0.729	41	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/97	0.849	62	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/97	0.739	50	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/97	0.883	101	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/98	1.074	75	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/98	1.145	77	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/98	1.263	41	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/98	0.898	133	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/98	0.826	78	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/98	0.784	343	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/98	0.741	50	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/98	0.812	77	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/98	0.974	53	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/98	0.972	239	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/98	0.859	184	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/98	0.789	227	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/99	0.904	43	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/99	0.851	36	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/99	0.867	39	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/99	0.891	39	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/99	0.787	84	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/99	0.816	48	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/99	0.861	42	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/99	0.847	57	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/99	0.778	86	2300
Enterprise College Street WWTP	AL0020036	001-1	10/30/99	0.738	16	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/99	0.764	700	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/99	0.7653	1000	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/00	0.8153	89	2300
Enterprise College Street WWTP	AL0020036	001-1	02/29/00	0.7896	74	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/00	0.8497	54	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/00	0.787	79	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/00	0.751	212	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/00	0.7518	129	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/00	0.7102	185	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/00	0.792	103	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/00	0.824	67	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/00	0.753	83	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/00	0.762	54	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/00	0.8627	74	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/01	0.806	27	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/01	0.719	74	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/01	1.1092	79	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/01	0.815	213	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/01	0.7266	36	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/01	0.8029	92	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/01	0.7295	40	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/01	0.8612	41	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/01	0.771	31	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/01	0.694	107	2300

Enterprise College Street WWTP	AL0020036	001-1	11/30/01	0.7007	141	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/01	0.722	121	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/02	0.755	56	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/02	0.7009	28	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/02	0.792	35	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/02	0.843	181	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/02	0.751	183	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/02	0.749	217	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/02	0.762	183	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/02	0.7298	201	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/02	0.825	152	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/02	0.905	126	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/02	0.907	156	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/02	0.872	65	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/03	0.897	37	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/03	1.032	38	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/03	1.288	75	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/03	1.344	41	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/03	1.325	43	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/03	1.235	29	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/03	1.304	28	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/03	1.146	72	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/03	1.037	28	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/03	0.875	20	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/03	0.829	17	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/03	0.728	20	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/04	0.721	42	2300
Enterprise College Street WWTP	AL0020036	001-1	02/29/04	0.86	44	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/04	0.773	33	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/04	0.704	30	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/04	0.801	18	2300
Enterprise College Street WWTP	AL0020036	001-1	06/30/04	0.88	300	2300
Enterprise College Street WWTP	AL0020036	001-1	07/31/04	0.831	40	2300
Enterprise College Street WWTP	AL0020036	001-1	08/31/04	0.735	79	2300
Enterprise College Street WWTP	AL0020036	001-1	09/30/04	0.791	91	2300
Enterprise College Street WWTP	AL0020036	001-1	10/31/04	0.762	25	2300
Enterprise College Street WWTP	AL0020036	001-1	11/30/04	0.76	18	2300
Enterprise College Street WWTP	AL0020036	001-1	12/31/04	0.854	152	2300
Enterprise College Street WWTP	AL0020036	001-1	01/31/05	0.797	111	2300
Enterprise College Street WWTP	AL0020036	001-1	02/28/05	0.758	31	2300
Enterprise College Street WWTP	AL0020036	001-1	03/31/05	0.808	55	2300
Enterprise College Street WWTP	AL0020036	001-1	04/30/05	0.973	34	2300
Enterprise College Street WWTP	AL0020036	001-1	05/31/05	0.786	20	2300
Geneva WWTP WW and SB	AL0020273	001-1	12/31/02	0.553	3	2000
Geneva WWTP WW and SB	AL0020273	001-1	01/31/03	0.452	1	2000
Geneva WWTP WW and SB	AL0020273	001-1	02/28/03	0.356	0	2000
Geneva WWTP WW and SB	AL0020273	001-1	03/31/03	0.869	11	2000
Geneva WWTP WW and SB	AL0020273	001-1	04/30/03	0.61	2.1	2000
Geneva WWTP WW and SB	AL0020273	001-1	05/31/03	0.441	800	2000
Geneva WWTP WW and SB	AL0020273	001-1	06/30/03	0.679	17	2000
Geneva WWTP WW and SB	AL0020273	001-1	07/31/03	0.725	19	2000
Geneva WWTP WW and SB	AL0020273	001-1	08/31/03	0.809	29	2000

Geneva WWTP WW and SB	AL0020273	001-1	09/30/03	0.433	21	2000
Geneva WWTP WW and SB	AL0020273	001-1	10/31/03	0.345	1	2000
Geneva WWTP WW and SB	AL0020273	001-1	11/30/03	0.319	4	2000
Geneva WWTP WW and SB	AL0020273	001-1	12/31/03	0.353	3	2000
Geneva WWTP WW and SB	AL0020273	001-1	01/31/04	0.324	350	2000
Geneva WWTP WW and SB	AL0020273	001-1	02/29/04	0.636	28	2000
Geneva WWTP WW and SB	AL0020273	001-1	03/31/04	0.45	3	2000
Geneva WWTP WW and SB	AL0020273	001-1	04/30/04	0.338	100	2000
Geneva WWTP WW and SB	AL0020273	001-1	05/31/04	0.371	16	2000
Geneva WWTP WW and SB	AL0020273	001-1	06/30/04	0.544	817	2000
Geneva WWTP WW and SB	AL0020273	001-1	07/31/04	0.573	21	2000
Geneva WWTP WW and SB	AL0020273	001-1	08/31/04	0.425	210	2000
Geneva WWTP WW and SB	AL0020273	001-1	09/30/04	0.542	185	2000
Geneva WWTP WW and SB	AL0020273	001-1	10/31/04	0.491	6	2000
Geneva WWTP WW and SB	AL0020273	001-1	11/30/04	0.559	25	2000
Geneva WWTP WW and SB	AL0020273	001-1	12/31/04	0.62	12	2000
Geneva WWTP WW and SB	AL0020273	001-1	01/31/05	0.491	103	2000
Geneva WWTP WW and SB	AL0020273	001-1	02/28/05	0.441	500	2000
Geneva WWTP WW and SB	AL0020273	001-1	03/31/05	0.454	49	2000
Geneva WWTP WW and SB	AL0020273	001-1	04/30/05	0.823	98	2000
Geneva WWTP WW and SB	AL0020273	001-1	05/31/05	0.556	8	2000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/97	0.9251	580	2000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/97	0.8508	9000	2000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/97	0.87	380	2000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/97	0.9719	620	2000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/97	1.238	140	2000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/98	1.4403	440	2000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/98	1.7228	710	2000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/98	1.8605	2900	2000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/98	1.4097	2000	2000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/98	0.9684	900	2000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/98	0.8234	160	2000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/98	0.9641	500	2000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/98	1.0043	520	2000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/98	1.1801	5300	2000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/98	1.228	8600	2000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/98	1.006	1600	2000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/98	0.9642	340	2000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/99	1.12	3500	2000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/99	1.222	3	2000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/99	1.0164	120	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/99	0.8667	12000	3000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/99	0.9481	510	3000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/99	1.5439	590	3000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/99	1.6586	1000	3000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/99	1.235	57000	3000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/99	1.174	2000	3000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/99	1.1537	1800	3000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/99	1.1834	240	3000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/99	1.2314	15	3000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/00	1.3385	60	3000
Ozark City of Southside WWTP	AL0056324	001-1	02/29/00	1.45	2500	3000

Ozark City of Southside WWTP	AL0056324	001-1	03/31/00	1.356	48	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/00	1.174	130	3000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/00	1.0786	54	3000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/00	1.0622	3400	3000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/00	0.9568	52	3000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/00	0.979	110	3000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/00	0.944	120	3000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/00	1.292	510	3000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/00	1.684	3000	3000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/00	1.998	430	3000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/01	2.0198	270	3000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/01	1.825	1200	3000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/01	2.964	800	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/01	2.1	60	3000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/01	1.47	2700	3000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/01	1.834	4000	3000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/01	1.637	310	3000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/01	1.784	9000	3000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/01	1.623	1400	3000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/01	1.438	1900	3000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/01	1.323	180	3000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/01	1.2939	4	3000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/02	1.519	4200	3000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/02	2.156	700	3000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/02	2.0168	170	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/02	1.3325	2000	3000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/02	0.7683	1500	3000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/02	0.851	500	3000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/02	1.033	560	3000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/02	1.145	470	3000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/02	1.099	55000	3000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/02	1.527	6000	3000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/02	1.657	17000	3000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/02	1.689	488	3000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/03	1.374	6	3000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/03	1.746	23	3000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/03	2.693	12	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/03	2.077	18	3000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/03	1.65	45	3000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/03	2.21	4000	3000
Ozark City of Southside WWTP	AL0056324	001-1	07/31/03	2.28	360	3000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/03	2.372	460	3000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/03	1.732	70	3000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/03	1.459	1500	3000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/03	1.596	170	3000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/03	1.694	180	3000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/04	1.648	5	3000
Ozark City of Southside WWTP	AL0056324	001-1	02/29/04	2.382	130	3000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/04	1.622	9000	3000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/04	1.567	1100	2000
Ozark City of Southside WWTP	AL0056324	001-1	05/31/04	1.562	290	2000
Ozark City of Southside WWTP	AL0056324	001-1	06/30/04	2.037	1200	2000

Ozark City of Southside WWTP	AL0056324	001-1	07/31/04	1.646	27	2000
Ozark City of Southside WWTP	AL0056324	001-1	08/31/04	1.544	310	2000
Ozark City of Southside WWTP	AL0056324	001-1	09/30/04	1.809	50	2000
Ozark City of Southside WWTP	AL0056324	001-1	10/31/04	1.738	50	2000
Ozark City of Southside WWTP	AL0056324	001-1	11/30/04	1.953	2800	2000
Ozark City of Southside WWTP	AL0056324	001-1	12/31/04	2.19	170	2000
Ozark City of Southside WWTP	AL0056324	001-1	01/31/05	2.11	230	2000
Ozark City of Southside WWTP	AL0056324	001-1	02/28/05	2.256	70	2000
Ozark City of Southside WWTP	AL0056324	001-1	03/31/05	2.417	80	2000
Ozark City of Southside WWTP	AL0056324	001-1	04/30/05	2.9248	80	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/94	3.6	110	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/94	3.33	120	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/94	3.24	19	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/94	3.32	76	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/95	3.51	34	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/95	3.68	36	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/95	3.71	26	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/95	4.5	27	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/95	3.39	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/95	3.02	27	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/95	3.44	89	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/95	3.23	21	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/95	3.27	31	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/95	3.24	16	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/95	4.1	37	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/95	3.67	17	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/96	3.68	15	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/29/96	4.01	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/96	4.04	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/96	4.41	16	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/96	4.08	31	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/96	3.67	18	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/96	4.06	24	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/96	4.06	17	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/96	4.31	13	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/96	3.84	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/96	3.98	22	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/96	2.49	19	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/97	3.31	19	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/97	4.11	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/97	4	15	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/97	3.93	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/97	3.91	12	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/97	4.06	14	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/97	4.15	16	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/97	4.01	35	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/97	3.88	11	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/97	3.98	17	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/97	84.6	41	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/97	4.7	21	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/98	4.61	32	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/98	5.1	85	2000

Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/98	5.05	80	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/98	4.47	95	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/98	3.77	88	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/98	3.8	77	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/98	4.15	70	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/98	4.02	80	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/98	4.1	60	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/98	4.17	54	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/98	3.9	74	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/98	3.77	60	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/99	3.8	63	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/99	3.81	40	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/99	3.99	74	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/99	3.91	51	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/99	3.92	49	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/99	4.12	69	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/99	4.4	43	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/99	4.11	36	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/99	3.98	86	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/99	3.9	37	2000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/99	3.89	34	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/99	3.37	57	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/00	3.91	57	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/29/00	4.16	45	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/00	4.21	83	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/00	4	71	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/00	3.66	80	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/00	3.53	69	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/00	3.48	23	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/00	3.72	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/00	4	37	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/00	3.49	22	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/00	4.07	29	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/00	3.67	43	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/01	3.99	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/01	3.87	34	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/01	4.5	48	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/01	4.21	23	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/01	3.45	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/01	3.89	23	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/01	3.39	28	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/01	3.88	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/01	3.41	23	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/01	3.56	20	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/01	3.55	22.46	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/01	3.59	68	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/02	3.69	314	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/02	3.81	186	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/02	3.88	97	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/02	3.98	17	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/02	3.71	17	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/02	3.56	46	3000

Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/02	3.55	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/02	3.58	37	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/02	3.6	31	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/02	3.53	206	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/02	3.99	285	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/02	3.81	149	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/03	3.92	184	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/03	3.78	355	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/03	4.18	312	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/03	4.03	99	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/03	2.89	137	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/03	4.25	127	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/03	4.3	124	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/03	4.47	301	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/03	3.97	185	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/03	3.35	419	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/03		198	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/03	3.65	306	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/04	3.61	277	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/29/04	4.07	133	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/04	3.7	211	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/04	3.3	287	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/04	3.39	108	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	06/30/04	3.44	125	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	07/31/04	3.17	300	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	08/31/04	3.16	398	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	09/30/04	3.55	773	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	10/31/04	3.37	159	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	11/30/04	3.4	157	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	12/31/04	3.35	223	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	01/31/05	3.36	257	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	02/28/05	3.46	153	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	03/31/05	3.3	54	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	04/30/05	3.9	170	3000
Troy City of Walnut Creek WWTP	AL0032310	001-1	05/31/05	3.15	126	3000
orange highlighting indicates FC value above associated permit limit						
yellow highlighting indicates FC value above Rule 62-302.530 criterion of 400 cts/100mL						

Summaries include Treated Domestic Wastewater station 001-1 daily maximum data only.

Alabama Facilities Statistics

Facility Name	Number of FC Daily Max Values Greater Than 400 cts/100mL	Number of FC Daily Max Values Greater Than 2000 cts/100mL	Number of FC Daily Max Values Greater Than 2300 cts/100mL	Number of FC Daily Max Values Greater Than 3000 cts/100mL
Dothan City of Beaver Ck WWTP	27	18	18	9
Dothan City of Choctawhatchee	13	8	7	6
Enterprise College Street WWTP	2	0	0	0
Enterprise Northeast Lagoon	3	0	0	0

Enterprise Southeast Lagoon	2	1	0	0
Geneva WWTP WW and SB	3	0	0	0
Ozark City of Southside WWTP	51	20	20	15
Troy City of Walnut Creek WWTP	2	0	0	0
Union Springs Utilities Board	No FC Data	No FC Data	No FC Data	No FC Data

Perdue Farms Residuals Disposal Sites for FLA010247

Acreage	Site Name	Location
4,389.5	Owls Head Ltd.	Freeport, Walton County
400.0	Westville Farms	Ponce de Leon, Holmes County
234.2	Tony Parsons	Ponce de Leon, Holmes County
122.8	James Earl Ray	DeFuniak Springs, Walton County
120.0	Edsel Brooks	Ponce de Leon, Holmes County
117.1	Jimmy Hicks	Ponce de Leon, Holmes County
116.4	Louis Roberts	Ponce de Leon, Holmes County
47.7	John Kennison	Ponce de Leon, Holmes County
36.0	Rudolph Melhorn	Argyle, Walton County

Florida Spills Database (Ziegmont, 2005)

Date	Time	County	Reported Amount	Description	Cause	AMOUNT2	District	Notification
01/11/04	604	Jackson	1,500	1500 gallon wastewater spill in Marianna due to an equipment failure at a lift station. No waterways affected. Clean-up conducted by the responsible party.	E	1,500	NWD	SWP
01/14/04	1723	Walton	3,000	3000 gallons of raw sewage released in Santa Rosa Beach due to a ruptured force main. No waterways affected. Clean-up conducted by the responsible party.	B	3,000	NWD	SWP
02/17/04	1103	Walton	1,000	Less than 1000 gallons of wastewater spilled in DeFuniak Springs due to a blown fuse. Clean-up conducted by the responsible party.	P	1,000	NWD	SWP
02/18/04	1023	Bay	1,000	Approx. 1000 gallons of wastewater released in Panama City due to a ruptured force main. No waterways affected. Clean-up conducted by the responsible party.	B	1,000	NWD	SWP
02/24/04	832	Holmes	5,000	5000+ gallons of wastewater spilled in Bonifay due to heavy rain. Some of the material drained into a nearby creek. Clean-up conducted by the responsible party.	I	5,000	NWD	SWP
03/06/04	906	Bay	250,000	Less than 250,000 gallons of wastewater spilled in Panama City due to unknown cause(s). Clean-up conducted by the responsible party.	U	250,000	NWD	SWP
03/08/04	1431	Bay	1,400	1400-gallon wastewater spill due to a lift malfunction in Panama City. Clean-up conducted by the responsible party.	E	1,400	NWD	SWP
03/10/04	914	Walton	10,000	Approx. 10,000 gallons of sewage released in Santa Rosa due to an electrical problem at a lift station. Clean up conducted by the responsible party.	P	10,000	NWD	SWP
03/20/04	1133	Walton	800	Approx. 800 gallons of wastewater spilled in Santa Rosa Beach due to plugged manhole. No waterways affected. Clean-up actions unknown.	G	800	NWD	SWP
03/24/04	1239	Jackson	20,000	Approx. 20,000 gallons of wastewater spilled in Cottondale, due to a lift station malfunction. A nearby holding pond was affected. No clean-up actions reported.	E	20,000	NWD	SWP
04/10/04	1510	Walton	2,500	Approx. 2,500 gallons of wastewater spilled in DeFuniak Springs due to a lift station malfunction. No waterways affected. Clean-up conducted by the responsible party.	E	2,500	NWD	SWP
04/18/04	1559	Walton	1,200	Approx. 1,000 to 1,200 gallons of wastewater spilled in Santa Rosa Beach due to a broken line. No waterways affected. Clean-up conducted by the responsible party.	B	1,200	NWD	SWP
04/29/04	1252	Walton	900	Approx. 900 gallons of wastewater spilled in Santa Rosa Beach due to a broken valve on a force main. Approx. 400 gallons of the material drained into a mosquito control pond. Clean-up conducted by the responsible party.	E	900	NWD	SWP
05/13/04	2146	Bay	2,000	The City of Callaway Utilities reported two sewage overflows resulting in 2000+ gallons of wastewater spilled. No waterways affected. Clean-up conducted by the responsible party.	U	2,000	NWD	SWP
05/30/04	2013	Bay	UNK	An unknown amount of wastewater was spilled in Panama City Beach due to a lift station malfunction. A nearby storm drain was affected. Clean-up actions unknown.	E	1	NWD	SWP

06/26/04	1434	Jackson	1,000	Approx. 1,000 gallons of sewage spilled in Marianna due to a lift station overflow. A nearby ditch was affected. Clean-up conducted by the responsible party.	O	1,000	NWD	SWP
07/04/04	2013	Bay	1,000	Over 1,000 gallons of wastewater spilled in Callaway due to a grease blockage. No waterways affected. Clean-up conducted by the responsible party.	G	1,000	NWD	SWP
07/07/04	2149	Walton	1,500	Approx 1500 gallons of treated wastewater spilled in DeFuniak Springs due to an overflow caused by a lightning strike. No waterways affected. Clean-up conducted by the responsible party.	P	1,500	NWD	SWP
07/26/04	2150	Walton	1,500	Approx. 1500 gallons of wastewater spilled in Santa Rosa Beach due to a damaged line. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	B	1,500	NWD	SWP
08/01/04	300	Bay	25,000	25000 gallons of wastewater leaked due to a pump failure in Panama City. Has been cleaned up. Status: Closed	E	25,000	NWD	SWP
08/20/04	1904	Bay	UNK	A brown substance was reported floating in the bay in Panama City. Source unknown. Status: Closed.	U	1	NWD	SWP
08/29/04	1220	Jackson	2,000	2000 gallons of wastewater spilled in Marianna due to lift station failure. No waterways were affected. Clean up being done by responsible party. Status: Closed	E	2,000	NWD	SWP
09/17/04	1044	Bay	2,500	2500 gallons of wastewater released in Parker due to Hurricane Ivan. No waterways affected Clean-up conducted by the responsible party. Status: Closed.	U	2,500	NWD	SWP
09/17/04	2011	Walton	UNK	Unknown amount of wastewater released in Paxton from 2 to 6 lift stations due to a power outage. No clean-up actions reported. Status: Closed.	P	1	NWD	SWP
09/18/04	1330	Bay	10,000	Approx. 5000 to 10,000 gallons of wastewater spilled in Panama City due to power failure at a lift station. Some of the material drained into St. Andrews Bay. No clean-up actions reported. Status: Closed.	P	10,000	NWD	SWP
09/21/04	1449	Holmes	1,000	Unknown amount of sewage (over 1000 gallons) spilled throughout Ponce de Leon due to power failure and excess water from Hurricane Ivan. The spill started on the 16th and lasted until the 18th. The spill has ceased and the plant is back on-line. No clean-up actions reported. Status: Closed.	P	1,000	NWD	SWP
09/23/04	1430	Bay	1,500	1500 gallons of raw sewage spilled in Lynn Haven due to a ruptured force main. Clean-up conducted by the responsible party. Status: Closed.	B	1,500	NWD	SWP
09/23/04	1758	Bay	200	200 gallons of wastewater spilled in Lynn Haven due to unknown cause(s) at a lift station. The material was contained in a retention pond. Status: Closed.	U	200	NWD	SWP
09/23/04	1802	Bay	500	500 gallons of wastewater spilled in Lynn Haven due to unknown cause(s) at a lift station. The material was contained in a retention pond. Status: Closed.	U	500	NWD	SWP
09/25/04	1148	Bay	1,000	Less than a 1,000 gallons of wastewater was spilled due to heavy rains in the area of Callaway. The East Bay was affected by this over flow. The area was limed. No assistance requested. Status: Closed.	I	1,000	NWD	SWP
10/27/04	1709	Jackson	10,000	10,000 gallons of wastewater spilled in Marianna due to a ruptured line. Clean-up conducted by the responsible party. Status: Closed.	B	10,000	NWD	SWP

01/19/05	1352	Bay	UNK	Caller advises of an unknown size spill, that occurred, due to a construction crew busting a sewage line. The incident occurred approx 1 month ago, but was discovered today's date. A city crew is on site, conducting clean up actions and measures. No assistance requested. Status: Closed.	C		NWD	SWP
02/03/05	1017	Walton	40,000	Approx. 40,000 gallons of partially treated wastewater released in Freeport due to a sludge spill. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	U		NWD	SWP
02/22/05	1403	Bay	8,000	Approx. 8000 gallons of wastewater released in Panama City due to a ruptured force main. A nearby bayou was affected. Clean-up will be conducted by the responsible party. Status: Closed.	B		NWD	SWP
02/22/05	1137	Walton	200	200 gallons of wastewater spilled in Mary Esther due to a blocked line. Clean-up conducted by the responsible party. Status: Closed.	G		NWD	SWP
03/08/05	1350	Bay	UNK	An unknown amount of wastewater released at Tyndall AFB due to a lightning strike on the pipeline. No waterways affected. Clean-up will be conducted by the responsible party. Status: Closed.	U		NWD	SWP
03/13/05	1152	Walton	2,500	Approx. 2500 gallons of wastewater released in Destin due to lift station pump failure. No waterways affected. Clean-up conducted by the responsible party. No assistance requested. Status: Closed.	E		NWD	SWP
03/21/05	1453	Bay	1,000	An unknown amount (over 1000 gallons) of wastewater released in Panama City Beach due to a contractor tapping the line. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	C		NWD	SWP
04/07/05	1606	Jackson	5,000	Approx. 5,000 gallons of wastewater released in Marianna due to high water from the rains. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	I		NWD	SWP
04/08/05	914	Jackson	30,000	30,000 gallons of sewage/rain water spilled onto the ground in Sneads due to heavy rain over-flowing manholes. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	I		NWD	SWP
04/16/05	2353	Bay	UNK	SWP received a call about a manhole that was overflowing in Panama City. The county responded and found no overflow. Status: Closed.	U		NWD	SWP
05/24/05	1639	Walton	500	Approx. 500 gallons of sewage spilled due to a pump failure on a lift station. No waterways affected. The area was covered w/ lime. No further info available. Status: Closed.	E		NWD	SWP
05/26/05	910	Holmes	1,200	1200 gallons of untreated wastewater spilled on-site in Ponce De Leon due to a ruptured 2-inch line. No waterways affected. Clean-up conducted by the responsible party. Status: Closed.	B		NWD	SWP

Appendix F: Summary of Photos and News Articles

Below are photos from the FDEP's April 4, 2005 survey.

Choctawhatchee River at AL SR 52
River Mile = 93.12

Pea River at AL SR 27
River Mile = 91.7

Choctawhatchee River near Cerrogordo E of SR 179A
River Mile = 74.33

Choctawhatchee River at River Rd.
River Mile = 42.14

Appendix G: Historical Summary of Choctawhatchee River Data

Station Number	Station Description	Latitude	Longitude	Date	Time	Sample Depth (ft)	FCOL N/100ML	TCOL N/100ML
FDEP WAS Database								
1	Choctawhatchee River ds Berrian Lake Landing (landing 1.2 mi to SR 181)	30.69008	85.86672	8/31/04	1020	0.5	210	350
1	Choctawhatchee River ds Berrian Lake Landing (landing 1.2 mi to SR 181)	30.69008	85.86672	9/28/04	1300	0.5	50	380
2	Choctawhatchee River at Cedar Lake Rd / Old Creek Rd North	30.68228	85.87344	8/31/04	1130	0.5	116	800
2	Choctawhatchee River at Cedar Lake Rd / Old Creek Rd North	30.68228	85.87344	9/28/04	1315	0.5	20	380
4	Morrison Spring nr boil / ramp	30.65783	85.90453	8/31/04	1305	0.5	7	64
4	Morrison Spring nr boil / ramp	30.65783	85.90453	9/28/04	1400	0.5	60	730
5	Choctawhatchee River ds Morrison Spring at houseboat	30.63806	85.91544	8/31/04	1345	0.5	54	250
5	Choctawhatchee River ds Morrison Spring at houseboat	30.63806	85.91544	9/28/04	1431	0.5	50	630
6	Choctawhatchee River at River Rd ups Bruce Creek	30.61994	85.91014	8/31/04	1430	0.5	58	430
6	Choctawhatchee River at River Rd ups Bruce Creek (DUP)	30.61994	85.91014	8/31/04	1540	0.5	86	400
6	Choctawhatchee River at River Rd ups Bruce Creek	30.61994	85.91014	9/28/04	1500	0.5	40	500
6	Choctawhatchee River at River Rd ups Bruce Creek (DUP)	30.61994	85.91014	9/28/04	1605	0.5	15	340
6	Choctawhatchee River at River Rd ups Bruce Creek	30.61994	85.91014	4/4/05	1815	0.5	175	2150
11	Choctawhatchee River at US 90	30.77575	85.82736	8/31/04	945	0.5	200	510
11	Choctawhatchee River at US 90	30.77575	85.82736	9/28/04	1101	0.5	28	230
11	Choctawhatchee River at US 90	30.77575	85.82736	4/4/05	1515	0.5	250	2000
12	Choctawhatchee River at Douglas Ferry Rd, W of SR 284 (public boat landing)	30.66947	85.87011	8/31/04	1145	0.5	92	305
12	Choctawhatchee River at Douglas Ferry Rd, W of SR 284 (public boat	30.66947	85.87011	9/28/04	1200	0.5	40	350

	landing)							
13	Choctawhatchee River at SR 20, at W side boat landing	30.45108	85.89878	8/31/04	1330	0.5	42	240
13	Choctawhatchee River at SR 20, at W side boat landing	30.45108	85.89878	9/28/04	1545	0.5	44	310
13	Choctawhatchee River at SR 20, at W side boat landing	30.45108	85.89878	4/4/05	1630	0.5	84	1364
100	Choctawhatchee River at AL SR 52	31.04117	85.85181	4/4/05	1115	0.5	320	2100
105	Pea River at AL SR 27	31.02675	85.88431	4/4/05	1225	0.5	270	2000
110	E Pittman Creek at FL SR 179			4/4/05	1110	0.5	290	1909
115	Parrot Creek at FL SR 179A	30.97614	85.87408	4/4/05	1320	0.5	74	973
120	Choctawhatchee River at FL SR 2			4/4/05	1155	0.5	300	2000
125	W Pittman Creek at SR 179A	30.91361	85.91542	4/4/05	1430	0.5	40	2000
135	Limestone Bridge at SR 179A	30.95044	85.87883	4/4/05	1400	0.5	86	919
140	Sikes Creek at SR 179			4/4/05	1300	0.5	128	310
145	Choctawhatchee River nr Cerro Gordo, E of SR 179A, Buck Rogers Dr., E of Boles Ln	30.83306	85.88214	4/4/05	1520	0.5	23	470
155	Reedy Creek at SR 181 S of Cedar Log Lake Rd	30.69397	85.88606	4/4/05	1610	0.5	42	600
165	Sandy Creek at SR 181	30.66228	85.92058	4/4/05	1700	0.5	88	2000
170	Wrights Creek at SR 179			4/4/05	1430	0.5	310	1091
175	Bruce Creek at SR 81	30.62475	85.94256	4/4/05	1345	0.5	82	800
IWR Run 20_2								
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	30.96720	-85.82810	1/16/1992	1140	.	3000	6000
21FLNWFDS205	Choctaw. Riv. ab W. Pittman	30.95917	-85.83333	1/16/1992	1200	0		6000
21FLNWFDS282	Choctawhatchee River above Parrot Creek	30.96722	-85.82806	1/16/1992	1115	0		6000
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	30.96720	-85.82810	4/22/1992	1330	.	550	
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	30.96720	-85.82810	7/22/1992	900	.	770	
21FLNWFD305802085494101	Choctaw. Riv. ab Parrot Cr.	30.96720	-85.82810	10/20/1992	1245	.	18	
21FLNWFDS205	Choctaw. Riv. ab W. Pittman	30.95917	-85.83333	1/16/1992	1200	0	2200	
21FLNWFDS205	Choctaw. Riv. ab W. Pittman	30.95917	-85.83333	4/22/1992	1300	0	400	
21FLNWFDS205	Choctaw. Riv. ab W. Pittman	30.95917	-85.83333	7/22/1992	830	0	1	

21FLNWFDS282	Choctawhatchee River above Parrot Creek	30.96722	-85.82806	1/16/1992	1115	0	3000	
21FLNWFDS282	Choctawhatchee River above Parrot Creek	30.96722	-85.82806	4/22/1992	1330	0	550	
21FLNWFDS282	Choctawhatchee River above Parrot Creek	30.96722	-85.82806	7/22/1992	900	0	770	
21FLGW 3548	S205	30.95018	-85.84243	10/13/1998	1130	1.7	65	80
21FLGW 3548	S205	30.95018	-85.84243	11/12/1998	1130	1.7	2500	
21FLGW 3548	S205	30.95018	-85.84243	12/8/1998	1145	1.5	950	4700
21FLGW 3548	S205	30.95018	-85.84243	12/8/1998	1146	0	850	4400
21FLGW 3548	S205	30.95018	-85.84243	12/12/1998	1130	1.7		16000
21FLGW 3548	S205	30.95018	-85.84243	1/13/1999	1145	1.3	260	3500
21FLGW 3548	S205	30.95018	-85.84243	2/10/1999	1130	2	40	210
21FLGW 3548	S205	30.95018	-85.84243	3/10/1999	1231	0	570	2700
21FLGW 3548	S205	30.95018	-85.84243	3/10/1999	1230	1.5	510	2000
21FLGW 3548	S205	30.95018	-85.84243	4/19/1999	1030	1.4	18	
21FLGW 3548	S205	30.95018	-85.84243	5/17/1999	1130	1	150	3400
21FLGW 3548	S205	30.95018	-85.84243	6/16/1999	1045	0.5	220	1100
21FLGW 3548	S205	30.95018	-85.84243	7/13/1999	1530	0	230	1600
21FLGW 3548	S205	30.95018	-85.84243	7/19/1999	1030	1.4		110Q
21FLGW 3548	S205	30.95018	-85.84243	8/11/1999	1030	0.7	144	680
21FLGW 3548	S205	30.95018	-85.84243	9/15/1999	1030	0.7	26	180
21FLGW 3548	S205	30.95018	-85.84243	10/13/1999	1045	2.3	106	1500
21FLGW 3548	S205	30.95018	-85.84243	11/18/1999	1210	1.64	14	100
21FLGW 3548	S205	30.95018	-85.84243	12/21/1999	1000	1.64	560	2700
21FLGW 3548	S205	30.95018	-85.84243	1/13/2000	1315	1.64	950	5750
21FLGW 3548	S205	30.95018	-85.84243	2/16/2000	1300	1.64	2000	5700
21FLGW 3548	S205	30.95018	-85.84243	3/21/2000	1000	1.64	1600	10000
21FLGW 3548	S205	30.95018	-85.84243	3/21/2000	1030	7.55	1500	12000
21FLGW 3548	S205	30.95018	-85.84243	4/12/2000	1200	0.4	14	210
21FLGW 3548	S205	30.95018	-85.84243	5/18/2000	900	0.5	4	60
21FLGW 3548	S205	30.95018	-85.84243	6/14/2000	1200	0.3	12	20
21FLGW 3548	S205	30.95018	-85.84243	7/19/2000	1000	0.3	5	35
21FLGW 3548	S205	30.95018	-85.84243	8/16/2000	1230	0.3	8	20
21FLGW 3548	S205	30.95018	-85.84243	9/14/2000	1200	0.4	24	140
21FLGW 3548	S205	30.95018	-85.84243	10/11/2000	1145	0.5	34	110
21FLGW 3548	S205	30.95018	-85.84243	11/15/2000	1300	0.5	62	400
21FLGW 3548	S205	30.95018	-85.84243	12/13/2000	1230	0.4	18	70
21FLGW 3548	S205	30.95018	-85.84243	1/18/2001	1245	0.5	100	280
21FLGW 3548	S205	30.95018	-85.84243	2/14/2001	1230	0.5	34	200
21FLGW 3548	S205	30.95018	-85.84243	3/14/2001	1300	0.5	2700	10000
21FLGW 3548	S205	30.95018	-85.84243	3/14/2001	1230	0.5	2400	10000
21FLGW 3548	S205	30.95018	-85.84243	4/16/2001	1200	0.5	440	6200
21FLGW 3548	S205	30.95018	-85.84243	5/16/2001	1145	0.5	80	400
21FLGW 3548	S205	30.95018	-85.84243	6/18/2001	1230	0.5	44	900
21FLGW 3548	S205	30.95018	-85.84243	7/18/2001	1200	0.4	20	
21FLGW 3548	S205	30.95018	-85.84243	7/18/2001	1230	0.4	22	
21FLGW 3548	S205	30.95018	-85.84243	8/15/2001	1200	0.5	600	
21FLGW 3548	S205	30.95018	-85.84243	9/15/2001	1145	0.3	44	
21FLGW 3548	S205	30.95018	-85.84243	10/10/2001	1230	0.5	10	
21FLGW 3548	S205	30.95018	-85.84243	11/14/2001	1315	0.25	10	
21FLGW 3548	S205	30.95018	-85.84243	12/11/2001	1245	0.5	64	

21FLGW 3548	S205	30.95018	-85.84243	1/17/2002	1300	0.5	140	
21FLGW 3548	S205	30.95018	-85.84243	2/14/2002	1300	0.5	142	
21FLGW 3548	S205	30.95018	-85.84243	3/13/2002	1245	0.5	230	
21FLGW 3548	S205	30.95018	-85.84243	4/10/2002	1230	0.5	4000	
21FLGW 3548	S205	30.95018	-85.84243	5/15/2002	1315	0.5	86	
21FLGW 3548	S205	30.95018	-85.84243	6/12/2002	1245	0.3	20	
21FLGW 3548	S205	30.95018	-85.84243	7/17/2002	1400	0.2	16	
21FLGW 3548	S205	30.95018	-85.84243	8/14/2002	1320	0.2	16	
21FLGW 3548	S205	30.95018	-85.84243	9/18/2002	1315	0.25	6	
21FLGW 3548	S205	30.95018	-85.84243	10/21/2002	1220	0.2	24	
21FLGW 3548	S205	30.95018	-85.84243	11/14/2002	1435	0.5	240	
21FLGW 3548	S205	30.95018	-85.84243	12/18/2002	1315	0.5	40	
21FLGW 3548	S205	30.95018	-85.84243	1/23/2003	1245	0.5	100	
21FLGW 3548	S205	30.95018	-85.84243	2/19/2003	1245	0.5	760	
21FLGW 3548	S205	30.95018	-85.84243	3/12/2003	1220	0.5	230	
21FLGW 3548	S205	30.95018	-85.84243	4/9/2003	1345	0.5	1800	
21FLGW 3548	S205	30.95018	-85.84243	5/20/2003	1300	0.5	10	
21FLGW 3548	S205	30.95018	-85.84243	6/11/2003	1245	0.5	72	
21FLGW 3548	S205	30.95018	-85.84243	7/10/2003	1230	0.5	46	
21FLGW 3548	S205	30.95018	-85.84243	8/18/2003	1245	0.5	2600	
21FLGW 3548	S205	30.95018	-85.84243	9/10/2003	1230	0.5	200	
21FLGW 3548	S205	30.95018	-85.84243	10/14/2003	1215	0.5	96	
21FLGW 3548	S205	30.95018	-85.84243	11/24/2003	1230	0.45	130	
21FLGW 3548	S205	30.95018	-85.84243	12/10/2003	1220	0.5	100	
21FLGW 3548	S205	30.95018	-85.84243	1/14/2004	1245	0.5	80	
21FLGW 3548	S205	30.95018	-85.84243	2/11/2004	1215	0.5	530	
FL STORET								
13200	NWC-SL-1003 COOEY POND	30.77567	85.86397	3/25/2002		1.64	1	
13201	NWC-SL-1004 CRAVY LAKES	30.52347	85.76119	3/27/2002		1.64	1	
13202	NWC-SL-1005 UNNAMED LAKE	30.43436	86.06828	4/4/2002		1.64	1	
13203	NWC-SL-1006 BLACK LAKE	30.52900	85.75378	3/27/2002		1.64	1	
13204	NWC-SL-1007 UNNAMED LAKE	30.77069	85.72117	3/25/2002		1.48	1	
13207	NWC-SL-1011 UNNAMED LAKE	30.50239	85.80778	3/28/2002		1.64	1	
13208	NWC-SL-1013 BOB RUSS LAKE	30.50831	85.76981	3/27/2002		1.64	1	
13215	NWC-SL-1021 CARYVILLE CEMETARY POND	30.78161	85.80564	3/25/2002		1.64	4	
13217	NWC-SL-1024 UNNAMED LAKE	30.52808	85.85425	3/14/2002		0.16	5	
13218	NWC-SL-1025 LAKE CHIPLEY	30.75944	86.13619	3/21/2002		1.64	7	
13219	NWC-SL-1026 UNNAMED LAKE	30.69931	85.68339	3/25/2002		1.64	2	
13220	NWC-SL-1027 UNNAMED LAKE	30.96056	85.65381	3/21/2002		1.64	36	
13221	NWC-SL-1029 UNNAMED LAKE	30.73150	86.07747	3/21/2002		1.48	6	

13224	NWC-SL-1033 UNNAMED LAKE	30.76031	85.46947	3/20/2002		1.64	10	
13226	NWC-SL-1035 UNNAMED LAKE	30.74567	85.85414	3/28/2002		1.64	1	
13227	NWC-SL-1037 HORSELOT POND	30.54883	85.66844	4/1/2002		1.64	2	
13228	NWC-SL-1039 UNNAMED LAKE	30.66686	86.09447	4/2/2002		1.64	14	
13680	NWC-SS-1003 UNNAMED STREAM	30.62353	85.69383	4/22/2002		0.33	18	
13681	NWC-SS-1005 OPEN CREEK	30.74011	85.68528	4/11/2002		0.82	200	
13682	NWC-SS-1006 WRIGHTS CREEK	30.83769	85.79756	4/23/2002		1.64	88	
13689				4/30/2002		0.98	40	
13691	NWC-SS-1020 MILL CREEK (WALTON COUNTY)	30.61486	86.06647	5/8/2002		0.49	128	
13693	NWC-SS-1022 BEAR BAY CREEK	30.52217	85.78478	5/15/2002		0.33	6	
13694	NWC-SS-1024 EAST RIVER	30.42592	85.94975	5/7/2002		1.15	8	
13695	NWC-SS-1027 CAMP BRANCH	30.80006	85.67067	4/16/2002		0.33	160	
13696	NWC-SS-1033 MINNOW CREEK	30.89506	85.50642	4/30/2002		0.33	12	
13697	NWC-SS-1034 PARROT CREEK	30.95669	85.84078	5/9/2002		1.15	26	
13699	NWC-SS-1037 LOG RIVER	30.84225	85.87739	5/21/2002		0.16	220	
13701	NWC-SS-1040 BIG BRANCH	30.76683	86.08778	5/13/2002		0.66	1200	
13702	NWC-SS-1041 BIG BRANCH	30.81611	86.10714	5/13/2002		0.33	96	
13703	NWC-SS-1042 FLAT CREEK (WASHINGTON COUNTY)	30.71400	85.50969	5/14/2002		0.33	60	
13704				5/16/2002		0.66	70	
13705	NWC-SS-1049 UNNAMED STREAM	30.92697	85.82581	5/22/2002		0.33	10	
13706	NWC-SS-1050 JUNIPER CREEK (WALTON COUNTY)	30.75236	86.12114	5/28/2002		0.33	130	
14440	NWC-LL-1001 PATE LAKE	30.69558	85.74861	6/26/2002		1.64	1	
14442	NWC-LL-1003 RUSS POND	30.50456	85.74697	8/6/2002		0.66	1	
14443	NWC-LL-1004 BLUE HOMESTEAD LAKE	30.53572	85.62394	7/23/2002		1.64	1	
14446	NWC-LL-1008 JUNIPER LAKE	30.77256	86.13906	7/31/2002		1.64	1	
14448	NWC-LL-1010 PATE LAKE	30.68986	85.74836	6/26/2002		1.64	1	
14450	NWC-LL-1012 SAND HAMMOCK POND	30.97736	85.63453	7/10/2002		1.64	1	
14451	NWC-LL-1013 SAND HAMMOCK POND	30.97744	85.63622	7/10/2002		1.64	6	

14453	NWC-LL-1015 WARMOUTH LAKE	30.55747	85.78794	8/8/2002		1.31	1	
14454				7/11/2002		1.64	1	
14455	NWC-LL-1017 LAKE VICTOR	30.95236	85.89417	7/31/2002		1.64	1	
14457	NWC-LL-1020 LAKE CASSIDY	30.81764	86.02925	7/11/2002		1.64	1	
14459	NWC-LL-1022 BIG BLUE LAKE	30.46117	85.74600	8/6/2002		1.64	1	
14461	NWC-LL-1024 LAKE CASSIDY	30.81517	86.03106	7/11/2002		1.64	1	
14462	NWC-LL-1025 BIG BLUE LAKE	30.47208	85.73708	8/6/2002		1.64	1	
14464	NWC-LL-1029 OWENS LAKE	30.66325	85.59636	7/23/2002		1.64	1	
14466	NWC-LL-1031 UNNAMED LAKE	30.49353	85.77958	8/8/2002		1.64	46	
14485	NWC-LR-1002 CHOCTAWHATCHEE RIVER	30.53361	85.87942	10/2/2002		0.66	28	
14486	NWC-LR-1003 CHOCTAWHATCHEE RIVER	30.39928	86.07467	9/10/2002		1.64	9	
14487	NWC-LR-1004 CHOCTAWHATCHEE RIVER	30.78417	85.81692	9/17/2002		0.82	39	
14488	NWC-LR-1005 CHOCTAWHATCHEE RIVER	30.91708	85.85586	9/30/2002		0.49	260	
14489	NWC-LR-1007 CHOCTAWHATCHEE RIVER	30.78514	85.81775	9/17/2002		0.82	46	
14491	NWC-LR-1010 CHOCTAWHATCHEE RIVER	30.47933	85.87322	10/1/2002		1.64	50	
14492	NWC-LR-1012 CHOCTAWHATCHEE RIVER	30.70303	85.84394	9/11/2002		1.64	22	
14494	NWC-LR-1016 HOLMES CREEK	30.65983	85.67664	9/19/2002		1.64	146	
14495	NWC-LR-1017 CHOCTAWHATCHEE RIVER	30.40256	86.05247	9/10/2002		1.64	6	
14496	NWC-LR-1018 CHOCTAWHATCHEE RIVER	30.41550	85.98667	9/30/2002		1.64	180	
14498	NWC-LR-1021 HOLMES CREEK	30.97842	85.51792	10/3/2002		0.33	42	
14499	NWC-LR-1022 CHOCTAWHATCHEE RIVER	30.40367	86.05056	9/10/2002		1.64	6	
14500	NWC-LR-1023 HOLMES CREEK	30.60758	85.77592	9/5/2002		1.64	12	
14501	NWC-LR-1025 HOLMES CREEK	30.64683	85.69336	9/19/2002		1.64	102	
14502	NWC-LR-1026 CHOCTAWHATCHEE RIVER	30.40347	86.04819	9/10/2002		1.64	8	
14503	NWC-LR-1027 CHOCTAWHATCHEE RIVER	30.71167	85.83992	9/11/2002		1.64	30	

14505	NWC-LR-1029 HOLMES CREEK	30.60569	85.77542	9/5/2002		1.64	20	
14506	NWC-LR-1030 HOLMES CREEK	30.53789	85.86108	9/4/2002		1.64	22	
14507	NWC-LR-1031 CHOCTAWHATCHEE RIVER	30.84100	85.87983	9/30/2002		1.64	180	
14509	NWC-LR-1034 HOLMES CREEK	30.59075	85.83894	10/2/2002		1.64	10	
14510	NWC-LR-1035 CHOCTAWHATCHEE RIVER	30.54508	85.87839	10/2/2002		1.64	42	
14511	NWC-LR-1036 CHOCTAWHATCHEE RIVER	30.40147	85.99561	9/30/2002		1.64	155	
14513	NWC-LR-1041 CHOCTAWHATCHEE RIVER	30.66053	85.87361	10/9/2002		1.64	14	
19501	BRUNSON LANDING SPRING	30.60922	85.75856	6/5/2003			1	
19501	BRUNSON LANDING SPRING	30.60922	85.75856	6/5/2003			1	
19502	CHOCTAWHATCHEE BLUE SPRING (HOLMES)	30.85167	85.88583	12/3/2002			2	
19502	CHOCTAWHATCHEE BLUE SPRING (HOLMES)	30.85167	85.88583	12/3/2002			2	
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	9/11/2002		0.00		130
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	9/11/2002		0.00	50	
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	9/17/2003		0.49		1300
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	9/17/2003		0.49	86	
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	10/22/2003		0.49		2000
32020011	CHOCTAWHATCHEE RIV HWY 90	30.67722	85.82750	10/22/2003		0.49	20	
32020139	Choctawhatchee R TMDL Site # 49E-4A @ Carlisle Lk	30.61486	85.90769	7/24/2003		0.49	10	
32020139	Choctawhatchee R TMDL Site # 49E-4A @ Carlisle Lk	30.61486	85.90769	7/24/2003		0.49		270
32020139	Choctawhatchee R TMDL Site # 49E-4A @ Carlisle Lk	30.61486	85.90769	12/30/2003		0.49	142	
32020139	Choctawhatchee R TMDL Site # 49E-4A @ Carlisle Lk	30.61486	85.90769	12/30/2003		0.49		370
32020140	Choctawhatchee R @ TMDL Site# 49E-5	30.61575	85.91283	7/24/2003		0.49	30	
32020140	Choctawhatchee R @ TMDL Site# 49E-5	30.61575	85.91283	7/24/2003		0.49		330
32020140	Choctawhatchee R @ TMDL Site# 49E-5	30.61575	85.91283	12/30/2003		0.49	98	
32020140	Choctawhatchee R @ TMDL Site# 49E-5	30.61575	85.91283	12/30/2003		0.49		500

32020141	Choctawhatchee R @ TMDL Site # 49E-6	30.62417	85.91069	7/24/2003		0.49	60	
32020141	Choctawhatchee R @ TMDL Site # 49E-6	30.62417	85.91069	7/24/2003		0.49		350
32020141	Choctawhatchee R @ TMDL Site # 49E-6	30.62417	85.91069	12/30/2003		0.49	96	
32020141	Choctawhatchee R @ TMDL Site # 49E-6	30.62417	85.91069	12/30/2003		0.49		470
32020142	Choctawhatchee R. @ Sandy Cr Confl TMDL#49E-7	30.63089	85.91269	7/24/2003		0.49	10	
32020142	Choctawhatchee R. @ Sandy Cr Confl TMDL#49E-7	30.63089	85.91269	7/24/2003		0.49		350
32020142	Choctawhatchee R. @ Sandy Cr Confl TMDL#49E-7	30.63089	85.91269	12/30/2003		0.49	126	
32020142	Choctawhatchee R. @ Sandy Cr Confl TMDL#49E-7	30.63089	85.91269	12/30/2003		0.49		470
32020143	Choctawhatchee R abv Sandy Cr TMDL # 49E-8	30.64014	85.90697	7/24/2003		0.49	75	
32020143	Choctawhatchee R abv Sandy Cr TMDL # 49E-8	30.64014	85.90697	7/24/2003		0.49		365
32020143	Choctawhatchee R abv Sandy Cr TMDL # 49E-8	30.64014	85.90697	12/30/2003		0.49	112	
32020143	Choctawhatchee R abv Sandy Cr TMDL # 49E-8	30.64014	85.90697	12/30/2003		0.49		490
32020144	Choctawhatchee R TMDL#49-1 South boundry	30.63939	85.88236	9/17/2003		0.49		3100
32020144	Choctawhatchee R TMDL#49-1 South boundry	30.63939	85.88236	9/17/2003		0.49	210	
32020145	Choctawhatchee R TMDL # 49-2	30.64983	85.89467	9/17/2003		0.49		760
32020145	Choctawhatchee R TMDL # 49-2	30.64983	85.89467	9/17/2003		0.49	230	
32020146	Choctawhatchee R TMDL # 49-3	30.71117	85.84133	9/17/2003		0.49		2500
32020146	Choctawhatchee R TMDL # 49-3	30.71117	85.84133	9/17/2003		0.49	78	
32020147	Choctawhatchee R TMDL # 49-5	30.79514	85.82131	9/11/2002		0.49	50	
32020147	Choctawhatchee R TMDL # 49-5	30.79514	85.82131	9/11/2002		0.49		130
32020147	Choctawhatchee R TMDL # 49-5	30.79514	85.82131	9/17/2003		0.49		2500
32020147	Choctawhatchee R TMDL # 49-5	30.79514	85.82131	9/17/2003		0.49	190	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/13/2000		1.64	14	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/13/2000		1.64		150
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/17/2000		1.64	1	

3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/17/2000		1.64		60
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/15/2000		1.64	4	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/15/2000		1.64		60
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/2000		1.64		50
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/2000		1.64	4	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/17/2000		1.64		50
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/17/2000		1.64	10	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/18/2000		1.64		130
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/18/2000		1.64	6	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/2000		1.64		110
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/2000		1.64		160
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/2000		1.64	8	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/2000		1.64	12	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/16/2000		1.64	24	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/16/2000		1.64		170
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/14/2000		1.64		80
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/14/2000		1.64	26	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/22/2001		1.64	680	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/22/2001		1.64		1400
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/22/2001		1.64	760	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/22/2001		1.64		1300
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/15/2001		1.64	34	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/15/2001		1.64		165
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/15/2001		1.64	82	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/15/2001		1.64		300
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/19/2001		1.64	18	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/19/2001		1.64		340

3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/17/2001		1.64	9	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/17/2001		1.64		70
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/19/2001		1.64		1400
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/19/2001		1.64	32	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/19/2001		1.64	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/19/2001		1.64	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/16/2001		1.64	34	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/20/2001		1.64	7	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/11/2001		1.64	16	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/15/2001		1.64	14	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/12/2001		1.64	24	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/15/2002		1.64	52	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/13/2002		1.64	280	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/14/2002		1.64	62	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/11/2002		1.64	360	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/16/2002		1.64	1	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/13/2002		1.64	10	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/18/2002		1.64	4	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/15/2002		1.64	6	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/19/2002		1.64	94	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/22/2002		1.64	56	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/18/2002		1.64	68	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/19/2002		1.64	45	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/21/2003		1.64	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/20/2003		1.64	310	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/13/2003		1.64	69	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/10/2003		1.64	240	

3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/14/2003		1.64	14	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/12/2003		1.64	180	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/12/2003		1.64	180	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/16/2003		1.64	28	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/16/2003		1.64	28	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/14/2003		1.64	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/14/2003		1.64	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/15/2003		1.64	56	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/15/2003		1.64	56	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/13/2003		1.64	30	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/13/2003		1.64	30	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/17/2003		1.64	24	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/17/2003		1.64	24	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/11/2003		1.64	48	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/11/2003		1.64	48	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/15/2004		1.64	20	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/15/2004		1.64	20	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/12/2004		1.64	230	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/12/2004		1.64	230	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/10/1998		4.59		2500
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/10/1998		4.59	540	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/22/1999		4.92		90
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	4/22/1999		4.92	10	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/17/1999		5.38		130
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/17/1999		5.38	16	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/14/1999		5.38		110
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	12/14/1999		5.38	24	

3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/12/2000		5.38	94	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/12/2000		5.38	98	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/12/2000		5.38		430
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/12/2000		5.38		410
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/17/2000		5.38	350	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/17/2000		5.38		2800
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/20/2000		5.38	54	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/20/2000		5.38		350
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/2000		5.74	6	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/2000		5.74		50
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/10/1999		7.22		680
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	8/10/1999		7.22	106	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/17/1999		7.55	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	6/17/1999		7.55		1
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/1999		7.55	30	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	7/20/1999		7.55		520
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/14/1999		8.20		250
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	1/14/1999		8.20	150	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/12/1999		8.20	250	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	5/12/1999		8.20		2200
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/19/1998		8.53		400
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	11/19/1998		8.53	82	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/11/1999		8.53		230
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	2/11/1999		8.53	64	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/11/1999		8.53	400	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	3/11/1999		8.53		2800
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/14/1999		8.69	12	

3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	9/14/1999		8.69		160
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/15/1998		9.84	40	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/15/1998		9.84		300
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/1999		31.20	154	
3534	CHOCTAWHATCHEE RIVER NEAR BRUCE	30.45128	85.89825	10/12/1999		31.20		1700
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/8/1998		0.00	850	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/8/1998		0.00		4400
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/10/1999		0.00	570	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/10/1999		0.00		2700
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/13/1999		0.00		1600
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/13/1999		0.00	230	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/17/2002		0.66	16	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/14/2002		0.66	16	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/21/2002		0.66	24	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/14/2001		0.82	10	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/18/2002		0.82	6	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/14/2000		0.98		20
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/14/2000		0.98	12	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/14/2000		0.98		20
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/14/2000		0.98	12	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/19/2000		0.98		35
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/19/2000		0.98	5	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/16/2000		0.98	8	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/16/2000		0.98		20
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/19/2001		0.98	44	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/12/2002		0.98	20	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/12/2000		1.31	14	

3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/12/2000		1.31		210
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/14/2000		1.31		140
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/14/2000		1.31	24	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/13/2000		1.31		70
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/13/2000		1.31	18	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/18/2001		1.31	22	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/18/2001		1.31	20	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/24/2003		1.48	130	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/24/2003		1.48	130	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/16/1999		1.64		1100
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/16/1999		1.64	220	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/18/2000		1.64	4	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/18/2000		1.64		60
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/11/2000		1.64		110
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/11/2000		1.64	34	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/15/2000		1.64	62	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/15/2000		1.64		400
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/18/2001		1.64	100	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/18/2001		1.64		280
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/14/2001		1.64		200
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/14/2001		1.64	34	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/14/2001		1.64	2700	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/14/2001		1.64		10000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/14/2001		1.64		10000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/14/2001		1.64	2400	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/16/2001		1.64	440	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/16/2001		1.64		6200

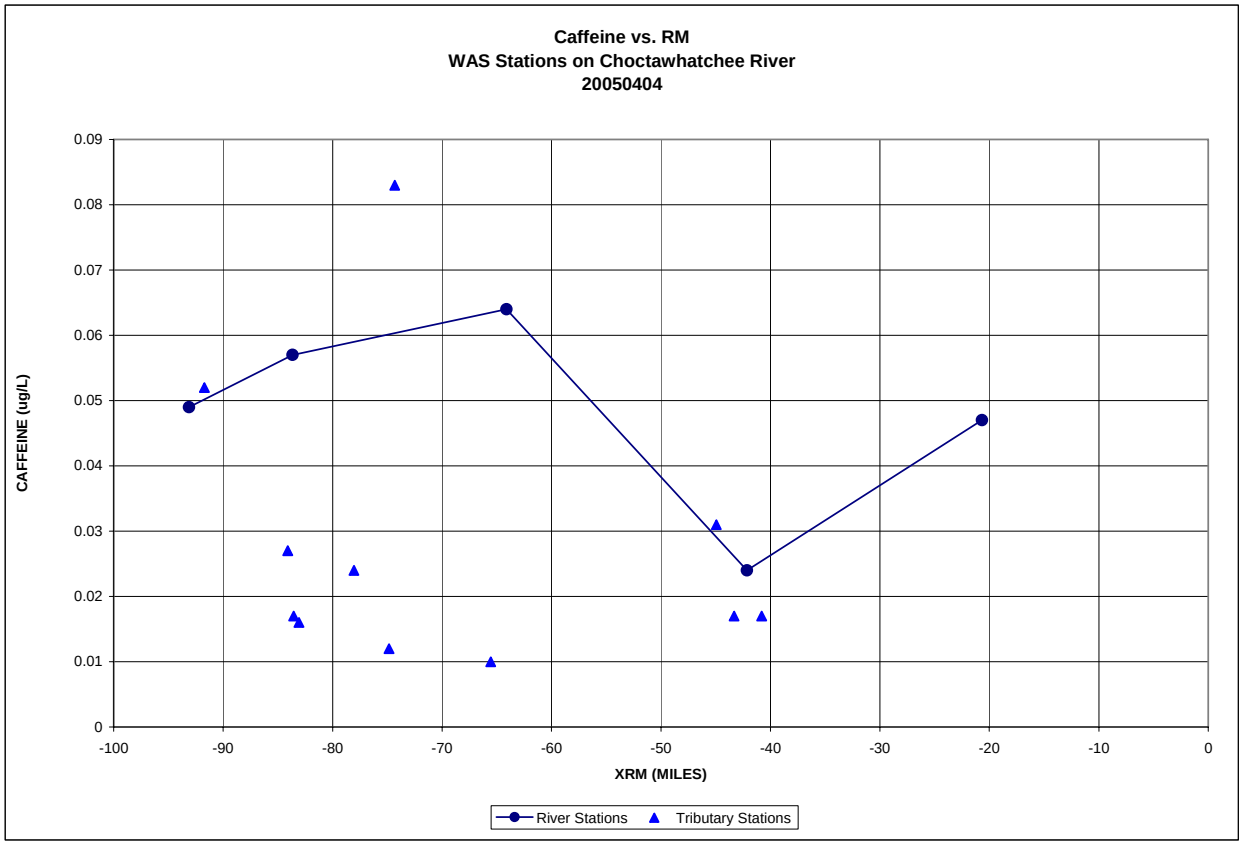
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/16/2001		1.64		400
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/16/2001		1.64	80	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/18/2001		1.64		900
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/18/2001		1.64	44	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/15/2001		1.64	600	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/10/2001		1.64	10	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/11/2001		1.64	64	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/17/2002		1.64	140	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/14/2002		1.64	142	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/13/2002		1.64	230	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/10/2002		1.64	4000	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/15/2002		1.64	86	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/14/2002		1.64	240	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/18/2002		1.64	40	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/23/2003		1.64	100	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/19/2003		1.64	760	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/12/2003		1.64	230	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/9/2003		1.64	1800	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/20/2003		1.64	10	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/11/2003		1.64	72	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	6/11/2003		1.64	72	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/10/2003		1.64	46	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	7/10/2003		1.64	46	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/18/2003		1.64	2600	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/18/2003		1.64	2600	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/10/2003		1.64	200	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/10/2003		1.64	200	

3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/14/2003		1.64	96	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/14/2003		1.64	96	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/10/2003		1.64	100	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/10/2003		1.64	100	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/14/2004		1.64	80	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/14/2004		1.64	80	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/11/2004		1.64	530	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/11/2004		1.64	530	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/11/1999		2.30		680
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	8/11/1999		2.30	144	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/15/1999		2.30	26	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	9/15/1999		2.30		180
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/17/1999		3.28	150	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	5/17/1999		3.28		3400
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/13/1999		4.27	260	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/13/1999		4.27		3500
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/19/1999		4.59	18	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	4/19/1999		4.59		110
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/8/1998		4.92	950	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/8/1998		4.92		4700
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/10/1999		4.92		2000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/10/1999		4.92	510	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/18/1999		5.38	14	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/18/1999		5.38		100
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/21/1999		5.38	560	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	12/21/1999		5.38		2700
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/13/2000		5.38	950	

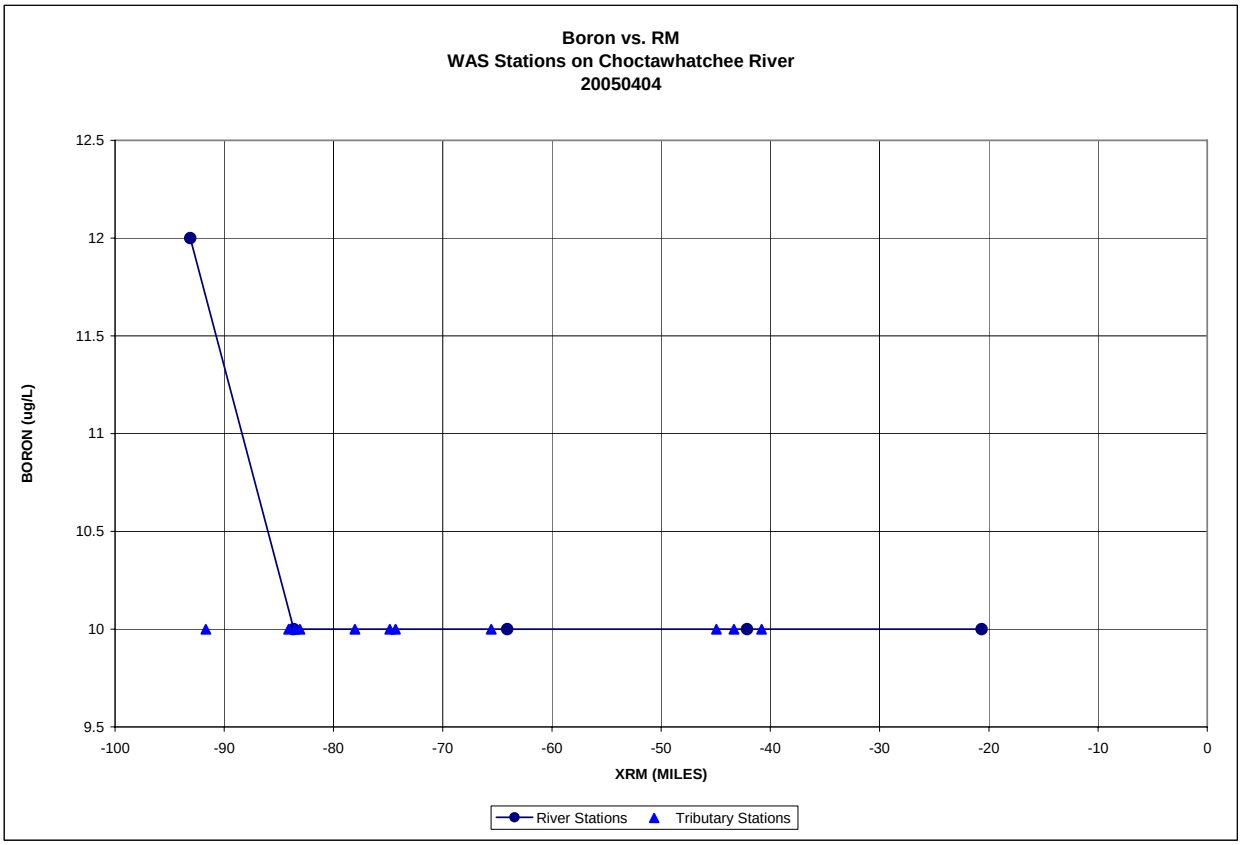
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	1/13/2000		5.38		5750
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/16/2000		5.38		5700
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/16/2000		5.38	2000	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/21/2000		5.38		10000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/21/2000		5.38	1600	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/13/1998		5.58	65	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/13/1998		5.58		80
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/12/1998		5.58		16000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	11/12/1998		5.58	2500	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/10/1999		6.56	40	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	2/10/1999		6.56		210
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/13/1999		7.55		1500
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	10/13/1999		7.55	106	
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/21/2000		24.77		12000
3548	CHOCTAWHATCHEE RIVER AT HWY 2	30.95017	85.84242	3/21/2000		24.77	1500	
S200	Choctaw. Riv. ab Big Cypress Cr.	30.45972	85.88833	4/21/1992		0.00	24	
S200	Choctaw. Riv. ab Big Cypress Cr.	30.45972	85.88833	7/21/1992		0.00	200	
S201	Hard Labor Creek	30.68139	85.63556	4/21/1992		0.00	116	
S201	Hard Labor Creek	30.68139	85.63556	7/21/1992		0.00	34	
S202	Choctawhatchee River	30.77528	85.82722	4/22/1992		0.00	780	
S202	Choctawhatchee River	30.77528	85.82722	7/21/1992		0.00	70	
S203	Gum Creek ab. Choctawhatchee River	30.71639	85.79944	4/21/1992		0.00	90	
S203	Gum Creek ab. Choctawhatchee River	30.71639	85.79944	7/21/1992		0.00	48	
S204	Ten Mile Creek Above Wrights Creek	30.92528	85.82722	1/16/1992		0.00	800	
S204	Ten Mile Creek Above Wrights Creek	30.92528	85.82722	1/16/1992		0.00		3000
S204	Ten Mile Creek Above Wrights Creek	30.92528	85.82722	4/22/1992		0.00	64	
S204	Ten Mile Creek Above Wrights Creek	30.92528	85.82722	7/22/1992		0.00	156	
S205	Choctaw. Riv. ab W. Pittman	30.95917	85.83333	1/16/1992		0.00		6000
S205	Choctaw. Riv. ab W.	30.95917	85.83333	1/16/1992		0.00	2200	

	Pittman							
S205	Choctaw. Riv. ab W. Pittman	30.95917	85.83333	4/22/1992		0.00	400	
S205	Choctaw. Riv. ab W. Pittman	30.95917	85.83333	7/22/1992		0.00	1	
S206	East Pittman Creek	30.96861	85.76944	4/22/1992		0.00	340	
S206	East Pittman Creek	30.96861	85.76944	7/22/1992		0.00	2110	
S207	Parrot Creek	30.98639	85.89917	4/22/1992		0.00	64	
S207	Parrot Creek	30.98639	85.89917	7/22/1992		0.00	230	
S208	Sandy Creek	30.66194	85.92167	4/21/1992		0.00	600	
S208	Sandy Creek	30.66194	85.92167	7/21/1992		0.00	170	
S209	West Sandy Creek Above Sandy Creek	30.77750	86.07056	1/16/1992		0.00		10
S209	West Sandy Creek Above Sandy Creek	30.77750	86.07056	1/16/1992		0.00	10	
S209	West Sandy Creek Above Sandy Creek	30.77750	86.07056	3/9/1992		0.00		1200
S209	West Sandy Creek Above Sandy Creek	30.77750	86.07056	3/9/1992		0.00	140	
S209	West Sandy Creek Above Sandy Creek	30.77750	86.07056	6/8/1992		0.00	150	
S210	Minnow Creek	30.88389	85.50750	7/20/1992		0.00	250	
S211	Seven Runs Creek	30.53778	85.92139	7/21/1992		0.00	980	
S212	Wrights Creek at Hwy 177A	30.86250	85.75750	4/22/1992		0.00	116	
S212	Wrights Creek at Hwy 177A	30.86250	85.75750	7/22/1992		0.00	134	
S282	Choctawhatchee River above Parrot Creek	30.96722	85.82806	1/16/1992		0.00	3000	
S282	Choctawhatchee River above Parrot Creek	30.96722	85.82806	1/16/1992		0.00		6000
S282	Choctawhatchee River above Parrot Creek	30.96722	85.82806	4/22/1992		0.00	550	
S282	Choctawhatchee River above Parrot Creek	30.96722	85.82806	7/22/1992		0.00	770	

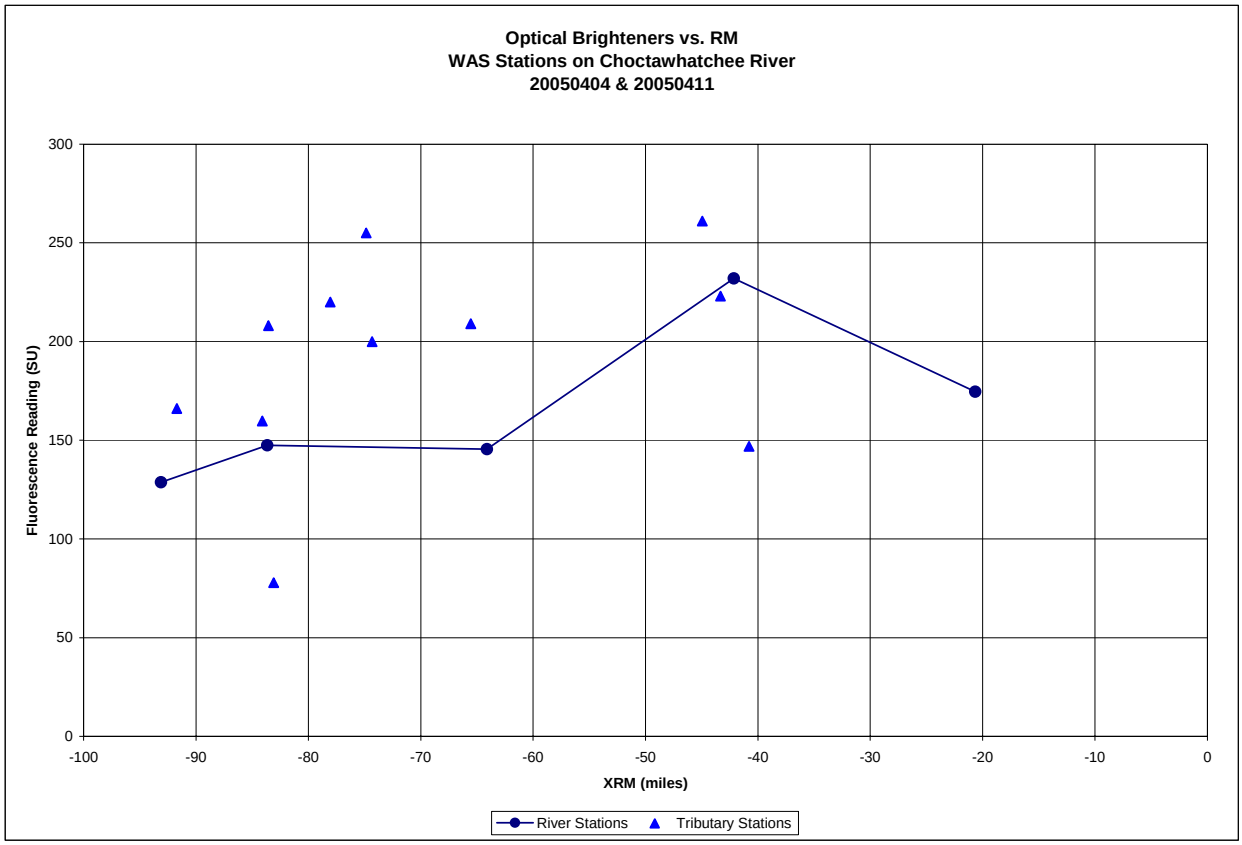
Caffeine v River Mile Plot
FDEP Watershed Assessment Section survey data, 4/4/2005



Boron v River Mile Plot
FDEP Watershed Assessment Section survey data, 4/4/2005



Optical Brighteners v River Mile Plot
FDEP Watershed Assessment Section survey data, 4/4/2005 and 4/11/2005



Data for the Above Plots and Figures 5.4a and 5.4b

Station Number	Station Description	Latitude	Longitude	RM of Tributary to Choctawhatchee River	RM Choctawhatchee River	FCOL N/100ML 31616	TCOL N/100ML 31501	Caffeine (ug/L)	Boron (ug/L)	Optical Brighteners (SU)
100	Choctawhatchee River at AL SR 52	31.04117	85.85181		93.12	320	2100	0.049	12	128.7
105	Pea River at AL SR 27	31.02675	85.88431	91.7		270	2000	0.052	10	166.1
115	Parrot Creek at FL SR 179A	30.97614	85.87408	84.1		74	973	0.027	10	159.8
120	Choctawhatchee River at FL SR 2				83.65	300	2000	0.057	10	147.5
110	E Pittman Creek at FL SR 179			83.55		290	1909	0.017	10	208
135	Limestone Bridge at SR 179A	30.95044	85.87883	83.08		86	919	0.016	10	77.9
125	W Pittman Creek at SR 179A	30.91361	85.91542	78.05		40	2000	0.024	10	220
140	Sikes Creek at SR 179			74.85		128	310	0.012	10	255
145	Choctawhatchee River nr Cerro Gordo, E of SR 179A, Buck Rogers Dr., E of Boles Ln	30.83306	85.88214		74.33	23	470	0.083	10	200
170	Wrights Creek at SR 179			65.55		310	1091	0.01	10	209
11	Choctawhatchee River at US 90	30.77575	85.82736		64.1	250	2000	0.064	10	145.5
155	Reedy Creek at SR 181 S of Cedar Log Lake Rd	30.69397	85.88606	44.95		42	600	0.031	10	261
165	Sandy Creek at SR 181	30.66228	85.92058	43.33		88	2000	0.017	10	223
6	Choctawhatchee River at River Rd ups Bruce Creek	30.61994	85.91014		42.14	175	2150	0.024	10	232
175	Bruce Creek at SR 81	30.62475	85.94256	40.80		82	800	0.017	10	146.9
13	Choctawhatchee River at SR 20, at W side boat landing	30.45108	85.89878		20.66	84	1364	0.047	10	174.6

2004 Alabama Data collected by ADEM

Station ID	Station Description	Date	Time (24hr)	Fecal Coliform (col/100ml)	Fecal Coliform oor	CBOD-5day (mg/l)	CBOD-5 oor	TSS (mg/l)	Total-P (mg/l)	TKN (mg/l)	TKN oor

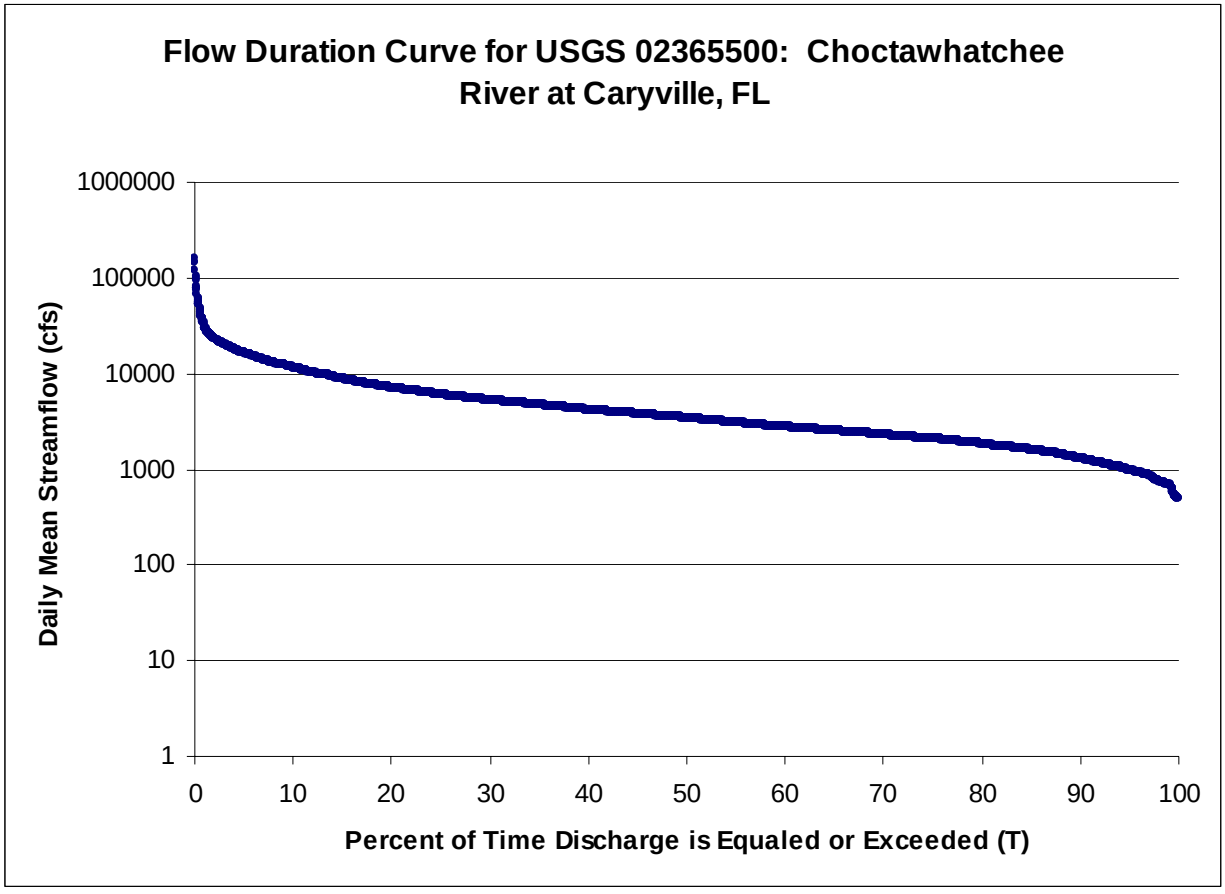
BVC-1	Newton Creek @ US Hwy. 84	10/19/2004	1055	170	H	1	<MDL	5	0.193	0.559	---
BVC-1	Newton Creek @ US Hwy. 85	9/13/2004	1320	200	HG	1.1	---	7	0.045	0.37	---
BVC-1	Newton Creek @ US Hwy. 86	8/31/2004	845	370	H	1.3	---	9	0.042	0.15	<MDL
BVC-1	Newton Creek @ US Hwy. 87	7/6/2004	1417	120	H	1.7	---	16	0.152	0.55	---
BVC-1	Newton Creek @ US Hwy. 88	6/2/2004	1530	6200	HG	3.2	---	52	0.287	0.83	---
BVC-1	Newton Creek @ US Hwy. 89	5/11/2004	1530	83	H	1.7	---	7	0.291	0.15	<MDL
BVC-1	Newton Creek @ US Hwy. 90	4/13/2004	1415	550	H	2.1	---	13	0.205	0.38	---
BVC-1	Newton Creek @ US Hwy. 91	3/24/2004	855	210	H	2.2	---	10	0.26	0.59	---
BVC-2	Beaver Creek @ Houston Co. Rd. 59	8/31/2004	940	920	---	1	---	10	0.324	0.15	<MDL
BVC-2	Beaver Creek @ Houston Co. Rd. 60	9/13/2004	1345	630	HG	1	<MDL	4	0.331	0.54	---
BVC-2	Beaver Creek @ Houston Co. Rd. 61	7/6/2004	1450	1310	HG	2.4	---	16	0.45	0.45	---
BVC-2	Beaver Creek @ Houston Co. Rd. 62	6/2/2004	1545	12600	HG	3	---	100	0.243	1.1	---
BVC-2	Beaver Creek @ Houston Co. Rd. 63	5/11/2004	1655	7200	HG	3.9	---	12	0.729	0.35	---
BVC-2	Beaver Creek @ Houston Co. Rd. 64	4/13/2004	1440	630	HG	1.8	---	11	0.507	0.74	---
BVC-2	Beaver Creek @ Houston Co. Rd. 65	3/24/2004	955	190	---	1.9	---	15	0.369	0.58	---
BVC-2	Beaver Creek @ Houston Co. Rd. 66	10/19/2004	1320	580	H	1	<MDL	7	0.543	0.765	---
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	10/19/2004	1415	180	HE	1	<MDL	10	0.059	0.358	---
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	9/13/2004	1440	190	H	1	<MDL	5	0.049	0.43	---

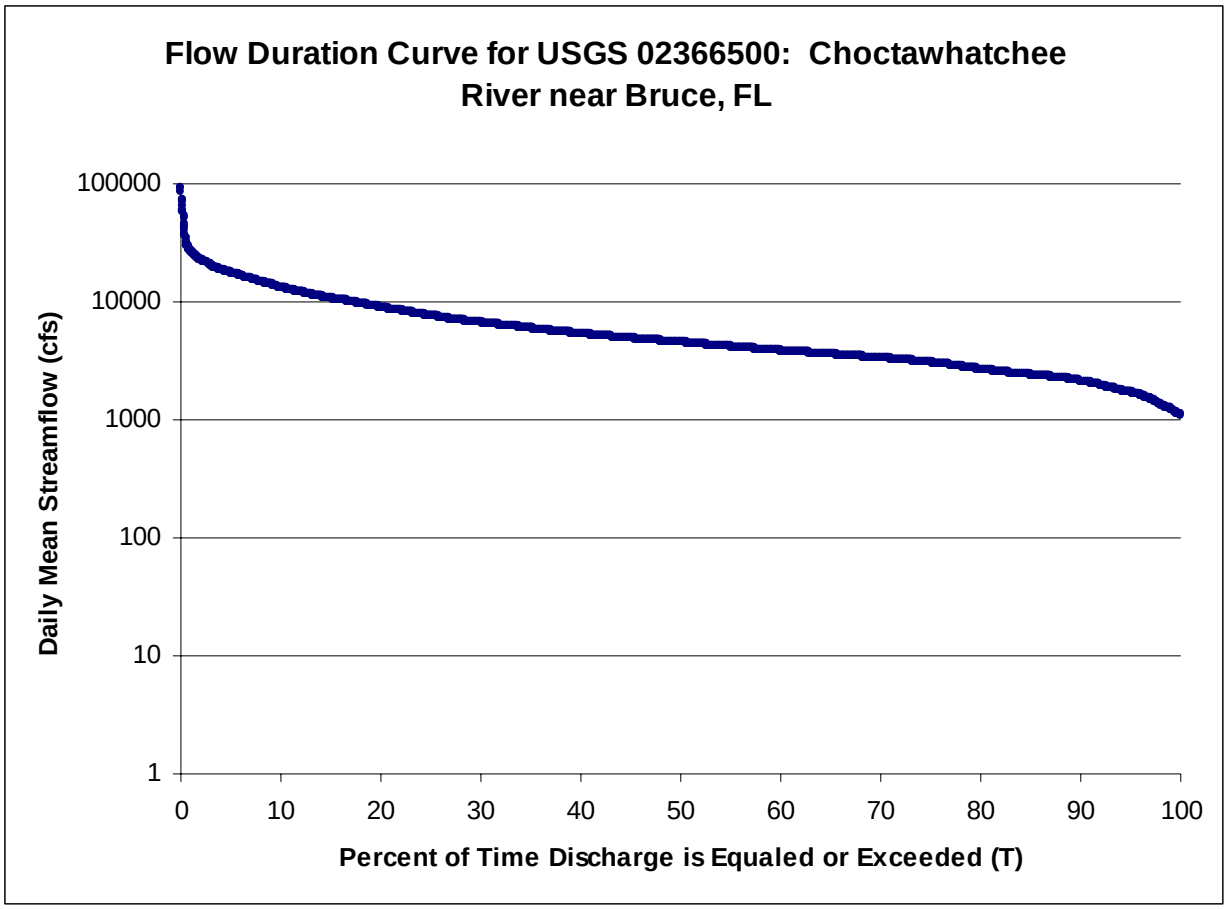
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	8/31/2004	1015	14	HE	1.1	---	12	0.024	0.15	<MDL
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	7/6/2004	1610	120	H	2.1	---	6	0.028	0.24	---
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	6/2/2004	1655	12700	HG	3.5	---	50	0.008	0.73	---
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	5/11/2004	1737	10	HE	2.2	---	9	0.042	0.15	<MDL
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	4/13/2004	1530	470	H	0.4	---	3	0.038	0.56	---
BVC-3	Beaver Creek 1/4 mile upstream of WWTP outfall	3/24/2004	1050	31	---	1.7	---	7	0.052	0.28	---
DRYB-1	Dry Creek @ AL Hwy. 239	4/22/2004	1135		---	1.8	---	9	0.058	0.15	<MDL
DRYB-1	Dry Creek @ AL Hwy. 240	6/17/2004	1148	650	G	1.1	---	12	0.062	0.29	---
DRYB-1	Dry Creek @ AL Hwy. 241	9/30/2004	1015		---		---	6	0.042	0.51	---
DRYB-1	Dry Creek @ AL Hwy. 242	5/27/2004	1315		---		---	20	0.023	0.15	<MDL
DRYB-1	Dry Creek @ AL Hwy. 243	11/30/2004	930	140	---	1.7	---	49	0.01	0.404	---
DRYB-1	Dry Creek @ AL Hwy. 244	8/26/2004	1140	360	---	1.1	---	6	0.03	0.15	<MDL
DRYB-1	Dry Creek @ AL Hwy. 245	7/22/2004	1315		---		---	9	0.021	0.17	---
DRYB-1	Dry Creek @ AL Hwy. 246	10/7/2004	1400		---		---	9	0.041	0.32	---
DRYB-1	Dry Creek @ AL Hwy. 247	3/4/2004	1220	60	E	1.4	---	23	0.064	0.15	<MDL
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	6/3/2004	1050	13500	G	2.7	---	45	0.097	0.78	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3	3/23/2004	1012	420	H	2.2	---	6	0.019	0.4	---

	mi us of Conf with Harrand Cr										
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	4/14/2004	1225	170	---	1.9	---	7	0.012	0.6	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	5/12/2004	1245	1500	---	1.5	---	8	0.039	0.15	<MDL
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	5/12/2004	1250	1300	---	2	---	9	0.06	0.15	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	8/31/2004	1340	2300	---	1	<MDL	48	0.115	0.44	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	9/13/2004	1220	1800	H	1	<MDL	6	0.085	0.5	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	10/19/2004	1010	3700	HG	0.8	---	42	0.068	0.625	---
UTHC-1	UT to Harrand Creek @ Dixie Drive approx. 1.3 mi us of Conf with Harrand Cr	7/7/2004	1027	2700	G	1.5	---	14	0.026	0.15	<MDL

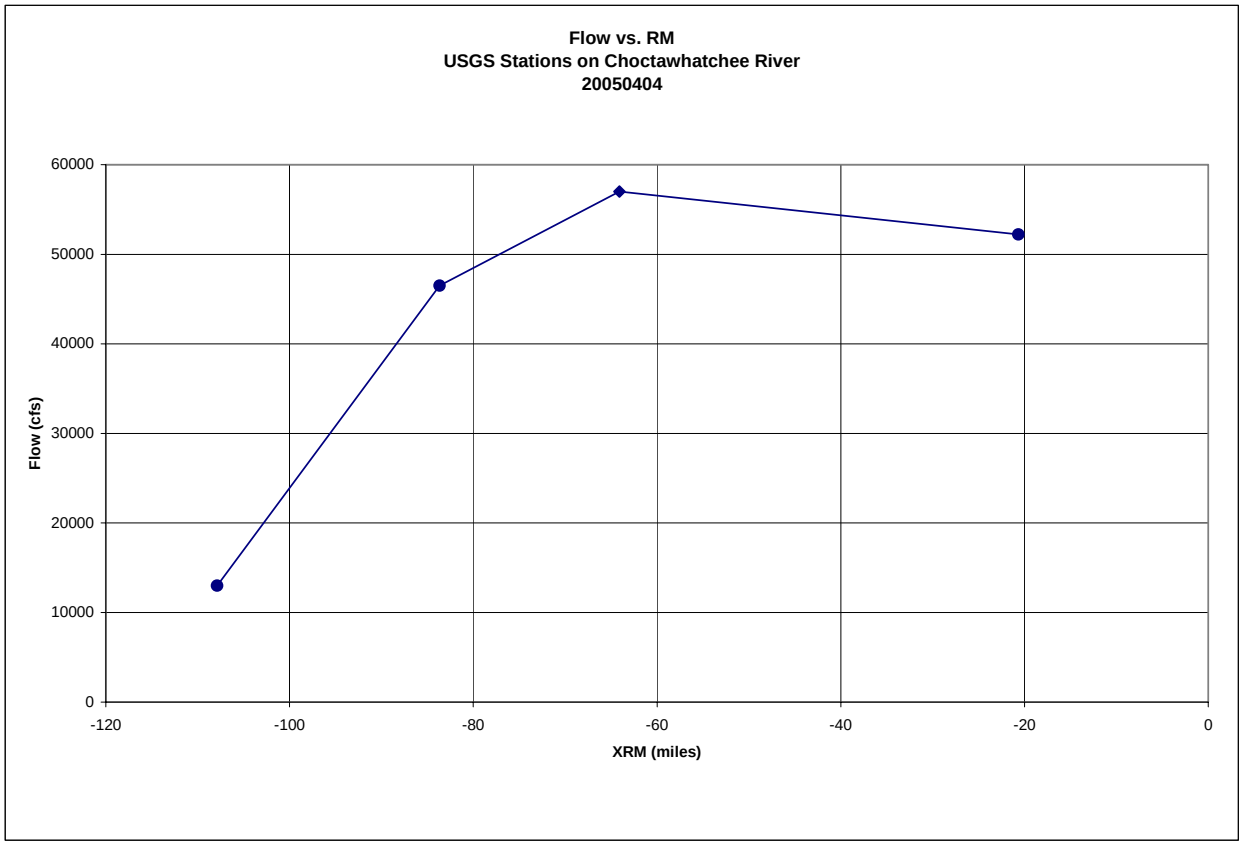
Appendix H: USGS Gage and Flow Data

USGS Gage Number	Gage Name	Latitude	Longitude	Daily Streamflow Period of Record		Has Real-Time Data
				Beginning	End	
02361000	Choctawhatchee River near Newton, AL.	312034	853638	12/1/1921	9/30/2003	x
02361500	Choctawhatchee River near Bellwood AL	310933	854704	12/1/1921	9/30/2003	x
02362000	Choctawhatchee River near Geneva, Alabama	310228	855108	10/1/1922	11/30/1925	x
02362240	Little Double Bridges Creek nr Enterprise, AL.	311620	855730	8/7/1985	9/30/2003	x
02363000	Pea River near Ariton AL	313541	854659	10/1/1938	9/30/2003	x
02364000	Pea River at Elba, AL.	312448	860347	NA	NA	x
02364500	Pea River near Samson AL	310645	860558	9/1/1904	9/30/2003	x
02365200	Choctawhatchee River nr Pittman, FLA.	305659	855035	7/1/1976	9/30/2004	x
02365500	Choctawhatchee River at Caryville, FLA.	304632	854940	10/1/1929	9/30/2004	x
02366500	Choctawhatchee River nr Bruce, FLA.	302703	855354	10/1/1930	9/30/2004	x




Flow Duration Curve for USGS 02366500: Choctawhatchee River near Bruce, FL
Daily Mean Streamflow (cfs)
100000
10000
1000
100
10
1
0
10
20
30
40
50
60
70
80
90
100
Percent of Time Discharge is Equaled or Exceeded (T)

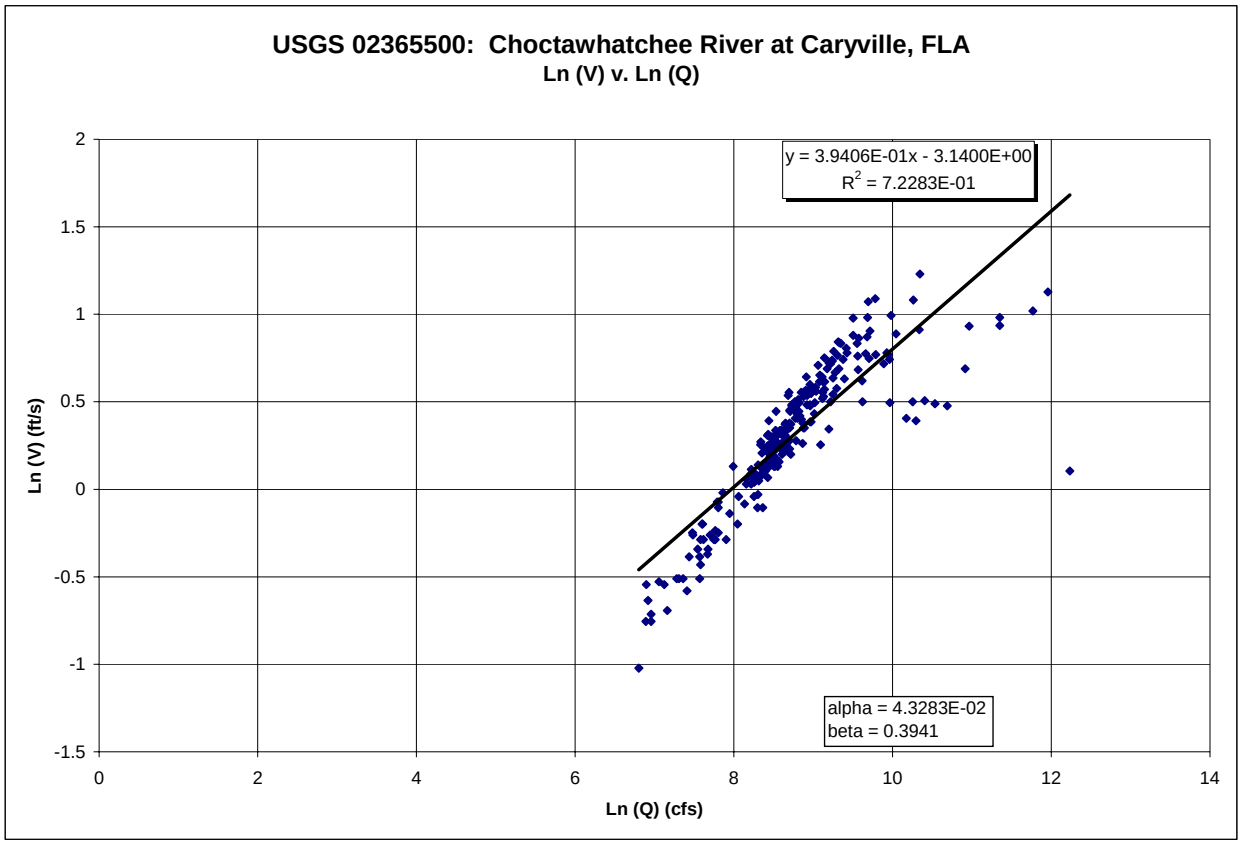
Flow v River Mile Plot
FDEP Watershed Assessment Section survey data, 4/4/2005



Data for the Above Flow v River Mile Plot

STATION	STATE	STATION NUMBER	RM	DA (STREAM)	DATE	Q
			MILES	MI^2	YYYYMMDD	CFS
Choctawhatchee River near Bellwood, AL	AL	2361500	107.888	1280	20050404	13000
Choctawhatchee near Geneva	AL	2362000		1346	20050404	
Pea River near Samson, AL	AL	2364500	91.7	3097	20050404	
Choctawhatchee River at SR 2 near Pittman	FL	2365200	83.65	3209	20050404	46500
Choctawhatchee River at US 90, near Carryville	FL	2365500	64.1	3499	20050404	57000
Choctawhatchee River at SR 20, near Bruce	FL	2366500	20.66	4384	20050404	52200

Velocity Regression for Choctawhatchee River at Caryville, FLA



Appendix I: Ground Water Data in the Choctawhatchee River Basin

GENERATING STATISTICS

ANALYTE GROUP:	BIOLOGICAL
NETWORK:	ALL
WATER RESOURCE:	CONFINED UNCONFINED
PLANNING UNIT:	CHOCTAWHATCHEE RIVER
COLLECTION DATE:	FROM: 1-JAN-1980 TO: 6-JUL-2005
RESULTS:	MAX PER WELL

Parameter Name	Coliform, Total (MPN)	Coliform, Fecal (MF)	Enterococci, Membrane Filter
Parameter Code	31507	31616	31649
Units	#/100ml	#/100ml	#/100ml
Total Wells	17	36	22
Number BDLs	12	30	22
Number MCL/GCL Exceedances	5	NA	NA
Percent MCL/GCL Exceedances	29.40%	NA	NA
Minimum	1	0	0
1st Quartile	1	0	0
Median	1	0	0
3rd Quartile	8	0	0
Maximum	170	27	0
Interquartile Range	7	0	0
Mean	26.941	2.389	0
Standard Deviation	56.181	6.921	0
Relative Standard Deviation	208.53%	289.70%	0%
Standard Error	13.626	1.154	0
Variance	3156.309	47.902	0
Coefficient of Skewness	1420.818	1035.544	0
Number Risk Indicators	NA	3	0
Percent Risk Indicators	NA	8.30%	0%
Number SRA Indicators	0	0	0
Percent SRA Indicators	0%	0%	0%

Appendix J: Modeling Studies in the Choctawhatchee River Basin

The only modeling studies (Jones, 1994) in the basin were conducted to determine circulation patterns in Choctawhatchee Bay. These studies were funded by FDOT in conjunction with a new bridge/causeway (SR 331) over Choctawhatchee Bay.

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