FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Water Resource Management, Bureau of Watershed Management

SOUTH DISTRICT • CALOOSAHATCHEE BASIN

TMDL Report

Fecal Coliform TMDL for Ninemile Canal, WBID 3237D

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Florida Department of Environmental Protection, Bureau of Watershed Management

TMDL Program

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

Identification of Impaired Surface Waters Rule

http://www.dep.state.fl.us/water/tmdl/docs/AmendedIWR.pdf

STORET Program

http://www.dep.state.fl.us/water/storet/index.htm

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/rules/shared/62-302t.pdf

Basin Status Reports

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

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Allocation Technical Advisory Committee (ATAC) Report

http://www.dep.state.fl.us/water/tmdl/docs/Allocation.pdf

U.S. Environmental Protection Agency

Region 4: Total Maximum Daily Loads in Florida

http://www.epa.gov/region4/water/tmdl/florida/

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Chapter 1: INTRODUCTION

1.1 Purpose of Report

This report presents the Total Maximum Daily Load (TMDL) for fecal coliform for Ninemile Canal in the Caloosahatchee Basin. The canal was verified as impaired for lead and fecal coliform, and was included on the Verified List of impaired waters for the Caloosahatchee Basin that was adopted by Secretarial Order in June 2005. This TMDL establishes the allowable loadings to Ninemile Canal that would restore the waterbody so that it meets its applicable water quality criterion for fecal coliform. The TMDL for lead will be completed in 2009, as part of the next basin rotation cycle.

1.2 Identification of Waterbody

Ninemile Canal, located in the northeastern portion of Hendry County, has a 59.6-square-mile (mi^2) drainage area **(Figure 1.1).** The canal, which only encompasses approximately 1.3 miles of the northern region of the watershed, drains into the southeast side of Lake Hicpochee. Ninemile Canal is classified as a Class III freshwater stream.

The small population centers surrounding Ninemile Canal include Labelle, a city of approximately 4,200 people, located west of the canal; Moore Haven, with approximately 1,600 people, located to the north; and Clewiston, with approximately 6,500 people, located east of the canal.

Additional information about the canal's hydrology and geology are available in the Basin Status Report for the Caloosahatchee Basin (Department, June 2003).

For assessment purposes, the Department has divided the Caloosahatchee Basin into water assessment polygons with a unique **w**ater**b**ody **id**entification (WBID) number for each watershed or stream reach. The Ninemile Canal is totally contained within one segment, WBID 3237D **(Figure 1.2).** Ninemile Canal is part of the East Caloosahatchee Planning Unit. Planning units are groups of smaller watersheds (WBIDs) that are part of a larger basin, in this case the Caloosahatchee Basin. The East Caloosahatchee Planning Unit consists of five WBIDs.

Figure 1.1. Location of Ninemile Canal, WBID 3237D, and Major Geopolitical Features in the Caloosahatchee Basin

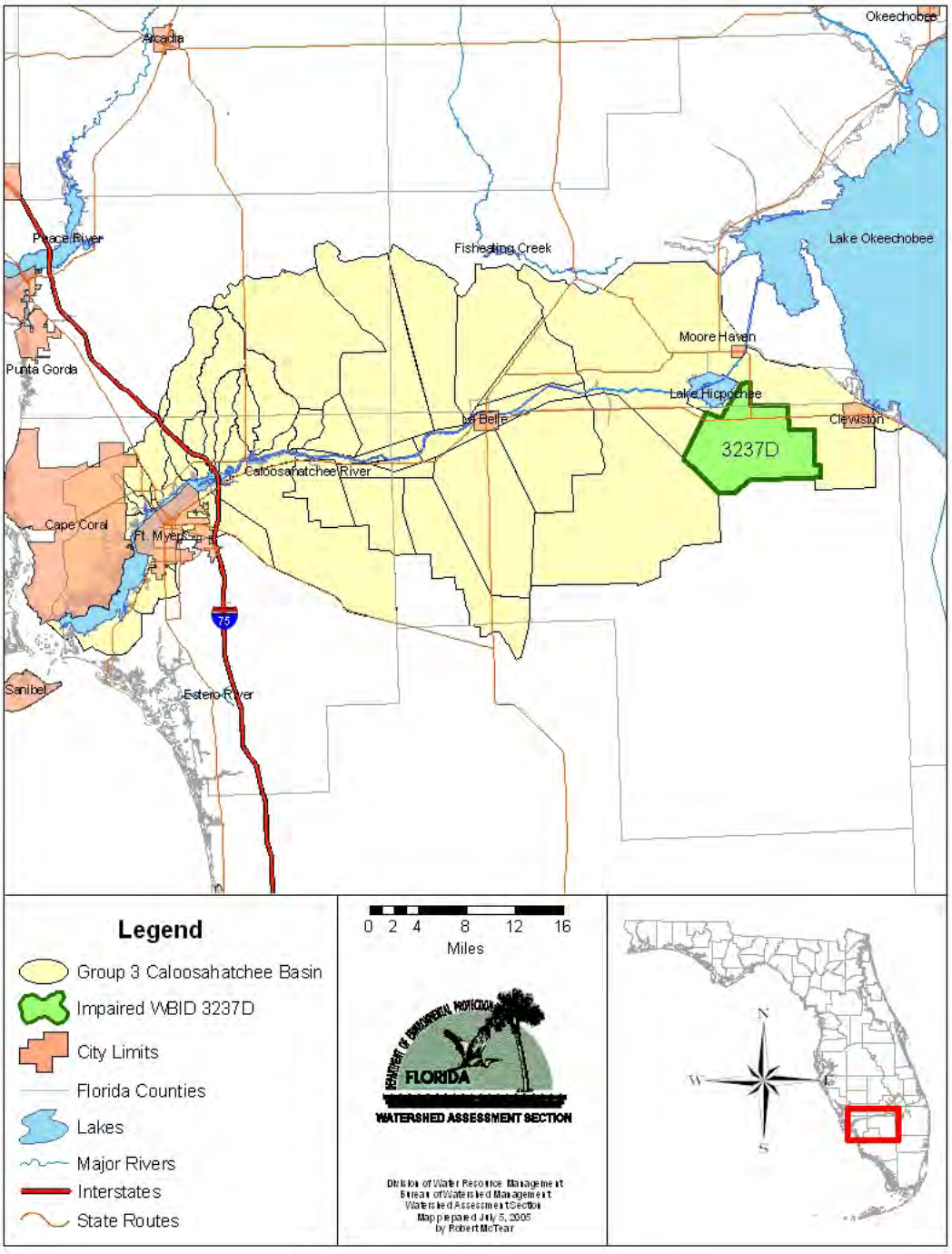
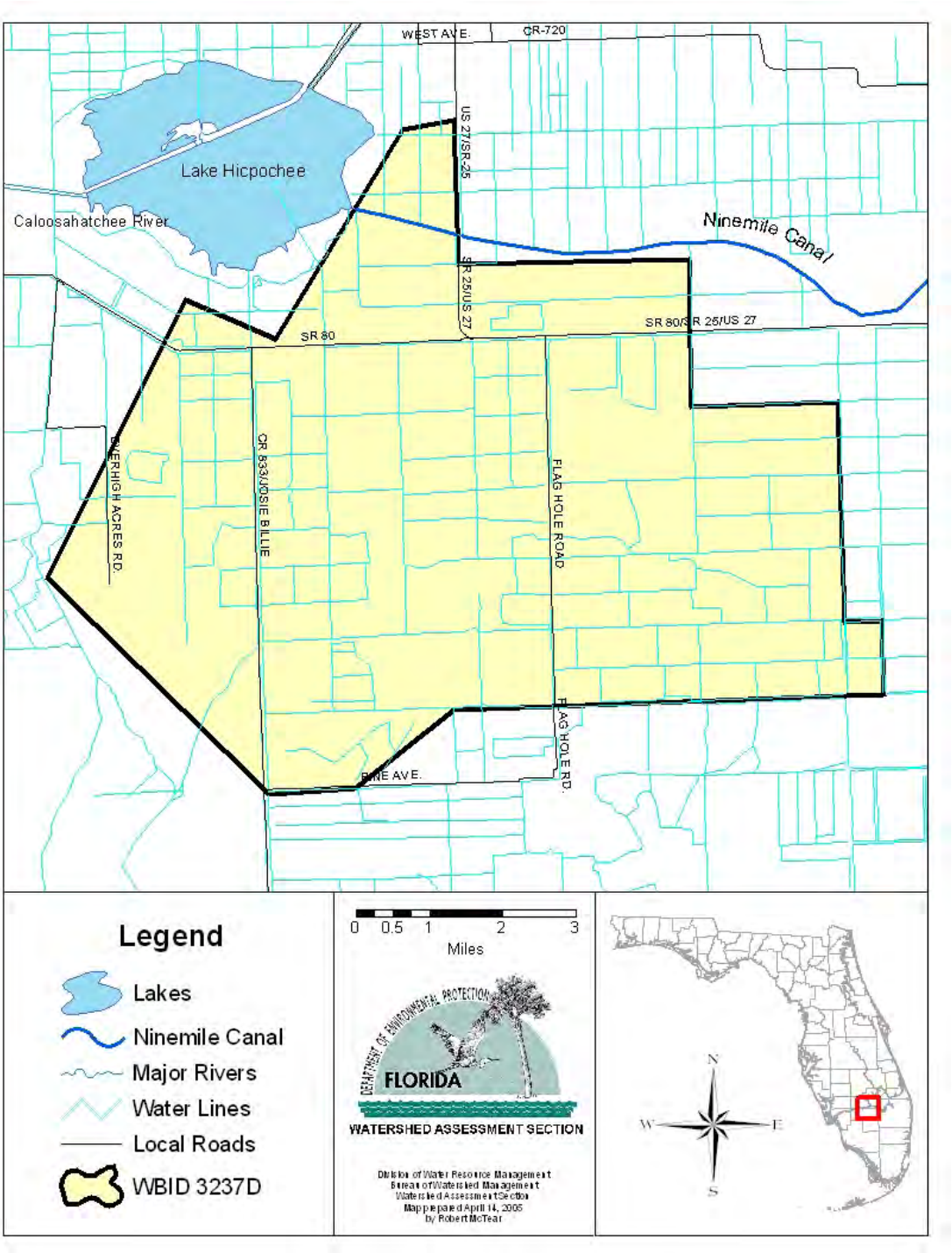


Figure 1.2. Ninemile Canal, WBID 3237D



1.3 Background

This report was developed as part of the Department's 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 52 river basins over a 5-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. They 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 fecal coliform that caused the verified impairment of Ninemile Canal. These activities will depend heavily on the active participation of the SFWMD, 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 U. S. Environmental Protection Agency (EPA) a list of surface waters that do not meet applicable water quality standards (impaired waters) and establish a TMDL for each pollutant source in each of these impaired 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 eight waterbodies in the Caloosahatchee 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 Caloosahatchee Basin and has verified the impairments listed in **Table 2.1.** This TMDL addresses the fecal coliform impairment found in Ninemile Canal, WBID 3237D. **Table 2.2** provides assessment results for fecal coliform for the verification period for this WBID. **Section 5.2.3** provides information on the critical seasonality of data; **Appendix A** provides data for the entire period of record.

As **Table 2.1** shows, the projected year for the fecal coliform TMDL was 2004, but the Settlement Agreement between the EPA and Earthjustice, which drives the TMDL development schedule for waters on the 1998 303(d) list, allows an additional nine months to complete the TMDL. As such, this TMDL must be adopted and submitted to the EPA by September 30, 2005.

Table 2.1. Verified Impaired Segments in Ninemile Canal, WBID 3237D

WBID	Waterbody Segment	Parameters of Concern	Priority for TMDL Development	Projected Year for TMDL Development
3237D	Ninemile Canal	Fecal Coliform	High	2004
3237D	Ninemile Canal	Lead	Medium	2009

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

Table 2.2. Summary of Fecal Coliform Data for Ninemile Canal, WBID 3237D

Parameter of Concern	Number of Samples	Number of Exceedances	Percent Exceedances	Maximum (cnts/100ml)	Average Exceedance (cnts/100ml)
Fecal Coliform	49	9	19%	890	675

Chapter 3. DESCRIPTION OF APPLICABLE WATER QUALITY STANDARDS AND TARGETS

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)**

Ninemile Canal 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 criterion applicable to the impairment addressed by this TMDL is for fecal coliform.

3.2 Applicable Water Quality Standards and Numeric Water Quality Target

Numeric criteria for bacterial quality are expressed in terms of fecal coliform bacteria and total coliform bacteria concentrations. The water quality criterion for the 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.*

The fecal coliform criterion states that the monthly average shall be expressed as geometric means based on a minimum of 10 samples taken over a 30-day period. However, there were insufficient data (fewer than 10 samples in a given month) available to evaluate the geometric mean criterion for fecal coliform bacteria. Therefore, the criterion selected for the TMDL was not to exceed 400 counts/100mL.

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 nutrients 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 System (NPDES) Program. 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 B** 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 Fecal Coliforms in the Ninemile Canal Watershed

4.2.1 Point Sources

No NPDES-permitted wastewater treatment facilities discharge either directly or indirectly into Ninemile Canal.

Municipal Separate Storm Sewer System Permittees

There are no municipal separate storm sewer system (MS4) permittees in the Ninemile Canal watershed.

4.2.2 Land Uses and Nonpoint Sources

Because no major point sources were identified in the Ninemile Canal watershed, it is reasonable to believe that the primary loadings of fecal coliform to the canal are generated from nonpoint sources. Nonpoint sources of coliform generally, but not always, involve the accumulation of coliform bacteria on land surfaces that wash off as a result of storm events, as well as contributions from ground water caused by sources such as failed septic tanks, leaking sewer lines, and the improper land application of domestic wastewater residuals. Typical nonpoint sources of coliform bacteria include the following:

- Wildlife,
- Agricultural animals,
- Pets in residential areas
- Onsite sewage treatment and disposal systems (OSTDSs) (septic tanks),
- Land application of domestic wastewater residuals, and
- Urban development (outside of Phase I or II MS4 discharges).

Land Uses

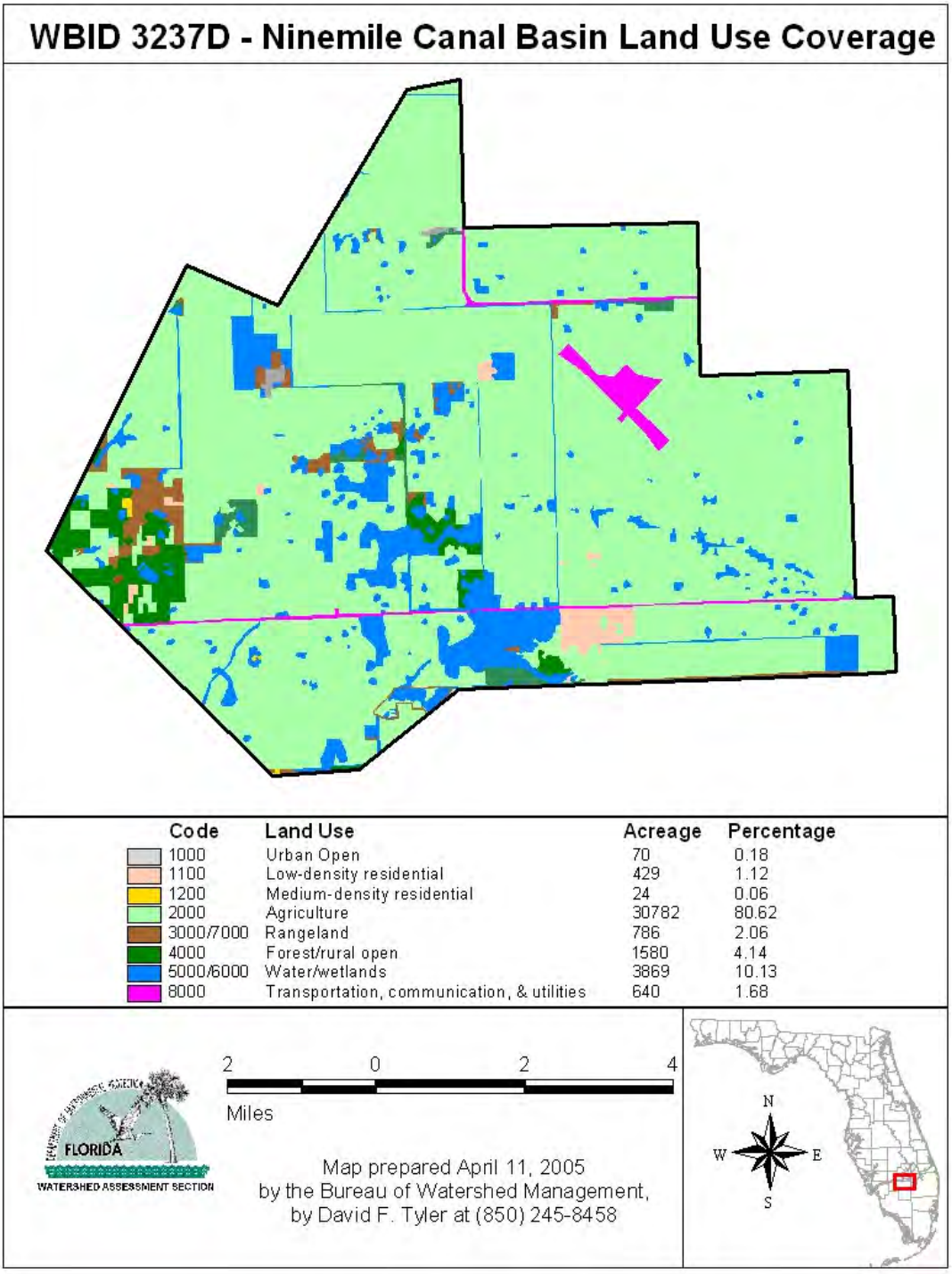
The spatial distribution and acreage of different land use categories were identified using the 1995 land use coverage (scale 1:40,000) contained in the Department's geographic information system (GIS) library. Land use categories in the watershed were aggregated using the simplified Level 1 codes tabulated in **Table 4.1.** **Figure 4.1** shows the acreage of the principal land uses in the watershed.

The key land uses in the watershed are agriculture, water/wetland, and forest/rural open Agriculture occupies the largest amount of land, comprising 81 percent of the watershed and covering over 30,782 acres. Water and wetlands cover over 3,600 acres (10 percent), and forest/rural open accounts for nearly 1,600 acres (4 percent).

Table 4.1. Classification of Land Use Categories in the Ninemile Canal Watershed

Code	Land Use	Acreage	Percentage
1000	Urban open	70	0.18
1100	Low-density residential	429	1.12
1200	Medium-density residential	24	0.06
1300	High-density residential	0	0.00
2000	Agriculture	30782	80.62
3000/7000	Rangeland	786	2.06
8000	Transportation, communication, and utilities	640	1.68
4000	Forest/rural open	1580	4.14
5000/6000	Water/wetland	3868	10.13

Figure 4.1. Principal Land Uses in the Ninemile Canal Watershed, WBID 3237D



Population

According to the U. S. Census Bureau, the population density in and around the Ninemile Canal watershed in the year 2000 was at or less than 31.4 people per square mile (10 persons/mi^2 is the minimum used by the Census Bureau). The Bureau reports that, in Hendry County, which includes (but is not exclusive to) WBID 3237D, the total population for 2000 was 36,210, with 12,294 housing units. For all of Hendry County, the Bureau reported a housing density of 10.7 houses per square mile. This places Hendry County among the lowest in housing densities in Florida (U. S. Census Bureau Web site, 2004). This ranking is also supported by land use data, which show that 1.18 percent of the land use in WBID 3237D is dedicated to residences.

Septic Tanks

Hendry County has a cumulative registry of 9,307 septic tanks. With 12,294 households in the county, this means that approximately 27 percent of the residences in the county are connected to wastewater treatment plants, with the rest (73 percent) using septic tanks.[1]

The fecal coliform load from failed septic tanks can be roughly estimated using Equation 1:

$$\textbf{(1)} \qquad L = 37.85 * N * Q * C * F$$

Where,

L is the fecal coliform daily load (counts/day),
N is the total number of septic tanks in the watershed (septic tanks),
Q is the discharge rate for each septic tank (gallons/septic tank),
C is the fecal coliform concentration for the septic tank discharge (counts per 100 milliliters [counts/100mL]),
F is the septic tank failure rate, and
37.85 is the conversion factor between 1 gallon and 100mL.

No local information on septic tanks in the watershed was available at the time this report was written. The number of septic tanks (*N*) in the watershed was estimated based on the cumulative number of new septic tank installations for each year published by FDOH and the SFWMD's 1995 Level 1 land use GIS coverage.

Table 4.2 lists the cumulative number of septic tanks in Hendry County for each year between 1996 and 2003. Based on **Table 4.2**, the average number of septic tanks in Hendry County for the period of record used in this report (1996–2003) was about 8,786. According to the SFWMD's 1995 land use coverage, the urban and built-up area for Hendry County was about 20,329 acres. Assuming that septic tanks are uniformly distributed across the urban and built-up area, Hendry County had about 0.4 septic tanks/acre of urban and built-up area. The urban and built-up area for the watershed is about 1,084 acres, which translates to about 438 septic tanks in the entire watershed.

[1] The information in this section was obtained from the Florida Department of Health (FDOH) Web site (available: http://www.doh.state.fl.us/environment/OSTDS/statistics/ostdsstatistics.htm). Data for septic tanks are based on the 1970 U. S. Census results, with year-by-year additions based on new septic tank construction. The data do not reflect septic tanks that may have been removed.

Table 4.2. Estimated Number of Septic Tanks and Septic Tank Failure Rate for Hendry County

	1996	1997	1998	1999	2000	2001	2002	2003	Average
Number of new installations (septic tanks)	92	125	167	103	122	135	160	183	136
Cumulative number of installations (septic tanks)	8,312	8,437	8,604	8,707	8,829	8,964	9,124	9,307	8,786
Number of repair permits (septic tanks)	78	70	68	25	30	29	34	27	45
Failure discovery rate (percent)	0.9	0.8	0.8	0.3	0.3	0.3	0.4	0.3	0.5
Failure rate (percent)*	4.7	4.2	3.9	1.4	1.7	1.6	1.9	1.5	2.6

* The failure rate is 5 times the failure discovery rate.

The discharge rate from each septic tank (*Q*) was calculated by multiplying the average household size by the per-capita wastewater production rate per day. Based on the information published by the U. S. Census Bureau, the average household size for Hendry County is about 2.95 people/household. The same population density was assumed for the watershed. A commonly cited value for per-capita wastewater production rate is 70 gallons/day/person (EPA, 2001). The commonly cited concentration (*C*) for septic tank discharge is $1x10^6$ counts/100mL and $2.3x10^7$ counts/100mL for fecal and total coliform, respectively (EPA, 2001).

No measured septic tank failure rate (*F*) was available for the watershed. Therefore the failure rate was derived from cumulative new septic tank installation reports and septic tank repair permits published by FDOH. Assuming that none of the installed septic tanks was removed, the cumulative number of septic tanks for each year between 1996 and 2003 for Hendry County could be calculated **(Table 4.2).** The reported number of septic tank repair permits for each year was also obtained from the FDOH Web site **(Table 4.2).** Based on this information, the discovery rate of failed septic tanks for each year between 1996 and 2003 was calculated and listed in **Table 4.2**. Based on **Table 4.2**, the average annual septic tank failure discovery rate for Hendry County for 1996 through 2003 was about 0.5 percent. Assuming that failed septic tanks are not discovered for about 5 years, the estimated annual septic tank failure rate is about 5 times the annual discovery rate, which is equal to 2.6 percent.

Based on Equation 1, the estimated total fecal coliform loading from failed septic tanks in the watershed is about 8.9×10^{12} counts/day.

Pets in Residential Areas

According to the American Pet Products Manufacturers Association (APPMA), about 4 out of 10 U. S. households include at least 1 dog. A single gram of dog feces contains about 23 million fecal coliform bacteria (van der Wel, 1995). Unfortunately, statistics show that about 40 percent of American dog owners do not pick up their dog's feces.

The number of pets in the Ninemile Canal watershed is unknown. Therefore, APPMA statistics were used to estimate the possible fecal coliform loads contributed by pets in the watershed. According to the U. S. Census Bureau, the number of households in Hendry County in 2000 was 12,294. According to SFWMD 1995 land use GIS coverage, the total residential area in Hendry County was about 20,329 acres, giving a density of about 2.95 households/acre of residential area. **Table 4.1** shows that Ninemile Canal has about 1,084 acres of residential land use, and thus about 3,194 households in the entire watershed. Assuming that 40 percent of households have 1 dog, this translates into a total of 1,278 dogs in the watershed. According to the waste production rate for dogs and the fecal coliform counts per gram of dog wastes listed in **Table 4.3**, and assuming that 40 percent of dog owners do not pick up dog feces, the total waste produced by dogs and left on the land surface in residential areas of the watershed is 230,040 grams. The total fecal coliform produced by dogs is 5.06×10^{11}/day. Assuming that 10 percent of the fecal coliform are washed into receiving waters, the total load that Ninemile Canal could receive is 5.06×10^{10} fecal coliform/day.

Table 4.3. Dog Population Density, Waste Load, and Fecal Coliform Density

Type	Population density (animal/household)	Waste load (grams/animal-day)	Fecal coliform density (fecal coliform/gram)
Dogs (Weiskel et al., 1996)	0.4*	450	2,200,000

* Number from APPMA.

Chapter 5: DETERMINATION OF ASSIMILATIVE CAPACITY

5.1 Determination of Assimilative Capacity

The load duration method used for many bacterial TMDLs in Florida relies on the availability of river flow data that are concurrent with the measured bacterial concentrations. While the Caloosahatchee River is gaged at multiple locations, there are no flow gages on Ninemile Canal, or on any other similar systems within a reasonable distance with an applicable watershed area ratio that can be used for comparison. Also, the fact that water is backpumped from the advanced canal network makes it difficult to accurately portray a flow regime. Instead, the methodology used to calculate the TMDL was the "percent reduction" approach. For this method, the percent reduction needed to meet the applicable criterion is calculated for each value above the criterion, and then a median percent reduction is calculated for the portion of the record with the most exceedances (if data indicate clustering of exceedances) or over the entire record (if exceedances occur throughout).

5.1.1 Data Used in the Determination of the TMDL

Three sampling stations (21FLFTM 28020138, 21FLFTM 28020139, and 21FLFTM 28020254FTM) in Ninemile Canal were used for developing the fecal coliform TMDL **(Figure 5.1).** The primary data collector of historical data is the Department's South District Office. **Figure 5.2** graphically presents all the fecal coliform observations for the entire period of record used in this report (February 1999–October 2003).

5.1.2 TMDL Development Process

As described in **Section 5.1**, the percent reduction needed to meet the fecal coliform criterion was determined for each individual exceedance using the following equation:

$$\textbf{(2)} \qquad \frac{\textbf{[measured exceedance – criterion]*100}}{\textbf{measured exceedance}}$$

The fecal coliform TMDL was calculated as the median of the percent reductions needed over the data range where exceedances occurred (see **Table 5.1** for data). As noted in the next section, all of the exceedances occurred in the summer months, and the median percent reduction for this period was 36 percent.

Table 5.1. Calculation of Percent Reduction in Fecal Coliforms Necessary To Meet Water Quality Standard of 400 Colonies/100mL in Ninemile Canal, WBID 3237D

Date	Station	Fecal Coliform	% Reduction
10/15/2003	21FLFTM 28020254FTM	420	4.76
9/25/2002	21FLFTM 28020254FTM	480	16.67
8/28/2000	21FLFTM 28020139	600	33.33
8/28/2000	21FLFTM 28020254FTM	600	33.33
8/26/1999	21FLFTM 28020254FTM	620	35.48
6/19/2001	21FLFTM 28020254FTM	780	48.72
6/17/2002	21FLFTM 28020254FTM	800	50.00
6/17/2002	21FLFTM 28020139	890	55.06
9/25/2002	21FLFTM 28020139	890	55.06
	Median % Reduction =		**35.48**

5.2.3 Critical Conditions/Seasonality

Measurements were sorted by month and season (the calendar year was divided into quarters) to determine whether there was a temporal pattern of exceedances. Monthly rainfall data from Devils Garden, Florida, were also obtained and included in the analysis. **Table 5.2** presents summary statistics by month and season, respectively, for fecal coliform measurements (Winter: January–March; Spring: April–June; Summer: July–September; Fall: October–December). During the period of analysis, June through September had the highest rainfall, and June and August had the largest percent of exceedances for fecal coliforms. The data suggest that surface runoff and a high ground water table are contributing to exceedances in Ninemile Canal. **Figure 5.3** shows this information graphically.

Figure 5.1. Historical Monitoring Sites in Ninemile Canal, WBID 3237D

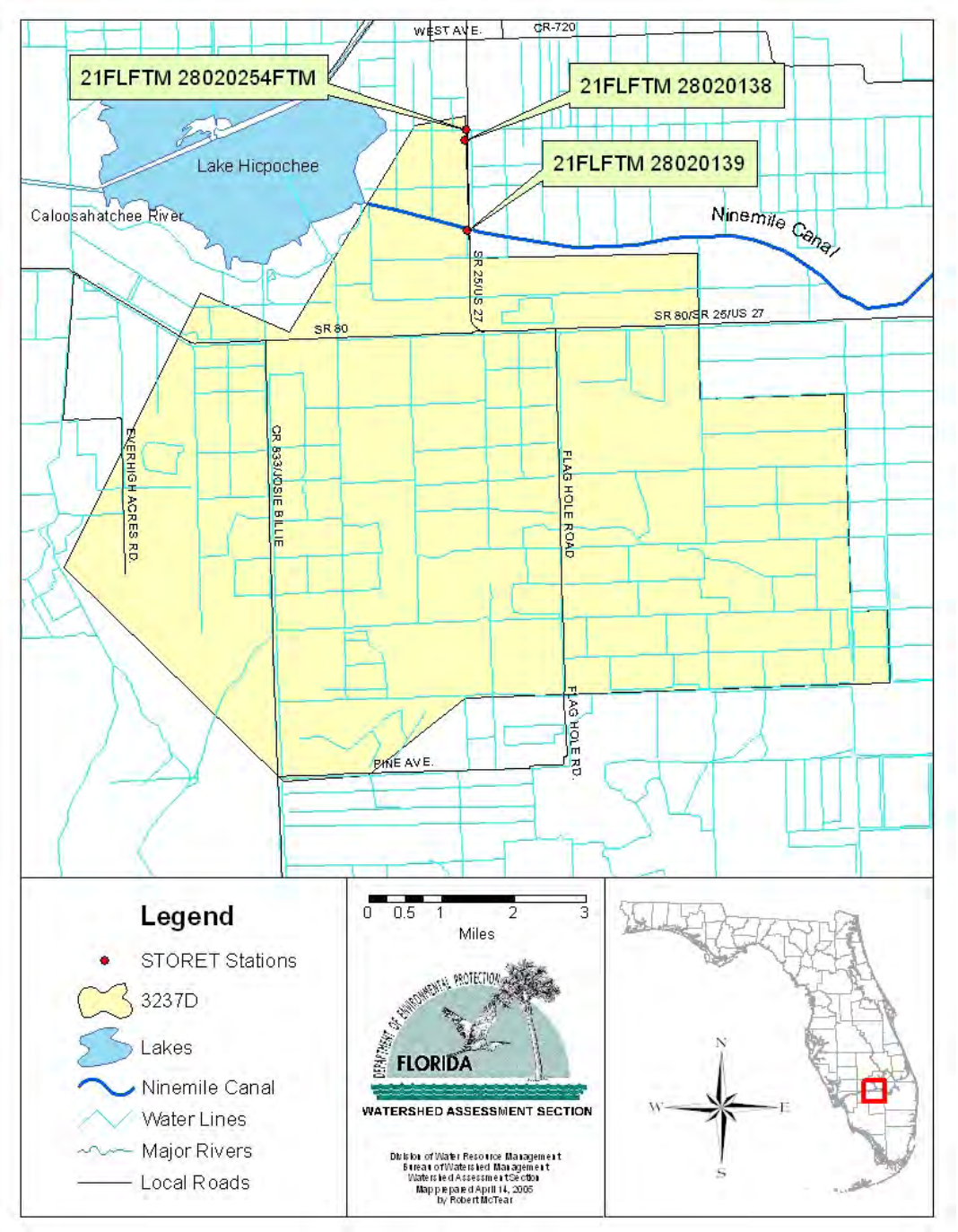


Figure 5.2. Fecal Coliform Observations in Ninemile Canal, WBID 3237D, February 1999–October 2003

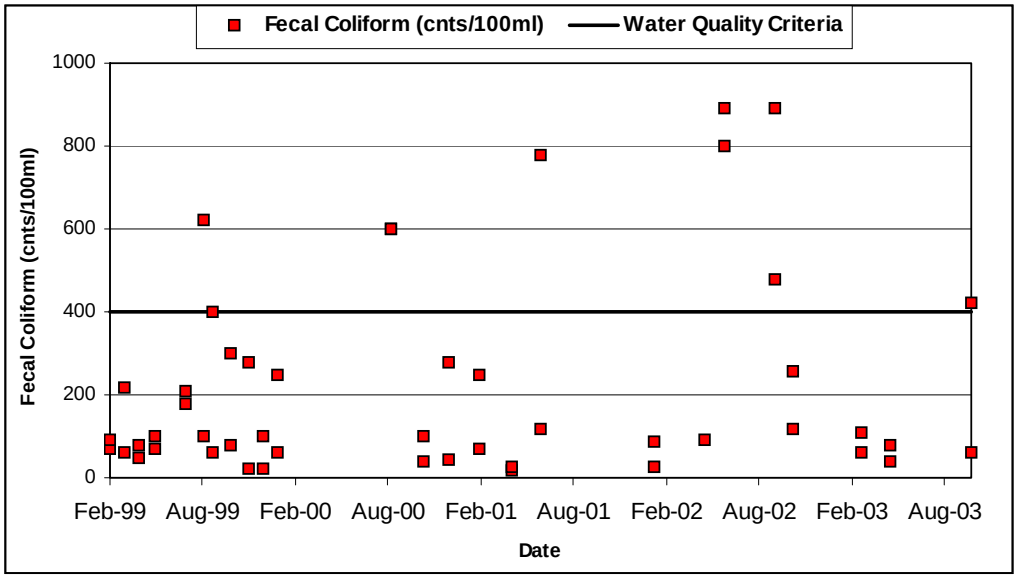
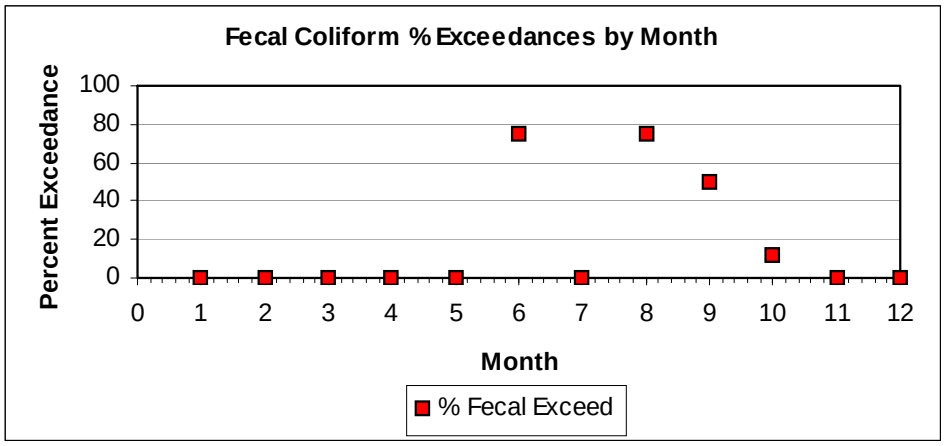
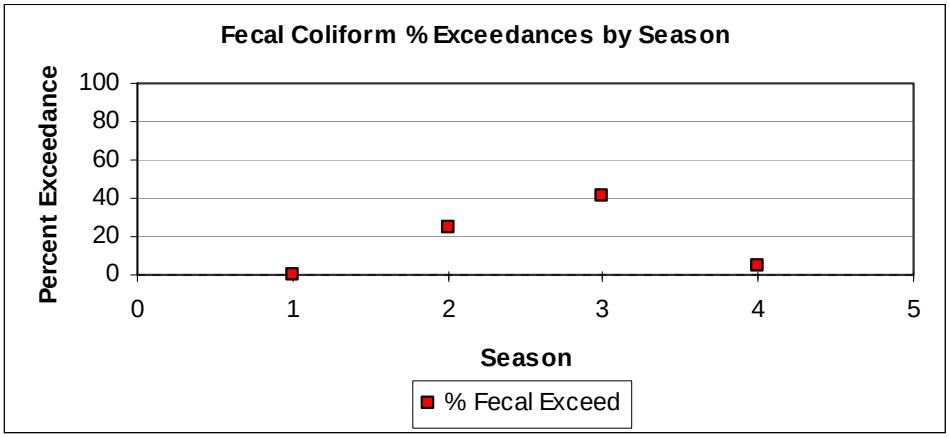


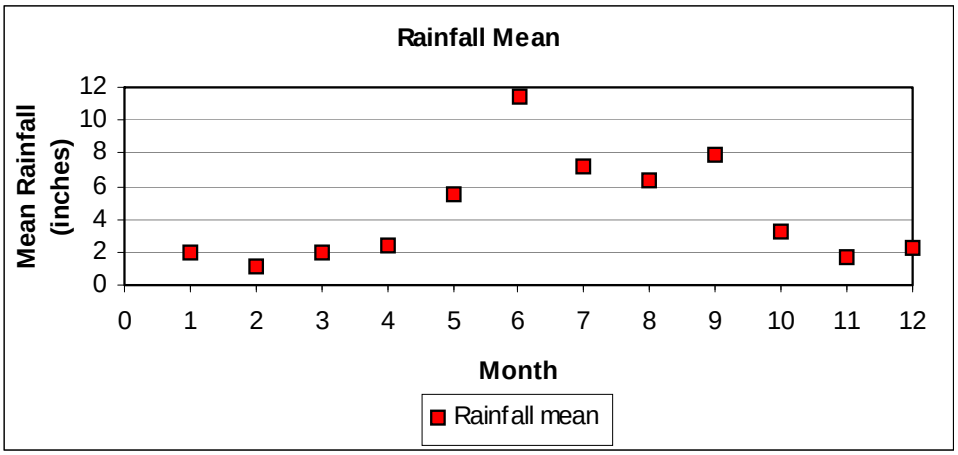
Table 5.2. Summary Statistics of Fecal Coliform Data for Ninemile Canal, WBID 3237D, by Month and Season

Month	Number of Cases	Minimum	Maximum	Median	Mean	Number of Exceedances	% Exceedances of Cases	Rainfall Mean
1	4	24	250	74	106	0	0.00	1.98
2	4	70	250	80	120	0	0.00	1.07
3	4	60	213	85	112	0	0.00	2.00
4	4	16	80	38	43	0	0.00	2.47
5	5	40	100	80	76	0	0.00	5.50
6	4	116	890	790	647	3	75.00	11.42
7	2	180	210	195	195	0	0.00	7.14
8	4	100	620	600	480	3	75.00	6.42
9	4	60	890	440	457	2	50.00	7.95
10	8	40	420	108	172	1	12.50	3.23
11	2	20	280	150	150	0	0.00	1.69
12	4	20	280	72	111	0	0.00	2.23
Season	**Number of Cases**	**Minimum**	**Maximum**	**Median**	**Mean**	**Number of Exceedances**	**% Exceedances of Cases**	**Rainfall Mean**
Winter	12	51	238	80	112	0	0.00	1.68
Spring	13	57	357	303	255	3	25.00	6.46
Summer	10	113	573	412	378	5	41.67	7.17
Fall	14	27	327	110	144	1	4.17	2.38

Figure 5.3. Fecal Coliform Exceedances for Ninemile Canal, WBID 3237D, by Month and Season, and Corresponding Monthly Mean Rainfall, 1999–2003






Rainfall Mean
Mean Rainfall (inches)
12
10
8
6
4
2
0
0 1 2 3 4 5 6 7 8 9 10 11 12
Month
Rainfall mean

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 (wasteload 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 best management practices (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**. The TMDL for Ninemile Canal is expressed in terms of percent reductions and represents the maximum fecal coliform the river can assimilate and maintain the water quality criterion for fecal coliform **(Table 6.1).**

Table 6.1. TMDL Components for Ninemile Canal, WBID 3237D

WBID	Parameter	TMDL (colonies/day)	WLA		LA (Percent Reduction)	MOS
			Wastewater (colonies/day)	NPDES Stormwater		
3237D	Fecal Coliform	400 #/100mL	NA	36%	36%	Implicit

NA – Not applicable.

6.2 Load Allocation

A fecal coliform reduction of 36 percent 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.

6.3 Wasteload Allocation

6.3.1 NPDES Wastewater Discharges

There are no point sources with surface discharges to Ninemile Canal. Consequently, there are no reductions that would be applied to domestic and/or industrial point sources in the WBID. Any future discharge permits issued in the Ninemile Canal watershed will be required to meet the state's Class III criterion for fecal coliform, as well as the TMDL value.

6.3.2 NPDES Stormwater Discharges

There are no NPDES stormwater discharges (including MS4s) to Ninemile Canal.

6.4 Margin of Safety

Consistent with the recommendations of the Allocation Technical Advisory Committee (Department, February 2001), an implicit MOS was used in the development of this TMDL. A MOS was included in the TMDL by not allowing any exceedances of the state criterion, even though intermittent natural exceedances of the criterion would be expected and would be taken into account when determining impairment. Finally, the TMDL calculated for fecal coliforms was based on meeting the water quality criterion of 400 colonies/100mL without any exceedances, while the actual criterion allows for a 10 percent exceedance over that level.

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, referred to as the BMAP. This document will be developed over the next two years in cooperation with local stakeholders, who will attempt to reach consensus on detailed allocations and on how load reductions will be accomplished. The BMAP will include, among other things:

- Appropriate load reduction allocations among the affected parties,
- A description of the load reduction activities to be undertaken, including structural projects, nonstructural BMPs, and public education and outreach,
- A description of further research, data collection, or source identification needed in order to achieve the TMDL,
- Timetables for implementation,
- Confirmed and potential funding mechanisms,
- Any applicable signed agreement(s),
- Local ordinances defining actions to be taken or prohibited,
- Any applicable local water quality standards, permits, or load limitation agreements,
- Milestones for implementation and water quality improvement, and
- Implementation tracking, water quality monitoring, and follow-up measures.

An assessment of progress toward the BMAP milestones will be conducted every five years, and revisions to the plan will be made as appropriate, in cooperation with basin stakeholders.

References

Florida Administrative Code. *Chapter 62-302, Surface Water Quality Standards.*

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Appendices

Appendix A: Observed Data for Calculating Percent Reductions for Fecal Coliform for Ninemile Canal, WBID 3237D

Station	Date	Time	Fecal Coliform (cfu/100mL)	Percent Reduction
21FLFTM 28020139	1/30/2002	1010	24	
21FLFTM 28020254FTM	1/18/2000	1234	60	
21FLFTM 28020254FTM	1/30/2002	950	88	
21FLFTM 28020139	1/18/2000	1255	250	
21FLFTM 28020254FTM	2/22/1999	1115	70	
21FLFTM 28020254FTM	2/20/2001	1230	70	
21FLFTM 28020139	2/22/1999	1140	90	
21FLFTM 28020139	2/20/2001	1400	250	
21FLFTM 28020139	3/12/2003	1135	60	
21FLFTM 28020254FTM	3/22/1999	1227	60	
21FLFTM 28020254FTM	3/12/2003	1148	110	
21FLFTM 28020139	3/22/1999	1315	216	
21FLFTM 28020139	4/24/2001	1246	16	
21FLFTM 28020254FTM	4/24/2001	1138	28	
21FLFTM 28020139	4/21/1999	1207	48	
21FLFTM 28020254FTM	4/21/1999	1227	80	
21FLFTM 28020139	5/7/2003	1238	40	
21FLFTM 28020254FTM	5/20/1999	1234	70	
21FLFTM 28020254FTM	5/7/2003	1255	80	
21FLFTM 28020254FTM	5/8/2002	1250	92	
21FLFTM 28020139	5/20/1999	1312	100	
21FLFTM 28020139	6/19/2001	1335	116	
21FLFTM 28020254FTM	6/19/2001	1147	780	48.72
21FLFTM 28020254FTM	6/17/2002	1125	800	50.00
21FLFTM 28020139	6/17/2002	1015	890	55.06
21FLFTM 28020139	7/20/1999	1217	180	
21FLFTM 28020254FTM	7/20/1999	1248	210	
21FLFTM 28020139	8/26/1999	1200	100	
21FLFTM 28020139	8/28/2000	1235	600	33.33
21FLFTM 28020254FTM	8/28/2000	1210	600	33.33
21FLFTM 28020254FTM	8/26/1999	1230	620	35.48

Station	Date	Time	Fecal Coliform (cfu/100mL)	Percent Reduction
21FLFTM 28020139	9/13/1999	1148	60	
21FLFTM 28020254FTM	9/13/1999	1136	400	
21FLFTM 28020254FTM	9/25/2002	1340	480	16.67
21FLFTM 28020139	9/25/2002	1150	890	55.06
21FLFTM 28020139	10/30/2000	1120	40	
21FLFTM 28020138	10/15/2003	1210	60	
21FLFTM 28020139	10/18/1999	1310	80	
21FLFTM 28020254FTM	10/30/2000	1055	100	
21FLFTM 28020139	10/30/2002	1000	116	
21FLFTM 28020254FTM	10/30/2002	1050	256	
21FLFTM 28020254FTM	10/18/1999	1237	300	
21FLFTM 28020254FTM	10/15/2003	1231	420	4.76
21FLFTM 28020139	11/23/1999	1204	20	
21FLFTM 28020254FTM	11/23/1999	1130	280	
21FLFTM 28020254FTM	12/20/1999	1135	20	
21FLFTM 28020254FTM	12/20/2000	1027	44	
21FLFTM 28020139	12/20/1999	1157	100	
21FLFTM 28020139	12/20/2000	1050	280	
	Median Percent Reduction =			**35.48**

Appendix B: 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.

The rule requires the state's water management districts (WMDs) to establish stormwater pollutant load reduction goals (PLRGs) and adopt them as part of a Surface Water Improvement and Management (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 at the time this report was developed.

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 the implementation of the Phase 1 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 1 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 NPDES and other state stormwater permitting programs is that the NPDES program covers both new and existing discharges, while the other state programs focus on new discharges. Additionally, Phase 2 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, like 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.

Appendix C: Public Comments and DEP Responses

Public Comment from: *Florida Department of Agriculture & Consumer Services*
CHARLES H. BRONSON, Commissioner (Rebecca Elliott)

Please Respond to:
Office of Agricultural Water Policy
P.O. Box 24680
3301 Gun Club Road MS 4730
West Palm Beach, FL 33416

September 8, 2005

Mr. Jan Mandrup-Poulsen
TMDL Program
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 3560
Tallahassee, FL 32399

RE: Ninemile Canal (WBID 3237D) Fecal Coliform Proposed TMDL

Dear Mr. Mandrup-Poulsen,

The following comments are based on TMDL formulation information presented at the Ninemile Canal TMDL August 18th public workshop in LaBelle and a review of FDEP's August 2005 TMDL Report for the Fecal Coliform TMDL for Ninemile Canal (WBID 3237D).

There are concerns that the data collected for the Impaired Water determination and subsequent proposed TMDL for the Ninemile Canal WBID is not appropriate for the Ninemile WBID based on the seven points below:

1) The three sample collection points used in the impaired water determination are based on accessibility to east-west canals via overpasses on the eastern side of the northern "tip" of the subject WBID. Two of the three are very close together spatially, but one exceeded the proposed fecal criterion six times and the other had no exceedances. It appears the affected area covers less than 10% of the Ninemile Canal WBID.
2) There is a lack of flow information supporting the data and it is unclear if the sources of the higher fecal coliform counts lie within the Ninemile Canal WBID boundaries.
3) There is a lack of consolidated information regarding canal flow and local watershed(s) drainage patterns in the WBID in general.
4) In 49 samples, the 9 that exceeded the currently proposed 400 colonies/100 mls TMDL for water quality restoration occurred during the wet season.

5) 4 out of the 9 exceedances occurred in 2002 during the first wet season after the 2000 - 2001 draught.
6) The land use employed in the report is from 1995 and there have probably been significant land use changes from ten years ago in the Ninemile Canal WBID.

7) Water bodies in this WBID are comprised of a managed canal system. It may be inappropriate to classify these canals as Class III Waters. The uncertainty of whether these waters have been classified correctly and whether it is acceptable to subject them to the same standards that apply to true recreational and wildlife waters needs to be resolved before a TMDL is established. It is my understanding that the FDEP is currently gathering information to develop criteria for man made water bodies that are not considered to be recreational waters and whose overwhelming use is managed water conveyance. Since this analysis has yet to be done for this area, a TMDL for the Ninemile WBID would be premature.

The following comments are offered given all the uncertainties related to the lack of drainage information, the data base's dubious representation of the subject WBID, and the potential inappropriateness of classifying the man made canals for water management dominating the Ninemile Canal WBID as Class III waters.

Use FDEP's authority under Ch. 2005-291 403.067(6) (c) to adopt phased total maximum daily loads that are subject to change as additional data becomes available. The data produced at the stations used to establish the proposed fecal coliform TMDL is not defensible in terms of the TMDL criteria for temporal and spatial representation. We believe additional data is needed to adequately capture the water quality conditions within the basin as a whole. Local producers and local drainage districts have expressed an interest in helping with the effort to provide a better basis for establishing TMDLs in the Ninemile Canal area. By utilizing this option, you will be providing time and incentive for additional information development and the leeway to modify the TMDL based on that information. The result will be a stronger, more comprehensive TMDL effort for the Ninemile WBID.

Additionally, the highly managed canals in this area should not fall under the Class III Water Standards. We urge you to pursue a different set of standards for man made canals that are overwhelmingly used for water conveyance and to utilize any options available to avoid the premature establishment of TMDLs for water bodies that are misclassified.

Thank you for the opportunity to comment on FDEP's August 2005 TMDL Report for the Fecal Coliform TMDL for Ninemile Canal (WBID 3237D). I look forward to working together as partners to address water quality concerns for Ninemile Canal.

If you have any questions, please contact me at 561-682-6040.

Sincerely,

Rebecca Elliott
Water Policy Liaison
Office of Agricultural Water Policy

emc: Chuck Aller, FDACS
Rich Budell, FDACS
John Folks, FDCAS
Linda McCarthy, FDACS
Jerry Brooks, FDEP

DEP Response: *Response to Florida Department of Agriculture & Consumer Services CHARLES H. BRONSON, Commissioner (Rebecca Elliot)*

October 18, 2005

Ms. Rebecca Elliott
Water Policy Liaison
Office of Agricultural Water Policy
P.O. Box 24680
3301 Gun Club Road, MS 4730
West Palm Beach, FL 33416

Dear Mrs. Elliott,

We appreciate your inquiries and comments in your September 8, 2005 letter, pertaining to the draft Ninemile Canal Fecal Coliform TMDL report. I also like to personally thank you for all the information you have provided thus far.

As you know, the three sampling stations used in the Ninemile Canal TMDL were the only water quality stations currently in our database. While we agree that two of those stations (21FLFTM 28020138 and 21FLFTM 28020254FTM) are spatially close, for TMDL purposes, only station 21FLFTM 28020254FTM had data showing exceedances and were used in calculation of this TMDL. These data showed that the exceedances correlated with nonpoint sources or a high ground water table, because (as you also noted) the exceedances occurred during the wet season. And, while we certainly concur that applying the1995 landuse coverage is normally less than ideal, we believed the landuses had not changed much in the ensuing decade. However, if this is not correct and you know of any more recent landuse presentations, we would very much appreciate gaining access to it.

We are interested in exploring your proposal to determine whether some of the canals within the Ninemile Canal basin should be not be covered by the current Class III criteria. Mr. Perry had suggested they might be considered Class IV waters. (To help in your evaluation of this suggestion, we refer you to the language in Chapter 62-302.400(12), Florida Administrative Code, which provides a definition of Class IV waters.) While we support exploring the concept, any proposal to change the standards for these waterbodies will take many years to bring to a close. If and when this does occur, it will be appropriately addressed either in the BMAP period or will cover the next basin rotation cycle.

With regard to the lack of any flow gauge, we were able to overcome it using another standard process (known as the percent reduction method) to calculate this TMDL. During the BMAP process, we will be working with local stakeholders (e.g., Tommy Perry of Johnson-Prewitt & Associates, Inc.) and other interested parties, in order to better track down the actual source of the fecal coliform impairment and become more knowledgeable of the local watersheds and drainage patterns in this WBID. Given the nature of the problem (fecal coliforms) and the prevalent agricultural landuses in the basin, we do not believe a phased TMDL is appropriate at this time. Given the rather minor levels by which the criterion has been exceeded, it should be

fairly easy to establish a set of Best Management Practices to be applied in the vicinity of the monitoring station showing the exceedance.

We look forward to working with you to investigate many of the issues you have raised as part of the BMAP process. If you have any other questions or concerns, feel free to call David Tyler at 850/245-8458.

Sincerely,

Jan Mandrup-Poulsen, Administrator
Watershed Assessment Section

DFT/was

Public Comment: *P.E.Johnson-Prewitt & Associates, Inc. (Thomas C. Perry, Jr.)*

JOHNSON - PREWITT & ASSOCIATES, INC.
850 WEST VENTURA AVENUE P.O. BOX 1029, CLEWISTON, FLORIDA 33440 (863) 983-9188 FAX (863) 983-9854

August 25, 2005

Jan Mandrup-Poulson, Environmental Administrator
Watershed Assessment Section
Florida Department of Environmental Protection
Mail Station 3555
2600 Blair stone Road
Tallahassee, Florida 32399-2400

RECEIVED
SEP 07 2005
WATERSHED ASSESSMENT SECTION
DEPT. ENVIRONMENTAL PROT.

RE: Draft TMDL
Fecal Coliform TMDL for Nine Mile Canal (WBID 3237D)

Dear Mr. Mandrup-Poulson,

I serve as the engineer for the Disston Water Control District, Flaghole Water Control District and the Hendry Hilliard Water Control District. These districts comprise the vast majority of FDEP's Nine Mile Canal (WBID 3237D) basin. I disagree with the conclusion in the draft Fecal Coliform TMDL for Nine Mile Canal report.

The Nine Mile Canal basin as defined in your report does not fairly represent the drainage basins. I have attached a map showing each district's major facilities and the districts boundaries. Runoff does not cross the boundaries of the districts. The Disston Island Control District has four district outfalls. The drainage area contributing to the Lake Hichpochee outfall is defined on the attached map. The remaining 3 outfalls discharge to LD-1. I am of the opinion the WBID boundaries should be adjusted to match the district's boundaries.

The report classifies the canals within these basins as Class III. The canals within the basins are man made. The water stage is artificially controlled in the canals by the districts to provide irrigation and drainage to the district's landowners. I am of the opinion the canals would be more appropriately classified as Class IV.

The sampling points selected do not represent the drainage basins. The runoff volume discharged transits via the Flaghole Canal and the Hendry-Hilliard Canal is several orders of magnitude larger than the volume transmitted via the canals sampled. If the basins are redefined sample point 21FLFTM 28020254FTM is in the main canal serving the Disston Island Control District. However during a discharge event a large portion of the drainage basin is downstream of the sampling point. The runoff transmitted by the canal sampled at point 21FLFTM 28020139 is insignificant and non-representative of the Flaghole Water Control District. I am of the opinion the sample points should be relocated to more appropriate locations.

Mr. Mandrup-Poulson
August 25, 2005
Page 2

The vast majority of the lands within these basins are used sugar cane production and citrus production. A limited amount of cattle pasture and homes exist. The vast majority of the basin would not be anticipated to produce any fecal coliforms. It is therefore my belief the sources of the contamination are point sources. Flaghole Canal C2 has a small landowner who has confined a large number of pigs within the banks of the canal. Canal C2 can drain via the roadside ditch to sample point. This point source is within 1 mile of the sample point. The second sample point is approximately 1 mile from a muck mining operation. It has been brought to my attention that the muck excavations are being backfilled with barn waste from horse farms and horse race tracks. The mine has a pumped discharge into the canal sampled. District staff has visited the site and verified horse waste is present. Therefore I am of the opinion the non-point solutions contemplated in your report are not likely to be affective. It would be beneficial to address the point source identified.

I am aware the FDEP is operating under a restrictive time deadline. However in light of the concerns I have raised it is evident the proposed TMDL report should be reevaluated and a different course of action is more appropriate. The landowners whom I represent are committed to protecting Florida's environment. However it is apparent the fecal coliform sampling conducted is not representative of the basin and the only logical sources are identifiable point sources which can be addressed through other programs.

Thank you for your consideration of my input.

Sincerely,

Tommy Perry

Thomas C. Perry, Jr. P.E.

TCP/mpv

Attachment

DEP Response: *Response to P.E.Johnson-Prewitt & Associates, Inc. (Thomas C. Perry, Jr.)*

October 17, 2005

Thomas C. Perry, Jr. P.E.
Johnson-Prewitt & Associates, Inc.
850 West Ventura Avenue
P.O. BOX 1029
Clewiston, FL 33440

Dear Mr. Perry,

We appreciate your inquiries and comments in your August 25, 2005 letter, pertaining to the draft Ninemile Canal Fecal Coliform TMDL report. We also would like to personally thank you for all the information (e.g., drainage basins) you have provided thus far. As the BMAP process begins, FDEP is looking forward to working with you and all the interested local stakeholders in hope of furthering our knowledge and understanding of this Ninemile Canal region.

We have examined the map you created showing all the different drainage basins and understand that the current WIBD 3237D may not provide the most accurate assessment tool for the watershed. We know you and other local stakeholders will be able to help in developing a more accurate WBID boundary, which will more accurately depict water movements within this region. We are interested in exploring your proposal to determine whether some of the canals within the Ninemile Canal basin should be classified as Class IV waters. To help in your evaluation, we refer you to the language in Chapter 62-302.400(12), Florida Administrative Code, which provides a definition of Class IV waters.

We have contacted our FDEP South District staff and they are looking forward to discussing the selection of sampling locations within the Ninemile Canal watershed. As there are no permitted point sources in that area, we will need to properly assess all the potential nonpoint sources.

Once the TMDL is adopted by rule, the following BMAP period will be the time where we work with local stakeholders in finding the best solution to the Ninemile Canal Fecal Coliform issue. Again, thank you for your input. If you have any questions contact David Tyler at 850/245-2458.

Sincerely,

Jan Mandrup-Poulsen, Administrator
Watershed Assessment Section

DFT/was

Appendix D: TMDL Workshop Informal Comments and Sign-In Sheet

Ninemile Canal TMDL Public Workshop
Clewiston, August 18, 2005; 9:30am
Public Meeting Comments

Rebecca Elliot, DACS – Table of data - does that spreadsheet represent all exceedances? Only one sampling site seemed to have all the exeedances. I recommend you go out and look at the sampling sites.

Tommy Toms, Graham Farms – If there is no human population in the sub-basin and no domestic animals, what would the fecal count be?

Answer, Jan – If this were a pristine area we wouldn't have to do a TMDL. We are in the process of trying to figure out what bacteria are related to wildlife versus what bacteria are human. If we cannot demonstrate the systems natural land use than we must do a TMDL.

Tommy Toms, Graham Farms – Is this problem relatively high or low when compared to similar areas in other parts of the state?

Answer, Jan – Low.

Rebecca Elliot, DACS – How does the WBID to the east (C-21 sub-basin) affect the stations in question?

Answer, Jan – The solution would have to look in that direction.

Rebecca Elliot, DACS – Where did you get the equations to calculate loading?

Answer, Jan – From EPA.

Tommy Perry, Regional Engineer for WCD's and US Sugar – If 9 of the 49 samples were exceedances, what percentage of exceedances causes the impairment listing?

Answer, Jan – Anything less than 10% is not impaired. Anything greater than 10% as related to the sample size (using a statistical method for confidence) would be listed as impaired.

Wayne Smith, Hilliard Bros. – Have there been data collected since 2003?

Answer, Jan- Perhaps, we will check with the District Office.

Tommy Perry – How do you verify that the percent reduction in coliform has been achieved?

Answer, Jan – Follow up monitoring

Tommy Perry – Who collected the current data?

Answer – Our district office.

Wayne Smith, Hilliard Bros. – How did the polygon get delineated in the first place?

Answer – Don Foos

Rick Dantzler, Hilliard Bros. – Can any property owner within the WBID opt out by proving they are not the problem.

Answer, Jan – You do not have to defend yourself unless we deem you are the problem.

Wayne Smith, Hilliard Bros. – Will you come for a tour of the area.

Answer, Jan - The district office representative will and Pat Fricano from Tallahassee will too, to facilitate the BMAP process and take a tour if needed.

Tommy Perry – Everybody in the room today represents agriculture. How do you bring in septic tanks and residential homeowners and their dogs?

Answer, Jan – We will invite the county to participate. Furthermore, the legislature has provided funding via recent legislation to help solve such matters.

Rebecca Elliot, DACS – As an FYI, DACS has BMP's that will deem you compliant if you sign up and follow them, unless scientific data proves otherwise.

Development of Total Maximum Daily Loads
For Ninemile Canal – Caloosahatchee Basin
Public Meeting - August 18, 2005
Clewiston, Florida

Sign in Sheet

NAME (please print)	AFFILIATION	ADDRESS	E-MAIL	TELEPHONE
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