2011 PROGRESS REPORT

For the Lower St. Johns River Basin Tributaries Basin Management Action Plan I

Developed by the
Lower St. Johns River Tributaries Basin Working Group

In cooperation with the
Florida Department of Environmental Protection
Division of Environmental Assessment and Restoration
Bureau of Watershed Restoration
Tallahassee, Florida 32399

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LIST OF ACRONYMS

ARV	Air Release Valve
BMAP	Basin Management Action Plan
BMP	Best Management Practice
CARE	Citizen Action Response Effort
CFU	Colony Forming Unit
CIPP	Cured In Place Pipe
CMOM	Capacity, Management, Operations, and Maintenance
COJ	City of Jacksonville
DCHD	Duval County Health Department
DCP	Drainage Connection Program
EQD	Environmental Quality Division
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
FDOT	Florida Department of Transportation
FOG	Fats, Oils, and Grease
FY	Fiscal Year
GIS	Geographic Information System
IMZ	Industrial/Manufacturing Zone
LSJR	Lower St. Johns River
MAPS	Managed Aquatic Plant Systems
MF	Membrane Filter
mL	Milliliter
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer System
MSMP	Master Stormwater Management Plan
NPDES	National Pollutant Discharge Elimination System
OSTDS	Onsite Sewage Treatment and Disposal System
PBTS	Performance-Based Treatment and Disposal System
PIC	Potential Illicit Connection
RSF	Regional Stormwater Facility
SCADA	Supervisory Control and Data Acquisition
SSO	Sanitary Sewer Overflow
SWIM	Surface Water Improvement and Management
TAT	Tributary Assessment Team
TMDL	Total Maximum Daily Load
WBID	Waterbody Identification

EXECUTIVE SUMMARY

TOTAL MAXIMUM DAILY LOADS

Total Maximum Daily Loads (TMDLs) are water quality targets for specific pollutants (such as fecal coliforms) that are established for impaired waterbodies that do not meet designated uses based on Florida water quality standards. The Florida Department of Environmental Protection (FDEP) identified 75 tributaries in the Lower St. Johns River (LSJR) Basin as verified impaired for fecal coliforms. The LSJR Tributaries Basin Management Action Plan (BMAP) I includes 10 of these 75 impaired tributaries. FDEP adopted TMDLs in 2006 for Miramar Creek, Butcher Pen Creek, Hogan Creek, and Goodbys Creek. FDEP then adopted TMDLs in 2009 for Miller Creek, Big Fishweir Creek, Newcastle Creek, Deer Creek, Terrapin Creek, and Open Creek.

The LSJR Tributaries BMAP I was adopted by Secretarial Order in December 2009 as a plan to implement these TMDLs. This 2011 Progress Report is the second annual progress report for the LSJR Tributaries BMAP I, and it describes the activities implemented by the stakeholders during the reporting period of January 1, 2011 through December 31, 2011.

WATER QUALITY MONITORING AND TRENDS

The Tributaries Assessment Team (TAT) implemented the BMAP monitoring plan over the last year. Data collected from 2007 through 2011 as part of the monitoring plan and previous TAT efforts were assessed to determine water quality trends in the 10 BMAP I tributaries. In this reporting period, fecal coliform concentrations declined in Hogan Creek, Miramar Creek, Deer Creek, Terrapin Creek, and Goodbys Creek. Conversely, slight increases in fecal coliform concentrations were observed in Newcastle Creek, Butcher Pen Creek, Miller Creek, Big Fishweir Creek, and Open Creek. Assessing improvements using the BMAP milestone showed that Newcastle Creek, Hogan Creek, Miramar Creek, Deer Creek, Terrapin Creek, and Goodbys Creek all exceeded the required 50% reduction in median concentrations since the time of the TMDL data period. Miller Creek, Big Fishweir Creek, and Open Creek show improvements in fecal coliform concentrations but have not yet met the milestone. Butcher Pen Creek continues to require improvement.

The TAT conducted follow up investigations in several tributaries to determine the sources of the high counts observed in these areas, and to implement projects to reduce the fecal coliform loading. The City of Jacksonville (COJ) collected 23 follow up samples on high counts near Camden Avenue in Miller Creek in 2011. After exhaustively searching for sources, the only source that could be identified was small animals, particularly cats, which are numerous in the area and frequently observed. COJ and FDEP conducted follow up sampling and investigations in Little Fishweir Creek. The Duval County Health Department (DCHD) and JEA also investigated septic tanks and the sanitary sewer infrastructure in this area, although no potential sources were found. At this time, known sources of fecal bacteria in this area include pets and raccoons; however, there may be other intermittent sources so far undetected.

PROJECT AND PROGRAM IMPLEMENTATION

All of the entities continued to implement their county-wide programs. These programs include the maintenance and repair of infrastructure, which helps to reduce fecal coliform loading that can occur with faulty systems. In addition, COJ completed drainage system rehabilitation projects in the Hogan Creek, Miller Creek, Big Fishweir Creek, Deer Creek, and Goodbys Creek watersheds. COJ also followed up on open potential illicit connection (PIC) cases in Newcastle Creek, Hogan Creek, Butcher Pen Creek, Big Fishweir Creek, and Goodbys Creek.

SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE REPORT

This is the second annual progress report for the Lower St. Johns River (LSJR) Tributaries Basin Management Action Plan (BMAP) I and contains information for the period from January 1, 2011 through December 31, 2011. **Section 2** provides information on BMAP water quality monitoring and trends in each of the 10 BMAP I tributaries. **Section 3** describes ongoing programs implemented by the responsible stakeholders in the LSJR Basin. **Section 4** through **Section 13** provide status updates for the activities conducted by each entity in each of the BMAP tributaries.

1.2 TOTAL MAXIMUM DAILY LOADS IN THE TRIBUTARIES OF THE LSJR BASIN

The LSJR Tributaries BMAP I includes the 10 tributaries with adopted total maximum daily loads (TMDLs) identified as the waterbody identification numbers (WBIDs) with the worst-case condition for fecal coliforms (see **Figure 1**). This worst-case determination was made using a ranking method that establishes the severity of water quality impairment based on the number of exceedances of fecal coliform colony counts. The water quality ranking method uses the total number of fecal coliform samples in the waterbody during the period of record to categorize how many samples were over 800, 5,000, and 10,000 colony forming units (CFU). A combined rank is created based on the number of exceedances in each category. The WBIDs are sorted from worst to best to provide a guideline for assessment priorities, with the worst-case WBID ranked as number 1.

The water quality criteria for fecal coliform bacteria are detailed in Rule 62-302, Florida Administrative Code (F.A.C.). The requirements for exceeding maximum fecal coliform concentrations in a Class III waterbody are stated as follows: *The most probable number (MPN) or membrane filter (MF) counts per 100 milliliters (mL) of fecal coliform bacteria shall not exceed a monthly average of 200, nor exceed 400 in 10% of samples, nor exceed 800 on any one day.* The criteria states that monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30-day period. However, there were insufficient data (less than 10 samples in a given month) available to evaluate the geometric mean criterion for fecal coliform bacteria. Therefore, the criterion selected for the TMDLs was not to exceed 400.

The fecal coliform TMDLs for Hogan Creek, Butcher Pen Creek, Miramar Creek, and Goodbys Creek were adopted by the Florida Department of Environmental Protection (FDEP) in 2006. In July 2009, FDEP adopted the TMDLs for Newcastle Creek, Miller Creek, Big Fishweir Creek, Deer Creek, Terrapin Creek, and Open Creek. **Table 1** lists the TMDLs adopted by rule and the pollutant load allocations for the 10 BMAP I tributaries.

TABLE 1: TMDLS FOR THE LSJR TRIBUTARIES

WBID NUMBER	WBID NAME	WASTELOAD ALLOCATION WASTEWATER (COLONIES/DAY)	WASTELOAD ALLOCATION STORMWATER (%)	LOAD ALLOCATION (%)
2235	Newcastle Creek	Not applicable	84%	84%
2252	Hogan Creek	Meet permit limits	92%	92%
2322	Butcher Pen Creek	Meet permit limits	83%	83%
2287	Miller Creek	Not applicable	92%	92%
2304	Miramar Creek	Not applicable	92%	92%
2280	Big Fishweir Creek	Not applicable	87%	87%
2256	Deer Creek	Not applicable	86%	86%

WBID Number	WBID Name	Wasteload Allocation Wastewater (colonies/day)	Wasteload Allocation Stormwater (%)	Load Allocation (%)
2204	Terrapin Creek	Not applicable	71%	71%
2326	Goodbys Creek	Not applicable	87%	87%
2299	Open Creek	Not applicable	60%	60%

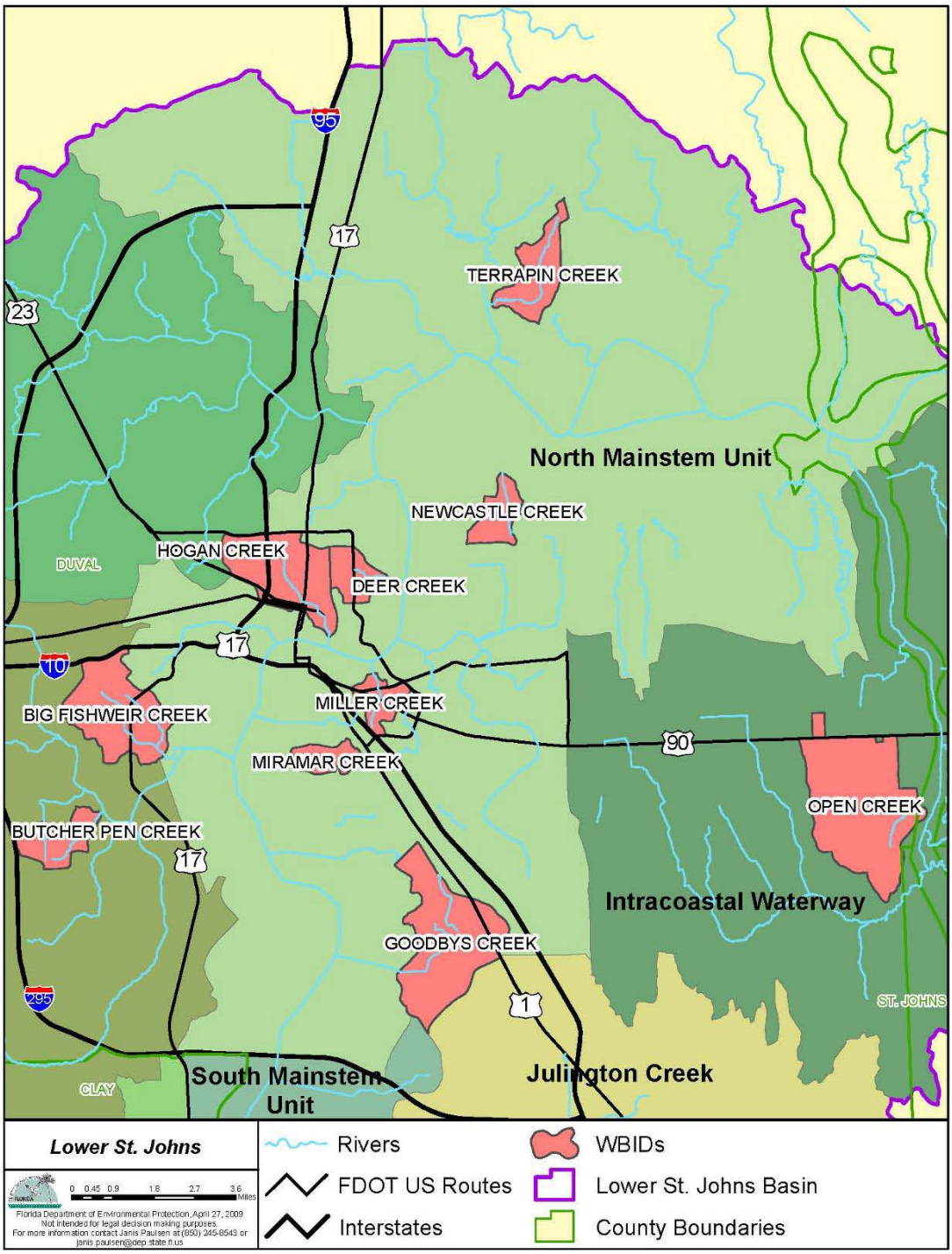

FIGURE 1: LSJR BASIN TRIBUTARIES INCLUDED IN BMAP I

1.3 Responsible Parties and Key Stakeholders

Sources of fecal coliform loading in the 10 tributaries include wastewater, septic tanks, and stormwater. The entities responsible for addressing these sources in the BMAP tributaries include the City of Jacksonville (COJ), Duval County Health Department (DCHD), Florida Department of Transportation (FDOT), and JEA. FDEP is also essential to the implementation of BMAP activities.

1.4 Sufficiency of Effort Approach

Fecal coliform can be highly variable and easily transported, making it difficult, in many cases, to identify the source of the bacteria. For this reason, detailed allocations were not made to each of the BMAP stakeholders. Instead, based on the potential sources in each WBID, the stakeholders were asked to identify their activities to reduce or remove bacteria sources that have been implemented since 1996 (the start of the TMDL verified period) and additional efforts that were underway or planned in 5 years from BMAP adoption. The stakeholders all submitted project sheets and program descriptions for the prevention, reduction, and source removal activities they conduct in each of the 10 WBIDs or on a countywide basis. FDEP then used a "sufficiency of effort" approach to conduct a WBID-specific assessment of the potential sources, and cumulative projects and activities that address or eliminate fecal coliform loading. This sufficiency of effort evaluation was not an assessment of each agency's individual activities; instead, it focused on whether the activities submitted by all the entities corresponded to the potential sources identified in the watershed and whether the total efforts were adequate to eliminate the known sources, assess unknown sources, and prevent the development of new sources.

During the sufficiency of effort evaluation, FDEP reviewed the information about each WBID including the documentation of the most likely sources, a Geographic Information System (GIS) database to determine the spatial and temporal distribution of the sources, permit and water quality information, relevant field information, and the completed corrective actions. For each waterbody evaluation, FDEP used the source summary for each tributary and compared it with the restoration activities to ensure that appropriate programs and activities were being implemented for the most likely sources to either decrease or eliminate the known sources, or further assess fecal coliform loadings. If any of the likely sources was not sufficiently addressed, FDEP identified the need for additional actions and the appropriate stakeholder was required to implement the actions as part of the BMAP.

SECTION 2: WATER QUALITY MONITORING AND TRENDS

2.1.1 MODIFICATIONS TO THE BMAP MONITORING PLAN

After the first year of BMAP implementation, the Tributaries Assessment Team (TAT) reviewed the data from 2006 through 2010, which were included in the first annual progress report, to identify any needed modifications to the monitoring plan. The TAT decided to stop sampling several stations from the monitoring plan that had consistently low fecal coliform counts so that they could focus on monitoring in areas with higher counts. **Table 2** lists the source assessment stations, which were sampled monthly, that were removed from the BMAP monitoring plan.

TABLE 2: STATIONS REMOVED FROM THE BMAP I MONITORING PLAN

WBID NAME	MONITORING STATION	LOCATION	RESPONSIBLE ENTITY
Miramar Creek	21FLJXWQSS5A	Orlando Circle West	COJ
Deer Creek	21FLJXWQDR3	Midstream between DR1 and DR2	COJ
Deer Creek	21FLJXWQDR2S	Southwest branch, just downstream of confluence of southwest branch and main channel	COJ
Goodbys Creek	21FLA 20030889	Goodbys Creek at Old Kings Road	FDEP
Goodbys Creek	21FLA 20030537	Goodbys Creek at Plaza Gate Road	FDEP
Goodbys Creek	21FLA 20030599	West branch Goodbys Creek at Camp Tommyhawk	FDEP
Open Creek	21FLA 20030848	Northwest tributary to Open Creek at Hodges Blvd	FDEP

The TAT will review the data from 2007 through 2011, which are presented in the sections below, and make a determination if further refinement of the monitoring plan is necessary. Any additional modifications made the BMAP monitoring plan will be reported in the third annual progress report.

2.1.2 PROGRESS TOWARDS IMPLEMENTATION MILESTONES

The BMAP includes a 5-year milestone to assess progress towards the TMDLs. The goal is that during the fifth year following the BMAP adoption (2014), the water quality data will show that the median value for the fecal coliform counts in the first 4 years of BMAP implementation is at least 50% of the median in the TMDL (based on the period of January 1, 1996, to June 30, 2003) in each WBID. If this 50% reduction is not achieved for each waterbody by the time of this year five analysis, additional efforts may be required in that WBID.

For this annual report, the last 5 years of monitoring data (2007 through 2011) were used to determine the median for each WBID. Data included in this assessment were collected as part of the BMAP monitoring plan and municipal separate storm sewer system (MS4) sampling. This period of data was compared to the TMDL medians to determine what reductions have been made thus far. As reflected in **Table 3**, Newcastle Creek, Hogan Creek, Miramar Creek, Deer Creek, Terrapin Creek, and Goodbys Creek are currently exceeding this 50% improvement milestone. Improvements in fecal coliform concentrations have also occurred in Miller Creek, Big Fishweir Creek, and Open Creek. Butcher Pen Creek continues to require improvement.

TABLE 3: PERCENT FECAL COLIFORM REDUCTION SINCE THE TMDL VERIFIED PERIOD

WBID NUMBER	WBID NAME	TMDL MEDIAN (#/100ML) (1996–2003)	MEDIAN (#/100ML) (2007–2011)	% REDUCTION
2235	Newcastle Creek	2,500	910	64%
2252	Hogan Creek	5,000	1,060	79%
2322	Butcher Pen Creek	2,400	3,300	-38%
2287	Miller Creek	5,000	3,900	22%
2304	Miramar Creek	7,000	2,200	69%
2280	Big Fishweir Creek	3,000	2,000	33%
2256	Deer Creek	2,765	440	84%
2204	Terrapin Creek	1,367	646	53%
2326	Goodbys Creek	3,000	510	83%
2299	Open Creek	1,000	585	42%

2.1.3 NEWCASTLE CREEK

The data period of 2007 through 2011 indicates that the fecal coliform concentrations are increasing in the Newcastle Creek watershed (see **Figure 2**). **Table 4** provides the data by year and shows an increase in the median value and the percent exceedances from 2010 to 2011. The stations 21FLA 20030656 and ARL5A demonstrate the highest median concentrations of 5,825 CFU and 1,020 CFU, respectively. However, the median for station 21FLA 20030656, which is located near the headwaters of Newcastle Creek, is based on only 2 data points from 2007. Station ARL5A is located at Berrywood Lane.

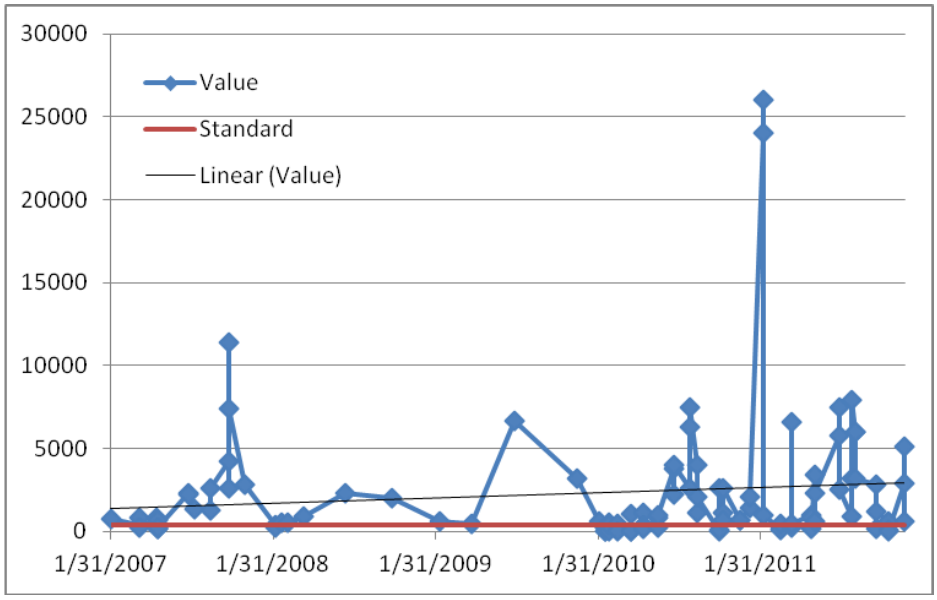

FIGURE 2: FECAL COLIFORM TRENDS IN NEWCASTLE CREEK, 2007-2011

TABLE 4: SUMMARY OF NEWCASTLE CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	19	145	11,400	1,262	2,222	14	74%
2008	7	209	2,300	510	963	5	71%

Year	Number	Minimum (#/100 mL)	Maximum (#/100 mL)	Median (#/100 mL)	Mean (#/100 mL)	Number of Exceedances	% Exceedances
2009	4	420	6,636	1,910	2,719	4	100%
2010	36	20	7,500	660	1,364	22	61%
2011	35	0	26,000	1,400	3,632	28	80%

2.1.4 Hogan Creek

Fecal coliform concentrations in Hogan Creek have declined slightly from 2007 through 2011 (see **Figure 3**). The highest median concentration occurred in 2008, as shown in **Table 5**. Stations 21FLA 20030774 and HC4 have the highest median concentrations of 2,243 CFU and 1,676 CFU, respectively. Both stations are located near the headwaters of Hogan Creek at 10th Street.

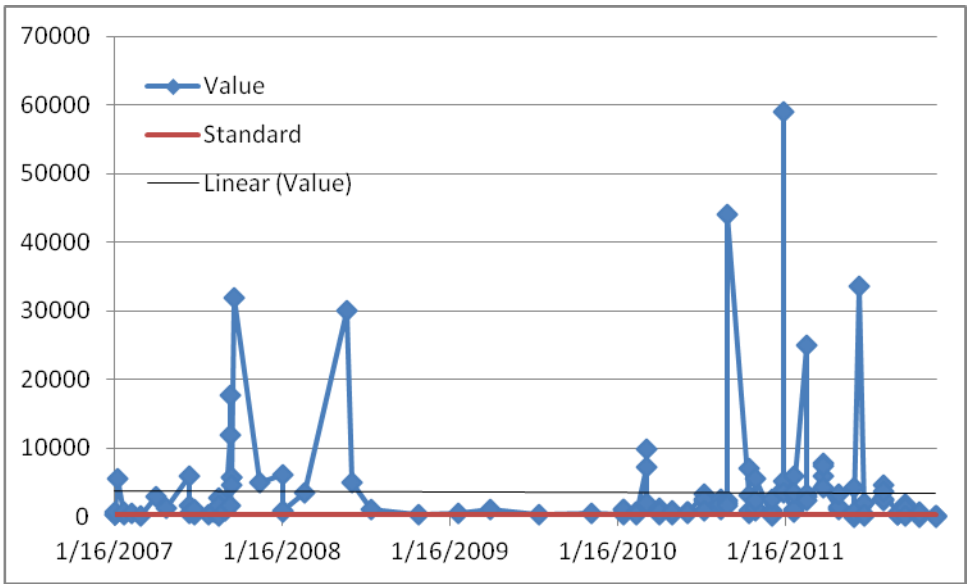

Figure 3: Fecal Coliform Trends in Hogan Creek, 2007-2011

Table 5: Summary of Hogan Creek Fecal Coliform Data by Year, 2007-2011

Year	Number	Minimum (#/100 mL)	Maximum (#/100 mL)	Median (#/100 mL)	Mean (#/100 mL)	Number of Exceedances	% Exceedances
2007	31	1	32,000	840	3,515	25	81%
2008	8	340	30,000	2,300	5,980	7	88%
2009	4	295	1,000	510	579	3	75%
2010	49	200	44,000	940	2,573	45	92%
2011	47	0	33,500	1,351	3,187	31	66%

2.1.5 Butcher Pen Creek

Fecal coliform concentrations in Butcher Pen Creek have been increasing over the data period of 2007 through 2011 (see **Figure 4**). The median concentrations and percent exceedances remain relatively high, with the lowest values occurring in 2009. The stations with the highest median concentrations are 21FLA 20030955 (6,500 CFU), 21FLA 20030580 (4,500 CFU), 21FLA 20030829 (4,500 CFU), and CR2 (4,000 CFU). Station 21FLA 20030829 is located near the headwaters of Butcher Pen Creek where it intersects Jammes Road. Station 21FLA 20030580 is located further downstream at Blanding Boulevard. CR2 located near Wesconnett

Boulevard and 21FLA 20030955 is located at Ducheneau Drive. The TAT has been attempting to track hits over 5,000 CFU; however, they have been unsuccessful in identifying controllable sources, although wildlife and feral cats have been sighted in the area. The TAT is considering alternative sampling locations in this watershed starting in 2012.

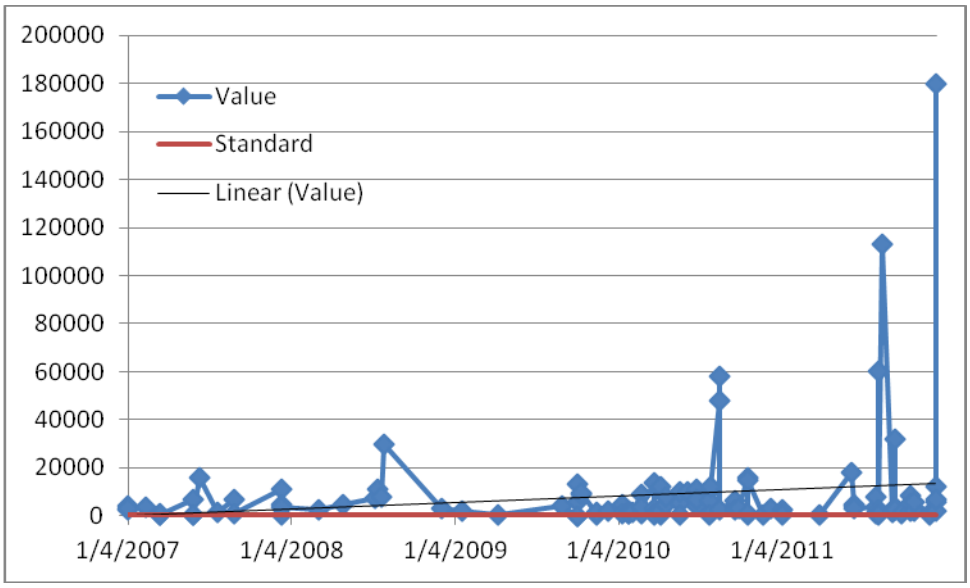

FIGURE 4: FECAL COLIFORM TRENDS IN BUTCHER PEN CREEK, 2007-2011

TABLE 6: SUMMARY OF BUTCHER PEN CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	18	175	16,000	2,850	3,784	15	83%
2008	7	2,800	30,000	7,500	9,586	7	100%
2009	13	66	13,000	1,800	3,706	10	77%
2010	43	330	58,000	3,900	7,298	42	98%
2011	34	220	180,000	3,050	14,632	32	94%

2.1.6 MILLER CREEK

Fecal coliform concentrations in Miller Creek have been increasing over the data period of 2007 through 2011 (see **Figure 4**). The median concentrations and percent exceedances remain high, with the lowest values in 2008; no data are available for 2009 (see **Table 7**). The sampling station with the highest median concentration of 29,000 CFU is station SS21, located on the west branch at Camden Avenue. In addition, stations SS23 and 21FLA 20030796 had high medians of 6,500 CFU and 6,000 CFU, respectively. Station 21FLA 20030796 is also located on Camden Avenue and station SS23 is located on the east branch at Mayfair Road.

Due to repeated high counts of fecal coliform bacteria at station SS21, COJ Environmental Quality Division (EQD) conducted many re-sampling efforts upstream and downstream of the site with field investigations to search for potential sources. Twenty-three follow up samples were collected in 2011 (see **Appendix B**). The stream is very shallow and ends several hundred feet upstream at an underground stormwater culvert. The last 60 feet of streambed before the stormwater culvert is intermittent and in 2011, this upstream portion was predominantly dry. After exhaustively searching for sources, the only source that could be identified is small animals, particularly cats, which are numerous in the area and frequently

observed. **Figure 6** shows an example of the signs of wildlife found in the watershed and **Figure 7** shows the area around station SS21 and summarizes the sampling results collected in 2011.

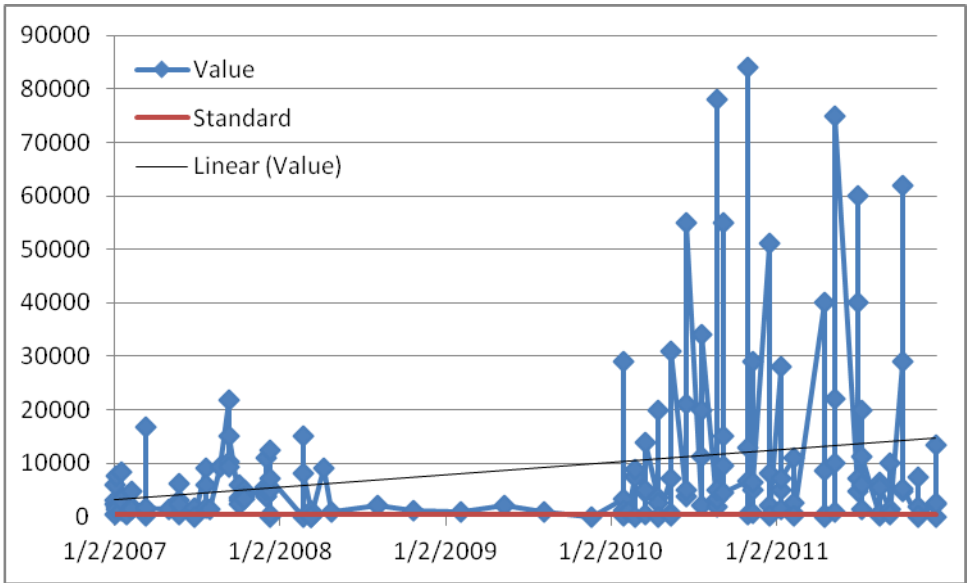

FIGURE 5: FECAL COLIFORM TRENDS IN MILLER CREEK, 2007-2011

TABLE 7: SUMMARY OF MILLER CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	47	0	21,750	3,000	4,456	38	81%
2008	6	0	15,000	700	4,083	3	50%
2010	36	40	84,000	7,225	17,066	31	86%
2011	44	0	75,000	5,150	11,777	33	75%

FIGURE 6: EXAMPLE OF OBSERVED WILDLIFE IN MILLER CREEK

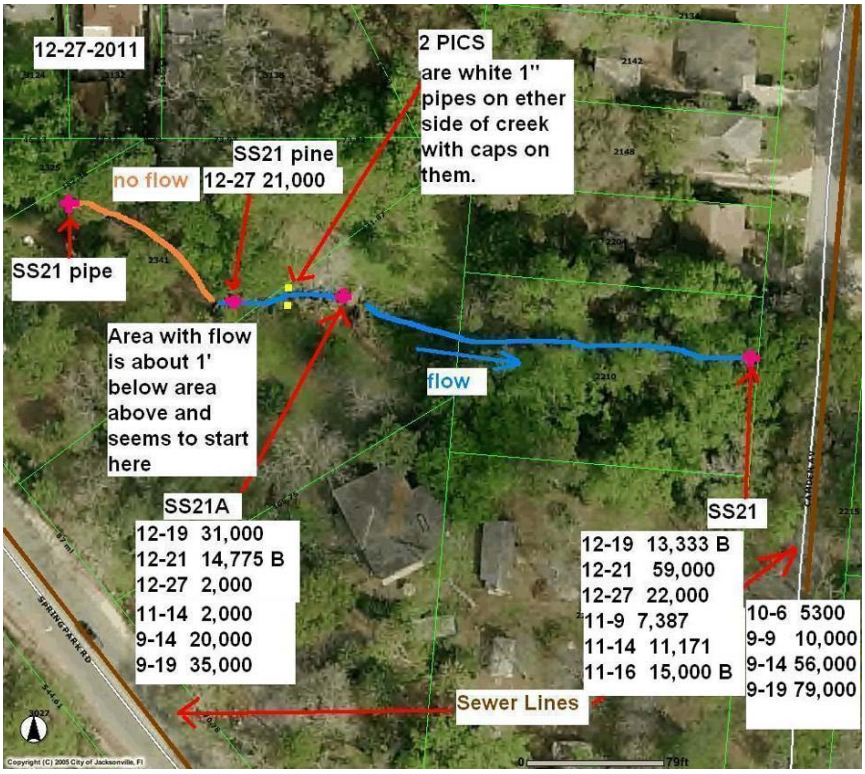

FIGURE 7: SUMMARY OF DATA AND CONDITIONS IN MILLER CREEK NEAR STATION SS21

2.1.7 MIRAMAR CREEK

Between 2007 and 2011, the fecal coliform concentrations in Miramar Creek decreased (see **Figure 8**). As shown in **Table 8**, the median concentration and percent exceedance did increase from 2010 to 2011. The stations with the highest median concentrations were 21FLA 20030827, 21FLA 20030826, and SS4. Station 21FLA 20030827 is the most upstream station located just east of the Emerson Street and Fleet Street intersection. Station 21FLA 20030826 is located on the northern branch at Greenridge Road. Station SS4 is the most downstream station and is located on San Jose Boulevard.

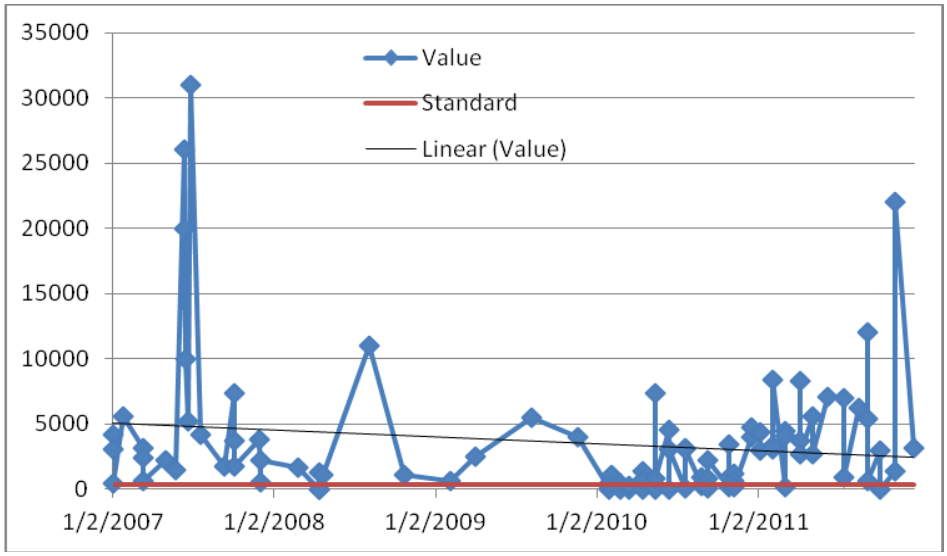

FIGURE 8: FECAL COLIFORM TRENDS IN MIRAMAR CREEK, 2007-2011

TABLE 8: SUMMARY OF MIRAMAR CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	22	428	31,000	3,466	6,391	22	100%
2008	7	0	11,000	1,100	2,316	4	57%
2009	4	680	5,500	3,254	3,172	4	100%
2010	36	0	7,400	520	1,303	20	56%
2011	25	0	22,000	3,700	4,913	23	92%

2.1.8 BIG FISHWEIR CREEK

The fecal coliform concentrations in Big Fishweir Creek increased from 2007 through 2011 (see **Figure 14**). The median concentrations and percent exceedances have been higher since 2009 (see **Table 9**). The stations with the highest median concentrations are 21FLA 20030951 (3,800 CFU), 21FLA 20030777 (4,916 CFU), 21FLA 20030797 (3,000 CFU), and 21FLA 20030798 (3,200 CFU). Stations 21FLA 20030951 and 21FLA 20030777 are both located at Park Street, and stations 21FLA 20030797 and 21FLA 2003098 are located on Little Fishweir Creek.

FDEP and COJ EQD collected routine samples that came back with elevated fecal coliform bacteria counts (above 5,000 CFU) in Little Fishweir Creek in March and April 2011. Observations of the water appearance revealed that it was discolored or cloudy. COJ EQD followed up with repeated sampling events in April, May, and July along with field investigations to look for potential sources of contamination. Sample results were particularly high after a rain event at the end of March (sampling conducted by FDEP) and also the day after a rain event on April 28, 2011 (sampling conducted by EQD). High bacteria results were detected at sites that were located both upstream and downstream of the sewage lift station at Herschel Street. Even though a sewage-type odor was noted several times, no sewage overflow was observed. Also, a stormwater discharge pipe at Oak Street sampled by FDEP had an elevated count in March. Resampling of the pipe and nearby ambient stream locations by EQD on April 21, 2011 resulted in all bacteria counts below 5,000 CFU. Additionally, DCHD and JEA have investigated potential sources of contamination, such as septic tanks and sanitary sewer infrastructure in this region with no positive sources found. The TAT considered the feasibility of conducting sediment sampling to evaluate whether the sediments are contributing a historic bacterial load. At this time, known sources of fecal bacteria include pets and raccoons; however, there may be other intermittent sources so far undetected. **Figure 10** and **Figure 11** show the Little Fishweir Creek portion of the watershed.

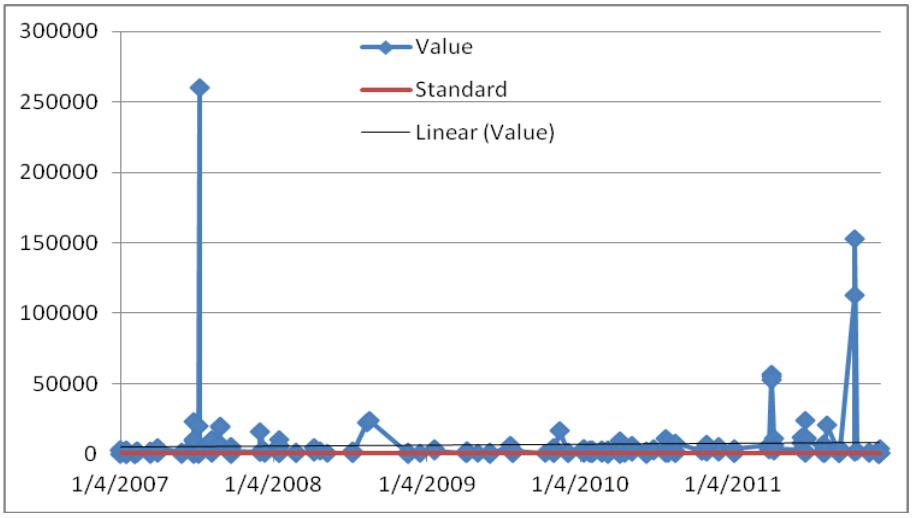

FIGURE 9: FECAL COLIFORM TRENDS IN BIG FISHWEIR CREEK, 2007-2011

TABLE 9: SUMMARY OF BIG FISHWEIR CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	62	0	260,000	1,350	7,440	45	73%
2008	21	210	24,000	1,200	4,142	17	81%
2009	24	21	17,000	1,340	2,437	22	92%
2010	48	210	11,000	2,000	2,793	43	90%
2011	51	0	153,000	3,100	12,278	46	90%

FIGURE 10: LITTLE FISHWEIR CREEK AT OAK STREET, DOWNSTREAM OF THE JEA LIFT STATION ON APRIL 2011

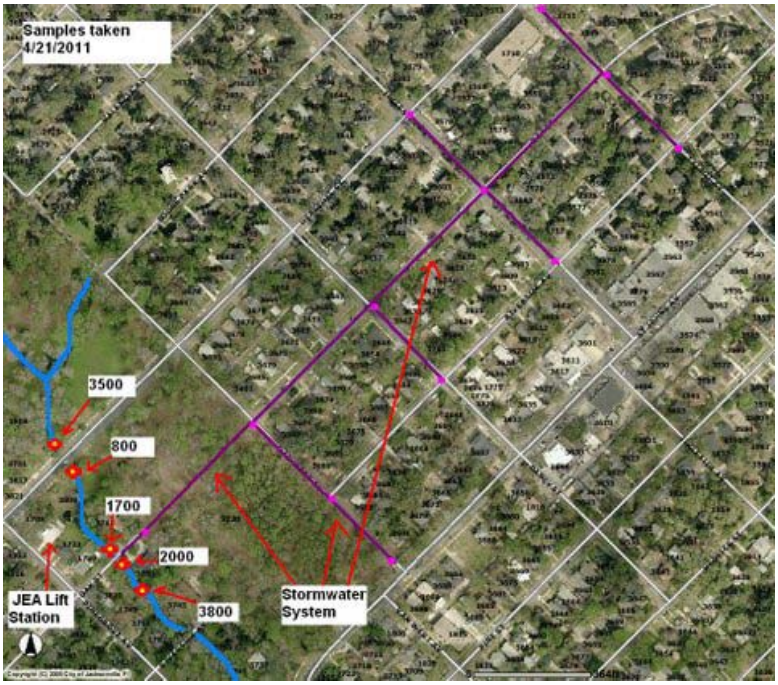

FIGURE 11: SUMMARY OF DATA FROM APRIL 2011 IN LITTLE FISHWEIR CREEK

2.1.9 DEER CREEK

The Deer Creek fecal coliform concentrations decreased between 2007 and 2011 (see **Figure 12**). The median concentrations were generally low and decreasing over time, with the exception of a slight increase in 2009 (see **Table 10**). Station 21FLA 20030238FLA, located at the south end of Jones Road, had the highest median concentration of 2,500 CFU. However, all the data for this station are from 2007. The next highest median concentration is 589 CFU at station 21FLA 20030792, which is located at Talleyrand Avenue.

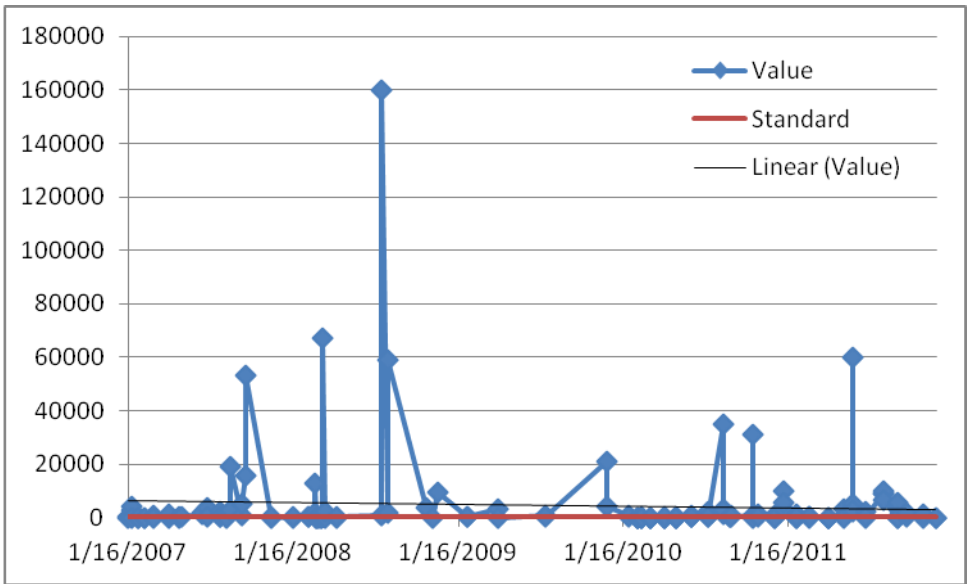

FIGURE 12: FECAL COLIFORM TRENDS IN DEER CREEK, 2007-2011

TABLE 10: SUMMARY OF DEER CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	34	0	53,000	525	3,544	19	56%
2008	27	0	160,000	400	11,938	13	48%
2009	8	82	21,000	580	3,833	6	75%
2010	49	0	35,000	270	1,865	22	45%
2011	41	0	60,000	480	3,513	21	51%

2.1.10 TERRAPIN CREEK

The Terrapin Creek fecal coliform concentrations declined over the period of 2007 through 2011 (see **Figure 13**). The median concentrations were generally low, with the exception of 2009 (see **Table 11**). The station with highest median concentration was 21FLA 20030490FLA with 1,150 CFU. Station 21FLA 20030490FLA is located at Blassius Road. The rest of the stations in the basin all had median concentrations of less than 850 CFU.

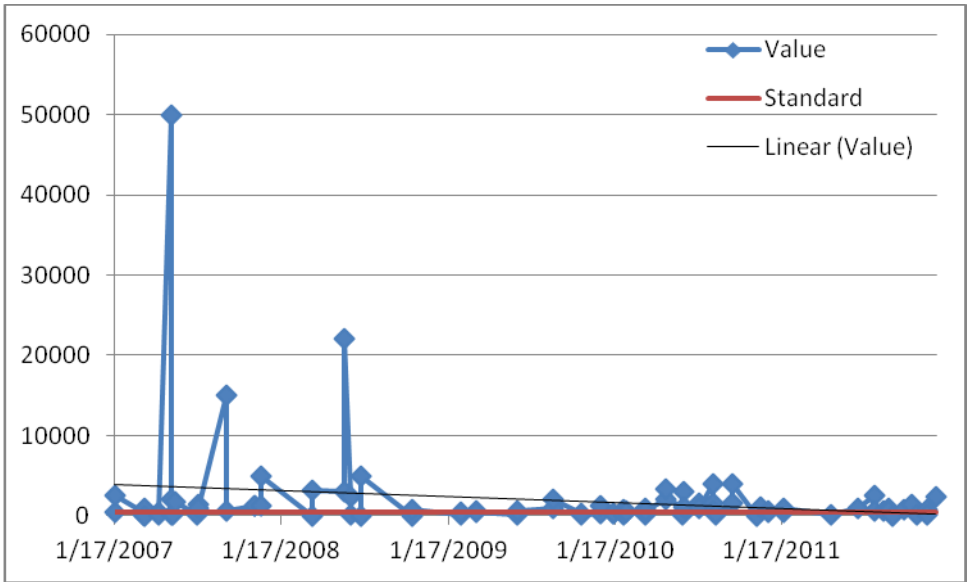

FIGURE 13: FECAL COLIFORM TRENDS IN TERRAPIN CREEK, 2007-2011

TABLE 11: SUMMARY OF TERRAPIN CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	23	43	50,000	874	3,739	15	65%
2008	10	16	22,000	1,560	3,642	6	60%
2009	12	82	2,000	460	604	6	50%
2010	28	27	4,000	685	1,126	19	68%
2011	17	39	2,500	660	802	12	71%

2.1.11 GOODBYS CREEK

There was a decrease in fecal coliforms in Goodbys Creek between 2007 and 2011 (see **Figure 14**). As shown in **Table 12**, the median concentrations were less than 1,000 CFU in every year. Station SS319, located at Sanchez Road, has the highest median concentration of 790 CFU.

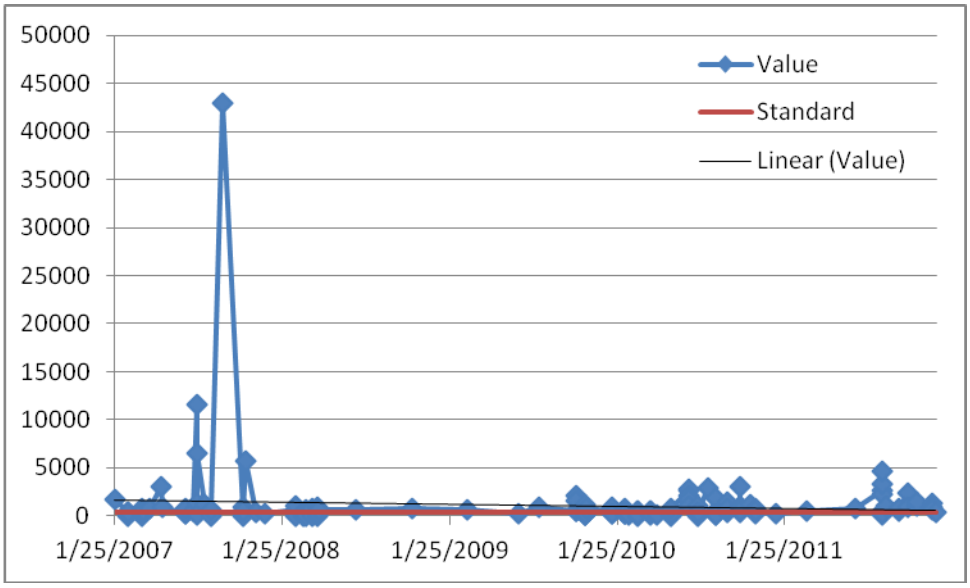

FIGURE 14: FECAL COLIFORM TRENDS IN GOODBYS CREEK, 2007-2011

TABLE 12: SUMMARY OF GOODBYS CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	33	0	43,000	525	2,539	18	55%
2008	24	0	1,000	410	404	12	50%
2009	15	60	2,100	550	656	10	67%
2010	68	0	3,100	440	659	36	53%
2011	20	150	4,600	950	1,322	17	85%

2.1.12 OPEN CREEK

Fecal coliform concentrations in Open Creek increased over the period of 2007 through 2011 (see **Figure 15**). The median concentrations during this time were generally low and decreasing, with a small increase in 2010 (see **Table 13**). Station 21FLA 20030858 had the highest median concentration of 4,000 CFU. This station is located along the branch at Windsor Park Drive North.

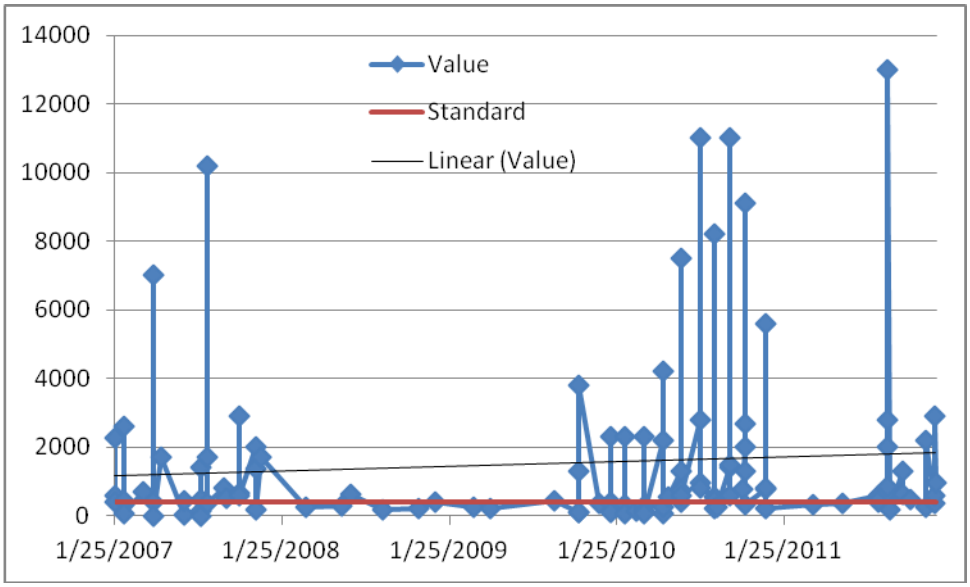

FIGURE 15: FECAL COLIFORM TRENDS IN OPEN CREEK, 2007-2011

TABLE 13: SUMMARY OF OPEN CREEK FECAL COLIFORM DATA BY YEAR, 2007-2011

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2007	29	0	10,200	600	1,436	21	72%
2008	6	180	640	285	333	1	17%
2009	8	96	3,800	306	819	3	38%
2010	48	63	11,000	665	1,897	30	63%
2011	21	190	13,000	600	1,521	15	71%

SECTION 3: COUNTY-WIDE PROGRAMS IN THE LSJR BASIN

There are several programs and projects that the entities conduct on county-wide level. These activities are summarized below and waterbody-specific efforts associated with these programs are described in the WBID chapters.

3.1 JEA PROGRAMS

JEA continues to implement a number of countywide specific improvement programs, as follows, to address the sanitary sewer system as a source of fecal coliform contamination: (1) Fats, Oil, and Grease (FOG) Reduction Program; (2) Sanitary Sewer Overflow (SSO) Root Cause Program; (3) Pop-Top Program; (4) Non-Destructive Testing and Air Release Valve (ARV) Programs; (5) Supervisory Control and Data Acquisition (SCADA); (6) Third Party Education and Enforcement Program; (7) Manhole Monitoring; (8) Force Main Discharge Manholes; and (9) Capacity, Management, Operations, and Maintenance (CMOM) Program.

3.2 DCHD PROGRAMS

DCHD implements a variety of countywide specific improvement programs and restoration activities to address onsite sewage treatment and disposal systems (OSTDS) as sources of fecal coliform contamination. These include the OSTDS Program, training programs, and the designation of septic tank failure and nuisance areas for transfer to central sewer.

3.3 COJ PROGRAMS

COJ has established a monitoring plan to evaluate the effectiveness of the Stormwater Management Program and the associated pollutant reduction from MS4 systems to waters of the state. The monitoring plan is a requirement of Part V.B. of the COJ/FDOT National Pollutant Discharge Elimination System (NPDES) MS4 permit and supported by Title 40 of the Code of Federal Regulations, Part 122.26(d)(2)(iii). In addition to the routine monitoring, COJ EQD is part of the TAT and conducts sampling to help identify potential sources of fecal coliform contamination.

COJ PWD's Streets and Drainage Division is responsible for maintaining its stormwater conveyance systems in Jacksonville. In addition to routine maintenance activities, work orders for maintenance are generated from the Citizen Action Response Effort (CARE) database. COJ also implements the Potential Illicit Connection (PIC) Program. COJ EQD keeps a record of reported PICs in a database and a determination is made to identify where site visits are necessary. COJ inspectors conduct the site visits and talk to both the people who live on the site, as well as their neighbors, to verify the nature of the issue. If there is a known discharge, the inspector investigates in order to direct the resolution of the discharge to the appropriate entity (COJ, DCHD, or FDEP). If necessary, a sample is collected to determine the nature of the discharge. COJ may assist the individual in remedying the situation and return to ensure that the connection has been removed.

Educational outreach is a vital part of the PIC Program. COJ EQD primarily provides this outreach by distributing materials to the public such as educational pamphlets and informational door hangers, and through a storm drain–stenciling program. COJ also has several continuing public service announcements to address pet waste management and septic tank maintenance.

3.4 FDOT PROGRAMS

Under Subsection 334.044(15), Florida Statutes, and Rule 14-86, F.A.C., FDOT implements a Drainage Connection Program (DCP). The program does not issue water quality permits but requires the connecting entity to certify that the discharge is of acceptable water quality. Connecting entities are required to maintain the discharge of acceptable water quality for the duration of the FDOT DCP permit. If connecting entities fail to meet this requirement after sufficient warning by FDOT, they will be reported to FDEP, the St. Johns River Water Management District, and, if applicable, to the local municipality; these entities regulate stormwater quality through state rules, ordinances, and codes.

FDOT also works with COJ on several efforts related to the MS4 permit. FDOT participates in the PIC Program in conjunction with COJ. FDOT has instructed staff to be alert for illicit connections during routine maintenance activities, and investigates observances found in the right of way. Those located outside the right of way are reported to the applicable municipality for further investigation and enforcement action. FDOT maintains a toll-free number to be used for reporting illicit connections.

SECTION 4: NEWCASTLE CREEK (WBID 2235)

4.1 JEA ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

During the last year, JEA used cured in place pipe (CIPP) on 0.16% of the lines, inspected 0.24% of the pipes with closed-circuit television, and cleaned 0.48% of the lines. JEA also installed one manhole monitor, inspected 171 manholes as part of the Pop-Top Program, and tested 8 sites as part of the Non-Destructive Testing Program. JEA's 2011 activities in the Newcastle Creek watershed are shown in **Table 14**.

TABLE 14: JEA ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

Note: Fiscal Year 2011 (FY11) is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 1	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 2	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 202	$7,070	JEA	Ongoing
JEA – 3	Manhole Linings Rehabbed	Repair deteriorating manhole linings	0 manholes rehabbed in FY11	$0	JEA	Ongoing
JEA – 4	ARV Inspection and Rehab	ARV inspection and rehab	0 ARVs inspected in FY11	$0	JEA	Ongoing
JEA – 5	Pump Station SCADA Upgrades	Retrofit completed in 2004; all stations constructed since have SCADA installed	Not applicable	Unknown	JEA	Complete
JEA – 6	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 7	Pump Station Class I/II Rebuilding	Repair or replace components of existing pump stations	0 projects in FY11	Not applicable	JEA	Ongoing
JEA – 8	FOG Reduction Program	FOG Reduction Program	Not applicable	Unknown	JEA	Ongoing
JEA – 9	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit television	302 linear feet of pipe inspected in FY11	$2,416	JEA	Ongoing
JEA – 10	Pipe Cleaning	Clean existing pipes to avoid blockages	592 linear feet cleaned in FY11	$2,960	JEA	Ongoing
JEA – 11	CMOM Program	CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 12	Manhole Monitoring	Manhole monitoring	1 manhole monitor installed in 2011 at 3343 Sara Drive	$6,500	JEA	Ongoing
JEA – 13	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 14	Pop-Top Program	Pop-Top Program	171 manholes inspected in 2011	$2,565	JEA	Ongoing
JEA – 15	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	8 sites were tested in FY11	$8,000	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 16	Lift Station @ 3254 Townsend Boulevard	Upgrade station to address multiple SSOs related to electrical problems	Installed new electrical control panel; work completed in 2008	$70,000	JEA	Complete

4.2 DCHD Activities in the Newcastle Creek Watershed

In 2011, DCHD issued 1 new permit and 1 repair permit, conducted 2 plan reviews and site evaluations, and performed 1 complaint investigation. DCHD continues to hold annual training programs for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals. DCHD also continues to update the septic tank failure area ranking. The programs and activities DCHD conducts in the Newcastle Creek watershed are shown in **Table 15**.

Table 15: DCHD Activities in the Newcastle Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 1	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 1 new permit and 1 repair permit	$850	Florida Department of Health (FDOH)	Ongoing
DCHD – 2	Surface Water Improvement and Management (SWIM) Project	Implementation of broad-ranging septic tank ordinance	Approximately 0.25% of Eggleston Heights Septic Tank Failure Area is in WBID	$2,000	FDOH/ LSJR SWIM Grant	Completed
DCHD – 3	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 4	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 2 plan reviews and site evaluations were performed in WBID	$400	FDOH	Ongoing
DCHD – 5	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 6	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	1 complaint investigation was performed in WBID	$100	FDOH	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 71	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 128 inspections performed within WBID	$12,250	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

4.3 COJ Activities in the Newcastle Creek Watershed

In 2011, COJ had 1 work order for repair/clearing of structures, 1 illicit water discharge, and 1 sewer that drains to a yard or ditch. These inspections are initiated through information from the CARE database. COJ followed up on 5 PICs, of which 2 were found to be illicit and removed and 2 are still pending review. COJ also took 4 routine samples, 31 BMAP samples, and 10 follow up samples. In addition, COJ connected 10 septic tanks to the sewer system in the Eggleston Heights failures and 14 septic tanks that were located in the watershed but outside of a failure area. COJ's efforts in the Newcastle Creek watershed are shown in **Table 16**. Additional details about COJ projects are included in **Appendix A**.

TABLE 16: COJ ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 1	Townsend Road (COJ-31)	Wet detention	151 acres	Unknown	COJ	Complete
COJ – 191	Regional Stormwater Facility (RSF)	0.4 acre RSF planed under the Master Stormwater Management Plan (MSMP), construction subject to funding	0.4 acres	$110,000	COJ	Planned
COJ – 2	Townsend Road	Townsend Road drainage system rehab	Townsend Road	$173,326	COJ	Complete
COJ – 3	Berrywood Lane	Ditch cleanout to remove sediments and vegetation	Berrywood Lane	Unknown	COJ	Complete
COJ – 192	3833 Hermitage Road East	Pipe replacement	Hermitage Road	$17,788	COJ	Complete
COJ – 4	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 193	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 5	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 6	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	1	$3,513	COJ	Ongoing
COJ – 7	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 194	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 8	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 9	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 195	Septic Tank Inspection	CARE initiated	0	$0	COJ	Ongoing
COJ – 10	Private Lift Station Inspection	No private lift stations in the WBID	0	$0	COJ	Ongoing
COJ – 11	Illicit Discharge Detection and Elimination	2 illicit, 2 pending	5	$1,895	COJ	Ongoing
COJ – 12	Routine Surface Water Sampling	NPDES permit related quarterly water quality sampling – 1 station in WBID	4	$848	COJ	Ongoing
COJ – 13	BMAP Monitoring	3 sites (2 sampled monthly and 1 sampled quarterly)	31	$6,572	COJ	Ongoing
COJ – 196	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	10	$2,120	COJ	Ongoing
COJ – 14	Eggleston Heights Failure Area – Septic Tank Phase-Out	Phase out of septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	10 tanks connected	Unknown	COJ	Ongoing
COJ – 15	Septic Tanks Outside Failure Area – Septic Tank Phase-Out	Phase-out program as provided by COJ ordinance	14 tanks connected	Unknown	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 16	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 17	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

[1] COJ has committed to removing septic tanks in failure areas that are within 300 meters of a surface water in the 2008 LSJR Main Stem BMAP. COJ must submit a plan to FDEP for removing septic tanks no later than August 2013 (within 6 months of completion of the septic tank model calibration). At a minimum, COJ will accomplish a 50% implementation of the septic tank phase-out projects by July 31, 2015, with the phase-outs completed by December 31, 2023. For the 10 tributaries addressed in this BMAP, a total of 1,180 septic tanks are located in failure areas, although not all of them may be located within 300 meters of a surface water. The failing tanks within 300 meters of a surface water will be included in the COJ plan and schedule to phase out tanks and will be identified as Tributaries BMAP-related tanks in the plan.

4.4 FDOT Activities in the Newcastle Creek Watershed

FDOT helps to fund 1 monitoring station in the Newcastle Creek watershed that is sampled quarterly as part of the MS4 routine monitoring program. **Table 17** lists FDOT's activities in the Newcastle Creek watershed.

Table 17: FDOT Activities in the Newcastle Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 1	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous	Ongoing
FDOT – 2	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 3	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	1 station sampled quarterly	Ongoing

SECTION 5: HOGAN CREEK (WBID 2252)

5.1 JEA ACTIVITIES IN THE HOGAN CREEK WATERSHED

During the last year, JEA pipe burst 0.227% of the pipes in the watershed, used CIPP on 0.07% of the lines, open cut 0.01% of the pipes, repaired 10 manholes, inspected 0.25% of the pipes with closed-circuit television, and cleaned 3.20% of the lines. JEA also inspected 677 manholes as part of the Pop-Top Program. JEA's 2011 activities in the Hogan Creek watershed are shown in **Table 18**.

TABLE 18: JEA ACTIVITIES IN THE HOGAN CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 17	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 3,254	$488,100	JEA	Ongoing
JEA – 18	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 1,054	$36,890	JEA	Ongoing
JEA – 19	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	200 linear feet of pipe was replaced in FY11	$50,000	JEA	Ongoing
JEA – 20	Manhole Linings Rehabbed	Repair deteriorating manhole linings	10 manholes rehabbed in FY11	$7,500	JEA	Ongoing
JEA – 21	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 22	Inspect Force Main Discharge Manholes; Repair/Rehab as Necessary	Inspect force main discharge manholes; repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 23	Pump Station Class I/II Rebuilding	Repair or replace components of existing pump stations	0 projects in FY11	Not applicable	JEA	Ongoing
JEA – 24	FOG Reduction Program	FOG Reduction Program	Not applicable	Unknown	JEA	Ongoing
JEA – 25	Pipe TV Inspection	Inspect existing infrastructure through closed-circuit television	3,576 linear feet of pipe inspected in FY11	$28,608	JEA	Ongoing
JEA – 26	Pipe Cleaning	Clean existing pipes to avoid blockages	46,273 linear feet cleaned by contractor in FY11	$ 231,365	JEA	Ongoing
JEA – 27	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 28	Manhole Monitoring	Manhole Monitoring	Not applicable	$0	JEA	Ongoing
JEA – 29	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 30	Pop-Top Program	Pop-Top Program	677 manholes inspected in2011	$35,350	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 31	Non-Destructive Testing Program/ Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	0 sites were tested in FY11	$0	JEA	Ongoing

5.2 DCHD Activities in the Hogan Creek Watershed

In 2011, DCHD performed 27 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Hogan Creek watershed are shown in **Table 19**.

Table 19: DCHD Activities in the Hogan Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 7	OSTDS Program	Implementation of programs to address septic systems as potential sources	None	Not applicable	FDOH	Ongoing
DCHD – 8	Annual Operating Permits	Annual operating permits issued for performance-based treatment systems (PBTS), systems located in industrial/ manufacturing zones (IMZ), and commercial systems	None	Not applicable	FDOH	Ongoing
DCHD – 9	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 10	Application/Plan Review/Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	None	Not applicable	FDOH	Ongoing
DCHD – 11	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 12	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	27 complaint investigations have been performed in WBID	$4,150	FDOH	Ongoing
DCHD – 72	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 237 inspections performed to confirm each property connected to central sewer	$22,600	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

5.3 COJ Activities in the Hogan Creek Watershed

5.3.1 Completed COJ Projects

In 2011, COJ completed drainage system rehabilitation projects at 7th and Ionia and Boulevard railroad crossing. These projects will help to reduce the amount of fecal coliforms that reach the creek from these areas.

5.3.2 Ongoing COJ Programs and Activities

In the Hogan Creek watershed in 2011, COJ had 11 work orders for ditch and creek regrading, 50 work orders for repair/clearing of structures, 1 illicit water discharge, 2 sewers that drain to a yard or ditch, and 2 septic tank inspections. These inspections are initiated through information from the CARE database. COJ followed up on 1 PIC and it was determined not to be illicit. In addition, COJ took 8 routine samples, 40 BMAP samples, and 15 follow up samples on high counts. COJ also connected 18 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Hogan Creek watershed are shown in **Table 20**. Additional details about COJ projects are included in **Appendix A**.

TABLE 20: COJ ACTIVITIES IN THE HOGAN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 18	Durkeeville West	Wet detention	106 acres	Unknown	COJ	Complete
COJ – 19	Newtown Area	Flood improvement	Newtown Area	$5,375,000	COJ	Design
COJ – 20	Hogan Creek	Wet detention	48 acres	Unknown	COJ	Complete
COJ – 197	Emerald Necklace and Liberty Ponds	MSMP construction schedule subject to funding	Ponds	$2,153,000	COJ	Planned
COJ – 21	Edmonson West	Alleviate flooding by improving conveyances	Edmonson West	Unknown	COJ	Complete
COJ – 22	7th & Ionia	Standing water at curbing	7th and Ionia	Unknown	COJ	Complete
COJ – 23	Boulevard RR Crossing	Headwall has failed, causing dual drain pipes to break	RR crossing	$100,000	COJ	Complete
COJ – 24	W&M-18th & Fla	Drainage system rehab project	W&M 18th and Fla	$2,620	COJ	Complete
COJ – 25	Trash Removal in Main Channel	Removed trash in main channel of creek as Walk the WBID follow-up	Main channel	Unknown	COJ	Complete
COJ – 26	Venus and Mars Apartment Complex Pond Maintenance	Conducted maintenance activities at pond at apartment complex as Walk the WBID follow-up	Venus and Mars apartment complex	Unknown	COJ	Complete
COJ – 198	1500 8th Street	Pipe replacement	8th Street	$67,954	COJ	Complete
COJ – 27	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	11	$876	COJ	Ongoing
COJ – 199	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0		
COJ – 28	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 29	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	50	$6,732	COJ	Ongoing
COJ – 30	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 31	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 32	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	2	$758	COJ	Ongoing
COJ – 33	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 200	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 34	Private Lift Station Inspection	3 private lift stations in this WBID	0	$0	COJ	Ongoing
COJ – 35	Illicit Discharge Detection and Elimination	0 illicit, 0 open	1	$379	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 36	Follow Up on Outstanding PIC	Follow up on 1 open PIC in watershed	1	$379	COJ	Complete
COJ – 37	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	8	$1,696	COJ	Ongoing
COJ – 38	BMAP Sampling	4 sites (3 sampled monthly and 1 sampled quarterly)	40	$8,480	COJ	Ongoing
COJ – 39	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted to attempt to identify sources	15	$3,180	COJ	Ongoing
COJ – 40	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	18 tanks connected	Unknown	COJ	Ongoing
COJ – 41	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 42	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

5.4 FDOT Activities in the Hogan Creek Watershed

In 2011, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 1,890 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system. FDOT collected 23.3 tons of debris through the street sweeping program. FDOT also helps to fund 2 monitoring stations in the Hogan Creek watershed that are sampled quarterly as part of the routine monitoring program. **Table 21** lists FDOT's activities in the Hogan Creek watershed.

Table 21: FDOT Activities in the Hogan Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 4	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 5	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 6	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	2 stations sampled quarterly	Ongoing
FDOT – 7	S.R. 115/8th Street Project	$2,941,944	FDOT	31 acres, wet detention	Completed
FDOT – 8	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 9	Adopt-A-Highway Program	Unknown	Not applicable	Trash collected from 12 acres, approximately 1,890 pounds	Ongoing
FDOT – 10	Sediment Accumulation, Trash, and Debris Removed As Needed	$77,148	FDOT	Approximately 350 inlets/catch basins and about 12 miles of piping	Ongoing
FDOT – 11	Street Sweeping Program	$6,848	FDOT	25 miles of roadway swept monthly, debris collected totals approximately 23.3 tons	Ongoing
FDOT – 12	Maintain FDOT Stormwater Systems	Countywide - $2,2750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 6: BUTCHER PEN CREEK (WBID 2322)

6.1 JEA ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

During the last year, JEA inspected pipe used CIPP on 0.11% of the lines and cleaned 0.06% of the lines. In addition, JEA inspected 24 manholes as part of the Pop-Top Program. JEA's 2011 activities in the Butcher Pen Creek watershed are shown in **Table 22**.

TABLE 22: JEA ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 32	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 33	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 486	$17,010	JEA	Ongoing
JEA – 34	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY11:0	Not applicable	JEA	Ongoing
JEA – 35	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 36	Line Inspection of Manhole at 4557 Arthur Drive	Report on results of manhole line inspection	Manhole inspected and found to be in good condition	Not applicable	JEA	Complete
JEA – 37	ARV Inspection and Rehab	ARV inspection and rehab	0 ARVs inspected in FY11	$0	JEA	Ongoing
JEA – 38	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Unknown	JEA	Complete
JEA – 39	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 40	Pump Station Class I/II Rebuilding	Repair or replace components of existing pump stations	0 projects in FY11	Not applicable	JEA	Ongoing
JEA – 41	Pump Station Repair at 4807 Ducheneau Drive	Report on status of pump station repair in first annual progress report	Pump station rehabbed	$115,107	JEA	Complete
JEA – 42	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 43	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	0 linear feet of pipe inspected in FY11	$0	JEA	Ongoing
JEA – 44	Pipe Cleaning	Clean existing pipes to avoid blockages	277 linear feet of pipe cleaned in FY11	$1,385	JEA	Ongoing
JEA – 45	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 46	Manhole Monitoring	Manhole Monitoring	Not applicable	Not applicable	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 47	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Unknown	JEA	Ongoing
JEA – 48	Pop-Top Program	Pop-Top Program	24 manholes inspected in FY11	$360	JEA	Ongoing
JEA – 49	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

6.2 DCHD Activities in the Butcher Pen Creek Watershed

In 2011, DCHD issued 2 repair permits, 1 abandonment permit, and 6 annual operating permits. DCHD also performed 2 plan reviews and site evaluations and 3 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Butcher Pen Creek watershed are shown in **Table 23**.

Table 23: DCHD Activities in the Butcher Pen Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 13	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 2 repair permits and 1 abandonment permit issued	$1,000	FDOH	Ongoing
DCHD – 14	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	6 annual operating permit issued for PBTS/IMZ in WBID	$4,875	FDOH	Ongoing
DCHD – 15	SWIM Project	Implementation of broad-ranging septic tank ordinance	Approximately 15% of Cedar River Septic Tank Failure Area is in WBID	$48,750	FDOH/ LSJR SWIM Grant	Complete
DCHD – 16	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 17	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 2 plan reviews and site evaluations have been performed in WBID	$350	FDOH	Ongoing
DCHD – 18	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 19	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	3 complaint investigations have been performed in WBID	$300	FDOH	Ongoing
DCHD – 73	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 69 inspections performed within WBID	$6,600	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

6.3 COJ Activities in the Butcher Pen Creek Watershed

In the Butcher Pen Creek watershed in 2011, COJ had 30 work orders for ditch and creek regrading and 13 work orders for repair/clearing of structures. These inspections are initiated through information from the CARE database. COJ followed up on 16 PICs in the watershed and found that 2 were illicit and removed. One PIC case remains open for review. In addition, COJ took 4 routine samples and 2 follow up samples on high counts. COJ also connected 7 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Butcher Pen Creek watershed are shown in **Table 24**. Additional details about COJ projects are included in **Appendix A**.

TABLE 24: COJ ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 43	Wesconnett Blvd (Blanding to Blanding)	Wet detention	396 acres	Unknown	COJ	Complete
COJ – 44	La Moya Roadway Project	Wet detention	17 acres	Unknown	COJ	Complete
COJ – 201	5000 Block Chadroe Road	Curb/gutter	Chadroe Road	$13,135	COJ	Complete
COJ – 45	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	30	$4,988	COJ	Ongoing
COJ – 202	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 46	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 47	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	13	$1,797	COJ	Ongoing
COJ – 48	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 49	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 50	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 51	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 203	Septic Tank	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 52	Private Lift Station Inspection	No private lift stations in WBID	0	$0	COJ	Ongoing
COJ – 53	Illicit Discharge Detection and Elimination	See COJ-54	0	$0	COJ	Ongoing
COJ – 54	Follow Up on Outstanding PICs	Follow up on 14 open PICs in watershed; follow up efforts completed, 1 remains open, 2 determined to be illicit and disconnected/removed	16	$6,064	COJ	Planned
COJ – 55	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	$848	COJ	Ongoing
COJ – 56	BMAP Sampling	COJ is not responsible for BMAP monitoring in this watershed.	0	$0	COJ	Complete
COJ – 204	Re-Sampling	Re-sampling effort conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources.	2	$424	COJ	Ongoing
COJ – 57	Cedar River Failure Area – Septic Tank Phase-Out	Phase-out of septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	70 total tanks, 0 tanks connected	Unknown	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 58	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	44 total tanks, 7 tanks connected	Unknown	COJ	Ongoing
COJ – 59	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 60	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

[1] COJ has committed to removing septic tanks in failure areas that are within 300 meters of a surface water in the 2008 LSJR Main Stem BMAP. COJ must submit a plan to FDEP for removing septic tanks no later than August 2013 (within 6 months of completion of the septic tank model calibration). At a minimum, COJ will accomplish a 50% implementation of the septic tank phase-out projects by July 31, 2015, with the phase-outs completed by December 31, 2023. For the 10 tributaries addressed in this BMAP, a total of 1,180 septic tanks are located in failure areas, although not all of them may be located within 300 meters of a surface waterbody. The failing tanks within 300 meters of a surface waterbody will be included in the COJ plan and schedule to phase out tanks and will be identified as Tributaries BMAP-related tanks in the plan.

6.4 FDOT Activities in the Butcher Pen Creek Watershed

In 2011, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT collected 23.5 tons of debris through the street sweeping program. FDOT also helps to fund 1 monitoring station in the Butcher Pen Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 25** lists FDOT's activities in the Butcher Pen Creek watershed.

Table 25: FDOT Activities in the Butcher Pen Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 13	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 14	PIC Program - Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 15	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	1 station sampled quarterly	Ongoing
FDOT – 16	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 17	Street Sweeping Program	$3,287	FDOT	12 miles of roadway swept monthly, debris collected totals approximately 23.5 tons	Ongoing
FDOT – 18	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 7: MILLER CREEK (WBID 2287)

7.1 JEA ACTIVITIES IN THE MILLER CREEK WATERSHED

During the last year, JEA repaired 2 manhole liners, inspected 2.12% of the pipes with closed-circuit television, and cleaned 9.17% of the lines. JEA's 2011 activities in the Miller Creek watershed are shown in **Table 26**.

TABLE 26: JEA ACTIVITIES IN THE MILLER CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 50	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 51	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 52	Manhole Linings Rehabbed	Repair deteriorating manhole linings	2 manhole liners rehabbed in 2011	$1,500	JEA	Ongoing
JEA – 53	ARV Inspection and Rehab	ARV inspection and rehab	0 ARVs inspected in FY11	$0	JEA	Ongoing
JEA – 54	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 55	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 56	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 57	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit television	1,546 linear of pipe inspected in FY11	$12,368	JEA	Ongoing
JEA – 58	Pipe Cleaning	Clean existing pipes to avoid blockages	6,684 linear feet cleaned by contractor in FY11	$33,420	JEA	Ongoing
JEA – 59	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 60	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	JEA	Ongoing
JEA – 61	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 62	Pop-Top Program	Pop-Top Program	0 manholes inspected in FY11	$0	JEA	Ongoing
JEA – 63	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

7.2 DCHD Activities in the Miller Creek Watershed

In 2011, DCHD issued 4 repair permits and 8 operating permits, conducted 4 plan reviews and site evaluations, and performed 3 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Miller Creek watershed are shown in **Table 27**.

Table 27: DCHD Activities in the Miller Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 20	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 4 repair permits issued	$1,700	FDOH	Ongoing
DCHD – 21	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	8 operating permits issued for PBTS/IMZ in WBID	$2,800	FDOH	Ongoing
DCHD – 22	SWIM Project	Implementation of broad-ranging septic tank ordinance	Approximately 38% of St. Nicholas Septic Tank Failure Area is in WBID	$6,000	FDOH/ LSJR SWIM Grant	Completed
DCHD – 23	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 24	Application/Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 4 plan reviews and site evaluations have been performed in WBID	$700	FDOH	Ongoing
DCHD – 25	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on an annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 26	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	3 complaint investigations have been performed in WBID	$350	FDOH	Ongoing
DCHD – 27	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 372 inspections performed in WBID	$35,600	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

7.3 COJ Activities in the Miller Creek Watershed

7.3.1 Completed COJ Projects

COJ completed a pipe replacement project at 3931 Carmichael Avenue. This drainage system rehabilitation project will help prevent fecal coliform inputs to the creek from this area of the watershed.

7.3.2 Ongoing COJ Programs and Activities

In the Miller Creek watershed in 2011, COJ had 11 work orders for ditch and creek regrading and 4 work orders for repair/clearing of structures. These inspections are initiated through information from the CARE database. COJ conducted inspections of 2 private lift stations in the watershed. In addition, COJ took 4 routine samples, 44 BMAP samples, and 31 follow up samples on high counts. COJ also connected 11 septic tanks to the sewer system within the Saint Nicholas failure area. COJ's efforts in the Miller Creek watershed are shown in **Table 28**. Additional details about COJ projects are included in **Appendix A**.

TABLE 28: COJ ACTIVITIES IN THE MILLER CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ-246	3931 Carmichael Avenue	Pipe replacement	Unknown	$24,272	COJ	Complete
COJ – 61	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	11	$1,996	COJ	Ongoing
COJ – 205	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 206	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 62	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	4	$621	COJ	Ongoing
COJ – 63	Ditch/Vegetation Clearing	Thin vegetation at Mayfair Road and Bridgewater Roads for maintenance enhancement	This area in on private land and COJ was unable to gain access	$0	COJ	Completed
COJ – 64	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 65	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 66	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 67	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 207	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 68	Private Lift Station Inspection	14 private lift stations in this WBID	2	$758	COJ	Ongoing
COJ – 69	Enforcement at The Preserve at St. Nicholas Apartments	Citation issued 2/11/2009. Settlement of $4,505 plus supplemental environmental projects of $13,515 for upgrades to lift station	Case is corrected and closed	$18,020	COJ	Complete
COJ – 70	Illicit Discharge Detection and Elimination	CARE initiated - determined to be Illicit and removed during reporting period	0	$0	COJ	Ongoing
COJ – 71	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	$848	COJ	Ongoing
COJ – 72	BMAP Sampling	4 sites (3 sampled monthly and 1 sampled quarterly)	44	$9,328	COJ	Ongoing
COJ – 208	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	31	$6,572	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 73	Saint Nicholas Failure Area – Septic Tank Phase-Out	Phase-out of septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	338 total tanks, 11 connected	Unknown	COJ	Ongoing
COJ – 74	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	0 total tanks	Unknown	COJ	Complete
COJ – 75	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 76	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

[1] COJ has committed to removing septic tanks in failure areas that are within 300 meters of a surface waterbody in the 2008 LSJR Main Stem BMAP. COJ must submit a plan to FDEP for removing septic tanks no later than August 2013 (within 6 months of completion of the septic tank model calibration). At a minimum, COJ will accomplish a 50% implementation of the septic tank phase-out projects by July 31, 2015, with the phase-outs completed by December 31, 2023. For the 10 tributaries addressed in this BMAP, a total of 1,180 septic tanks are located in failure areas, although not all of them may be located within 300 meters of a surface waterbody. The failing tanks within 300 meters of a surface waterbody will be included in the COJ plan and schedule to phase out tanks and will be identified as Tributaries BMAP-related tanks in the plan.

7.4 FDOT Activities in the Miller Creek Watershed

In 2011, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected approximately 465 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system. FDOT collected 24.2 tons of debris through the street sweeping program. FDOT also helps to fund 1 monitoring station in the Miller Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 29** lists FDOT's activities in the Miller Creek watershed.

Table 29: FDOT Activities in the Miller Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 19	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/ COJ	Effort is continuous in WBID	Ongoing
FDOT – 20	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/ COJ	No illicit connections found	Ongoing
FDOT – 21	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/ COJ	1 station sampled quarterly	Ongoing
FDOT – 22	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 23	Adopt-A-Highway Program	Unknown	Not applicable	Trash collected from 23 acres, approximately 465 pounds	Ongoing
FDOT – 24	Sediment Accumulation, Trash, and Debris Removed as Needed	$25,982	FDOT	Approximately 130 inlets/catch basins and about 5 miles of piping	Ongoing
FDOT – 25	Street Sweeping Program	$7,670	FDOT	28 miles of roadway swept monthly, debris collected totals approximately 24.2 tons	Ongoing
FDOT – 26	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 8: MIRAMAR CREEK (WBID 2304)

8.1 JEA ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

JEA's 2011 activities in the Miramar Creek watershed are shown in **Table 30**.

TABLE 30: JEA ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 64	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11:0	Not applicable	JEA	Ongoing
JEA – 65	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 66	ARV Inspection and Rehab	ARV inspection and rehab	0 ARVs inspected in 2011	$0	JEA	Ongoing
JEA – 67	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 68	Inspect Force Main Discharge Manholes; Repair/Rehab as Necessary	Inspect force main discharge manholes; repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 69	Pump Station Class I/II Rebuilding	Repair or replace components of existing pump stations	Not applicable	Not applicable	JEA	Ongoing
JEA – 70	Confirm Locations of Lift Stations on Boundary	Confirm locations of lift stations on boundary for first annual progress report	Lift station at 4171 Hendricks is in WBID; station at 2325 Emerson is in Craig Creek	Not applicable	JEA	Complete
JEA – 71	Follow Up on Seep under Sewer Line on Northern Branch	Follow up on seep under sewer line on northern branch as part of Walk the WBID	No seep found during inspection	Not applicable	JEA	Complete
JEA – 72	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 73	Pipe Cleaning	Clean existing pipes to avoid blockages	0 linear feet of pipe cleaned in FY11	Not applicable	JEA	Ongoing
JEA – 74	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 75	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	JEA	Ongoing
JEA – 76	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 77	Pop-Top Program	Pop-Top Program	0 manholes inspected in FY11	$0	JEA	Ongoing
JEA – 78	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

8.2 DCHD ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

In 2011, DCHD issued 2 new permits, 8 repair permits, 6 abandonment permits, and 20 annual operating permits. DCHD also conducted 10 plan reviews and site evaluations and performed 4

complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Miramar Creek watershed are shown in **Table 31**.

TABLE 31: DCHD ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
DCHD – 28	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 2 new, 8 repair, and 6 abandonment permits issued	$4,750	FDOH	Ongoing
DCHD – 29	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	20 annual operating permits issued for PBTS/IMZ in WBID	$7,250	FDOH	Ongoing
DCHD – 30	SWIM Project	Implementation of broad-ranging septic tank ordinance	59% of Emerson, 77.2% of Freeman/Inwood Terrace, and 24.7% of Point La Vista Septic Tank Failure Areas are located in WBID	$235,000	FDOH/ LSJR SWIM Grant	Completed
DCHD – 31	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 32	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 10 plan reviews and site evaluations have been performed in WBID	$2,000	FDOH	Ongoing
DCHD – 33	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 34	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	4 complaint investigations have been performed in WBID	$400	FDOH	Ongoing
DCHD – 35	OSTDS on Brooker Road	Investigate home on Brooker Road with potential OSTDS issues	Inspect and report findings in annual progress report	Part of DCHD – 36	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 36	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 672 inspections performed within WBID	$64,300	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

8.3 COJ Activities in the Miramar Creek Watershed

In the Miramar Creek watershed in 2011, COJ had 10 work orders for ditch and creek regrading, 2 work orders for a lake or pond problem, 2 work orders for repair/clearing of structures, and 1 work order for a sewer that drains into a yard or ditch. These inspections are initiated through information from the CARE database. COJ inspected 2 private lift stations in the basin. In addition, COJ took 4 routine samples, 24 BMAP samples, and 5 follow up samples on high counts. COJ also connected 6 septic tanks to the sewer system in the Pointe La Vista failure area, 1 septic tank in the Freeman Road/Inwood Terrace failure areas, and 1 septic tank in the watershed that is outside of a failure area. COJ's efforts in the Miramar Creek watershed are shown in **Table 32**. Additional details about COJ projects are included in **Appendix A**.

TABLE 32: COJ ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 77	Inwood Terrace Area	Relieve flooding by improving conveyances	5 acres	$572,000	COJ	Complete
COJ – 78	Miramar Tributary Improvements	Flood improvement	23 acres	$1,200,000	COJ	Complete
COJ – 79	Pine Forest/Larson Acres Area	Flood improvement, wet detention	22 acres	$5,015,000	COJ	Complete
COJ – 80	St Augustine Rd (Emerson to U.S. 1)	Regional pond	167 acres	Unknown	COJ	Complete
COJ – 209	Conveyance Under San Jose Blvd	MSMP construction schedule subject to funding	San Jose Blvd	$150,000	COJ	Planned
COJ – 210	Pine Tree Road Drainage	Construction	Pine Tree Road	$57,309	COJ	Complete
COJ – 81	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	10	$2,348	COJ	Ongoing
COJ – 211	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 82	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	2	Unknown	COJ	Ongoing
COJ – 83	Structure Blocked/Repair/ General Flooding	CARE requests with costs for responses where a work order was issued	2	$2,056	COJ	Ongoing
COJ – 84	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 85	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 86	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 87	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 212	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 88	Private Lift Station Inspection	9 private lift stations in this WBID	2	$758	COJ	Ongoing
COJ – 89	Illicit Discharge Detection and Elimination	CARE initiated - determined to be Illicit and removed during reporting period	0	$0	COJ	Ongoing
COJ – 90	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	$848	COJ	Ongoing
COJ – 91	BMAP Sampling	3 sites (2 sampled monthly and 1 sampled quarterly	24	$5,088	COJ	Ongoing
COJ – 213	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	5	$1,060	COJ	Ongoing
COJ – 92	Pointe La Vista Failure Area – Septic Tank Phase-Out	Phase out septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	133 total tanks, 6 connected	Unknown	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 93	Freeman Road Failure Area – Septic Tank Phase-Out	Phase out septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	84 total tanks, 1 connected	Unknown	COJ	Ongoing
COJ – 94	Inwood Terrace Failure Area – Septic Tank Phase-Out	Phase out septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	10 total tanks, 0 connected	Unknown	COJ	Ongoing
COJ – 95	Emerson Failure Area – Septic Tank Phase-Out	Phase out septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	452 total tanks, 0 connected	Unknown	COJ	Ongoing
COJ – 96	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	14 total tanks, 1 connected	Unknown	COJ	Ongoing
COJ – 97	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 98	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

[1] COJ has committed to removing septic tanks in failure areas that are within 300 meters of a surface water in the 2008 LSJR Main Stem BMAP. COJ must submit a plan to FDEP for removing septic tanks no later than August 2013 (within 6 months of completion of the septic tank model calibration). At a minimum, COJ will accomplish a 50% implementation of the septic tank phase-out projects by July 31, 2015, with the phase-outs completed by December 31, 2023. For the 10 tributaries addressed in this BMAP, a total of 1,180 septic tanks are located in failure areas, although not all of them may be located within 300 meters of a surface water. The failing tanks within 300 meters of a surface water will be included in the COJ plan and schedule to phase out tanks and will be identified as Tributaries BMAP-related tanks in the plan.

8.4 FDOT Activities in the Miramar Creek Watershed

In 2011, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected approximately 720 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system. FDOT collected 2.16 tons of debris through the street sweeping program. FDOT also helps to fund 1 monitoring station in the Miramar Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 33** lists FDOT's activities in the Miramar Creek watershed.

Table 33: FDOT Activities in the Miramar Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 27	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 28	PIC Program - Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 29	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	1 station sampled quarterly	Ongoing
FDOT – 30	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 31	Adopt-A-Highway Program	Unknown	Not applicable	Trash collected from 29 acres, approximately 720 pounds	Ongoing
FDOT – 32	Sediment Accumulation, Trash, and Debris Removed as Needed	$44,482	FDOT	Approximately 178 inlets/catch basins and about 7 miles of piping	Ongoing
FDOT – 33	Street Sweeping Program	$2,739	FDOT	10 miles of roadway swept monthly, debris collected totals approximately 2.16 tons	Ongoing
FDOT – 34	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 9: BIG FISHWEIR CREEK (WBID 2280)

9.1 JEA ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

During the last year, JEA pipe burst 0.04% of the pipes in the watershed, open cut 0.06% of the lines, inspected 2 ARVs and replaced 5, inspected 0.32% of the pipes with closed-circuit television, and cleaned 0.39% of the lines. JEA's 2011 activities in the Big Fishweir Creek watershed are shown in **Table 34**.

TABLE 34: JEA ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 79	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 523	$78,450	JEA	Ongoing
JEA – 80	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 81	Open Cut - Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY11 - 735	$183,750	JEA	Ongoing
JEA – 82	Manhole Linings Rehabbed	Repair deteriorating manhole linings	0 manholes rehabbed in 2011	$0	JEA	Ongoing
JEA – 83	ARV Inspection and Rehab	ARV inspection and rehab	2 ARVs inspected and 5 replaced in 2011	$7,500	JEA	Ongoing
JEA – 84	ARV Inspection	Inspect all ARVs in watershed to ensure integrity	21 ARVs in watershed – 21 inspected in FY11	$2,100	JEA	Complete
JEA – 85	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 86	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 87	Lift Station Inspection	Inspect lift stations near surface waters	6 stations near surface waters – all 6 stations inspected in FY10 – preventative maintenance performed monthly	Not applicable	JEA	Complete
JEA – 88	Merimac Avenue Lift Station Repair	Repaired lift station at Merimac Avenue as part of Walk the WBID follow-up	1 station	Not applicable	JEA	Complete
JEA – 89	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 90	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	4,165 linear feet of pipe inspected in FY11	$4,998	JEA	Ongoing
JEA – 91	Pipe Cleaning	Clean existing pipes to avoid blockages	5,123 linear feet cleaned by contractor in FY11	$25,615	JEA	Ongoing
JEA – 92	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 93	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	JEA	Ongoing
JEA – 94	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 95	Pop-Top Program	Pop-Top Program	0 manholes inspected in 2011	$0	JEA	Ongoing
JEA – 96	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	0 sites were tested in FY11	$0	JEA	Ongoing

9.2 DCHD Activities in the Big Fishweir Creek Watershed

In 2011, DCHD issued 4 repair permits, 13 abandonment permits, and 41 annual operating permits; conducted 4 plan reviews and site evaluations; and performed 8 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Big Fishweir Creek watershed are shown in **Table 35**.

Table 35: DCHD Activities in the Big Fishweir Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 37	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 4 repair permits and 13 abandonment permits issued	$2,850	FDOH	Ongoing
DCHD – 38	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	41 annual operating permits issued for PBTS/IMZ in WBID	$14,860	FDOH	Ongoing
DCHD – 39	SWIM Project	Implementation of broad-ranging septic tank ordinance	100% of Murray Hill B Septic Tank Failure Area is located in WBID	$155,000	FDOH/ LSJR SWIM Grant	Completed
DCHD – 40	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 41	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 4 plan reviews and site evaluations have been performed in WBID	$700	FDOH	Ongoing
DCHD – 42	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	N/A	Not applicable	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 43	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	8 complaint investigations have been performed in WBID	$1,000	FDOH	Ongoing
DCHD – 44	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 395 inspections performed within WBID	$37,800	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

9.3 COJ Activities in the Big Fishweir Creek Watershed

9.3.1 Completed COJ Projects

In 2011, COJ completed drainage system rehabilitation projects on Arden Street, Jersey Street, Fairfax Manor Creek, 1290 Menna Drive, 1748 Harkisheimer Drive, and Boone Park and Pine Grove. These projects will help to reduce the amount of fecal coliforms that reach the creek from these areas.

9.3.2 Ongoing COJ Programs and Activities

In the Big Fishweir Creek watershed in 2011, COJ had 70 work orders for ditch and creek regrading, 35 work orders for repair/clearing of structures, 1 illicit water discharge, 1 pollution discharge, and 1 sewer that drains into a yard or ditch. These inspections are initiated through information from the CARE database. COJ inspected 3 private lift stations in the basin and removed 10 illicit connections to the MS4. In addition, COJ took 12 routine samples and 21 follow up samples on high counts. COJ also connected 39 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Big Fishweir Creek watershed are shown in **Table 36**. Additional details about COJ projects are included in **Appendix A**.

TABLE 36: COJ ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 99	Hamilton at Jersey Outfall	Improve outfall to relieve flooding	Improve outfall	$2,900,000	COJ	Design - 2012
COJ – 100	Lakeshore Woodcrest	Wet detention	296 acres	Unknown	COJ	Complete
COJ – 101	Murray Hill Phase 1	Wet detention	219 acres	Unknown	COJ	Complete
COJ – 102	Riverside Avenue	Second-generation baffle box	70 acres	Unknown	COJ	Complete
COJ – 214	In-line Dry pond, Widen Downstream Channel	MSMP, construction schedule subject to funding	Dry pond	$2,500,000	COJ	Planned
COJ – 103	Drainage Improvements to Arden Street	Drainage improvement	Arden Street	Unknown	COJ	Complete
COJ – 104	Jersey St Drainage	Pipe roadside ditch	Jersey Street	$75,000	COJ	Complete
COJ – 105	Fairfax Manor Creek	Regrade ditch	Fairfax Manor Creek	$65,000	COJ	Complete
COJ – 215	5340 Royce Avenue	Pipe replacement	Royce Avenue	$63,608	COJ	Complete
COJ – 216	Poppy Drive Paving Rehabilitation	Construction	Poppy Drive	$58,357	COJ	Complete
COJ – 217	1748 Harksheimer Avenue	Pipe replacement	Harksheimer Avenue	$49,225	COJ	Complete
COJ – 218	Quan Drive Drainage Outfall	Repair concrete ditch lining	Quan Drive	$12,482	COJ	Design
COJ – 219	4700 Block Astral Street	Curb/gutter	Astral Street	$9,502	COJ	Complete
COJ – 220	College/Talbot	Curb/gutter	College/Talbot	$31,914	COJ	Complete
COJ – 221	Murray Drive/French Street	Curb/gutter	Murray/French	$11,750	COJ	Complete
COJ – 247	1290 Menna Drive	Pipe replacement	Unknown	$46,349	COJ	Complete
COJ – 248	1748 Harkisheimer Drive	Drainage improvement	Outfall improvement	$49,225	COJ	Complete
COJ – 249	Boone Park and Pine Grove	Drainage Improvement	Outfall improvement	$2,502	COJ	Complete
COJ - 250	Rennselaer and Hollingsworth	Drainage Improvement	Outfall improvement	$30,240	COJ	Design
COJ – 106	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	70	$33,461	COJ	Ongoing
COJ – 222	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 107	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 108	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	35	$8,651	COJ	Ongoing
COJ – 109	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 110	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing
COJ – 111	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	1	$379	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 112	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 113	Sewer Repairs at The Loop Restaurant	Follow-up and enforcement of sewer repairs at restaurant	Follow up on repairs	$1,500	COJ	Complete
COJ – 114	Septic Tank Inspection	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 115	Private Lift Station Inspection	20 private lift stations in WBID	3	$1,137	COJ	Ongoing
COJ – 116	Verify Location of Private Lift Stations	Verify that stations on boundary are reported in associated WBIDs (Cedar River and McCoy Creek)	5	$1,060	COJ	Complete
COJ – 117	Illicit Discharge Detection and Elimination	10 determined to be illicit and removed, 0 open	24	$9,096	COJ	Ongoing
COJ – 118	Follow Up on Outstanding PICs	Follow up on 6 open PIC in watershed	6	Part of COJ – 117	COJ	Complete
COJ – 119	Walk the WBID PIC Investigations	Inspect 5 PICs between Cassat and Plymouth Avenue and black corrugated pipe on central branch	6	$1,272	COJ	Complete
COJ – 120	Routine Surface Water Sampling	3 sampling stations in WBID	12	$2,544	COJ	Ongoing
COJ – 121	BMAP Sampling	COJ is not responsible for BMAP monitoring in this watershed	0	$0	COJ	Complete
COJ – 122	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted , to attempt to identify sources	21	$4,452	COJ	Ongoing
COJ – 123	Outside Failure Areas – Septic Tank Phase-Out	Phase-out program as provided by COJ ordinance	532 total tanks, 39 connected	Unknown	COJ	Ongoing
COJ – 124	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 125	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

9.4 FDOT Activities in the Big Fishweir Creek Watershed

In 2011, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT collected 17.3 tons of debris through the street sweeping program. FDOT also helps to fund 3 monitoring stations in the Big Fishweir Creek watershed that are sampled quarterly as part of the routine monitoring program. **Table 37** lists FDOT's activities in the Big Fishweir Creek watershed.

Table 37: FDOT Activities in the Big Fishweir Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 35	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 36	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 37	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	3 stations sampled quarterly	Ongoing
FDOT – 38	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 39	Sediment Accumulation, Trash, and Debris Removed as Needed	$87,947	FDOT	Approximately 305 inlets/catch basins and 14 miles of piping	Ongoing
FDOT – 40	Street Sweeping Program	$5,752	FDOT	21 miles of roadway swept monthly, debris collected totals approximately 17.3 tons	Ongoing
FDOT – 41	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 10: DEER CREEK (WBID 2256)

10.1 JEA ACTIVITIES IN THE DEER CREEK WATERSHED

During the last year, JEA pipe burst 0.10% of the pipes in the watershed, used CIPP on 0.07% of the lines, repaired 1 manhole, inspected 0.75% of the pipes with closed-circuit television, and cleaned 1.25% of the lines. JEA also installed one manhole monitor and inspected 143 manholes as part of the Pop-Top Program. JEA's 2011 activities in the Deer Creek watershed are shown in **Table 38**.

TABLE 38: JEA ACTIVITIES IN THE DEER CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 97	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 352	$52,800	JEA	Ongoing
JEA – 98	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY11: 259	$9,065	JEA	Ongoing
JEA – 99	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY11:0	Not applicable	JEA	Ongoing
JEA – 100	Manhole Linings Rehabbed	Repair deteriorating manhole linings	1 manhole rehabbed in 2011	$750	JEA	Ongoing
JEA – 101	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 102	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 103	Inspect Lift Station on Jesse Street	Inspect lift station and report in first annual BMAP report	Lift station inspected in FY10, monthly preventative maintenance performed	Not applicable	JEA	Complete
JEA – 104	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 105	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	2,689 linear feet of pipe inspected in FY11	$21,512	JEA	Ongoing
JEA – 106	Pipe Cleaning	Clean existing pipes to avoid blockages	4,513 linear of pipe cleaned in FY11	$22,565	JEA	Ongoing
JEA – 107	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 108	Manhole Monitoring	Manhole monitoring	1 manhole monitor installed in 2011 at 1700 Tilden Street	$7,000	JEA	Ongoing
JEA – 109	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 110	Pop-Top Program	Pop-Top Program	143 manholes inspected in 2011	$2,145	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 111	Non-Destructive Testing Program/ Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

10.2 DCHD Activities in the Deer Creek Watershed

DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Deer Creek watershed are shown in **Table 39**.

Table 39: DCHD Activities in the Deer Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 45	OSTDS Program	Implementation of programs to address septic systems as potential sources	None	Not applicable	FDOH	Ongoing
DCHD – 46	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 47	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	None	Not applicable	FDOH	Ongoing
DCHD – 48	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 49	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	None	Not applicable	FDOH	Ongoing
DCHD – 74	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 148 inspections performed within WBID	$14,200	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

10.3 COJ Activities in the Deer Creek Watershed

10.3.1 Completed COJ Projects

The TAT determined that a Walk the WBID was not needed in the downstream portion of the Deer Creek watershed since the fecal coliform counts have decreased in this area. A Walk the WBID is no longer required as part of the BMAP.

10.3.2 Ongoing COJ Programs and Activities

In the Deer Creek watershed in 2011, COJ had 5 work orders for ditch and creek regrading, 1 work order for a lake or pond problem, and 12 work orders for repair/clearing of structures. These inspections are initiated through information from the CARE database. In addition, COJ took 8 routine samples, 33 BMAP samples, and 5 follow up samples on high counts. COJ's efforts in the Deer Creek watershed are shown in **Table 40**. Additional details about COJ projects are included in **Appendix A**.

TABLE 40: COJ ACTIVITIES IN THE DEER CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 126	Lower Eastside Drainage Improvements – Phase 3	Eliminate flooding area bordered by 7th Street, MLK Jr. Expressway, 1st Street, Spearing Street	Wet detention	$6,500,000	COJ	Construction
COJ – 127	Lower Eastside Pond Expansion	Pond expansion to provide compensating treatment for library, courthouse, and other downtown improvements	Wet detention	$5,000,000	COJ	Construction
COJ – 128	Upper Deer Creek Regional Project	Wet detention	537 acres	Unknown	COJ	Complete
COJ – 223	1405 Van Buran Street	Pipe replacement	Van Buran Street	$88,940	COJ	Complete
COJ – 224	Jessie Street	Pipe CIPP	Jessie Street	$237,952	COJ	Complete
COJ – 129	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	5	$711	COJ	Ongoing
COJ – 225	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 226	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	1	$72	COJ	Ongoing
COJ – 130	Structure Blocked/Repair/ General Flooding	CARE requests with costs for responses where a work order was issued	12	$1,918	COJ	Ongoing
COJ – 131	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 132	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 133	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 134	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 227	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 135	Private Lift Station Inspection	No private lift stations in WBID	0	$0	COJ	Ongoing
COJ – 136	Illicit Discharge Detection and Elimination	Determined to be Illicit and removed during reporting period	0	$0	COJ	Ongoing
COJ – 137	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 2 sampling stations in WBID	8	$1,696	COJ	Ongoing
COJ – 138	BMAP Sampling	4 sites (3 sampled monthly and 1 sampled quarterly)	33	$6,996	COJ	Ongoing
COJ – 139	Re-Sampling	Conducted when high levels of fecal coliform are noted, to attempt to identify sources	5	$1,060	COJ	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 140	Investigate High Fecal Coliform Counts in Downstream Portion of Watershed	Investigate and report results in first annual BMAP report; Walk the WBID was not needed	See COJ-138	$0	COJ	Completed
COJ – 141	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	0 total tanks	Unknown	COJ	Complete
COJ – 142	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 143	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

10.4 FDOT Activities in the Deer Creek Watershed

In 2011, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT collected 0.8 tons of debris through the street sweeping program. FDOT also helps to fund 2 monitoring stations in the Deer Creek watershed that are sampled quarterly as part of the routine monitoring program. **Table 41** lists FDOT's activities in the Deer Creek watershed.

Table 41: FDOT Activities in the Deer Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 42	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 43	PIC Program – Illicit Connections Identified and Removed in WBID if Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 44	Routine Tributary Monitoring and Best Management Practice (BMP) Effectiveness Project as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	2 stations sampled quarterly; BMP wet detention pond effectiveness	Ongoing
FDOT – 45	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 46	Sediment Accumulation, Trash, and Debris Removed as Needed	$24,228	FDOT	Approximately 42 inlets/catch basins and 4 miles of piping	Ongoing
FDOT – 47	Street Sweeping Program	$2,191	FDOT	8 miles of roadway swept monthly, debris collected totals approximately 0.8 tons	Ongoing
FDOT – 48	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 11: TERRAPIN CREEK (WBID 2204)

11.1 JEA ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

JEA's 2011 activities in the Terrapin Creek watershed are shown in **Table 42**.

TABLE 42: JEA ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 112	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 113	ARV Inspection and Rehab	ARV inspection and rehab	0 ARVs inspected	Not applicable	JEA	Ongoing
JEA – 114	ARV Inspection	Inspect 1 ARV in watershed and report in annual progress report	1 ARV inspected in FY10	$100	JEA	Complete
JEA – 115	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 116	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 117	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 118	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 119	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	JEA	Ongoing
JEA – 120	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 121	Pop-Top Program	Pop-Top Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 122	Non-Destructive Testing Program	Non-Destructive Testing Program	Not applicable	Not applicable	JEA	Ongoing

11.2 DCHD ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

In 2011, DCHD issued 1 new construction permit and 12 annual operating permits, and conducted 1 plan review and site evaluation. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Terrapin Creek watershed are shown in **Table 43**.

TABLE 43: DCHD ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
DCHD – 50	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 1 new construction permit issued	$450	FDOH	Ongoing
DCHD – 51	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	12 annual operating permits issued for PBTS/IMZ in WBID	$4,350	FDOH	Ongoing
DCHD – 52	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 53	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 1 plan review and site evaluation have been performed in WBID	$250	FDOH	Ongoing
DCHD – 54	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 55	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	None	Not applicable	FDOH	Ongoing
DCHD – 75	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 395 inspections performed within WBID	$37,800	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

11.3 COJ ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

In the Terrapin Creek watershed in 2011, COJ had 2 work orders for ditch and creek regrading and 1 work order for repair/clearing of structures. These inspections are initiated through information from the CARE database. COJ also inspected 1 private lift station. In addition, COJ took 8 routine samples. COJ also connected 2 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Terrapin Creek watershed are shown in **Table 44**. Additional details about COJ projects are included in **Appendix A**.

TABLE 44: COJ ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 144	Faye Road – Area Floods	Faye Road drainage system rehab	Faye Road	$40,000	COJ	Complete
COJ – 145	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	2	$613	COJ	Ongoing
COJ – 228	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 229	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 146	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	1	$0	COJ	Ongoing
COJ – 147	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 148	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 230	Sewer Drains to Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 231	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 232	Septic Tank Inspection	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 149	Private Lift Station Inspection	6 private lift stations in WBID	1	$379	COJ	Ongoing
COJ – 150	Determine Lift Station Location	1 lift station is located on boundary, verify location for first annual report	1	$212	COJ	Complete
COJ – 151	Illicit Discharge Detection and Elimination	0 open	0	$0	COJ	Ongoing
COJ – 152	Follow Up on Outstanding PICs	Follow up on 9 open PICs in watershed	9	$1,908	COJ	Complete
COJ – 153	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 2 sampling stations in WBID	8	$1,696	COJ	Ongoing
COJ – 233	BMAP Monitoring	COJ is not responsible for BMAP monitoring in this watershed	0	$0	COJ	Complete
COJ – 234	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	0	$0	COJ	Complete
COJ – 154	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	56 total tanks, 2 connected	Unknown	COJ	Ongoing
COJ – 155	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 156	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

11.4 FDOT Activities in the Terrapin Creek Watershed

In 2011, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT also helps to fund 2 monitoring stations in the Terrapin Creek watershed that are sampled quarterly as part of the routine monitoring program. **Table 45** lists FDOT's activities in the Terrapin Creek watershed.

Table 45: FDOT Activities in the Terrapin Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 49	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 50	PIC Program – Illicit Connections Identified and Removed in WBID if Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 51	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	2 stations sampled quarterly	Ongoing
FDOT – 52	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 53	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 12: GOODBYS CREEK (WBID 2326)

12.1 JEA ACTIVITIES IN THE GOODBYS CREEK WATERSHED

During the last year, JEA pipe burst 0.04% of the pipes in the watershed, repaired 3 manholes, replaced 1 ARV, and cleaned 0.35% of the lines. JEA also inspected 4 manholes as part of the Pop-Top Program. JEA's 2011 activities in the Goodbys Creek watershed are shown in **Table 46**.

TABLE 46: JEA ACTIVITIES IN THE GOODBYS CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 123	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 515	$77,250	JEA	Ongoing
JEA – 124	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY11:0	$0	JEA	Ongoing
JEA – 125	Manhole Linings Rehabbed	Repair deteriorating manhole linings	3 manholes rehabbed in 2011	$2,250	JEA	Ongoing
JEA – 126	ARV Inspection and Rehab	ARV inspection and rehab	1 ARV replaced in 2011	$750	JEA	Ongoing
JEA – 127	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 128	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 129	Pump Station Class I/II Rebuilding	Repair or replace components of existing pump stations	Not applicable	Not applicable	JEA	Ongoing
JEA – 130	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 131	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	0 linear of pipe inspected in FY11	$0	JEA	Ongoing
JEA – 132	Pipe Cleaning	Clean existing pipes to avoid blockages	5,074 linear feet of pipe cleaned in FY11	$25,370	JEA	Ongoing
JEA – 133	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 134	Manhole Monitoring	Manhole monitoring	Not applicable	$0	JEA	Ongoing
JEA – 135	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 136	Pop-Top Program	Pop-Top Program	4 manholes were inspected in 2011	$150	JEA	Ongoing
JEA – 137	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	0 sites were tested in FY11	$0	JEA	Ongoing

12.2 DCHD Activities in the Goodbys Creek Watershed

In 2011, DCHD issued 2 repair permits and 15 annual operating permits, conducted 2 plan reviews and site evaluations, and performed 15 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Goodbys Creek watershed are shown in **Table 47**.

Table 47: DCHD Activities in the Goodbys Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 56	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 2 repair permits issued	$850	FDOH	Ongoing
DCHD – 57	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	15 annual operating permits for PBTS/IMZ located in WBID	$5,400	FDOH	Ongoing
DCHD – 58	SWIM Project	Implementation of broad-ranging septic tank ordinance	16.3% of Beauclerc Gardens Septic Tank Failure Area located in WBID	$34,000	FDOH/ LJSR SWIM Grant	Completed
DCHD – 59	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	Not applicable	Not applicable	Ongoing
DCHD – 60	Application/ Plan Review/Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 2 plan reviews and site evaluations have been performed in WBID	$350	FDOH	Ongoing
DCHD – 61	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 1 year since previous update	Not applicable	Not applicable	Ongoing
DCHD – 62	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	15 complaint investigations have been performed in WBID	$1,500	FDOH	Ongoing
DCHD – 63	Walk the WBID Effort	Inspect the septic tanks in the central portion of watershed to identify sources	Walk the WBID	Part of DCHD – 64	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed
DCHD – 64	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 337 inspections performed within WBID	$32,200	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

12.3 COJ Activities in the Goodbys Creek Watershed

12.3.1 Completed COJ Projects

In 2011, COJ completed a project in the San Clerc area. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area.

12.3.2 Ongoing COJ Programs and Activities

In the Goodbys Creek watershed in 2011, COJ had 34 work orders for ditch and creek regrading, 5 work orders for a lake or pond problem, 25 work orders for repair/clearing of structures, and 2 sewers that drain into a yard or ditch. These inspections are initiated through information from the CARE database. COJ followed up on 16 PICs, of which 2 are open and 14 remain to be resolved. In addition, COJ collected 4 routine surface water samples. COJ also connected 18 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Goodbys Creek watershed are shown in **Table 48**. Additional details about COJ projects are included in **Appendix A**.

TABLE 48: COJ ACTIVITIES IN THE GOODBYS CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 157	Powers Avenue at Old Kings Road	Regional pond	520 acres	Unknown	COJ	Complete
COJ – 235	Berm, New Ponds with Managed Aquatic Plant Systems (MAPS), Existing Pond with MAPS, and Borrow Pit with MAPS	MSMP, construction schedule subject to funding	Ponds	$4,300,000	COJ	Planned
COJ – 158	Repair Erosion at Sierra Madre Drive	Bank repairs failed to prevent erosion	Sierra Madre Drive	$106,262	COJ	Complete
COJ – 236	San Clerc/Sanchez Drainage	Construction	San Clerc/Sanchez	$229,524	COJ	Complete
COJ – 237	San Clerc Road Drainage Improvement	Drainage improvement	San Clerc Road	$541	COJ	Complete
COJ – 251	San Clerc/Sanchez Drainage Improvement	Drainage improvement	Unknown	$29,524	COJ	Construction
COJ – 252	Sanchez Road	Drainage improvement	Unknown	$62,333	COJ	Construction
COJ – 159	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	34	$6,726	COJ	Ongoing
COJ – 238	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 160	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	5	$671	COJ	Ongoing
COJ – 161	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	25	$14,951	COJ	Ongoing
COJ – 162	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 163	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 164	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	2	$758	COJ	Ongoing
COJ – 165	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 239	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 166	Private Lift Station Inspection	50 private lift stations in WBID	0	$0	COJ	Ongoing
COJ – 167	Verify Locations of Private Lift Stations on Boundary	Verify location of 3 stations on boundary and report in first annual progress report	3	$636	COJ	Complete
COJ – 168	Illicit Discharge Detection and Elimination	See COJ-169	1	$379	COJ	Ongoing
COJ – 169	Follow Up on Outstanding PICs	Follow up on 16 open PICs in watershed, 2 open, 0 illicit, 14 PICs remain to be resolved	16	$6,064	COJ	Planned

Project Number	Project Name	Project Description	Level of Effort	Total Cost	Funding Source	Project Status
COJ – 170	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	$848	COJ	Ongoing
COJ – 240	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	0	$0	COJ	Ongoing
COJ – 171	Beauclerc Gardens Failure Area – Septic Tank Phase-Out	Phase-out of septic tanks in failure areas (also listed as part of larger LSJR Main Stem BMAP project)[1]	84 total tanks, 0 connected	Unknown	COJ	Ongoing
COJ – 172	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	337 total tanks, 18 connected	Unknown	COJ	Ongoing
COJ – 173	Walk the WBID Effort	Conduct Walk the WBID in central portion of watershed to identify sources	Walk the WBID	Unknown	COJ/ DCHD	Planned
COJ – 174	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 175	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

[1] COJ has committed to removing septic tanks in failure areas that are within 300 meters of a surface water in the 2008 LSJR Main Stem BMAP. COJ must submit a plan to FDEP for removing septic tanks no later than August 2013 (within 6 months of completion of the septic tank model calibration). At a minimum, COJ will accomplish a 50% implementation of the septic tank phase-out projects by July 31, 2015, with the phase-outs completed by December 31, 2023. For the 10 tributaries addressed in this BMAP, a total of 1,180 septic tanks are located in failure areas, although not all of them may be located within 300 meters of a surface water. The failing tanks within 300 meters of a surface water will be included in the COJ plan and schedule to phase out tanks and will be identified as Tributaries BMAP-related tanks in the plan.

12.4 FDOT Activities in the Goodbys Creek Watershed

In 2011, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 260 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system. FDOT collected 13.9 tons of debris through the street sweeping program. FDOT also helps to fund 1 monitoring station in the Goodbys Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 49** lists FDOT's activities in the Goodbys Creek watershed.

Table 49: FDOT Activities in the Goodbys Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 54	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 55	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 56	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	1 station sampled quarterly	Ongoing
FDOT – 57	Baymeadows Project from East of U.S. 1 to Baymeadows Rd	$1,496,472	FDOT	35 acres, wet detention	Completed
FDOT – 58	DCP – Connecting Entity Must Certify that All Discharges to FDOT MS4 Are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 59	Adopt-A-Highway Program	Unknown	Not applicable	Trash collected from 80 acres, approximately 260 pounds	Ongoing
FDOT – 60	Sediment Accumulation, Trash, and Debris Removed As Needed	$48,375	FDOT	Approximately 195 inlets/catch basins and about 8 miles of piping	Ongoing
FDOT – 61	Street Sweeping Program	$9,861	FDOT	36 miles of roadway swept monthly, debris collected totals approximately 13.9 tons	Ongoing
FDOT – 62	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

SECTION 13: OPEN CREEK (WBID 2299)

13.1 JEA ACTIVITIES IN THE OPEN CREEK WATERSHED

During the last year, JEA repaired 1 manhole, inspected 2 ARVs, inspected 0.11% of the pipes with closed-circuit television, and cleaned 0.26% of the lines. JEA also inspected 42 manholes as part of the Pop-Top Program. JEA's 2011 activities in the Open Creek watershed are shown in **Table 50**.

TABLE 50: JEA ACTIVITIES IN THE OPEN CREEK WATERSHED

Note: FY11 is from October 1, 2010 through September 30, 2011

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 138	Pipe Bursting – Increase Carrying Capacity	Replace failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 139	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY11: 0	$0	JEA	Ongoing
JEA – 140	Manhole Linings Rehabbed	Repair deteriorating manhole linings	1 manhole liner rehabbed in 2011	$750	JEA	Ongoing
JEA – 141	ARV Inspection and Rehab	ARV inspection and rehab	2 ARVs inspected in FY11	$7,100	JEA	Ongoing
JEA – 142	Pump Station SCADA Upgrades	Retrofitting completed in 2004; all stations constructed since have SCADA installed	Not applicable	Not applicable	JEA	Complete
JEA – 143	Inspect Force Main Discharge Manholes, Repair/Rehab as Necessary	Inspect force main discharge manholes, repair/rehab as necessary	Not applicable	Not applicable	JEA	Ongoing
JEA – 144	Verify Lift Station Location on Boundary	Verify which WBID Marsh Island station is reported in for first annual progress report	14657 Marsh Island station is in the Open Creek watershed	Not applicable	JEA	Complete
JEA – 145	Inspect Lift Stations near Surface Waters	Inspect 11 stations near surface waters and report in annual progress reports	11 stations inspected in FY10, monthly preventative maintenance performed	Not applicable	JEA	Complete
JEA – 146	FOG Reduction Program	FOG Reduction Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 147	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit television	761 linear feet of pipe inspected in FY11	$913	JEA	Ongoing
JEA – 148	Pipe Cleaning	Clean existing pipes to avoid blockages	1,871 linear feet of pipe cleaned in FY11	$2,807	JEA	Ongoing
JEA – 149	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 150	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	JEA	Ongoing
JEA – 151	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
JEA – 152	Pop-Top Program	Pop-Top Program	42 manholes surveyed in 2011	$630	JEA	Ongoing
JEA – 153	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

13.2 DCHD Activities in the Open Creek Watershed

In 2011, DCHD issued 1 new septic tank construction permits, 1 repair permit, 1 abandonment permit, and 1 annual operating permit; conducted 2 plan reviews and site evaluations; and performed 1 complaint investigation. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. The programs and activities DCHD conducts in the Open Creek watershed are shown in **Table 51**.

Table 51: DCHD Activities in the Open Creek Watershed

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 65	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 1 new construction permit, 1 repair permit, and 1 abandonment permit issued	$1,000	FDOH	Ongoing
DCHD – 66	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	1 annual operating permit for PBTS/IMZ located in WBID	$500	FDOH	Ongoing
DCHD – 67	DCHD-Sponsored Training Programs	Annual training programs held for septic tank contractors, certified plumbers, maintenance entities, and environmental health professionals	1 to 2 trainings per year providing up to 12 contact hours	$2,500	FDOH	Ongoing
DCHD – 68	Application/ Plan Review/ Site Evaluations	DCHD performs plan review and site evaluation for each application received for OSTDS new construction, repair, or modification of existing system	Approximately 2 plan reviews and site evaluations have been performed in WBID	$400	FDOH	Ongoing
DCHD – 69	Septic Tank Failure Area Ranking	Septic tank failure area scored and prioritized on annual basis	Less than 2 years since previous update	Not applicable	Not applicable	Ongoing

Project Number	Project Name	Project Description	Level of Effort	Estimated Cost	Funding Source	Project Status
DCHD – 70	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	1 complaint investigation has been performed in WBID	$200	FDOH	Ongoing
DCHD – 76	Intensive Inspection Program	Intensive inspections based on repair permit applications, water quality information, and site conditions	Approximately 65 inspections performed within WBID	$6,250	FDOH/ FDEP/ Section 319 Nonpoint Source Management Program Implementation Grant	Completed

13.3 COJ Activities in the Open Creek Watershed

In the Open Creek watershed in 2011, COJ had 2 work orders for ditch and creek regrading, 2 work orders for a lake or pond problem, and 8 work orders for repair/clearing of structures. These inspections are initiated through information from the CARE database. In addition, COJ took 4 routine samples. COJ also connected 68 septic tanks to the sewer system within the watershed but outside of a failure area. COJ's efforts in the Open Creek watershed are shown in **Table 52**. Additional details about COJ projects are included in **Appendix A**.

TABLE 52: COJ ACTIVITIES IN THE OPEN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 241	Conveyance Improvements Under Power Easement Near Deer Chase Place and Danforth Drive	MSMP, construction schedule subject to funding	Deer Chase Place and Danforth Drive	$296,000	COJ	Planned
COJ – 176	Improve Drainage Pine Tree Road	Road does not drain adequately	Pine Tree Road	$20,369	COJ	Complete
COJ – 177	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	2	$92	COJ	Ongoing
COJ – 242	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	0	$0	COJ	Ongoing
COJ – 178	Lake or Pond Problem	CARE requests with costs for responses where a work order was issued	2	$0	COJ	Ongoing
COJ – 179	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	8	$4,753	COJ	Ongoing
COJ – 180	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 243	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 181	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 182	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	0	$0	COJ	Ongoing
COJ – 244	Septic Tank Inspections	CARE initiated transferred to DCHD for enforcement action	0	$0	COJ	Ongoing
COJ – 183	Private Lift Station Inspection	15 private lift stations in WBID	0	$0	COJ	Ongoing
COJ – 184	Verify Location of Lift Stations on Boundary	Verify that 2 stations on boundary are reported in Hogpen Creek	2	$758	COJ	Complete
COJ – 185	Illicit Discharge Detection and Elimination	0 open	0	$0	COJ	Ongoing
COJ – 186	Follow Up on Outstanding PICs	Follow up on 5 open PICs in watershed	5	$1,895	COJ	Complete
COJ – 187	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	$848	COJ	Ongoing
COJ – 245	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	0	$0	COJ	Ongoing
COJ – 188	Outside Failure Areas	Phase out program as provided by COJ ordinance	88 total tanks, 68 connected	Unknown	COJ	Ongoing
COJ – 189	Septic Tank Maintenance Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing
COJ – 190	Pet/Animal Management Public Education	Public service announcements	Ongoing	Unknown	COJ	Ongoing

13.4 FDOT Activities in the Open Creek Watershed

In 2011, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT also helps to fund 1 monitoring station in the Open Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 53** lists FDOT's activities in the Open Creek watershed.

Table 53: FDOT Activities in the Open Creek Watershed

Project Number	Project Name	Estimated Cost	Funding Source	Level of Effort	Project Status
FDOT – 63	PIC Program – Search for Illicit Connections	Countywide - $37,605	FDOT/COJ	Effort is continuous in WBID	Ongoing
FDOT – 64	PIC Program – Illicit Connections Identified and Removed in WBID if Found To Be Truly Illicit	Countywide - $37,605	FDOT/COJ	No illicit connections found	Ongoing
FDOT – 65	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - $22,546	FDOT/COJ	1 station sampled quarterly	Ongoing
FDOT – 66	Beach Boulevard Widening from Intracoastal Waterway to East of Penman	$230,910	FDOT	39 acres, wet detention	Completed
FDOT – 67	DCP– Connecting Entity Must Certify that All Discharges to FDOT MS4 are Treated Prior to Connection	Countywide - $27,151	FDOT	Ongoing effort	Ongoing
FDOT – 68	Sediment Accumulation, Trash, and Debris Removed on As-Needed Basis	$17,782	FDOT	Approximately 12 inlets/catch basins and 2.7 miles of piping	Ongoing
FDOT – 69	Maintain FDOT Stormwater Systems	Countywide - $2,750,735	FDOT	Clean drainage structures, replace/repair storm/cross/side drains, clean/reshape roadside ditches, clear/repair outfall ditches, mowing, roadside litter removal, respond to citizen complaints	Ongoing

APPENDICES

Appendix A: COJ Activities Supporting Information

The following supplemental information is provided in reference to project and activity records contained in the COJ Tributaries BMAP I project tables.

MS4 Capital Improvement and Drainage System Repair Projects

The Capital Improvement projects provided are those projects currently planned, under design or construction, or completed within each of the 10 WBID areas that comprise the BMAP I area. In addition to new capital improvement projects, the city invested over $5.6 million for drainage system rehabilitation and replacement projects city wide, for a total cost of over $340,000.

MS4 Maintenance Activities

The City of Jacksonville's Right of Way and Grounds Maintenance Division is responsible for the operation and maintenance of the city's MS4. Routine maintenance of the city's MS4 including the design and construction of drainage system rehabilitation projects is completed by Right of Way and Grounds Maintenance Division staff and contractors. In addition to scheduled proactive maintenance, the Right of Way and Grounds Maintenance Division responds to maintenance requests received through the city's call center system, CARE. The city allocates approximately $9.5 million annually to complete proactive and CARE system response maintenance activities that include several frequent tasks including the following:

- *Street sweeping;*
- *Stormwater structure and closed conveyance cleaning;*
- *Spot repairs;*
- *Replacement and rehabilitation projects;*
- *Ditch repair and cleaning;*
- *Debris removal; and*
- *Vegetation control.*

In accordance with the City's NPDES permit issued on June 01, 2011, the Right of Way and Grounds Maintenance Division initiated a proactive MS4 inspection program. This division has three inspectors dedicated to inspecting, control structures, major outfalls, pipes, ditches, outfalls.

In 2005 the city implemented a work order management system (MAXIMO) to track labor equipment and material costs for each proactive and CARE initiated MS4 maintenance work order. During the current reporting period, the Right of Way and Grounds Maintenance Division issued 3,950 CARE initiated work orders with 395 CARE system work orders completed within in the BMAP I WBIDs.

Sanitary Sewer Overflows

The sanitary sewer collection system and related treatment facilities within the City of Jacksonville is owned and operated by JEA an independent regional authority. EQD reviews SSOs reported through CARE. Those issues that are confirmed to be associated with JEA sanitary sewer systems are referred to JEA response staff, which includes spill reporting in accordance with the JEA NPDES permit requirements. All SSOs that EQD cannot establish as originating in JEA's sanitary sewer system are investigated by EQD staff. A SSO issue may be

referred to another regulatory agency or subject to enforcement actions by the city as provided by city ordinances.

Illicit Discharge Detection and Elimination

EQD completed 144 water quality related CARE system inspections city-wide during the current reporting period, of which 11 were located in the BMAP I WBIDs. These inspections are summarized on per WBID basis in the project tables. Illicit discharges and spills initially investigated by EQD staff and found to be caused by private septic tanks are referred to DCHD. COJ has maintained Illicit Discharge Detection Elimination programs for many years and in 1999 began tracking the investigative work in coordination with the NPDES permitting program. The city is currently revising its Illicit Discharge Detection Elimination standard operating procedures to comply with the requirements of the June 1, 2011 NPDES permit. The revised procedures will include specific provisions for proactive investigations and record keeping requirements. The Illicit Discharge Detection Elimination program procedure may be available in the next BMAP I Annual Report. Illicit discharge inspections initiated through CARE system requests may include the following issues:

- *Failing septic tanks (referred to DCHD for follow up inspection and enforcement);*
- *Plumbing code violations (referred to the city's Code Enforcement Section);*
- *JEA or other utility SSOs and incidents (referred to FDEP Northeast District);*
- *Private sewage lift stations or other treatment facilities without NPDES permits (investigated by EQD staff); and*
- *Illicit discharges and connections to the COJ and FDOT District 2 MS4.*

Private Lift Station Inspections

Within COJ and Duval County there are over 1,400 private sewage lift stations that were permitted and built after 1991. The COJ EQD conducts scheduled routine inspections of private lift stations to confirm compliance with local Environmental Protection Board Rule 3 requirements. When an inspection finds a private lift station is not in proper working order, EQD informs the owner and operator and initiates enforcement action when necessary. The city also inspects private lift stations in response to CARE system reports. On March 2011, the city's Environmental Protection Board approved amendments to Rule 3. The amendments included updates to the design standards and performance requirements and most significantly to the operation and maintenance requirements, as follows:

- *State licensing;*
- *Certification of wastewater operator or manufacturer trained personnel only;*
- *Proof of qualification submitted to EQD in writing;*
- *Maintenance log on-site;*
- *Monthly maintenance requirements; and*
- *Responsibility by lift station owner to ensure lift stations are properly maintained and functioning.*

The city is revising the private lift station inspection schedules and standard operating procedures to:

- *Prioritize private lift stations located within fecal coliform impaired watersheds.*
- *Integrate private lift station inspection activity with the city's overall proactive illicit discharge detection and elimination effort as required by the Cycle 3 MS4 permit.*

Water Quality Monitoring and Sampling

COJ maintains several river and tributary sampling networks. The ambient tributary program currently consists of 103 locations and each site is sampled quarterly. Station locations are often near bridges and roadways to facilitate sampling efforts; sites are both above and within tidal influence from the St. Johns River or Intracoastal Waterway. The primary objective of this program is the collection of a long-term dataset that will enable the city to document water quality trends. Parameters include field observations, weather information, metered parameters, (dissolved oxygen, percent saturation of dissolved oxygen, pH, temperature, salinity and specific conductance), and fecal coliform bacteria.

EQD also samples additional tributary stations monthly in five BMAP I streams (18 sites) as part of the BMAP source assessment sampling obligations. Parameters collected include all of the above constituents. Through coordination with the TAT, a protocol has been established for investigating high bacteria counts. When BMAP tributary site results exceed 5,000 CFU, re-sampling is conducted upstream and downstream to attempt to determine the source of the elevated bacteria levels. EQD has elected to conduct follow-up sampling on high bacteria counts from the routine ambient tributary network as well as the BMAP sampling. In 2011, the city collected 115 follow-up water samples, of which 97 samples were within BMAP I tributaries.

WATER QUALITY SAMPLE COLLECTED BY COJ EQD

Septic Tank Phase Out Program

Based on an analysis completed by the Water and Sewer Expansion Authority in 2010, there are over 65,000 septic tanks within the city. Over 23,000 septic tanks are located within 37 OSTDS failure areas designated by the DCHD. Information regarding the number of septic tank connections during the current reporting period was determined by reviewing the COJ Building Inspection Database. The number of septic tanks eliminated and connected to the JEA sanitary sewer collection system in future years is dependent on sewer line construction projects. The

city is committed to phasing out septic tanks in conjunction with JEA sewer system infrastructure development projects.

MS4 NPDES Program

On June 01, 2011, COJ and its co-permittees were issued the third in a series of 5, year term NPDES permits with updated requirements for watershed management practices. A key provision of the NPDES permit links permit compliance with reductions in surface water contamination through an established TMDL to support the fulfillment of BMAP goals. Watershed improvement practices and recordkeeping associated with the reduction of the TMDL and the overall BMAP includes:

- *Inventory and mapping of COJ and FDOT MS4 infrastructure;*
- *Implementation of proactive Illicit Discharge Detection and Elimination Program;*
- *MS4 Structural Control Inspection Program;*
- *Expansion of High Priority Industry Inspection Programs;*
- *Update of its ongoing Water Quality Monitoring Program;*
- *Water quality trend analysis; and*
- *Implementation of a bacteria control plan for one TMDL WBID not under a BMAP.*

During the 5-year permit period the city estimates it will invest over $12.5 million to comply with permit requirements and fulfill its LSJR Main Stem and Tributaries BMAP water quality monitoring, and inspection obligations.

Public Education Outreach and Ordinances

The city public education and outreach activities received significant support during the current reporting period. COJ provides continuing support for BMAPs through several established public education and outreach programs and special events. Support for public education and outreach programs include multiple city organizations:

- *Duval County Agricultural Extension Office;*
- *COJ Environmental Protection Board; and*
- *COJ Departments:*
  - Environmental and Compliance;
  - Public Works; and
  - Planning and Development.

One major goal of the city's outreach program is public and business collaboration. The city conducts programs for water quality protection that focus on educational outreach for irrigation and fertilizer best management practices. The city facilitates this outreach program through town meetings, homeowner association meetings, businesses, civic organizations, and meetings of the Florida Pest Management Association. To date, the city distributed over 36,000 irrigation and fertilizer brochures at these events. The city continues to collaborate with local "greenhouse" retailers to help communicate the importance of proper irrigation and fertilizer use to their customers.

To accomplish the intended goals and objectives of the fertilizer ordinance code, the Environmental and Compliance Department maintains an ongoing educational campaign to inform and educate residents about the value of natural water resources and effective fertilizer application practices for home lawns and around commercial properties.

Many public education and outreach events were hosted and supported during the BMAP annual reporting period with several significant annual events including:

- *Annual Museum of Science and History Water Festival;*
- *Mayor's Environmental Luncheon;*
- *41st Annual Earth Day Festival;*
- *Tree Hill Butterfly Festival;*
- *Annual Environmental Protection Board and University of North Florida Environmental Symposium;*
- *Annual Jacksonville Home and Patio Show; and*
- *EPA supported Jacksonville Riverwalk Children's Health Fair.*

In addition to the annual events referenced above, the Planning and Development Department also conducts workshops, presentations, and provides informational material related to stormwater and water quality protection and preservation practices. The target audiences for these workshops are schools, homeowner associations, neighborhood planning groups, and other community groups. During the current BMAP I reporting period, the Planning and Development Department distributed over 1,900 booklets or brochures directly related to water quality protection and stormwater best management practices. An additional 200 brochures and door hangers directly related to stormwater best management practices and local environmental ordinance code compliance were distributed during routine environmental field investigations by the city's EQD Stormwater Services staff. The EQD provides a 24-hour public education and outreach point of contact for the community through direct email to Stormwater Services, NPDES@coj.net, and through COJ's CARE call center.

Two recent COJ public service announcements focused on the importance of septic system maintenance and pet waste management as required by ordinance. The septic tank and pet waste public service announcements were aired during the 2011 Super Bowl and on several other dates on local television stations.

Appendix B: TAT Data

The TAT protocol requires that if a fecal coliform concentration over 5,000 counts is found during the routine sampling, follow up sampling must be conducted upstream and downstream of the high counts to try and determine the source. The follow up samples collected by FDEP and COJ over the last year are included in the tables below.

TABLE B-1: FDEP FOLLOW UP SAMPLING RESULTS

DATE	WBID	STATION DESCRIPTION	FECAL COLIFORM (CFU/100ML)	COMMENTS
3/31/2011	2322	3750 Oak St. Discharge	16,000	Concrete sidewall stormwater?
8/16/2011	2322	Butcher Pen 100m Above Jammes	6,727	Dead possum in creek
8/16/2011	2280	Butcher Pen 120m Above Jammes	9	PVC pipe/probably from air conditioner
8/16/2011	2280	Little Fishweir at Herschel	9,364	No comments
10/25/2011	2322	Little Fishweir at Herschel	2,700	Homeless activity north of Blanding
10/25/2011	2322	Butcher Pen 25m Above Blanding	670	No comments
10/25/2011	2322	Butcher Pen 150m above Blanding	5,800	No comments
10/25/2011	2322	Butcher Pen Below Jammes	6,300	No comments
10/25/2011	2322	Butcher Pen Above Jammes	230	No comments
10/28/2011	2252	Hogan at Railroad Tracks	9,100	No comments
10/28/2011	2322	Butcher Pen Jammes #1	2,300	Under the road sample
10/28/2011	2322	Butcher Pen Jammes #2	24,000	Algae in creek was squeezed of water and analyzed
10/28/2011	2322	Butcher Pen Ducheneau	5,600	No comments
11/10/2011	2322	Butcher Pen North Branch	6,400	No comments
11/10/2011	2322	Butcher Pen South Branch	2,000	No comments
11/21/2011	2322	Butcher Pen North Fork 50m Above Confluence	6,500	No comments
11/21/2011	2322	Butcher Pen North Fork 110m Above Confluence	890	No comments
12/22/2011	2322	Butcher Pen Under Jammes Road	600	No comments
12/22/2011	2322	Butcher Pen Under Jammes Stormwater Discharge	930	No comments
12/22/2011	2322	Butcher Pen West Side of Jammes	8,100	Butcher Pen is normally sampled at East Side Road, upstream of this with a few hundred meters under the road distance between the two sites
12/29/2011	2322	Butcher Pen West Side of Jammes	4,600	No comments
12/29/2011	2322	Butcher Pen 30m Upstream West of Jammes	2,700	No comments
12/29/2011	2322	Butcher Pen 80m Upstream West of Jammes	1,400	No comments
12/29/2011	2322	Butcher Pen 150m Upstream West of Jammes	980	No comments

TABLE B-2: COJ FOLLOW UP SAMPLING RESULTS

STREAM NAME	WBID	STATION	DATE	TEMP (°C)	DO SATURATION (%)	DO (MG/L)	CONDUCTIVITY (US)	SALINITY	PH	FECAL COLIFORM (CFU/100 ML)
Deer Creek	2256	DR2S FU	1/10/2011	14.74	85.6	8.63	133.9	0.06	7.82	4100
Hogan Creek	2252	HC3	1/12/2011	10.33	42.8	4.76	444.9	0.22	7.41	680
Hogan Creek	2252	HC1A	1/12/2011	9.18	56.4	6.45	454.2	0.23	7.5	260
Hogan Creek	2252	HC4	1/12/2011	N/A	N/A	N/A	N/A	N/A	N/A	2000
Miller Creek	2287	SS1	1/18/2011	10.83	91.8	9.35	20613	12.29	7.91	5100
Miller Creek	2287	SS21	1/18/2011	15.97	24.3	2.38	268.2	0.13	6.57	25000
Miller Creek	2287	SS21UP	1/18/2011	16.15	27.5	2.69	178.1	0.08	6.16	4300
Miller Creek	2287	SS23	1/18/2011	13.26	19.1	1.94	6876	3.82	6.76	3700
Miller Creek	2287	SSS23A	1/18/2011	14.32	55.2	5.61	515.4	0.26	7.08	700
Miller Creek	2287	SS23B	1/18/2011	15.59	65.9	6.52	511.4	0.26	6.96	900
Newcastle Creek	2235	ARL5A	2/11/2011	15.53	26.9	2.67	345.8	0.17	6.59	400
Newcastle Creek	2235	ARL5B	2/11/2011	15.3	48.3	4.81	377.2	0.19	6.53	200
Miller Creek	2287	SS21	2/14/2011	15.46	49.3	4.92	326.9	0.16	6.71	9000
Miller Creek	2287	SS21A	2/14/2011	15.68	53	5.26	352.3	0.17	6.56	2000
Miller Creek	2287	SS21 B	2/14/2011	15.66	32.6	3.24	378.2	0.19	6.51	540
Miller Creek	2287	SS21	2/16/2011	17.35	43.8	4.21	310.4	0.15	6.97	7700
Miller Creek	2287	SS21A	2/16/2011	17.27	50.4	4.85	330.5	0.16	6.86	5000
Hogan Creek	2252	HC4	3/11/2011	16.38	65.7	6.4	452	0.23	7.06	5800
Hogan Creek	2252	ME at 12st ST	3/11/2011	16.48	72.6	7.07	382.9	0.19	8.03	560
Hogan Creek	2252	12 MA STEM	3/11/2011	16.04	56.7	5.57	392	0.19	6.95	5000
Hogan Creek	2252	HC-RR	3/11/2011	18.58	53.9	5.03	369.3	0.18	6.85	22000
Hogan Creek	2252	HC4	3/15/2011	18.45	66	6.17	512.4	0.26	7.15	420
Hogan Creek	2252	HC12main stem	3/15/2011	17.9	58.6	5.54	413.2	0.21	7.05	5800
Hogan Creek	2252	HCRR	3/15/2011	20.29	60.7	5.46	370.9	0.18	6.99	20000
Hogan Creek	2252	HC12MA	3/17/2011	18.33	65.6	6.14	429.2	0.21	7.88	2,200
Hogan Creek	2252	HCRR	3/17/2011	20.38	55.7	5.01	370.4	0.18	6.86	26,000
Hogan Creek	2252	HCRR-SW	3/17/2011	15.97	50	4.92	346.4	0.17	6.97	420
Miller Creek	2287	SS1	3/17/2011	18.63	66.2	5.87	14687	8.52	7.35	2,900
Miller Creek	2287	SS23	3/17/2011	17.54	46.8	4.45	663.5	0.34	7.67	6,000
Miller Creek	2287	SS21	3/17/2011	18.63	1.4	0.13	261.9	0.12	7.5	13,000
Miller Creek	2287	SS2A	3/17/2011	20.26	40.3	3.63	369.1	0.18	6.7	260
Big Fishweir Creek	2280	CR6	4/11/2011	24.33	6.75	0.55	4.9	8779	6.8	8,600
Big Fishweir Creek	2280	CR6A	4/11/2011	21.23	7.07	2.5	0.22	467	28.2	2,300
Big Fishweir Creek	2280	CR6B	4/11/2011	21.31	7.1	1.06	0.23	474	12	4,900
Big Fishweir Creek	2280	CR3A	4/11/2011	23.56	6.96	1.64	3.16	5824	19.7	1,400
Big Fishweir Creek	2280	CR3AA	4/11/2011	21.79	7.77	10.04	0.26	537	114.5	960
Big Fishweir Creek	2280	CR3AB	4/11/2011	22.59	7.42	8.5	0.26	540	98.5	2,500
Big Fishweir Creek	2280	CR6	4/20/2011	25.43	6.94	0.21	8.18	14157	2.7	7,000
Big Fishweir Creek	2280	CR6B	4/20/2011	21.9	7.21	1.72	0.5	1018	19.7	3,400

Stream Name	WBID	Station	Date	Temp (°C)	DO Saturation (%)	DO (mg/L)	Conductivity (uS)	Salinity	pH	Fecal Coliform (cfu/100 mL)
Big Fishweir Creek	2280	CR6C	4/20/2011	21.88	7.26	2.73	0.53	1074	31.3	4,000
Big Fishweir Creek	2280	3750 Oak Pipe	4/21/2011	23.79	33.5	2.81	580.3	0.3	7.87	2,000
Big Fishweir Creek	2280	Hershel S	4/21/2011	22.45	15.6	1.35	516.3	0.26	7.6	880
Big Fishweir Creek	2280	Hershel N	4/21/2011	23.26	34.5	2.93	462.2	0.23	7.75	3,500
Big Fishweir Creek	2280	3750 Oak Up	4/21/2011	N/A	N/A	N/A	N/A	N/A	N/A	1,700
Big Fishweir Creek	2280	3750 Oak Down	4/21/2011	N/A	N/A	N/A	N/A	N/A	N/A	3,800
Big Fishweir Creek	2280	CR6	4/29/2011	22.61	7	0.37	0.22	463	4.3	60,000
Big Fishweir Creek	2280	CR6E	4/29/2011	22.23	7.2	0.26	0.15	306	3	60,000
Big Fishweir Creek	2280	CR6C	4/29/2011	21.99	7.32	1.57	0.13	265	18	60,000
Miramar Creek	2304	SS4	5/6/2011	20.95	33.3	2.92	4416	2.41	6.54	6,900
Miramar Creek	2304	SS4UP	5/6/2011	20.08	44.9	4.05	1475	0.78	7.16	7,500
Miramar Creek	2304	SS4B	5/6/2011	20.09	52.3	4.73	448.1	0.23	7.13	12,000
Miramar Creek	2304	SSGAD	5/6/2011	20.87	52.4	4.66	453.4	0.23	7.11	3,900
Big Fishweir Creek	2280	CR6	5/12/2011	26.61	6.91	0.74	13.89	23056	9.9	8,600
Big Fishweir Creek	2280	CR6B	5/12/2011	26.49	6.88	0.39	6.8	11947	5	2,300
Big Fishweir Creek	2280	CR6A	5/12/2011	25.28	6.77	0.32	5.39	9606	4.1	1,200
Big Fishweir Creek	2280	CR6D	5/12/2011	23.46	7.16	1.41	0.26	546	16.6	32,000
Big Fishweir Creek	2280	CR6BP	5/12/2011	23.91	7.16	1.82	0.2	417	21.6	2,000
Big Fishweir Creek	2280	CR6F	5/12/2011	24.34	7.01	1.11	0.2	428	13.3	3,700
Miller Creek	2287	SS1	5/13/2011	25.35	30.3	2.2	34662	21.79	6.63	11,000
Miller Creek	2287	SS23	5/13/2011	24.2	16.7	1.34	14350	8.31	7.2	11,000
Miller Creek	2287	SS23C	5/13/2011	26.24	104.6	8.41	660.2	0.34	7.6	1,100
Miller Creek	2287	SS23B	5/13/2011	27.36	169	13.32	623.7	0.32	8.04	120
Miller Creek	2287	SS23A	5/13/2011	24.37	33.1	2.75	619.6	0.32	7.68	8,600
Big Fishweir Creek	2280	CR6	7/8/2011	30.12	7.53	1.38	11.59	19598	19.5	9,700
Big Fishweir Creek	2280	CR6A	7/8/2011	26.21	8.12	2.17	0.31	650	26.9	5,700
Big Fishweir Creek	2280	CR6B	7/8/2011	25.79	7.69	3.81	0.22	467	46.8	2,600
Deer Creek	2256	DR2	8/18/2011	27.06	3.8	0.3	246.5	0.12	6.56	950
Deer Creek	2256	DR2S	8/18/2011	27.54	4.9	0.38	519	0.26	6.82	1,900
Deer Creek	2256	DR1	8/18/2011	29.65	33.1	2.22	33666	21.09	6.95	2,500
Deer Creek	2256	DR3	8/18/2011	29.79	22.7	1.53	31212	19.39	7.12	2,900
Miller Creek	2287	SS21	8/24/2011	26.11	18.9	1.51	321.6	0.16	6.62	13,000
Miller Creek	2287	SS21UP	8/24/2011	26.55	30.3	2.41	220.1	0.1	7.11	2,800
Newcastle Creek	2235	ARL5Bpipe	9/1/2011	27.36	89.3	7.01	235.6	0.11	7.01	6,000
Newcastle Creek	2235	ARL6	9/9/2011	22.74	70.3	6.01	292.6	0.14	7.48	420
Newcastle Creek	2235	ARL5A	9/9/2011	23.53	31.2	2.63	549.4	0.28	7.2	1,200
Newcastle Creek	2235	ARL5B	9/9/2011	24.18	65	5.4	640	0.33	7.49	560
Miller Creek	2287	SS21	9/14/2011	23.88	18.4	1.54	276.6	0.13	6.25	56,000
Miller Creek	2287	SS21UP	9/14/2011	24.48	31.9	2.64	247.2	0.12	6.81	20,000
Miller Creek	2287	SS21	9/19/2011	23.68	31.1	2.61	277.8	0.13	6.93	79,000

Stream Name	WBID	Station	Date	Temp (ºC)	DO Saturation (%)	DO (mg/L)	Conductivity (uS)	Salinity	pH	Fecal Coliform (cfu/100 mL)
Miller Creek	2287	SS21up	9/19/2011	24.37	4.6	0.38	251.5	0.12	6.58	35,000
Miramar Creek	2304	SS4	10/4/2011	23.33	24	1.92	16287	9.52	7.06	3,000
Miramar Creek	2304	SS5A	10/4/2011	18.22	54.9	5.06	1000	0.52	4.28	0
Miller Creek	2287	SS21A	11/14/2011	19.28	23.9	2.19	214.6	0.1	7.7	2,000
Miller Creek	2287	SS21	11/14/2011	19.86	49.4	4.46	249.7	0.12	7.28	11,171
Miller Creek	2287	SS21	11/16/2011	21.24	29.5	2.59	250.3	0.12	6.84	15,000
Miramar	2304	SS505	11/22/2011	N/A	N/A	N/A	N/A	N/A	N/A	1,700
Miller Creek	2287	SS21A	12/19/2011	16.79	30.9	2.99	212.8	0.1	6.67	31,000
Butcher Penn Creek	2322	CR2	12/20/2011	15.51	7.05	5.75	0.28	579	57.8	220
Butcher Penn Creek	2322	CR2A	12/20/2011	16.06	7.25	7.61	0.34	692	77.3	990
Miller Creek	2287	SS21	12/21/2011	19.39	100	9.17	262	0.13	7.17	14,775
Miller Creek	2287	SS21A	12/21/2011	19.52	73.4	6.71	285.6	0.14	7.33	59,000
Miller Creek	2287	SS21pine	12/27/2011	18.94	25.6	2.37	227.3	0.11	7.19	2,000
Miller Creek	2287	SS21A	12/27/2011	19.12	20.8	1.92	208.8	0.1	6.55	21,000
Miller Creek	2287	SS21	12/27/2011	19.61	33.9	3.09	255.5	0.12	6.65	22,000
Newcastle Creek	2235	ARL5A	12/27/2011	20.64	106	9.48	485.6	0.25	7.17	3,200
Newcastle Creek	2235	ARL5B	12/27/2011	20.93	110.6	9.84	368.8	0.18	7.59	9,550

Appendix C: Updated Ranking of Impaired Tributaries

The following table lists the latest ranking of the 75 fecal coliform impaired tributaries in the LSJR Basin, showing both the historical rankings and the latest ranking using data from 2007 through 2011.

TABLE C-1: FECAL COLIFORM IMPAIRED TRIBUTARIES RANKING

WBID	NAME	2003-2007 RANK	2004-2008 RANK	2005-2009 RANK	2006-2010 RANK	2007-20111 RANK	BMAP
2287	Miller Creek	1	1	2	1	1	1
2322	Butcher Pen Creek	8	5	9	2	2	1
2297	Craig Creek	4	3	3	3	3	2
2280	Big Fishweir Creek	3	4	1	4	4	1
2304	Miramar Creek	2	2	11	5	5	1
2321	Christopher Branch	12	11	6	7	6	N/A
2252	Hogan Creek	10	6	7	8	7	1
2316	Williamson Creek	13	13	14	13	8	2
2254	Red Bay Branch	5	16	15	11	9	N/A
2233	Long Branch	6	10	5	10	10	N/A
2235	Newcastle Creek	14	8	21	21	11	1
2189	Rushing Branch		7	17	9	12	N/A
2256	Deer Creek	15	9	4	12	13	1
2385	Mandarin Drain	20	31	28	14	14	N/A
2368	Little Black Creek		42	55	60	15	N/A
2592	Mill Branch	26	22	58	16	16	N/A
2299	Open Creek	22	41	38	18	17	1
2382	Unnamed Drain (Tacito Creek)	7	15	32	6	18	N/A
2389A	Doctors Lake Drain		21	41	19	19	N/A
2207	Blockhouse Creek	21	26	31	23	20	2
2308	Leeds Pond	16	25	39	37	21	N/A
2561	Unnamed Ditches		20	57	25	22	N/A
2246	Jones Creek	40	34	22	32	23	N/A
2204	Terrapin Creek	17	14	16	20	24	1
2306	New Rose Creek	27	27	26	24	25	N/A
2284	Little Pottsburg creek	44	23	12	31	26	N/A
2213R	Unnamed Drain to St. Johns River		36	54	38	27	N/A
2210	West Branch	25	35	37	29	28	N/A
2464	Governor Creek		32	49	28	29	N/A
2257	McCoy Creek	9	12	8	27	30	2
2361	Deep Bottom Creek	18	18	23	15	31	2
2238	Little Sixmile Creek	31	30	24	30	32	N/A
2240	Greenfield Creek	28	39	34	36	33	2
2381	Cormorant Branch	29	29	19	26	34	2
2228	Moncrief Creek	11	19	13	17	35	2
2407	Grog Branch		48	51	33	36	N/A
2266	Hopkins Creek	24	28	33	35	37	2
2324	Fishing Creek	19	17	10	22	38	2
2460	Mill Creek		49	59	39	39	N/A
2278	Silversmith Creek	43	44	35	42	40	N/A
2326	Goodbys Creek	23	24	18	43	41	1
2262	Cedar River	38	54	29	54	42	N/A
2203	Trout River	32	46	27	34	43	2
2244	Cowhead Creek	37	45	45	40	44	N/A
2270	Hogpen Creek	30	57	46	45	45	N/A
2227	Sherman Creek	42	38	20	44	46	2
2370	Oldfield Creek	41	51	42	47	47	N/A
2248	Ginhouse Creek	34	43	48	46	48	N/A

WBID	NAME	2003-2007 RANK	2004-2008 RANK	2005-2009 RANK	2006-2010 RANK	2007-20111 RANK	BMAP
2239	Strawberry Creek	46	47	62	65	49	N/A
2419	Sampson Creek		55	60	50	50	N/A
2265B	Pottsburg Creek	39	40	30	48	51	2
2249B	McGirts Creek	35	52	47	51	52	N/A
2282	Wills Branch	49	33	25	55	53	2
2511B	Simms Creek		58	66	53	54	N/A
2181	Dunn Creek	33	37	40	41	55	N/A
2220	Nine Mile Creek	48	61	44	49	56	N/A
2234	Mt. Pleasant Creek		50	53	52	57	N/A
2305	Normandy Village Run		56	64	59	58	N/A
2478	Greene Creek		64	71	56	59	N/A
2302	Ryals Swamp		59	63	57	60	N/A
2356	Big Davis Creek	36	62	52	61	61	N/A
2223	Trout River (Upper)		63	65	58	62	N/A
2232	Sixmile Creek	50	66	61	62	63	N/A
2444	Peters Creek		68	67	64	64	N/A
2290	Cedar Swamp Creek		70	69	67	65	N/A
2351	Julington Creek	51	69	50	63	66	N/A
2224	Ribault River	53	71	56	68	67	N/A
2191	Broward River	47	53	36	66	68	N/A
2249A	Ortega River	52	60	43	69	69	N/A
2323	Yellow Water Creek		74	70	71	70	N/A
2203A	Trout River	54	67	68	70	71	2
2555	Cracker Branch		73	73	72	72	N/A
2365	Durbin Creek	55	72	72	73	73	N/A
2446	Bull Creek		75	74	74	74	N/A
2213P	Ortega River	45	65	75	75	75	N/A