

2010 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
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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
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
FDOT	Florida Department of Transportation
FIT	Florida Institute of Technology
FOG	Fats, Oils, and Grease
F.S.	Florida Statutes
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
MST	Microbial Source Tracking
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 coliform) 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 2010 Progress Report is the first annual progress report for the LSJR Tributaries BMAP I, and it describes the activities implemented by the stakeholders during the reporting period of BMAP adoption (December 1, 2009) through December 31, 2010.

WATER QUALITY MONITORING AND TRENDS

The Tributaries Assessment Team (TAT) implemented the BMAP monitoring plan over the last year. Data collected from 2006 through 2010 as part of the monitoring plan and 1previous TAT efforts were assessed to determine water quality trends in the 10 BMAP I tributaries. In this first reporting period, fecal coliform concentrations declined in Newcastle Creek, Hogan Creek, Miramar Creek, Big Fishweir Creek, Deer Creek, Terrapin Creek, and Goodbys Creek. Conversely, slight increases in fecal coliform concentrations were observed in Butcher Pen Creek, Miller 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. When using the milestone assessment in Big Fishweir Creek and Open Creek, these tributaries show improvements in fecal coliform concentrations but have not yet met the milestone. No improvement was observed in Miller Creek, and fecal coliform concentrations have increased in Butcher Pen Creek.

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. In Butcher Pen Creek, high fecal coliform concentrations were found at the stations on Jammes Road and Ducheneau Drive. JEA inspected and dye tested their infrastructure and the Duval County Health Department (DCHD) inspected the septic tanks in the area, and no sources were identified as part of these efforts. Although there continues to be high concentrations, it appears that pets and wildlife are the sources and that bacteria are being conveyed through the stormwater system. In Miller Creek, the City of Jacksonville (COJ) performed a field investigation of the area around Camden Avenue. It appears that wildlife is the cause of the consistent high counts, and the TAT has a pilot project planned to estimate the number of raccoons in this segment of the creek. DCHD and FDEP have inspected the Orlando Circle area in Miramar Creek where there were high fecal coliform concentrations with septic tanks as the suspected source. DCHD issued repair permits for several of the septic tanks in this area, which helped to remove sources of fecal coliforms. A potential illicit connection was identified by FDEP in 2010, which will be investigated by COJ during the next reporting period.

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.

DCHD completed the BMAP requirement to inspect certain areas of the Miller Creek, Miramar Creek, Big Fishweir Creek, and Goodbys Creek watersheds, which were identified as having a higher probability of septic tank-related problems. DCHD expanded this project by creating the Septic Tank Enforcement Project to include inspections in the other 6 BMAP tributaries.

JEA redesigned the air release valve inspection and replacement program and installed additional manhole monitors. JEA completed the inspection of a manhole on Arthur Drive and repaired the pump station on Ducheneau Drive in the Butcher Pen Creek watershed. In Miramar Creek, JEA followed up on a seep in the watershed. JEA also confirmed the location of several lift stations on the boundaries of the watersheds.

COJ completed drainage system rehabilitation and/or capital improvement projects in the Hogan Creek, Butcher Pen Creek, Miramar Creek, Deer Creek, Goodbys Creek, and Open Creek watersheds. COJ followed up on open potential illicit connection (PIC) cases in Hogan Creek, Butcher Pen Creek, Terrapin Creek, and Open Creek. The location of lift stations on the watershed boundaries were verified by COJ in Butcher Pen Creek, Terrapin Creek, Goodbys Creek, and Open Creek. In addition, COJ completed the enforcement action at The Preserve at St. Nicholas Apartments in the Miller Creek watershed.

SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE REPORT

This is the first annual progress report for the Lower St. Johns River (LSJR) Tributaries Basin Management Action Plan (BMAP) I and contains information for the period from BMAP adoption (December 1, 2009) through December 31, 2010. **Section 2** provides information on BMAP water quality monitoring and trends in each of the 10 BMAP I tributaries. **Section 3** describes studies and technologies that may be viable for tools in the future to assess fecal coliform loading to the tributaries. **Section 4** describes ongoing programs implemented by the responsible stakeholders in the LSJR Basin. **Section 5** through **Section 14** 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 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 then 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 waterbody 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 total maximum daily loads (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 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) 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%

WBID NUMBER	WBID NAME	WASTELOAD ALLOCATION WASTEWATER (COLONIES/DAY)	WASTELOAD ALLOCATION NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER (%)	LOAD ALLOCATION (%)
2256	Deer Creek	Not applicable	86%	86%
2204	Terrapin Creek	Not applicable	71%	71%
2326	Goodbys Creek	Not applicable	87%	87%
2299	Open Creek	Not applicable	60%	60%

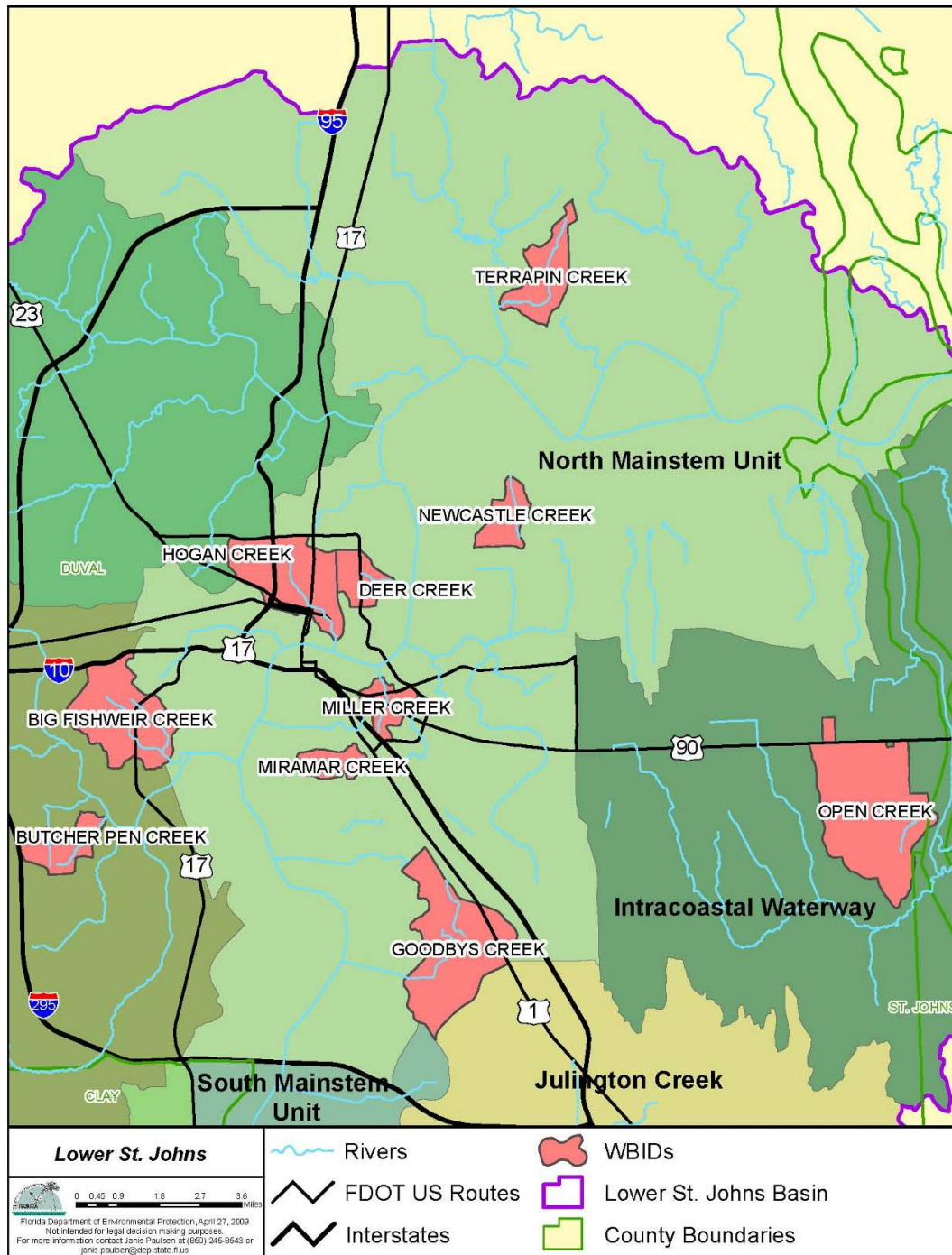


FIGURE 1: LSJR BASIN TRIBUTARIES INCLUDED IN BMAP I

1.3 RESPONSIBLE PARTIES AND KEY STAKEHOLDERS

Sources of fecal coliform loading in the 10 tributaries include wastewater, septic tanks, stormwater, and agriculture. 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. In addition to these entities, FDEP and the Florida Department of Agriculture (FDACS) are 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 PROGRESS TOWARDS IMPLEMENTATION MILESTONES

The BMAP includes a 5-year milestone, which will be used 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 (2006 through 2010) were used to determine the median for each WBID. Data included in this assessment were collected as part of the BMAP monitoring plan, municipal separate storm sewer system (MS4) sampling, and the Tributaries Assessment Team (TAT) sampling. This period of data was compared to the TMDL medians to determine what reductions have been made thus far. As reflected in **Table 2**, 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 both Big Fishweir Creek and Open Creek. Miller Creek has not yet reflected any improvement and the water quality in Butcher Pen Creek continues to require improvement.

TABLE 2: PERCENT FECAL COLIFORM REDUCTION SINCE THE TMDL VERIFIED PERIOD

WBID NUMBER	WBID NAME	TMDL MEDIAN (#/100mL) (1996–2003)	MEDIAN (#/100mL) (2006–10)	% REDUCTION
2235	Newcastle Creek	2,500	800	68%
2252	Hogan Creek	5,000	915	82%
2322	Butcher Pen Creek	2,400	3,100	-29%
2287	Miller Creek	5,000	5,000	0%
2304	Miramar Creek	7,000	1,700	76%
2280	Big Fishweir Creek	3,000	1,800	40%
2256	Deer Creek	2,765	470	83%
2204	Terrapin Creek	1,367	645	53%
2326	Goodbys Creek	3,000	505	83%
2299	Open Creek	1,000	595	41%

2.1.2 NEWCASTLE CREEK

The data period of 2006 through 2010 indicates that the fecal coliform concentrations are declining in the Newcastle Creek watershed (see **Figure 2**). **Table 3** provides the data by year and shows an overall trend of the median concentrations and percent exceedances decreasing, except for an increase in concentrations in 2009. The stations 21FLA 20030656 and ARL6 demonstrate the highest median concentrations of 5,825 CFU and 1,060 CFU, respectively. Station 21FLA 20030656 is located near the headwaters of Newcastle Creek and station ARL6 is located downstream, approximately 0.5 miles from the St. Johns River.

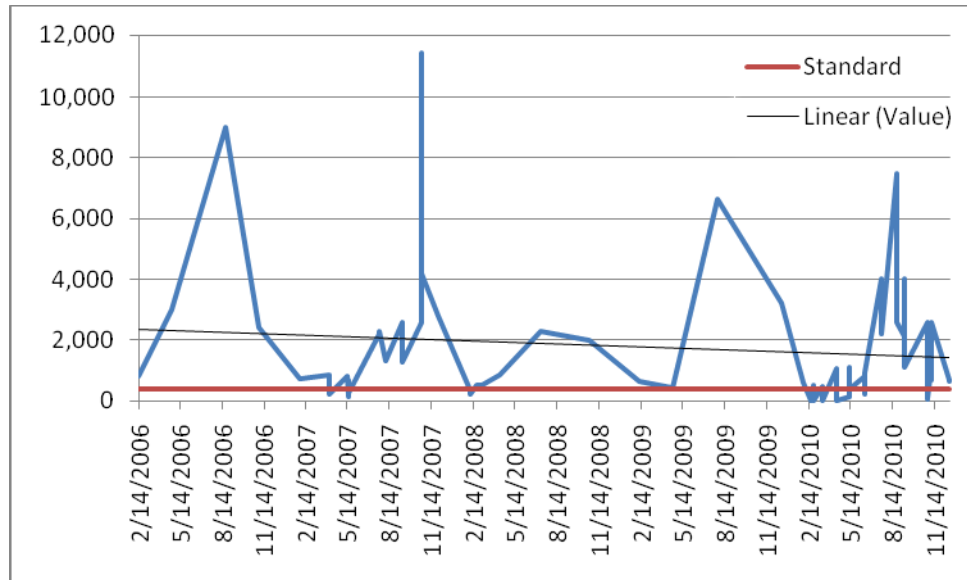


FIGURE 2: FECAL COLIFORM TRENDS IN NEWCASTLE CREEK, 2006-2010

TABLE 3: SUMMARY OF NEWCASTLE CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 ML)	MAXIMUM (#/100 ML)	MEDIAN (#/100 ML)	MEAN (#/100 ML)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	4	800	9,000	2,700	3,800	4	100%
2007	19	145	11,400	1,262	2,222	14	74%
2008	7	209	2,300	510	963	5	71%
2009	4	420	6,636	1,910	2,719	4	100%
2010	36	20	7,500	660	1,364	22	61%

2.1.3 HOGAN CREEK

Fecal coliform concentrations in Hogan Creek have declined slightly from 2006 through 2010 (see **Figure 3**). The highest median concentrations occurred in 2008 and 2010, as shown in **Table 4**. Stations HC4, 21FLA 20030729, HC1A, and 21FLA 20030692 have the highest median concentrations, all of which are greater than 1,000 CFU. Station HC4 is located near the headwaters of Hogan Creek. Stations 21FLA 20030729 and HC1A are located farther downstream at the intersection of the main channel and Broad Street. Station 21FLA 20030692 is located farther downstream near West 1st Street.

To help assist in source identification, DCHD investigated Hogan Creek and confirmed that parcels that were thought to be on septic tanks are actually connected to central sewer. There is a mix of private and public sewer infrastructure in the watershed. In July 2010, COJ code enforcement worked to ensure that repairs to a broken private sanitary sewer line occurred to eliminate a source of bacteria to the waterbody.

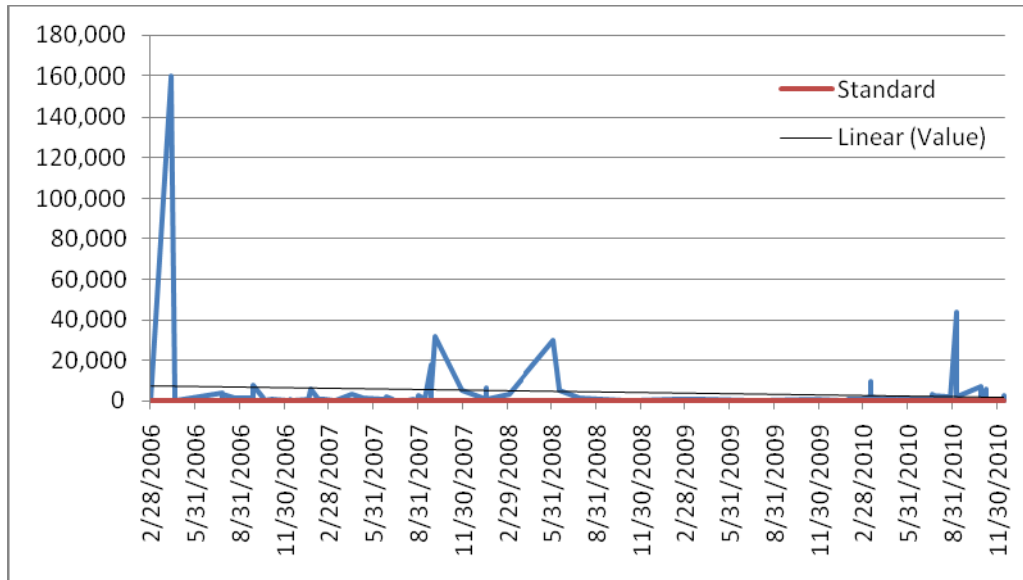


FIGURE 3: FECAL COLIFORM TRENDS IN HOGAN CREEK, 2006-2010

TABLE 4: SUMMARY OF HOGAN CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 ML)	MAXIMUM (#/100 ML)	MEDIAN (#/100 ML)	MEAN (#/100 ML)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	20	67	160,000	713	9,547	14	70%
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%

2.1.4 BUTCHER PEN CREEK

Fecal coliform concentrations in Butcher Pen Creek have been increasing over the data period of 2006 through 2010 (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 (9,350 CFU), 21FLA 20030580 (4,500 CFU), 21FLA 20030829 (3,500 CFU), and CR2 (3,494 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.

To determine the source of the high counts, TAT members conducted several follow up investigations. JEA investigated the sewer infrastructure in the area and dye tested but did not identify any infrastructure issues. JEA confirmed that the Ducheneau lift station was rehabilitated during the last year. DCHD also inspected the commercial septic tanks in close proximity to the area of high concentrations even though many of these tanks have operating permits and are inspected by DCHD on an annual basis. There is also 1 residential septic tank in the area. All septic tanks appeared to be in good working order. There are several stormwater outfalls and underground conveyances along Ducheneau Drive and Jammes Road. FDEP took samples after a rain event and the fecal coliform concentrations were about 5,000 CFU, although there was no sewage odor. There are also dense populations of dogs and

raccoons in this area, and it appears that these could be contributing sources of bacteria reaching the creek through the stormwater conveyance system.

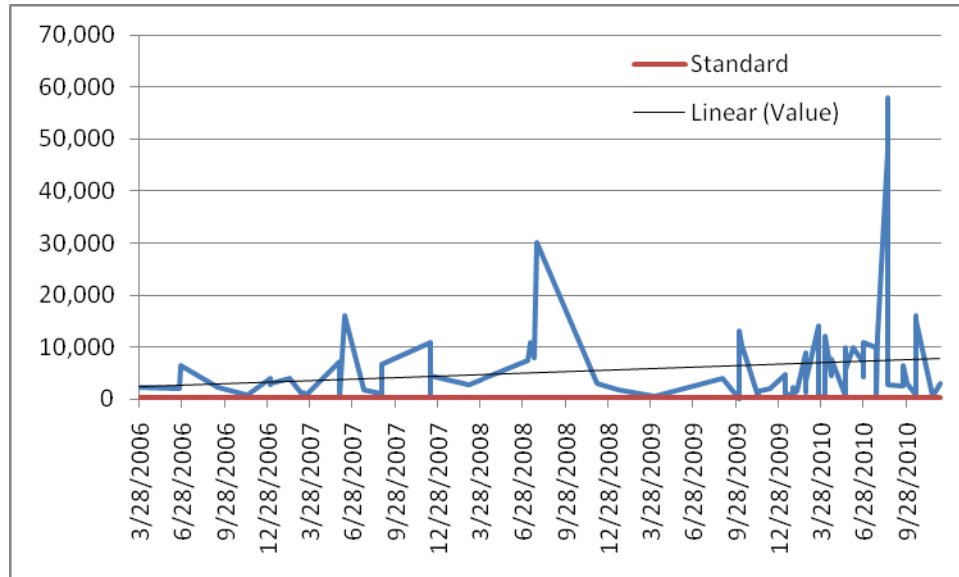


FIGURE 4: FECAL COLIFORM TRENDS IN BUTCHER PEN CREEK, 2006-2010

TABLE 5: SUMMARY OF BUTCHER PEN CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	5	700	6,500	2,200	2,699	5	100%
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%

2.1.5 MILLER CREEK

Fecal coliform concentrations in Miller Creek have been increasing over the data period of 2006 through 2010 (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 6**). The sampling station with the highest median concentration of 32,500 CFU is station SS21, located on the west branch at Camden Avenue. This branch is about 400 feet in length, from the crossing at Camden Avenue upstream until it goes underground at a stormwater culvert. The COJ Environmental Quality Division (EQD) began collecting monthly samples in the watershed in January 2010 as part of the BMAP monitoring program. In April 2010 station SS21 was re-sampled 2 times along with several upstream sites. The most upstream sample results were lower in bacteria levels than the samples taken at Camden Avenue. Re-sampling was done again in August 2010 and a field intensive investigation occurred on August 13, 2010 to try to discover any unknown sources on this short west branch and its vicinity.

At site SS2A at Stillman Street (a branch not connected to Camden Avenue) the water was murky with trash and debris present in stream, with trash on the banks. No odors were noticed and no unusual pipes or discharges were found. At Atherton Street, behind Southgate Shopping Center (downstream of Camden Avenue), the water appeared healthy although with very low flow; no odor, no unusual pipes, or discharges seen. Sample station SS21 at Camden

Avenue, the upstream side of the creek was approximately 2 feet wide by 4 inches deep, clear water, sandy bottom, no noticeable flow, and 100% tree canopy cover. On the downstream portion the conditions were similar and overgrown with vegetation. The flow in the pipe under Camden Avenue contained very little water. This is a residential area and cat litter has been observed in the creek on multiple occasions as well as dog feces in the nearby vicinity. Just upstream of Camden Avenue at the footbridge (SS21C) the creek is about 2 feet wide by 4 inches deep with no noticeable flow, overgrown vegetation, and an oily sheen on the water surface. Upstream from this site to sampling station SS2 located at the stormwater outfall, raccoon prints were observed along this branch. At site SS2 where the branch goes underground into a culvert, the stream was dry. There was 1 puddle along this stretch that was completely stagnant. The branch is very overgrown with 100% canopy cover. No pipes or discharge points could be seen. At site SS21D sampled in April 2010, the stream was dry. EQD investigated farther upstream around Spring Park Road and Kenneth Street, and west of Spring Park Road and found nothing suspicious indicating a source of bacteria. There were no open ditches or ditch crossings, all stormwater conveyances are underground.

In summary, the west branch has a very low volume of water, very small to no flow, a shallow water level approximately 4 inches deep, frequent dry areas of streambed, 100% canopy cover, heavy vegetation, pets, and raccoons. No other sources have been observed in 8 months of sampling in 2010. Pets and wildlife appear to be the most likely sources of the high fecal coliform bacteria levels recorded at the Camden Avenue station. The TAT is planning a pilot project in this area, in which a game camera and field observations will be used to help estimate the number of raccoons and the associated fecal coliform loading with this population. Based on the results of the pilot project, a determination will be made about the sources at this site.

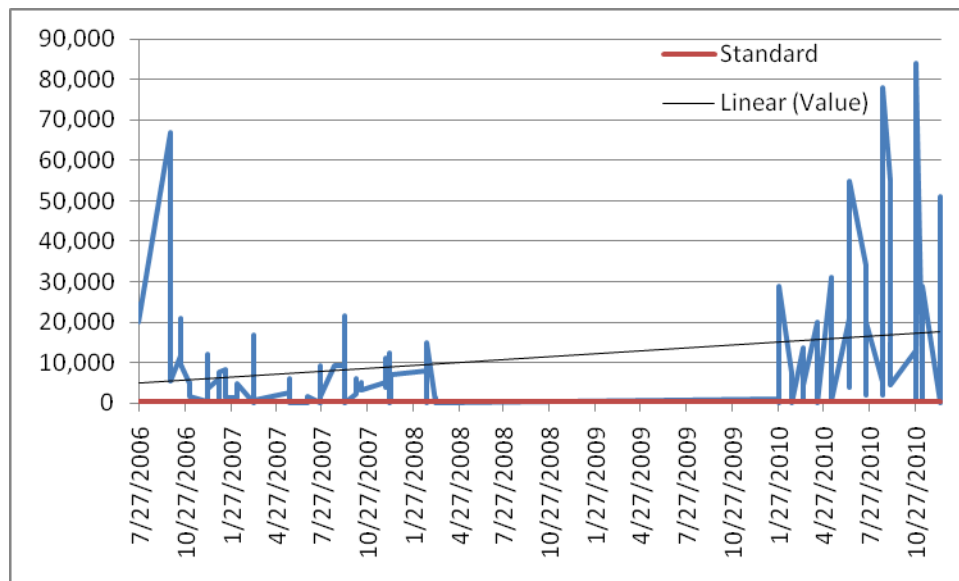


FIGURE 5: FECAL COLIFORM TRENDS IN MILLER CREEK, 2006-2010

TABLE 6: SUMMARY OF MILLER CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	15	462	67,000	11,727	15,314	15	100%
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%

2.1.6 MIRAMAR CREEK

Between 2006 and 2010, the fecal coliform concentrations in Miramar Creek decreased (see **Figure 6**). As shown in **Table 7**, the median concentrations and percent exceedances generally decreased, with the exception of an increase in concentrations in 2009. The stations with the highest median concentrations were 21FLA 20030827, 21FLA 20030825, 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 20030825 is further downstream at Gadsden Road. 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.

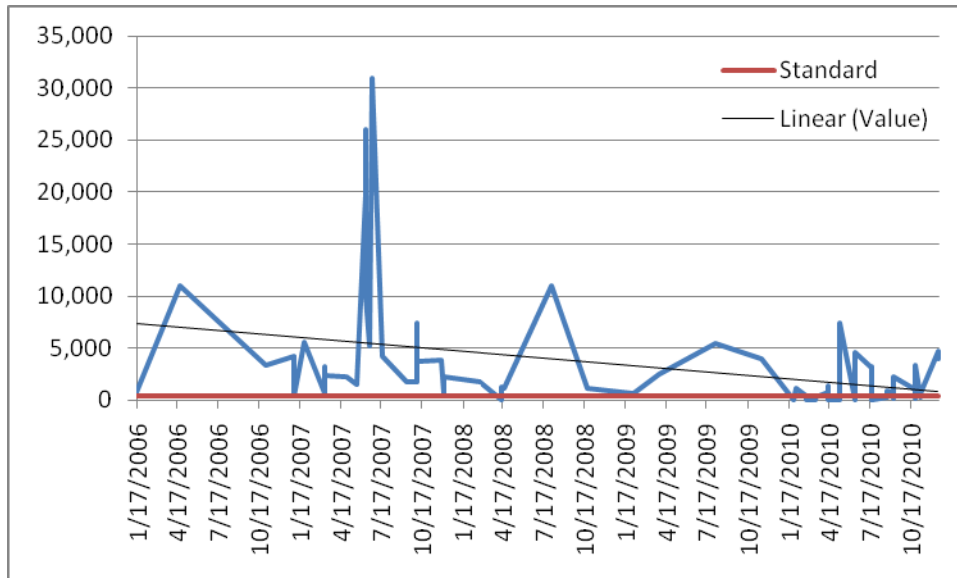


FIGURE 6: FECAL COLIFORM TRENDS IN MIRAMAR CREEK, 2006-2010

TABLE 7: SUMMARY OF MIRAMAR CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	4	740	11,000	5,525	5,698	4	100%
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%

2.1.7 BIG FISHWEIR CREEK

The fecal coliform concentrations in Big Fishweir Creek slightly declined from 2006 through 2010 (see **Figure 10**). The median concentrations and percent exceedances decreased from 2006 through 2008, with a slight increase in 2009 before another slight decrease in 2010 (see **Table 8**). The stations with the highest median concentrations are 21FLA 20030951 (4,150 CFU), 21FLA 20030777 (3,000 CFU), and 21FLA 20030797 (3,000 CFU). Stations 21FLA 20030951 and 21FLA 20030777 are both located at Park Street, and station 21FLA 20030797 is the most upstream station on Little Fishweir Creek at McArthur Street.

In the Big Fishweir Creek watershed, the main issue continues to be in Little Fishweir Creek. When sampled, the stations in that area have all had high counts. Field investigations continue to attempt to identify the sources in this area. JEA had previously completed sewer rehabilitations projects in which all the lines were pipe burst from the pump station on Herschel and Pine Road to Park Street to the creek. JEA investigated the area in Little Fishweir Creek, just south of Park Street, to ensure there are no problems with the sewer infrastructure.

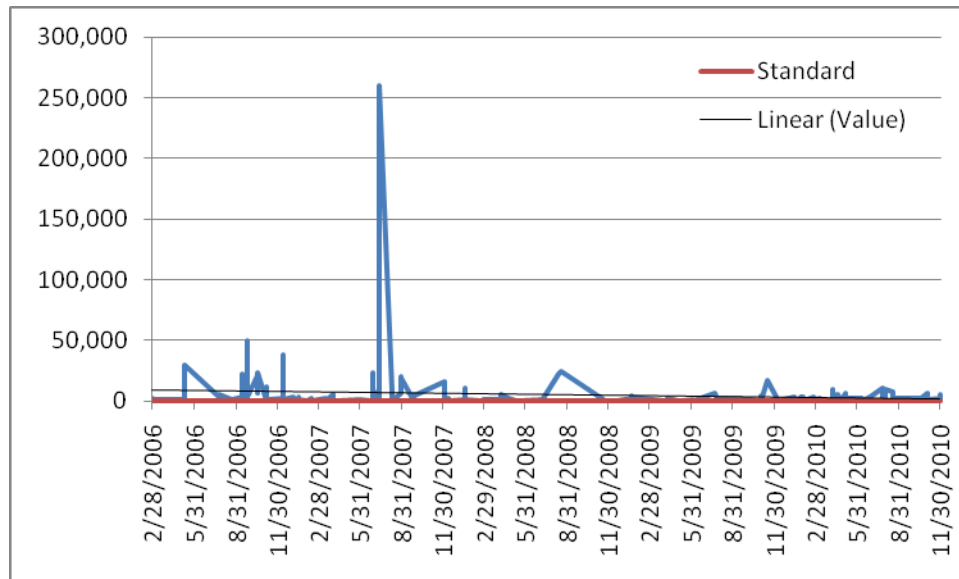


FIGURE 7: FECAL COLIFORM TRENDS IN BIG FISHWEIR CREEK, 2006-2010

TABLE 8: SUMMARY OF BIG FISHWEIR CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	37	0	49,333	2,200	8,525	32	86%
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%

2.1.8 DEER CREEK

The Deer Creek fecal coliform concentrations decreased between 2006 and 2010 (see **Figure 8**). The median concentrations were generally low and decreasing over time, with the exception of a slight increase in 2009 (see **Table 9**). Station 21FLA 20030238FLA, located at the south end of Jones Road, had the highest median concentration of 2,500 CFU. All the data for this

station are from 2007. The next highest median concentration is 627 CFU at station 21FLA 20030792, which is located at Talleyrand Avenue.

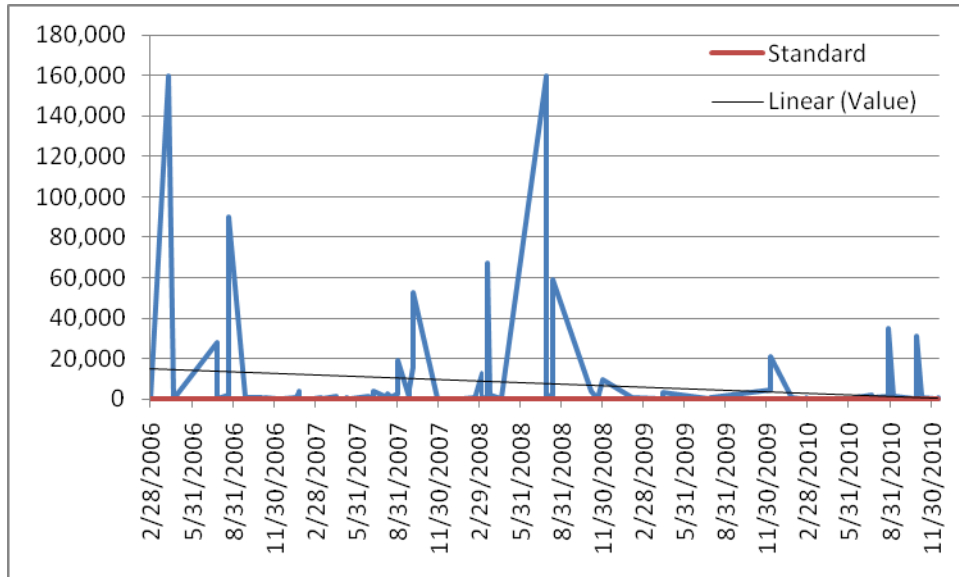


FIGURE 8: FECAL COLIFORM TRENDS IN DEER CREEK, 2006-2010

TABLE 9: SUMMARY OF DEER CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	20	33	160,000	599	22,305	12	60%
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%

2.1.9 TERRAPIN CREEK

The Terrapin Creek fecal coliform concentrations slightly declined over the period of 2006 through 2010 (see **Figure 9**). The median concentrations generally decreased, with the exception of 2009 (see **Table 10**). The stations with highest median concentrations were 21FLA 20030490FLA (1,150 CFU), 21FLA 20030653 (1,100 CFU), and DC7 (1,100 CFU). Stations 21FLA 20030653 and DC7 are located in the upstream portion of the creek at Faye Road, and station 21FLA 20030490FLA is located at Blassius Road.

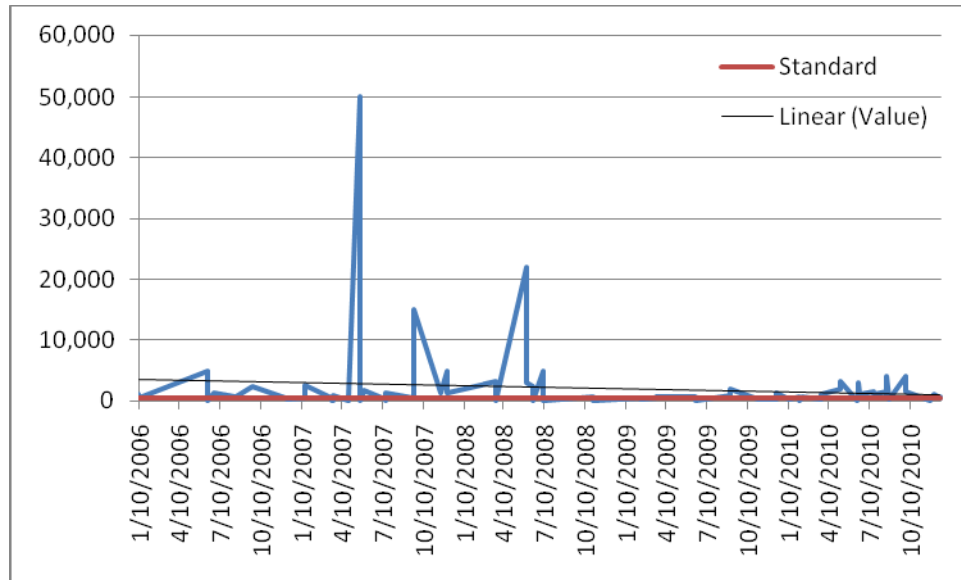


FIGURE 9: FECAL COLIFORM TRENDS IN TERRAPIN CREEK, 2006-2010

TABLE 10: SUMMARY OF TERRAPIN CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 ML)	MAXIMUM (#/100 ML)	MEDIAN (#/100 ML)	MEAN (#/100 ML)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	9	130	5,000	700	1,312	7	78%
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%

2.1.10 GOODBYS CREEK

There was a decrease in fecal coliforms in Goodbys Creek between 2006 and 2010 (see **Figure 10**). As shown in **Table 11**, the median concentrations and the percent of exceedances decreased over the data period, with a small increase in concentration in 2009. Station SS319, located at Sanchez Road, has the highest median concentration of 810 CFU.

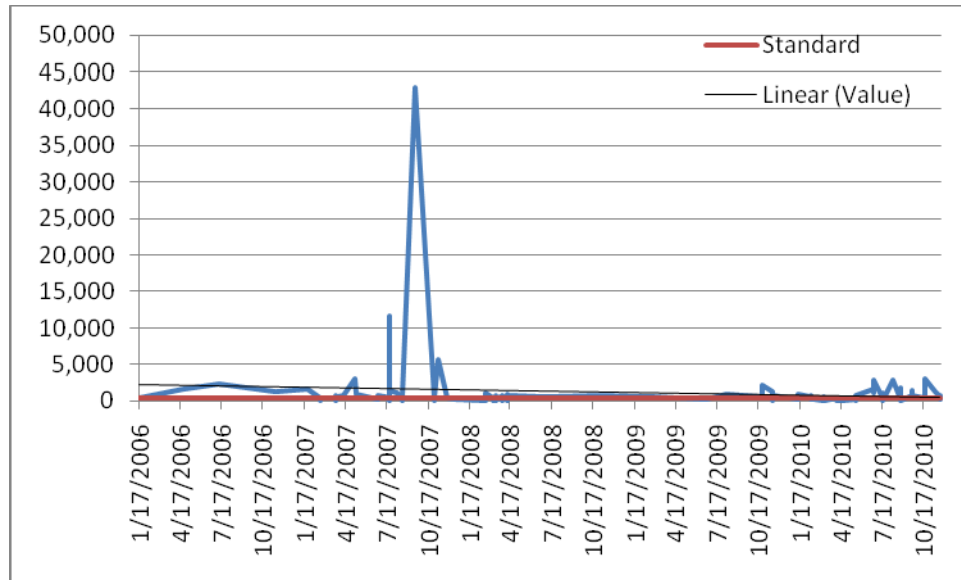


FIGURE 10: FECAL COLIFORM TRENDS IN GOODBYS CREEK, 2006-2010

TABLE 11: SUMMARY OF GOODBYS CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	4	330	2,235	1,500	1,391	3	75%
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%

2.1.11 OPEN CREEK

Fecal coliform concentrations in Open Creek increased slightly over the period of 2006 through 2010 (see **Figure 11**). The median concentrations during this time were generally low and decreasing, with a small increase in 2010 (see **Table 12**). Station 21FLA 20030858 had the highest median concentration (4,000 CFU versus the next highest median of 730 CFU at station 21FLA 20030950). Station 21FLA 20030858 is located along the branch at Windsor Park Drive North, and Station 21 FLA 2003950 is located at the power lines east of Danforth Drive.

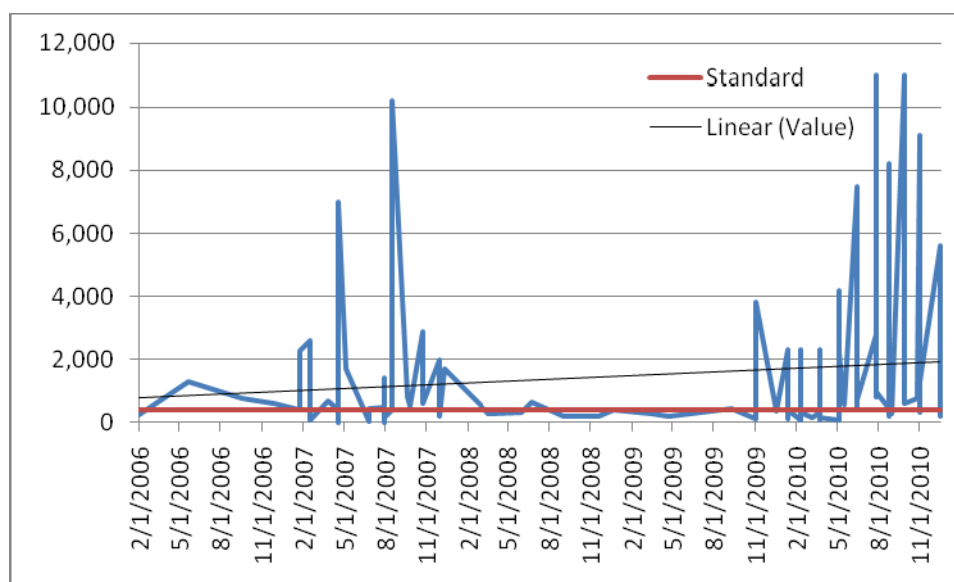


FIGURE 11: FECAL COLIFORM TRENDS IN OPEN CREEK, 2006-2010

TABLE 12: SUMMARY OF OPEN CREEK FECAL COLIFORM DATA BY YEAR, 2006-2010

YEAR	NUMBER	MINIMUM (#/100 mL)	MAXIMUM (#/100 mL)	MEDIAN (#/100 mL)	MEAN (#/100 mL)	NUMBER OF EXCEEDANCES	% EXCEEDANCES
2006	4	220	1,300	690	725	3	75%
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%

SECTION 3: IMPROVING SCIENTIFIC UNDERSTANDING

3.1 LSJR TRIBUTARY ASSESSMENT PROJECT

FDEP contracted with PBS&J to conduct detailed assessments of 11 impaired tributaries in 2008–09, as part of the LSJR Tributary Assessment Project. The project included a Walk the WBIDs effort to conduct a field assessment of the tributaries, microbial source tracking (MST) sampling of 10 tributaries, and thermal imaging for 4 WBIDs. Of the 11 WBIDs receiving these additional assessments, Miller Creek, Miramar Creek, Hogan Creek, and Big Fishweir Creek are included from LSJR Tributaries BMAP I. Miramar Creek and Big Fishweir Creek were also assessed through thermal imagery. The following sections describe the findings in each of these 4 tributaries.

3.1.1 *MILLER CREEK*

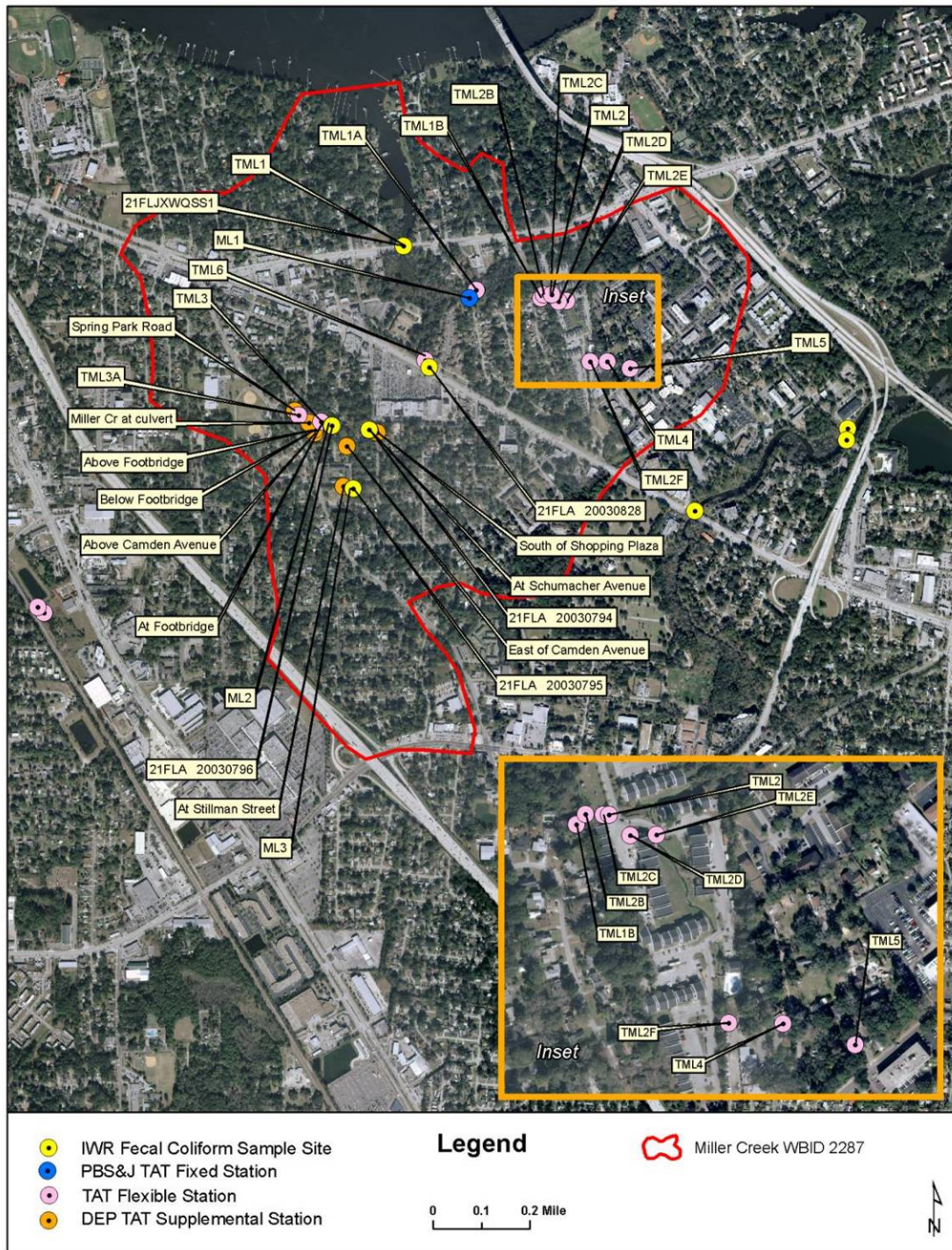
On the southern fork of Miller Creek, the fecal coliform results at station ML3 (see **Figure 12**) all fell below water quality standards except during 1 sampling event when the water was stagnant. However, there are high levels of indicator organisms in the sediments, which signify that there was probably a fecal coliform source in this area at some time. This area of the creek is shaded preventing ultraviolet penetration, so there could be bacteria regrowth in the sediments; however, it does not appear that the loads from the sediments are entering the water column. Re-inoculation of overlying surface waters appears to be important only in shallow waters and/or when sediments and the associated bacterial organisms are deep.

On the northern fork, station ML2 demonstrated chronic elevated exceedances under both flowing and stagnant conditions. Both human and ruminant MST markers used at this site came back negative; it appears pets are the source of bacteria at this location. The ruminant marker was used in this area and came back positive on 2 occasions at stations TML3A and TML3. In addition, a positive human marker was found at station TML3 but indicated less than 1% human contamination. On the main channel at station TML6, there were low concentrations during the first part of the sampling period and then exceedances were observed. This could indicate a new source at this location or transport from upstream.

Due to the issues and high concentrations at the Preserve at St. Nicholas Apartments (refer to **Section 8.3**), additional stations were added to help with source identification. The stations in this area had episodic exceedances. At station TML4, a human marker was found indicating less than 1% human contamination. Station TML2 also had high spikes and a positive human marker indicating 10% human contamination. There were compliance issues with the private lift station and manhole at The Preserve at St. Nicholas Apartments, which caused multiple sanitary sewer overflows (SSOs) and led to high fecal coliform concentrations in this area. COJ took enforcement action and subsequently the owners made the necessary repairs to the private infrastructure and paid the associated fine for non-compliance.

On the eastern branch, identified sources of fecal coliform include pet waste as several dogs were observed in the area and frequent flooding in this area that can cause sewage infrastructure failure. The homes in this area were constructed in 1940s, which indicates older septic tank systems, and there were laundry pipe discharges into the creek as well as other potential illicit connections (PICs). A laundry PIC was found and subsequently removed near station TML4. As the pipe was previously covered by leaf litter and was difficult to discover, additional investigations may be necessary to identify other PICs in this segment of the creek. At station ML1, concentrations were higher than upstream. This area of high concentrations

seems to be related septic tanks that are near surface waters, installed before current set back requirements, or are unmounded systems. There appears to be human sources although there are other sources including garbage and cats. The main channel had some low level exceedances, which could be source transport from upstream and the contributing branches.



3.1.2 *MIRAMAR CREEK*

High fecal coliform counts were observed along the northern portion of the main channel of Miramar Creek. This is a septic tank area with lots of pipes in the creek banks, which could be PICs. Sampling at stations TMR3 and TMR2 (see **Figure 13**) were discontinued because they met or were better than water quality standards. Station MR5 was in the Orlando Circle area, which has a lot of PICs. A human marker was found on 2 occasions, 1 indicating greater than 10% and 1 indicating less than 1% human contamination. Both DCHD and FDEP have conducted investigations to determine the source of the high counts in the Orlando Circle area. FDEP samples in this area have consistently been elevated; therefore, it appears that there is a chronic issue. Many of the homes in this neighborhood are older with septic tanks in close proximity (less than 50 feet) to the creek. DCHD inspected the septic tanks in this area and if there was a failure, a repair permit was issued requiring the tank to be moved further from the creek. FDEP identified a PIC in this area, with fecal coliform counts in close proximity to the PIC approximately 22,000 CFU. COJ will continue to work with FDEP to address this PIC. In addition, there are dogs in this area and pet owners have been observed to not pick up after their dogs. Pet waste can contribute to the high fecal coliform concentrations.

On the northern branch, there were higher numbers downstream of the MS4 outfall. MST testing using a human marker was positive indicating 100% human presence. During field investigations, several pipes were found along the northern branch that may be PICs. High counts were found at the ditch above Hendricks Avenue along with a low concentration of the human marker *esp*, which indicate that septic tanks may be the source of fecal coliforms in this area. At the sampling point behind the JEA lift station, 2 ruminant markers came back positive. There were very high bacteria levels in this area, which seem to be caused by a combination of upstream human sources, dog feces, and wildlife. This area of the creek is also shaded preventing ultraviolet light penetration and shallow water with high levels of indicator organisms in the sediments contributing to the potential of re-growth and re-suspension.

The main channel had consistent low level exceedances while concentrations increase further downstream. Station MR1 was positive for a human marker indicating 20% human contamination. Further investigation is needed in this area; however, there is a lot of private property in the area that was inaccessible during this project.

The thermal imaging indicated 9 anomalies in this WBID, with samples taken at 6 stations before and after the thermal imaging flight. During follow up field investigations, none of these anomalies were determined to be sources of fecal coliform. A detailed site investigation was conducted on the northern branch where elevated levels of fecal coliforms were found during the pre-flight sampling (4,000 CFU) and post-flight sampling (4,500 CFU). During this investigation, 10 pipes were identified as PICs; however, during follow up efforts, none of these pipes were determined to be a source of fecal coliform.

3.1.3 *HOGAN CREEK*

On the main channel of Hogan Creek, garbage was found near station THC5A (see **Figure 13**), which is the headwaters of Hogan Creek and is downstream of the railroad tracks. The sampling results were fairly low until May 2009 when there was a spike in bacteria concentrations. In addition, a human marker was found at this time indicating 50% human contamination. Station THC5 seems to be affected by upstream sources. From the sediments, it appears that there has been recent contamination. Based on the sampling on the northwestern branch, this area does not seem to be a source of bacteria. On the main channel, the counts at HC3 were low; therefore, it appears that any contamination upstream is not being transported further downstream.

COJ has conducted maintenance activities at the headwaters of the creek to remove trash. However, the trash quickly built up again which may be related to the high velocity of flow during rain events and it appears that people dump their garbage in this particular portion of the creek. There is a fence across the creek that is catching litter after storm events.

Station TH2 on the southwestern branch had high fecal coliform counts, some of which were over 20,000. Human markers were positive at this location. Station THC3A has 3 MS4 outfalls upstream of this area so sampling stations were added at each outfall to confirm sources. There was evidence of a homeless population near station THC3A, which could be contributing to the high counts. The creek to the west of I-95 is piped underground and to determine if the high counts are coming from the underground conveyances, sampling of some of the stormwater manholes may be needed.

On the main channel, higher counts were observed further downstream. Human markers were positive at several sites and the sources appear to be homeless populations and sewer infrastructure.

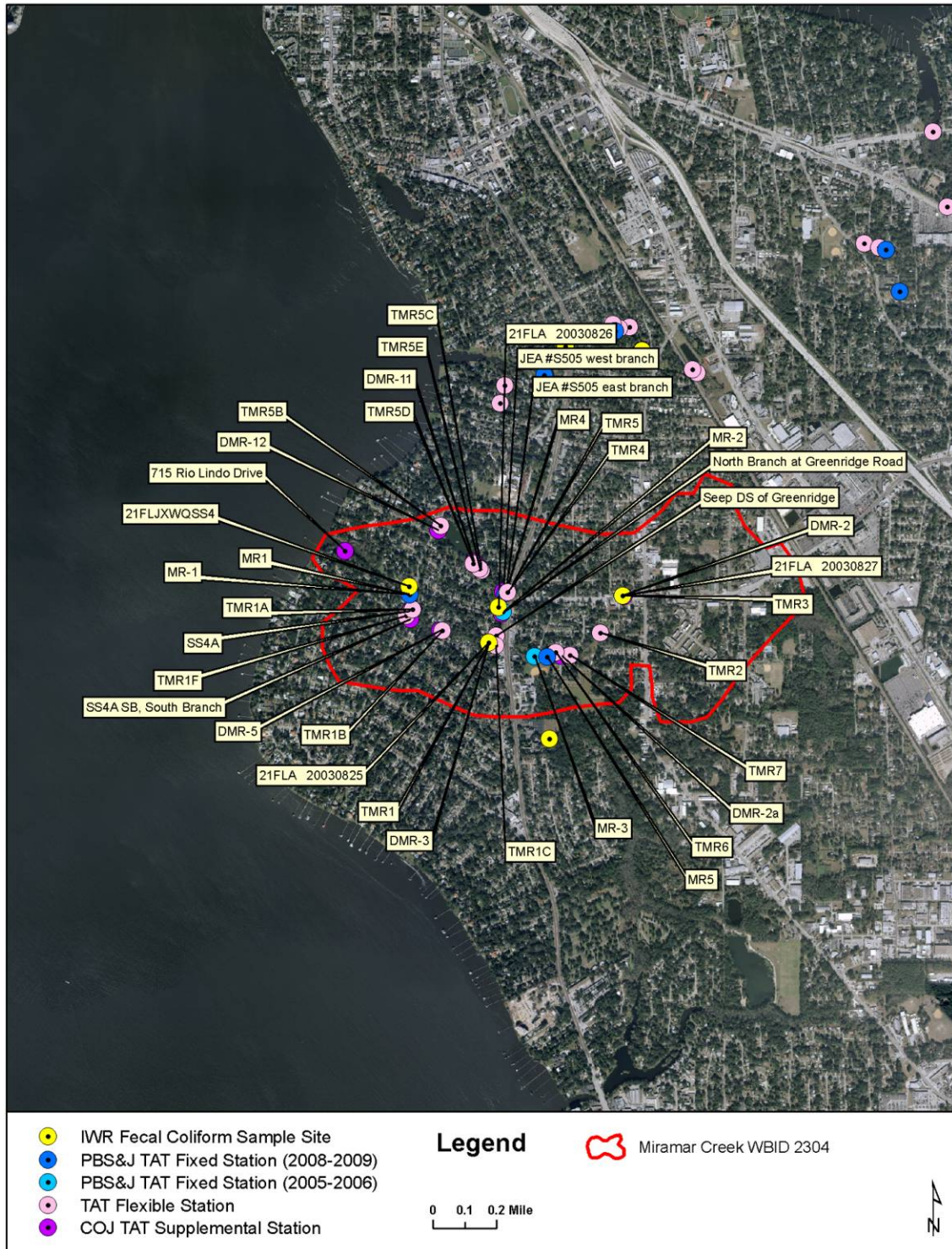


FIGURE 13: WATER QUALITY SAMPLING STATIONS IN MIRAMAR CREEK

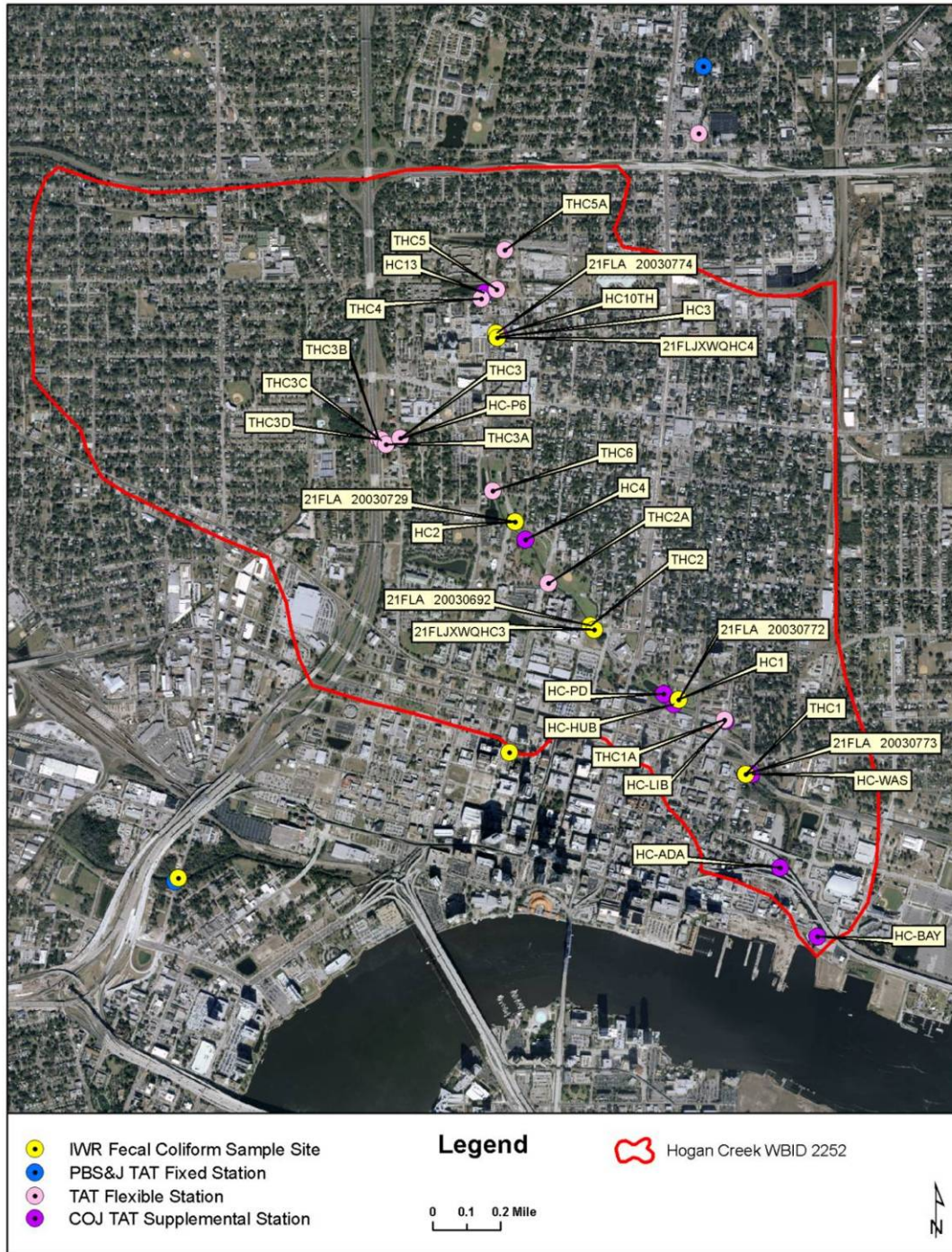


FIGURE 14: WATER QUALITY SAMPLING STATIONS IN THE HOGAN CREEK WATERSHED

3.1.4 BIG FISHWEIR CREEK

On the western fork of Big Fishweir Creek, most of the stations had low concentrations until station TBF6 (see **Figure 15**), which had high counts and a positive human marker indicating 100% human contamination, which is likely a sewer source. The sediments also had very high fecal coliform concentrations. Using MST data there are indications of a significant human source between stations TBF6 and TBF7, which is near the JEA Quan Drive lift station. There

have been multiple repairs at this lift station because of incidents with rags clogging the pumps, which affect the pumps' runtimes. Station TBF6A is located within a septic tank failure area and high counts were observed at this site during 1 sampling event (this station was sampled over a period of 3 months and there was no flow during 2 of these months). Station BF3 had multiple exceedances and a human marker was found indicating approximately 10% contamination. The water near this station comes from a wooded area where wildlife is also contributing to the contamination. Station TBF5 had only slightly elevated levels and no positive results for human markers.

On the eastern fork, station TBF3 had the most exceedances and a human marker was present and indicated a 10% human contamination. There is a significant amount of wastewater infrastructure in the area as well as a former septic tank phase-out area that still has some septic tanks, several of which are close to the creek. On the main channel, station BF2 is near the The Loop restaurant, which had 2 SSOs during the 8 month sampling period. The first SSO did not reach surface waters but the second SSO did. This area also has wildlife and considerable flushing because the creek is tidal; therefore, the bacteria counts are likely higher than what was observed due to saline die off. Analysis in Little Fishweir Creek indicates 10% human contamination at TBF2A and 100% at TBF2. The sewer collection system in the area has been rehabilitated as JEA has pipe burst all the lines from the pump station on Herschel Street and Pine Road to Park Street to the creek.

The thermal imaging for the Big Fishweir waterbody indicated 52 anomalies, with samples were taken at 8 stations before and after the thermal imaging fly over. During follow up field investigations, none of these anomalies were determined to be fecal coliform sources.

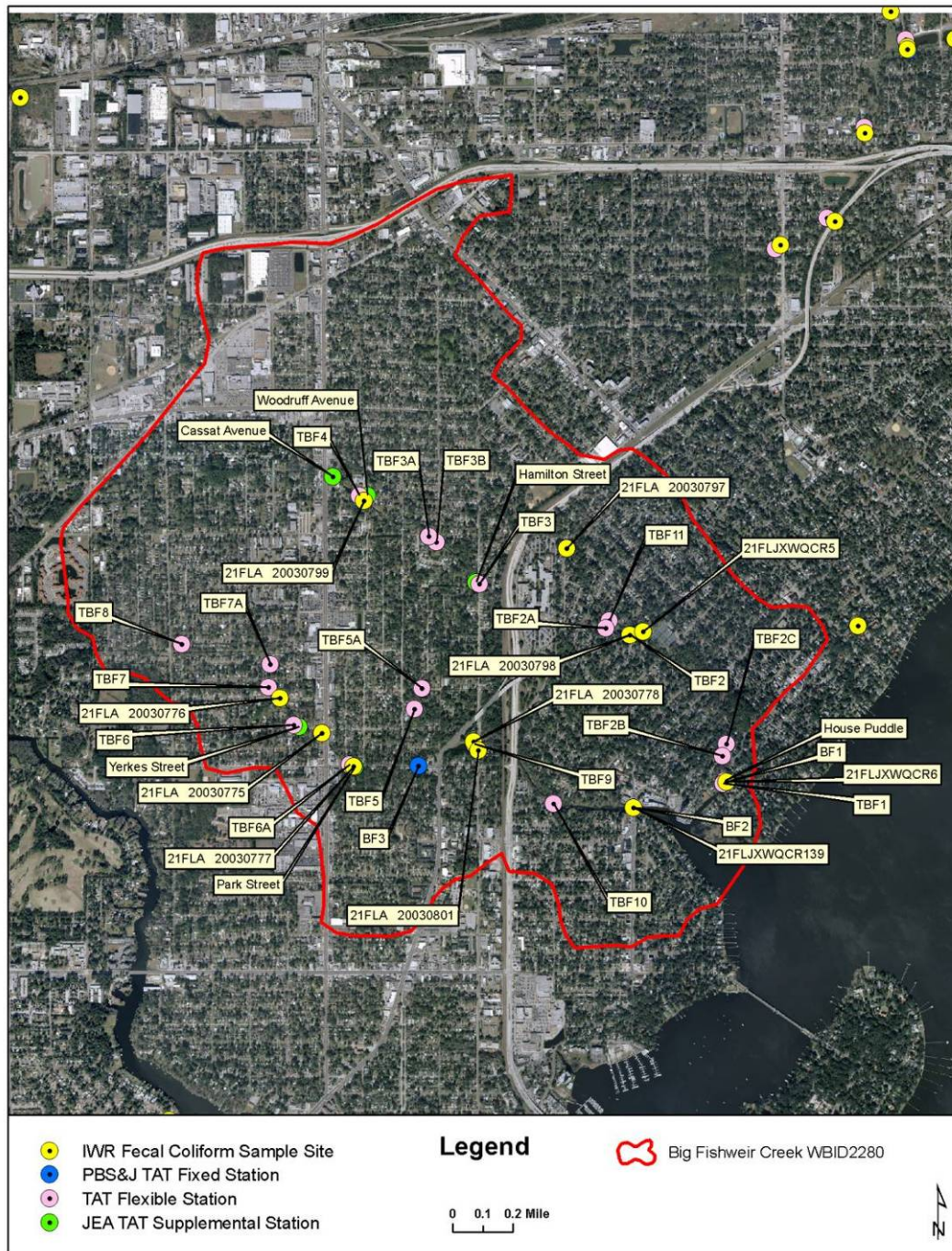


FIGURE 15: WATER QUALITY SAMPLING STATIONS IN THE BIG FISHWEIR WATERSHED

3.2 TECHNOLOGIES TO ASSESS FECAL COLIFORMS

Fecal coliforms come from both human and animal sources, an option to determine the specific source of fecal contamination is to use MST. MST can help to identify the type of host the bacteria came from by using different markers, which allows for a distinction between human and other sources of fecal coliforms.

There are several options for human markers, which can be used independently or together to confirm the presence of a human source of fecal contamination. One type is the human-associated *Bacteroidales*, which is one of the first methods developed to detect human fecal coliform contamination. *Bacteroidales* markers have also been developed for ruminants, horses, poultry, and seagulls. The human *Bacteroidales* marker was employed during the LSJR Tributary Assessment Project.

Another option is different assays for the *Enterococcus* species, which includes *Enterococcus faecalis*, *Ent. faecium*, and *Ent. casseliflavus*. These species were found to correlate well with *Bacteroidales* and *E. coli* concentrations. Other species that have been studied to determine their usefulness as an indicator of human fecal contamination include *Methanobrevibacter smithii*, which is specific to the human large intestine and vaginal tract, and F-specific RNA coliphages. The LSJR Tributary Assessment Project also used the Human polyomaviruses marker, which is specific to humans and is shed in urine. Additional details on these methods can be found in the University of South Florida report to FDEP, *Microbial Source Tracking Markers for Detection of Human Sewage and Fecal Contamination in Environmental Waters: Relationships to Pathogens and Human Health Outcomes, A Literature Review* (May 2010).

3.3 SEPTIC TANK STUDY

FDEP is concluding a study in conjunction with the Florida Institute of Technology (FIT) to assess nutrient and bacteria loadings from septic tanks and their impact on surface and ground water quality. The study included 4 phases of field work: (1) identification and initial setup of residential septic sites that are located on nutrient and/or dissolved oxygen impaired waterbodies (completed in summer 2009); (2) 3 sampling phases (completed December 2009, May 2010, and October 2010); (3) data analysis; and (4) the draft and final reports. Nine of the sites evaluated have active septic systems and 3 have abandoned-in-place systems. The study sites are shown in **Figure 16**.

The initial field work involved the installation and survey of piezometers for ground water flow gradient assessment; collection of soil samples for grain size, permeability, and percent organic matter; collection of shallow ground water samples from points down gradient from the septic tank drainfields; and collection of surface water samples from adjacent waterbodies. The water samples were analyzed by the FDEP laboratory for nitrogen, phosphorus, chloride, and boron. FIT is performing analyses for triclosan and caffeine (2 indicators of human wastewater) and contracted analysis of bacteria samples with a local laboratory to meet holding times. Samples for nitrogen isotopes (used as tracers) were analyzed by Colorado Plateau Stable Isotope Laboratory. As of the time of this report, FIT has completed the field work and most of the laboratory results are completed. FIT is evaluating the data and completing the draft report and the final results will be available in spring 2011. Due to delays in sampling and analysis, the schedule for this project was extended and a final report will not be available until summer 2011. The information from this study will assist FDEP in refining the BMAP estimates for nutrient and fecal coliform loading from septic tanks to adjacent waterbodies, and the distance those pollutants may travel from the septic tank drainfield to a waterbody.

3.4 BAFFLE BOX STUDY

In January 2010, a monitoring study was completed for FDEP to determine the pollutant removal effectiveness of first and second generation baffle boxes. The purpose of these types of best management practices (BMPs) is to remove debris and sediments from stormwater before the stormwater is discharged into a waterbody. For this study, 2 first generation baffle boxes were monitored in the City of Stuart and 2 second generation baffle boxes were

monitored in the City of Rockledge and Sarasota County. The baffle boxes were monitored over a 2 year period for at least 7 storm events. The results of this study demonstrated that second generation baffle boxes are more effective than first generation baffle boxes for removing nutrients from stormwater. However, the monitoring results for both types of baffle boxes showed an increase in the amount of fecal coliform bacteria that was likely caused by decomposition of organic material in the boxes and lack of ultraviolet light penetration, which led to bacterial growth. Based on the results of this study, baffle boxes will not be considered as a project to reduce fecal coliform bacteria in the LSJR Tributaries BMAP I. This study does illustrate the need for consistent and proper maintenance of any baffle boxes in the 10 BMAP watersheds to ensure that fecal coliform bacteria from these BMPs does not become its own source and enter the impaired tributaries.

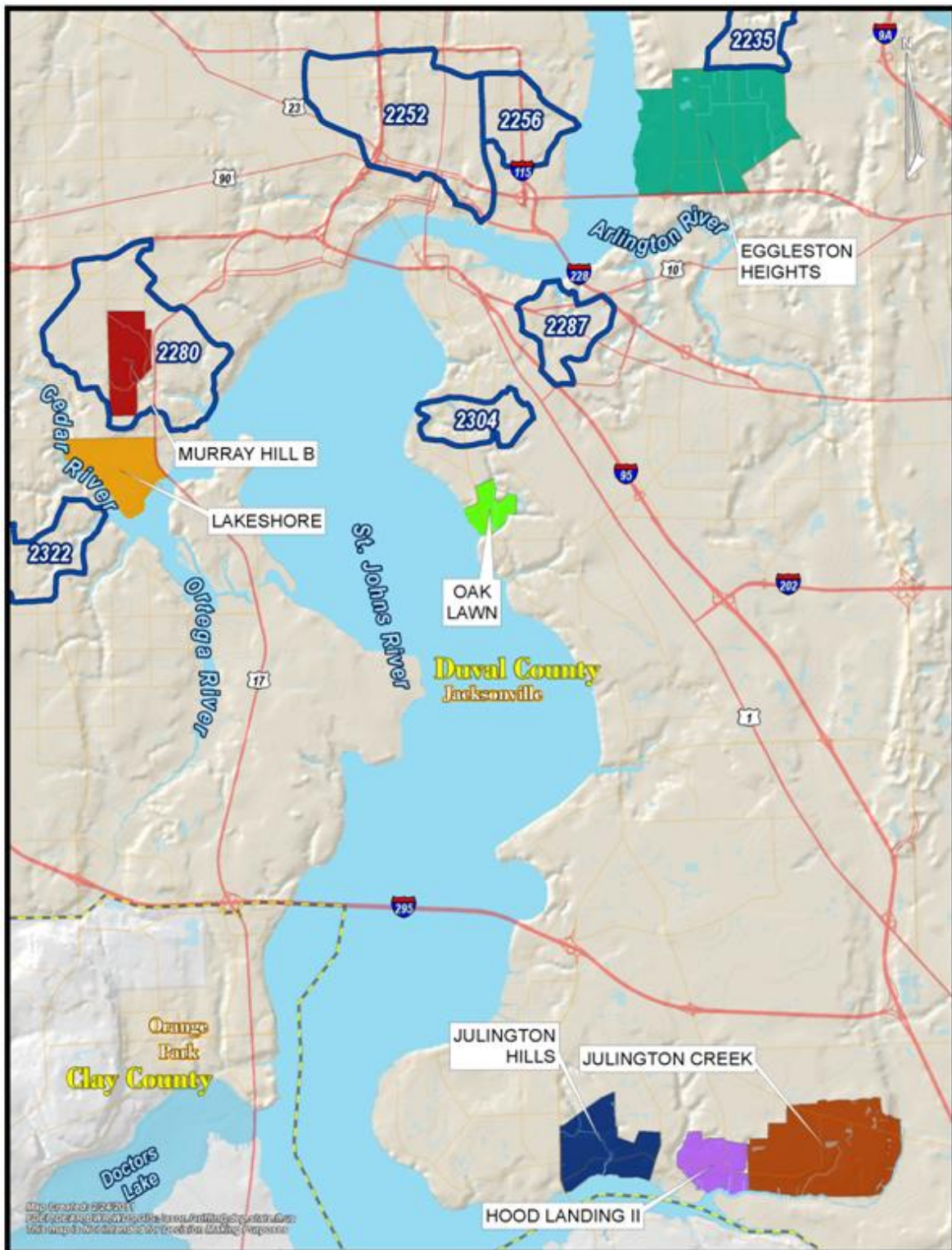


FIGURE 16: SEPTIC TANK STUDY SITES AND BMAP TRIBUTARIES

SECTION 4: 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.

4.1 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) 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.

4.2 DCHD PROGRAMS

In the LSJR Tributaries BMAP I, discrete portions of the Miller Creek, Miramar Creek, Big Fishweir Creek, and Goodbys Creek watersheds were identified as having a higher probability of onsite sewage treatment and disposal systems (OSTDS) related problems. This determination was made based on the number of repair permit applications and the year they were issued, water quality information, and the site conditions of these areas. DCHD was required to inspect these areas during the 5-year BMAP period. To address this requirement, DCHD established the Septic Tank Enforcement Project to identify and remedy failing septic systems that may be contributing fecal coliform bacteria to surface waters. DCHD expanded this project from the initial 4 WBIDs outlined in the BMAP to septic tanks areas in all 10 BMAP WBIDs. The purpose of the project was to investigate existing septic systems that have the potential for direct or indirect pollution, evaluate the condition of each septic system, facilitate repairs as necessary, and track such inspections and results. The project also identified aging, malfunctioning septic systems, enforced their abandonment, repair, modification, replacement or connection to a central sewerage system. The identification process included door-to-door surveying of communities and the investigation of public complaints regarding septic systems. Additional details on this project are included in **Appendix B**.

In addition, DCHD implements a variety of countywide specific improvement programs and restoration activities to address 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.

4.3 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 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 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.

4.4 FDOT PROGRAMS

Under Subsection 334.044(15), F.S., 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 5: NEWCASTLE CREEK (WBID 2235)

5.1 JEA ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

During the last year, JEA pipe burst 0.30% of the pipes in the watershed, used cured in place pipe (CIPP) on 0.57% of the lines, repaired 5 manholes, inspected 1 ARV, inspected 0.30% of the pipes with closed-circuit television, and cleaned 66.21% of the lines. JEA also inspected 171 manholes as part of the Pop-Top Program and tested 2 sites as part of the Non-Destructive Testing Program. JEA's 2010 activities in the Newcastle Creek watershed are shown in **Table 13**.

TABLE 13: JEA ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

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 fiscal year 2010 (FY10) – 375	\$48,750	JEA	Ongoing
JEA – 2	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10 – 712	\$24,920	JEA	Ongoing
JEA – 3	Manhole Linings Rehabbed	Repair deteriorating manhole linings	5 manholes rehabbed in FY10	\$3,750	JEA	Ongoing
JEA – 4	ARV Inspection and Rehab	ARV inspection and rehab	1 ARV inspected in FY10	\$75	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 FY10	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	370 linear feet of pipe inspected in FY10	\$444.00	JEA	Ongoing
JEA – 10	Pipe Cleaning	Clean existing pipes to avoid blockages	10,344 linear feet cleaned by crews and 71,910 linear feet cleaned by contractor in FY10	\$ 123,381	JEA	Ongoing
JEA – 11	CMOM Program	CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 12	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	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 FY10	\$5,985	JEA	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 15	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	2 sites were tested in FY10	\$2,000	JEA	Ongoing
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

5.2 DCHD ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

In 2010, DCHD issued 10 repair permits, conducted 10 plan reviews and site evaluations, and performed 20 complaint investigations. 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. In addition, over the period of December 2009 through September 2010, DCHD performed 128 inspections in the Newcastle Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Newcastle Creek watershed are shown in **Table 14**.

TABLE 14: 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 10 repair permits	\$4,150	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/LSJR SWIM Grant	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 10 plan reviews and site evaluations were performed in WBID	\$2,310	FDOH/LSJR SWIM Grant	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

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
DCHD – 6	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	20 complaint investigations were performed in WBID	\$1,000	FDOH/LSJR SWIM Grant	Ongoing
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

5.3 COJ ACTIVITIES IN THE NEWCASTLE CREEK WATERSHED

5.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a pipe replacement project along Hermitage Road East. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area.

5.3.2 ONGOING COJ PROGRAMS AND PROJECTS

As part of the Master Stormwater Management Plan (MSMP), COJ has planned a 0.4 acre Regional Stormwater Facility (RSF). This project would provide stormwater treatment, which should reduce fecal coliform loadings to Newcastle Creek. In 2010, COJ had 16 work orders for ditch and creek regrading, 13 work orders for repair/clearing of structures, and 1 illicit water discharge. These inspections are initiated through information from the CARE database. In addition, COJ took 4 routine samples and 32 BMAP samples. COJ's efforts in the Newcastle Creek watershed are shown in **Table 15**. Additional details about COJ projects are included in **Appendix A**.

TABLE 15: 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 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	16	\$2,198	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	13	\$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	0	\$0	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	Found to be Illicit and removed and removed during reporting period	0	\$0	COJ	Ongoing
COJ – 12	Routine Surface Water Sampling	NPDES permit related quarterly water quality sampling – 1 station in WBID	4	\$1,788	COJ	Ongoing
COJ – 13	BMAP Monitoring	3 sites (2 sampled monthly and 1 sampled quarterly)	32	\$6,784	COJ	Ongoing
COJ – 196	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	0	\$0	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 total tanks, number connected unknown	Unknown	COJ	Ongoing

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 15	Septic Tanks Outside Failure Area – Septic Tank Phase-Out	Phase-out program as provided by COJ ordinance	139 total tanks, number connected unknown	Unknown	COJ	Ongoing
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 within 6 months of completion of the septic tank study. 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.

5.4 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 16** lists FDOT's activities in the Newcastle Creek watershed.

TABLE 16: 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	0 illicit connections removed	Ongoing
FDOT – 3	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station quarterly	Ongoing

SECTION 6: HOGAN CREEK (WBID 2252)

6.1 JEA ACTIVITIES IN THE HOGAN CREEK WATERSHED

During the last year, JEA pipe burst 0.17% of the pipes in the watershed, used CIPP on 0.03% of the lines, open cut 0.35% of the pipes, repaired 8 manholes, inspected 0.16% of the pipes with closed-circuit television, and cleaned 6.98% of the lines. JEA also installed 1 manhole monitor as part of the Manhole Monitoring Program, inspected 1,010 manholes as part of the Pop-Top Program, and tested 2 sites as part of the Non-Destructive Testing Program. JEA's 2010 activities in the Hogan Creek watershed are shown in **Table 17**.

TABLE 17: JEA ACTIVITIES IN THE HOGAN CREEK WATERSHED

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 FY10 – 2,530	\$328,900	JEA	Ongoing
JEA – 18	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10 – 410	\$12,300	JEA	Ongoing
JEA – 19	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in Phelps & Hubbard FY10 – 5,000 of 20 inch pipe	\$1,100,000	JEA	Ongoing
JEA – 20	Manhole Linings Rehabbed	Repair deteriorating manhole linings	8 manholes rehabbed in FY10	\$6,000	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 FY10	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	2,367 linear feet of pipe inspected in FY10	\$2840	JEA	Ongoing
JEA – 26	Pipe Cleaning	Clean existing pipes to avoid blockages	19,654 linear feet by crews and 81,323 linear feet cleaned by contractor in FY10	\$ 151,466	JEA	Ongoing
JEA – 27	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 28	Manhole Monitoring	Manhole Monitoring	1 manhole monitor installed in FY10 at 1706 Boulevard	\$ 6,500	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	1,010 manholes inspected in FY10	\$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	2 sites were tested in FY10	\$2,000	JEA	Ongoing

6.2 DCHD ACTIVITIES IN THE HOGAN CREEK WATERSHED

In 2010, DCHD issued 1 repair permit and 6 abandonment permits, and performed 38 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 237 inspections in the Hogan Creek watershed as part of the Septic Tank Enforcement Project. As part of these inspections, DCHD verified whether several properties were on septic or connected to central sewer; all parcels were found to be connected. The programs and activities DCHD conducts in the Hogan Creek watershed are shown in **Table 18**.

TABLE 18: DCHD ACTIVITIES IN THE HOGAN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 7	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 1 repair permit and 6 abandonment permits issued in WBID	\$550	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/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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	38 complaint investigations have been performed in WBID	\$5,860	FDOH/ LSJR SWIM Grant	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
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

6.3 COJ ACTIVITIES IN THE HOGAN CREEK WATERSHED

6.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a pipe replacement project at 1500 8th Street. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area. COJ also followed up on the 1 open PIC case listed in the BMAP.

6.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

As part of the MSMP, COJ has a project, Emerald Necklace and Liberty Ponds, which will provide stormwater treatment reducing fecal coliform loading in this area. In the Hogan Creek watershed in 2010, COJ had 10 work orders for ditch and creek regrading, 5 work orders for a lake or pond problem, 69 work orders for repair/clearing of structures, 4 illicit water discharges, 1 sewer that drains to yard or ditch, and 2 septic tank inspections. These inspections are initiated through information from the CARE database. In addition, COJ took 4 routine samples and 44 BMAP samples. COJ's efforts in the Hogan Creek watershed are shown in **Table 19**. Additional details about COJ projects are included in **Appendix A**.

TABLE 19: 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	7 th and Ionia	Unknown	COJ	Construction
COJ – 23	Boulevard RR Crossing	Headwall has failed, causing dual drain pipes to break	RR crossing	\$100,000	COJ	Construction
COJ – 24	W&M-18th & Fla	Drainage system rehab project	W&M 18 th 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 8 th Street	Pipe replacement	8 th Street	\$67,954	COJ	Complete
COJ – 27	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	10	\$1,608	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	5	\$0	COJ	Ongoing
COJ – 29	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	69	\$12,262	COJ	Ongoing
COJ – 30	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	4	\$1,516	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	1 – resolved by COJ Code Enforcement	\$379	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	2	\$758	COJ	Ongoing
COJ – 34	Private Lift Station Inspection	1 private lift station in this WBID	0	\$0	COJ	Ongoing
COJ – 35	Illicit Discharge Detection and Elimination	Determined to be Illicit and removed during reporting period	1	\$379	COJ	Ongoing
COJ – 36	Follow Up on Outstanding PIC	Follow up on 1 open PIC in watershed	1	\$379	COJ	Complete

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 37	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	\$848	COJ	Ongoing
COJ – 38	BMAP Sampling	4 sites (3 sampled monthly and 1 sampled quarterly)	44	\$9,328	COJ	Ongoing
COJ – 39	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted to attempt to identify sources	0	\$0	COJ	Ongoing
COJ – 40	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	51 total tanks, number connected unknown	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

6.4 FDOT ACTIVITIES IN THE HOGAN CREEK WATERSHED

In 2010, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 1,326 pounds of trash in the watershed in 2010. FDOT continued both their maintenance program for the stormwater system and the street sweeping program. FDOT also helps to fund 1 monitoring station in the Hogan Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 20** lists FDOT's activities in the Hogan Creek watershed.

TABLE 20: 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 true illicit connection identified to date	Ongoing
FDOT – 6	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station quarterly	Ongoing
FDOT – 7	S.R. 115/8 th 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. Amount in last year was 1,326 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	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 7: BUTCHER PEN CREEK (WBID 2322)

7.1 JEA ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

7.1.1 COMPLETED JEA PROJECTS

JEA completed the inspection of the manhole at 4557 Arthur Drive, which was found to be in good condition. The manhole was sealed after this inspection. JEA also repaired the pump station at 4807 Ducheneau Drive. This repair included replacing 60 linear feet of 6 inch stainless steel pipe, 3 - 6 inch plug valves, 2 – 6 inch swing check valves, and 2 – 4 inch pumps and bases. JEA also installed a new fence and driveway for the lift station.

7.1.2 ONGOING JEA PROJECTS

During the last year, JEA inspected all 3 ARVs in the watershed and replaced 2, inspected 0.03% of the pipes with closed-circuit television, and cleaned 4.76% of the lines. In addition, JEA inspected 357 manholes as part of the Pop-Top Program. JEA's 2010 activities in the Butcher Pen Creek watershed are shown in **Table 21**.

TABLE 21: JEA ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

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 FY10: 0	\$0	JEA	Ongoing
JEA – 33	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10: 0	\$0	JEA	Ongoing
JEA – 34	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY10:0	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	2 ARVs replaced within 200 feet of tributary (only 3 ARVs total in watershed), 3 ARVs inspected in FY10	\$300	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 FY10	Not applicable	JEA	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
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	Unknown	JEA	Ongoing
JEA – 43	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	128 linear feet of pipe inspected in FY10	\$154	JEA	Ongoing
JEA – 44	Pipe Cleaning	Clean existing pipes to avoid blockages	21,480 linear feet of pipe cleaned in FY10	\$35,401	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
JEA – 47	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Unknown	JEA	Ongoing
JEA – 48	Pop-Top Program	Pop-Top Program	357 manholes inspected in FY10	\$12,495	JEA	Ongoing
JEA – 49	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipeline integrity testing	Not applicable	Not applicable	JEA	Ongoing

7.2 DCHD ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

In 2010, DCHD issued 4 annual operating permits and performed 38 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 69 inspections in the Butcher Pen Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Butcher Pen Creek watershed are shown in **Table 22**.

TABLE 22: DCHD ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 13	OSTDS Program	Implementation of programs to address septic systems as potential sources	None	Not applicable	FDOH	Ongoing
DCHD – 14	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	4 annual operating permit issued for PBTS/IMZ in WBID	\$3,250	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
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	None	Not applicable	FDOH/ LSJR SWIM Grant	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
DCHD – 19	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	38 complaint investigations have been performed in WBID	\$4,370	FDOH/ LSJR SWIM Grant	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	Complete

7.3 COJ ACTIVITIES IN THE BUTCHER PEN CREEK WATERSHED

7.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a curb/gutter project on the 5000 Block of Chadroe Road. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area.

7.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Butcher Pen Creek watershed in 2010, COJ had 28 work orders for ditch and creek regrading, 12 work orders for repair/clearing of structures, and 1 illicit water discharge. These inspections are initiated through information from the CARE database. In addition, COJ took 4 routine samples and 2 follow up samples on high counts. COJ did not complete their project to follow up on the 14 open PIC cases in 2010. All 14 open PICs will be addressed in 2011. COJ's efforts in the Butcher Pen Creek watershed are shown in **Table 23**. Additional details about COJ projects are included in **Appendix A**.

TABLE 23: 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	28	\$2,975	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	12	\$2,004	COJ	Ongoing
COJ – 48	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	\$379	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	3 illicit, 14 open	0	\$0	COJ	Ongoing
COJ – 54	Follow Up on Outstanding PICs	Follow up on 14 open PICs in watershed; all 14 remain open	0	\$0	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, number connected unknown	Unknown	COJ	Ongoing
COJ – 58	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	44 total tanks, number connected unknown	Unknown	COJ	Ongoing

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
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 within 6 months of completion of the septic tank study. 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 BUTCHER PEN CREEK WATERSHED

In 2010, FDOT continued to implement the DCP, their maintenance program for the stormwater system, and 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 24** lists FDOT's activities in the Butcher Pen Creek watershed.

TABLE 24: 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 connection found to date	Ongoing
FDOT – 15	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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	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 8: MILLER CREEK (WBID 2287)

8.1 JEA ACTIVITIES IN THE MILLER CREEK WATERSHED

During the last year, JEA inspected the 1 ARV in the watershed, inspected 3.29% of the pipes with closed-circuit television, and cleaned 95.45% of the lines. JEA also inspected 221 manholes as part of the Pop-Top Program. JEA's 2010 activities in the Miller Creek watershed are shown in **Table 25**.

TABLE 25: JEA ACTIVITIES IN THE MILLER CREEK WATERSHED

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 FY10: 0	\$0	JEA	Ongoing
JEA – 51	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10: 0	\$0	JEA	Ongoing
JEA – 52	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 53	ARV Inspection and Rehab	ARV inspection and rehab	1 ARVs inspected in FY10 (1 ARV total in watershed)	\$100	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	2,398 linear of pipe inspected in FY10	\$2,878	JEA	Ongoing
JEA – 58	Pipe Cleaning	Clean existing pipes to avoid blockages	23,646 linear feet by crews and 45,928 linear feet cleaned by contractor in FY10	\$104,361	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	221 manholes inspected in FY10	\$7,735	JEA	Ongoing
JEA – 63	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 MILLER CREEK WATERSHED

In 2010, DCHD issued 60 abandonment permits and 3 operating permits, conducted 59 plan reviews and site evaluations, and performed 27 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 372 inspections in the Miller Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Miller Creek watershed are shown in **Table 26**.

TABLE 26: DCHD ACTIVITIES IN THE MILLER CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 20	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 60 abandonment permits issued	\$5,800	FDOH	Ongoing
DCHD – 21	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	3 operating permits issued for PBTS/IMZ in WBID	\$1,000	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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 59 plan reviews and site evaluations have been performed in WBID	\$12,750	FDOH/ LSJR SWIM Grant	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	27 complaint investigations have been performed in WBID	\$3,140	FDOH/ LSJR SWIM Grant	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

8.3 COJ ACTIVITIES IN THE MILLER CREEK WATERSHED

8.3.1 *COMPLETED COJ PROJECTS*

COJ completed the enforcement action at The Preserve at St. Nicholas Apartments for the lift station issues. COJ issued a citation in February 2009, and the apartment complex owners provided a settlement of \$4,505 in addition to \$13,515 for upgrades to the lift station. The chronic problems with this lift station have been resolved and eliminated a source of fecal coliform bacteria to the creek. COJ was unable to gain access on the private lands in the area of Mayfair Road and Bridgewater Roads to thin the vegetation. This project is no longer a BMAP obligation due to private property access issues.

8.3.2 *ONGOING COJ PROGRAMS AND ACTIVITIES*

In the Miller Creek watershed in 2010, COJ had 12 work orders for ditch and creek regrading, 6 work orders for repair/clearing of structures, and 1 illicit water discharge. These inspections are initiated through information from the CARE database. COJ also conducted inspections of 5 private lift stations and identified and removed 1 illicit connection to the MS4. In addition, COJ took 4 routine samples, 44 BMAP samples, and 11 follow up samples on high counts. COJ's efforts in the Miller Creek watershed are shown in **Table 27**. Additional details about COJ projects are included in **Appendix A**.

TABLE 27: COJ ACTIVITIES IN THE MILLER CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 61	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	12	\$5,703	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	6	\$449	COJ	Ongoing
COJ – 63	Ditch/Vegetation Clearing	Thin vegetation at Mayfair Road and Bridgewater Roads for maintenance enhancement	This area is 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	1	\$379	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	16 private lift stations in this WBID	5	\$1,895	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	1	\$379	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	11	\$2,332	COJ	Ongoing
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, number connected known	Unknown	COJ	Ongoing

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 74	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	0 total tanks	Unknown	COJ	Ongoing
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 within 6 months of completion of the septic tank study. 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.

8.4 FDOT ACTIVITIES IN THE MILLER CREEK WATERSHED

In 2010, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 1,174 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system and 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 28** lists FDOT's activities in the Miller Creek watershed.

TABLE 28: 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 connection found to date	Ongoing
FDOT – 21	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/ COJ	1 station 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. Trash collected this year was 1,174 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	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 9: MIRAMAR CREEK (WBID 2304)

9.1 JEA ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

9.1.1 COMPLETED JEA PROJECTS

JEA confirmed the location of the 2 lift stations on the WBID boundary, one of which is located in the Miramar Creek watershed, and the other lift station is located in Craig Creek. JEA also followed up on a seep found in the watershed during Walk the WBIDs; however, this seep is not continuous and could not be found for the inspection.

9.1.2 ONGOING JEA PROGRAMS AND ACTIVITIES

During the last year, JEA inspected the 2 ARVs in the watershed and inspected 103 manholes as part of the Pop-Top Program. JEA's 2010 activities in the Miramar Creek watershed are shown in **Table 29**.

TABLE 29: JEA ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

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 FY10:0	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	2 ARVs inspected in FY10 (2 ARVs total in watershed)	\$200	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 FY10	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

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 76	SSO Root Cause Program	SSO Root Cause Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 77	Pop-Top Program	Pop-Top Program	103 manholes inspected in FY10	\$3,605	JEA	Ongoing
JEA – 78	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

9.2 DCHD ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

In 2010, DCHD issued 22 abandonment permits and 12 annual operating permits, conducted 21 plan reviews and site evaluations, and performed 68 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 672 inspections in the Miramar Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Miramar Creek watershed are shown in **Table 30**.

TABLE 30: DCHD ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 28	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 22 abandonment permits issued	\$2,060	FDOH	Ongoing
DCHD – 29	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/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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 21 plan reviews and site evaluations have been performed in WBID	\$4,335	FDOH/ LSJR SWIM Grant	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

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 34	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	68 complaint investigations have been performed in WBID	\$9,500	FDOH/ LSJR SWIM Grant	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
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

9.3 COJ ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

9.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a flood improvement project in the Pine Forest/Larson Acres area and a drainage project along Pine Tree Road. These improvement projects will help to reduce flooding, which will reduce the fecal coliforms that reach the creek from these areas.

9.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Miramar Creek watershed in 2010, COJ had 17 work orders for ditch and creek regrading, 6 work orders for a lake or pond problem, and 11 work orders for repair/clearing of structures. These inspections are initiated through information from the CARE database. COJ also inspected 2 private lift stations and identified and removed 1 illicit connection. In addition, COJ took 4 routine samples and 32 BMAP samples. COJ's efforts in the Miramar Creek watershed are shown in **Table 31**. Additional details about COJ projects are included in **Appendix A**.

TABLE 31: 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	17	\$581	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	6	\$556	COJ	Ongoing
COJ – 83	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	11	\$603	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	0	\$0	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	8 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	1	\$379	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)	32	\$6,784	COJ	Ongoing
COJ – 213	Re-Sampling	Conducted when high levels of fecal coliform bacteria are noted, to attempt to identify sources	0	\$0	COJ	Ongoing
COJ – 92	Point 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, number connected unknown	Unknown	COJ	Ongoing

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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	83 total tanks, number connected unknown	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, number connected unknown	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, number connected unknown	Unknown	COJ	Ongoing
COJ – 96	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	14 total tanks, number connected unknown	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 within 6 months of completion of the septic tank study. 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.

9.4 FDOT ACTIVITIES IN THE MIRAMAR CREEK WATERSHED

In 2010, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 1,345 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system and 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 32** lists FDOT's activities in the Miramar Creek watershed.

TABLE 32: 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	0 illicit connections removed	Ongoing
FDOT – 29	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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. Trash collected this year was 1,345 pounds.	Ongoing
FDOT – 32	Sediment Accumulation, Trash, and Debris Removed as Needed	\$44,482	FDOT	Approx 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	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 10: BIG FISHWEIR CREEK (WBID 2280)

10.1 JEA ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

10.1.1 ONGOING JEA PROGRAMS AND ACTIVITIES

During the last year, JEA pipe burst 0.05% of the pipes in the watershed, open cut 0.02% of the lines, repaired 10 manholes, inspected all 21 ARVs and replaced 17, inspected the 6 lift stations near surface waters, inspected 0.32% of the pipes with closed-circuit television, and cleaned 4.26% of the lines. JEA also inspected 744 manholes as part of the Pop-Top Program and tested 3 sites as part of the Non-Destructive Testing Program. JEA's 2010 activities in the Big Fishweir Creek watershed are shown in **Table 33**.

TABLE 33: JEA ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

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 FY10: 680	\$88,400	JEA	Ongoing
JEA – 80	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10: 0	\$0	JEA	Ongoing
JEA – 81	Open Cut - Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY10 - 245	\$58,750	JEA	Ongoing
JEA – 82	Manhole Linings Rehabbed	Repair deteriorating manhole linings	10 manholes rehabbed in FY10	\$7,500	JEA	Ongoing
JEA – 83	ARV Inspection and Rehab	ARV inspection and rehab	(21 ARVs total in watershed), 21 ARVs inspected and 17 replaced in FY10	\$18,700	JEA	Ongoing
JEA – 84	ARV Inspection	Inspect all ARVs in watershed to ensure integrity	21 ARVs in watershed – 21 inspected in FY10	\$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

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
JEA – 90	Pipe TV Inspection	Inspect existing infrastructure through use of closed-circuit TV system	4,165 linear feet of pipe inspected in FY10	\$4,998	JEA	Ongoing
JEA – 91	Pipe Cleaning	Clean existing pipes to avoid blockages	21,521 linear feet by crews in FY10, 34,835 linear feet cleaned by contractor in FY10	\$84,534	JEA	Ongoing
JEA – 92	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
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	744 manholes inspected in FY10	\$26,040	JEA	Ongoing
JEA – 96	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	3 sites were tested in FY10	\$3,000	JEA	Ongoing

10.2 DCHD ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

In 2010, DCHD issued 13 repair permits, 331 abandonment permits, and 17 annual operating permits; conducted 336 plan reviews and site evaluations; and performed 60 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 395 inspections in the Big Fishweir Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Big Fishweir Creek watershed are shown in **Table 34**.

TABLE 34: DCHD ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 37	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 13 repair permits, and 331 abandonment permit issued	\$18,460	FDOH	Ongoing
DCHD – 38	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	17 annual operating permits issued for PBTS/IMZ in WBID	\$45,000	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
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 336 plan reviews and site evaluations have been performed in WBID	\$72,180	FDOH/ LSJR SWIM Grant	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
DCHD – 43	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	60 complaint investigations have been performed in WBID	\$9,270	FDOH/ LSJR SWIM Grant	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

10.3 COJ ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

10.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed pipe replacement projects on Royce Avenue and Harksheimer Avenue, a paving rehabilitation project on Poppy Drive, and curb/gutter projects on Astral Street, College/Talbot, and Murray Drive/French Street. These drainage system improvement projects will help to reduce the amount of fecal coliforms that reach the creek from these areas. COJ also verified the lift stations on the WBID boundary as identified in the BMAP. All lift stations in the basin are shown in **Appendix A**. In addition, COJ followed up on the 6 open PIC cases from the BMAP and investigated the 6 PICs found during the Walk the WBID investigations.

10.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Big Fishweir Creek watershed in 2010, COJ had 74 work orders for ditch and creek regrading, 1 work order for a hazardous canal follow up, 5 work orders for a lake or pond problem, 75 work orders for repair/clearing of structures, and 3 illicit water discharges. These inspections are initiated through information from the CARE database. COJ also inspected 8 private lift stations in the basin and removed 6 illicit connections to the MS4. In addition, COJ took 12 routine samples and 3 follow up samples on high counts. COJ's efforts in the Big Fishweir Creek watershed are shown in **Table 35**. Additional details about COJ projects are included in **Appendix A**.

TABLE 35: 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	Arden Street floods private property	Arden Street	Unknown	COJ	Construction
COJ – 104	Jersey St Drainage	Pipe roadside ditch	Jersey Street	\$75,000	COJ	Construction
COJ – 105	Fairfax Manor Creek	Regrade ditch	Fairfax Manor Creek	\$65,000	COJ	Construction
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	Harsheimer Avenue	\$49,225	COJ	Complete
COJ – 218	Quan Drive Drainage Outfall	Drainage outfall improvement	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 – 106	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	74	\$9,376	COJ	Ongoing
COJ – 222	Ditch Hazardous/Contaminated	CARE requests with costs for responses where a work order was issued	1 – ditch found not to be contaminated	\$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	75	\$17,814	COJ	Ongoing
COJ – 109	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	3	\$1,137	COJ	Ongoing
COJ – 110	Pollution – Water – Illegal Discharge	CARE initiated - incidents reported/found and closed during reporting period	0	\$0	COJ	Ongoing
COJ – 111	Sewer Drains into Yard/Ditch	CARE initiated - incidents reported/found and closed during reporting period	0	\$0	COJ	Ongoing
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

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
COJ – 115	Private Lift Station Inspection	13 private lift stations in WBID	8	\$3,032	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	Found to be Illicit and removed during reporting period	6	\$2,274	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	3	\$636	COJ	Ongoing
COJ – 123	Outside Failure Areas – Septic Tank Phase-Out	Phase-out program as provided by COJ ordinance	532 total tanks, number connected unknown	\$27,335	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

10.4 FDOT ACTIVITIES IN THE BIG FISHWEIR CREEK WATERSHED

In 2010, FDOT continued to implement the DCP, their maintenance program for the stormwater system, and the street sweeping program. FDOT also helps to fund 1 monitoring station in the Big Fishweir Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 36** lists FDOT's activities in the Big Fishweir Creek watershed.

TABLE 36: 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	0 illicit connections removed	Ongoing
FDOT – 37	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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	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 11: DEER CREEK (WBID 2256)

11.1 JEA ACTIVITIES IN THE DEER CREEK WATERSHED

11.1.1 ONGOING JEA PROGRAMS AND ACTIVITIES

During the last year, JEA pipe burst 0.10% of the pipes in the watershed, repaired 11 manholes, inspected the lift station on Jesse Street, inspected 0.75% of the pipes with closed-circuit television, and cleaned 2.17% of the lines. JEA also inspected 407 manholes as part of the Pop-Top Program. JEA's 2010 activities in the Deer Creek watershed are shown in **Table 37**.

TABLE 37: JEA ACTIVITIES IN THE DEER CREEK WATERSHED

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 FY10: 352	\$45,760	JEA	Ongoing
JEA – 98	CIPP – Install New Inner Lining	Rehabilitate failing/leaking infrastructure	Total footage in FY10: 0	\$0	JEA	Ongoing
JEA – 99	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY10:0	Not applicable	JEA	Ongoing
JEA – 100	Manhole Linings Rehabbed	Repair deteriorating manhole linings	11 manholes rehabbed in FY10	\$8,250	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 FY10	\$3,227	JEA	Ongoing
JEA – 106	Pipe Cleaning	Clean existing pipes to avoid blockages	7,819 linear of pipe cleaned in FY10	\$11,729	JEA	Ongoing
JEA – 107	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 108	Manhole Monitoring	Manhole monitoring	Not applicable	Not applicable	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	407 manholes inspected in FY10	\$14,245	JEA	Ongoing
JEA – 111	Non-Destructive Testing Program/ Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

11.2 DCHD ACTIVITIES IN THE DEER CREEK WATERSHED

In 2010, DCHD issued 3 abandonment permits, conducted 2 plan reviews and site evaluations, and performed 19 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 148 inspections in the Deer Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Deer Creek watershed are shown in **Table 38**.

TABLE 38: DCHD ACTIVITIES IN THE DEER CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 45	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 3 abandonment permit issued	\$1,000	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/ LSJR SWIM Grant	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	Approximately 2 plan reviews and site evaluations have been performed in WBID based on permitting history	\$1,100	FDOH/ LSJR SWIM Grant	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	19 complaint investigations have been performed in WBID	\$4,500	FDOH/ LSJR SWIM Grant	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

11.3 COJ ACTIVITIES IN THE DEER CREEK WATERSHED

11.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a pipe replacement project on Van Buran Street and used CIPP along Jessie Street. These drainage system improvement projects will help to reduce the amount of fecal coliforms that reach the creek from these areas.

11.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Deer Creek watershed in 2010, COJ had 2 work orders for ditch and creek regrading, 2 work orders for a lake or pond problem, 8 work orders for repair/clearing of structures, and 1 illicit water discharge. These inspections are initiated through information from the CARE database. In addition, COJ took 8 routine samples, 40 BMAP samples, and 1 follow up sample on high counts. COJ also investigated the high fecal coliform counts in the downstream portion of the watershed. EQD sampled 4 sites on Deer Creek (including 2 sites very close to the mouth of the creek) every month for a total of 48 samples. Of these 48 samples, 2 samples exceeded 5,000 counts, 1 at the upstream site and 1 at the downstream site. The stormwater construction projects in the Deer Creek watershed may have resulted in a significant improvement in water quality. In the first annual Basin Working Group meeting it will be decided if the water quality in this area needs to be monitored for another year to identify any potential sources before determining if a Walk the WBID event is necessary. COJ's efforts in the Deer Creek watershed are shown in **Table 39**. Additional details about COJ projects are included in **Appendix A**.

TABLE 39: 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 7 th Street, MLK Jr. Expressway, 1 st 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 BMP	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	2	\$92	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	2	\$0	COJ	Ongoing
COJ – 130	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	8	\$4,753	COJ	Ongoing
COJ – 131	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	1	\$379	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	1 – septic tank, deferred to DCHD	\$379	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)	40	\$8,480	COJ	Ongoing
COJ – 139	Re-Sampling	Conducted when high levels of fecal coliform are noted, to attempt to identify sources	1	\$636	COJ	Ongoing

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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 may be needed	48 samples	\$0	COJ	Planned
COJ – 141	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	0 total tanks	Unknown	COJ	Ongoing
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

11.4 FDOT ACTIVITIES IN THE DEER CREEK WATERSHED

In 2010, FDOT continued to implement the DCP, their maintenance program for the stormwater system, and 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 40** lists FDOT's activities in the Deer Creek watershed.

TABLE 40: 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 true illicit connection identified to date	Ongoing
FDOT – 44	Routine Tributary Monitoring and BMP Effectiveness Project as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	2 stations 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	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 12: TERRAPIN CREEK (WBID 2204)

12.1 JEA ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

12.1.1 ONGOING JEA PROGRAMS AND ACTIVITIES

JEA inspected the 1 ARV in the watershed. JEA's 2010 activities in the Terrapin Creek watershed are shown in **Table 41**.

TABLE 41: JEA ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

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 replaced within 200 feet of tributary (1 ARV total in watershed)	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

12.2 DCHD ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

In 2010, DCHD issued 10 new construction permits, 2 repair permits, and 1 abandonment permit, and conducted 106 plan reviews and site evaluations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 395 inspections in the Terrapin Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Terrapin Creek watershed are shown in **Table 42**.

TABLE 42: DCHD ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 50	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 10 new construction permits, 2 repair permits, and 1 abandonment permit issued	\$27,500	FDOH	Ongoing
DCHD – 51	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	None	Not applicable	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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 106 plan reviews and site evaluations have been performed in WBID	\$2,200	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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

12.3 COJ ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

12.3.1 COMPLETED COJ PROJECTS

COJ verified the location of the 1 lift station identified in the BMAP as being on the WBID boundary. A list of lift stations in the watershed is included in **Appendix A**. In addition, COJ closed the 9 open PIC cases in the BMAP. These PICs have now been resolved and none of the PICs were determined to be illicit discharges.

12.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Terrapin Creek watershed in 2010, 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 3 private lift stations. In addition, COJ took 8 routine samples. COJ's efforts in the Terrapin Creek watershed are shown in **Table 43**. Additional details about COJ projects are included in **Appendix A**.

TABLE 43: 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	3	\$1,137	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	Found to be Illicit and removed and removed during reporting period	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	Ongoing
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, number connected unknown	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

12.4 FDOT ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

In 2010, FDOT continued to implement the DCP and their maintenance program for the stormwater system. FDOT also helps to fund 1 monitoring station in the Terrapin Creek watershed that is sampled quarterly as part of the routine monitoring program. **Table 44** lists FDOT's activities in the Terrapin Creek watershed.

TABLE 44: 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 truly illicit connection identified to date	Ongoing
FDOT – 51	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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

12.5 FDACS ACTIVITIES IN THE TERRAPIN CREEK WATERSHED

There is 1 agricultural operation in the Terrapin Creek watershed that could be a potential source of fecal coliforms. In May 2010, M&M Dairy, Inc., a cow/calf operation, signed a Notice of Intent to implement FDACS-approved BMPs. Implementation of these BMPs should help to minimize fecal coliform impacts from this operation on the creek.

SECTION 13: GOODBYS CREEK (WBID 2326)

13.1 JEA ACTIVITIES IN THE GOODBYS CREEK WATERSHED

During the last year, JEA pipe burst 0.04% of the pipes in the watershed, inspected and replaced 1 ARV, inspected 0.12% of the pipes with closed-circuit television, and cleaned 0.83% of the lines. JEA also installed 1 manhole monitor as part of the Manhole Monitoring Program, inspected 2,121 manholes as part of the Pop-Top Program, and tested 1 site as part of the Non-Destructive Testing Program. JEA's 2010 activities in the Goodbys Creek watershed are shown in **Table 45**.

TABLE 45: JEA ACTIVITIES IN THE GOODBYS CREEK WATERSHED

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 FY10: 515	\$15,540	JEA	Ongoing
JEA – 124	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY10:0	\$0	JEA	Ongoing
JEA – 125	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 126	ARV Inspection and Rehab	ARV inspection and rehab	1 ARV inspected, 1 ARV replaced in FY10	\$1,100	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	1,771 linear of pipe inspected in FY10	\$2,125	JEA	Ongoing
JEA – 132	Pipe Cleaning	Clean existing pipes to avoid blockages	11,996 linear feet of pipe cleaned in FY10	\$17,994	JEA	Ongoing
JEA – 133	Implement CMOM Program	Implement CMOM Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 134	Manhole Monitoring	Manhole monitoring	1 manhole monitor installed in FY10 - 4731 Brierwood Road	\$6,500	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	2,121 manholes were inspected in FY10	\$74,235	JEA	Ongoing
JEA – 137	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	1 site was tested in FY10	\$1,000	JEA	Ongoing

13.2 DCHD ACTIVITIES IN THE GOODBYS CREEK WATERSHED

In 2010, DCHD issued 9 new construction permits, 22 repair permits, 16 abandonment permits, and 5 annual operating permits; conducted 40 plan reviews and site evaluations; and performed 76 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 337 inspections in the Goodbys Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Goodbys Creek watershed are shown in **Table 46**.

TABLE 46: DCHD ACTIVITIES IN THE GOODBYS CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 56	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 9 new construction permits, 22 repair permits, and 16 abandonment permits issued	\$14,630	FDOH	Ongoing
DCHD – 57	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	5 annual operating permits for PBTS/IMZ located in WBID	\$32,500	FDOH/ LJSR SWIM Grant	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 40 plan reviews and site evaluations have been performed in WBID	\$8,530	FDOH/ LJSR SWIM Grant	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	76 complaint investigations have been performed in WBID	\$17,640	FDOH/ LJSR SWIM Grant	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

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
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

13.3 COJ ACTIVITIES IN THE GOODBYS CREEK WATERSHED

13.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a project in the San Clerc/Sanchez area. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area. COJ also verified the location of the 3 lift stations on the WBID boundary listed in the BMAP. The lift stations in this watershed are shown in **Appendix A**.

13.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

In the Goodbys Creek watershed in 2010, COJ had 61 work orders for ditch and creek regrading, 3 work orders for a lake or pond problem, 42 work orders for repair/clearing of structures, 4 illicit water discharges, and 1 sewer overflow. These inspections are initiated through information from the CARE database. COJ also inspected 15 private lift stations and followed up on 6 PICs, 2 of which were determined to be illicit and removed. In addition, COJ took 4 routine samples. COJ also resolved 11 of the 16 open PIC cases identified in the BMAP. The remaining 5 cases will be resolved in 2011. COJ's efforts in the Goodbys Creek watershed are shown in **Table 47**. Additional details about COJ projects are included in **Appendix A**.

TABLE 47: 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	Design
COJ – 159	Ditch/Creek Regrade/Erosion/Clean	CARE requests with costs for responses where a work order was issued	61	\$7,315	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	3	\$0	COJ	Ongoing
COJ – 161	Structure Blocked/Repair/General Flooding	CARE requests with costs for responses where a work order was issued	42	\$8,227	COJ	Ongoing
COJ – 162	Illicit Water Discharge	CARE initiated - incidents reported/found and closed during reporting period	4	\$1,516	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	0	\$0	COJ	Ongoing
COJ – 165	Sewer Overflow	CARE initiated - incidents reported/found and closed during reporting period	1 – lift station alarm but no overflow	\$379	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	38 private lift stations in WBID	15	\$5,685	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	6 PICs identified, 2 found to be illicit, 4 not illicit	6	\$2,274	COJ	Ongoing
COJ – 169	Follow Up on Outstanding PICs	Follow up on 16 open PICs in watershed	11 resolved; 5 open	\$758	COJ	Planned
COJ – 170	Routine Surface Water Sampling	NPDES permit-related quarterly water quality sampling – 1 sampling station in WBID	4	\$848	COJ	Ongoing

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PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	TOTAL COST	FUNDING SOURCE	PROJECT STATUS
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, number connected unknown	Unknown	COJ	Ongoing
COJ – 172	Outside Failure Areas – Septic Tank Phase-Out	Phase out program as provided by COJ ordinance	337 total tanks, number connected unknown	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 within 6 months of completion of the septic tank study. 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.

13.4 FDOT ACTIVITIES IN THE GOODBYS CREEK WATERSHED

In 2010, FDOT continued to implement the DCP. The Adopt-A-Highway Program collected 3,087 pounds of trash in the watershed. FDOT continued their maintenance program for the stormwater system and 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 48** lists FDOT's activities in the Goodbys Creek watershed.

TABLE 48: 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	0 illicit connections removed	Ongoing
FDOT – 56	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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 this last year was 3,087 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	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 14: OPEN CREEK (WBID 2299)

14.1 JEA ACTIVITIES IN THE OPEN CREEK WATERSHED

14.1.1 ONGOING JEA PROGRAMS AND ACTIVITIES

During the last year, JEA inspected 11 ARVs and replaced 6, verified that the Marsh Island lift station is in the Open Creek watershed, inspected 11 stations near surface waters, inspected 0.11% of the pipes with closed-circuit television, and cleaned 0.26% of the lines. JEA's 2010 activities in the Open Creek watershed are shown in **Table 49**.

TABLE 49: JEA ACTIVITIES IN THE OPEN CREEK WATERSHED

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 FY10 - 0	\$0	JEA	Ongoing
JEA – 139	Open Cut – Removal and Replacement	Replace failing/leaking infrastructure	Total footage in FY10: 0	\$0	JEA	Ongoing
JEA – 140	Manhole Linings Rehabbed	Repair deteriorating manhole linings	Not applicable	Not applicable	JEA	Ongoing
JEA – 141	ARV Inspection and Rehab	ARV inspection and rehab	2 ARVs replaced within 200 feet of tributary (14 ARVs total in watershed), 11 ARVs inspected and 6 replaced in FY10	\$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 FY10	\$913	JEA	Ongoing
JEA – 148	Pipe Cleaning	Clean existing pipes to avoid blockages	1,871 linear feet of pipe cleaned in FY10	\$2,807	JEA	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT	ESTIMATED COST	FUNDING SOURCE	PROJECT STATUS
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
JEA – 152	Pop-Top Program	Pop-Top Program	Not applicable	Not applicable	JEA	Ongoing
JEA – 153	Non-Destructive Testing Program/Pipe Integrity Testing	Non-Destructive Testing Program/pipe integrity testing	Not applicable	Not applicable	JEA	Ongoing

14.2 DCHD ACTIVITIES IN THE OPEN CREEK WATERSHED

In 2010, DCHD issued 5 new septic tank construction permits, 1 repair permit, 3 abandonment permits, and 3 annual operating permits; conducted 11 plan reviews and site evaluations; and performed 21 complaint investigations. DCHD continues to hold annual training programs and updates of the septic tank failure area ranking. In addition, over the period of December 2009 through September 2010, DCHD performed 65 inspections in the Open Creek watershed as part of the Septic Tank Enforcement Project. The programs and activities DCHD conducts in the Open Creek watershed are shown in **Table 50**.

TABLE 50: DCHD ACTIVITIES IN THE OPEN CREEK WATERSHED

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
DCHD – 65	OSTDS Program	Implementation of programs to address septic systems as potential sources	Approximately 5 new construction permits, 1 repair permit, and 3 abandonment permits issued	\$3,000	FDOH	Ongoing
DCHD – 66	Annual Operating Permits	Annual operating permits issued for PBTS, systems located in IMZ, and commercial systems	3 annual operating permit for PBTS/IMZ located in WBID	\$2,100	FDOH/ LSJR SWIM Grant	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/ LSJR SWIM Grant	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 11 plan reviews and site evaluations have been performed in WBID	Not applicable	FDOH/ LSJR SWIM Grant	Ongoing

PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	LEVEL OF EFFORT (2010)	ESTIMATED COST (2010)	FUNDING SOURCE	PROJECT STATUS
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
DCHD – 70	Complaint Investigations	DCHD investigates all complaints received, performs site visit, and initiates enforcement action on sanitary nuisance violations	21 complaint investigations have been performed in WBID	\$2,375	FDOH/ LSJR SWIM Grant	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

14.3 COJ ACTIVITIES IN THE OPEN CREEK WATERSHED

14.3.1 COMPLETED COJ PROJECTS

In 2010, COJ completed a project on Pine Tree Road. This drainage system improvement project will help to reduce the amount of fecal coliforms that reach the creek from this area. COJ also verified the location of the 2 lift stations on the WBID boundary that were identified in the BMAP. The lift stations located in the watershed are listed in **Appendix A**. In addition, COJ resolved the 5 open PIC cases included in the BMAP, none of which were determined to be illicit.

14.3.2 ONGOING COJ PROGRAMS AND ACTIVITIES

As part of the MSMP, COJ has a project for the installation of 3 box culverts to increase conveyance under the existing power easement near the termination of Deer Chase Place and Danforth Drive. This project would provide flood control, preventing failure of wastewater infrastructure which should reduce the amount of fecal coliform going to the creek through stormwater runoff in this area. In the Open Creek watershed, 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. COJ also inspected 2 private lift stations in the watershed and closed 4 open PIC cases. In addition, COJ took 4 routine samples. COJ's efforts in the Open Creek watershed are shown in **Table 51**. Additional details about COJ projects are included in **Appendix A**.

TABLE 51: 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	12 private lift stations in WBID	2	\$758	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	Determined to be Illicit and removed during reporting period	0; 6 open	\$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, number connected unknown	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

14.4 FDOT ACTIVITIES IN THE OPEN CREEK WATERSHED

In 2010, 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 52** lists FDOT's activities in the Open Creek watershed.

TABLE 52: 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 true illicit connection identified to date	Ongoing
FDOT – 65	Routine Tributary Monitoring as Part of MS4 Permit	Countywide - \$22,546	FDOT/COJ	1 station 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

Capital improvement projects for COJ are those completed, under design, or construction within each of 10 tributaries in BMAP I. The project table also lists planned MS4 projects documented in the COJ MSMP. The current 5 year Capital Improvement Plan for COJ lists 19 MS4 projects with a total estimated cost of over \$95,000,000 and an additional \$167,000,000 in proposed funding beyond FY 2012 - 2013. In addition to constructing new drainage facilities, capital improvement projects with an estimated cost of over \$3,000,000 were initiated or ongoing for drainage system repair projects. The cost of drainage system repair projects within the 10 BMAP I tributaries was approximately \$950,000 during the reporting period.

MS4 MAINTENANCE ACTIVITIES

COJ conducts maintenance activities in response to the COJ call center database CARE system and through routine maintenance practices. COJ allocates approximately \$6,000,000 annually for street sweeping, structure and closed conveyance cleaning, and repair or replacement projects. The COJ Department of Public Works Right of Way and Grounds Maintenance Division responded to over 5,800 CARE requests for MS4 investigation and maintenance issues city wide, with 685 requests within the 10 BMAP tributaries. COJ records indicate an estimated average cost of \$550 per CARE response and associated work orders during the referenced reporting period. The cost of maintenance activities associated with MS4 related CARE responses totaled approximately \$3,200,000 for all of the COJ and \$376,000 for the 10 tributary BMAP I areas. It is estimated that COJ invested over \$9,500,000 to maintain the stormwater drainage system during the current reporting period. It is important to note that the MS4 maintenance costs shown in the project tables include only CARE requests that resulted in work orders.

INSPECTION, SAMPLING, AND ENFORCEMENT ACTIVITIES

Between October 1, 2009 and December 31, 2010 the COJ EQD completed 250 Illicit Discharge Discovery and Elimination and other water quality related CARE response inspections in the county. A notable reduction in field investigation work was due to budget limitations and employee attrition during the reporting period. The BMAP required that COJ address all open PIC cases in the BMAP tributaries in 2010. While this occurred in many of the WBIDs, both Butcher Pen Creek and Goodbys Creek still have remaining open cases that were listed in the BMAP. COJ is required to address the 14 open PIC cases in Butcher Pen Creek and the 5 open cases in Goodbys Creek in 2011, and report the findings in the second annual BMAP progress report.

Over 100 ambient tributary water quality sampling locations are monitored by EQD with an established goal of quarterly sampling at each site.

Over 1,200 private sewage lift stations have been permitted since 1992 by EQD. EQD conducts routine and CARE initiated inspections of approximately 2,000 private lift stations. Compliance and enforcement actions are implemented to ensure the lift stations are operated in compliance with city ordinance code. During the current reporting period, COJ is funding a Private Lift Station Inspection System that will provide supporting information needed to demonstrate compliance with the NPDES MS4 permit and BMAPs. The system is used by EQD staff to

assign and follow work progress. This effort is also helping COJ to determine which WBID each lift station is located in, which will assist in reporting and tracking BMAP efforts.

The SSO inspections are initiated through CARE requests. Where the SSO inspection determines the source is from an NPDES permitted facility, inspection findings are forwarded to the FDEP Northeast District office for appropriate action. An SSO found to originate from a private lift station or non-NPDES permitted wastewater treatment facility is addressed by EQD. CARE requests related to failing septic tank systems are referred to DCHD for follow up and resolution.

SEPTIC TANK PHASE OUT PROGRAM

Based on an analysis completed by the Water & Sewer Expansion Authority there are a total of 64,837 septic tanks within the city, with 23,944 contained within the 39 failure areas identified to date. The total septic tank count within each WBID is broken down by septic tanks within and outside the limits of currently identified failure areas. For failure areas within more than 1 WBID, the number of septic tanks for the portion of the failure area within each WBID as well as failure area name is provided. All septic tank count and location information was provided by the Water & Sewer Expansion Authority.

This year COJ, through MS4 stormwater utility funding, allocated \$2,000,000 to fund connection of septic tanks located within 300 meters of surface waters and in proximity to the JEA regional sewer service provider. COJ is currently preparing a TMDL reduction program plan in accordance with adopted BMAPs for the LSJR.

MASTER STORMWATER MANAGEMENT PLAN

Beginning in 2006, COJ contracted with a consultant to update the MSMP. Under this contract the consultant completed the following:

- *Updated the city's stormwater models;*
- *Developed master plan level designs for regional and neighborhood BMPs to reduce flow and improve water quality; and*
- *Assisted in development of a stormwater utility fee structure and operating budget.*

To date, COJ has invested \$1,500,000 in the MSMP and another \$2,000,000 is budgeted for FY 2012 - 2013.

NPDES PROGRAM

In 1991, COJ took the first steps toward implementing an ongoing NPDES program. In 1997, COJ along with its co-permittee FDOT District 2 were issued a MS4 NPDES permit. Between 1996 and 2008 COJ has invested approximately \$10,900,000 in its NPDES program. Key elements of the work completed during this period include:

- *Complete inventory and mapping of all COJ and FDOT MS4 infrastructure.*
- *Performing activity required for the city-wide illicit discharge detection and elimination field inspection program.*
- *Implementation of a High Priority Industry Inspection Program.*
- *Implementation of an ongoing water quality sampling and monitoring.*

- *Development of field inspection tools and protocols to support ongoing illicit discharge and detection by COJ staff.*

COJ is investing an additional \$3,100,000 in its NPDES program. COJ plans to develop and implement tools and practices to enhance current private lift station, septic tank, and high priority industry inspections and enforcement procedures. In addition, COJ will integrate existing systems and data to more effectively address NPDES permit administration as well as comply with LSJR Main Stem and Tributaries BMAP reporting requirements.

ORDINANCES, OUTREACH, AND EDUCATION

COJ public service announcements focus on the importance of septic system maintenance and pet waste management as required by ordinance. The completed public service announcements were aired on July 16, 2010 at the University of North Florida Conference Center during the 2010 Environmental Protection Board Environmental Symposium. COJ has allocated funding and is currently working to procure contracts to broadcast the public service announcements on local television. Other public education presentations were provided both during the 2010 Environmental Symposium and several other outreach and education events that included a spectrum of topics related to stormwater management and surface water quality improvement.

COJ is participating in the Florida Yards and Neighborhoods Program with funding provided by the COJ Environmental Protection Board. Through local ordinance, the Florida Yards and Neighborhoods Program concepts of Florida friendly landscape and irrigation design standards were adopted for new public agency project landscapes and private development projects, including, but not limited to, industrial, commercial, recreational, and multi-family residential. Through COJ websites and public outreach programs residents are also reminded that the University of Florida Extension program offers Florida friendly landscaping programs and assistance and are provided with program specifics and current contact information.

PRIVATE LIFT STATIONS

COJ has completed a mapping and inventory of the private lift stations in Duval County. The following tables list the private lift stations located in the BMAP WBIDs, based on the latest version of the COJ database. In the status column of these tables, “active” is assigned to stations that were in operation at the time of the last inspection. A status of “inactive” denotes private lift stations that were not in operation at the time of the last inspection. All active and inactive private lift stations are subject to regular compliance inspections. Those stations shown as “exempt” are single family residential grinder pumps and are exempt from annual inspection. However, if an illicit discharge or SSO is traced back to an exempt lift station, the inspection findings and enforcement action, if any, are noted in the database against this exempt station. Stations shown as “pre-1991” were constructed and put into operation prior to August 1991 when COJ began permitting and are not subject to annual inspections. However if there is an illicit discharge or SSO traced back to a pre-1991 lift station, COJ will take the appropriate action required to bring the lift station up to the current code after which the station will be designated as active/inactive and subject to annual/regular inspection.

TABLE A-1: HOGAN CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
1327	Arena and Ballpark LPS	301 A Philip Randolph Blvd	Exempt	Private
1310	I.M. Sulzbacher Medical Center	Duval St and Catherine St	Active	COJ
1008	Centex & Bayard	413 Walnut Ct	Pre-1991	Private

TABLE A-2: MILLER CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
4222	Chef's Garden PS	3732 Mente St	Active	Private
4105	Northeast Florida Safety	1725 Art Museum Dr	Active	Private
4042	Burger King # 1953	3768 Beach Blvd	Inactive	Private
3872	Kuhn Flowers	3802 Beach Blvd	Active	Private
3630	Midtown Professional Plaza	1677 Art Museum Dr	Active	Private
1845	Art Museum Apartments	1706 Art Museum Dr	Active	Private
1460	Phillips Mall	3699 Emerson St	Active	Private
1388	Mayfair Village	3735 Beach Blvd	Active	Private
1368	Ellenton Investments Inc (Old Law Engineering)	3901 Carmichael Ave	Pre-1991	Private
1350	Lamee Av - 2521	2521 Lamee Ave	Active	Private
1223	Solomans Retail	1650 Art Museum Dr	Inactive	Private
1082	Clearview Townhouses	Carmichael Ave & Beach Blvd	Active	COJ
1046	Furniture Mart & Balance Inc.	3030 Beach Blvd	Active	Private
1013	Emerson Plaza	3597 Emerson St	Active	Private

TABLE A-3: MIRAMAR CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
4029	Emerson Oaks	1702 Emerson St	Active	Private
3865	Packs Holding 1850 Emerson St	1850 Emerson St	Pending	Private
3838	Hendricks Avenue Baptist Church	4001 Hendricks Ave	Active	Private
1991	Hardees	3929 Hendricks Ave	Active	Private
1990	Piner Strip Center	3855 Hendricks Ave	Active	Private
1462	Southside Church of God	2179 Emerson St	Active	Private
1408	Emerson St - 2560	2560 Emerson St	Active	Private
1404	Greenridge Rd - 901	901 Greenridge Rd	Active	Private
1227	Piner's Shopping Center	3861 Hendricks Ave	Active	Private

TABLE A-4: BIG FISHWEIR CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
4398	Exact, Inc.	5285 Ramona Blvd	Active	Private
4326	Hamilton Street PS & FM	4530 Saint Johns Ave	Active	Private
4141	Lowes of West Jacksonville	5155 Lenox Ave	Active	Private
4132	Boot Rack Saloon	4751 Lenox Ave	Active	Private
3898	Fowler Enterprise	714 Cassat Ave	Active	Private
3741	Manny's Used Car Lot	1133 Cassat Ave	Pending	Private
3702	Riviera South Apartments	1800 Blanding Blvd	Active	Private
3701	Riviera North Apartments	1700 Blanding Blvd	Active	Private
3596	Williams Private LS Resident	5047 ALPHA AVE	Exempt	Residential
2094	Lee Crowe Offices, Retail, FM	5026 PLYMOUTH ST	Active	Private
2078	Racetrac	647 Cassat Ave	Active	Private
1705	Comanche Duplexes	5329 Comanche Cove Ct	Pre-1991	Private
1699	Comanche Duplex	5326 Comanche Cove Ct	Pre-1991	Private
1601	Comanche Duplex 2	5319 Comanche Cove Ct	Pre-1991	Private
1544	Strip Mall / Center	5333 Lenox Ave	Active	Private
1540	RaceTrac Petroleum	4855 Lenox Ave	Active	Private
1476	Lee Crow Offices & Retail Centre	1215 Labelle St	Active	Private
1472	McDonalds (Cassat and Highway)	462 Sumter Rd	Active	Private
1374	Westside Dodge	1672 Cassat Ave	Pre91	Private
1359	Duval Ford	1616 Cassat Ave	Pre91	Private

TABLE A-5: TERRAPIN CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
3793	Cross Dock Warehouse Facility	11000 Blasius Rd	Active	Private
3650	New Berlin Sandwich Shop	11220 New Berlin Rd	Active	Private
1805	World Brand Inc.	3503 Faye Rd	Active	Private
1347	Prezine	3041 Faye Rd	Active	Private
1215	Faye Road	Faye Rd & Blasius Rd	Active	Private
1168	Westside Electric Motor Service	4031 Faye Rd	Active	Private

TABLE A-6: GOODBYS CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
4408	Woodlake Park Apts	9439 San Jose Blvd	Active	Private
4382	Leigh Meadows Apartments	4320 Sunbeam Rd	Active	Private
4352	Florida Tackle and Gun Club	9010 San Jose Blvd	Active	Private
4258	Walgreens Plaza	8917 San Jose Blvd	Active	Private
4241	Goodby's Lake Boat Ramp	9021 San Jose Blvd	Active	Private
4192	Cove & St. Johns Condominium Assoc.	3958 Baymeadows Rd	Active	Private
4087	Beauclerc Bay Apartments	9047 San Jose Blvd	Active	Private
4066	Perimeter Commerce Park	7818 Phillips Hwy	Active	Private
4064	All About Blinds	7501 Phillips Hwy	Active	Private
4026	San Jose Professional Center	8823 San Jose Blvd	Active	Private
4025	Phillips Distribution Center Addition	7660 Phillips Hwy	Active	Private
4021	Duval Asphalt Products	7544 Phillips Hwy	Active	Private
3963	Beth Shalom Congregation	4072 Sunbeam Rd	Active	Private
3919	6593 Powers Avenue	6593 Powers Ave	Pending	Private
3767	LaTerrazza Condos Ph I & II	8840 La Terrazza Pl	Active	Private
3662	Shops Of Goodby's Creek	3928 Baymeadows Rd	Active	Private
2076	Ring Power Wash Pad	8050 Phillips Hwy	Active	Private
1905	Dixie Contract Carpet	7523 Phillips Hwy	Pre-1991	Private
1724	Resident - Audubon Park Ln - 9101	9101 Audubon Park	Exempt	Residential
1723	Resident - Audubon Park Ln - 9115	9115 Audubon Park	Exempt	Residential
1721	Resident - Audubon Park Ln - 9141	9141 Audubon Park	Exempt	Residential
1720	Resident - Audubon Park Ln - 9155	9155 Audubon Park	Exempt	Residential
1719	Resident - Audubon Park Ln - 9173	9173 Audubon Park	Exempt	Residential
1718	Resident - Audubon Park Ln - 9191	9191 Audubon Park	Exempt	Residential
1717	Resident - Audubon Park Ln - 9133	9133 Audubon Park	Exempt	Residential
1714	Kings Crossing Apts	7241 Old Kings Rd	Active	Private
1708	Unknown	6701 Powers Ave	Active	Private
1701	Williamsburg Park Condos	3840 Williamsburg Park	Active	Private
1697	BFI Garbage	7580 Phillips Hwy	Pre-1991	Private
1664	Chintokan Karate-Do	4219 Sunbeam Rd	Active	Private
1661	Rinker Materials (Baymeadows Plant)	7460 Phillips Hwy	Active	Private
1659	Hooters	8939 San Jose Blvd	Active	Private
1539	Lowes - South Central	8060 Phillips Hwy	Active	Private
1457	San Jose Bluff Prof Park	9283 San Jose Blvd	Active	Private
1456	Brighton Gardens (Nursing Home)	9355 San Jose Blvd	Pre-1991	Private
1413	West Phillips Ctr	7380 Phillips Hwy	Active	Private
1375	The Reflections & Goodbys Creek	3966 Baymeadows Rd	Active	Private

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LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
1360	Sunbeam Road Center	4239 Sunbeam Rd	Active	Private
1320	Osprey Branch Condominiums	9410 Osprey Branch Trl	Active	Private
1251	Sunbeam Hill Golf Course	3940 Sunbeam Rd	Inactive	UC
1229	Sunbeam Office Center - Harrel Construction C	4185 Sunbeam Rd	Active	Private
1219	Atlantic Mini Storage	6653 Powers Ave	Active	Private
1218	San Jose Bluff Professional Park	San Jose Blvd & Beauclerc Rd	Active	Private
1206	Lowe's of South Central Jacksonville	8054 Phillips Hwy	Active	Private
1194	Powers Ave Youth Athletic -skinner	Powers Ave & Old Kings Rd	Active	PR
1134	Perlman Office	3990 San Jose Park Dr	Active	Private
1088	Camp Tomahawk	8419 San Ardo Dr	Active	PR
1064	Baymeadows Road East	8036 Baymeadows Rd	Pre-1991	UC
1016	Osprey Branch Condos	9441 Osprey Branch Trl	Active	Private

TABLE A-7: OPEN CREEK LIFT STATIONS

LIFT STATION ID	LOCATION	ADDRESS	STATUS	OWNER TYPE
4200	Super Target	13740 Beach Blvd	NR	Private
4175	Mayo Clinic Temporary LS	4500 SAN PABLO RD	Active	Private
3956	Coastal Veterinary Hospital	13431 Beach Blvd	Active	Private
3577	Pablo Creek West	13500 Beach Blvd	Active	Private
2123	Greens Apts	14300 Marsh Landing	Active	JB
1635	Kwik Trip PS	3388 Thalia Rd	Active	Private
1634	Not Applicable	3370 Thalia Rd	Active	Private
1604	Jacksonville Bridge Club	3353 Washburn Rd	Active	Private
1387	Windsor Parke	13755 Richmond Park Dr	Active	Private
1280	Marina San Pablo (RE # 181772 0100)	4903 San Pablo Rd	Inactive	NR
1263	Mayo Clinic CUP/B	Unknown	Active	Private
1135	Hodges Cluster Homes	3631 Hodges Blvd	Active	Private
1063	Mayo Clinic Records Storage Warehouse	Unknown	Active	Private
1015	Marina San Pablo	14302 Marina San Pablo Pl	Active	Private
1014	Cypress Village Health Care Ctr	4600 Middleton Park Cir	Pre91	Private

Appendix B: DCHD Activities Supporting Information

SEPTIC TANK ENFORCEMENT PROJECT

The DCHD Septic Tank Enforcement Project was established to identify and remedy failing septic systems that may be contributing fecal coliform bacteria to specific waterbodies listed in the LSJR Tributaries BMAP I, over and above DCHD's BMAP requirements. In October 2009, DCHD was allotted \$222,750 in federal financial assistance to structure and operate the Septic Tank Enforcement Project to investigate existing septic systems that have the potential for direct or indirect pollution within the 10 tributaries areas, evaluate the condition of each septic system, facilitate repairs as necessary, and track such inspections and results. The project also identified aging, malfunctioning septic systems and enforced their abandonment, repair, modification, replacement, or connection to a central sewage system. The identification process included door-to-door surveying of communities and the investigation of public complaints regarding septic systems.

DCHD's Septic Tank Enforcement Project focused specifically on OSTDS that are currently or could potentially have a detrimental impact on the St. Johns River and its tributaries. OSTDS include standard septic tank and drain field systems, as well as alternative systems (mounds and other approved types) typically located on the property where wastewater is being generated. Potential contaminants that degrade the quality of surface and groundwater resources because of OSTDS failure include disease causing bacteria, infectious viruses, household chemicals, and nutrients (nitrates and phosphates). These contaminants can present a public health threat to the community; therefore, the Septic Tank Enforcement Project developed ongoing enforcement capabilities to reduce the amount of sanitary nuisances that could potentially cause adverse health effects to local residents and to reduce the potential of or actual contamination of ground and surface waters.

When a property was found to be out of compliance or creating/maintaining sanitary nuisance conditions, the property owner could be subject to enforcement action as allowed by applicable the Florida Statutes (F.S.) and F.A.C. Such actions were taken as necessary to abate all nuisances. Over the course of the project (December 2009 through September 2010), a total of 2,419 sites were investigated, with appropriate follow up actions taken by DCHD, as needed. A summary of the findings from this project are included in **Table B-1**.

TABLE B-1: SUMMARY OF PROJECT RESULTS

FINDING	OCT 2009	NOV 2009	DEC 2009	JAN 2010	FEB 2010	MAR 2010	APR 2010	MAY 2010	JUN 2010	JUL 2010	AUG 2010	SEP 2010	TOTAL
Sites Investigated	-	-	104	261	184	184	227	192	222	386	636	23	2,419
Connected to JEA Sewer	-	-	-	237	-	-	-	-	-	148	-	2	387
No Access	-	-	5	-	10	10	27	16	13	10	17	8	116
Laundry Discharge	-	-	4	-	3	3	12	14	4	-	2	4	46
Sewage on Ground	-	-	-	-	-	1	3	3	-	-	-	3	10
Broken Tank Lid	-	-	1	-	-	1	2	2	-	-	-	1	7
Damaged Drainfield	-	-	-	-	-	-	-	-	2	-	-	1	3
Illicit Discharge Pipe	-	-	-	-	-	2	-	-	-	-	-	-	2

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FINDING	OCT 2009	NOV 2009	DEC 2009	JAN 2010	FEB 2010	MAR 2010	APR 2010	MAY 2010	JUN 2010	JUL 2010	AUG 2010	SEP 2010	TOTAL
Damaged Tank	-	-	-	-	-	-	1	-	1	-	-	-	2
Unsealed Tank	-	-	-	-	-	-	-	-	-	2	-	-	2
Non-Sanitary Nuisance Violations	-	-	-	-	-	-	-	-	-	1	1	-	2
Official Notices Issued	-	-	5	-	3	7	18	19	7	3	3	9	74

Appendix C: JEA Activities Supporting Information

AIR RELEASE VALVE PROGRAM

The purpose of an ARV is to reduce static head pressure in force main systems caused by air in the pipe. If the valves are not working properly, air cannot escape and can prevent the associated pumps from pumping causing overflows at lift stations. Periodic inspection is required to insure the valves are working properly. Over time, sewer gases deteriorate the ARV and the associated galvanized piping attached to the force main that support the valve. These failures often result in overflows since they are attached to pressure systems. JEA has modified this inspection program and, as ARVs are inspected, all those not determined to be in good working condition are replaced as a precaution against potential failure. All metal ARVs are now replaced with plastic corrosion resistant valves that are easily cleaned and reused. Also, all galvanized support piping is replaced with stainless steel pipe to eliminate pipe failures. JEA standards have been modified to reflect the improved materials of construction above. To date, more than 600 ARVs have been replaced. The inspection and replacement program is prioritized based on proximity to tributaries, with valves within 200 feet of tributaries given highest priority.

GIS TRACKING SYSTEM

JEA is currently in the process of upgrading from a paper/spreadsheet based tracking system to one that utilizes more efficient and effective GIS based applications. Most routine collection system operation and maintenance activities and outcomes are now being entered into JEA's GIS system. Examples include ARV inspection dates and results, manhole inspections and condition rankings, pipe rehabilitation data, and pipe cleaning and inspection dates. In a future phase, JEA will add the ability to link pipe inspection results to the affected pipe segment in GIS. These upgrades will allow JEA and regulatory personnel to better assess the condition of sewer infrastructure, including in the vicinity of surface waterbodies. It will be possible to conduct focused assessments of JEA's sewer infrastructure in the immediate vicinity of identified areas of concern (such as adjacent to an ambient fecal coliform sample "hot spot") simply by entering the GIS database and "clicking" on each sewer infrastructure asset in the area of investigation.

Appendix D: 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 D-1: FDEP FOLLOW UP SAMPLING RESULTS

DATE	WBID	STATION DESCRIPTION	FECAL COLIFORM (CFU/100ML)	COMMENTS
1/27/10	2322	Upstream Butcher Pen Jammes	1,100	Butcher Pen consistently has high counts over 5,000
1/27/10	2322	Butcher Pen Creek at Randia Road	1,100	Butcher Pen consistently has high counts over 5,000
1/27/10	2280	Little Fishweir Creek at Park Street	3,200	None
6/17/10	2322	Butcher Pen Creek at 100mDS	300	Butcher Pen consistently has high counts over 5,000
6/17/10	2322	Butcher Pen MS4 #1	6,200	Butcher Pen consistently has high counts over 5,000
6/17/10	2322	Butcher Pen Creek North Fork above C	7,500	Butcher Pen consistently has high counts over 5,000
6/17/10	2322	MS4 #2 South Fork above Ducheneau	6,000	Butcher Pen consistently has high counts over 5,000
6/17/10	2322	North Fork Above Ducheneau	8,900	Butcher Pen consistently has high counts over 5,000
6/17/10	2322	South Fork Above Ducheneau	10,000	Butcher Pen consistently has high counts over 5,000
9/20/10	2322	Butcher Pen Creek at Randia Road	3,100	Butcher Pen consistently has high counts over 5,000
10/13/10	2322	Butcher Pen Creek at Jammes Road North Fork	870	Butcher Pen consistently has high counts over 5,000
10/13/10	2322	North Ditch to Butcher Pen at Jammes Road	1,200	Butcher Pen consistently has high counts over 5,000

TABLE D-2: COJ FOLLOW UP SAMPLING RESULTS

DATE	WBID	STATION	STATION DESCRIPTION	LATITUDE	LONGITUDE	CONDUCTIVITY (uS)	DO (MG/L)	DO SATURATION (%)	FECAL COLIFORM (CFU/100 mL)	TEMP (°C)	PH	SALINITY	COMMENTS
12/22/09	2256	DR2N	Deer Creek North Branch	No data	No data	354	4.11	45.2	2,200	19.79	7.11	0.17	None
12/22/09	2256	DR2	Deer Creek at Expressway	No data	No data	426	2.35	24.9	380	15.66	6.97	0.21	None
12/22/09	2256	DR2S BOX	Deer Creek at Stormwater Junction Box	No data	No data	478.5	3.04	33.6	84	20.1	7.00	0.24	None
4/16/10	2287	SS21	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	247	3.46	37.1	28,00	18.64	6.56	0.12	Follow up, result from 4/14 was 20,000
4/16/10	2287	SS2	Miller Creek Upstream at Stormwater Outfall	No data	No data	228	1.88	20.2	3,500	18.84	6.75	0.11	None
4/21/10	2287	SS21	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	248	5.50	59.7	23,000	19.31	7.11	0.12	Second follow up, still high at SS21
4/21/10	2287	SS21C	Upstream of SS21 at Footbridge	No data	No data	165	3.42	37.0	26,000	19.23	6.02	0.08	None
4/21/10	2287	SS21D	Upstream of SS21 near Stormwater Culvert	No data	No data	342	2.81	30.4	4,800	19.07	6.45	0.16	None
8/11/10	2287	SS21-1	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	No data	No data	No data	6,000	No data	No data	No data	Special intensive sampling
8/11/10	2287	SS21-2	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	No data	No data	No data	6,000	No data	No data	No data	Special intensive sampling
8/11/10	2287	SS2-1	Miller Creek Upstream at Stormwater Outfall	No data	No data	No data	No data	No data	3,300	No data	No data	No data	Special intensive sampling
8/11/10	2287	SS2-2	Miller Creek Upstream at Stormwater Outfall	No data	No data	No data	No data	No data	6,600	No data	No data	No data	Special intensive sampling

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DATE	WBID	STATION	STATION DESCRIPTION	LATITUDE	LONGITUDE	CONDUCTIVITY (uS)	DO (MG/L)	DO SATURATION (%)	FECAL COLIFORM (CFU/100 ML)	TEMP (°C)	PH	SALINITY	COMMENTS
8/30/10	2287	SS21	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	359	4.85	59.3	31,000	25.48	7.53	0.17	Follow up, result from 8/23 was 78,000 following a rain event
8/30/10	2287	SS21-2	Miller Creek West Branch at Camden Avenue	30.30056	-81.63118	389	4.28	51.9	4,900	24.98	7.49	0.19	None

Appendix E: 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 2006 through 2010.

TABLE E-1: FECAL COLIFORM IMPAIRED TRIBUTARIES RANKING

WBID	NAME	2002-2006 RANK	2003-2007 RANK	2004-2008 RANK	2005-2009 RANK	2006-2010 RANK	BMAP
2287	Miller Creek	1	1	1	2	1	1
2322	Butcher Pen Creek	2	8	5	9	2	1
2297	Craig Creek	3	4	3	3	3	2
2280	Big Fishweir Creek	5	3	4	1	4	1
2304	Miramar Creek	4	2	2	11	5	1
2382	Unnamed Drain (Tacito Creek)	53	7	15	32	6	N/A
2321	Christopher Branch	7	12	11	6	7	N/A
2252	Hogan Creek	6	10	6	7	8	1
2189	Rushing Branch	N/A	N/A	7	17	9	N/A
2233	Long Branch	17	6	10	5	10	N/A
2254	Red Bay Branch	18	5	16	15	11	N/A
2256	Deer Creek	8	15	9	4	12	1
2316	Williamson Creek	10	13	13	14	13	2
2385	Mandarin Drain	27	20	31	28	14	N/A
2361	Deep Bottom Creek	19	18	18	23	15	2
2592	Mill Branch	54	26	22	58	16	N/A
2228	Moncrief Creek	15	11	19	13	17	2
2299	Open Creek	41	22	41	38	18	1
2389A	Doctors Lake Drain	N/A	N/A	21	41	19	N/A
2204	Terrapin Creek	13	17	14	16	20	1
2235	Newcastle Creek	9	14	8	21	21	1
2324	Fishing Creek	16	19	17	10	22	2
2207	Blockhouse Creek	28	21	26	31	23	2
2306	New Rose Creek	39	27	27	26	24	N/A
2561	Unnamed Ditches	N/A	N/A	20	57	25	N/A
2381	Cormorant Branch	38	29	29	19	26	2
2257	McCoy Creek	12	9	12	8	27	2
2464	Governor Creek	N/A	N/A	32	49	28	N/A
2210	West Branch	29	25	35	37	29	N/A
2238	Little Sixmile Creek	32	31	30	24	30	N/A
2284	Little Pottsburg Creek	24	44	23	12	31	N/A
2246	Jones Creek	35	40	34	22	32	N/A
2407	Grog Branch	N/A	N/A	48	51	33	N/A
2203	Trout River	26	32	46	27	34	2
2266	Hopkins Creek	30	24	28	33	35	2
2240	Greenfield Creek	47	28	39	34	36	2
2308	Leeds Pond	52	16	25	39	37	N/A
2213R	Unnamed Drain to St. Johns River	N/A	N/A	36	54	38	N/A
2460	Mill Creek	N/A	N/A	49	59	39	N/A
2244	Cowhead Creek	21	37	45	45	40	N/A
2181	Dunn Creek	22	33	37	40	41	N/A
2278	Silversmith Creek	25	43	44	35	42	N/A
2326	Goodbys Creek	14	23	24	18	43	1
2227	Sherman Creek	34	42	38	20	44	2
2270	Hogpen Creek	44	30	57	46	45	N/A
2248	Ginhouse Creek	11	34	43	48	46	N/A
2370	Oldfield Creek	42	41	51	42	47	N/A
2265B	Pottsburg Creek	40	39	40	30	48	2

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WBID	NAME	2002-2006 RANK	2003-2007 RANK	2004-2008 RANK	2005-2009 RANK	2006-2010 RANK	BMAP
2220	Nine Mile Creek	45	48	61	44	49	N/A
2419	Sampson Creek	N/A	N/A	55	60	50	N/A
2249B	McGirts Creek	37	35	52	47	51	N/A
2234	Mt. Pleasant Creek	N/A	N/A	50	53	52	N/A
2511B	Simms Creek	N/A	N/A	58	66	53	N/A
2262	Cedar River	43	38	54	29	54	N/A
2282	Wills Branch	23	49	33	25	55	2
2478	Greene Creek	N/A	N/A	64	71	56	N/A
2302	Ryals Swamp	N/A	N/A	59	63	57	N/A
2223	Trout River (Upper)	N/A	N/A	63	65	58	N/A
2305	Normandy Village Run	N/A	N/A	56	64	59	N/A
2368	Little Black Creek	N/A	N/A	42	55	60	N/A
2356	Big Davis Creek	51	36	62	52	61	N/A
2232	Sixmile Creek	33	50	66	61	62	N/A
2351	Julington Creek	48	51	69	50	63	N/A
2444	Peters Creek	N/A	N/A	68	67	64	N/A
2239	Strawberry Creek	31	46	47	62	65	N/A
2191	Broward River	20	47	53	36	66	N/A
2290	Cedar Swamp Creek	N/A	N/A	70	69	67	N/A
2224	Ribault River	49	53	71	56	68	N/A
2249A	Ortega River	46	52	60	43	69	N/A
2203A	Trout River	55	54	67	68	70	2
2323	Yellow Water Creek	N/A	N/A	74	70	71	N/A
2555	Cracker Branch	N/A	N/A	73	73	72	N/A
2365	Durbin Creek	50	55	72	72	73	N/A
2446	Bull Creek	N/A	N/A	75	74	74	N/A
2213P	Ortega River	36	45	65	75	75	N/A