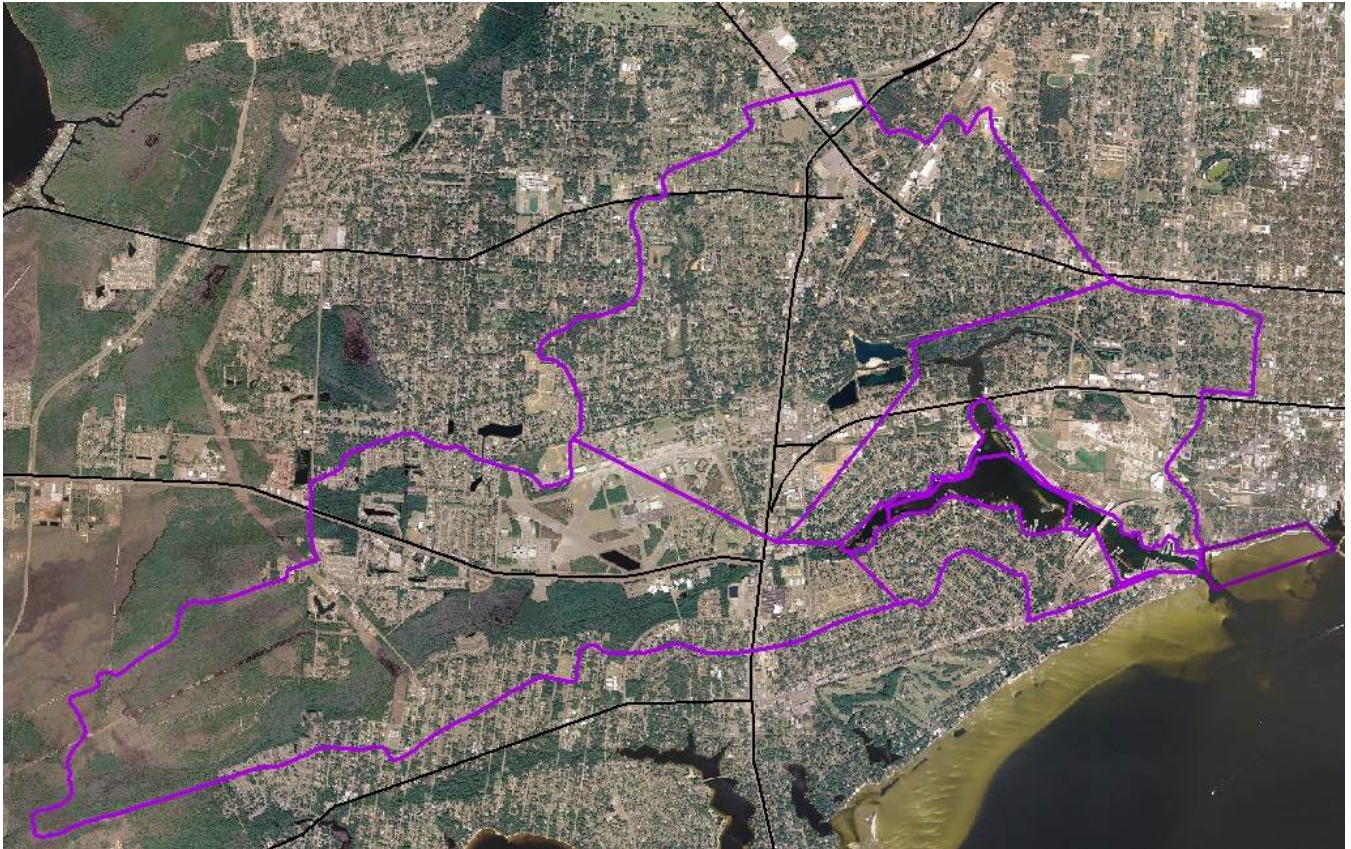


2014 PROGRESS REPORT

for the Bayou Chico Basin Management Action Plan



prepared by the
Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection
Tallahassee, Florida 32399

in cooperation with the
Bayou Chico Stakeholders

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This 2014 Bayou Chico Basin Management Action Plan Progress Report was prepared as part of a statewide watershed management approach to restore and protect Florida's water quality. It was prepared by the Florida Department of Environmental Protection in cooperation with the Bayou Chico stakeholders.



Bayou Chico Association



For additional information on the watershed management approach in the Bayou Chico Basin, contact:

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LIST OF ACRONYMS AND ABBREVIATIONS

BARC	Bay Area Resource Council
BCA	Bayou Chico Association
BMAP	Basin Management Action Plan
BMP	Best Management Practice
CFU	Colony Forming Unit
COP	City of Pensacola
Department	Florida Department of Environmental Protection
ECUA	Emerald Coast Utilities Authority
F.A.C.	Florida Administrative Code
FDOT	Florida Department of Transportation
FDOH	Florida Department of Health
FEMA	Federal Emergency Management Agency
FOG	Fats, Oils, and Grease
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information Systems
I/I	Inflow and Infiltration
mL	Milliliter
MS4	Municipal Separate Storm Sewer System
NFWF	National Fish and Wildlife Foundation
NPDES	National Pollutant Discharge Elimination System
NFWWMD	Northwest Florida Water Management District
OSTDS	Onsite Sewage Treatment and Disposal Systems
RESTORE	Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States (Act)
SSO	Sanitary Sewer Overflow
STORET	Storage and Retrieval (Database)
TMDL	Total Maximum Daily Load
UWF	University of West Florida
UV	Ultraviolet
WBID	Waterbody Identification

SUMMARY

TOTAL MAXIMUM DAILY LOADS

The Bayou Chico watershed is located in the southern end of Escambia County. The waterbodies addressed by the Bayou Chico Basin Management Action Plan (BMAP) include Jones Creek and Jackson Creek, which are fresh waterbodies, and Bayou Chico, Bayou Chico Drain, Bayou Chico Beach, and Sanders Beach, which are marine waterbodies.

The Florida Department of Environmental Protection identified these waterbodies to be impaired by fecal coliform bacteria, and adopted a total maximum daily load (TMDL) in 2009. The Bayou Chico BMAP was adopted by the Department in October 2011 to address the TMDL. This 2014 Progress Report is the third annual progress report for the Bayou Chico BMAP, and describes the activities implemented by stakeholders during the reporting period of November 1, 2013 through October 31, 2014.

ACTIVITIES DURING THE REPORTING PERIOD

The stakeholders continued their public education and outreach efforts, maintenance programs, and permitting programs during the reporting period. In addition, the Bayou Chico Association (BCA) removed approximately 2,000 pounds of trash from Bayou Chico during its annual Bayou Cleanup Day. The Bay Area Resource Council (BARC) and University of West Florida (UWF) added curb markers to inlets that drain to Bayou Chico, distributed stormwater fact sheets to more than 1,200 homes in the area, and held the 2013 Environmental Symposium. The City of Pensacola received funding for the ‘R’ and Wright Street baffle box, Bayou Chico Drive outfalls into Bayou Chico, and Bill Gregory Park stormwater treatment enhancement projects. Escambia County largely completed the Southwest Greenway 3rd Extension project, and received Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States (RESTORE) Act funding for the Beach Haven Stormwater Improvement Project Phase I. In addition, the Emerald Coast Utilities Authority (ECUA) continued to phase out septic tanks in the basin by completing the Lakewood Phase IV project.

WATER QUALITY MONITORING AND PATTERNS

During the reporting period, Escambia County continued monthly monitoring at the seven stations in the basin (see **Figure ES-1**). The county and the Department added a new monitoring station on Jackson Creek at North New Warrington Road 33020222) in October 2013 to capture the portion of the

watershed that flows between this location and the Old Corry Road station (33020221). The Florida Department of Health (FDOH) in Escambia County also sampled bi-weekly at the Bayou Chico at Lakewood Park (33020JD4) and Sanders Beach (33020J10) stations.

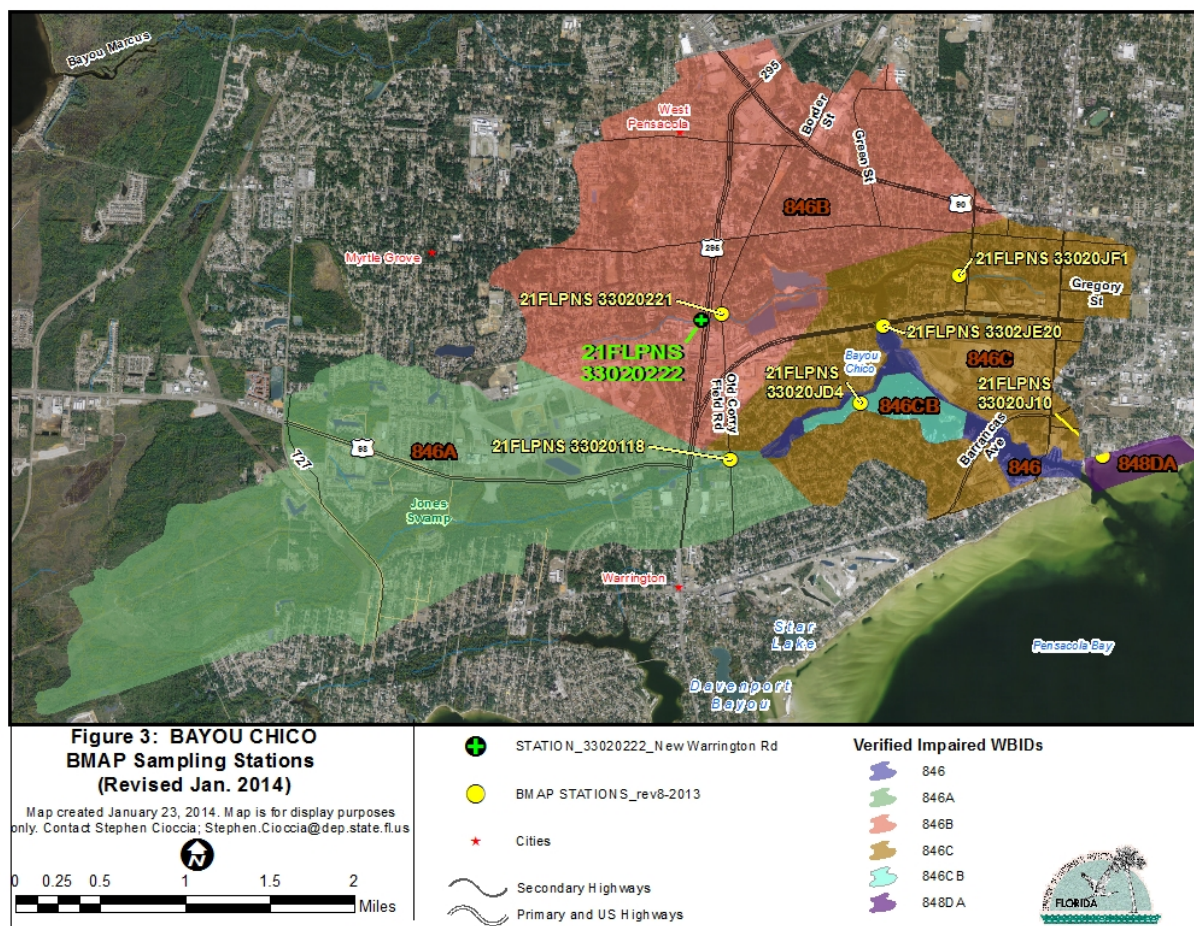


FIGURE ES-1: MONITORING STATIONS FOR FECAL COLIFORMS AND NUTRIENTS IN THE BAYOU CHICO BASIN

Water quality data from the last five years were assessed to determine patterns in fecal coliform counts in the basin. For the overall basin, fecal coliform counts exceeded the state standard of 400 colony forming units (CFU)/100 milliliters (mL) 40% of the time in 2012, 29% of the time in 2013, and 24% of the time in 2014. In 2014, there was a high count of 6,000 CFU on August 25th at the Jackson Creek at New Warrington Road station (33020222), which seems to be related to rainfall. In 2013 and 2014, when rainfall data in the basin are available, it appears that the high fecal coliform counts are related to larger rainfall events (see **Figure ES-2**); however, a statistical evaluation of this relationship was not conducted. The fecal coliform data were also compared to salinity and turbidity. There does not appear to be a relationship with salinity; however, there appears to be a relationship with turbidity at several of the stations (this does not, however, imply a statistical correlation applies). The turbidity relationship is

likely also related to rainfall, where higher rainfall events would increase stormwater runoff to the waterbodies, in turn increasing land surface erosion with a subsequent increase in turbidity (or suspended materials in the water column). Bacteria attached to suspended materials (especially soils) may be introduced into the water column via surface runoff. Suspended materials introduced into the water column may serve to protect attached bacteria populations from fatal ultraviolet (UV) sunlight radiation by reduced UV penetration through the water column. These interactions introduces the potential of additional bacteria loads into the waters of Bayou Chico through surface runoff. Since the TMDL period of record (January 1, 1998, through June 30, 2005), there has been a 60.9% reduction in the geometric mean of the fecal coliform counts.

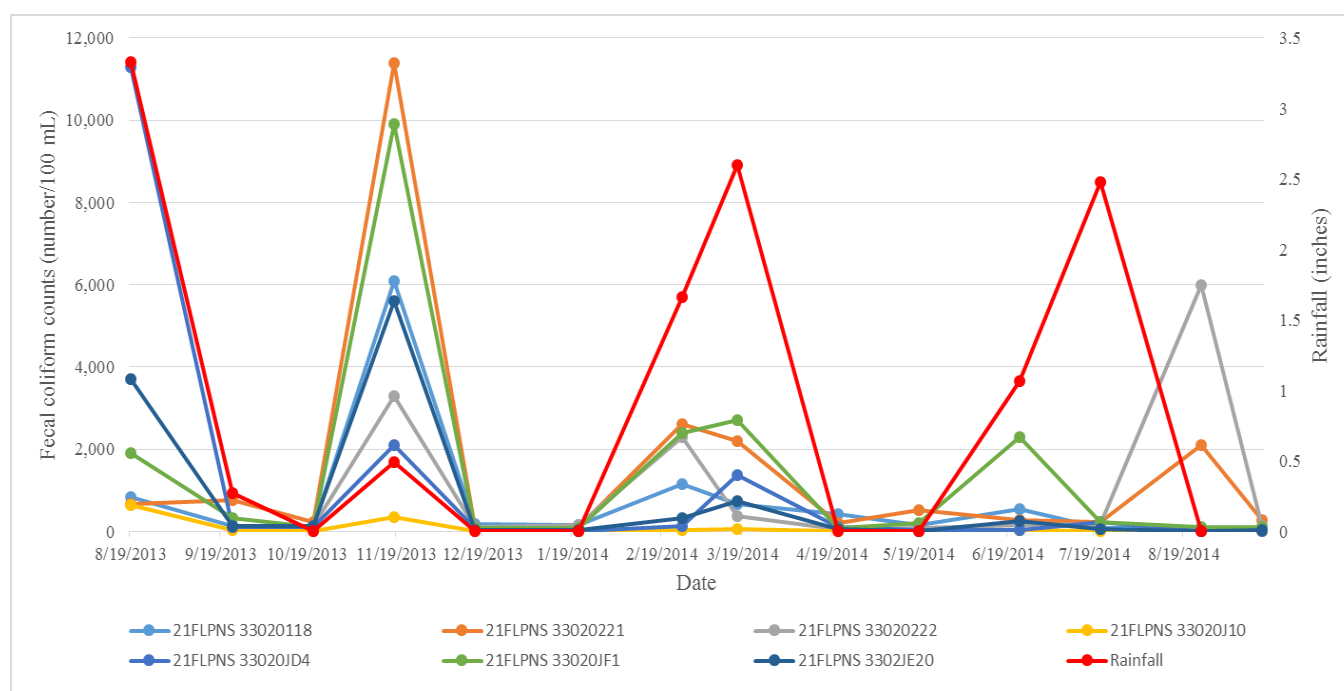


FIGURE ES-2: FECAL COLIFORM COUNTS AT EACH MONITORING STATION COMPARED TO RAINFALL, 2013-2014

Enterococcus data collected show an increasing pattern over the period of 2012-2014. The highest counts were found at the Jackson Creek at Old Corry Road station (33020221), and these high counts also appear to be related to rainfall events. As with the fecal coliforms, the Enterococcus counts do not seem to be related to salinity but do seem to have a relationship with turbidity at several stations. However, statistical evaluations of these relationships were not conducted.

UPCOMING YEAR ACTIVITIES

During the next year's BMAP activities, a concentrated and extensive effort will be conducted to more effectively and comprehensively identify actual and potential bacteria sources contributing to bacteria

levels observed within the BMAP area. The initial effort will consist of a workshop (termed Maps on the Table) where stakeholders will assist in identifying potential bacteria sources within the BMAP watershed. Results of the Maps on the Table exercise will be used during multiple field investigations and evaluations (termed Walk the Watershed or watershed identification (WBID) number). The Department and stakeholders will also collect samples and utilize indicators of human waste to identify sources contributing to Bayou Chico. These efforts are designed to identify locations or activities within the BMAP watershed where reduction efforts will be effective in reducing human health risk bacteria sources and, ultimately, to meet the reductions required by the TMDL.

Section 1: INTRODUCTION

1.1 PURPOSE OF THE REPORT

This is the third annual progress report for the Bayou Chico Basin Management Action Plan (BMAP). **Section 2** describes the activities that occurred during the period from November 1, 2013 through October 31, 2014. **Section 3** describes the water quality monitoring that occurred during the reporting period, and the patterns in fecal coliform and Enterococcus concentrations. **Section 4** discusses the efforts in the upcoming reporting period (November 1, 2014 through October 31, 2015).

1.2 TOTAL MAXIMUM DAILY LOADS FOR THE BAYOU CHICO BASIN

The Bayou Chico watershed (see **Figure 1**), located in the southern end of Escambia County, just east of Blue Angel Parkway and north of Bayou Grande, has a 10.36-square-mile drainage area and a water surface area of approximately 0.39 square miles. The waterbodies addressed by the Bayou Chico BMAP consist of two Class III fresh waterbodies (Jones Creek and Jackson Creek) and four Class III marine waterbodies (Bayou Chico, Bayou Chico Drain, Bayou Chico Beach, and Sanders Beach). Class III waterbodies have a designated use of recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

The Florida Department of Environmental Protection identified these waterbodies in the Bayou Chico Basin to be impaired by fecal coliform bacteria. In 2009, the Department adopted a total maximum daily load (TMDL) for Bayou Chico (waterbody identification [WBID] number 846), Jones Creek (WBID 846A), Jackson Creek (WBID 846B), Bayou Chico Drain (WBID 846C), Bayou Chico Beach (WBID 846CB), and Sanders Beach (WBID 848DA) (see **Figure 1**). The Bayou Chico BMAP was adopted by the Department in October 2011 to address these impairments.

Table 1 lists the TMDL and pollutant load allocations adopted by rule for the watershed.

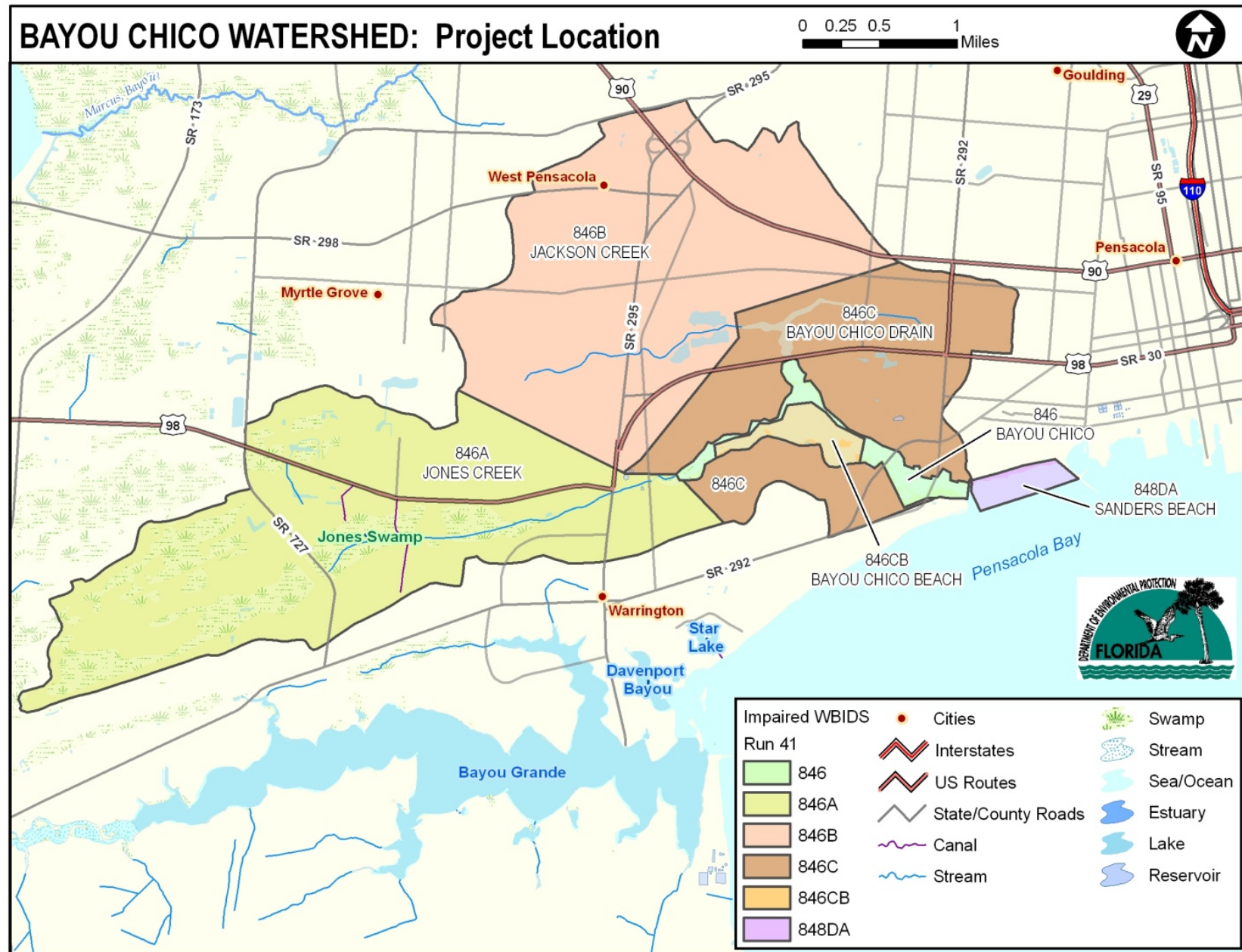


FIGURE 1: BAYOU CHICO WATERSHED

TABLE 1: BAYOU CHICO FECAL COLIFORM TMDL

WBID	TMDL (% REDUCTION)	WASTELOAD ALLOCATION FOR WASTEWATER (COLONY FORMING UNITS [CFU]/100 MILLILITERS [ML])	WASTELOAD ALLOCATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER (% REDUCTION)	LOAD ALLOCATION (% REDUCTION)
Bayou Chico watershed (WBIDs 846, 846A, 846B, 846C, 846CB, and 848DA)	61%	Point source must meet permit limits	61%	61%

1.3 RESPONSIBLE PARTIES AND KEY STAKEHOLDERS

The following organizations and entities are key stakeholders in the Bayou Chico BMAP:

- *Bay Area Resource Council (BARC).*
- *Bayou Chico Association (BCA).*
- *City of Pensacola (COP).*
- *Emerald Coast Utilities Authority (ECUA).*
- *Escambia County.*
- *Florida Department of Health (FDOH) in Escambia County.*
- *Florida Department of Transportation (FDOT).*
- *Florida Fish and Wildlife Conservation Commission (FWC).*
- *Naval Air Station Pensacola.*
- *University of West Florida (UWF).*

In addition to these entities, the Department and Northwest Florida Water Management District (NFWFMD) are essential to the implementation of the BMAP activities.

1.4 SUFFICIENCY OF EFFORT APPROACH

Fecal coliforms can be highly variable and easily transported, making it difficult, in many cases, to identify the source of the bacteria. Based on the potential sources in each WBID, stakeholders were asked to identify completed activities carried out to reduce or remove bacteria sources since 1998 (the start of the TMDL verified period), as well as additional efforts that were under way or planned within five years of BMAP adoption. Escambia County, ECUA, COP, FDOH in Escambia County, FDOT

District 3, West Florida Regional Planning Council (in association with BARC), Naval Air Station, and BCA all submitted project sheets and program descriptions for prevention, reduction, and source removal activities they conduct in the BMAP planning area and/or on a countywide or citywide basis. The Department then used a “sufficiency of effort” approach to conduct a basinwide 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; rather, it focused on whether the activities submitted by all the entities corresponded to potential sources previously identified, and whether the total efforts were adequate to eliminate the known sources, assess unknown sources, and/or prevent the development of new sources.

During the sufficiency of effort evaluation, the Department reviewed the information about each WBID including the documentation of the most likely sources, utilized a Geographic Information Systems (GIS) database to determine the spatial and temporal distribution of sources, permit and water quality information, relevant field information and published data, and the stakeholders’ completed corrective actions. Based on source assessments and information gathered for the BMAP, a summary of restoration activities (see **Section 2**) was produced to ensure that appropriate programs and activities were being implemented that would either decrease or eliminate the known sources, or that might be needed to further assess fecal coliform loadings. The full implementation of the management actions identified in the BMAP was deemed sufficient to address the fecal coliform reductions needed to achieve the TMDL.

Section 2: ACTIVITIES DURING THE REPORTING YEAR

The activities that occurred during the reporting period (November 1, 2013 through October 1, 2014) are described in **Section 2.1** through **Section 2.8**. The stakeholders' complete BMAP project tables are included in **Appendix A**.

2.1 BARC ACTIVITIES

During the reporting year, BARC and UWF held the 2013 Environmental Symposium to promote the coordination and exchange of information among scientific experts and to provide information to the public (project BARC-82). In addition, BARC and UWF students (along with staff from Escambia Co.) added curb markers to the inlets that drain to Bayou Chico, and distributed stormwater fact sheets to more than 1,200 homes in the area (project BARC-83). **Table 2** summarizes BARC's projects in the Bayou Chico Basin for the reporting period.

TABLE 2: BARC BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
BARC-82	All	Environmental Symposium 2013 – held in the fall with UWF	Public Outreach and Education	Completed	Unknown
BARC-83	All	Stormwater Drain Markings – BARC staff and UWF student volunteers placed 149 Duracast polyurethane curb markers on the concrete casing above the curbside inlets in areas whose stormwater runoff feeds directly to the bayou, and distributed stormwater fact sheets to over 1,200 households in the area	Public Outreach and Education	Completed	Unknown

2.2 BCA ACTIVITIES

BCA removed approximately 2,000 pounds of trash from Bayou Chico during its annual Bayou Cleanup Day (project BCA-79). An estimated 50,000 gallons or 430,000 pounds of human waste was pumped out of recreational vessels in Bayou Chico in the past year via three fixed pump-out stations and one pump-out boat (project BCA-52).

The Palm Harbor Marina (project BCA-48) was designated by the Department and Clean Boating Partnership as the second Resilient Marina in Florida. The Resilient Marina Program is a new state program. This designation means that the marina met the criteria to be prepared for emergencies such as spills or hurricanes, further preventing environmental impacts. In addition, the Island Cove Marina (project BCA-49) purchased a new pump-out boat service for the three marinas on Bayou Chico with the

help of Clean Vessel Act grant funds. The Clean Vessel Act grant funds paid for 75% of the cost of the boat (\$104,000) and the other 25% was paid by the marina owner. All fuel, labor, insurance, and maintenance costs are paid by the marina owner. The estimated cost of operation and maintenance is \$10,260, and all pump-outs are done at no charge.

BCA turned over the \$10,000,000 Bayou Chico dredging restoration project (project BCA-56) to Escambia County to implement should funding become available through the Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States (RESTORE) Act funding. The RESTORE Act committee has not yet issued the application criteria necessary for the project to be submitted for approval. BCA was active in the initial development of the criteria.

Table 3 lists BCA’s activities in the Bayou Chico Basin for the reporting period.

TABLE 3: BCA BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
BCA - 48	846 C-BC Drain	Clean Marina - Palm Harbor Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 49	846 C-BC Drain	Clean Marina - Island Cove Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 52	846-Bayou Chico (BC)	Pump-out facilities (three, including a mobile unit)	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA-56	846 C-BC Drain	Bayou Chico Dredging	Dredging	Pending funding – submitted for RESTORE	\$10,000,000
BCA-79	846 C-BC Drain	Annual Bayou Chico Cleanup	Public Education and Outreach	Ongoing	Unknown

2.3 COP ACTIVITIES

COP’s ‘L’ & Zarragossa Street project (project COP-57) was pending construction prior to the April 29-30, 2014 flood event, which caused damage to the conveyance pipe on ‘L’ Street immediately upstream of the proposed project area. The project was placed on temporary hold while the damage issues are being worked out with the Federal Emergency Management Agency (FEMA). This may potentially lead to an improved project by adding a new retention/detention pond facility to the project through the 406 mitigation process. It is anticipated that the decision from FEMA on the request to add a new

retention/detention pond facility will be final within the next 90 days. At that point, the city will move forward with construction of the original project or the improved project.

The city's street sweeping program (project COP-59) is ongoing (see **Figure 2**), and funding for the program over the next five fiscal years was recently approved through the fiscal budgeting process.



FIGURE 2: COP'S STREET SWEEPER

The 'R' and Wright Street baffle box (project COP-80) construction was placed on temporary hold pending submission of an enhanced version of the project to the National Fish and Wildlife Foundation (NFWF) for funding. This enhanced version includes a public educational kiosk, gathering and demonstration area, ornamental landscape, and lighting. The city received the grant and will move forward with construction of the project.

The Bayou Drive outfalls into Bayou Chico (project COP-84) is a new project funded through the city's stormwater utility fund. This project will provide proprietary stormwater treatment for two stormwater outfalls along Bayou Drive, which currently discharge directly into the eastern tributary of Bayou Chico untreated. Funding has been approved for design in fiscal year 2015 and construction in fiscal year 2016.

The Bill Gregory Park stormwater treatment enhancement (project COP-85) is a new project that was identified for funding from the NFWF. The project will directly benefit the eastern-most tributary of

Bayou Chico by creating a wet detention pond facility with public amenities in Bill Gregory Park. The city received the grant and will move forward with construction of the project.

COP's projects in the Bayou Chico Basin for the reporting period are summarized in **Table 4**.

TABLE 4: COP BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
COP-57	846C – BC Drain (N)	L & Zarragossa Street Drainage Improvements - new stormwater treatment	Stormwater Upgrades/Repairs	Construction pending	\$1,000,000
COP-59	846C – BC Drain (N)	Street Sweeping Program	Reduction of Pet and Animal Waste	Ongoing	\$745,000
COP-80	846C – BC Drain (N)	R and Wright Street Baffle Box	Stormwater Treatment Installation/Maintenance	Planned – completion 08/2015	\$350,000
COP-84	846C – BC Drain (N)	Bayou Drive Outfalls into Bayou Chico	Stormwater Treatment Installation/Maintenance	In Design	\$325,000
COP-85	846C – BC Drain (N)	Bill Gregory Park Stormwater Treatment Enhancement	Stormwater Treatment Installation/Maintenance	Construction pending	\$1,950,000

2.4 ECUA ACTIVITIES

ECUA continued its efforts to complete Sewer Expansion Program projects within the Bayou Chico watershed, as well as throughout the entire ECUA service area. During the reporting period, ECUA completed the Lakewood Phase IV project (project ECUA-4). In addition, ECUA continued to connect properties within the Sewer Expansion Program project areas that have not yet connected to the new sewer lines and phased out their septic tanks. An analysis of the projects in the watershed indicates that, as of June 2014, approximately 75.7% of the properties within the project areas within the Bayou Chico watershed have converted from septic tank to central sewer service. Of the 1,950 properties within the project areas, 1,476 have converted. ECUA uses utility revenues as the predominant source of funds for its Sewer Expansion Program, with some supplemental funding through Escambia County. A funding request is currently under consideration through the Gulf Coast Ecosystem Restoration Council, through the RESTORE Act.

ECUA also continued its programs (projects ECUA-10 through ECUA-12 during the last year. ECUA's projects for the reporting period are summarized in **Table 5**.

TABLE 5: ECUA BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
ECUA - 4	846 C-BC Drain	Lakewood Phase IV	Sewer Extensions	Completed	\$128,845
ECUA - 10	All	Inflow and Infiltration (I/I) Program	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 11	All	Sanitary Sewer Overflow (SSO) Response Program	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 12	All	Emergency Power Generator	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 63	Unknown	Beach Haven – 1,720 connections total (half in Bayou Chico)	Sewer Extensions	Planned	\$1,200,000

2.5 ESCAMBIA COUNTY ACTIVITIES

Escambia County has the Southwest Greenway 3rd Extension (project Escambia County – 36) under construction. This project will be completed in early 2015. Jackson Lakes Stormwater Improvements (project Escambia County – 77) is still in design. There was damage to the project area during the recent floods, and FEMA is working with the county to review project options. Beach Haven Stormwater Improvement Project Phase I (project Escambia County – 78) is in design, and the county received funding for this project through RESTORE Act funds. The county added Beach Haven Stormwater Improvement Project Phase II (project Escambia County – 86), and they are looking for funding to implement this phase. The county also received NFWF funding for two Jones Creek Floodplain Restoration projects (projects Escambia County – 88 and Escambia County – 89). In addition, the county marked inlets that discharge to Bayou Chico as part of their education and outreach program (Escambia County – 32). Escambia County's projects for the Bayou Chico Basin for the reporting period are summarized in **Table 6**.

TABLE 6: ESCAMBIA COUNTY BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County - 26	All	New Stormwater Ponds with New Development - 11 new BMPs	Stormwater Treatment Installation/Maintenance	Under construction	\$1,100,000
Escambia County - 28	All	Stormwater Pond - inspection and maintenance of more than 300 ponds	Stormwater Treatment Installation/Maintenance	Ongoing	\$300,000
Escambia County, BARC, and BCA - 32	All	Public Education and Outreach	Public Education and Outreach	Ongoing	\$10,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County and USN - 35	846 A-Jones Creek	Corry Station Retrofit Projects (Jones Creek East) – construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 100 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000
Escambia County and USN - 37	846B-Jackson Creek	Corry Station Retrofit Projects (Jackson Creek) - construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 200 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000
Escambia County - USN - 38	846 A-Jones Creek	Corry Station Retrofit Projects (Jones Creek West) - construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 100 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000
Escambia County - 66	All	Monitoring Plan Implementation - monitor water quality to identify additional sources and assess water quality trends	Monitoring	Ongoing	Unknown
Escambia County and ECUA - 69	846C-BC Drain	Lakeview Street Drainage Improvements Phase II (Kupfiran Park Area Improvements) – construction of new stormwater infrastructure within Kupfiran Park area	Stormwater Upgrades/ Repairs	In design	\$400,000
Escambia County - 76	846 A-Jones Creek	Southwest Greenway 3 rd Extension – construction of 3,000-foot elevated educational boardwalk from Decatur Street west crossing Fairfield Drive; also includes improvements to 0.5 miles of existing on-grade trail system	Public Education and Outreach	Under construction	\$300,000
Escambia County - 77	846B – Jackson Creek	Jackson Lakes Stormwater Improvements – construction of improvements to the existing Jackson Lakes Offline Retention System; includes installation of one-way valve system at stormwater inlet and further expansion of littoral area	Stormwater Treatment Installation/Maintenance	In design	\$250,000
Escambia County - 78	846 A-Jones Creek	Beach Haven Stormwater Improvement Project Phase I – construction of new stormwater infrastructure for 250 acres of existing residential development along Jones Creek	Stormwater Treatment Installation/Maintenance	In design (Funding Received from NFWF Grant)	\$5,000,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County - 86	846 A-Jones Creek	Beach Haven Stormwater Improvement Project Phase II – construction of new stormwater infrastructure for 250 acres of existing residential development along Jones Creek	Stormwater Treatment Installation/Maintenance	Planned	\$5,000,000
Escambia County – 88	846 A-Jones Creek	Jones Creek Floodplain Restoration / Expansion Project – Reestablish connection to historic floodplain along Jones Creek	Floodplain Restoration/ Expansion Project	Planned (Funding Received from NFWF Grant)	\$1,500,000
Escambia County - 89	846 B – Jackson Creek	Jackson Creek Floodplain Restoration / Expansion Project – Reestablish connection to historic floodplain along Jackson Creek	Floodplain Restoration / Expansion Project	Planned (Funding Received from NFWF Grant)	\$1,500,000

2.6 FDOH IN ESCAMBIA COUNTY ACTIVITIES

FDOH in Escambia County continued its Onsite Sewage Treatment and Disposal System (OSTDS) Permitting Program, as well as its Healthy Beach Program (project FDOH-16). FDOH received funding from ECUA to aid with indigent sewer connections (see **Table 7**).

TABLE 7: FDOH IN ESCAMBIA COUNTY BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FDOH - 16	All	OSTDS Permitting Program as per Rule 64E-6, Florida Administrative Code (F.A.C.)	Permitting Program	Ongoing	Not applicable
FDOH - 21	846CB (Lakewood) and 848DA (Sanders Beach)	Healthy Beaches Program – bi-weekly sampling of specific sites for Enterococcus	Sampling	Ongoing	\$5,676

2.7 FDOT ACTIVITIES

FDOT continued with its municipal separate storm sewer system (MS4) permit implementation and its Drainage Connection Program (see **Table 8**). In addition, FDOT started statewide implementation of mandatory Illicit Discharge Detection and Elimination training for all staff and contractors working within FDOT's right-of-way.

TABLE 8: FDOT BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FDOT - 67	All	MS4 Implementation	MS4 Implementation	Ongoing	Unknown
FDOT - 87	All	Illicit Discharge Detection and Elimination Training	Training	Ongoing	Unknown

2.8 FWC ACTIVITIES

During the reporting period, two FWC officers conducted the compliance and inspection sweeps for moored and liveboard vessels in the area (see **Table 9**). During the inspection, two Florida vessels were found anchored in the southwest area of Bayou Chico. Both vessels were sail boats, and one was found to be a liveboard. The liveboard was inspected, checked for alignment, and found to be in violation of Florida Statute 327.53 4(a). The registered owner was educated and appropriately cited. The second vessel did not appear to be a liveboard, and did not appear to be in violation of any Florida Statutes. No derelict vessels were found, and the waterway was clear for vessel traffic without any known hazards.

TABLE 9: FWC BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FWC-54	846-BC Drain	Compliance and Inspection Sweeps - for noncompliance on moored and liveboard vessels	Inspection Program	Ongoing	Unknown

Section 3: WATER QUALITY MONITORING AND PATTERNS

3.1 WATER QUALITY MONITORING

The Bayou Chico BMAP monitoring plan was designed to track implementation efforts and monitor water quality in order to determine additional sources and water quality patterns using existing monitoring stations in the watershed, and to conduct more extensive monthly sampling at specific locations where fecal coliform counts are historically high.

The BMAP monitoring plan consists of monthly ambient water quality sampling at six stations in the watershed. These stations are monitored by Escambia County, and the fecal coliform samples are analyzed by the UWF Wetland Research Laboratory. The Department's Northwest District works with Escambia County, as needed, to follow up on high fecal coliform counts. The Northwest District also conducts quarterly monitoring in the Bayou Chico Basin.

Table 10 lists the stations in the monitoring plan, and **Figure 3** shows the locations of the stations. Escambia County sampled seven stations monthly for fecal coliforms, Enterococcus, nutrients, and field parameters. Bi-weekly samples collected by the FDOH in Escambia County for Enterococcus are collected from two locations in the basin: Bayou Chico (Lakewood Park – near Station 33020JD4 in WBID 846CB) and Sanders Beach (near Station 33020J10 in WBID 848DA). All data are uploaded into the state's Storage and Retrieval (STORET) database.

TABLE 10: STATIONS IN THE BAYOU CHICO BMAP MONITORING PLAN

STATION LOCATION	STATION NUMBER	RESPONSIBLE STAKEHOLDER
Bayou Chico at Navy Boulevard Bridge	3302JE20	Escambia County
Bayou Chico at "W" Street	33020JF1	Escambia County
Jackson Creek at Old Corry Road	33020221	Escambia County
Jackson Creek at North New Warrington Road	33020222	Escambia County
Jones Creek at Old Corry Road	33020118	Escambia County
Sanders Beach	33020J10	Escambia County; FDOH in Escambia County
Southwest Arm of Bayou Chico – North of Mandalay Drive (Lakewood)	33020JD4	Escambia County, FDOH in Escambia County

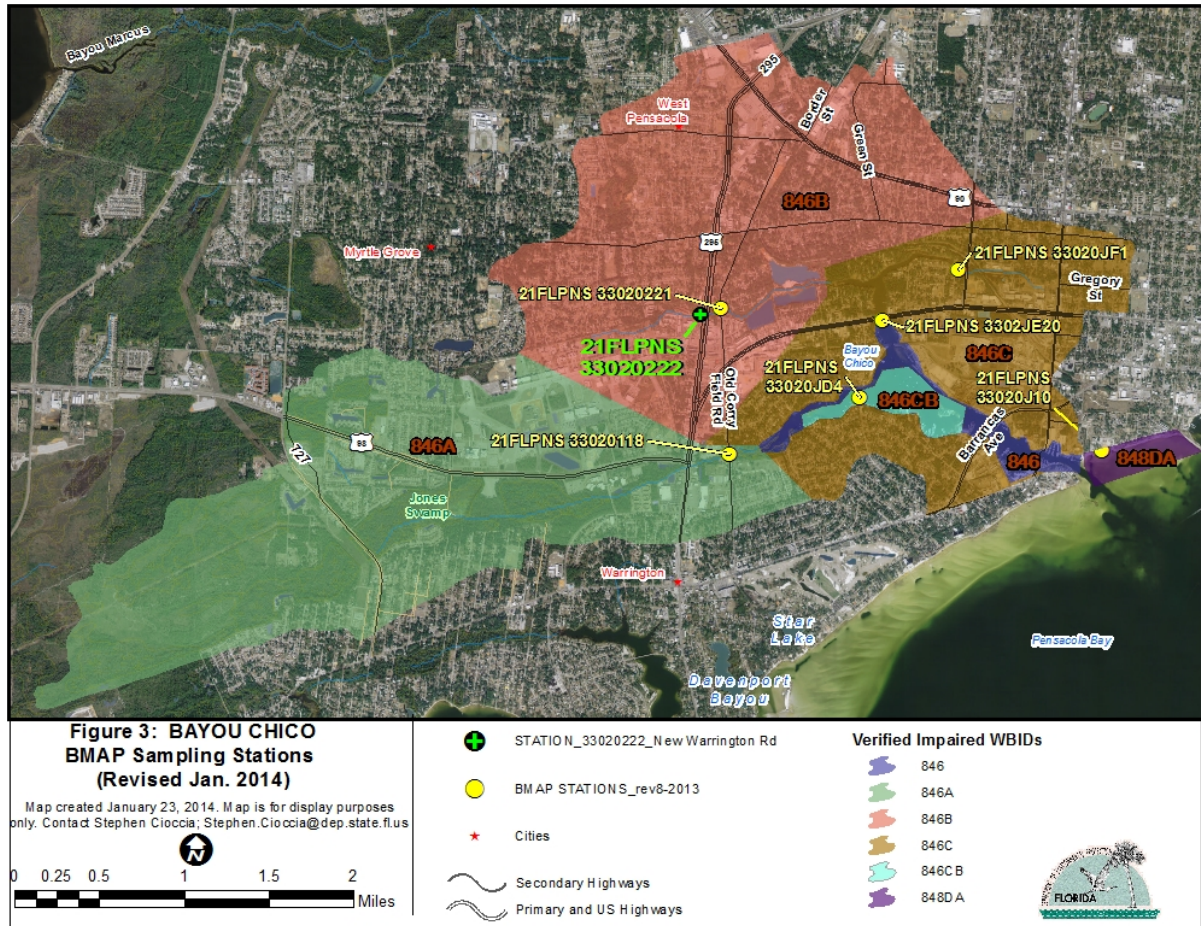


FIGURE 3: MONITORING STATIONS FOR FECAL COLIFORMS AND NUTRIENTS IN THE BAYOU CHICO BASIN

During the reporting period, Escambia County continued the monthly monitoring at their stations in the basin. The data collected by the county are uploaded to STORET by the Department. Escambia County and the Department added a new monitoring station on Jackson Creek at North New Warrington Road (station 33020222) in October 2013 (see **Figure 4**). This location was added because approximately one-third of the watershed area for Jackson Creek enters between this location and the existing Old Corry Road station (33020221). Escambia County and the Department also relocated the station on Bayou Chico at Navy Boulevard Bridge (3302JE20) to approximately 25 meters to the south of the previous sample site (see **Figure 5**). In addition, FDOH in Escambia County sampled bi-weekly at Bayou Chico at Lakewood Park during the months of March – October, and sampled weekly at Sanders Beach year round for determination of swimming area closures.



FIGURE 4: LOCATION OF THE JACKSON CREEK AT NEW WARRINGTON ROAD SAMPLING SITE



FIGURE 5: RELOCATION OF THE BAYOU CHICO AT NAVY BOULEVARD BRIDGE SAMPLING SITE

3.2 WATER QUALITY PATTERNS

Water quality data from the last five years were assessed to determine patterns in fecal coliform counts in the basin overall, and at each of the BMAP stations. For the overall basin, fecal coliform counts exceeded the state standard of 400 CFU/100mL 40% of the time in 2012, 29% of the time in 2013, and 24% of the time in 2014. The state standard allows for an exceedance of 400 CFU/100 mL 10% of the time; therefore, the fecal coliform counts in the Bayou Chico Basin are becoming closer to meeting the standard.

In 2014, there was a high count of 6,000 CFU on August 25th at the Jackson Creek at New Warrington Road station (33020222), which seems to be related to rainfall (see **Figure 6**). In 2013 and 2014, when rainfall data in the basin are available, it appears that the high fecal coliform counts are related to larger rainfall events; however, a statistical evaluation of this relationship was not conducted. The fecal coliform geometric mean for the period of 2013 through 2014 is 177 CFU. However, when the data associated with rainfall events during this period are removed, the geometric mean drops to 99 CFU. The higher fecal coliform counts occurred in August 2013, November 2013, March 2014, and August 2014, which all correlate with spikes in rainfall (see **Figure 6**).

The fecal coliform counts at each station were also compared to salinity and turbidity data for each station. None of the stations seem to have a relationship between salinity and fecal coliform counts; however, several of the stations seem to have a relationship between turbidity and fecal coliform counts (see **Figure 7** and **Figure 8**). Statistical evaluations of these relationships were not conducted. The turbidity relationship is likely also related to rainfall, where higher rainfall events would increase stormwater runoff to the waterbodies, in turn elevating land surface erosion with a subsequent increase in turbidity (or suspended materials in the water column). Scientific documentation demonstrates frequent co-occurrences of high suspended materials in the water column with increased bacteria concentrations, which results from one or both of two interactions. The first is where bacteria attach to suspended materials (especially soils) and are introduced into the water column via surface runoff. The second is the potential for suspended materials to be introduced into the water column and may serve to protect attached bacteria populations from fatal ultraviolet (UV) sunlight radiation by reduced UV penetration through the water column. These interactions introduce the potential of additional bacteria loads into the waters of Bayou Chico through surface runoff.

Since the period used in the TMDL (January 1, 1998 through June 30, 2005), there has been a 60.9% reduction in the geometric mean of the fecal coliform counts. The fecal coliform data and pattern from 1999 through 2014 are shown in **Figure 9**.

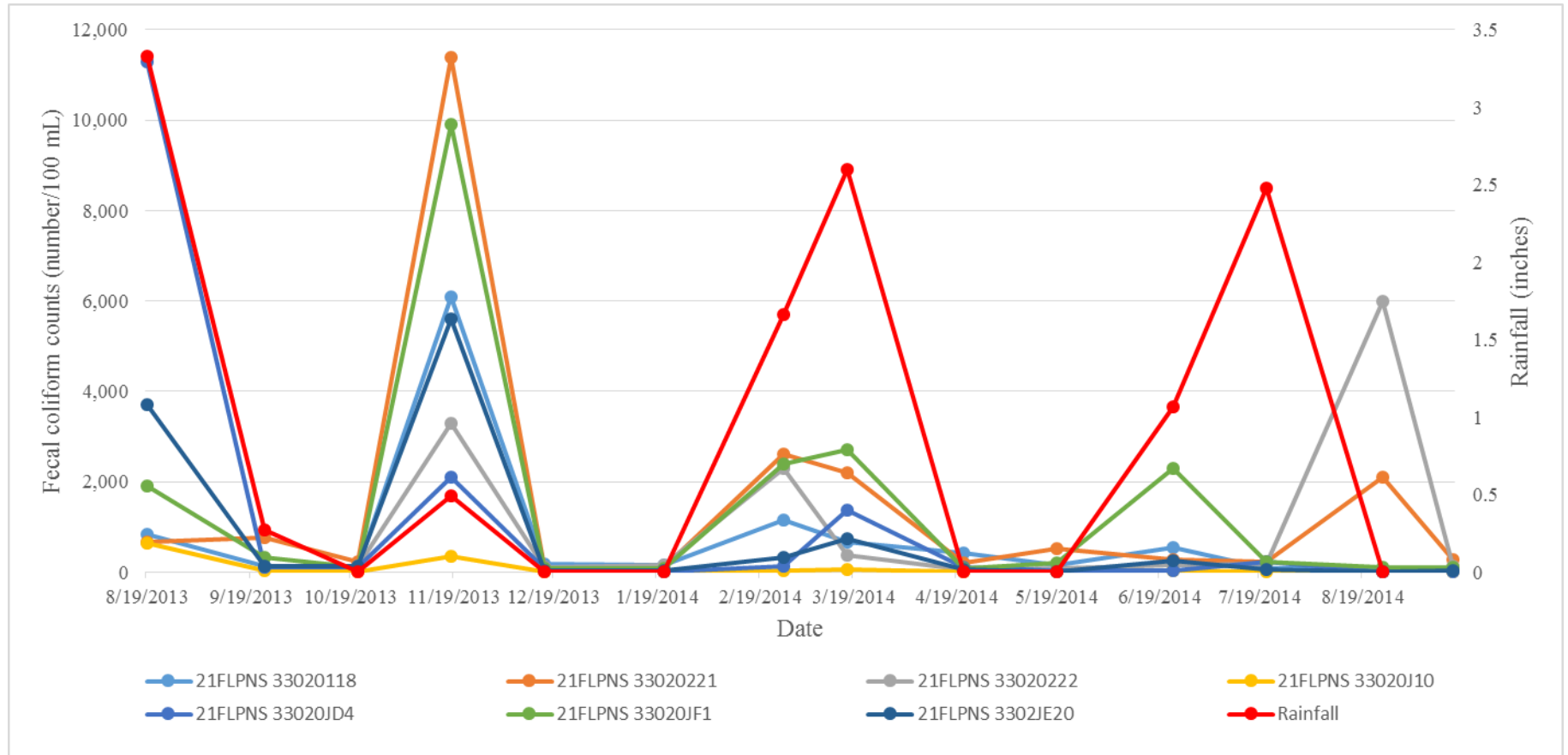


FIGURE 6: FECAL COLIFORM COUNTS AT EACH MONITORING STATION COMPARED TO RAINFALL, 2013-2014

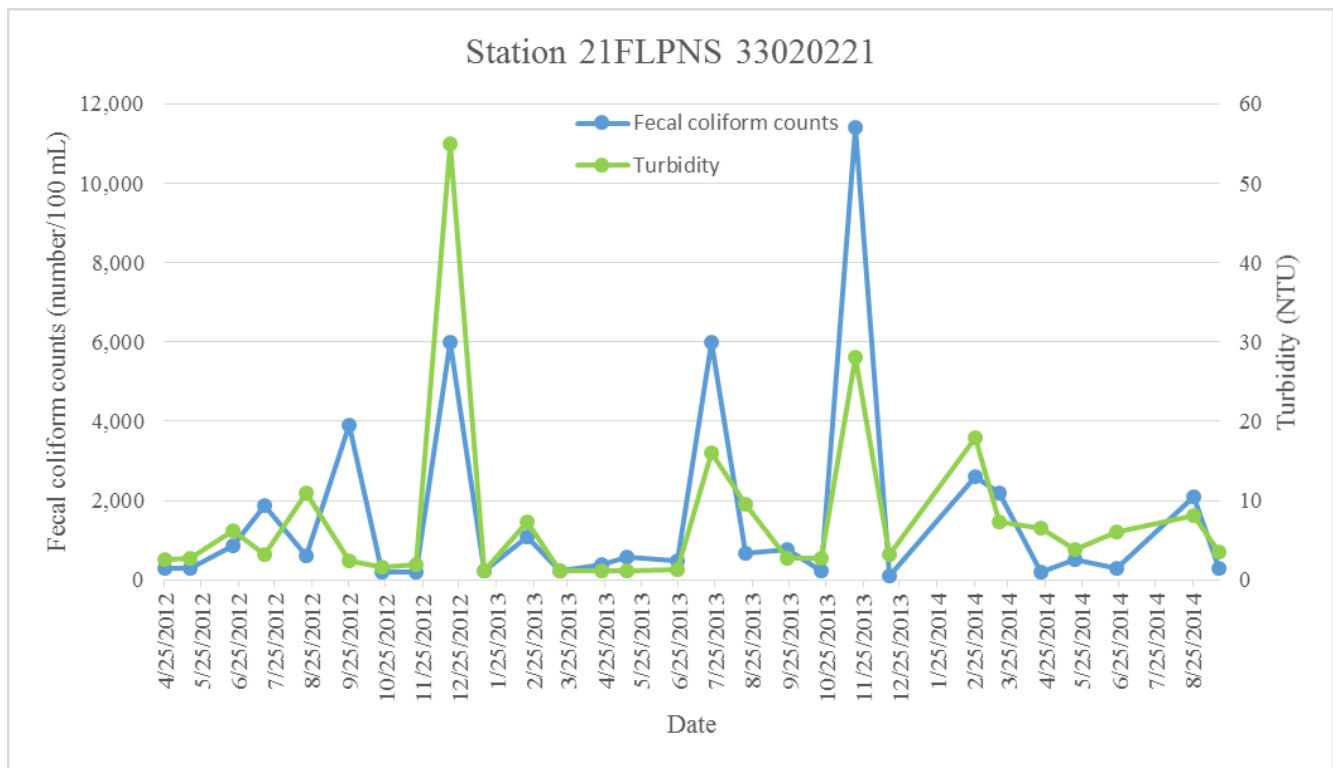


FIGURE 7: RELATIONSHIP BETWEEN FECAL COLIFORM COUNTS AND TURBIDITY AT THE JACKSON CREEK AT OLD CORRY ROAD STATION, 2012-2014

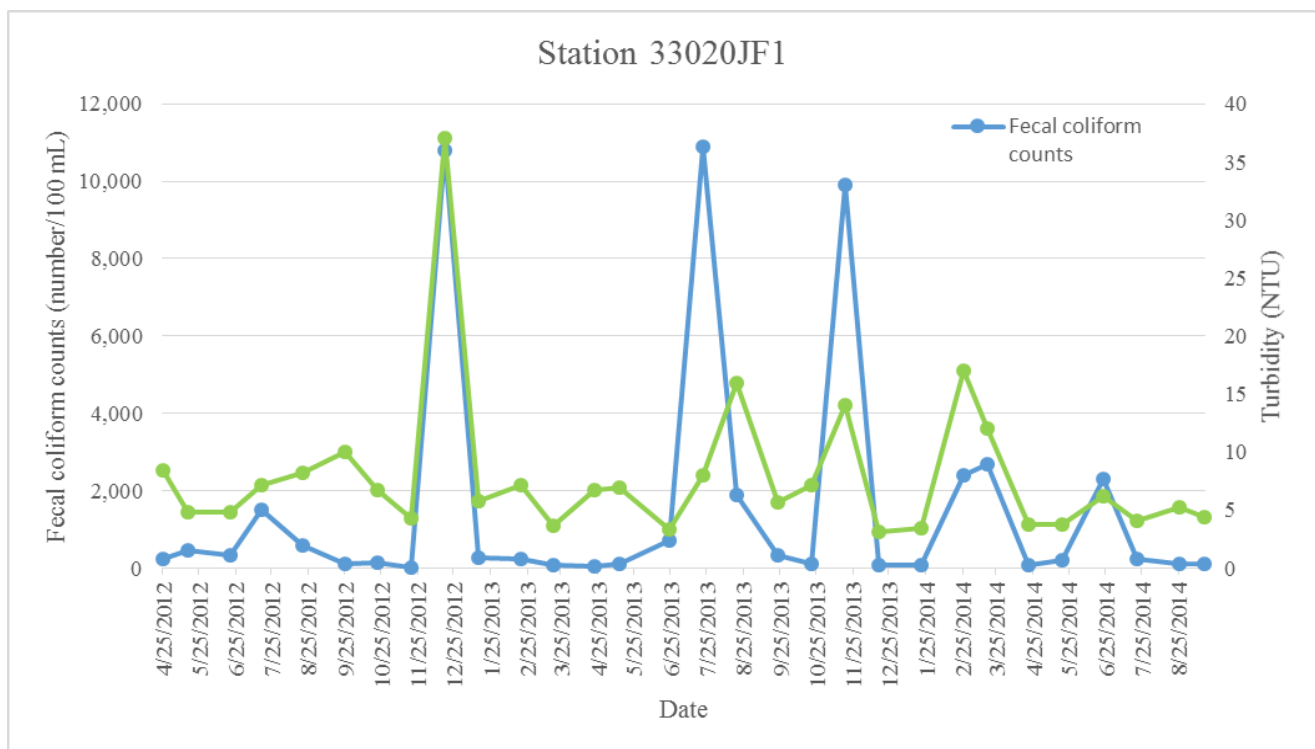


FIGURE 8: RELATIONSHIP BETWEEN FECAL COLIFORM COUNTS AND TURBIDITY AT THE BAYOU CHICO AT "W" STREET BRIDGE STATION, 2012-2014

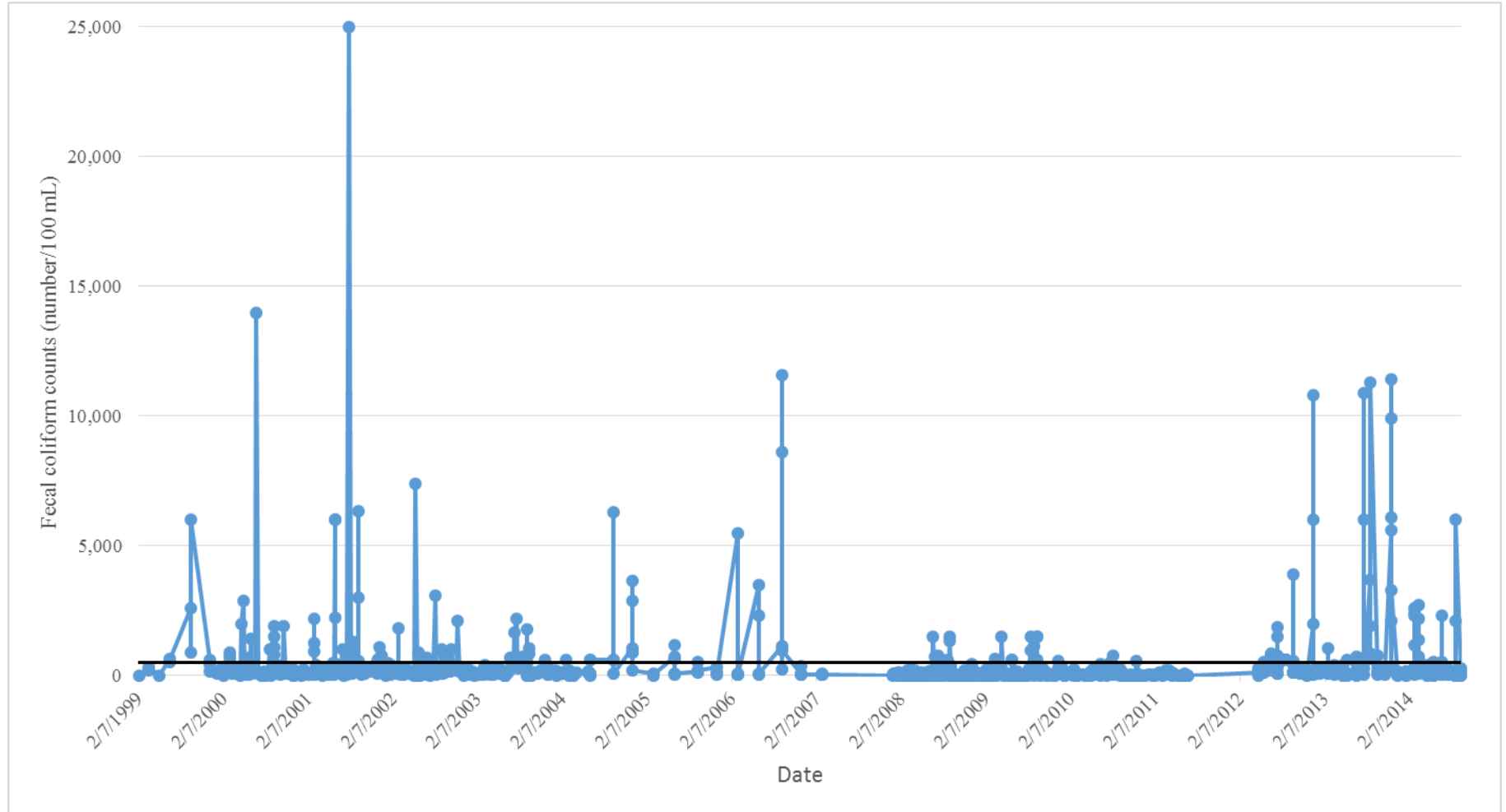


FIGURE 9: FECAL COLIFORM COUNTS AND PATTERNS IN THE BAYOU CHICO BASIN, 1999–2014

The Enterococcus data were also evaluated, and there has been an increasing pattern over the period of 2012-2014 (see **Figure 10**). The highest counts were found at the Jackson Creek at Old Corry Road station (33020221), and these high counts also appear to be related to rainfall events. As with the fecal coliforms, the Enterococcus counts do not seem to be related to salinity but do seem to have a relationship with turbidity at several stations (see **Figure 12** and **Figure 13**). However, statistical evaluations of these relationships were not conducted.

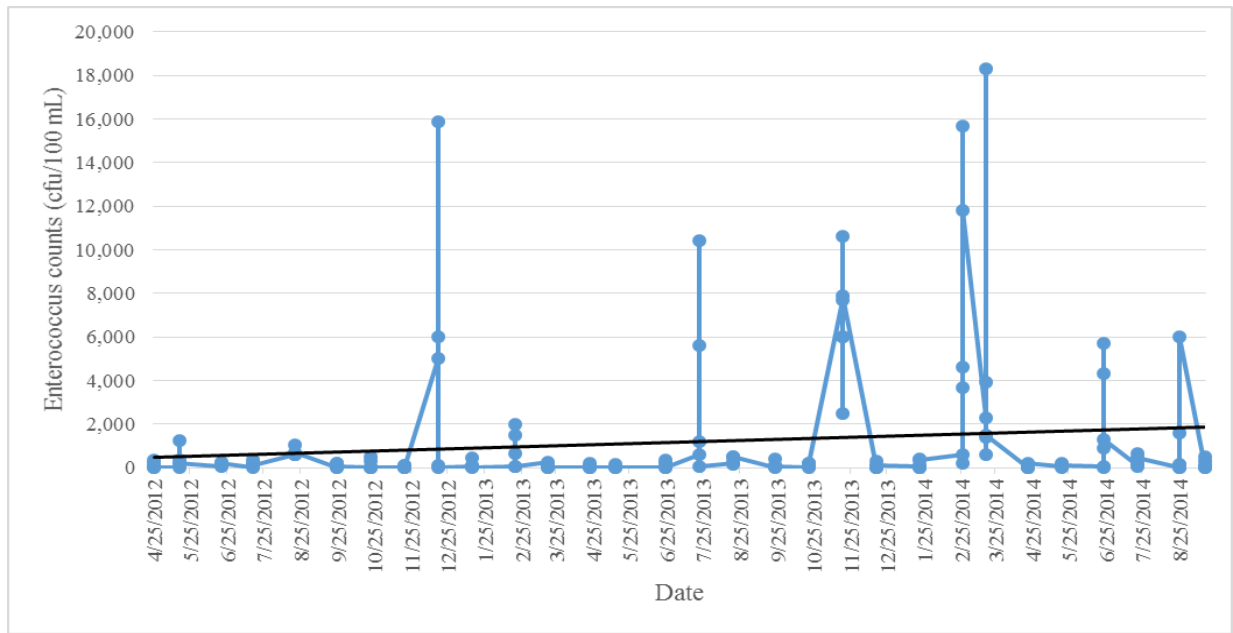


FIGURE 10: ENTEROCOCCUS COUNTS IN THE BAYOU CHICO BASIN, 2012-2014

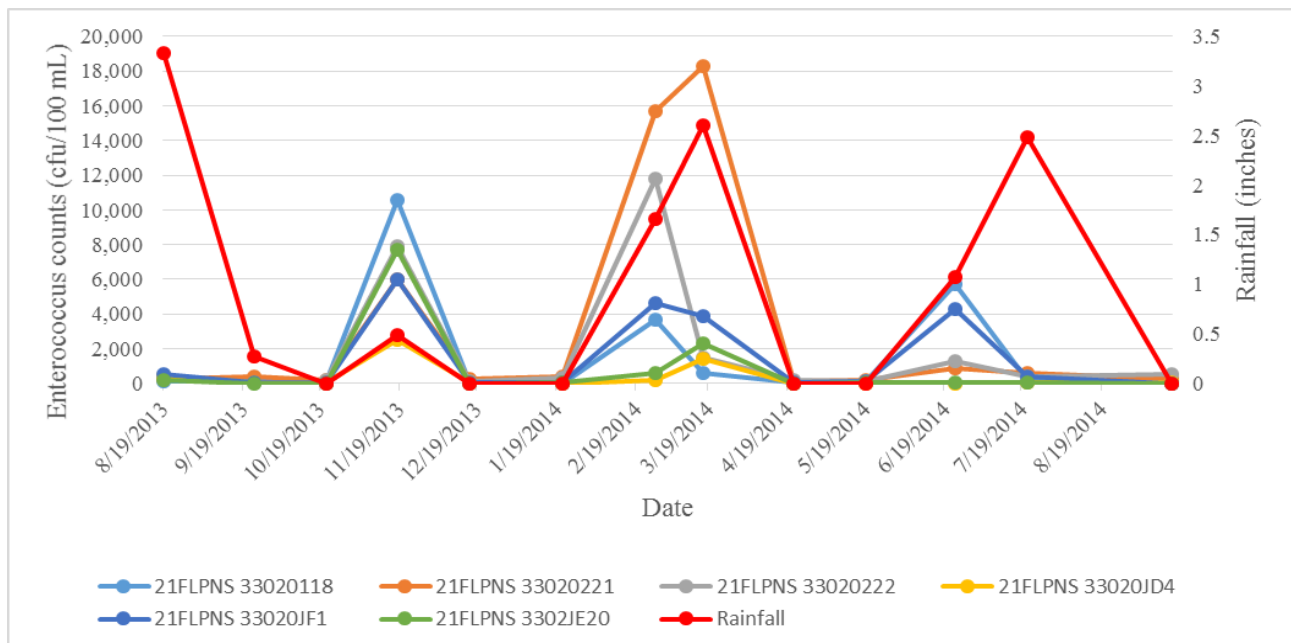


FIGURE 11: ENTEROCOCCUS COUNTS AT EACH MONITORING STATION COMPARED TO RAINFALL, 2013-2014

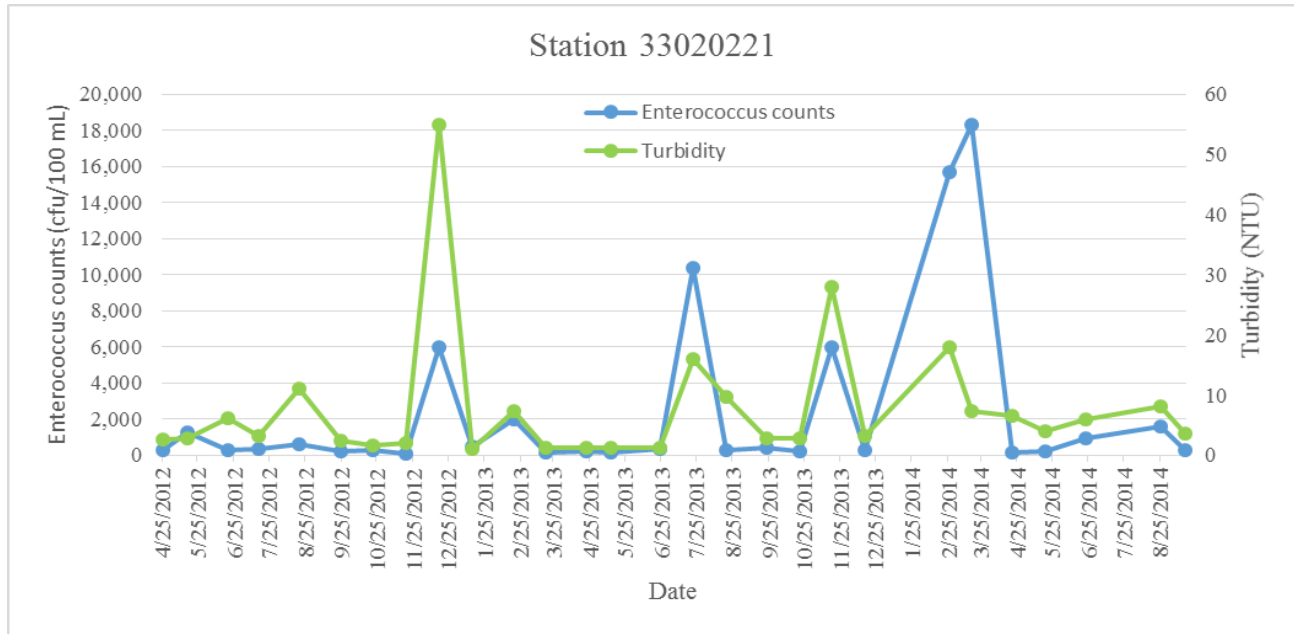


FIGURE 12: RELATIONSHIP BETWEEN ENTEROCOCCUS COUNTS AND TURBIDITY AT THE JACKSON CREEK AT OLD CORRY ROAD STATION, 2012-2014

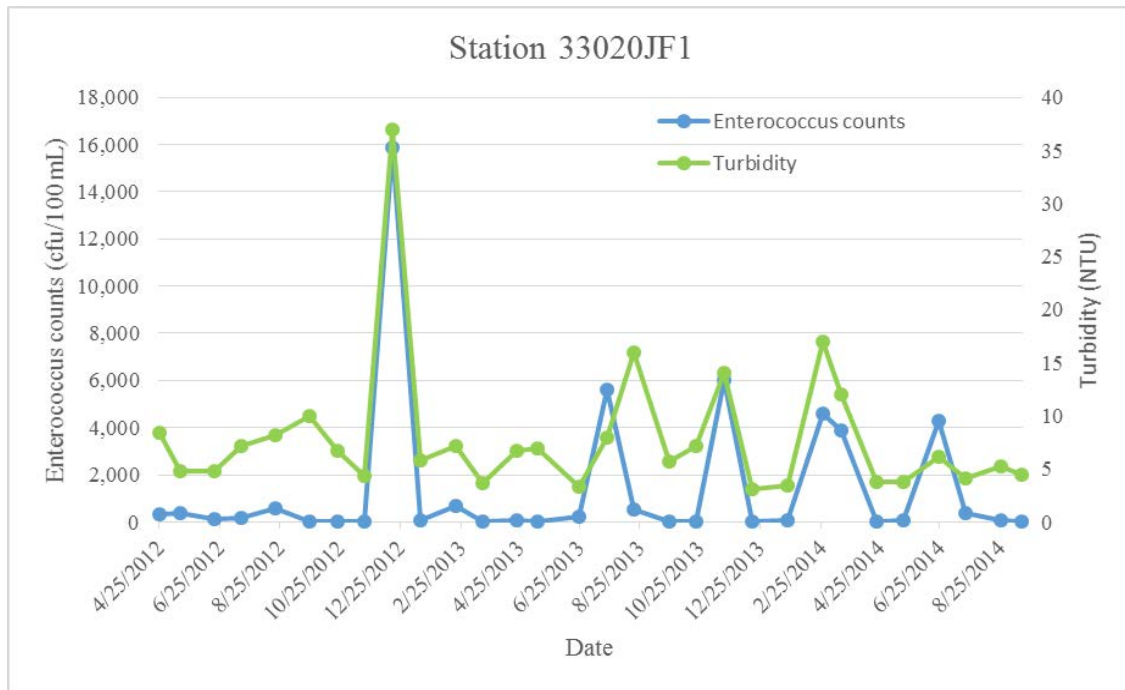


FIGURE 13: RELATIONSHIP BETWEEN ENTEROCOCCUS COUNTS AND TURBIDITY AT THE BAYOU CHICO AT "W" STREET BRIDGE STATION, 2012-2014

The stakeholders will continue the current sampling plan in the upcoming year, and will follow up on high counts over 5,000 CFU/100mL to try and identify a source. Towards the end of Year 4 of BMAP implementation, more detailed assessments may be implemented in areas of the basin that continue to have high fecal coliform counts.

Section 4: UPCOMING YEAR ACTIVITIES

4.1 SUMMARY OF EFFORTS FOR THE UPCOMING YEAR

The monitoring projects detailed in **Section 3.1** will continue. In addition, expanded efforts will be implemented to identify bacteria sources and evaluate the potential impact of human waste on the bacteria levels observed within the BMAP area.

During the next year's BMAP activities, a concentrated and extensive effort will be conducted to more effectively and comprehensively identify actual and potential bacteria sources contributing to bacteria levels observed within the BMAP area. The initial effort will consist of a workshop (termed Maps on the Table) where stakeholders will assist in identifying potential bacteria sources within the BMAP watershed. This effort relies on compiling working knowledge of activities and hydrological functionality within the watershed. This exercise will utilize detailed GIS watershed maps, which will be augmented with map notations based on local knowledge identifying actual and potential bacteria sources. The Maps on the Table exercise is scheduled to take place in mid-December, 2014.

Results of the Maps on the Table exercise will be used during multiple field investigations and evaluations (termed Walk the Watershed or WBID). These collaborative efforts will involve stakeholders with working knowledge of activities and conveyance infrastructures within the BMAP watershed conducting field inspections to assist in the identification of effective bacteria source reduction actions. In combination with these efforts, the Department and stakeholders will also collect samples and utilize indicators of human waste to identify sources contributing to Bayou Chico. These efforts are designed to identify locations or activities within the BMAP watershed where reduction efforts will be effective in reducing human health risk bacteria sources and, ultimately, to meet the reductions required by the TMDL.

APPENDIX A: BMAP PROJECT TABLES

TABLE A-1: BARC BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Not applicable	All	Environmental Symposium 2007 - Public outreach and education on water, air and land use issues and concerns	Public Outreach and Education	Completed	\$2,400
Not applicable	All	BARC Watershed Tour 2007 - Public outreach and education on land use and water, point and nonpoint source pollution	Public Outreach and Education	Completed	\$1,200
Not applicable	All	Distribution of brochures on green building design, ecological research programs, low impact development, sustainability, etc. at various events	Public Outreach and Education	Completed	\$31,000
Not applicable	All	Distribution of brochures at Bay Day 2007 - 2009 and hand on environmental education activities	Public Outreach and Education	Completed	\$0
BARC-60	All	Neighborhood Clean Sweep Program (debris and garbage clean-ups throughout the basin)	Public Outreach and Education	Funded	Unknown
BARC-81	All	Environmental Symposium 2012 – Public outreach and education on TMDLs, numeric nutrient criteria, and water quality	Public Outreach and Education	Completed	Unknown
BARC-82	All	Environmental Symposium 2013 – held in the fall with UWF	Public Outreach and Education	Completed	Unknown
BARC-83	All	Stormwater Drain Markings – BARC staff and UWF student volunteers placed 149 Duracast polyurethane curb markers on the concrete casing above the curbside inlets in areas whose stormwater runoff feeds directly to the bayou, and distributed stormwater fact sheets to over 1,200 households in the area	Public Outreach and Education	Completed	Unknown

TABLE A-2: BCA BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
BCA - 42	846 C-BC Drain	Oyster reef project - habitat restoration	Oyster Reef Restoration	Completed	Unknown
BCA - 43	846 C-BC Drain	Bayou Chico Channel Dredging - remove restrictive piling to open up channel and increase flushing in the tributaries of the bayou	Dredging	On hold	\$68,000
BCA - 44	846 C-BC Drain	Install aeration systems to break down waste and allow aerobic activity and bacterial digestion	Aeration System	On hold	Unknown
BCA - 45	846 C-BC Drain	Floating Islands - promote the use of BioHaven® to enhance wetland functions and improve water quality	Floating Islands	On hold	Unknown
BCA - 46	846 C-BC Drain	Clean Marina Clean Boatyard - Pensacola Ship Yard	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
BCA - 47	846 C-BC Drain	Clean Marina - Bahia Mar Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 48	846 C-BC Drain	Clean Marina - Palm Harbor Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 49	846 C-BC Drain	Clean Marina - Island Cove Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 50	846 C-BC Drain	Clean Marina - Harbor View Marina	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 51	846 C-BC Drain	Clean Marina Program - Pensacola Yacht Club	Marina Waste Handling Improvements/Clean Marina Program	Planned	Unknown
BCA - 52	846-Bayou Chico (BC)	Pump-out facilities (three, including a mobile unit)	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA - 53	846-Bayou Chico (BC)	Marine Industry Operations - obtain NPDES stormwater permit	Marina Waste Handling Improvements/Clean Marina Program	Completed	Unknown
BCA-55	846 C-BC Drain	Public Awareness and outreach campaign (brochures/neighborhood outreach on pet waste, leaking oil, fertilizers, soaps and detergents)	Public Education and Outreach	Completed	Unknown
BCA-56	846 C-BC Drain	Bayou Chico Dredging	Dredging	Pending funding – submitted for RESTORE	\$10,000,000
BCA-79	846 C-BC Drain	Annual Bayou Chico Cleanup	Public Education and Outreach	Ongoing	Unknown
Not applicable	846 C-BC Drain	Barge clean-up at a residential location	Cleanup	Completed	Unknown

TABLE A-3: COP BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Not applicable	848DA	Sanders Beach Storm Sewer Reconstruction, or known as Pensacola Yacht Club Ditch Replacement - reroute flow from contaminated (Superfund site) ditch	Storm Sewer Upgrades	Completed	\$1,250,000
COP-57	846C – BC Drain (N)	L & Zarragossa Street Drainage Improvements - new stormwater treatment	Stormwater Upgrades/Repairs	Construction pending	\$1,000,000
COP-58	846C – BC Drain (N)	Pace and Gregory Street, Magnet School Baffle Boxes	Stormwater Treatment Installation/Maintenance	Completed	\$230,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
COP-59	846C – BC Drain (N)	Street Sweeping Program	Reduction of Pet and Animal Waste	Ongoing	\$745,000
COP-80	846C – BC Drain (N)	R and Wright Street Baffle Box	Stormwater Treatment Installation/Maintenance	Planned – completion 08/2015	\$350,000
COP-84	846C – BC Drain (N)	Bayou Drive Outfalls into Bayou Chico	Stormwater Treatment Installation/Maintenance	In Design	\$325,000
COP-85	846C – BC Drain (N)	Bill Gregory Park Stormwater Treatment Enhancement	Stormwater Treatment Installation/Maintenance	Construction pending	\$1,950,000

TABLE A-4: ECUA BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
ECUA - 1	Multiple	Lakewood Phase I – 183 connections	Sewer Extensions	Completed	\$1,431,866
ECUA - 2	846 C-BC Drain	Lakewood Phase II – 85 connections	Sewer Extensions	Completed	\$747,263
ECUA - 3	846 C-BC Drain	Lakewood Phase III – 112 connections	Sewer Extensions	Completed	\$723,964
ECUA - 4	846 C-BC Drain	Lakewood Phase IV	Sewer Extensions	Completed	\$128,845
ECUA - 5	846 C-BC Drain	Lakewood Phase V – 256 connections	Sewer Extensions	Completed	\$3,390,897
ECUA - 6	846 C-BC Drain	Lakewood Phase VI	Sewer Extensions	Completed	Unknown
ECUA - 7	846 C-BC Drain	Edgewater Phase I – 74 connections	Sewer Extensions	Completed	\$1,467,661
ECUA - 8	846 C-BC Drain	Edgewater Phase II – 295 connections	Sewer Extensions	Completed	Unknown
ECUA - 9	All	Fats, Oil, and Grease (FOG) Program	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 10	All	Inflow and Infiltration (I/I) Program	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 11	All	Sanitary Sewer Overflow (SSO) Response Program	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 12	All	Emergency Power Generator	Sewer Upgrades/ Repairs	Ongoing	Unknown
ECUA - 13	All	Main Street Relocation to Cantonment	Sewer Upgrades/ Repairs	Completed	Unknown
ECUA - 63	Unknown	Beach Haven – 1,720 connections total (half in Bayou Chico)	Sewer Extensions	Planned	\$1,200,000
ECUA - 64	846C-BC Drain	West Avery Street Sewer Upgrades	Sewer Upgrades/Repairs	Completed	Unknown

TABLE A-5: ESCAMBIA COUNTY BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County - 22	846 A-Jones Creek	Glynn Key - new stormwater best management practice (BMP)	Stormwater Treatment Installation/Maintenance	Completed	\$500,000
Escambia County - 22	846 A-Jones Creek	Glynn Key - educational amphitheater and signage	Public Education and Outreach	Completed	Unknown
Escambia County - 23	846 C-BC Drain	W-Street Weir Replacement	Stormwater Upgrades/Repairs	Completed	Unknown
Escambia County - 24	846 C-BC Drain	Jackson Lakes Stormwater – new stormwater BMP	Stormwater Treatment Installation/Maintenance	Completed	\$500,000
Escambia County - 24	846 C-BC Drain	Jackson Lakes - educational amphitheater and signage	Public Education and Outreach	Completed	Unknown
Escambia County - 25	Multiple	Derelict Vessel Removal	Derelict Vessel Removal	Completed	\$50,000
Escambia County - 26	All	New Stormwater Ponds with New Development - 11 new BMPs	Stormwater Treatment Installation/Maintenance	Under construction	\$1,100,000
Escambia County - 27	All	Illicit Discharge Detection, High Risk Industries, Small Quantity Generators, Stormwater Outfall Monitoring	Sampling	Completed	\$50,000
Escambia County - 28	All	Stormwater Pond - inspection and maintenance of more than 300 ponds	Stormwater Treatment Installation/Maintenance	Ongoing	\$300,000
Escambia County and ECUA - 29	846C-BC Drain	Avery Street Drainage Improvements Phase I (Kupfiran Park Area Improvements) - construction of new stormwater infrastructure within Kupfiran Park area	Stormwater Upgrades/Repairs	Completed	\$1,000,000
Escambia County - 30	846 A-Jones Creek	Wetland Preservation - purchase of 4 parcels at Fairfield Drive and Albany Avenue	Wetland Preservation	Completed	\$300,000
Escambia County - 31	846 A-Jones Creek	West Jones Creek Stream Restoration - wetland restoration and maintenance carried out west of Navy Boulevard, east of Fairfield Drive; construct natural stream channel, restoration activities in floodplain	Wetland Restoration	Completed	\$250,000
Escambia County, BARC, and BCA - 32	All	Public Education and Outreach	Public Education and Outreach	Ongoing	\$10,000
Escambia County - 34	All	Stormwater Outfall Monitoring	Monitoring	Completed	Unknown
Escambia County and USN - 35	846 A-Jones Creek	Corry Station Retrofit Projects (Jones Creek East) – construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 100 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County and USN - 36	846 A-Jones Creek	Corry Station Runway Surface Restoration -logistics to remove 5 acres of impervious surface, provide new stormwater treatment for runoff; concrete material will be available as base substrate for offshore fishery habitat improvements, oyster reefs, and other shoreline stabilization and restoration projects	Stormwater Treatment Installation/Maintenance	Cancelled, project non-viable - Funds to be redirected into other projects	\$80,000
Escambia County and USN - 37	846B-Jackson Creek	Corry Station Retrofit Projects (Jackson Creek) - construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 200 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000
Escambia County - USN - 38	846 A-Jones Creek	Corry Station Retrofit Projects (Jones Creek West) - construction of new stormwater infrastructure on Naval Air Station property designed to provide treatment for more than 100 acres of previously developed areas, which include mixture of institutional, commercial, and residential land uses	Stormwater Treatment Installation/Maintenance	Planned	\$500,000
Escambia County - 39	All	Pet Waste Ordinance, Part 1, Article 1, Section 10-11(f)	Reduction of Pet and Animal Waste	Adopted	Unknown
Escambia County - 65	All	Neighborhood Clean Sweeps/Cleanups	Public Education and Outreach	Ongoing	\$50,000
Escambia County - 66	All	Monitoring Plan Implementation - monitor water quality to identify additional sources and assess water quality trends	Monitoring	Ongoing	Unknown
Escambia County and ECUA - 69	846C-BC Drain	Lakeview Street Drainage Improvements Phase II (Kupfiran Park Area Improvements) – construction of new stormwater infrastructure within Kupfiran Park area	Stormwater Upgrades/ Repairs	In design	\$400,000
Escambia County and Area Housing Commission -70	846A-Jones Creek	Jones Creek East Stream Restoration – restoration of 1,200 linear feet of East Jones Creek between Navy Blvd and Old Corry Field Road; includes stream enhancement, floodplain expansion, riparian wetland restoration, invasive exotic species eradication, and elevated educational boardwalk	Stream Restoration/ Public Education and Outreach	Completed	\$400,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County - 71	846A-Jones Creek	Lexington Terrace Stormwater Retrofit – construction of four-acre stormwater treatment train system to capture and treat approximately 60 acres of existing residential development; includes concrete vaults, dry retention, wet detention elements, and BMP effectiveness monitoring to be conducted post construction	Stormwater Treatment Installation/Maintenance	Completed/ Monitoring Ongoing	\$650,000
Escambia County - 72	846C-BC Drain	Maggie’s Ditch Wetland Enhancement Phase I – expansion of riparian wetlands along a 250-foot section of the headwaters of the northeast arm of Bayou Chico within historical floodplain	Wetland Enhancement	Completed	\$75,000
Escambia County and COP - 73	846C-BC Drain	Maggie’s Ditch Wetland Enhancement Phase II – Expansion of riparian wetlands along a 275-foot section of the headwater of the northeast arm of Bayou Chico within historical floodplain, also includes excavation and disposal of contaminated soils	Wetland Enhancement	Completed	\$175,000
Escambia County - 74	846C-BC Drain	“W” Street Sedimentation Basin Repairs – rehabilitation of failed sediment basin, includes dredging basin and installation of new composite weir	Stormwater Upgrades/ Repairs	Completed	\$150,000
Escambia County and Pensacola State College - 75	846A-Jones Creek	Southwest Greenway at Pensacola State College Warrington Campus – construction of 3,000-foot elevated educational boardwalk	Public Education and Outreach	Completed	\$400,000
Escambia County - 76	846 A-Jones Creek	Southwest Greenway 3 rd Extension – construction of 3,000-foot elevated educational boardwalk from Decatur Street west crossing Fairfield Drive; also includes improvements to 0.5 miles of existing on-grade trail system	Public Education and Outreach	Under construction	\$300,000
Escambia County - 77	846B – Jackson Creek	Jackson Lakes Stormwater Improvements – construction of improvements to the existing Jackson Lakes Offline Retention System; includes installation of one-way valve system at stormwater inlet and further expansion of littoral area	Stormwater Treatment Installation/Maintenance	In design	\$250,000
Escambia County - 78	846 A-Jones Creek	Beach Haven Stormwater Improvement Project Phases I and II – construction of new stormwater infrastructure for 250 acres of existing residential development along Jones Creek	Stormwater Treatment Installation/Maintenance	In design (Funding Received from NFWF Grant)	\$5,000,000
Escambia County - 86	846 A-Jones Creek	Beach Haven Stormwater Improvement Project Phase II – construction of new stormwater infrastructure for 250 acres of existing residential development along Jones Creek	Stormwater Treatment Installation/Maintenance	Planned	\$5,000,000

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
Escambia County - 88	846 A-Jones Creek	Jones Creek Floodplain Restoration / Expansion Project – Reestablish connection to historic floodplain along Jones Creek	Floodplain Restoration / Expansion Project	Planned (Funding Received from NFWF Grant)	\$1,500,00
Escambia County - 89	846B – Jackson Creek	Jackson Creek Floodplain Restoration / Expansion Project – Reestablish connection to historic floodplain along Jackson Creek	Floodplain Restoration / Expansion Project	Planned (Funding Received from NFWF Grant)	\$1,500,000
Not applicable	846A-Jones Creek	East Jones Creek Stream Restoration - restore 1,200 linear feet of East Jones Creek; stream enhancement and natural stream channel restoration project; floodplain restoration; wetlands restoration; elevated educational boardwalk	Stormwater Treatment Installation/Maintenance	Completed	\$250,000

TABLE A-6: FDOH IN ESCAMBIA COUNTY BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FDOH - 14 EBCH - 18	All	Septic to Sewer Enforcement Program - enforcement by notification and tracking of conversion compliance in Lakewood and Edgewater	Sewer Extensions	Completed	Unknown
FDOH - 16	All	OSTDS Permitting Program as per Rule 64E-6, F.A.C.	Permitting Program	Ongoing	Not applicable
FDOH - 17	All	Industrial/Business Annual Operating Permits and Compliance Inspections per Rule 64E-6, F.A.C.	Permitting Program	Completed	\$900
FDOH - 19	All	FDOH Research Program with UWF to develop method to distinguish human from nonhuman sources of pollution	Research	Completed	Unknown
FDOH - 21	846CB (Lakewood) and 848DA (Sanders Beach)	Healthy Beaches Program – bi-weekly sampling of specific sites for Enterococcus	Sampling	Ongoing	\$5,676
Not applicable	All	Environmental Analysis Program – inspect improperly installed and poorly maintained septic tanks systems	Evaluation Program	Completed	Unknown

TABLE A-7: FDOT BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FDOT-40	846 C-BC Drain	(State Road 292) Barrancas Bridge Replacement and stormwater treatment for bridge and roadway	Roadway Projects with Structural BMPs	Completed	Unknown
FDOT-41	846 C-BC Drain	Bayou Chico US 98 (Navy Boulevard) Bridge replacement and stormwater treatment for 4-lane bridge where no treatment existed previously.	Roadway Projects with Structural BMPs	Completed	Unknown
FDOT - 67	All	MS4 Implementation	MS4 Implementation	Ongoing	Unknown
FDOT - 68	All	FDOT Drainage Connection Program to regulate and prescribe conditions for the transfer of stormwater to FDOT's right of way	Drainage Connection Program	Ongoing	Unknown
FDOT - 87	All	Illicit Discharge Detection and Elimination Training	Training	Ongoing	Unknown

TABLE A-8: FWC BAYOU CHICO BMAP PROJECTS

PROJECT NUMBER	AFFECTED AREA (WBID)	PROJECT NAME AND DESCRIPTION	PROJECT TYPE	STATUS	PROJECT COST
FWC-54	846-BC Drain	Compliance and Inspection Sweeps - for noncompliance on moored and live-aboard vessels	Inspection Program	Ongoing	Unknown