SOURCE WATER PROTECTION PROGRAM
ASSESSMENT/PLANNING PROJECT FINAL REPORT

Source Water Protection Bayou Lafourche Fecal Coliform Sources Donaldsonville to Labadieville

by

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CFMS Interagency Agreement No. 697302
OCR Interagency Agreement No. 850-100052

EXECUTIVE SUMMARY

Project Title: Source Water Protection Bayou Lafourche Fecal Coliform Sources Donaldsonville to Labadieville

CFMS Interagency Agreement No. 697302 .
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Grant Source: Louisiana Department of Environmental Quality

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Nicholls Match:	$ 90,634.68
TOTAL FUNDING	$226,349.41

EXPENDITURES

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Nicholls Match Expenditures	$ 90,634.68
TOTAL EXPENDITURES	$ 223,264.64

The Bayou Lafourche (Bayou) Louisiana Department of Environmental Quality (LDEQ) subsegment (020401), which is the sole drinking water source for 300,000 people in five Louisiana parishes, has failed to consistently meet its designated use criteria set by the LDEQ. This resulted in a “Total Maximum Daily Load” (TMDL) to be imposed on the Bayou by the Environmental Protection Agency (EPA 2004). These designated use water quality criteria include fecal coliform levels for drinking water source (DWS), primary contact recreation (PCRec), secondary contact recreation (SCR), fish and wildlife propagation (FWP) and dissolved oxygen (DO) (LDEQ 2012). The goal of this project was to identify and enumerate anthropogenic nonpoint source (NPS) fecal coliform (FC) contamination from malfunctioning home sewage systems in the Bayou's watershed within two “protection areas” (PAs) designated by the LDEQ. The objectives of the project to meet our goal were: (1) to determine whether onsite sewage systems are a significant contributing source of the high FC levels to Bayou Lafourche; (2) to combine targeted FC sampling with optical brightener (OB) fluorometry and three human molecular markers to identify “hot spots” that may be contributing human fecal coliforms to the Bayou; and (3) to provide information that may be used by LDEQ to address the problem of malfunctioning onsite sewage systems.

Thirty four sites divided into six north to south spatial clusters (A-F) along the Bayou were selected from the Mississippi River (MR) source at Donaldsonville in Ascension parish through the St John Church in Lafourche parish (32 miles). A rotating AM/PM temporal spatial sampling within three sampling groups occurred three weeks a month for a year. Samples were analyzed for optical brightener ratios (OB fluorescent units - FU), fecal coliforms (FC) CFU/100 mL (mFC), *Escherichia coli* (CHROMAgar™ *E. coli*). *E. coli* positive samples were confirmed as human with three molecular markers using polymerase chain reaction (PCR). They included a human polyoma virus - BK (HPyV-BK), the Archaeon *Methanobrevibacter smithii*, and the human-associated *Brevibacterioides* HF 183 eubacteria. Analyses of the OB FU ratios, FC cfu/100 mL, E. coli cfu/100 mL, and PCR human markers (+/-) identified twelve (12) anthropogenic “hotspot” source sites directly to the Bayou. Frequencies of sites with all three anthropogenic molecular markers + are considered very significant for human contamination, especially in combination with positive OB ratios, FC levels greater than designated use criteria, and *E. coli* to confirm warm-blooded feces in the FCs.

This project provided the LDEQ with data and information that may be used to address the problem of malfunctioning onsite sewage systems in the Bayou Lafourche watershed. The elimination of anthropogenic contamination to the Bayou is a main step toward restoring its water quality to its designated use criteria for drinking water source, primary and secondary contact recreation and animal and plant habitat.

This project is Phase 2 and a continuation of the Phase 1 project which developed the approach and methods to identify “hot spots” of anthropogenic contamination from faulty home sewage package plants in the LDEQ designated “protection areas” 1 and 2 of Bayou Lafourche from the Labadieville Bridge on Hwy 398 in Assumption Parish to the old Valentine Bridge below Lockport at the old Valentine Sugar Mill (closed) and the Valentine Chemical Plant (Wise et al. 2011). In this Phase 2 continuation of Phase 1 the input of anthropogenic fecal coliforms were identified using optical brightener (OB) chemical markers from laundry detergent in human sewage as a strong presumptive indicator of human sewage contamination and a "tool box" of three human molecular markers for sewage: Human Papilloma Virus-BK (HPV-BK) is a 100% human marker; the Archaeon *Methanobrevibacter smithii*; and the Eubacterium Human Bacterioidales HF-183. The *M. smithii* is reportedly more human specific than the Human *Bacteroides* HF183 bacterium although it has been found associated with warm-blooded animals. However Human *Bacteroidales* is the most numerous bacteria found in the gut flora and is useful in detecting potential human sewage that is more diluted. Absence of any of the three markers means that either there is no human input in that source or that the input was too diluted for the methods to detect.

Final sites in this 32 mile stretch of Bayou Lafourche included single dwelling on-sight single home sewage package plant effluents to structures (culverts, ditches, canals) in Ascension and Assumption Parishes (from the siphon structure at the Mississippi River in Donaldsonville to Lafourche Parish at the St. John Church on LA 1) that can potentially drain into Bayou Lafourche and impair the microbial water quality standards for its designated uses – particularly drinking water source (DWS), and in some areas primary and secondary contact recreation (PCRec and SCR), and dissolved oxygen (DO mg/L) for the freshwater aquatic habitat. The bridges across Bayou Lafourche in the study area were also selected as final sites to determine if the human sewage drainage from the above sources was great enough to impact the significant dilution factor of the Bayou.

The two protection areas (PAs) were delineated by LDEQ as areas that could conceivably impact the drinking water plant intake pumps in Bayou Lafourche for the City of Donaldsonville's People's Water Treatment Plant and the Assumption Parish Water District No.1 in Napoleonville. The possibility also existed that Ascension and Assumption Parish human sewage contamination to Bayou Lafourche could flow downstream into Lafourche Parish as far as the City of Thibodaux Water Plant in downtown Thibodaux. For this reason a site in north Lafourche Parish at the St. John Catholic Church bridge on LA 1 was added as a final site of the total 34 sites. State and local government, academic, and environmental industry sources were investigated to obtain GIS information, maps, and other documents and databases to help select sampling sites within the protection areas along Bayou Lafourche in Ascension and Assumption Parishes. GIS data was collected for all available potential anthropogenic fecal coliform (FC) sources. GIS data for single dwelling package plants, subdivision package plants, and drinking water source intake pumps, and other drainage locations were all entered in the protection area shape files. A sampling protocol was developed using three geographically spaced groups of sites in Ascension and Assumption parishes. They are spatially located north to south in the study area starting with the source water to the Bayou in the Mississippi River at the Donaldsonville river levee, and have multiple sampling sites within each group for a total of 34 sampling sites. A rotating temporal (morning and afternoon) and spatial sampling protocol of the 34 sampling sites within the three sampling groups occurred three weeks each month during the four seasons of the entire year from September, 2011 through August 2012. This allowed each of the 34 sites to be sampled each month with each group of sites rotating from morning to afternoon each month for six samples during the morning and six samples during the afternoon for the entire year. Our GIS maps were used in conjunction with Virtual Earth bird’s eye view software to identify surface drainage inaccessible or hard to see by land and to see targeted package plant clusters. Overall the project plan and method of using a combination of GIS maps, Virtual Earth aerial views, a field fluorometer to identify (OBs) for positive presence of optical brighteners in laundry detergent, and confirmation of high FC and positive OB sites with three molecular anthropogenic markers to locate "hot spots" of human sewage contamination of Bayou Lafourche worked very well toward meeting the goal and objectives of the project. The LDEQ can use the results of the sources of anthropogenic fecal or sewage input into the Bayou Lafourche drainage basin to better address the problem of meeting the EPA TMDL for Bayou Lafourche. Possible solutions will be to work with LDEQ officials and local and parish governments to foster the passage of local ordinances to address the faulty treatment systems. This could include the implementation of Best Management Practices (BMP’s).

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

The Safe Drinking water Act Amendments (SDWA) of 1996 required all states to develop a Source Water Assessment Program (SWAP) to ensure safe drinking water for citizens through protection of water sources. The Congress intended the states to utilize the SWAP information to substantially implement a source water protection strategy developed by each state. The strategy is designed to protect both surface water and groundwater sources of drinking water. Historical data for Bayou Lafourche have failed to meet their designated acceptable water quality criteria for summer months. This resulted in the implementation of a Total Maximum Daily Load (TMDL) for Bayou Lafourche (EPA 2004). The drainage basin for Bayou Lafourche has a mixed land use of agricultural, industrial and residential. The treatment and release of residential wastewater is the responsibility of the homeowner; and in unincorporated areas this release runs into ditches which drain to the bayou and ultimately contribute to the TMDL. We seek to identify specific influents directly to the Bayou that are contributing to the impaired quality of this important body of water which is used as a human drinking water and recreation source, and as an aquatic wildlife habitat.

Bayou Lafourche, located in the Barataria Basin of southern Louisiana, branches off of the Mississippi River curving and winding for 110 miles through three parishes and eventually emptying into the Gulf of Mexico. See Figure 1 below. Bayou Lafourche is a vital asset to the communities and towns that line its banks. It serves as a habitat for a variety of aquatic animals and plants, provides a location for numerous recreational activities, gives boats access to the Gulf of Mexico and many other waterways, and supplies the main source of drinking water in five parishes for about 300,000 people. However non-point source microbiological and chemical contaminants enter Bayou Lafourche through forced drainage areas or through natural overland drainage such as cropland and storm water drainage systems, canals, ditches, and culverts. Incomplete sewage treatment from subdivisions and rural communities introduces nutrients, toxics, sewage indicator bacteria, and microbial, viral, and protozoan pathogens to Bayou Lafourche waters. Septic tanks, sewage overflow, and unsewered communities also contribute contaminants to the Bayou and our wetlands as a whole (Kilgen et al. 1995). As a result of pollution, the nutrient loads in the ecosystem have increased and frequent eutrophication occurrences have been reported (BTNEP 1995).

Figure 1. Location of Bayou Lafourche in the Barataria Terrebonne National Estuary and Acting as the Boundary between the Barataria and Terrebonne Estuaries of the Coastal Louisiana Delta.

The Federal Clean Water Act requires all states to identify those bodies of water that are not meeting their designated water quality standards and to develop total maximum daily pollutant loads (TMDL) for those water bodies. A TMDL is the maximum amount of pollutant that a water body can assimilate without exceeding the established designated water quality standard for that pollutant (EPA 2004).

The State of Louisiana's Department of Environmental Quality (LDEQ) sets designated use water quality standards for its bodies of water. These include microbial fecal coliform (FC) standards for drinking water supply, primary contact recreation, secondary contact recreation, oyster propagation and harvesting, and fish and wildlife propagation (dissolved oxygen).

Table 1 and the information below is taken from the State of Louisiana 2012 Water Quality Management Plan Water Quality Inventory Integrated Report (Section 305(b) 2008 Report). It summarizes the designated uses, standards, and the percentage of water bodies meeting these standards, LAC 33:IX.1123 (LDEQ 2012a, LDEQ 2012b).

Table 1. Parameters for each designated use; Louisiana's 2012 Integrated Report (LDEQ 2012b)

Numerical Criteria and Designated Uses									
A-Primary Contact Recreation; B-Secondary Contact Recreation; C-Fish And Wildlife Propagation; L-Limited Aquatic Life and Wildlife Use; D-Drinking Water Supply; E-Oyster Propagation; F-Agriculture; G-Outstanding Natural Resource Waters									
Code	**Stream Description**	**Designated Uses**	**Numerical Criteria**						
			CL	**SO_4**	**DO**	**pH**	**BAC**	**°C**	**TDS**
Barataria Basin (02)									
020401	Bayou Lafourche–From Donaldsonville to ICWW at Larose	A B C D	70	55	2.3 Mar.-Nov.; 5.0 Dec.-Feb.	6.0-8.5	1* 2 3	32	500

Bacterial Criteria (BAC): The code numbers associated with the following designated uses are used in Table 1 under the Numerical Criteria subheading "BAC."

Code	Designated Use
*1	Primary Contact Recreation
2	Secondary Contact Recreation
3	Drinking Water Supply
4	Oyster Propagation

The code number identified under the Numerical Criteria subheading "BAC" in Table 1 represents the most stringent bacterial criteria that apply to each individual subsegment. Where applicable, additional less stringent bacterial criteria also apply (2 and 3 are added to the table above), depending on the designated uses of the subsegment. The specified numeric bacterial criteria for each designated use listed in this Paragraph can be found in LAC 33:IX.1113.C (LDEQ 2012a).

Designated Uses. The following notations for water use designations are used in Table 1 under the subheading "Designated Uses." (LDEQ 2012a)

Notation	Designated Use
A	Primary Contact Recreation (PCR)
B	Secondary Contact Recreation (SCR)
C	Fish and Wildlife Propagation (FWP)
L	Limited Aquatic Life and Wildlife Use
D	Drinking Water Supply (DWS)
E	Oyster Propagation
F	Agriculture
G	Outstanding Natural Resource Waters

For most water bodies, criteria are as follows: PCR, 400 colonies/100 mL; SCR, 2,000 colonies/100 mL; DWS, 2,000 colonies/100 mL; SFP, 43 colonies/100 mL; dissolved oxygen (DO) criteria for fish and wildlife propagation (5 mg/L DO for fresh and marine waters and 4 mg/L for estuarine water). No designated standards for BOD are cited by LDEQ, however, the average normal BOD in surface fresh and estuarine waters should be less than 15 mg/L. (see LAC 33:IX.1123). Low DO and high BOD are associated with high nutrient levels (LDEQ 2012a).

LAC 33:IX.1123: For water quality monitoring and assessment purposes the following criteria shall be used to determine support for the designated uses (LDEQ 2012a, LDEQ 2012b).

a. Primary Contact Recreation. No more than 25 percent of the total samples collected on a monthly or near-monthly basis shall exceed a fecal coliform density of 400/100 mL. This primary contact recreation criterion shall apply only during the defined recreational period of May 1 through October 31. During the non-recreational period of November 1 through April 30, the criteria for secondary contact recreation shall apply.

b. Secondary Contact Recreation. No more than 25 percent of the total samples collected on a monthly or near-monthly basis shall exceed a fecal coliform density of 2,000/100 mL. This secondary contact recreation criterion shall apply year round.

c. Drinking Water Supply. No more than 30 percent of the total samples collected on a monthly or near-monthly basis shall exceed a fecal coliform density of 2,000/100 mL.

d. Oyster Propagation. The fecal coliform median most probable number (MPN) shall not exceed 14 fecal coliforms per 100 mL, and not more than 10 percent of the samples shall exceed an MPN of 43 per 100 mL for a five-tube decimal dilution test in those portions of the area most probably exposed to fecal contamination during the most unfavorable hydrographic and pollution conditions.

Bayou Lafourche's significance as the main source of drinking water for five parishes with many communities and a large population not incorporated into municipal sewage made this study significant in identifying the non-point sources of anthropogenic fecal coliform pollution to the system. Bayou Lafourche is not able to consistently meet its designated use standards year round for fecal coliform levels for primary contact recreation (PCRec), drinking water source (DWS), secondary contact recreation (SCR), and for dissolved oxygen (DO) levels to support aquatic wildlife. The data collected from this study will be used by the LDEQ to help target human fecal coliform (FC) sources and work with local governments to determine Best Management Practices (BMPs) to remediate the non-point source (NPS) fecal coliform pollution problem in Bayou Lafourche which has caused the Environmental Protection Agency to list Bayou Lafourche, Subsegment 020401 from its origin at Donaldsonville to the Intracoastal Waterway at Larose, as "not fully supporting its designated uses, and to be ranked as priority # 3 for total maximum daily load (TMDL) development." See Table 2 below taken from the EPS Region VI, Watershed Management Section's Bayou Lafourche TDML Report. (EPA 2004). Total fecal coliform TMDL summer load reduction for Bayou Lafourche Subsegment 020401 is a very significant 45%. This project evaluated the influent of fecal coliform sewage indicators from single dwelling on-sight or community (subdivision) sewage package plant effluents to drainage structures (culverts, ditches, canals) in Ascension and Assumption Parishes that can potentially drain into Bayou Lafourche and impair the microbial water quality standards for its designated uses – particularly for primary contact recreation and drinking water source.

Table 2. Fecal coliform TMDL for Bayou Lafourche (subsegment 020401) (Table 4.4 from EPA 2004)

Source	Summer Current Load (10^8 colonies/day)	Summer Reduction %	Summer Target Load (10^8 colonies/day)	Winter Current Load	Winter Reduction %	Winter Target Load (10^8 colonies/day)
WLA (waste load allocation)						
Treated wastewater	5.4	0	5.4	5.4	0	5.4
Thibodaux Storm water	4.0	47	2.1	4.0	0	4.0
Lockport Storm water	0.7	47	0.4	0.7	0	0.7
LA (load allocation)						
Wildlife	19.2	0	19.2	19.2	0	19.2
Failing Septic Systems	16.4	47	8.7	16.4	0	16.4
Other Storm water	32.6	47	17.3	32.6	0	32.6
*Mississippi River Pumping	477	~~47~~	252	514	0	514
Total Load	556	45	306	514	0	514
Future Growth			38.2			74.0
MOS			38.2			74.0
TMDL			382			740

***Note:** The Mississippi River source water was originally targeted for 47% reduction in fecal coliforms. However, after further assessment, EPA inserted into the TMDL report the following paragraph intended to exempt diversion of water from the River into Bayou Lafourche from any TMDL-related restrictions or reductions: *"Based on the assessment of pollutant sources in Section 4.2, it will be impossible to achieve a 45% reduction in fecal coliform levels without reducing the inputs to Bayou Lafourche from the Mississippi River (Table 4.4). However, this analysis assumed that fecal coliform levels in the Mississippi River were below the log mean water quality standards.** Therefore, the Mississippi River water should not be causing any violations of water quality standards in Bayou Lafourche and no reductions should be required for loading from the Mississippi River. This indicates that the assessment of pollutant sources in Section 4.2 is likely underestimating contributions from sources other than the Mississippi River water (e.g., septic systems, urban runoff, waterfowl and wildlife). The TMDL shown in Table 4.4 assumes a 47% reduction in fecal coliform loads from pumped Mississippi River water."*

**"Water pumped from the Mississippi River at Donaldsonville: Median values of fecal coliform counts for the Mississippi River east of Plaquemines (LDEQ station 0319) were 130/100 mL for summer and 140/100 mL for winter (based on 1991-2002 data)"*(Section 4-2, Table 4.1, EPA 2004).

Table 3. Temporal Spatial Sampling Protocol - Group 1 has 11 sites; Group 2 has 11 sites; Group 3 has 12 sites for a total of 34 sites.

Date		Time		Site Group sampled
Wed Sept 7, 2011		1:00 PM - 4:00 PM		Group 1 (PM)
Wed Sept 14, 2011		7:00 AM -11:00 AM		Group 2 (AM)
Wed Sept 28, 2011		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Oct 5, 2011		7:00 AM -11:00 AM		Group 1 (AM)
Wed Oct 12, 2011		1:00 PM - 4:00 PM		Group 2 (PM)
Wed Oct 19, 2011		7:00 AM -11:00 AM		Group 3 (AM)
Wed Nov 3, 2011		1:00 PM - 4:00 PM		Group 1 (PM)
Wed Nov 9, 2011		8:00 AM - 12:00 PM		Group 2 (AM)
Wed Nov 16, 2011		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Nov 30, 2011		7:00 AM -11:00 AM		Group 1 (AM)
Wed Dec 7, 2011		1:00 PM - 4:00 PM		Group 2 (PM)
Wed Dec 14, 2011		7:00 AM -11:00 AM		Group 3 (AM)
Wed Jan 4, 2012		1:00 PM - 4:00 PM		Group 1 (PM)
Wed Jan 12, 2012		8:00 AM - 12:00 PM		Group 2 (AM)
Wed Jan 19, 2012		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Feb 2 2012		8:00 AM - 12:00 PM		Group 1 (AM)
Wed Feb 8, 2012		1:00 PM - 4:00 PM		Group 2 (PM)
Wed Feb 16, 2012		8:00 AM - 12:00 PM		Group 3 (AM)
Wed March 1, 2012		1:00 PM - 4:00 PM		Group 1 (PM)
Wed March 15, 2012		8:00 AM - 12:00 PM		Group 2 (AM)
Wed March 22, 2012		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Apr 12, 2012		8:00 AM - 12:00 PM		Group 1 (AM)
Wed Apr 18, 2012		1:00 PM - 4:00 PM		Group 2 (PM)
Wed May 3, 2012		8:00 AM - 12:00 PM		Group 3 (AM)
Wed May 9, 2012		1:00 PM - 4:00 PM		Group 1 (PM)
Wed May 17, 2012		8:00 AM - 12:00 PM		Group 2 (AM)
Wed May 23, 2012		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Jun13, 2012		8:00AM - 12:00 PM		Group 1 (AM)
Wed June 20, 2012		1:00 PM - 4:00 PM		Group 2 (PM)
Wed Jun 28, 2012		8:00AM - 12:00 PM		Group 3 (AM)
Thur Jul 11, 2012		1:00 PM - 4:00 PM		Group 1 (PM)
Wed Jul 18, 2012		8:00 AM - 12:00 PM		Group 2 (AM)
Wed Jul 25, 2012		1:00 PM - 4:00 PM		Group 3 (PM)
Wed Aug 1, 2012		8:00 AM - 12:00 PM		Group 1 (AM)
Wed Aug 15, 2012		1:00 PM - 4:00 PM		Group 2 (PM)
Wed Aug 22, 2012		8:00 AM - 12:00 PM		Group 3 (AM)

36 sampling dates with 34 total sampling sites.

The study area of this project was defined by LDEQ. Protection areas were delineated by LDEQ as areas that could conceivably impact the drinking water plant intake pumps in Bayou Lafourche for the City of Donaldsonville's People's Water Treatment Plant and the Assumption Parish Water District No.1 in Napoleonville. These areas were provided to the contractors in GIS shape files by LDEQ.

The possibility also existed that Ascension and Assumption Parish human sewage contamination to Bayou Lafourche could flow downstream into Lafourche Parish as far as the City of Thibodaux Water Plant intake pump in downtown Thibodaux. For this reason a sampling site in north Lafourche Parish at the St. John Catholic Church bridge on LA 1 was added as a final site of the total 34 sites. Dr. Balaji Ram provided the following GIS maps of the study area. It is from the Mississippi River in Ascension Parish through the Bridge at the St. John Catholic Church on LA 1 in Lafourche Parish. The 34 selected sites are divided into three groups for sampling purposes. Eleven (11) Sites are in Group 1 (ASCE-1 through ASSU-4. Group 2 also has 11 sites (ASSU-5A through ASSU-14). Group 3 has 12 sites (ASSU-15 through LAFO-1. The overall map of the 34 sites was also divided into six north to south spatial clusters (A-F) along the Bayou from the Mississippi River (MR) source at Donaldsonville in Ascension parish through the St John Church in Lafourche parish (32 miles). These clusters were identified for analyses within spatial north to south areas within the three collection Groups 1-3. See Table 5 for the list of the six clusters. See Table 3 above for the temporal spatial sampling protocol for the 34 total sites.

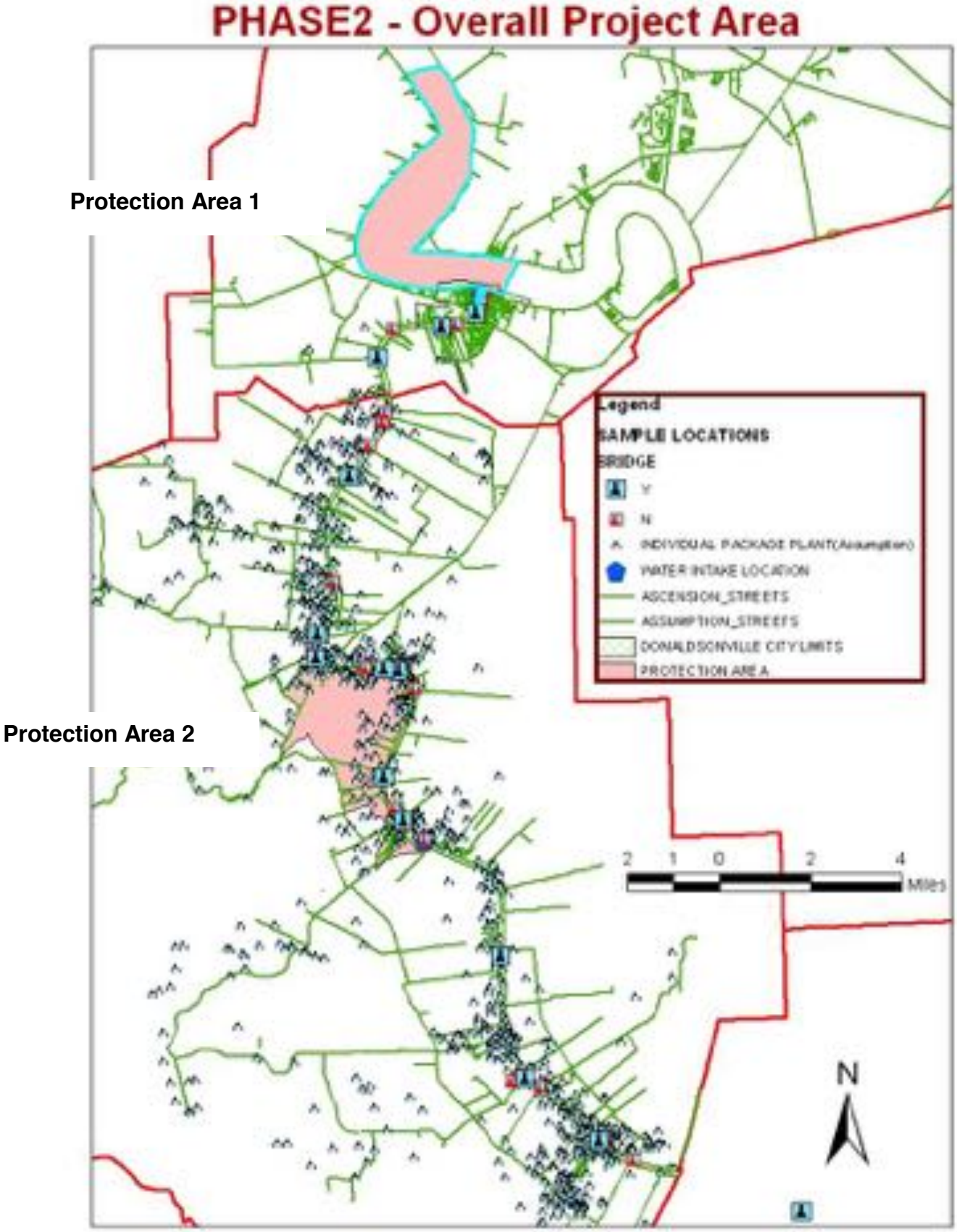


Figure 2. Overall Map of Phase 2, Bayou Lafourche Source Water Protection Donaldsonville to Labadieville and the LDEQ Two (2) Protection Areas

Figure 3. Ascension Parish with Mississippi River Protection Area 1 for the People's Water Treatment Plant in Donaldsonville at the Mississippi River

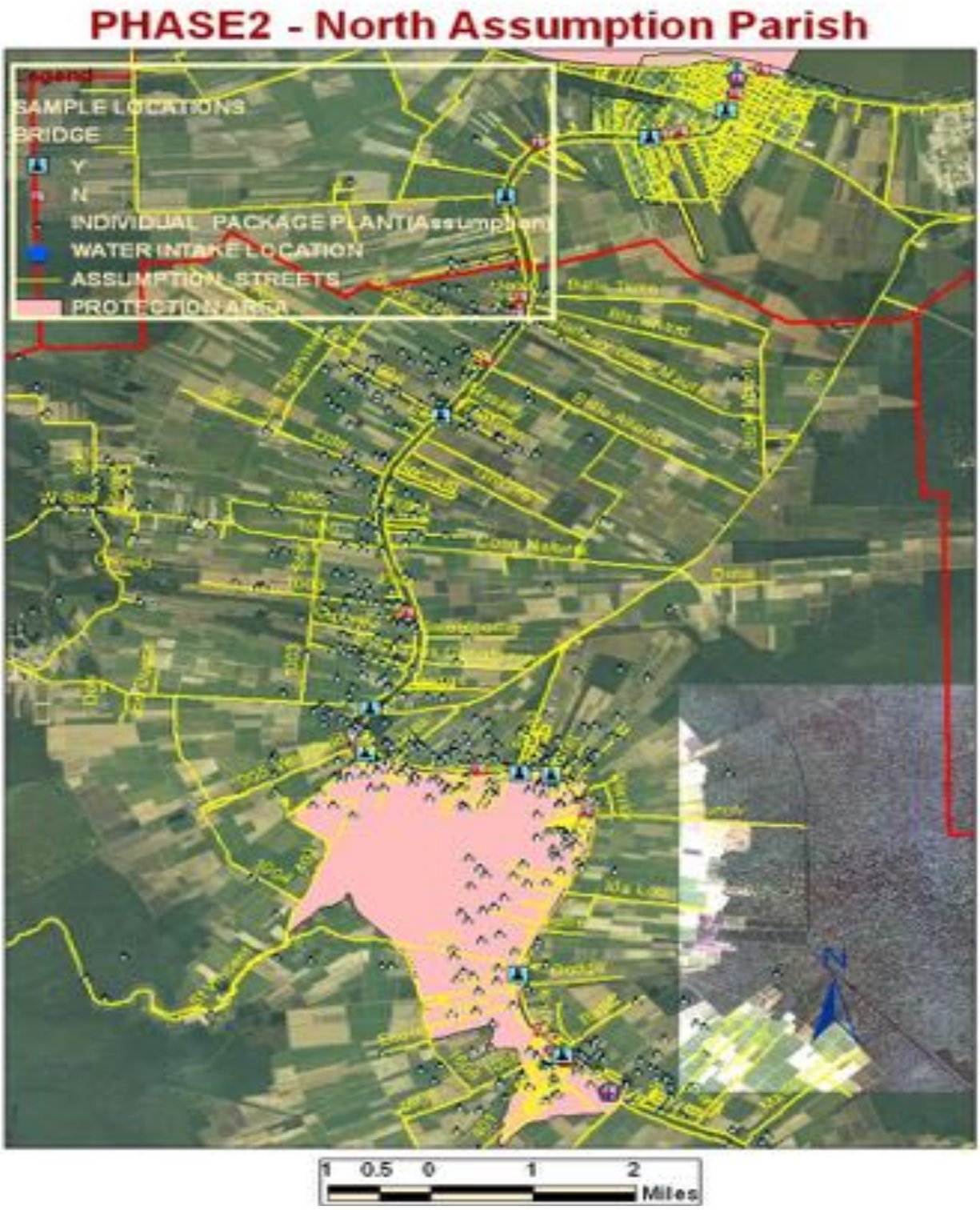


Figure 4. Assumption Parish with Protection Area 2 for the Assumption Parish Waterworks Intake Pump Below Napoleonville

North Assumption sites start with 7436 LA Hwy 1 (**Site ASSU-1**). This is not in the designated protection area (Figure 3.) but sites upstream can potentially reach the protection area for the Assumption Parish Waterworks intake pump below Napoleonville. Within the protection area, there are 14 sample sites above the Assumption Parish Waterworks intake pumps south of the main city of Napoleonville.

Bayou Lafourche has a riverine flow south towards the Gulf of Mexico from its source at the Mississippi River in Donaldsonville (Site ASCE-1) to the weir in downtown Thibodaux that provides a sufficient level of water for the City of Thibodaux's Water plant intake. Water flow in Bayou Lafourche over that structure becomes tidal to the Gulf. This means that with the exception of extreme weather such as a hurricane, all sites downstream from the City of Donaldsonville's Peoples Waterworks Plant will only have potential impact on the downstream protection source area for the Assumption Parish Waterworks District 1 Plant intake. It should also be noted that according to staff at Peoples Waterworks, a consortium of Ascension parish government and private industry members called the Ascension Consolidated Utilities - District 1 (ACU-D1) is buying treated water from the Assumption Parish Waterworks District 1 in Napoleonville and using it for the Brusley Macall area of Ascension Parish.

2.0 PROJECT GOALS, OBJECTIVES, AND ACTIVITIES

Project Goal: To identify and enumerate anthropogenic nonpoint source (NPS) fecal coliform (FC) contamination from malfunctioning home package sewage systems in the Bayou Lafourche watershed designated by the Louisiana Department of Environmental Quality (LDEQ) for Phase 2 - *Source Water Protection, Bayou Lafourche Fecal Coliform Sources Donaldsonville to Labadieville*.

Objective 1: To determine whether onsite sewage systems are a significant contributing source of the high fecal coliform levels to Bayou Lafourche.

Objective 2: To combine targeted FC sampling with optical brightener (OB) fluorometry and three human molecular markers to identify “hot spots” that may be contributing human fecal coliforms to the Bayou.

Objective 3: To provide information that may be used by LDEQ to address the problem of malfunctioning onsite sewage systems.

In order to accomplish the goal and objectives of this project, the fecal coliform (FC) source contamination sites for sampling locations within the study area (Figures 2, 3 and 4) were selected through a process of researching available background information and data from previous work in the area and meeting with local and State officials. The P.I.’s first met with the LDEQ project officer and the LDEQ field team. LDEQ provided a map and GIS shape files delineating Protection Areas 1 and 2 in the northern Subsegment 020401 of the Bayou Lafourche drainage basin.

The P.I.’s additionally met with officials of the Bayou Lafourche Fresh Water District and State, Parish, and City officials. Other officials interviewed for sources of information included administrators of the Donaldsonville People's Water District, the Assumption Parish Water District No. 1 in Napoleonville, and local private environmental company sources. The goal of these meetings was to obtain information and possible maps, blueprints, or other documents that would indicate productive sampling locations. It was anticipated that these would include sources of drainage from subdivisions and clusters of houses to the culverts, ditches, and canals emptying directly into the Bayou.

The Nicholls State University (NSU) P.I. and the Co-P.I.'s and M.S. graduate student Stacy Martinez sampled and evaluated potential sampling sites from May through August, 2011. The final 34 sites for twelve months of temporal spatial sampling for the project were selected from the pre-selection sites in collaboration with the LDEQ project officer and field team. After the final site selection, the LDEQ field team collected the water samples according to the spatial temporal rotating AM/PM sampling schedule found in Table 3, and transported on ice to the NSU Environmental and Public Health Laboratory with all proper QC according the NSU QAPP. Physicochemical parameters of dissolved oxygen (DO mg/L), pH, and Temperature (^{O}C), were recorded in the field by the LDEQ crew.

The samples were delivered to the Environmental and Public Health Microbiology Research Laboratory at Nicholls State University in Thibodaux, LA by the LDEQ Field Team. In the laboratory, the fecal coliforms, *E. coli*, optical brighteners, and human PCR molecular markers were analyzed by Stacy Martinez, M.S. candidate. The P.I. and Co-P.I.'s worked with her to train her to do the protocols in accordance with the approved QAPP and SOP's which have been approved by LDEQ and USEPA. She did all of the very large number of samples with help from trained undergraduate student workers.

The analyses of each sample included initial optical brightener fluorescent units (OB FU), 5 minute % reduction of OB FU, 10 minute % reduction of OB FU and Ratio of 10 min: 5 min % reduction. Microbial analyses included fecal coliform cfu/100mL and *E. coli* (*E. coli* ChromAgar) cfu/100mL. Samples positive for OB, FC and *E. coli* to confirm warm-blooded animal feces in the FCs were confirmed using polymerase chain reaction (PCR) thermocycle (+/-) identification of three human specific molecular gene primers including: human polyoma virus BK (HPyV-BK); the human *Bacteriodes* HF 183 strictly anaerobic gut bacteria; and the human archaea species *Methanobrevibacter smithii. (*Primers courtesy of Dr. Jody Harwood, University of Central Florida.) Of these three markers, it was previously found that the Human-*Bacteriodes* HF183 had the lowest limit of detection (LOD) in fresh or marine waters (dilutions of 10^{-5} or 10^{-6}) and the HPyV-BD and the *M. smithii* had a higher LOD with dilutions of only 10^{-3} or 10^{-4}**.** The human polyoma virus BK (HPyV-BK) is 100% human specific. (Harwood et al., 2009).

The sampling protocol was designed to sample at the projected water and sewage high use times and to rotate those times through sample Groups 1, 2, and 3. The 34 final sites were divided into the three groups based on north to south geographical location. There are 11 sites are in Group 1. They are ASCE-1 (Mississippi River source water) through ASSU-4 (LA Highway 70 at Paincourtville). Group1 includes 6 bridge samples. Group 1 starts in Ascension Parish with Site ASCE-1 which is the Mississippi River source water at Bayou Lafourche. There are 11 total sites in Group 2. They are ASSU-5A (Hwy 1 Culvert at LA1 and 1005) through ASSU-14 (Assumption Parish Water Plant Intake). Group 2 includes 5 bridge samples. There are 12 sites in Group 3. They are ASSU-15 (LA 1010 bridge in Supreme) through ASSU-21B (Pear St. effluent drainage culvert at Bayou Lafourche in Labadieville) and LAFO-1 (Frank's Lane/St. John Bridge at Supreme). Group 3 includes 5 bridge samples. See Figures 5-7. The projected sampling time periods were all 4 hours to allow for getting the samples back to the Environmental and Public Health Microbiology Laboratory at Nicholls State University, and processed according to the required SOP found in the QAPP. During the year of sampling for three weeks of each month, each site rotated through a morning sampling period of either 7:00 AM - 11:00 AM or 8:00 AM - 12:00 PM. All of the afternoon sampling periods for all 12 months of sampling were taken between 1:00 PM - 4:00 PM. See Table 3 on p.12.

The project QAPP and SOP's describe the collection and analysis methods in detail. FC levels above the designated use guidelines were correlated to relative levels of optical brighteners (OBs) from laundry detergents as a rapid **rough screening indicator** of potential anthropogenic input from targeted package plant cluster areas. The QAPP and SOP's were submitted to LDEQ and approved by both LDEQ and EPA. Our required update of the QAPP was also submitted and approved.

Table 4. Laboratory Measurement Performance Criteria

Parameter	Analytical Method	Method Detection Limitation	Maximum Holding Times	Container Type
Fecal Coliforms	SM 9222D	1 CFU/100mL	6 hrs on ice including travel and incubation set up	Sterile Whirl Pak Bags (0.5L)

Table 6. found in **SECTION 3.0** Monitoring Results has the Sample IDs, descriptions, GPS locations, fecal coliform, *E. coli*, OB and the human PCR molecular marker results of twelve months of sampling using the temporal spatial sampling strategy above in Table 3. Actually, nearly all of the 34 sites also have four additional collection dates from the pre-site selection work in the summer of 2011. This is a total of sixteen collection dates for the entire project.

2.1 PLANNED AND ACTUAL MILESTONES, PRODUCTS, AND COMPLETION DATES

Activity	**Dates (start dates; submissions)**	**Approvals/Deliverables**
Contract approved/signed	March 2011- delayed from January 1, 2011.	Effective: January 1, 2011 – Sept 30, 2012
Program Element 1 Tasks	Develop QAPP and SOPs and Purchase Equipment and Supplies.	
Task 1.1 Develop QAPP. Develop SOP with a monitoring schedule.	After approval of QAPP/SOPs January 24, 2012	Completed April, 2011 and approved through Sept. 2014 Completed (April, 2011)
Task 1.2 Purchase Equipment & Supplies.	Delayed contract to March, 2011. Started in April 2011.	Approved March, 2011
Program Element 2 Tasks	Identification of Sample Locations and Sample Code Numbers	
Task 2.1 Select sampling locations	Within 60 days of "Notice to Proceed"	Completed final sites August, 2011
Program Element 3 Task	Sample Collection and Transport and Laboratory Processing	
Task 3.1 Monitor sample locations according to determined monitoring schedule	Sampling of sites from 09-07-11 through 08-22-12	Deliverables: 7 Quarterly Reports submitted: QR#1 1-1-11 to 3-31-11 (Submitted final 4-30-11) QR#2 4-1-11 to 6-30-11 (Submitted final 7-31-11) QR#3 7-1-11 to 9-30-11 (Submitted final 10-31-11) QR#4 10-1-11 to12-31-11 (Submitted final 1-31-12) QR#5 1-1-12 to 3-31-12 (Submitted final 4-30-12) QR#6 4-1-30 to 6-30-12 (Submitted final 7-31-12) QR#7 7-31-12 to 9-30-12 (Submitted final10-18-12) Completed Sample Monitoring 8-22-12
Program Element 4 Task	Final Report	
Task 4.1	Report final results upon completion of the monitoring schedule	Draft Final Report (Submitted 10-16-12) Final Report (Submitted 12-31-12)

2.1.1 LDEQ-2 PROJECT TIMELINE: 20 MONTHS- JAN. 1, 2011 –AUG. 31, 2012)

Task Timelines	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**
	1-1-11 to 3-31-11	**4-1-11 to 6-30-11**	**7-1-11 to 9-30-11**	**10-1-11 to 12-31-11**	**1-1-12 to 3-31-12**	**4-1-12 to 6-30-12**	**7-1-12 to 9-30-12**	**10-1-12 to 11-30-12**
PROGRAM ELEMENT 1	**Develop quality assurance project plan (QAPP and Standard Operating Procedures (SOPs). Purchase Equipment and Supplies.**							
Task 1.1								
Develop QAPP. Develop SOP with a monitoring schedule. (**4 mos: 1-1-11 to 4-30-11**)	**X X X**	**X**						

Task 1.2								
Purchase supplies/equipment. (**18 mos: 1-1-11 to 6-30-12**)	**X X X**	**X X X**	**X X X**	**X X X**	**X X X**	**X X X**	**X X X**	**X**

PROGRAM ELEMENT 2	**Identification of Sample locations and sample code numbers. Develop monitoring schedule.**							
Task 2.1								
Select sampling locations and develop sample code nos. Develop monitoring schedule. **(5 mos: 3-1-11 to 7-31-11; some of Aug.**) (Had to be pushed back due to late contract and drought.)		**X X X**	**X X**					
Task Timelines	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**
	1-1-11 to 3-31-11	**4-1-11 to 6-30-11**	**7-1-11 to 9-30-11**	**10-1-11 to 12-31-11**	**1-1-12 to 3-31-12**	**4-1-12 to 6-30-12**	**7-1-12 to 9-30-12**	**10-1-12 to 11-30-12**
PROGRAM ELEMENT 3	**Laboratory processing of samples collected by LDEQ**							
Task 3.1								
-Train grad and UG students. -Process monthly samples brought in by LDEQ for FC. -Take OB readings and decay curves for presumptive human contamination.. -Do human polyoma virus (HPV-BK) verification of human "hot spots" from FC and OB results. (**12 mos: 9-7-11 to 8-22-12**)			**X X**	**X X X**	**X X X**	**X X X X**	**X X X**	**X X**

Task Timelines	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
	1-1-11 to 3-31-11	4-1-11 to 6-30-11	7-1-11 to 9-30-11	10-1-11 to 12-31-11	1-1-12 to 3-31-12	4-1-12 to 6-30-12	7-1-12 to 9-30-12	10-1-12 to 1-30-13
PROGRAM ELEMENT 4	**Quarterly , Annual, and Final Reports**							
Task 4.1								
Quarterly Monitoring Reports **(Drafts due on the 10th of the quarter mo. and Finals due on the 30th of the quarter mo.)**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Task 4.2								
Annual Reports **(Draft Annual Report & Final quarterly MR#7 due October 30, 2011 and 2012)**				**X**				**X**
Task 4.3								
Final Report **1) (Draft FR due Sept30, 2012)** **2) Final Report due Dec 31, 2012)**							**X**	**X** **X**

A. Remedial action taken or planned:

Sampling for the project was completed by August 22, 2012. The final report was submitted January 31, 2013.

B. Whether minimum criteria for measure can still be met:

The criteria will be met.

C. Likely impact upon achievement: None. The final outcomes will be achieved.

2.2 EVALUATION OF GOAL ACHIEVEMENT AND RELATIONSHIP TO THE STATE NPS MANAGEMENT PLAN

This project's tasks centered on goals that are consistent with Louisiana's Nonpoint Source Management Plan for 2011-2016, specifically the Individual Home Sewerage Systems Statewide Program. Also, the Nonpoint Source Management Plan identifies strategy elements for the Source Water Protection Program. Among the elements identified the following three are listed.

- Addressing the most threatening potential sources of contamination in each community.
- Addressing specific issues affecting water sources that each committee and local community deems necessary.
- Addressing the specific nonpoint sources of contamination that have been identified as affecting water supplies.

Also two of the goals listed under the Barataria Basin portion of the Nonpoint Source Management Plan are as follows.

- Continue to implement watershed projects and educational programs that address NPS water quality problems
- Work with federal, state and local partners to implement NPS management strategies that should be utilized to reduce pollutant loads

This project was conducted in accordance with these strategy elements/goals as part of an overall effort to address the water quality issues affecting Bayou Lafourche. This project's goal of identifying sources of human sewage draining into Bayou Lafourche within the designated study area was achieved through the sampling protocol described above. The data collected from this study will be used by LDEQ to target these sewage sources for remedial action. This remedial work will help with the overall work of restoring Bayou Lafourche, for which a TMDL has been developed, to fully supporting its designated use criteria and to remove it from the list of impaired water bodies.

2.3 SUPPLEMENTAL INFORMATION

LDEQ has determined that a combination of methods should be used to address inadequate sewage treatment along Bayou Lafourche. The appropriate method for each location is different based on specific factors including geographic layout and socio-economic level. The methods include public education, inspection/repair/replacement of malfunctioning sewage systems, consolidation into regional-based systems, and working with local governing bodies to pass ordinances to allow for more local government involvement in the regulatory process.

3.0 MONITORING RESULTS

The monitoring strategy was described in detail in SECTION 2.0.

See Table 6. Monitoring Results of the 34 Total Sampling Sites for this Reporting Period

(Note the temporal spatial sampling protocol officially began on September 7, 2011 even though earlier results for many sites from our site selection process are included as "pre-selection sites. Since these pre-selection sites were retained as final sites for the additional12 month sampling protocol found in Table 2 on p. 11, they were also retained in Table 6. From September 7, 2011 through August 22, 2012 each of the thirty-four sites was collected each month by the LDEQ field team.

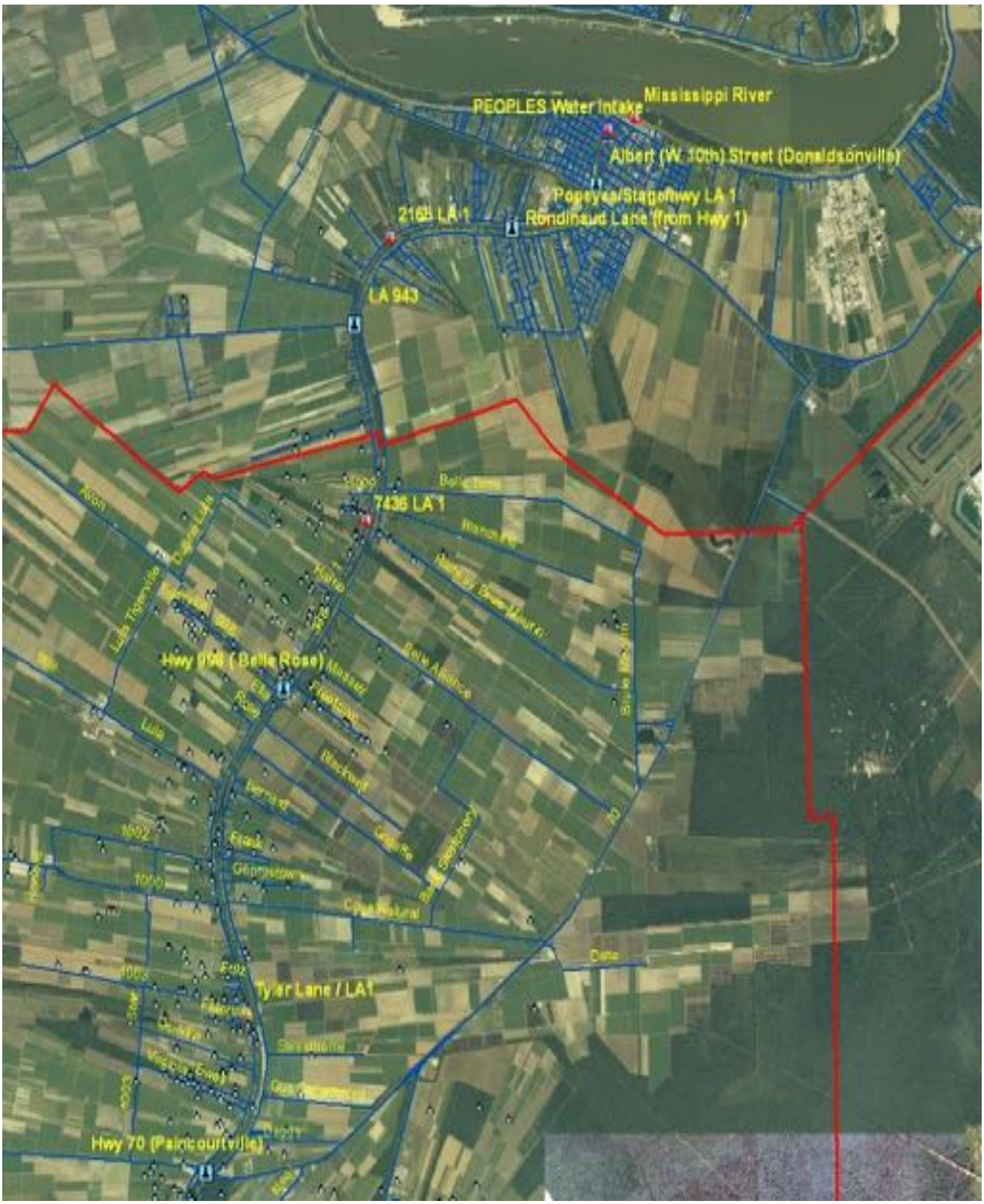


Figure 5. Group 1 Samples – 11 Sample Sites From ASCE-1 Through ASSU-4

There are 11 sites are in Group 1. They are ASCE-1 (Mississippi River source water) through ASSU-4 (LA Highway 70 at Paincourtville). Group1 includes 6 bridge samples (Blue markers with black figure inside).

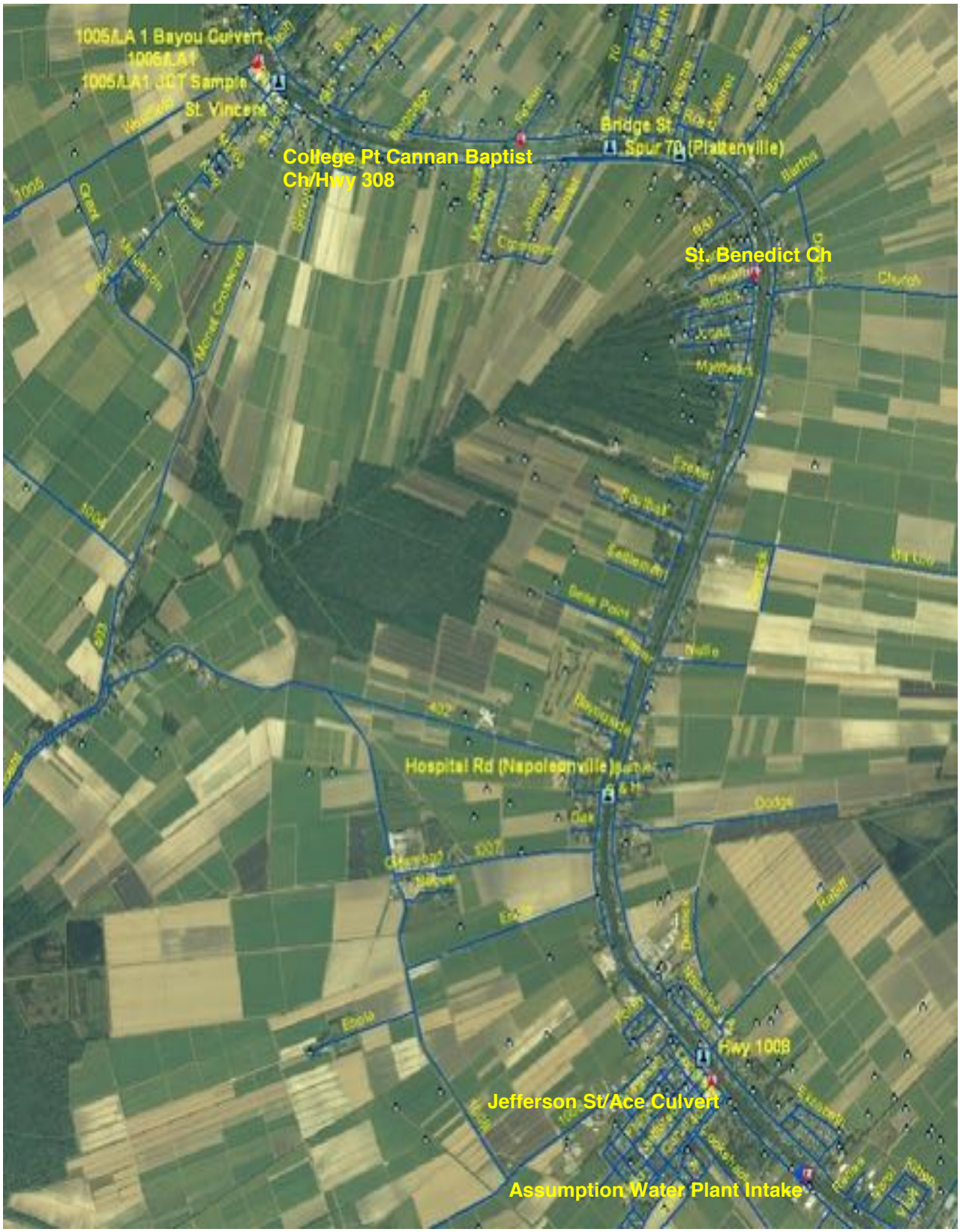


FIGURE 6a. Group 2 Samples – 11 Sample Sites from ASSU-5a through ASSU-14

There are 11 total sites are in Group 2. They are ASSU-5A (Hwy 1 Culvert at LA1 and 1005) through ASSU-14 (Assumption Parish Water Plant Intake). Group 2 includes 5 bridge samples (Blue markers with black figure inside).

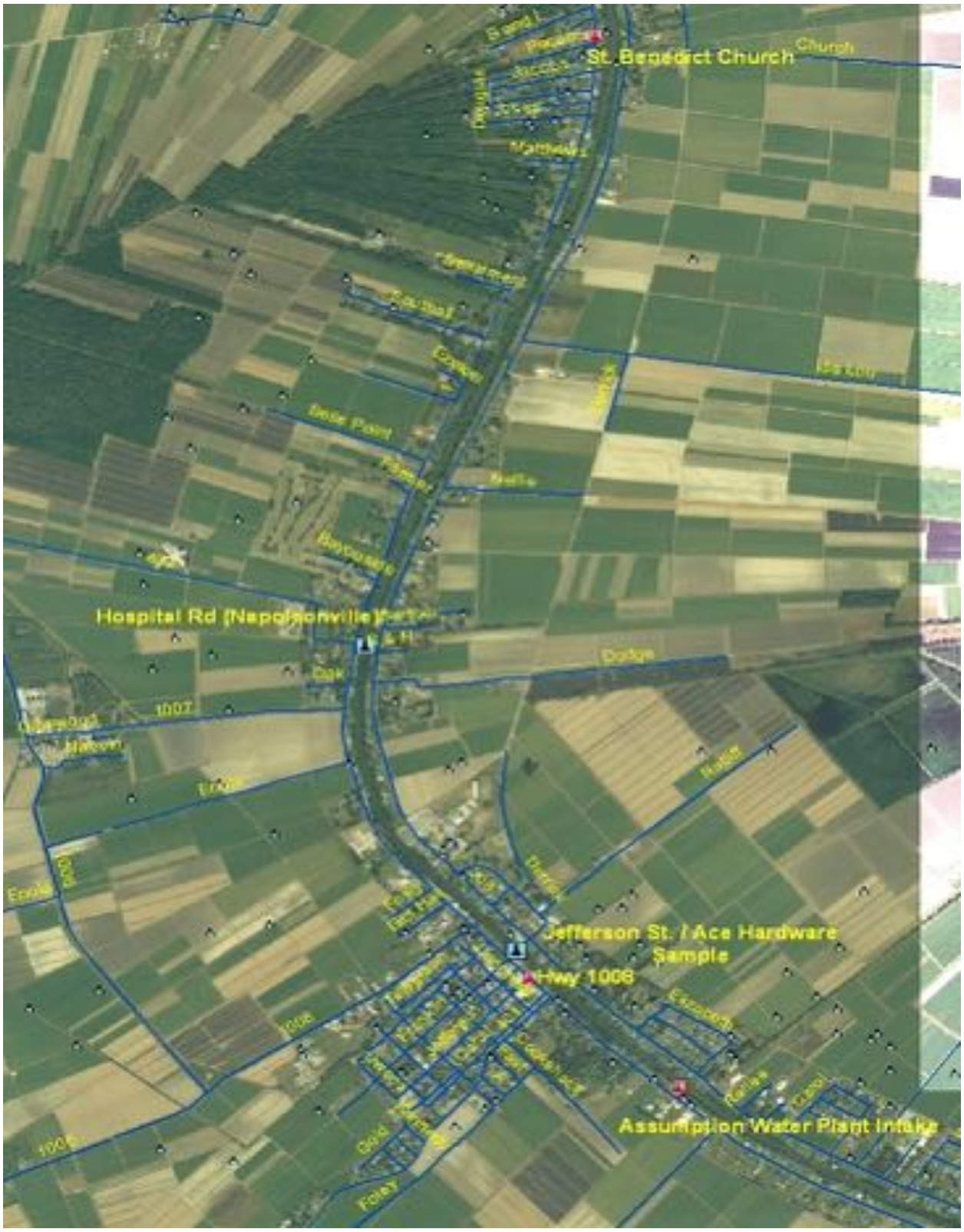


FIGURE 6b. Group 2 Samples – 11 Sample Sites from ASSU-5a through ASSU-14

There are 11 total sites are in Group 2. They are ASSU-5A (Hwy 1 Culvert at LA1 and 1005) through ASSU-14 (Assumption Parish Water Plant Intake). Group 2 includes 5 bridge samples (Blue markers with black figure inside).

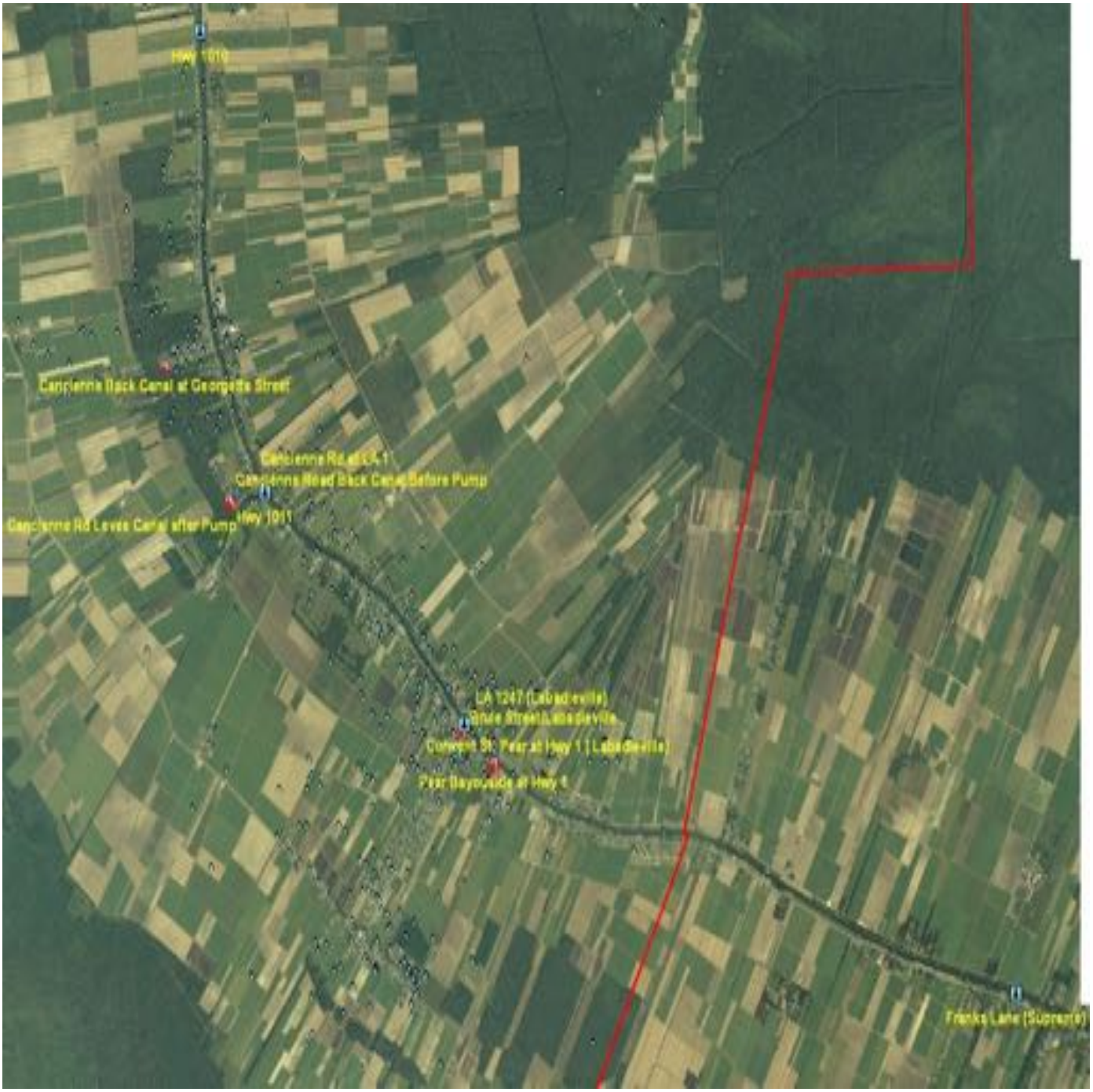


Figure 7. Group 3 Samples - 12 Sample Sites from ASSU-15 through LAFO-1

There are 12 sites are in Group 3. They are ASSU-15 (LA 1010 bridge in Supreme) through ASSU-21B (Pear St. effluent drainage culvert at Bayou Lafourche in Labadieville) and LAFO-1 (Frank's Lane/St. John Bridge at Supreme). Group 3 includes 5 bridge samples (Blue markers with black figure inside).In addition to the three sample date groups, the thirty-four (34) sites were also divided into six (6) north to south spatial site clusters designated Clusters A - F from the first Site ASCE-1 Mississippi River Source Water in Ascension Parish through LAFO-1 at the St. John Bridge in Lafourche Parish. These Clusters were divided for the purpose of producing data with more detailed maps and "Hot Spot" graphing results. Their division is seen in Table 5 below and Figures 8 - 13.

Table 5. Spatial North to South Clusters A Through F for 34 Total Sampling Sites

Clusters	Parish I.D. for Sites	Samplings Sites per Cluster
Cluster A	ASCE- 1, 2, 3, 4, 5, 6, 7	7 sites
Cluster B	ASSU- 1,2,3, 4	4 sites
Cluster C	ASSU- 5A, 5B, 6, 7, 8	5 sites
Cluster D	ASSU- 9, 10, 11, 12, 13, 14	6 sites
Cluster E	ASSU- 15, 16A, 16B 16C, 16D, 17	6 sites
Cluster F	ASSU- 18, 19, 20, 21A, 21B; LAFO- 1	6 sites

See maps of each Cluster of sites starting on page 28 below with Cluster A.

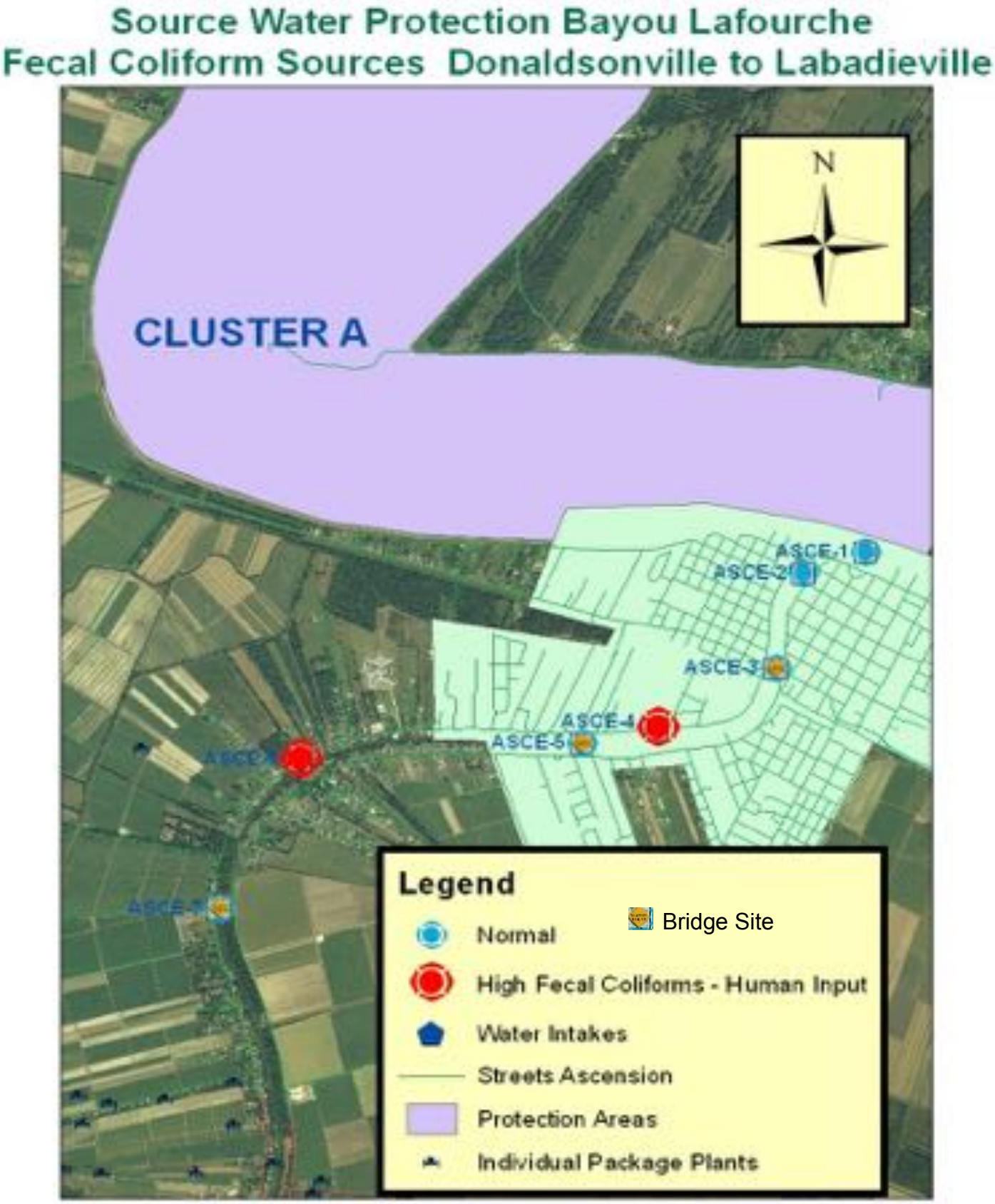


Figure 8. Cluster A samples: ASCE- 1, 2, 3, 4, 5, 6, 7 (Hot Spots ASCE-4 and ASCE-6)

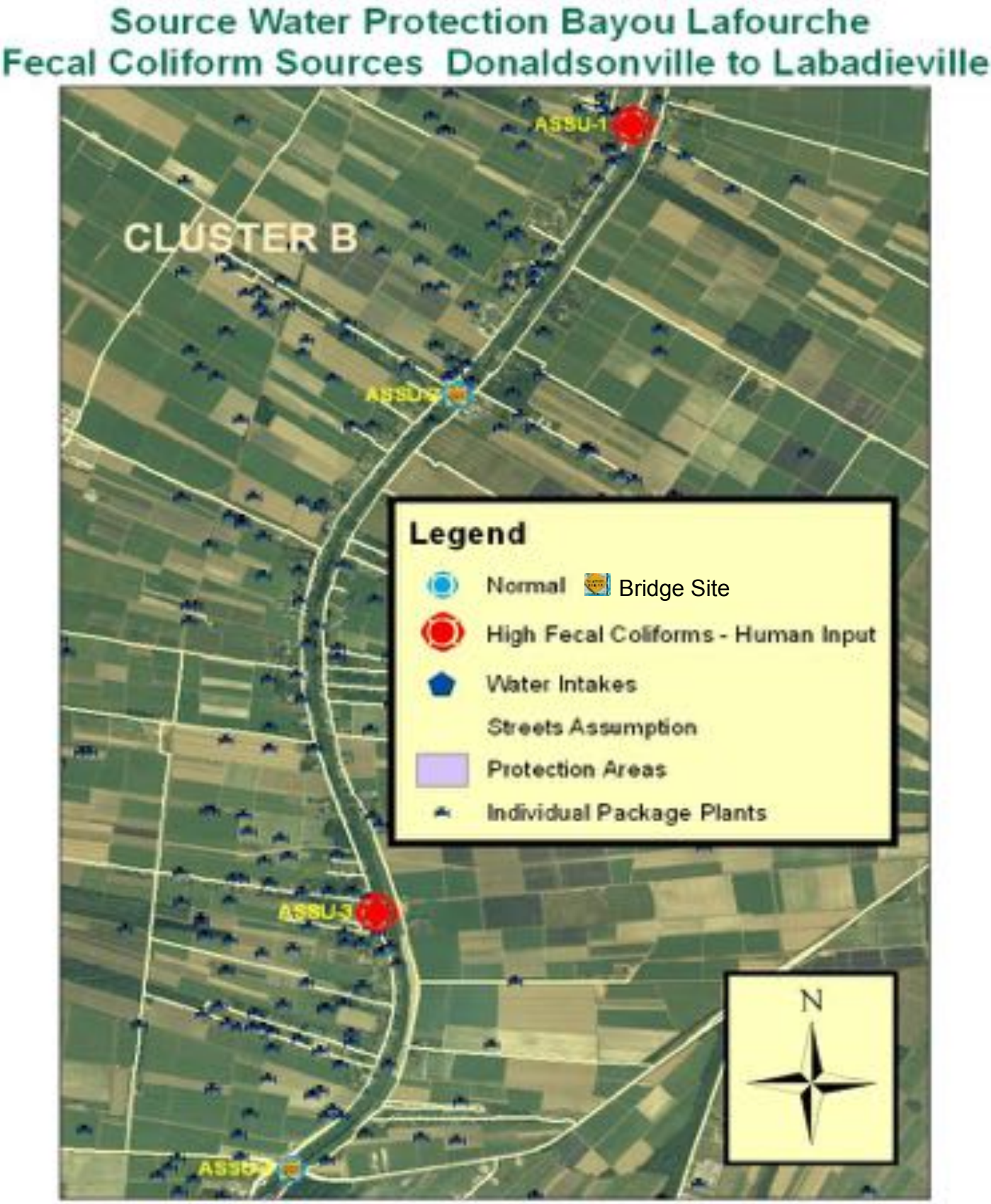


Figure 9. Cluster B samples: ASSU- 1, 2, 3, 4, (Hot Spots ASSU-1 and ASSU-3)

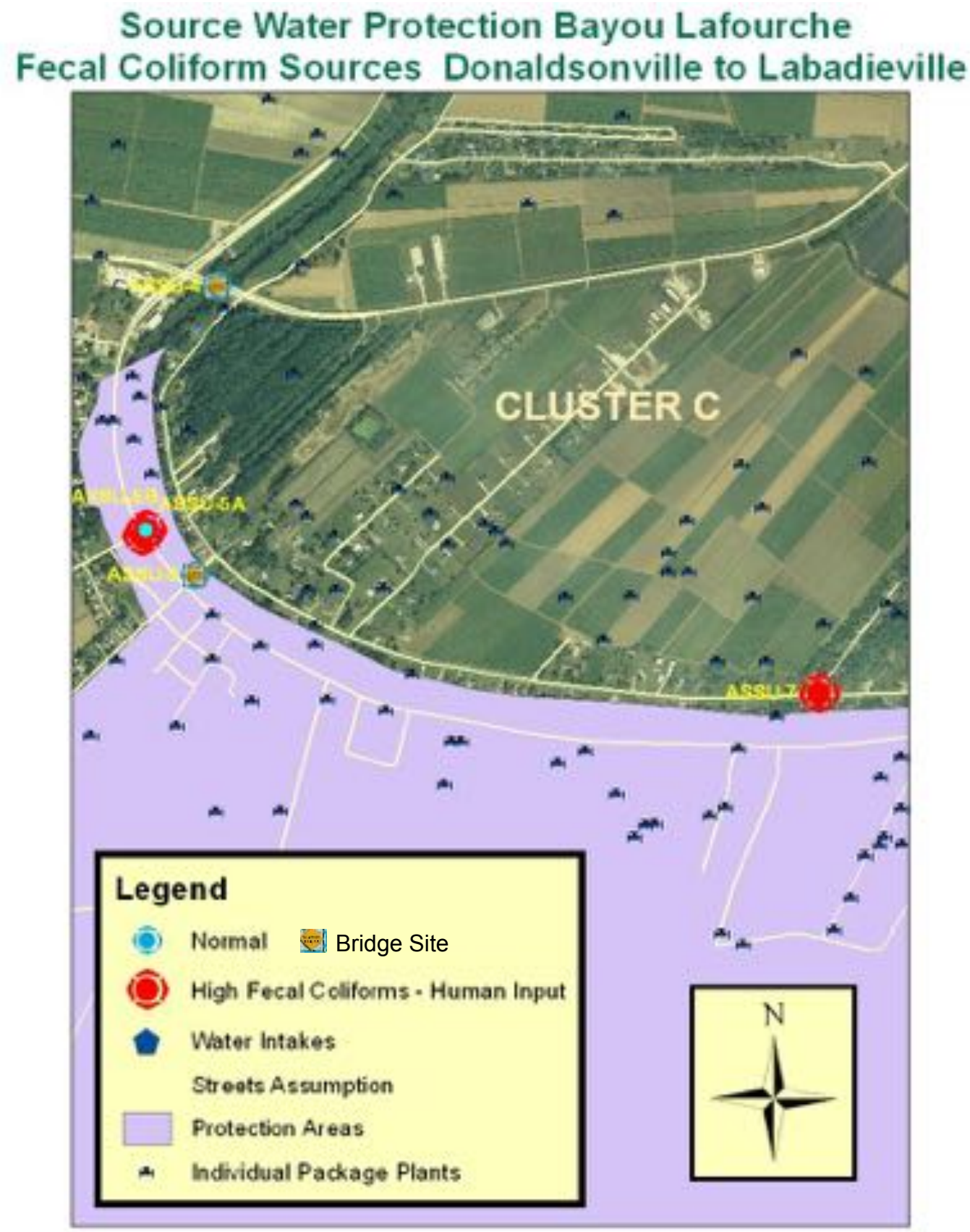


Figure 10. Cluster C Samples: ASSU-5A, 5B, 6, 7, 8 (Hot Spots ASSU-5A, ASSU-5B, and ASSU-7)

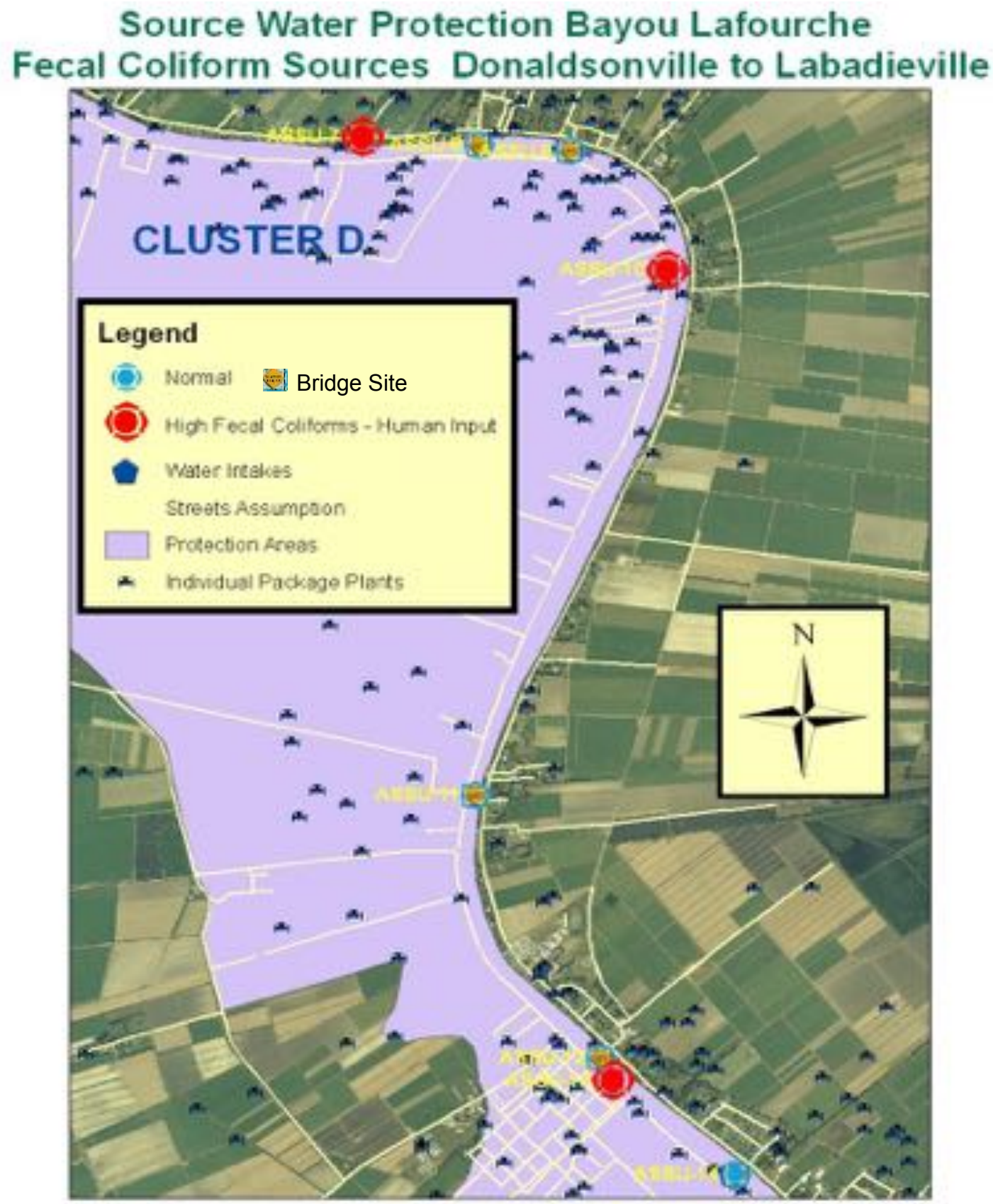


Figure 11. Cluster D Samples: ASSU-9, 10, 11, 12, 13, 14 (Hot Spots ASSU-10 and ASSU-13)

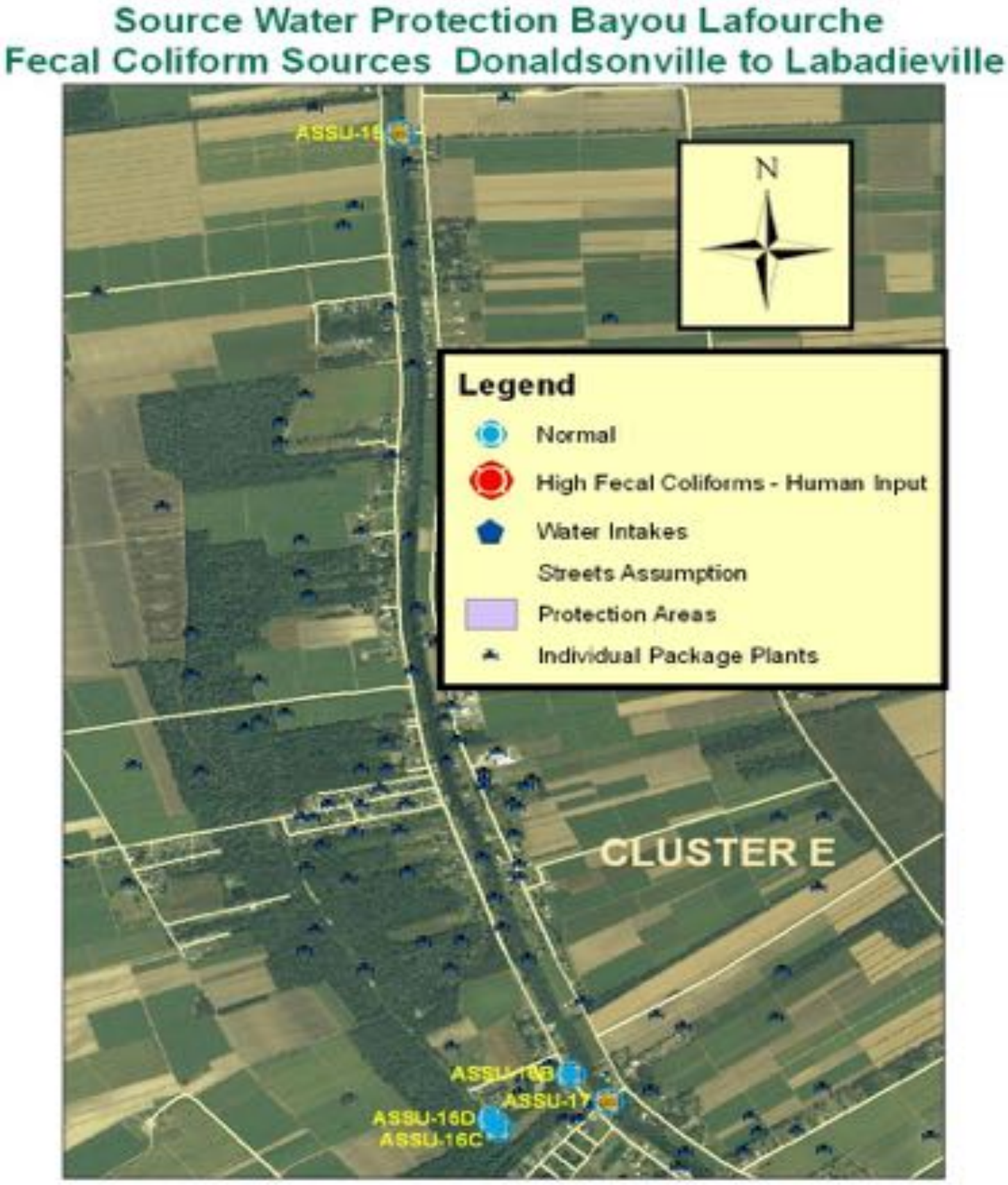


Figure 12. Cluster E Samples: ASSU-15, 16A, 16B, 16C, 16D, 17 (No Hot Spots)

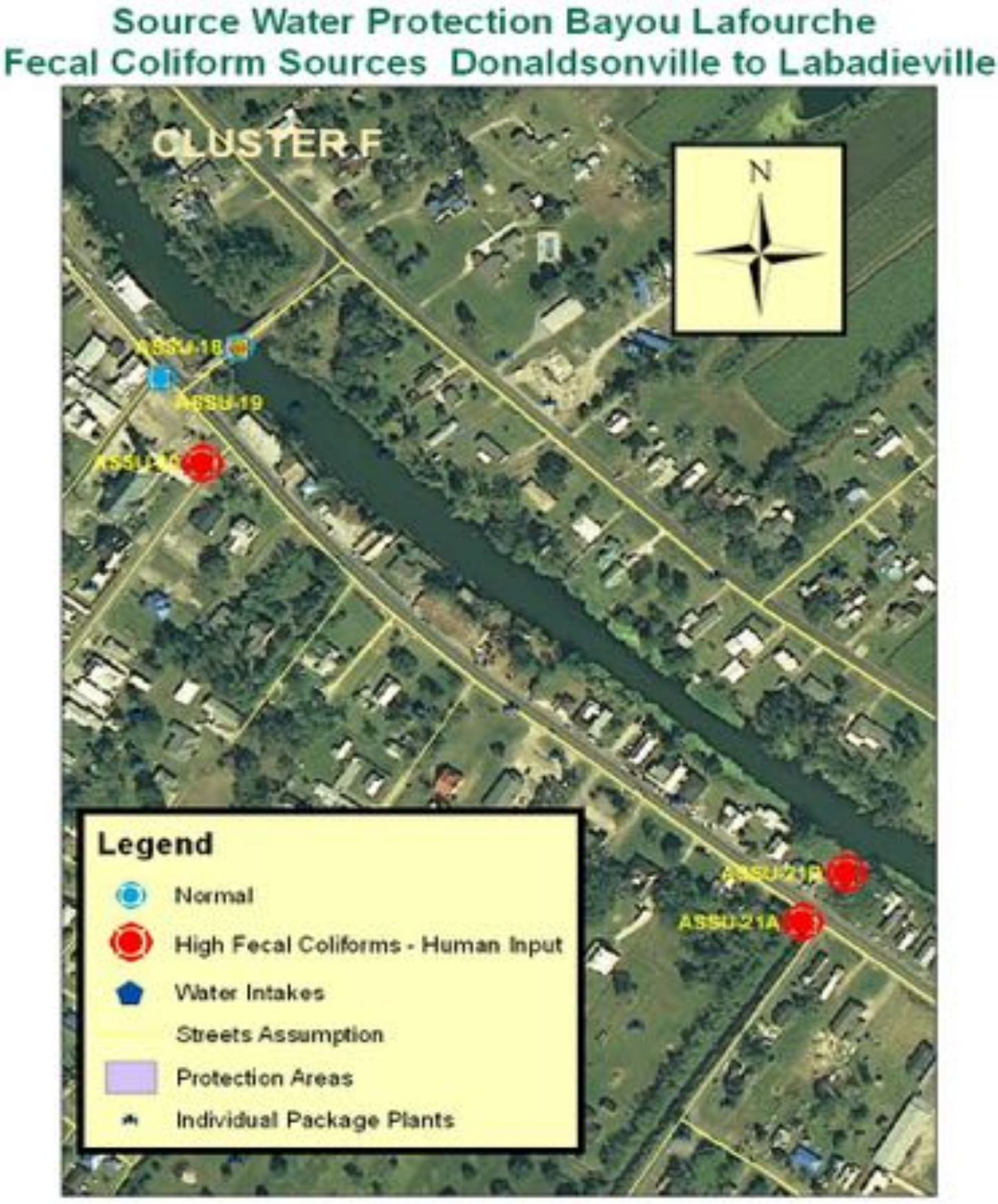


Figure 13. Cluster F Samples: ASSU-18, 19, 20, 21A, 21B (Hot Spots ASSU-20, ASSU-21A, ASSU-21B

Table 6. Data Results of Phase 2 Bayou Lafourche Source Water Protection

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster-A ASCE-1-A pre-final site selec	06/06/11	30.1076	-90.9875	Miss River	10:43 AM	60	null	NC	16.57	5.34	NA	Negative	NA	NA	NA	hot/dry	from river
	06/30/11	30.1076	-90.9875	Miss River	8:59 AM	1100	exceeds PCR	NC	16.65	2.46	NA	Negative	NA	NA	NA	hot/humid	from river
	08/03/11	30.1076	-90.9875	Miss River	10:06 AM	400	null	NC	14.18	NA	NA	Negative	NA	NA	NA	hot/humid	from river
	08/10/11	30.1076	-90.9875	Miss River	9:12 AM	495	exceeds PCR	NC	16.03	16.13	1.03	Positive	NA	NA	NA	hot/humid/ rain in past 24 hrs	
ASCE-1-A final sites	09/07/11	30.1076	-90.9875	Miss River	3:12 PM	1000	exceeds PCR	30	14.84	NA	NA	Negative	(-)	(-)	(+)	sunny/mild/ NW wind 5-10 mph	
	10/05/11	30.1076	-90.9875	Miss River	8:48 AM	209	null	18	10.12	NA	NA	Negative	NA	NA	NA	sunny/ temp upper 60s/light breeze/ bayou had good flow	DO meter was not working
	11/03/11	30.1076	-90.9875	Miss River	3:31 PM	70	null	0	10.16	NA	NA	Negative	NA	NA	NA	sunny/ low 60s /NW 10-15 mph	wave action
	11/30/11	30.1076	-90.9875	Miss River	8:36 AM	784	exceeds PCR	70	14.56	NA	NA	Negative	(-)	(-)	(-)	sunny/temp low 50s	water is higher than normal
	01/04/12	30.1076	-90.9875	Miss River	3:25 PM	378	null	140	15.49	5.81	NA	Negative	NA	NA	NA	partly cloudy/ temp low 60s/ no rain last 48 hrs	river is high
	02/02/12	30.1076	-90.9875	Miss River	4:25 PM	791	exceeds PCR	40	10.48	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	river water is high
	03/01/12	30.1076	-90.9875	Miss River	5:25 PM	36	null	36	12.04	NA	NA	Negative	NA	NA	NA	Upper 70s/sunny/15-20 mph wind	river is low
	04/12/12	30.1076	-90.9875	Miss River	9:20 PM	118	null	20	12.78	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s	
	05/09/12	30.1076	-90.9875	Miss River	10:20 PM	50	null	10	14.35	NA	NA	Negative	NA	NA	NA	mostly cloudy/temp low 80s	
	06/13/12	30.1076	-90.9875	Miss River	11:20 PM	110	null	10	13.35	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 80s/W wind 1-5 mph	river water level lower than normal
	07/11/12	30.1076	-90.9875	Miss River	1:55 PM	118	null	70	15.37	4.59	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	
	08/01/12	30.1076	-90.9875	Miss River	8:45 AM	927	exceeds PCR	45	15.00	7.23	NA	Negative	NA	NA	NA	overcast; temp mid 80s; W wind 5-10 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-2-A pre-final site selec.	06/06/11	30.1076	-90.9916	Peoples Intake	10:26 AM	10	null	NC	16.80	11.0	1.01	Positive	NA	NA	NA	hot/ dry	in Bayou @ pump
	06/23/11	30.1076	-90.9916	Peoples Intake	10:50 AM	40	null	NC	16.50	5.20	NA	Negative	NA	NA	NA	overcast/ drizzle	in Bayou @ pump
	06/30/11	30.1076	-90.9916	Peoples Intake	9:20 AM	100	null	NC	15.50	3.74	NA	Negative	NA	NA	NA	hot/humid	in Bayou @ pump
	08/03/11	30.1076	-90.9916	Peoples Intake	10:30 AM	1455	exceeds PCR	NC	13.80	NA	NA	Negative	(-)	(-)	(-)	hot/humid	in Bayou @ pump
	08/10/11	30.1076	-90.9916	Peoples Intake	9:34 AM	110	null	NC	14.33	NA	NA	Negative	NA	NA	NA	hot/humid/rain in past 24 hrs	
ASCE-2-A final sites	9/07/11	30.1076	-90.9916	Peoples Intake	3:32 PM	1532	exceeds PCR	145	14.61	NA	NA	Negative	(-)	(-)	(-)	sunny/mild/ NW wind 5-10 mph	
	10/05/11	30.1076	-90.9916	Peoples Intake	9:12 AM	109	null	18	9.99	NA	NA	Negative	(-)	(-)	(-)	sunny/temp in upper 60s/light breeze	pump on
	11/03/11	30.1076	-90.9916	Peoples Intake	3:46 PM	40	null	0	10.55	NA	NA	Negative	(-)	(-)	(-)	sunny/low 60s NW 10-15 mph	pumps on
	11/30/11	30.1076	-90.9916	Peoples Intake	8:56 AM	236	null	30	13.78	NA	NA	Negative	(-)	(-)	(-)	sunny/temp low 50s	pump on
	01/04/12	30.1076	-90.9916	Peoples Intake	6:25 PM	50	null	50	15.51	5.87	NA	Negative	(-)	(-)	(-)	partly cloudy/ temp low 60s/ no rain in last 48 hrs	pump on
	02/02/12	30.1076	-90.9916	Peoples Intake	7:25 PM	300	null	136	11.56	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	pump on
	03/01/12	30.1076	-90.9916	Peoples Intake	8:25 PM	30	null	10	10.745	NA	NA	Negative	(-)	(-)	(-)	Upper 70s /sunny/15-20 mph wind	pump on
	04/12/12	30.1076	-90.9916	Peoples Intake	12:20 PM	20	null	0	13.67	NA	NA	Negative	(-)	(-)	(-)	sunny/temp upper 60s	pump on
	05/09/12	30.1076	-90.9916	Peoples Intake	1:20 PM	190	null	40	13.46	NA	NA	Negative	(-)	(-)	(-)	mostly cloudy /temp low 80s	pump on
	06/13/12	30.1076	-90.9916	Peoples Intake	2:20 PM	10	null	0	13.87	NA	NA	Negative	(-)	(-)	(-)	partly cloudy temp mid 80s/W wind 1-5 mph	pump on
	07/11/12	30.1076	-90.9916	Peoples Intake	2:15 PM	120	null	30	15.05	4.12	NA	Negative	(-)	(-)	(-)	overcast; temp mid 80s/SW wind 1-5 mph	pump was on
	08/01/12	30.1076	-90.9916	Peoples Intake	9:01 AM	838	exceeds PCR	72	14.66	NA	NA	Negative	(-)	(+)	(-)	overcast; temp mid 80s; W wind 5-10 mph	pump is on

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-3-A pre-final site selec.	07/13/11	30.1009	-90.9935	Albert W10th Bridge	1:35 PM	60	null	NC	15.39	5.26	NA	Negative	NA	NA	NA	hot/humid	from bayou
	08/3/11	30.1009	-90.9935	Albert-W10th bridge	11:00 AM	25455	exceeds DWS/SCR	NC	14.59	NA	NA	Negative	NA	NA	NA	hot/humid	grease on top of water
	08/10/11	30.1009	-90.9935	Albert-W10th bridge	10:01AM	455	exceeds PCR	NC	13.83	NA	NA	Negative	NA	NA	NA	hot/humid/ rain in 24 hrs	
ASCE-3-A final sites	09/07/11	30.1009	-90.9935	Albert-W10th bridge	3:48 PM	4000	exceeds DWS/SCR	252	17.43	3.9	NA	Negative	NA	NA	NA	sunny/mild/ NW wind 5-10 mph	
	10/05/11	30.1009	-90.9935	Albert-W10th bridge	9:22 AM	200	null	0	10.46	NA	NA	Negative	NA	NA	NA	sunny/temp in upper 60s/light breeze	
	11/03/11	30.1009	-90.9935	Albert-W10th bridge	3:55 PM	90	null	10	10.00	NA	NA	Negative	NA	NA	NA	sunny/low 60s NW 10-15 mph	swift current
	11/30/11	30.1009	-90.9935	Albert-W10th bridge	9:07 AM	336	null	36	14.25	NA	NA	Negative	NA	NA	NA	sunny/temp low 50s	
	01/04/12	30.1009	-90.9935	Albert-W10th bridge	9:25 PM	50	null	40	14.32	NA	NA	Negative	NA	NA	NA	partlycloudy/temp low 60s/ no rain in last 48 hrs	swift current
	02/02/12	30.1009	-90.9935	Albert-W10th bridge	10:25 PM	1182	exceeds PCR	180	11.23	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	
	03/01/12	30.1009	-90.9935	Albert-W10th bridge	11:25 PM	91	null	50	10.32	NA	NA	Negative	NA	NA	NA	Upper70s/sunny 15-20 mph wind	
	04/12/12	30.1009	-90.9935	Albert-W10th bridge	1:20 AM	320	null	90	14.15	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s	
	05/09/12	30.1009	-90.9935	Albert-W10th bridge	2:20 AM	173	null	18	13.54	NA	NA	Negative	NA	NA	NA	mostly cloudy/temp low 80s	
	06/13/12	30.1009	-90.9935	Albert-W10th bridge	3:20 AM	245	null	50	13.22	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s/W wind 1-5 mph	
	07/11/12	30.1009	-90.9935	Albert-W10th bridge	2:28 PM	318	null	20	14.37	NA	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	
	08/01/12	30.1009	-90.9935	Albert-W10th bridge	9:10 AM	409	exceeds PCR	40	14.09	NA	NA	Negative	(-)	(-)	(-)	overcast;temp mid 80s; W wind 5-10 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-4-A pre-final site selec.	06/30/11	30.0975	-91.00112	Popeyes Stage/LA 1	9:30 AM	6364	exceeds DWS/SCR	NC	24.49	7.27	NA	Negative	(-)	(-)	(-)	hot/humid	culvert to bayou
HOT SPOT	07/13/11	30.0975	-91.00112	Popeyes Stage/LA 1	1:50 PM	120000	exceeds DWS/SCR	NC	27.22	5.66	NA	Negative	(-)	(-)	(-)	hot/humid	culvert to bayou
	08/03/11	30.0975	-91.00112	Popeyes Stage/LA 1	11:10 AM	620000	exceeds DWS/SCR	NC	65.93	3.12	NA	Negative	(-)	(+)	(-)	hot/humid	small sample/pink
	08/10/11	30.0975	-91.00112	Popeyes Stage/LA 1	10:10 AM	5945	exceeds DWS/SCR	NC	44.74	6.75	NA	Negative	(-)	(-)	(-)	hot/humid/ rain in past 24 hrs	pink/ soapy sample
ASCE-4-A final sites	09/7/11	30.0975	-91.00112	Popeyes Stage/LA 1	3:56 PM	100000	exceeds DWS/SCR	7207	38.25	6.33	NA	Negative	NA	NA	NA	sunny/mild/ NW 5-10 mph	pink/ sewage smell
	10/05/11	30.0975	-91.00112	Popeyes Stage/LA 1	9:31 AM	1636	exceeds PCR	1000	10.48	NA	NA	Negative	NA	NA	NA	sunny/temp in upper 60s/light breeze	pink/ sewage and soap smell
	11/03/11	30.0975	-91.00112	Popeyes Stage/LA 1	4:16 PM	930000	exceeds DWS/SCR	3513	47.90	5.43	NA	Negative	(-)	(-)	(-)	sunny/low 60s NW 10-15 mph	pink/ sewage smell
	11/30/11	30.0975	-91.00112	Popeyes Stage/LA 1	9:16 AM	670000	exceeds DWS/SCR	2972	35.87	12	1.3	Positive	(-)	(-)	(-)	sunny/temp low 50s	very little water
	01/04/12	30.0975	-91.00112	Popeyes Stage/LA 1	12:25 AM	23636	exceeds DWS/SCR	1351	26.10	10.33	1.28	Positive	(-)	(+)	(-)	partly cloudy/temp low 60s/ no rain in last 48 hrs	soapy smell
	02/02/12	30.0975	-91.00112	Popeyes Stage/LA 1	1:25 AM	460000	exceeds DWS/SCR	160000	32.52	9.33	1.4	Positive	(-)	(+)	(-)	overcast/ temp upper 50s/ light variable wind	no flow/ hard to obtain sample
	03/01/12	30.0975	-91.00112	Popeyes Stage/LA 1	2:25 AM	480000	exceeds DWS/SCR	80000	37.945	5.23	NA	Negative	(-)	(-)	(-)	Upper 70s/sunny 15-20 mph wind	grey/soapy smell
	04/12/12	30.0975	-91.00112	Popeyes Stage/LA 1	3:20 PM	103636	exceeds DWS/SCR	23000	47.62	8.04	1.5	Positive	(-)	(-)	(-)	sunny/temp upper 60s	sample had pink tint
	05/09/12	30.0975	-91.00112	Popeyes Stage/LA 1	4:20 PM	90909	exceeds DWS/SCR	6364	34.92	6.84	NA	Negative	(+)	(+)	(-)	mostly cloudy /temp low 80s	
	06/13/12	30.0975	-91.00112	Popeyes Stage/LA 1	5:20 PM	530000	exceeds DWS/SCR	31818	44.54	4.91	NA	Negative	(-)	(-)	(-)	partly cloudy/ temp mid 80s/W wind 1-5 mph	no flow/ very little water in culvert
	07/11/12	30.0975	-91.00112	Popeyes Stage/LA 1	2:36 PM	66364	exceeds DWS/SCR	718	33.41	5.18	NA	Negative	(-)	(-)	(-)	overcast; temp mid 80s/SW wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-4-A cont.	08/01/12	30.0975	-91.00112	Popeyes Stage/LA 1	9:19 AM	870000	exceeds DWS/SCR	39090	75.40	4.22	NA	Negative	(-)	(+)	(-)	overcast; temp mid 80s; W wind 5-10 mph	
ASCE-5-A pre-final site selec.	06/23/11	30.0966	-91.00602	Rondinaud LA1 Bridge	11:45 AM	549	exceeds PCR	NC	17.70	5.4	NA	Negative	NA	NA	NA	overcast/ drizzle	from bayou
	070/5/11	30.0966	-91.00602	Rondinaud LA1 bridge	9:50 AM	90.9	null	NC	14.70	NA	NA	Negative	NA	NA	NA	hot/humid	from bayou
	08/03/11	30.0966	-91.00602	Rondinaud LA1 bridge	11:45 AM	5636	exceeds DWS/SCR	NC	14.27	NA	NA	Negative	NA	NA	NA	hot/humid	
	08/10/11	30.0966	-91.00602	Rondinaud LA1 bridge	10:18 AM	1727	exceeds PCR	NC	12.54	NA	NA	Negative	NA	NA	NA	hot/humid/ rain in past 24 hrs	
ASCE-5-A final sites	09/07/11	30.0966	-91.00602	Rondinaud LA1 bridge	4:05 PM	9091	exceeds DWS/SCR	441	19.55	6.06	NA	Negative	(-)	(-)	(+)	sunny/mild/ NW wind 5-10 mph	
	10/05/11	30.0966	-91.00602	Rondinaud LA1 bridge	9:38 AM	418	exceeds PCR	100	10.33	NA	NA	Negative	NA	NA	NA		
	11/03/11	30.0966	-91.00602	Rondinaud LA1 bridge	4:22 PM	155	null	10	9.83	NA	NA	Negative	NA	NA	NA	sunny/low 60s NW 10-15 mph	
	11/30/11	30.0966	-91.00602	Rondinaud LA1 bridge	9:25 AM	318	null	60	13.54	NA	NA	Negative	NA	NA	NA	sunny/temp low 50s	
	01/04/12	30.0966	-91.00602	Rondinaud LA1 bridge	3:25 AM	100	null	55	15.53	7.15	NA	Negative	NA	NA	NA	partly cloudy/temp low 60s/ no rain in last 48 hrs	
	02/02/12	30.0966	-91.00602	Rondinaud LA1 bridge	4:25 AM	3604	exceeds DWS/SCR	636	12.14	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	water turbid
	3/1/2012	30.0966	-91.00602	Rondinaud LA1 bridge	5:25 AM	264	null	72	11.49	NA	NA	Negative	NA	NA	NA	Upper 70s/sunny/15-20 mph wind	
	04/12/12	30.0966	-91.00602	Rondinaud LA1 bridge	3:20 PM	757	exceeds PCR	315	13.42	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s	sample had pink tint
	05/09/12	30.0966	-91.00602	Rondinaud LA1 bridge	4:20 PM	198	null	72	12.36	NA	NA	Negative	NA	NA	NA	mostly cloudy/temp low 80s	
	06/13/12	30.0966	-91.00602	Rondinaud LA1 bridge	5:20 PM	991	exceeds PCR	90	14.22	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s/W wind 1-5 mph	no flow/ very little water in culvert
	07/11/12	30.0966	-91.00602	Rondinaud LA1 bridge	2:44 PM	829	exceeds PCR	405	13.55	NA	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-5-A Cont.	08/01/12	30.0966	-91.00602	Rondinaud LA1 bridge	9:26 AM	919	exceeds PCR	309	14.03	NA	NA	Negative	NA	NA	NA	overcast;temp mid 80s; W wind 5-10 mph	vegetation overgrowth; little flow in ditch
ASCE-6-A pre-final site selec.	07/13/11	30.09593	-91.02417	2165 LA1	2:11 PM	No water	NC	NC	NC	NA	NA	NA	NA	NA	NA	hot/humid	no sample
HOT SPOT	08/03/11	30.09593	-91.02417	2165 LA1	12:00 PM	310000	exceeds DWS/SCR	2545	27.75	7.13	NA	Negative	(-)	(-)	(-)	hot/humid	small sample
	08/10/11	30.09593	-91.02417	2165 LA1	10:29 AM	50000	exceeds DWS/SCR	2181	33.20	6.19	NA	Negative	(-)	(-)	(-)	hot/humid/ rain in past 24 hrs	
ASCE-6-A final sites	09/07/11	30.09593	-91.02417	2165 LA1	4:20 PM	250000	exceeds DWS/SCR	236	22.94	7.84	NA	Negative	(-)	(-)	(+)	sunny/mild/ NW wind 5-10 mph	oil specs-probably natural, trash in ditch
	10/05/11	30.09593	-91.02417	2165 LA1	9:47 AM	2707	exceeds DWS/SCR	531	21.28	12.17	1.27	Positive	(-)	(+)	(-)	sunny/temp in upper 60s/light breeze	
	11/03/11	30.09593	-91.02417	2165 LA1	NC	No water	NC	NC	NC	NA	NA	NA	NA	NA	NA	sunny/low 60s NW 10-15 mph	no sample
	11/30/11	30.09593	-91.02417	2165 LA1	9:36 AM	90000	exceeds DWS/SCR	472	19.89	7.29	NA	Negative	NA	NA	NA	sunny/temp low 50s	very little water in ditch
	01/04/12	30.09593	-91.02417	2165 LA1	6:25 AM	909	exceeds PCR	727	14.25	NA	NA	Negative	(-)	(+)	(-)	partly cloudy/temp low 60s/ no rain in last 48 hrs	more water than normal
	02/02/12	30.09593	-91.02417	2165 LA1	7:25 AM	1636	exceeds PCR	181	14.10	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	more water than typical
	03/01/12	30.09593	-91.02417	2165 LA1	8:25 AM	2364	exceeds DWS/SCR	2272	13.04	NA	NA	Negative	(-)	(-)	(-)	Upper 70s/sunny/15-20 mph wind	more water present than normal
	04/12/12	30.09593	-91.02417	2165 LA1	6:20 PM	685	exceeds PCR	127	18.5	9.54	1.5	Positive	NA	NA	NA	sunny/temp upper 60s	
	05/09/12	30.09593	-91.02417	2165 LA1	7:20 PM	81818	exceeds DWS/SCR	8000	20.73	10.76	1.43	Positive	(-)	(-)	(-)	mostly cloudy/temp low 80s	
	06/13/12	30.09593	-91.02417	2165 LA1	8:20 PM	909	exceeds PCR	354	16.51	8.21	1.6	Negative	NA	NA	NA	partly cloudy/temp mid 80s/W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-6-A cont.	07/11/12	30.09593	-91.02417	2165 LA1	2:44 PM	3544	exceeds DWS/SCR	209	18.26	8.10	1.5	Positive	(-)	(-)	(-)	overcast; temp mid 80s/SW wind 1-5 mph	
	08/01/12	30.09593	-91.02417	2165 LA1	9:26 AM	2455	exceeds DWS/SCR	0	18.57	8.89	1.5	Positive	NA	NA	NA	overcast; temp mid 80s; W wind 5-10 mph	vegetation overgrowth;littl e flow in ditch
ASCE-7-A pre-final site selec.	06/06/11	30.0871	-91.02958	LA 943 Bridge	11:00 AM	227	null	NC	14.60	NA	NA	Negative	NA	NA	NA	hot/dry	bridge/ dredging
	06/23/11	30.0871	-91.02958	LA 943 bridge	11:30 AM	1909	exceeds PCR	NC	16.00	5.00	NA	Negative	NA	NA	NA	overcast/ drizzle	bridge/ dredging
	08/03/11	30.0871	-91.02958	LA 943 bridge	12:07 PM	4144	exceeds DWS/SCR	69	16.06	4.08	NA	Negative	(-)	(-)	(-)	hot/humid	
	08/10/11	30.0871	-91.02958	LA 943 bridge	10:37 AM	7455	exceeds DWS/SCR	504	12.98	NA	NA	Negative	NA	NA	NA	hot/humid/ rain in past 24h	
ASCE-7-A final sites	09/07/11	30.0871	-91.02958	LA 943 bridge	4:32 PM	4545	exceeds DWS/SCR	117	21.14	5.63	NA	Negative	NA	NA	NA	sunny/mild/ NW wind 5-10 mph	bridge dredging
	10/05/11	30.0871	-91.02958	LA 943 bridge	9:57 AM	523	exceeds PCR	1000	11.14	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s/ light breeze	herbicide being sprayed
	11/03/11	30.0871	-91.02958	LA 943 bridge	4:33 PM	418	exceeds PCR	80	10.23	NA	NA	Negative	NA	NA	NA	sunny/low 60s NW 10-15 mph	
	11/30/11	30.0871	-91.02958	LA 943 bridge	9:48 AM	409	exceeds PCR	100	13.03	NA	NA	Negative	NA	NA	NA	sunny/temp low 50s	
	01/4/12	30.0871	-91.02958	LA 943 bridge	9:25 AM	236	null	64	14.44	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp low 60s/ no rain in last 48 hrs	
	02/02/12	30.0871	-91.02958	LA 943 bridge	10:25 AM	17000	exceeds DWS/SCR	5000	12.20	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	
	03/01/12	30.0871	-91.02958	LA 943 bridge	11:25 AM	200	null	120	10.97	NA	NA	Negative	NA	NA	NA	Upper 70s/sunny/15-20 mph wind	
	04/12/12	30.0871	-91.02958	LA 943 bridge	8:20 AM	1243	exceeds PCR	531	13.78	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s	
	05/09/12	30.0871	-91.02958	LA 943 bridge	9:20 AM	240	null	110	13.44	NA	NA	Negative	NA	NA	NA	mostly cloudy/temp low 80s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASCE-7-A cont.	06/13/12	30.0871	-91.02958	LA 943 Bridge	10:20 AM	1171	exceeds PCR	354	12.17	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s/W wind 1-5 mph	
	07/11/12	30.0871	-91.02958	LA 943 bridge	2:58 PM	1054	exceeds PCR	351	13.54	NA	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	
218	08/01/12	30.0871	-91.02958	LA 943 bridge	9:41 AM	836	exceeds PCR	218	15.19	6.32	NA	Negative	NA	NA	NA	overcast;temp mid 80s; W wind 5-10 mph	
Clust-B ASSU-1-B pre-final site selec.	06/30/11	30.06698	-91.02831	7436 LA1	11:20 AM	5455	exceeds DWS/SCR	NC	158.10	17.96	1.27	Positive	NA	NA	NA	hot/humid	
HOT SPOT	07/13/11	30.06698	-91.02831	7436 LA1	2:30 PM	440000	exceeds DWS/SCR	NC	130.20	14.82	1.39	Positive	NA	NA	NA	hot/humid	
	08/03/11	30.06698	-91.02831	7436 LA1	12:30 PM	520000	exceeds DWS/SCR	2545	177.75	13.96	1.48	Positive	(-)	(+)	(-)	hot/humid	bad smell
	08/10/11	30.06698	-91.02831	7436 LA1	10:49 AM	50000	exceeds DWS/SCR	2181	188.30	14.05	1.4	Positive	(-)	(-)	(-)	hot/humid/ rain in past 24 hrs	
ASSU-1-B final sites	09/07/11	30.06698	-91.02831	7436 LA1	4:46 PM	100000	exceeds DWS/SCR	24545	95.99	14.79	1.26	Positive	(+)	(-)	(+)	sunny/mild/ NW wind 5-10 mph	strong sewage smell
	10/05/11	30.06698	-91.02831	7436 LA1	10:05 AM	380000	exceeds DWS/SCR	270	98.39	17.42	1.3	Positive	(+)	(+)	(+)	sunny/temp in upper 60s/light breeze	smell like sewage/ green colored
	11/03/11	30.06698	-91.02831	7436 LA1	4:42 PM	950000	exceeds DWS/SCR	270000	117.82	18.46	1.2	Positive	(+)	(+)	(+)	sunny/low 60s NW 10-15 mph	sewage smell/grey
	11/30/11	30.06698	-91.02831	7436 LA1	10:01 AM	100000	exceeds DWS/SCR	530000	84.92	14.93	1.2	Positive	(+)	(+)	(+)	sunny/temp low 50s	signs of drainage work? Sewage smell
	01/04/12	30.06698	-91.02831	7436 LA1	12:25 PM	450000	exceeds DWS/SCR	410000	104.00	10.51	1.4	Positive	(+)	(+)	(+)	partly cloudy/temp low 60s/ no rain in last 48 hrs	
	02/02/12	30.06698	-91.02831	7436 LA1	1:25 PM	530000	exceeds DWS/SCR	290000	84.53	10.98	1.3	Positive	(+)	(-)	(+)	overcast/ temp upper 50s/ light variable wind	sewage smell

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-1-B cont.	03/01/12	30.06698	-91.02831	7436 LA1	2:25 PM	330000	exceeds DWS/SCR	250000	427.50	7.68	NA	Negative	(-)	(+)	(-)	Upper 70s/sunny/15-20 mph wind	green tint
	04/12/12	30.06698	-91.02831	7436 LA1	10:20 PM	150000	exceeds DWS/SCR	90000	277.70	15.00	1.2	Positive	(-)	(-)	(-)	sunny/temp upper 60s	gray sample/ strong sewage smell
	05/09/12	30.06698	-91.02831	7436 LA1	11:20 PM	95455	exceeds DWS/SCR	54545	288.60	16.94	1.4	Positive	(-)	(-)	(-)	mostly cloudy/temp low 80s	sewage smell
	06/13/12	30.06698	-91.02831	7436 LA1	12:20 AM	680000	exceeds DWS/SCR	510000	130.05	15.99	1.3	Positive	(+)	(-)	(+)	partly cloudy/ temp mid 80s/W wind 1-5 mph	
	07/11/12	30.06698	-91.02831	7436 LA1	3:08 PM	620000	exceeds DWS/SCR	130000	128.60	18.12	1.2	Positive	(-)	(+)	(-)	overcast; temp mid 80s/SW wind 1-5 mph	
	08/01/12	30.06698	-91.02831	7436 LA1	9:52 AM	370000	exceeds DWS/SCR	190000	166.30	14.61	1.4	Positive	(-)	(-)	(-)	overcast; W wind 5-10 mph	strong sewage smell
ASSU-2-B pre-final site selec.	06/06/11	30.0499	-91.04082	LA 998 Bridge Belle Rose	11:12 AM	209	null	NC	15.80	12.9	1.38	Positive	NA	NA	NA	hot/dry	from bayou
	06/23/11	30.0499	-91.04082	LA998 bridge Belle Rose	12:40 PM	909	exceeds PCR	NC	18.30	6.00	NA	Negative	NA	NA	NA	overcast/ drizzle	from bayou
	08/04/11	30.0499	-91.04082	LA998 bridge Belle Rose	10:12 AM	3333	exceeds DWS/SCR	60	18.32	4.42	NA	Negative	NA	NA	NA	hot/humid	
	8/10/11	30.0499	-91.04082	LA998 bridge Belle Rose	10:58 AM	5636	exceeds DWS/SCR	220	13.01	NA	NA	Negative	NA	NA	NA	hot/humid/ rain in past 24 hrs	
ASSU-2-B final sites	09/07/11	30.0499	-91.04082	LA998 bridge Belle Rose	4:52 PM	4909	exceeds DWS/SCR	36	19.61	3.49	NA	Negative	NA	NA	NA	sunny/mild/ NW wind 5-10 mph	
	10/05/11	30.0499	-91.0408	HWY 998 bridge Belle Rose	10:11 AM	2273	exceeds DWS/SCR	100	10.48	NA	NA	Negative	NA	NA	NA		
	11/03/11	30.0499	-91.04082	LA998 bridge Belle Rose	4:48 PM	700	exceeds PCR	100	9.91	NA	NA	Negative	NA	NA	NA	sunny/low 60s NW 10-15 mph	
	11/30/11	30.0499	-91.04082	LA998 bridge Belle Rose	10:15 AM	218	null	60	11.72	NA	NA	Negative	NA	NA	NA	sunny/temp low 50s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-2-B cont.	01/04/12	30.0499	-91.04082	LA998 bridge Belle Rose	10:25 PM	173	null	45	15.50	8.82	1.4	Positive	(-)	(-)	(-)	partly cloudy/temp low 60s/ no rain in last 48 hrs	
	02/02/12	30.0499	-91.04082	LA998 bridge Belle Rose	11:25 PM	8739	exceeds DWS/SCR	4363	15.41	5.90	NA	Negative	(-)	(+)	(-)	overcast/ temp upper 50s/ light variable wind	
	03/01/12	30.0499	-91.04082	LA998 bridge Belle Rose	12:25 AM	190	null	130	11.13	NA	NA	Negative	NA	NA	NA	Upper 70s/sunny/15-20 mph wind	
	04/12/12	30.0499	-91.04082	LA998 bridge Belle Rose	5:20 PM	818	exceeds PCR	418	13.20	NA	NA	Negative	(-)	(-)	(-)	sunny/temp upper 60s	
	05/09/12	30.0499	-91.04082	LA998 bridge Belle Rose	6:20 PM	118	null	100	13.08	NA	NA	Negative	(-)	(-)	(-)	mostly cloudy/temp low 80s	
	06/13/12	30.0499	-91.04082	LA998 bridge Belle Rose	7:20 PM	1582	exceeds PCR	118	14.30	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s/W wind 1-5 mph	
	07/11/12	30.0499	-91.04082	LA998 bridge Belle Rose	3:15 PM	818	exceeds PCR	400	14.31	NA	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	
	08/01/12	30.0499	-91.04082	LA998 bridge Belle Rose	9:58 AM	2727	exceeds DWS/SCR	243	14.47	NA	NA	Negative	NA	NA	NA	overcast;temp mid 80s; W wind 5-10 mph	
ASSU-3-B pre-final site selec.	6/30/11	30.0169	-91.04706	Tyler Lane LA1	11:45 AM	7000	exceeds DWS/SCR	NC	96.53	15.89	1.33	Positive	NA	NA	NA	hot/humid	
HOT SPOT	07/05/11	30.0169	-91.04706	Tyler Lane LA1	10:15 AM	130000	exceeds DWS/SCR	NC	99.14	14.87	NA	Negative	NA	NA	NA	hot/humid	
	08/04/11	30.0169	-91.04706	Tyler Lane LA1	10:30 AM	224545	exceeds DWS/SCR	NC	72.59	11.68	1.49	Positive	(-)	(+)	(+)	hot/humid	
	8/10/11	30.0169	-91.04706	Tyler Lane LA1	11:09 AM	50000	exceeds DWS/SCR	NC	71.95	11.13	1.4	Positive	(-)	(-)	(-)	hot/humid/ rain in past 24 hrs	
ASSU-3-B final sites	09/07/11	30.0169	-91.04706	Tyler Lane LA1	5:04 PM	36364	exceeds DWS/SCR	145	47.07	9.63	1.3	Positive	(-)	(-)	(-)	sunny/mild/ NW wind 5-10 mph	ditch was dry/ small pool of water under culvert

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-3-B cont.	10/05/11	30.0169	-91.04706	Tyler Lane LA1	10:22 PM	490000	exceeds DWS/SCR	633	64.13	13.23	1.3	Positive	(+)	(+)	(+)	sunny/temp in upper 60s/light breeze	black/ sewage smell
	11/03/11	30.0169	-91.04706	Tyler Lane LA1	4:58 PM	640000	exceeds DWS/SCR	250000	89.30	19.46	1.15	Positive	(+)	(+)	(+)	sunny/low 60s NW 10-15 mph	sewage smell/ grey water
	11/30/11	30.0169	-91.04706	Tyler Lane LA1	10:39 AM	730000	exceeds DWS/SCR	480000	123.20	19.01	1.2	Positive	(+)	(+)	(-)	sunny/temp low 50s	sample gray/ sewage smell
	01/04/12	30.0169	-91.04706	Tyler Lane LA1	7:25 AM	980000	exceeds DWS/SCR	390000	121.45	13.9	1.07	Positive	(+)	(+)	(+)	partly cloudy/ temp low 60s/ no rain in last 48 hrs	swift current
	02/02/12	30.0169	-91.04706	Tyler Lane LA1	8:25 AM	560000	exceeds DWS/SCR	370000	77.88	18.35	1.16	Positive	(+)	(+)	(+)	overcast/ temp upper 50s/ light variable wind	
	03/01/12	30.0169	-91.04706	Tyler Lane LA1	9:25 AM	730000	exceeds DWS/SCR	430000	79.73	13.17	1.2	Positive	(-)	(-)	(-)	Upper 70s/sunny/15-20 mph wind	
	04/12/12	30.0169	-91.04706	Tyler Lane LA1	9:20 PM	900000	exceeds DWS/SCR	480000	74.3	8.43	1.4	Positive	(-)	(-)	(+)	sunny/temp upper 60s	gray sample/strong sewage smell
	05/09/12	30.0169	-91.04706	Tyler Lane LA1	10:20 PM	69091	exceeds DWS/SCR	61819	104.15	10.4	1.4	Positive	(-)	(-)	(-)	mostly cloudy/temp low 80s	sewage smell
	06/13/12	30.0169	-91.04706	Tyler Lane LA1	11:20 PM	610000	exceeds DWS/SCR	140000	76.01	13.91	1.5	Positive	(+)	(+)	(+)	partly cloudy/temp mid 80s/W wind 1-5 mph	
	07/11/12	30.0169	-91.04706	Tyler Lane LA1	3:26 PM	510000	exceeds DWS/SCR	230000	93.10	13.14	1.2	Positive	(+)	(-)	(+)	overcast; temp mid 80s/SW wind 1-5 mph	bad sewage smell
	08/01/12	30.0169	-91.04706	Tyler Lane LA1	10:09 AM	410000	exceeds DWS/SCR	220000	71.57	9.33	1.5	Positive	(-)	(-)	(+)	overcast; temp mid 80s; W wind 5-10 mph	strong sewage smell;gray/green film on surface
ASSU-4-B pre-final site sel.	06/06/11	30.0006	-91.05332	LA70 Paincourt-ville Bridge	11:55 AM	200	null	NC	17.00	17.2	1.19	Positive	NA	NA	NA	hot/dry	
	06/23/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	12:08 PM	1400	exceeds PCR	NC	18.1	10.9	1.19	Positive	NA	NA	NA	overcast/ drizzle	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-4-B pre-final selec.	08/04/11	30.0006	-91.05332	LA70 Paincourt-ville Bridge	10:35 AM	2455	exceeds DWS/SCR	30	19.60	4.49	NA	Negative	NA	NA	NA	hot/humid	
	08/10/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	11:17 AM	1700	exceeds PCR	90	14.15	NA	NA	Negative	NA	NA	NA	hot/humid/ rain in past 24 hrs	
ASSU-4-B final sites	09/07/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	5:11 PM	4636	exceeds DWS/SCR	110	18.82	5.18	NA	Negative	NA	NA	NA	sunny/mild/ NW wind 5-10 mph	heavy vegetation
	10/05/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	10:29 AM	480000	exceeds DWS/SCR	51181	38.31	6.21	NA	Negative	(-)	(-)	(-)	sunny/temp in upper 60s/ light breeze	vegetation overgrowth on banks
	11/03/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	5:03 PM	482	exceeds PCR	90	10.40	NA	NA	Negative	NA	NA	NA	sunny/low 60s NW 10-15 mph	
	11/30/11	30.0006	-91.05332	LA70 Paincourt-ville bridge	10:52 AM	82	null	20	12.17	NA	NA	Negative	NA	NA	NA	sunny/temp low 50s	vegetation overgrowth on banks
	01/04/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	10:25 AM	150	null	90	15.72	7.38	NA	Negative	NA	NA	NA	partly cloudy/temp low 60s/ no rain in last 48 hrs	
	02/02/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	11:25 AM	847	exceeds PCR	450	11.62	NA	NA	Negative	NA	NA	NA	overcast/ temp upper 50s/ light variable wind	
	03/01/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	12:25 PM	273	null	218	11.4	NA	NA	Negative	NA	NA	NA	Upper 70s/sunny/15-20 mph wind	shallow
	04/12/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	11:20 AM	342	null	207	14.23	NA	NA	Negative	NA	NA	NA	sunny/temp upper 60s	
	05/09/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	12:20 PM	336	null	218	12.83	NA	NA	Negative	NA	NA	NA	mostly cloudy/temp low 80s	
	06/13/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	1:20 PM	1559	exceeds PCR	372	16.88	6.81	NA	Negative	(-)	(-)	(-)	partly cloudy/temp mid 80s/W wind 1-5 mph	
	07/11/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	3:32 PM	1027	exceeds PCR	409	14.28	NA	NA	Negative	NA	NA	NA	overcast; temp mid 80s/SW wind 1-5 mph	slow flow in bayou
	08/01/12	30.0006	-91.05332	LA70 Paincourt-ville bridge	10:16 AM	1818	exceeds PCR	281	15.51	5.06	NA	Negative	NA	NA	NA	overcast; temp mid 80s; W wind 5-10 mph	
GROUP 1 SITES END (11 sites)																	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster-C ASSU-5A-C pre-final site selec.	06/30/11	29.9942	-91.0556	Hwy1 Culvert LA1 &1005	12:15 PM	16364	exceeds DWS/SCR	NC	35.56	7.00	NA	Negative	NA	NA	NA	hot/humid	Start ASSU protection area
HOT SPOT	07/05/11	29.9942	-91.0556	Hwy1 Culvert LA1 &1005	10:21 AM	200000	exceeds DWS/SCR	NC	37.09	7.47	NA	Negative	NA	NA	NA	hot/humid	
	08/04/11	29.9942	-91.0556	Hwy1 Culvert LA1 &1005	10:44 AM	40909	exceeds DWS/SCR	50	39.37	7.96	NA	Negative	NA	NA	NA	hot/humid	
	08/17/11	29.9942	-91.0556	Hwy1 Culvert LA1 &1005	2:13 PM	18000	exceeds DWS/SCR	207	40.59	9.35	1.5	Positive	NA	NA	NA	hot, mostly cloudy	
ASSU-5A-C final sites	9/14/11	29.9942	-91.0556	Hwy1 Culvert LA1 &1005	8:45 AM	118182	exceeds DWS/SCR	1818	49.68	7.49	NA	Negative	(-)	(+)	(-)		very little water/ oil globs
	10/12/11	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	PM	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	mostly cloudy/ temp mid 80s	No sample
	11/09/11	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	8:49 AM	59091	exceeds DWS/SCR	1090	26.30	8.46	1.5	Positive	(-)	(-)	(-)	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	2:02 PM	77273	exceeds DWS/SCR	400	33.45	5.58	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	1:25 PM	718	exceeds PCR	81	49.51	7.82	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	possible ditch work by culvert/sheen on water
	02/08/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	2:25 PM	541	exceeds PCR	40	47.5	11.45	1.3	Positive	(-)	(-)	(-)	low 60s/ partly cloudy	
	03/15/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	3:25 PM	1081	exceeds PCR	160	40.34	9.54	1.5	Positive	(-)	(-)	(-)	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-5A-C final sites cont.	04/18/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	1:20 AM	1477	exceeds PCR	563	24.22	9.27	1.4	Positive	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	very little water in ditch
	05/17/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	2:20 AM	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	partly cloudy/temp mid 80s	**no sample**
	06/20/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	3:20 AM	18182	exceeds DWS/SCR	181	39.24	6.75	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	orange growth in ditch
	07/18/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	9:17 AM	53636	exceeds DWS/SCR	154	38.06	8.93	1.5	Positive	(-)	(-)	(-)	Donaldsonville=1. 45" rain in past 48 hrs/Belle Rose=0.17" rain in past 48 hrs	thick orange film on surface
	08/15/12	29.9942	-91.0556	Hwy1 Culvert LA1 & 1005	1:44 PM	14545	exceeds DWS/SCR	2000	50.65	8.58	1.4	Positive	(+)	(-)	(+)	partly cloudy; temp high 80s; W wind 1-5 mph	orange film in water
ASSU-5B-C pre-final site selec.	08/17/11	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	2:17 PM	29091	exceeds DWS/SCR	1636	38.87	9.92	1.59	Positive	NA	NA	NA	hot, mostly cloudy	
ASSU-5B-C final sites	09/14/11	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	8:50 AM	6000	exceeds DWS/SCR	70	53.58	9.56	1.5	Positive	(-)	(-)	(-)	sunny/warm	trash
HOT SPOT	10/12/11	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	2:05 PM	1261	exceeds PCR	30	58.05	10.12	1.5	Positive	(+)	(+)	(-)	mostly cloudy/ temp mid 80s	water pooled
	11/09/11	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	8:52 AM	85455	exceeds DWS/SCR	2636	21.44	9.9	1.5	Positive	(+)	(-)	(-)	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	2:07 PM	6306	exceeds DWS/SCR	136	20.04	6.66	NA	Negative	NA	NA	NA	sunny/temp mid 40s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-5B-C final sites cont.	01/12/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	4:25 PM	20	null	0	53.54	9.94	1.5	Positive	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	5:25 PM	73	null	10	40.145	11.32	1.3	Positive	(-)	(-)	(-)	low 60s/ partly cloudy	
	03/15/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	6:25 PM	527	exceeds PCR	0	36.12	10.17	1.4	Positive	(-)	(-)	(-)	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	muddy sample; rain
	04/18/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	12:20PM	1252	exceeds PCR	54	26.25	10.67	1.4	Positive	(-)	(+)	(-)	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	1:20 PM	482	exceeds PCR	60	55.3	9.27	1.4	Positive	(-)	(-)	(-)	partly cloudy/temp mid 80s	
	06/20/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	2:20 PM	4865	exceeds DWS/SCR	63	40.78	7.2	NA	Negative	(-)	(-)	(-)	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	9:22 AM	5676	exceeds DWS/SCR	73	43.53	9.75	1.5	Positive	(-)	(-)	(-)		
	08/15/12	29.9944	-91.0555	Bayou Culvert LA1/ 1005 B	1:51 PM	5315	exceeds DWS/SCR	499	52.66	7.7	NA	Negative	(-)	(+)	(+)	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-6-C pre-final site selec.	06/06/11	29.9932	-91.05408	St.Vincent Bridge	12:35 PM	145	null	NC	16.22	13.44	1.04	Positive	NA	NA	NA	hot/dry	
	08/04/11	29.9932	-91.05408	St.Vincent bridge	10:51 AM	2500	exceeds DWS/SCR	20	18.47	5.25	NA	Negative	NA	NA	NA	hot/humid	
	08/17/11	29.9932	-91.05408	St.Vincent bridge	2:04 PM	6667	exceeds DWS/SCR	180	14.55	NA	NA	Negative	(+)	(-)	(-)	hot, mostly cloudy	
ASSU-6-C final sites	09/14/11	29.9932	-91.05408	St.Vincent bridge	9:07AM	1441	exceeds PCR	154	13.73	6.05	NA	Negative	NA	NA	NA	sunny/warm	
	10/12/11	29.9932	-91.05408	St.Vincent bridge	2:22 PM	1091	exceeds PCR	91	11.31	6.27	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	good flow at bridges; water cloudy/green
	11/09/11	29.9932	-91.05408	St.Vincent bridge	9:18 AM	2636	exceeds DWS/SCR	420	12.90	7.83	NA	Negative	NA	NA	NA	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	floating vegetation in bayou; low flow; green tint to water; rain in past 24 hrs
	12/07/11	29.9932	-91.05408	St.Vincent bridge	2:23 PM	1091	exceeds PCR	155	12.94	5.91	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9932	-91.05408	St.Vincent bridge	7:25 PM	282	null	209	13.69	5.37	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	bayou had good flow
	02/08/12	29.9932	-91.05408	St.Vincent bridge	8:25 PM	198	null	100	12.09	6.70	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9932	-91.05408	St.Vincent bridge	9:25 PM	700	exceeds PCR	390	19.43	7.46	NA	Negative	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	heavy rain in past 48 hrs; bayou is turbid; lower than normal D.O. readings
	04/18/12	29.9932	-91.05408	St.Vincent bridge	1:20 AM	495	exceeds PCR	261	12.98	6.05	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	3.83" rain in last 48 hrs; bayou is turbid
	05/17/12	29.9932	-91.05408	St.Vincent bridge	2:20 AM	555	exceeds PCR	272	11.11	4.72	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	Bayou flowing; had green tint; 0.09" rain in 48 hrs
	06/20/12	29.9932	-91.05408	St.Vincent bridge	3:20 AM	892	exceeds PCR	333	12.64	3.80	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	vegetation overgrowth along banks of bayou/ Paincourtville = 1.73" rain in past 48 hrs
	07/18/12	29.9932	-91.05408	St.Vincent bridge	9:31 AM	2545	exceeds DWS/SCR	363	15.88	5.35	NA	Negative	NA	NA	NA		
	08/15/12	29.9932	-91.05408	St.Vincent bridge	1:58 PM	2364	exceeds DWS/SCR	200	12.77	NA	NA	Negative	NA	NA	NA	partly cloudy; temp high 80s; W wind 1-5 mph	Napoleonville=0.29" in past 48 hrs

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-7-C pre-final site selec.	07/05/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	NC	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	hot/dry	no water
HOT SPOT	07/13/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	2:50 PM	410000	exceeds DWS/SCR	NC	448.3	6.47	NA	Negative	NA	NA	NA	drizzle	
	08/04/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	11:01 AM	530000	exceeds DWS/SCR	141818	380.50	15.73	1.24	Positive	(-)	(+)	(-)	hot/humid	bad smell
	08/17/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	1:53 PM	970000	exceeds DWS/SCR	400000	240.75	12.54	1.4	Positive	NA	NA	NA	hot, mostly cloudy	
ASSU-7-C final sites	09/14/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	9:23 AM	260000	exceeds DWS/SCR	19090	197.9	20.31	1.3	Positive	(-)	(-)	(-)		smells like detergent andbad sewage; pink/gray
	10/12/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	2:35 PM	300000	exceeds DWS/SCR	24454	273.6	16.03	1.2	Positive	(+)	(-)	(-)	mostly cloudy/ temp mid 80s	bad sewage smell/ gray sample
	11/09/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	9:28 AM	270000	exceeds DWS/SCR	140000	47.99	26.93	1.12	Positive	(-)	(-)	(-)	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	strong sewage smell/ gray and turbid sample
	12/07/11	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	2:32 PM	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	sunny/temp mid 40s	no sample collected/ culvert was dry
	01/12/12	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	10:25 PM	300000	exceeds DWS/SCR	54545	237.75	34.20	1.1	Positive	(-)	(+)	(-)	partly cloudy/temp 50s/NW wind 15-20 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-7-C cont.	02/08/12	29.9899	-91.03596	College Pt Canaan Baptist Church /Hwy 308	11:25 PM	890000	exceeds DWS/SCR	210000	213.5	37.38	1.06	Positive	(-)	(+)	(-)	low 60s/ partly cloudy	
	03/15/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	12:25 AM	87273	exceeds DWS/SCR	13636	52.83	13.37	1.20	Positive	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	more vegetation in ditch than normal
	04/18/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	2:20 PM	2216	exceeds DWS/SCR	963	14.935	10.98	1.30	Positive	(-)	(-)	(-)	sunny/temp mid 70s/rain in past 48 hrs	sewage smell
	05/17/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	3:20 PM	132727	exceeds DWS/SCR	89090	175.1	18.76	1.11	Positive	(-)	(+)	(-)	partly cloudy/temp mid 80s	very little sample/sewage smell
	06/20/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	4:20 PM	97273	exceeds DWS/SCR	10909	64.84	11.21	1.11	Positive	(+)	(+)	(-)	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	very little water in ditch/ had sewage smell
	07/18/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	9:42 AM	146364	exceeds DWS/SCR	67272	64.25	13.37	1.2	Positive	(-)	(-)	(-)		dark gray water
	08/15/12	29.9944	-91.0555	College Pt Canaan Baptist Church /Hwy 308	2:08 PM	NC	NC	NC	NC	NA	NA	NA	NA	NA	NA	partly cloudy; temp high 80s; W wind 1-5 mph	**no sample/ ditch dry**
ASSU-8-C pre-final site selec.	06/06/11	29.9894	-91.02932	Spur 70 Plattenville -Bridge	1:10 PM	228	null	NC	26.3	0.5	NA	Negative	NA	NA	NA	hot/dry	
	06/23/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	1:00 PM	4727	exceeds DWS/SCR	NC	20	7.9	NA	Negative	NA	NA	NA	overcast/ drizzle	
	08/04/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	11:40 AM	2000	exceeds PCR	NC	16.34	4.56	NA	Negative	NA	NA	NA	hot/humid	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-8-C pre-final cont.	08/17/11	29.9894	-91.02932	Spur 70 Plattenville -Bridge	1:53 PM	5315	exceeds DWS/SCR	318	13.70	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
ASSU-8-C final sites	09/14/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	9:30 AM	2636	exceeds DWS/SCR	90	14.05	NA	NA	Negative	NA	NA	NA	sunny/warm	
	10/12/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	2:42 PM	1441	exceeds PCR	110	9.81	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	vegetation overgrowth
	11/9/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	9:34 AM	3182	exceeds DWS/SCR	354	10.76	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9894	-91.02932	Spur 70 Plattenville -bridge	2:38 PM	1300	exceeds PCR	136	12.79	NA	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	1:25 AM	238	null	129	13.3	NA	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	2:25 AM	218	null	127	11.495	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	3:25 AM	541	exceeds PCR	272	19.3	5.96	NA	Negative	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	bayou turbid; rain
	04/18/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	4:20 AM	333	null	153	14.21	NA	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	5:20 AM	709	exceeds PCR	390	11.97	NA	NA	Negative	(-)	(+)	(-)	partly cloudy/temp mid 80s	
	06/20/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	6:20 AM	694	exceeds PCR	227	12.56	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	9:48 AM	3000	exceeds DWS/SCR	245	15.75	7.71	NA	Negative	(-)	(-)	(-)		
	08/15/12	29.9894	-91.02932	Spur 70 Plattenville -bridge	2:13 PM	1600	exceeds PCR	160	13.95	NA	NA	Negative	(-)	(-)	(-)	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster-D ASSU-9-D pre-final site selec.	06/06/11	29.98899	-91.02415	Bridge St.-bridge	1:30 PM	218	null	NC	14.39	NA	NA	Negative	NA	NA	NA	hot/dry	
	08/04/11	29.98899	-91.02415	Bridge St.-bridge	11:57 AM	1727	exceeds PCR	NC	16.16	3.68	NA	Negative	NA	NA	NA		
	08/17/11	29.98899	-91.02415	Bridge St.-bridge	1:30 PM	6486	exceeds DWS/SCR	218	13.80	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
ASSU-9-D final sites	09/14/11	29.98899	-91.02415	Bridge St.-bridge	9:42 AM	3784	exceeds DWS/SCR	154	14.75	NA	NA	Negative	NA	NA	NA	sunny/warm	
	10/12/11	29.98899	-91.02415	Bridge St.-bridge	2:54 PM	1182	exceeds PCR	150	10.46	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	vegetation overgrowth
	11/09/11	29.98899	-91.02415	Bridge St.-bridge	9:42 AM	3455	exceeds DWS/SCR	345	11.41	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.98899	-91.02415	Bridge St.-bridge	2:50 PM	600	exceeds PCR	163	12.96	NA	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.98899	-91.02415	Bridge St.-bridge	4:25 AM	230	null	140	13.995	NA	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.98899	-91.02415	Bridge St.-bridge	5:25 AM	150	null	100	11.575	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	3/15/12	29.98899	-91.02415	Bridge St.-bridge	6:25 AM	541	exceeds PCR	227	19.55	7.77	NA	Negative	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	bayou turbid
	04/18/12	29.98899	-91.02415	Bridge St.-bridge	5:20 PM	464	exceeds PCR	191	12.56	NA	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.98899	-91.02415	Bridge St.-bridge	6:20 PM	645	exceeds PCR	372	11.89	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	06/20/12	29.98899	-91.02415	Bridge St.-bridge	7:20 PM	836	exceeds PCR	236	12.33	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.98899	-91.02415	Bridge St.-bridge	9:57 AM	2091	exceeds DWS/SCR	318	15.55	5.54	NA	Negative	NA	NA	NA		
	08/15/12	29.98899	-91.02415	Bridge St.-bridge	2:22 PM	2455	exceeds DWS/SCR	300	13.4	NA	NA	Negative	NA	NA	NA	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-10-D pre-final site selec.	07/05/11	29.9827	-91.0187	St.Benedict Church	10:49 AM	110000	exceeds DWS/SCR	NC	70.80	6.69	NA	Negative	NA	NA	NA	hot/humid	
HOT SPOT	07/07/11	29.9827	-91.0187	St.Benedict Church	10:35 AM	10000	exceeds DWS/SCR	NC	49.97	11.03	1.5	Positive	NA	NA	NA	hot/humid	
	08/04/11	29.9827	-91.0187	St.Benedict Church	12:07 PM	16364	exceeds DWS/SCR	NC	56.69	5.25	NA	Negative	NA	NA	NA	hot/humid	
	08/17/11	29.9827	-91.0187	St.Benedict Church	1:22 PM	5182	exceeds DWS/SCR	227	14.91	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
ASSU-10-D final sites	09/14/11	29.9827	-91.0187	St.Benedict Church	10:00 AM	4273	exceeds DWS/SCR	318	19.21	6.69	NA	Negative	(-)	(-)	(-)	sunny/warm	09/14/11
	10/12/11	29.9827	-91.01869	St.Benedict Church	3:04 PM	991	exceeds PCR	100	17.44	8.83	1.5	Positive	(-)	(+)	(-)	mostly cloudy/ temp mid 80s	
	11/09/11	29.9827	-91.01869	St.Benedict Church	9:50 AM	270000	exceeds DWS/SCR	7567	21.28	8.39	1.5	Positive	(-)	(-)	(+)	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9827	-91.01869	St.Benedict Church	2:57 PM	83636	exceeds DWS/SCR	263	20.29	8.40	1.5	Positive	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9827	-91.01869	St.Benedict Church	3:25 PM	1225	exceeds PCR	490	35.99	6.28	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9827	-91.01869	St.Benedict Church	4:25 PM	300	null	20	35.56	10.15	1.5	Positive	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9827	-91.01869	St.Benedict Church	5:25 PM	135	null	20	31.24	10.66	1.3	Positive	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	sheen on water; rain

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-10-D cont.	04/18/12	29.9827	-91.01869	St.Benedict Church	12:20 PM	675	exceeds PCR	30	34.23	9.48	1.5	Positive	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	sheen on water surface
	05/17/12	29.9827	-91.01869	St.Benedict Church	1:20 PM	18182	exceeds DWS/SCR	20	28.89	7.67	NA	Negative	(-)	(-)	(+)	partly cloudy/temp mid 80s	
	06/20/12	29.9827	-91.01869	St.Benedict Church	2:20 PM	7117	exceeds DWS/SCR	90	18.67	11.46	1.7	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	sheen on surface
	07/18/12	29.9827	-91.01869	St.Benedict Church	10:04 AM	4091	exceeds DWS/SCR	60	16.78	6.05	NA	Negative	NA	NA	NA		
	08/15/12	29.9827	-91.01869	St.Benedict Church	2:29 PM	80000	exceeds DWS/SCR	11818	50.86	7.7	1.6	Negative	(-)	(-)	(-)	partly cloudy; temp high 80s; W wind 1-5 mph	
ASSU-11-D pre-final site selec.	06/06/11	29.955	-91.0302	Hosp Rd Bridge Napoleon-ville	1:50 PM	82	null	NC	16.3	20.6	1.17	Positive	NA	NA	NA	hot/dry	
	06/23/11	29.955	-91.0302	Hosp Rd bridge Napoleon-ville	11:32 AM	416	exceeds PCR	NC	20.7	5.5	NA	Negative	NA	NA	NA	overcast/ drizzle	
	08/04/11	29.955	-91.0302	Hosp Rd bridge Napoleon-ville	12:15 PM	1818	exceeds PCR	NC	16.28	4.98	NA	Negative	NA	NA	NA	hot/humid	
	08/17/11	29.955	-91.0302	Hosp Rd bridge Napoleon-ville	1:12 PM	2273	exceeds DWS/SCR	91	13.59	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
ASSU-11-D final sites	09/14/11	29.955	-91.0302	Hosp Rd bridge Napoleon-ville	10:10 AM	2000	exceeds PCR	70	14.78	NA	NA	Negative	NA	NA	NA	sunny/warm	
	10/12/11	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	3:16 PM	658	exceeds PCR	80	10.45	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	
	11/9/11	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	10:00 AM	855	exceeds PCR	181	11.08	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/8/11	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	3:07 PM	682	exceeds PCR	218	12.38	NA	NA	Negative	NA	NA	NA	sunny/temp mid 40s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-11-D cont.	01/12/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	6:25 PM	145	null	118	14.7	NA	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	7:25 PM	140	null	70	10.6	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	3/15/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	8:25 PM	676	exceeds PCR	380	17.95	10.39	1.2	Positive	NA	NA	NA	morning fog sunny/ 70s/; heavy rain48hrs	bayou turbid
	04/18/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	2:20 AM	400	null	190	12.2	NA	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	3:20 AM	464	exceeds PCR	218	11.64	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	06/20/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	4:20 AM	445	exceeds PCR	118	12.25	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	10:12 AM	1818	exceeds PCR	216	15.17	5.21	NA	Negative	(-)	(-)	(-)		
	08/15/12	29.9554	-91.03018	Hosp Rd bridge Napoleon-ville	2:40 PM	273	null	181	12.76	NA	NA	Negative	(-)	(-)	(-)	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-12-D pre-final site selec.	06/06/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	2:09 PM	182	null	NC	14.1	NA	NA	Negative	NA	NA	NA	hot/dry	
	06/23/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	3:05 PM	1636	exceeds PCR	NC	87.9	7.7	NA	Negative	NA	NA	NA	overcast/ drizzle	
ASSU-12-D final sites	09/14/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	10:21 AM	1727	exceeds PCR	164	16.70	23.22	1.08	Positive	NA	NA	NA	sunny/warm	
	10/12/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	3:28 PM	482	exceeds PCR	60	11.47	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	
	11/09/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	10:12 AM	4144	exceeds DWS/SCR	1636	10.86	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9415	-91.02329	Franklin St Bridge-Hwy1008	3:16 PM	946	exceeds PCR	405	12.90	NA	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	9:25 PM	73	null	45	13.39	NA	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	10:25 PM	120	null	90	11.055	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	11:25 PM	550	exceeds PCR	336	15.09	8.42	1.2	Positive	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	bayou turbid; rain
	04/18/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	2:20 PM	309	null	145	11.85	NA	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	3:20 PM	414	exceeds PCR	207	10.51	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	06/20/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	4:20 PM	509	exceeds PCR	130	12.42	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	10:21 AM	901	exceeds PCR	163	14.5	NA	NA	Negative	NA	NA	NA		
	08/15/12	29.9415	-91.02329	Franklin St Bridge-Hwy1008	2:51 PM	1189	exceeds PCR	227	13.6	NA	NA	Negative	NA	NA	NA	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-13-D pre-final site selec.	06/08/11	29.9403	-91.02266	Jefferson St. /Ace culvert	16:10	100	null	NC	28.665	17.83	0.8	Positive	NA	NA	NA	hot/ threatening	
HOT SPOT	06/30/11	29.9403	-91.02266	Jefferson St. /Ace culvert	1:09	901	exceeds PCR	NC	45.59	6.71	NA	Negative	NA	NA	NA	hot/humid	
	08/17/11	29.9403	-91.02266	Jefferson St. /Ace culvert	12:42	6937	exceeds DWS/SCR	45	45.35	10.25	1.4	Positive	NA	NA	NA	hot, mostly cloudy	
ASSU-13-D final sites	09/14/11	29.9403	-91.02266	Jefferson St. /Ace culvert	10:32	2883	exceeds DWS/PCR	27	51.78	10.5	1.5	Positive	NA	NA	NA	sunny/warm	
	10/12/11	29.9403	-91.02266	Jefferson St. /Ace culvert	3:36	255	null	0	62.89	11.72	1.4	Positive	(-)	(+)	(-)	mostly cloudy/ temp mid 80s	
	11/09/11	29.9403	-91.02266	Jefferson St. /Ace culvert	10:19	40000	exceeds DWS/SCR	2000	23.57	6.28	NA	Negative	(-)	(+)	(-)	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9403	-91.02266	Jefferson St. /Ace culvert	3:26 PM	18000	exceeds DWS/SCR	672	32.29	9.76	1.6	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9403	-91.02266	Jefferson St. /Ace culvert	12:25 AM	144	null	0	56.41	10.52	1.5	Positive	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	sheen on water
	02/08/12	29.9403	-91.02266	Jefferson St. /Ace culvert	1:25 AM	450	exceeds PCR	20	11.29	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9403	-91.02266	Jefferson St. /Ace culvert	2:25 AM	387	null	189	15.62	10.56	1.2	Positive	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	sheen on water; rain
	04/18/12	29.9403	-91.02266	Jefferson St. /Ace culvert	3:20 AM	618	exceeds PCR	0	41.48	10.87	1.5	Positive	(-)	(-)	(-)	sunny/temp mid 70s/rain in past 48 hrs	
	05/17/12	29.9403	-91.02266	Jefferson St. /Ace culvert	4:20 AM	486	exceeds PCR	0	53.27	11	1.5	Positive	NA	NA	NA	partly cloudy/temp mid 80s	
	06/20/12	29.9403	-91.02266	Jefferson St. /Ace culvert	5:20 AM	2364	exceeds DWS/SCR	10	41.59	10.8	1.7	Negative	NA	NA	NA	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	oil sheen on surface
	07/18/12	29.9403	-91.02266	Jefferson St. /Ace culvert	10:29 AM	2523	exceeds DWS/SCR	0	45.27	11.46	1.4	Positive	(-)	(-)	(-)		
	08/15/12	29.9403	-91.02266	Jefferson St. /Ace culvert	3:00 PM	7000	exceeds DWS/SCR	100	45.75	10.72	1.5	Positive	(-)	(+)	(-)	partly cloudy; temp high 80s; W wind 1-5 mph	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-14-D pre-final site selec.	06/06/11	29.935	-91.0158	Assumption Water Plant Intake	2:22 PM	209	null	NC	15	15.3	1.00	Positive	NA	NA	NA	Hot/Dry	
Pumps to hold area	06/08/11	29.935	-91.0158	Assumption Water Plant Intake	2:12 PM	109	null	NC	13.7	NA	NA	Negative	NA	NA	NA	hot/ threatening	
	06/23/11	29.935	-91.0158	Assumption Water Plant Intake	3:17 PM	2636	exceeds DWS/SCR	NC	19.7	11.9	1.4	Positive	NA	NA	NA	overcast/ drizzle	
	08/17/11	29.935	-91.0158	Assumption Water Plant Intake	12:27PM	3500	exceeds DWS/SCR	400	13.87	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
ASSU-14-D final sites	09/14/11	29.935	-91.0158	Assumption Water Plant Intake	10:42 PM	26364	exceeds DWS/SCR	110	13.80	NA	NA	Negative	NA	NA	NA	sunny/warm	
	10/12/11	29.9353	-91.01575	Assumption Water Plant Intake	3:44 PM	595	exceeds PCR	70	11.54	NA	NA	Negative	NA	NA	NA	mostly cloudy/ temp mid 80s	
	11/09/11	29.9353	-91.01575	Assumption Water Plant Intake	10:26 am	2636	exceeds DWS/SCR	300	10.88	NA	NA	Negative	**(-)**	**(+)**	**(-)**	rain in past 24 hrs/ overcast/ temp in upper 50-low 60s	
	12/07/11	29.9353	-91.01575	Assumption Water Plant Intake	3:32 PM	1064	exceeds PCR	763	11.95	NA	NA	Negative	NA	NA	NA	sunny/temp mid 40s	
	01/12/12	29.9353	-91.01575	Assumption Water Plant Intake	3:25 AM	100	null	70	12.93	NA	NA	Negative	NA	NA	NA	partly cloudy/temp 50s/NW wind 15-20 mph	
	02/08/12	29.9353	-91.01575	Assumption Water Plant Intake	4:25 AM	209	null	172	10.39	NA	NA	Negative	NA	NA	NA	low 60s/ partly cloudy	
	03/15/12	29.9353	-91.01575	Assumption Water Plant Intake	5:25 AM	20	null	0	48.4	14.6	1.3	Positive	NA	NA	NA	morning fog then sunny/ temp 70s/ heavy rain past 48 hrs	bayou turbid
	04/18/12	29.9353	-91.01575	Assumption Water Plant Intake	5:20 PM	482	exceeds PCR	263	12.08	NA	NA	Negative	NA	NA	NA	sunny/temp mid 70s/rain in past 48 hrs	surface vegetation
	05/17/12	29.9353	-91.01575	Assumption Water Plant Intake	2:22 PM	209	null	109	11.48	NA	NA	Negative	**(-)**	**(-)**	**(-)**	partly cloudy/temp mid 80s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-14 final sites cont.	06/20/12	29.9353	-91.01575	Assumption Water Plant Intake	7:20 PM	1273	exceeds PCR	154	13.64	NA	NA	Negative	(-)	(-)	(-)	mostly cloudy/ temp low 80s/ESE wind 5-10 mph	
	07/18/12	29.9353	-91.01575	Assumption Water Plant Intake	10:35 AM	3514	exceeds DWS/SCR	354	15.1	5.72	NA	Negative	(-)	(-)	(-)		
	08/15/12	29.9353	-91.01575	Assumption Water Plant Intake	3:07 PM	1191	exceeds PCR	372	13.47	NA	NA	Negative	(-)	(+)	(-)	partly cloudy; temp high 80s; W wind 1-5 mph	
GROUP 2 SITES END (11 sites)																	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster-E ASSU-15-E pre-final site selec.	06/08/11	29.899	-90.9887	LA 1010 Bridge Supreme	4:30 PM	200	null	NC	23.36	0.09	NA	Negative	NA	NA	NA	hot/ threatening	
	08/24/11	29.899	-90.9887	LA 1010 Bridge Supreme	8:46 AM	1182	exceeds PCR	60	15.54	11.04	1.2	Positive	(-)	(-)	(-)	hot/humid/sunny/ possible rain in past 24-48 hrs	
ASSU-15-E final sites	09/28/11	29.899	-90.9887	LA 1010 Bridge Supreme	2:18 PM	1171	exceeds PCR	80	10.85	3.03	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8986	-90.98867	LA 1010 Bridge Supreme	8:42 AM	748	exceeds PCR	99	10.99	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.8986	-90.98867	LA 1010 Bridge Supreme	2:50 PM	369	null	100	9.93	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.8986	-90.98867	LA 1010 Bridge Supreme	9:08 AM	236	null	118	13.07	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	

Parish Site ID	Date sampled	Latitude	Longitude	LA 1010 Bridge Supreme	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-15-E cont.	01/19/12	29.8986	-90.98867	LA 1010 Bridge Supreme	6:25 AM	90	null	60	12.27	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8986	-90.98867	LA 1010 Bridge Supreme	7:25 AM	327	null	155	11.65	NA	NA	Negative	NA	NA	NA	rain in past 48 hrs- overcast/ temp high 60s /NW wind 5-10 mph	
	03/22/12	29.8986	-90.98867	LA 1010 Bridge Supreme	1:30 PM	3423	exceeds DWS/SCR	818	11.3	NA	NA	Negative	NA	NA	NA	Rain	
	05/03/12	29.8986	-90.98867	LA 1010 Bridge Supreme	5:20 AM	136	null	54	11.56	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	05/23/12	29.8986	-90.98867	LA 1010 Bridge Supreme	6:20 AM	427	exceeds PCR	172	11.49	NA	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.8986	-90.98867	LA 1010 Bridge Supreme	7:20 AM	575	exceeds PCR	81	13.80	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.8986	-90.98867	LA 1010 Bridge Supreme	1:38 PM	964	exceeds PCR	100	16.02	3.8	NA	Negative	(-)	(-)	(-)	overcast;temp mid 80s;N wind	
	08/22/12	29.8986	-90.98867	LA 1010 Bridge Supreme	9:58 AM	1622	exceeds PCR	133	18.32	7.86	1.3	Positive	(-)	(-)	(-)	overcast; temp low 80s; light variable wind	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16A-E pre-final site selec.	08/09/11	29.87065	-90.99386	Cancienne Canal at Georgette St	1:00 PM	10901	exceeds DWS/SCR	NC	53.19	5.39	NA	Negative	NA	NA	NA	overcast	
	08/24/11	29.87065	-90.99386	Cancienne Canal at Georgette St	9:02 AM	34545	exceeds DWS/SCR	0	46.13	5.43	NA	Negative	NA	NA	NA	hot/humid/ sunny/ possible rain in past 24-48 hrs	
ASSU-16A-E final sites	09/28/11	29.87065	-90.99386	Cancienne Canal at Georgette St	2:32 PM	2793	exceeds DWS/SCR	50	40.86	6.67	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high/ green	
	10/19/11	29.87065	-90.99386	Cancienne Canal at Georgette St	9:02 AM	5495	exceeds DWS/SCR	200	37.95	6.34	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.87065	-90.99386	Cancienne Canal at Georgette St	3:03 PM	6126	exceeds DWS/SCR	40	23.45	5.87	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.87065	-90.99386	Cancienne Canal at Georgette St	9:25 AM	155	null	0	36.53	5.03	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	
	01/19/12	29.87065	-90.99386	Cancienne Canal at Georgette St	8:25 AM	550	exceeds PCR	209	34.2	4.52	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.87065	-90.99386	Cancienne Canal at Georgette St	9:25 AM	658	exceeds PCR	261	42.9	5.2	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	pump discharging/ several dead fish/stagnant water; rain
	03/22/12	29.87065	-90.99386	Cancienne Canal at Georgette St	1:41 PM	9369	exceeds DWS/SCR	3727	35.97	4.13	NA	Negative	NA	NA	NA	rain	flooded in surrounding area/pump is on
	05/03/12	29.87065	-90.99386	Cancienne Canal at Georgette St	5:20 PM	482	exceeds PCR	60	40.78	4.76	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	vegetation present/pump off

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16A-E final sites cont.	05/23/12	29.87065	-90.99386	Cancienne Canal at Georgette St	3:08 PM	230	null	80	46.68	5.01	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	thick layer of surface vegetation/discharge pipe closed off
	06/28/12	29.87065	-90.99386	Cancienne Canal at Georgette St	9:42 AM	7636	exceeds DWS/SCR	2090	40.68	5.38	NA	Negative	(-)	(-)	(-)	partly cloudy/ temp mid 90s/ S wind 1-5 mph	stagnant water/ pump off
	07/25/12	29.87065	-90.99386	Cancienne Canal at Georgette St	1:50 PM	2727	exceeds DWS/SCR	326	40.27	5.59	NA	Negative	(-)	(-)	(-)	overcast;temp mid 80s;N wind	less surface vegetation than normal;pump not on
	08/22/12	29.87065	-90.99386	Cancienne Canal at Georgette St	10:10 AM	10991	exceeds DWS/SCR	468	33.52	6.26	NA	Negative	(+)	(-)	(-)	overcast; temp low 80s; light variable wind	water turbid; no surface vegetation; pump not on
ASSU-16B-E pre-final site selec.	06/09/11	29.861	-90.9823	Cancienne Rd back Canal before pump	3:57 PM	636	exceeds PCR	NC	21.11	10.07	1.42	Positive	NA	NA	NA	hot	
	07/05/11	29.861	-90.9823	Cancienne Rd back Canal before pump	11:35 AM	2400	exceeds DWS/SCR	NC	19.5	6.21	NA	Negative	NA	NA	NA	hot/humid	
	07/26/11	29.861	-90.9823	Cancienne Rd back Canal before pump	2:00 PM	1270	exceeds PCR	NC	41.38	6.16	NA	Negative	(-)	(-)	(-)	hot/humid/ overcast	
	08/24/11	29.861	-90.9823	Cancienne Rd back Canal before pump	9:15AM	2182	exceeds DWS/SCR	20	27.69	6.01	NA	Negative	NA	NA	NA	hot/humid/sunny/ possible rain in past 24-48 hrs	
ASSU-16B-E final sites	09/28/11	29.861	-90.9823	Cancienne Rd back Canal before pump	2:45 PM	636	exceeds PCR	30	25.65	4.13	NA	Negative	NA	NA	NA		
	10/19/11	29.861	-90.98226	Cancienne Rd back Canal before pump	9:07 AM	748	exceeds PCR	110	19.85	6.52	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	heavy vegetation
	11/16/11	29.861	-90.98226	Cancienne Rd back Canal before pump	3:13 PM	464	exceeds PCR	0	13.71	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	stagnant water/ dense surface veg. & below surface veg.

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16B-E cont.	12/14/11	29.861	-90.98226	Cancienne Rd back Canal before pump	9:39 AM	100	null	0	11.79	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	monitor surrounded by vegetation
	01/19/12	29.861	-90.98226	Cancienne Rd back Canal before pump	12:25 PM	40	null	30	12.05	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.861	-90.98226	Cancienne Rd back Canal before pump	1:25 PM	463	exceeds PCR	272	35.99	4.35	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	pump discharging; rain
	03/22/12	29.861	-90.98226	Cancienne Rd back Canal before pump	1:53 PM	10455	exceeds DWS/SCR	5272	36.41	3.97	NA	Negative	NA	NA	NA	rain	swift current b/c pumps active/ parish cleaned
	05/03/12	29.861	-90.98226	Cancienne Rd back Canal before pump	7:20 AM	318	null	0	30.62	5.9	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	vegetation present/ pump off
	05/23/12	29.861	-90.98226	Cancienne Rd back Canal before pump	8:20 AM	236	null	10	17.24	5.28	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	thick layer of surface vegetation/discharge pipe off
	06/28/12	29.861	-90.98226	Cancienne Rd back Canal before pump	9:20 AM	4636	exceeds DWS/SCR	50	27.5	6.7	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	stagnant water/ less vegetation than normal

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16B-E final sites cont.	07/25/12	29.861	-90.98226	Cancienne Rd back Canal before pump	2:00 PM	1727	exceeds PCR	99	38.07	4.07	NA	Negative	NA	NA	NA	overcast;temp mid 80s;N wind	Labadieville=0.33" rain in past 48 hrs/bayou flowing and stagnant in some areas/ large amt of vegetation
	08/22/12	29.861	-90.98226	Cancienne Rd back Canal before pump	10:21 AM	2342	exceeds DWS/SCR	130	32.32	4.39	NA	Negative	NA	NA	NA	overcast; temp low 80s; light variable wind	Bayou had low flow/vegetation overgrowth/no rain in past 48 hrs
ASSU-16C-E pre-final site selec.	06/09/11	29.8589	-90.9853	Cancienne Rd leveed canal after pump	3:57 PM	1455	exceeds PCR	NC	15.69	0	NA	Negative	NA	NA	NA	hot	
	07/05/11	29.8589	-90.9853	Cancienne Rd leveed canal after pump	11:30 AM	2400	exceeds DWS/SCR	NC	27.62	4.9	NA	Negative	NA	NA	NA	hot/humid	
	07/26/11	29.8589	-90.9853	Cancienne Rd leveed canal after pump	2:05 PM	10818	exceeds DWS/SCR	NC	41.06	6.48	NA	Negative	NA	NA	NA	hot/humid/over cast	
	08/24/11	29.8589	-90.9853	Cancienne Rd leveed canal after pump	9:22 AM	2636	exceeds DWS/SCR	55	19.98	6.4	NA	Negative	NA	NA	NA	hot/humid/sunny / possible rain in past 24-48 hrs	
ASSU-16C-E final sites	09/28/11	29.8589	-90.9853	Cancienne Rd leveed canal after pump	2:50 PM	3727	exceeds DWS/SCR	82	20.26	6.27	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8589	-90.98533	Cancienne Rd leveed canal after pump	9:12 AM	6545	exceeds DWS/SCR	324	15.57	7.35	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	heavy vegetation on surface

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16C-E final sites cont.	11/16/11	29.8589	-90.98533	Cancienne Rd leveed canal after pump	3:16 PM	400	null	10	16.03	6.55	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	stagnant water/ dense surface veg.
	12/14/11	29.8589	-90.98533	Cancienne Rd leveed canal after pump	9:43 AM	173	null	20	12.50	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	pump being worked on
	01/19/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	12:25 PM	100	null	90	12.03	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	1:25 PM	7027	exceeds DWS/SCR	200	36.13	5.63	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	pump discharging; rain
	03/22/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	1:58:00 PM	11636	exceeds DWS/SCR	5818	36.31	4.74	NA	Negative	NA	NA	NA	rain	grates of pumps
	05/03/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	9:20 PM	236	null	100	25.14	5.97	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	vegetation present
	05/23/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	10:20 PM	70	null	20	16.945	5.99	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	thick layer surface vegetation/discharge pipe closed off
	06/28/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	11:20 PM	1545	exceeds PCR	18	29.16	6.29	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	stagnant water
	07/25/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	2:05 PM	1261	exceeds PCR	154	41.63	4.2	NA	Negative	NA	NA	NA	overcast;temp mid 80s;N wind	
	08/22/12	29.8589	-90.98533	Cancienne Rd leveed canal after pump	10:26AM	3545	exceeds DWS/SCR	181	32.82	5.18	NA	Negative	NA	NA	NA	overcast; temp low 80s; light variable wind	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16D-E pre-final site selec.	06/09/11	29.8592	-90.9856	Cancienne Rd Canal - LA1/Bayou	3:50 PM	1909	exceeds PCR	NC	26.04	0.07	NA	Negative	NA	NA	NA	hot	
	07/05/11	29.8592	-90.9856	Cancienne Rd Canal - LA1/Bayou	11:40 AM	300	null	NC	17.57	4.15	NA	Negative	NA	NA	NA	hot/humid	
	7/26/11	29.8592	-90.9856	Cancienne Rd Canal - LA1/Bayou	2:20 PM	7838	exceeds DWS/SCR	NC	18.11	5.38	NA	Negative	NA	NA	NA	hot/humid/ overcast	
	08/24/11	29.8592	-90.9856	Cancienne Rd Canal - LA1/Bayou	9:32 AM	1182	exceeds PCR	79	17.05	5.84	NA	Negative	NA	NA	NA	hot/humid/ sunny/ possible rain in past 24-48 hrs	
ASSU-16D-E final sites	09/28/11	29.8592	-90.9856	Cancienne Rd Canal - LA1/Bayou	3:02 PM	20909	exceeds DWS/SCR	282	12.20	NA	NA	Negative	NA	NA	NA		
	10/19/11	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	9:24 AM	4054	exceeds DWS/SCR	100	15.51	7.19	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	extensive large leafed vegetation/ sample from behind restaurant
	11/16/11	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	3:27 PM	1364	exceeds PCR	236	12.38	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp upper 70s/ partly cloudy	behind seafood restaurant
	12/14/11	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	9:54 AM	718	exceeds PCR	636	19.03	8.25	1.3	Positive	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	surface vegetation overgrowth
	01/19/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	2:25 PM	100	null	50	13.91	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	3:25 PM	1400	exceeds PCR	363	34.62	4.51	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	stagnant/surface vegetation/ trash; rain
	03/22/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	2:05PM	14505	exceeds DWS/SCR	4454	34.91	4.88	NA	Negative	NA	NA	NA	rain	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-16D-E final sites cont.	05/03/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	11:20 AM	718	exceeds PCR	80	13.14	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	major vegetation/overgrowth
	05/23/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	12:20 PM	5946	exceeds DWS/SCR	30	13.95	NA	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	1:20 PM	6306	exceeds DWS/SCR	40	15.09	6.73	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	complete vegetation overgrowth in canal
	07/25/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	2:12 PM	51818	exceeds DWS/SCR	145	27.69	9.6	1.3	Positive	(-)	(-)	(-)	overcast;temp mid 80s; N wind	lily pads, hyacinth, duckweed made sampling tough
	08/15/12	29.8592	-90.98562	Cancienne Rd Canal - LA1/Bayou	10:34 AM	39091	exceeds DWS/SCR	127	17.87	6.18	NA	Negative	NA	NA	NA		
ASSU-17-E pre-final site selec.	06/08/11	29.8599	-90.9807	LA1011 bridge Plattenville	2:00 PM	109	null	NC	22.69	0.02	NA	Negative	NA	NA	NA	hot/ threatening	
	08/24/11	29.8599	-90.9807	LA1011 bridge Plattenville	9:50 AM	1364	exceeds PCR	30	14.00	NA	NA	Negative	NA	NA	NA	hot/humid/sunny/ possible rain in past 24-48 hrs	
ASSU-17-E final sites	9/28/11	29.8599	-90.9807	LA1011 bridge Plattenville	3:12 PM	900	exceeds PCR	82	10.07	NA	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8599	-90.98073	LA1011 bridge Plattenville	9:30 AM	1364	exceeds PCR	118	11.08	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.8599	-90.98073	LA1011 bridge Plattenville	3:34 PM	721	exceeds PCR	100	9.85	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	***E. coli* cfu/100mL NC – not collected**	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii (+/-)*	H-*Bac* HF183 *(+/-)*	Weather	Comments
ASSU-17-E final sites cont.	12/14/11	29.8599	-90.98073	LA1011 bridge Plattenville	9:59 AM	345	null	80	12.75	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	
	01/19/12	29.8599	-90.98073	LA1011 bridge Plattenville	4:25 PM	55	null	30	10.64	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8599	-90.98073	LA1011 bridge Plattenville	5:25 PM	364	null	172	12.46	NA	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	rain
	03/22/12	29.8599	-90.98073	LA1011 bridge Plattenville	2:12 PM	7545	exceeds DWS/SCR	2400	16.95	6.4	NA	Negative	NA	NA	NA	rain	
	05/03/12	29.8599	-90.98073	LA1011 bridge Plattenville	11:20 PM	200	null	90	11.34	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	05/23/12	29.8599	-90.98073	LA1011 bridge Plattenville	12:20 AM	342	null	140	11.00	NA	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.8599	-90.98073	LA1011 bridge Plattenville	1:20 AM	382	null	54	13.31	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	massive vegetation mat upstream side of bridge
	07/25/12	29.8599	-90.98073	LA1011 bridge Plattenville	2:28 PM	673	exceeds PCR	200	16.39	4.79	NA	Negative	NA	NA	NA	overcast; temp mid 80s;N wind 1-5 mph	began raining at this site while sampling
	08/22/12	29.8599	-90.98073	LA1011 bridge Plattenville	10:55 AM	4545	exceeds DWS/SCR	288	17.74	7.52	NA	Negative	NA	NA	NA	overcast; temp low 80s; light variable wind	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster-F ASSU-18-pre-final site selec.	06/08/11	29.8401	-90.9543	LA1247 bridge Labadieville	11:42 AM	100	null	NC	15.3	2.7	NA	Negative	NA	NA	NA	hot/ threatening	
	06/23/11	29.8401	-90.9543	LA1247 bridge Labadieville	3:42 PM	163.6	null	NC	15.00	8.3	1.19	Positive	NA	NA	NA	overcast/ drizzle	
	7/26/11	29.8401	-90.9543	LA1247 bridge Labadieville	1:30 PM	1287	exceeds PCR	NC	26.39	5.59	NA	Negative	NA	NA	NA	hot/humid/ overcast	
	08/17/11	29.8401	-90.9543	LA1247 bridge Labadieville	12:54 PM	2182	exceeds DWS/SCR	200	13.50	NA	NA	Negative	NA	NA	NA	hot, mostly cloudy	
	08/24/11	29.8401	-90.9543	LA1247 bridge Labadieville	10:01 AM	1364	exceeds PCR	36	14.32	NA	NA	Negative	NA	NA	NA	hot/humid/ sunny/ possible rain in past 24-48 hrs	
ASSU-18 final sites	9/28/11	29.8401	-90.95428	LA1247 bridge Labadieville	3:21 PM	1100	exceeds PCR	73	11.31	NA	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8401	-90.95428	LA1247 bridge Labadieville	9:40 AM	255	null	20	10.47	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.8401	-90.95428	LA1247 bridge Labadieville	3:44 PM	327	null	40	10.40	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.8401	-90.95428	LA1247 bridge Labadieville	10:10 AM	191	null	40	12.28	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	
	01/19/12	29.8401	-90.95428	LA1247 bridge Labadieville	2:31 PM	60	null	20	10.85	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8401	-90.95428	LA1247 bridge Labadieville	9:52 AM	550	exceeds PCR	190	11.43	NA	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	rain

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
Cluster F **ASSU-18-F final sites cont.**	03/22/12	29.8401	-90.95428	LA1247 bridge Labadieville	2:22 PM	12973	exceeds DWS/SCR	4414	21.3	7.35	NA	Negative				rain	
	05/03/12	29.8401	-90.95428	LA1247 bridge Labadieville	2:20 PM	173	null	110	11.38	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	
	05/23/12	29.8401	-90.95428	LA1247 bridge Labadieville	3:20 PM	550	exceeds PCR	307	11.58	NA	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	large vegetation upstream from bridge
	06/28/12	29.8401	-90.95428	LA1247 bridge Labadieville	4:20 PM	514	exceeds PCR	81	14	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.8401	-90.95428	LA1247 bridge Labadieville	2:28 PM	2000	exceeds PCR	136	17.65	5.47	NA	Negative	NA	NA	NA	overcast; temp mid 80s;N wind 1-5 mph	began raining at this site while sampling
	08/22/12	29.8401	-90.95428	LA1247 bridge Labadieville	10:55 AM	12523	exceeds DWS/SCR	345	21.12	5.68	NA	Negative	(-)	(+)	(-)	overcast; temp low 80s; light variable wind	
ASSU-19-F pre-final site selec.	06/09/11	29.8399	-90.9548	Convent St. culvert	4:13 PM	91	null	NC	20.27	10.66	1.68	Negative	NA	NA	NA	hot	
	07/26/11	29.8399	-90.9548	Convent St. culvert	1:40 PM	333	null	NC	20.38	6.38	NA	Negative	NA	NA	NA	hot/humid/overcast	
	08/24/11	29.8399	-90.9548	Convent St. culvert	10:11 AM	6000	exceeds DWS/SCR	100	15.65	10.16	1.5	Positive	NA	NA	NA	hot/humid/sunny/ possible rain in past 24-48 hrs	
ASSU-19-F final sites	09/28/11	29.8399	-90.9548	Convent St. culvert	3:26 PM	27273	exceeds DWS/SCR	0	18.30	5.27	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8399	-90.95481	Convent St. culvert	9:45 AM	63000	exceeds DWS/SCR	0	13.82	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.8399	-90.95481	Convent St. culvert	3:48 PM	7928	exceeds DWS/SCR	63	16.26	8.49	1.4	Positive	(-)	(-)	(-)	rain past 24 hrs/ bayou flow low velocity/ temp upper 70s/cldy	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-19-F final sites cont.	12/14/11	29.8399	-90.95481	Convent St. culvert	10:15 AM	505	exceeds PCR	180	13.45	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	
	01/19/12	29.8399	-90.95481	Convent St. culvert	8:25 PM	559	exceeds PCR	10	15.43	9.01	1.3	Positive	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8399	-90.95481	Convent St. culvert	9:25 PM	391	null	30	12.58	NA	NA	Negative	NA	NA	NA	rain in past 48 hrs;overcast/ temp high 60s/NW wind 5-10 mph	rain
	03/22/12	29.8399	-90.95481	Convent St. culvert	2:26 PM	6818	exceeds DWS/SCR	3000	25.37	7.17	NA	Negative	NA	NA	NA	rain	flowing towards the bayou
	05/03/12	29.8399	-90.95481	Convent St. culvert	3:20 AM	1773	exceeds PCR	10	17.59	10.59	1.3	Positive	NA	NA	NA	partly cloudy/temp mid 80s	
	05/23/12	29.8399	-90.95481	Convent St. culvert	4:20 AM	11273	exceeds DWS/SCR	30	17.64	11.85	1.3	Positive	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.8399	-90.95481	Convent St. culvert	5:20 AM	20000	exceeds DWS/SCR	20	14.2	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.8399	-90.95481	Convent St. culvert	2:35 PM	80000	exceeds DWS/SCR	2090	12.73	NA	NA	Negative	NA	NA	NA	overcast;temp mid 80s;N wind	runoff from heavy rainfall pouring into storm grate
	08/22/12	29.8399	-90.95481	Convent St. culvert	10:55 AM	12523	exceeds DWS/SCR	245	15.41	7.79	NA	Negative	NA	NA	NA	overcast; temp low 80s; light variable wind	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-20-F pre-final site selec.	6/9/2011	29.8394	-90.95454	Brule St-culv Labadie-ville	4:20 PM	inter-ference - overgrowth	NA	NC	71.78	5.29	NA	Negative	NA	NA	NA	hot	Catchbasin/ post 24 hr rain
HOT SPOT	07/26/11	29.8394	-90.95454	Brule St-culv Labadie-ville	1:50 PM	25455	exceeds DWS/SCR	NC	21.81	7.15	NA	Negative	NA	NA	NA	hot/humid/ overcast	slow flowing
	08/24/11	29.8394	-90.95454	Brule St-culv Labadie-ville	10:20 AM	61818	exceeds DWS/SCR	130	20.765	10.04	1.5	Positive	(-)	(+)	(-)	hot/humid/ sunny/ possible rain in past 24-48 hrs	
ASSU-20-F final sites	09/28/11	29.8394	-90.95454	Brule St-culv Labadie-ville	3:31 PM	25455	exceeds DWS/SCR	30	33.63	8.39	1.6	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8394	-90.95454	Brule St-culv Labadie-ville	9:55 AM	No water	NC	NC	NC	NA	NA	NA	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	No sample
	11/16/11	29.8394	-90.95454	Brule St-culv Labadie-ville	3:51 PM	58182	exceeds DWS/SCR	36	71.14	5.40	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.8394	-90.95454	Brule St-culv Labadie-ville	10:19 AM	No water	NC	NC	NC	NA	NA	NA	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	no sample
	01/19/12	29.8394	-90.95454	Brule St-culv Labadie-ville	2:42 PM	3069	exceeds DWS/SCR	54	19.73	8.13	1.5	Positive	(-)	(-)	(-)	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8394	-90.95454	Brule St-culv Labadie-ville	10:09 AM	2545	exceeds DWS/SCR	90	15.32	6.59	NA	Negative	NA	NA	NA	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	
	03/22/12	29.8394	-90.95454	Brule St-culv Labadie-ville	2:31 PM	764	exceeds PCR	436	21.81	6.95	NA	Negative	(-)	(-)	(-)	rain	flowing towards bayou
	05/03/12	29.8394	-90.95454	Brule St-culv Labadie-ville	10:53 AM	7207	exceeds DWS/SCR	27	22.38	10.19	1.4	Positive	(-)	(-)	(-)	partly cloudy/temp mid 80s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-20-F final sites cont.	05/23/12	29.8394	-90.95454	Brule St-culv Labadie-ville	4:20 PM	1351	exceeds PCR	0	19.51	9.87	1.44	Positive	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.8394	-90.95454	Brule St-culv Labadie-ville	1:50 PM	490000	exceeds DWS/SCR	1009	50.52	12.92	1.6	Negative	(-)	(-)	(-)	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.8394	-90.95454	Brule St-culv Labadie-ville	10:20 AM	260000	exceeds DWS/SCR	2972	18.76	8.71	1.4	Positive	(-)	(+)	(-)	overcast;temp mid 80s;N wind	
	08/22/12	29.8394	-90.95454	Brule St-culv Labadie-ville	3:31 PM	8727	exceeds DWS/SCR	127	19.23	8.14	1.5	Positive	NA	NA	NA	overcast; temp low 80s; light variable wind	
ASSU-21A-F pre-final site selec.	07/13/11	29.99423	-90.05545	Pear St Canal/LA 1	11:25 AM	126.12	null	NC	16.52	3.93	NA	Negative	NA	NA	NA	hot/humid	
HOT SPOT	08/24/11	29.99423	-90.05545	Pear St Canal/LA 1	10:32 AM	3273	exceeds DWS/SCR	189	16.2	5.12	NA	Negative	NA	NA	NA	hot/humid/sunny/ possible rain in past 24-48 hrs	
ASSU-21A-F final sites	09/28/11	29.99423	-90.05545	Pear St Canal/LA 1	3:41 PM	2727	exceeds DWS/SCR	480	12.97	NA	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.99423	-90.05545	Pear St Canal/LA 1	9:57 AM	3545	exceeds DWS/SCR	281	11.64	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.99423	-90.05545	Pear St Canal/LA 1	4:05 PM	1545	exceeds PCR	60	23.61	8.10	1.3	Positive	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.99423	-90.05545	Pear St Canal/LA 1	10:28 AM	919	exceeds PCR	227	17.62	6.27	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-21A-F final sites cont.	01/19/12	29.99423	-90.05545	Pear St Canal/LA 1	3:25 PM	110	null	50	23.5	5.94	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.99423	-90.05545	Pear St Canal/LA 1	4:25 PM	1909	exceeds PCR	666	31.985	5.58	1.1	Positive	**(+)**	**(-)**	**(-)**	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	stagnant/ surface vegetation
	03/22/12	29.99423	-90.05545	Pear St Canal/LA 1	2:52PM	50000	exceeds DWS/SCR	29090	29.34	6.61	NA	Negative	**(-)**	**(-)**	**(-)**	rain	
	05/03/12	29.99423	-90.05545	Pear St Canal/LA 1	6:20 PM	236	null	100	21.73	8.35	1.4	Positive	NA	NA	NA	partly cloudy/temp mid 80s	surface vegetation
	05/23/12	29.99423	-90.05545	Pear St Canal/LA 1	7:20 PM	491	exceeds PCR	200	20.18	5.45	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.99423	-90.05545	Pear St Canal/LA 1	8:20 PM	573	exceeds PCR	227	18.18	5.99	NA	Negative	**(-)**	**(-)**	**(-)**	partly cloudy/ temp mid 90s/ S wind 1-5 mph	complete surface vegetation coverage
	07/25/12	29.99423	-90.05545	Pear St Canal/LA 1	2:44 PM	43636	exceeds DWS/SCR	2818	33.72	5.50	1.5	Positive	**(-)**	**(-)**	**(+)**	overcast;temp mid 80s;N wind	flowing; no surface vegetation like normal
	08/22/12	29.99423	-90.05545	Pear St Canal/LA 1	11:15 AM	6273	exceeds DWS/SCR	473	35.96	5.50	NA	Negative	**(-)**	**(-)**	**(-)**	overcast; temp low 80s; light variable wind	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-21B-F pre-final site selec.	07/13/11	29.83672	-90.95028	Pear St canal culvert in Bayou	11:35 AM	154	null	NC	13.96	NA	NA	Negative	NA	NA	NA	hot/humid	
HOT SPOT	08/24/11	29.83672	-90.95028	Pear St canal culvert in Bayou	10:38 AM	14000	exceeds DWS/SCR	468	14.38	NA	NA	Negative	NA	NA	NA	hot/humid/ sunny/ possible rain in past 24-48 hrs	
ASSU-21B-F final sites	09/28/11	29.83672	-90.95028	Pear St canal culvert in Bayou	3:46 PM	20000	exceeds DWS/SCR	1545	12.90	NA	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.83672	-90.95028	Pear St canal culvert in Bayou	10:02 AM	2364	exceeds DWS/SCR	73	10.97	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	vegetation on surface
	11/16/11	29.83672	-90.95028	Pear St canal culvert in Bayou	4:10 PM	541	exceeds PCR	10	12.35	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	
	12/14/11	29.83672	-90.95028	Pear St canal culvert in Bayou	10:32 AM	676	exceeds PCR	263	14.05	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	monitor low battery
	01/19/12	29.83672	-90.95028	Pear St canal culvert in Bayou	5:25 PM	1441	exceeds PCR	381	10.635	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.83672	-90.95028	Pear St canal culvert in Bayou	6:25 PM	1712	exceeds PCR	900	17.39	8.68	1.4	Positive	(+)	(+)	(+)	rain in past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	rain
	03/22/12	29.83672	-90.95028	Pear St canal culvert in Bayou	2:55 PM	32727	exceeds DWS/SCR	19090	27.31	7.25	NA	Negative	NA	NA	NA	rain	
	05/03/12	29.83672	-90.95028	Pear St canal culvert in Bayou	7:20 AM	609	exceeds PCR	318	12.43	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
ASSU-21B-F final sites cont.	05/23/12	29.83672	-90.95028	Pear St canal culvert in Bayou	8:20 AM	864	exceeds PCR	436	43.65	15.2	1.6	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	
	06/28/12	29.83672	-90.95028	Pear St canal culvert in Bayou	9:20 AM	757	exceeds PCR	118	15.35	6.51	NA	Negative	(-)	(-)	(-)	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.83672	-90.95028	Pear St canal culvert in Bayou	2:57 PM	37273	exceeds DWS/SCR	2909	32.44	6.93	NA	Negative	(-)	(-)	(+)	overcast;temp mid 80s;N wind	
	08/22/12	29.83672	-90.95028	Pear St canal culvert in Bayou	11:36 AM	8559	exceeds DWS/SCR	481	19.86	5.99	NA	Negative	NA	NA	NA	overcast; temp low 80s; light variable wind	
LAFO-1-F pre-final site selec.	08/09/11	29.8163	-90.8805	Franks Lane/ St. John Bridge Supreme	12:40 PM	672	exceeds PCR	20	19.58	7.60	NA	Negative	NA	NA	NA	rain/ overcast	
	08/24/11	29.8163	-90.8805	Franks Lane/ St. John Bridge Supreme	10:56 AM	3182	exceeds DWS/SCR	0	14.23	NA	NA	Negative	NA	NA	NA	hot/humid/ sunny/ possible rain in past 24-48 hrs	
LAFO-1-F final sites	09/28/11	29.8163	-90.8805	Franks Lane/ St. John Bridge Supreme	4;00 PM	1000	exceeds PCR	60	11.67	NA	NA	Negative	NA	NA	NA	mostly cloudy/ highs 80s/5-10 mph W wind, water in bayou was high and green	
	10/19/11	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	10:28 AM	473	exceeds PCR	100	11.10	NA	NA	Negative	NA	NA	NA	sunny/ temp low 50s/ W wind 5-10 mph	
	11/16/11	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	4:20 PM	636	exceeds PCR	40	10.37	NA	NA	Negative	NA	NA	NA	rain in past 24 hrs/bayou flow was low velocity/ temp in upper 70s/ partly cloudy	

Parish Site ID	Date sampled	Latitude	Longitude	Sampling Site	TOC	Fecal Coliforms cfu/100mL	*Impact of FC on DEQ guidelines	*E. coli* cfu/100mL NC – not collected	Initial OB FU ≥15 (potential)	5 min uv ob% red. ≥8% &<30% (probable)	5 min uv ob% reduc ≥30%; or *10/5 min % ob reduc ratio ≤1.5 (positive)	OB indication (+/-)	HPyV BK (+/-)	*Methano-brevibacter smithii* (+/-)	H-*Bac* HF183 (+/-)	Weather	Comments
LAFO-1-F final sites cont.	12/14/11	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	10:45 AM	180	null	81	12.28	NA	NA	Negative	NA	NA	NA	overcast then clearing/temp low 50s -low 60s	monitor low battery/ trees on bank cutcausing a backup of debris by bridge
	1/19/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	7:25 AM	73	null	45	10.93	NA	NA	Negative	NA	NA	NA	cloudy/ temp 60s/N wind 10-15mph	
	02/16/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	8:25 AM	288	null	144	13.26	NA	NA	Negative	NA	NA	NA	rain past 48 hrs overcast/temp high 60s/NW wind 5-10 mph	rain
	03/22/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	3:05 PM	1396	exceeds PCR	2600	27.31	6.71	NA	Negative	(-)	(-)	(-)	rain	floating surface vegetation
	05/03/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	5:20 AM	140	null	90	11.17	NA	NA	Negative	NA	NA	NA	partly cloudy/temp mid 80s	surface vegetation
	05/23/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	6:20 AM	1009	exceeds PCR	100	11.69	NA	NA	Negative	NA	NA	NA	partly cloudy/temp high 80s/wind SW 5-10 mph	large vegetation upstream from bridge
	06/28/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	7:20 AM	586	exceeds PCR	36	13.09	NA	NA	Negative	NA	NA	NA	partly cloudy/ temp mid 90s/ S wind 1-5 mph	
	07/25/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	2:57 PM	5946	exceeds DWS/SCR	50	18.00	5.75	NA	Negative	NA	NA	NA	overcast;temp mid 80s;N wind	
	08/22/12	29.8163	-90.88052	Franks Lane/ St. John Bridge Supreme	11:36 AM	5818	exceeds DWS/SCR	172	20.68	6.94	NA	Negative	(-)	(-)	(-)	overcast; temp low 80s; light variable wind	
GROUP 3 SITES END (12 sites)																	

Table 7. Interpretation of the Results in Table 6

Fecal Coliform LDEQ Water Designated Use Criteria : (LDEQ, 2012)
* **Null:** <400 CFU/100 mL ; **NC**: Not Collected (no water); **NA** (Not Applicable due to NC or other criteria below that determined a negative test.
Exceeds primary contact recreational (PCRec): >400 cfu/100mL
Exceeds secondary contact recreational (SCR) and drinking water source (DWS): >2000 CFU/100 mL.
Optical Brightener Results and Anthropogenic Indications: (Gao et al., 2009; Hartel, 2007a; Wise et al., 2011)
** **NA** : Not applicable for further testing because initial OB reading was "negative." See *** Negative: below.
***Negative anthropogenic: Initial OB reading <15 fluorescent units (FU); after 5 min longwave uv % reduction <8%; or Ratio of reduction after 10 min:5min uv % reduction is ≥1.5.
Potential anthropogenic: Initial OB reading ≥15 FU **(Note: Graphs with NSU data showed only readings of >15 FU corresponded to FC above the designated use criteria.)**
Probable anthropogenic: 5 min uv % reduction ≥8%
Positive anthropogenic: 1) if the OB % reduction after 5 min uv is ≥30%; or 2) if the 5 min % reduction is ≥8% (probable) and <30%, uv the sample for additional 5 min. 3) If the ratio of 10 min: 5 min % reduction is ≤1.5 (less than or equal to 1.5), the sample is positive for OBs. (Confirmed + OB) *See NSU SOPs for formulas.*
Molecular Markers Anthropogenic Indications: (Harwood et al. 2009; Gordon et al. 2013) We participated in the study by Gordon et. al. to determine the feasibility of using the three human molecular human markers across the Gulf of Mexico in both fresh and marine waters.
NOTE: Human Papilloma Virus-BK (HPV-BK) is a 100% human marker; and the archaeon *Methanobrevibacter smithii* is reportedly more human specific than the Human *Bacteroides* HF183 bacterium. However Human *Bacteroidales* are the most numerous bacteria found in the gut flora and are useful in detecting human sewage that is more diluted. ***Absence of any of the three markers means that either there is no human input in that source or that the input was too diluted for the methods to detect.***

In our previous Phase 1 study in the Bayou Lafourche Basin of Lafourche Parish, we used 2X liquid Tide as our standard OB at 50uL/L (100uL/L actual concentration) and set our Turner hand held field Fluorometer to 100 FU (Wise et al, 2011). We also used ≥5 FU initial field reading for potential + human OB, according to the protocols of Gao et al., 2009 and Hartel et al, 2007a.

The results of Tables 6 and 7 are shown graphically in the charts in Figures 14a,b,c; 15a,b,c; 16a,b,c; 17a,b,c; 18a,b,c; and 19a,b,c below. They show the delineation of which sites meet the designated criteria for Bayou Lafourche at each site and which sites show high fecal coliforms/ 100 mL above the designated criteria for primary contact recreation (PCR) or swimming (<400 FC/100 mL, and which met the designated standard for drinking water source (DWS) and secondary contact recreation (<2,000 FC/ 100 mL). They also show the criteria for **"potential"**, **"probable"** and **"positive"** anthropogenic sewage

"**hot spots**" for those selected sites that are confirmed for human sewage input with positive human molecular markers for one or more of the three markers used in this study. Table 6 has the criteria for potential, probable, and positive human sewage input. A "**hot spot**" should have fecal coliforms not meeting the designated uses of the Bayou, presence of *E. coli* to confirm warm-blooded animal sewage, optical brightener readings indicating human contamination, and positive human molecular PCR markers. The presence of all three human markers is considered a very strong confirmation of anthropogenic sewage input.

Samples were analyzed for optical brightener ratios (OB fluorescent units - FU), fecal coliforms (FC) CFU/100 mL (mFC), and *Escherichia coli* (CHROMAgar™ *E. coli*). *E. coli* positive samples were confirmed as human with three molecular markers using polymerase chain reaction (PCR). They included a human polyoma virus - BK (HPyV-BK), the Archaeon *Methanobrevibacter smithii*, and the human-associated *Brevibacterioides* HF 183 eubacteria. **Analyses of the OB FU ratios, FC cfu/100 mL, *E. coli* cfu/100 mL, and PCR human markers (+/-) identified twelve (12) anthropogenic "hotspot" source sites directly impacting the Bayou.** Frequencies of sites with all three anthropogenic molecular markers + are considered very significant for human contamination, especially in combination with positive OB ratios, FC levels greater than designated use criteria, and *E. coli* to confirm warm-blooded feces in the FCs. The designated hot spot site meeting these criteria and with the most collection dates showing all three human markers out of a total of sixteen collection dates was ASSU-3 (Tyler Lane at LA Hwy 1 in Belle Rose). ASSU-3 had five collection dates with all three human markers. ASSU-1 (7436 LA Hwy 1 in north Assumption) had four collections dates of sixteen with all three human markers.

Tables 6 and 7 above and Figures 14-19 below identify twelve (12) "Hot Spots" of confirmed positive human sewage contamination in the Phase 2 Bayou Lafourche Source Water Protection Study from the Mississippi River Source Water in Donaldsonville in Ascension Parish, through Assumption Parish, and ending at the St John Church Bridge in Lafourche Parish. They include in spatial order:

From Cluster A - 2 **hot spots**
ASCE-4 Popeyes drainage culvert at the Hwy 1 Culvert on the Bayouside in Donaldsonville.
ASCE-6 The drainage culvert (drains directly to B.Lafourche) at 2165 LA Hwy 1 south of Donaldsonville

From Cluster B - 2 **hot spots**
ASSU-1 7436 LA Hwy 1 drainage culvert (drains directly to B. Lafourche) in north Assumption Parish
ASSU-3 Tyler Lane Hwy1 drainage culvert at Hwy1 drains under highway and directly to Bayou

From Cluster C - 3 **hot spots**
ASSU-5A LA Hwy1 culvert drains under hwy to Bayouside culvert (ASSU-5B) and down to Bayou
ASSU-5B LA Hwy1 large culvert collecting from ASSU-5A and culverts along Bayouside drains to Bayou
ASSU-7 Drainage Culvert College Pt. Rd and Canaan Baptist Church- LA Hwy 308 across from Bayou

From Cluster D - 2 **hot spots**
ASSU-10 St Benedict Church and School large drainage culvert in parking lot drains under LA Hwy1 to Bayouside large culvert which drains to Bayou. Drains a large area behind the church and school.
ASSU-13 Storm drain culvert at Jefferson St and LA Hwy1 in Napoleonville; drains under LA1 to Bayou

From Cluster E - **NO HOT SPOTS IN CLUSTER E**

From Cluster F - 3 **hot spots**
ASSU-20 Brule St storm culvert on the south side of the St Philomena Church in Labadieville. Drains under LA Hwy1 to Bayou.
ASSU-21A Pear St. drainage canal in Labadieville across LA Hwy 1 from bayou. Drains under Hwy to
ASSU-21B Pear St. which is a very large drainage culvert in B. Lafourche from ASSU-21A. Culvert is actually in the bayou.

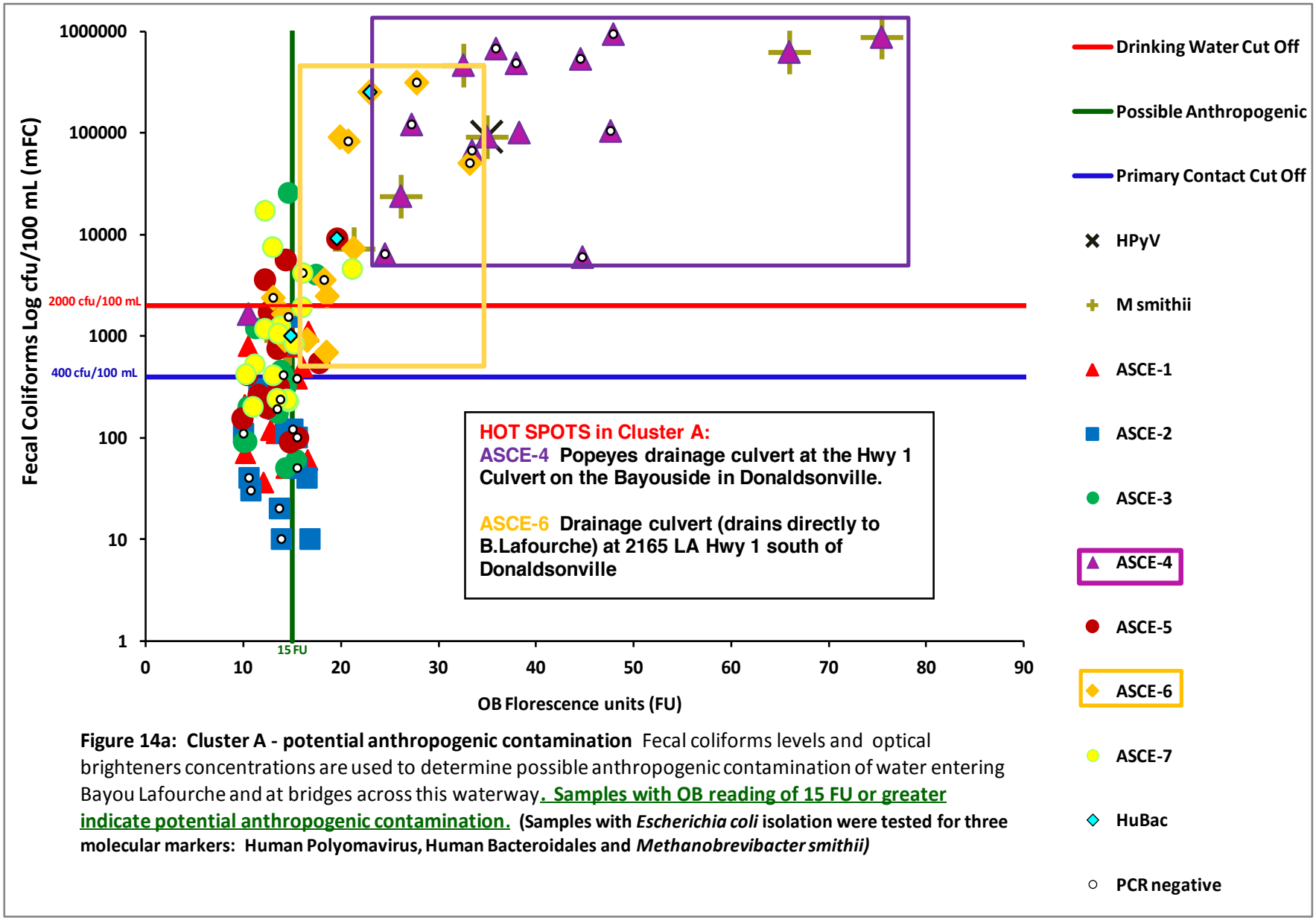


Figure 14a: Cluster A - potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentrations are used to determine possible anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination. (Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human Bacteroidales and *Methanobrevibacter smithii)*

Figure 14a: A Cluster (ASCE 1-7) Potential anthropogenic contamination

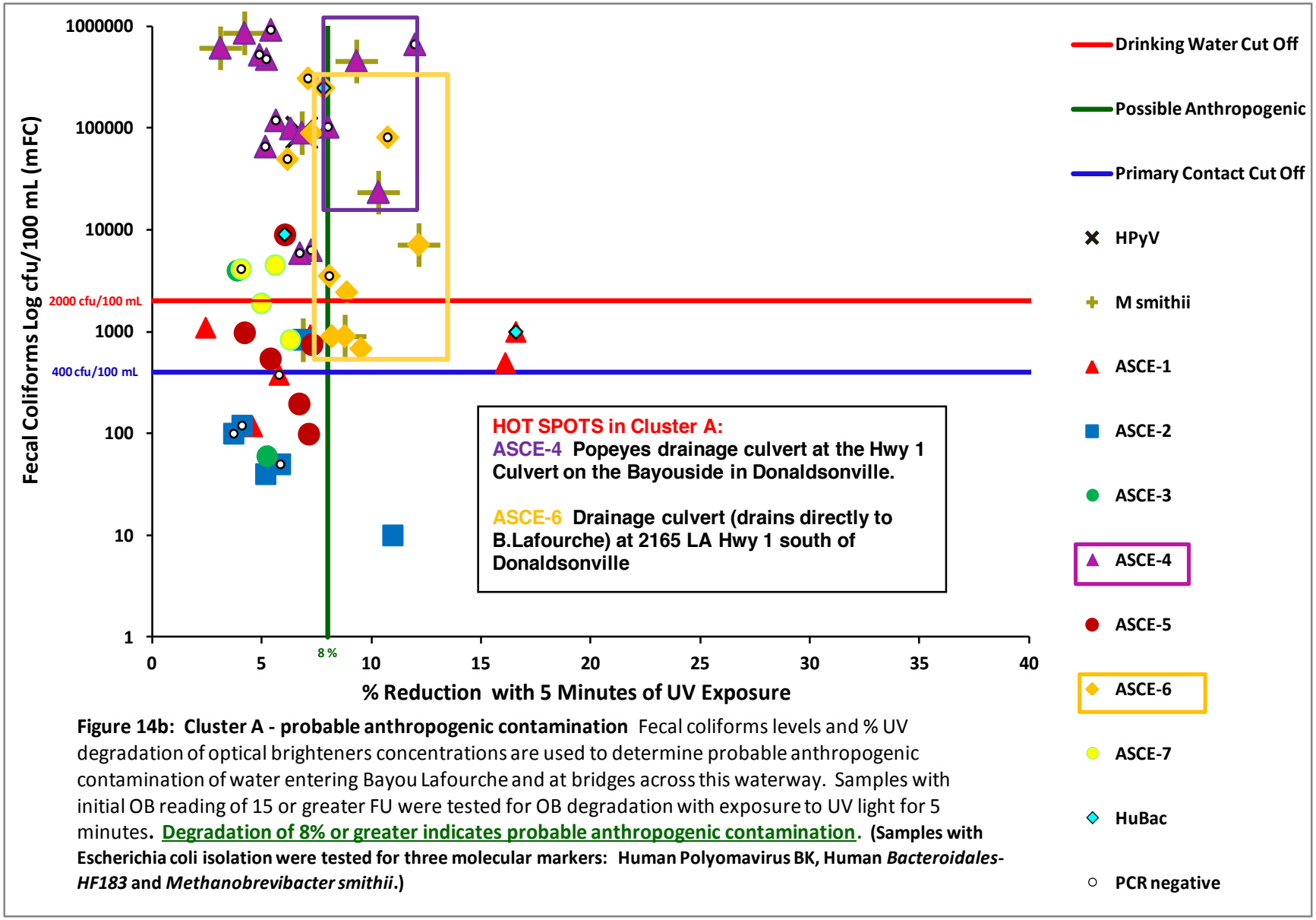


Figure 14b: Cluster A - probable anthropogenic contamination Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. Degradation of 8% or greater indicates probable anthropogenic contamination. **(Samples with Escherichia coli isolation were tested for three molecular markers: Human Polyomavirus BK, Human *Bacteroidales-HF183* and *Methanobrevibacter smithii*.)**

Figure 14b: A Cluster (ASCE 1-7) Probable anthropogenic contamination

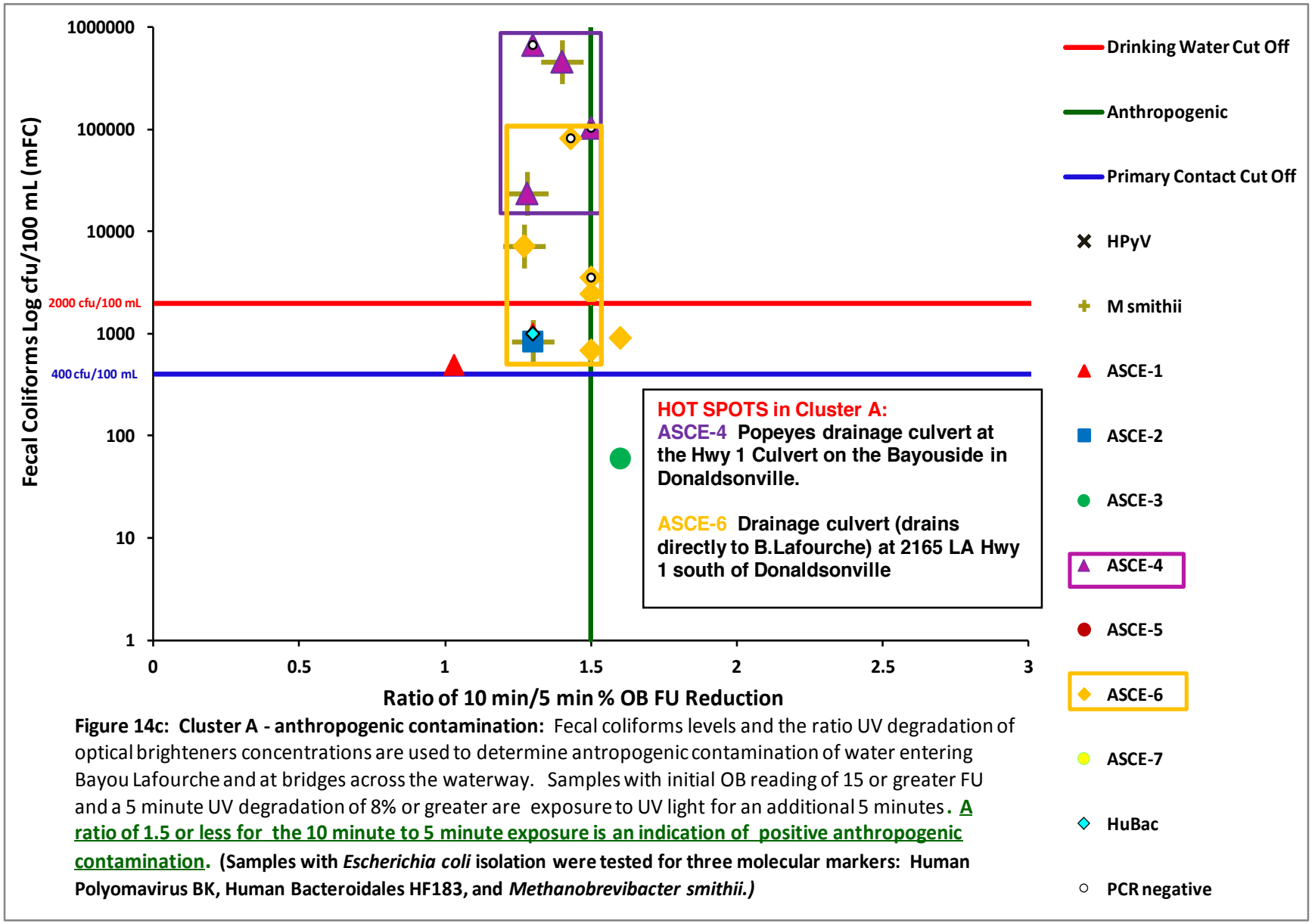


Figure 14c: Cluster A - anthropogenic contamination: Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes. A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination. (Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales HF183, and *Methanobrevibacter smithii.)*

Figure 14c: Cluster A - Positive anthropogenic contamination

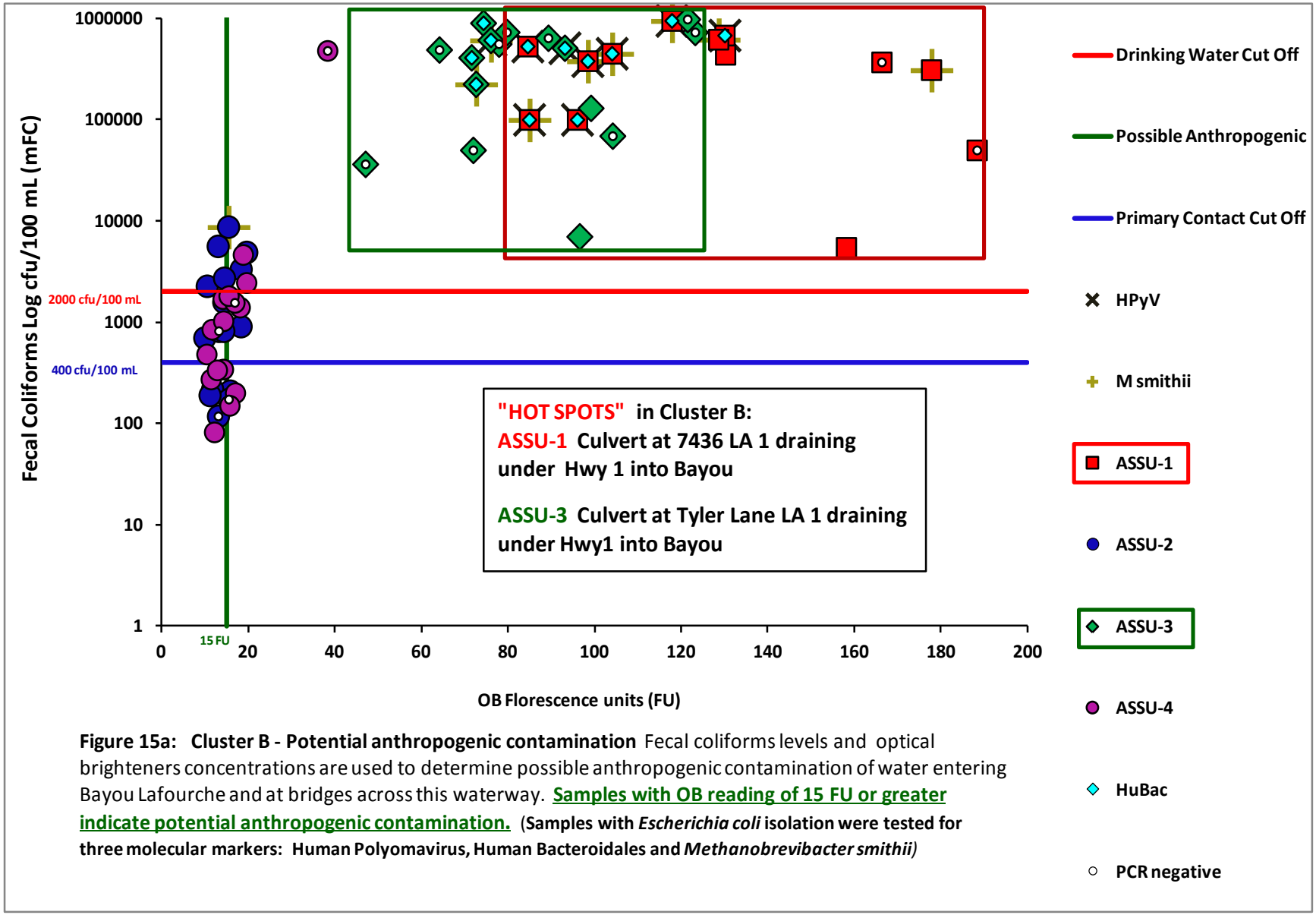


Figure 15a: Cluster B - Potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentrations are used to determine possible anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. **Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination.** (**Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human Bacteroidales and *Methanobrevibacter smithii*)**

Figure 15a: Cluster B - Potential anthropogenic contamination

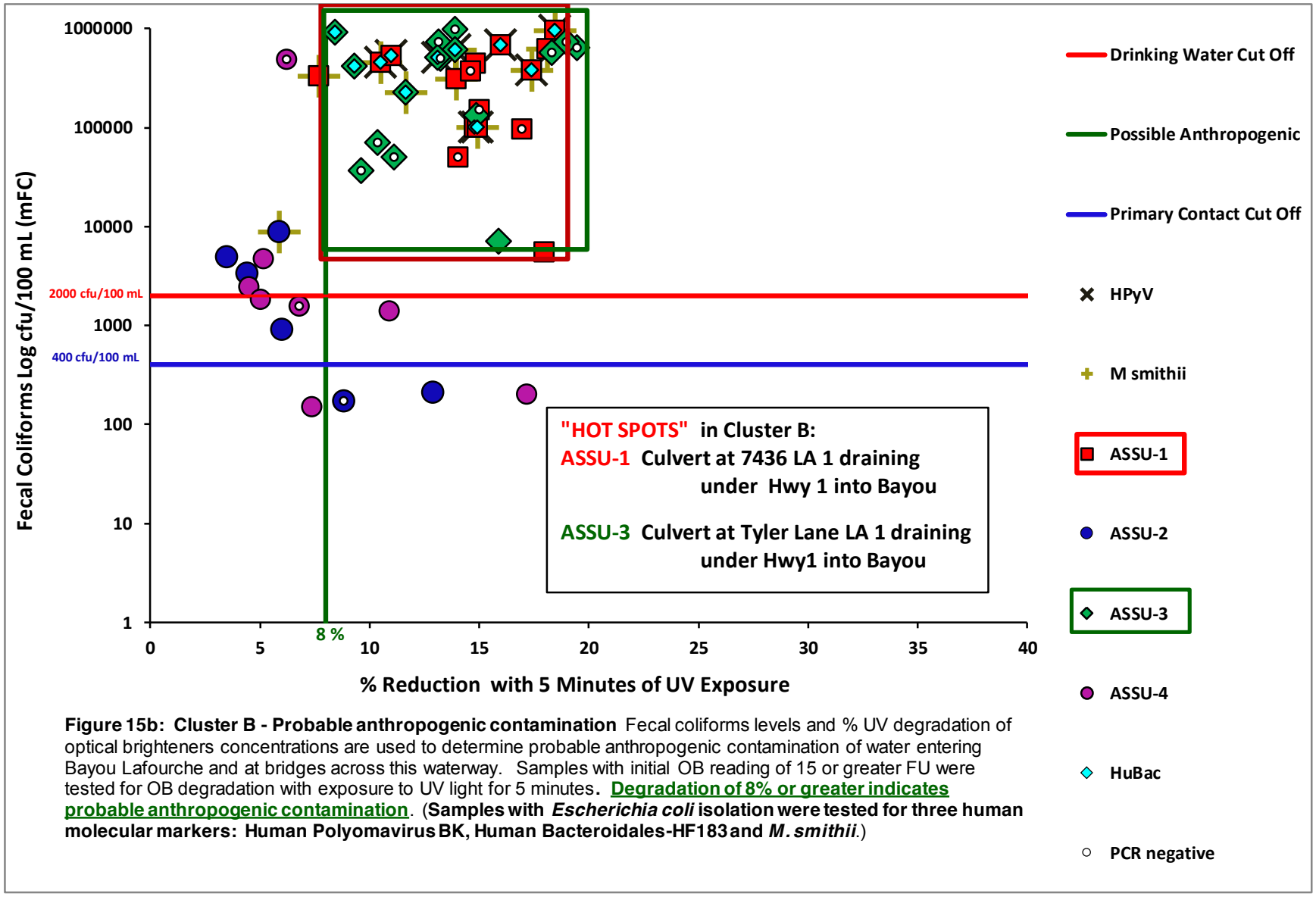


Figure 15b: Cluster B - Probable anthropogenic contamination Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. Degradation of 8% or greater indicates probable anthropogenic contamination. (**Samples with *Escherichia coli* isolation were tested for three human molecular markers: Human Polyomavirus BK, Human Bacteroidales-HF183 and *M. smithii*.**)

Figure 15b: Cluster B - Probable anthropogenic contamination

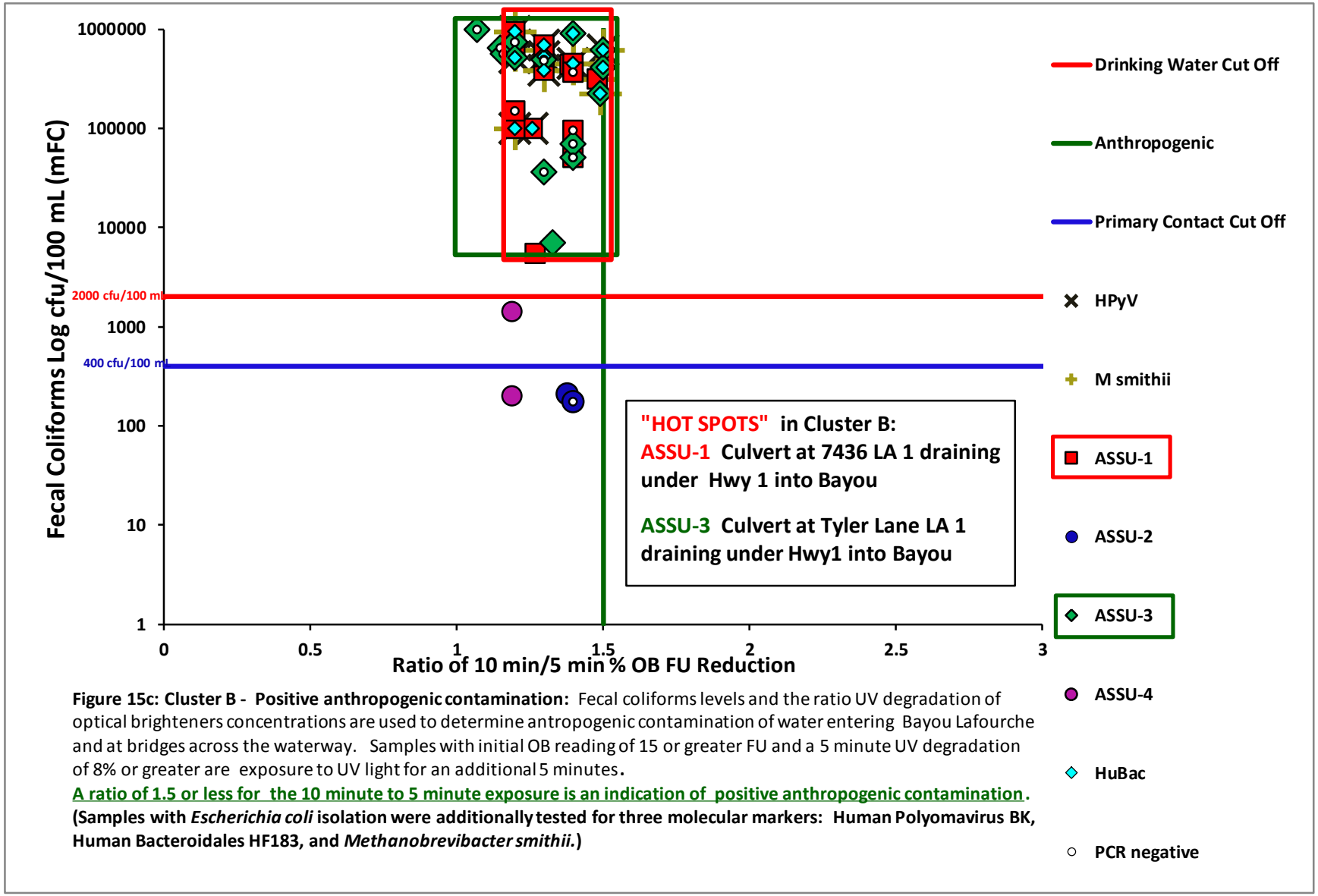


Figure 15c: Cluster B - Positive anthropogenic contamination: Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes.
A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination.
(Samples with *Escherichia coli* isolation were additionally tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales HF183, and *Methanobrevibacter smithii*.)

Figure 15c: Cluster B – Positive anthropogenic contamination

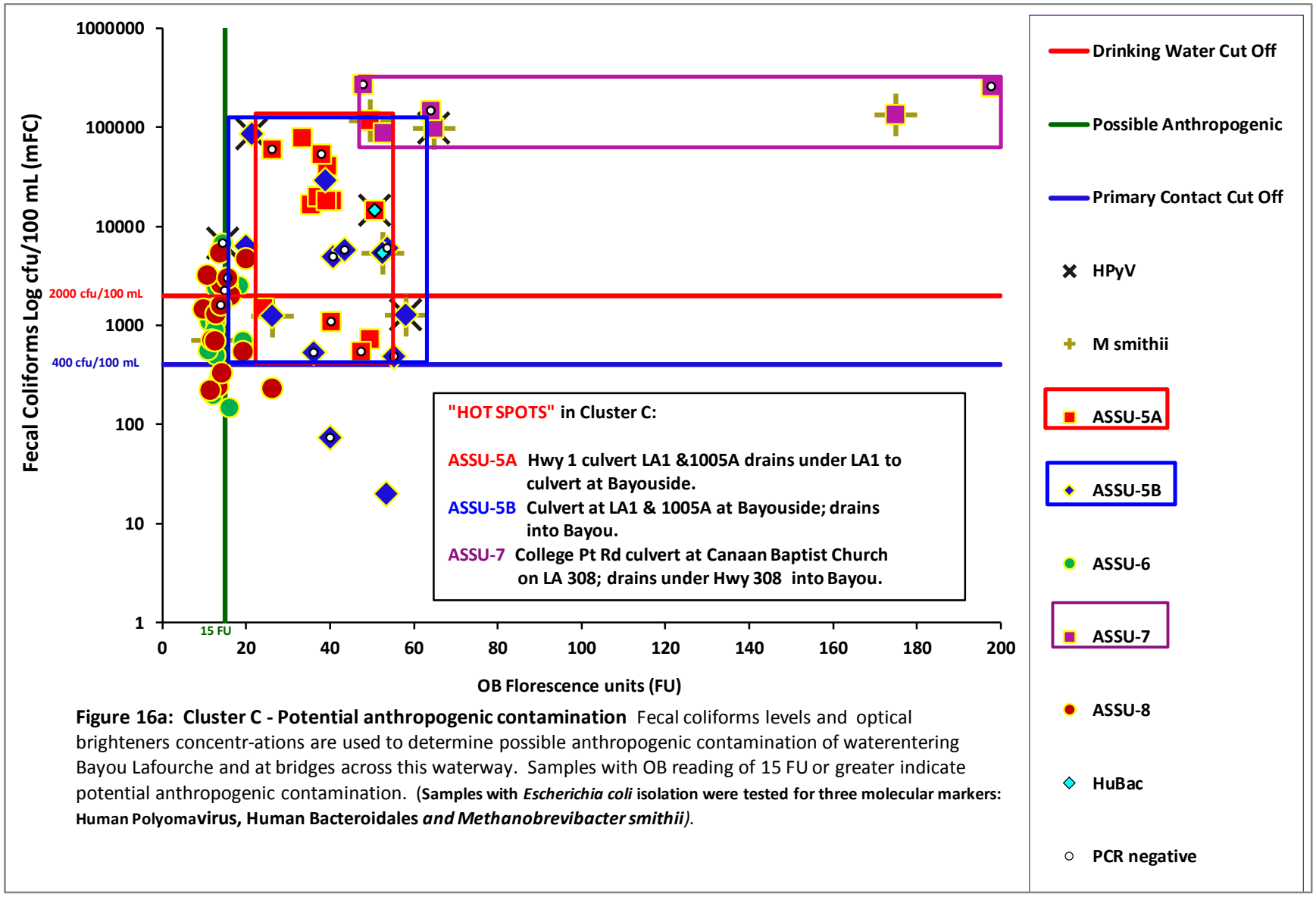


Figure 16a: Cluster C - Potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentr-ations are used to determine possible anthropogenic contamination of waterentering Bayou Lafourche and at bridges across this waterway. Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination. (**Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human Bacteroidales *and Methanobrevibacter smithii*).**

Figure 16a: Cluster C - Potential anthropogenic contamination

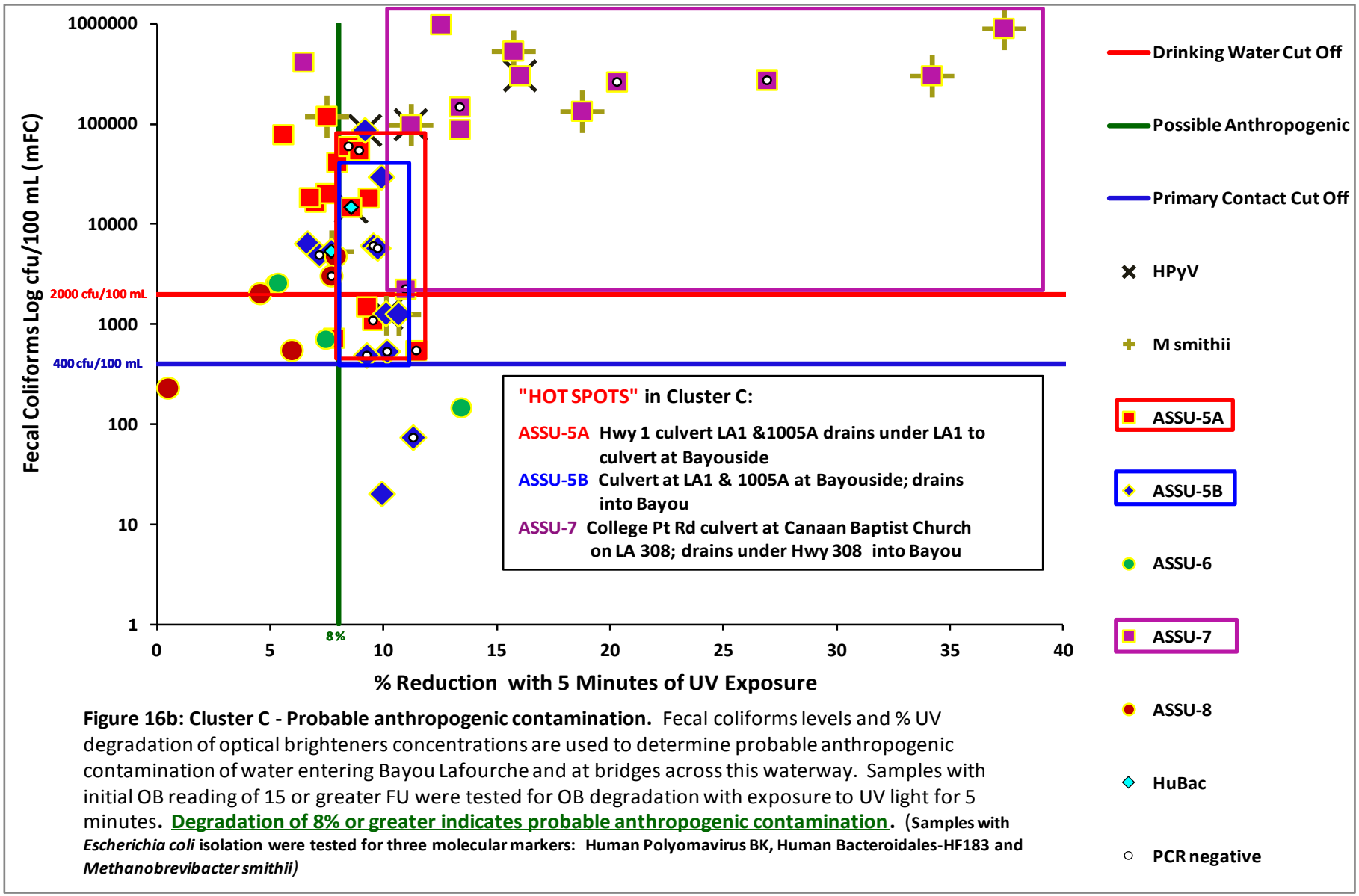


Figure 16b: Cluster C - Probable anthropogenic contamination. Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. **Degradation of 8% or greater indicates probable anthropogenic contamination.** (Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales-HF183 and *Methanobrevibacter smithii*)

Figure 16b: Cluster C - Probable anthropogenic contamination

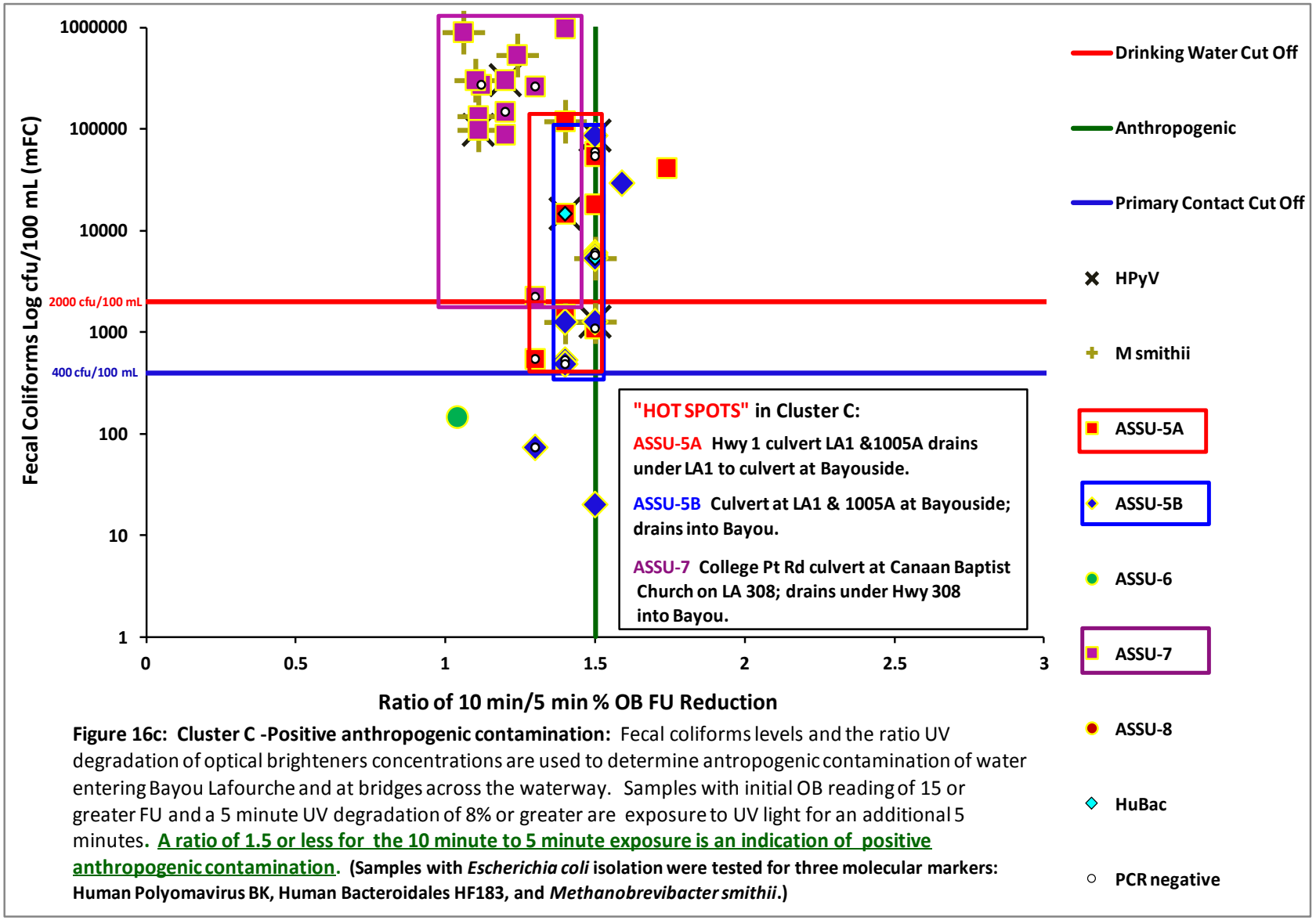


Figure 16c: Cluster C -Positive anthropogenic contamination: Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes. A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination. **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales HF183, and *Methanobrevibacter smithii*.)**

Figure 16c: Cluster C - Positive anthropogenic contamination

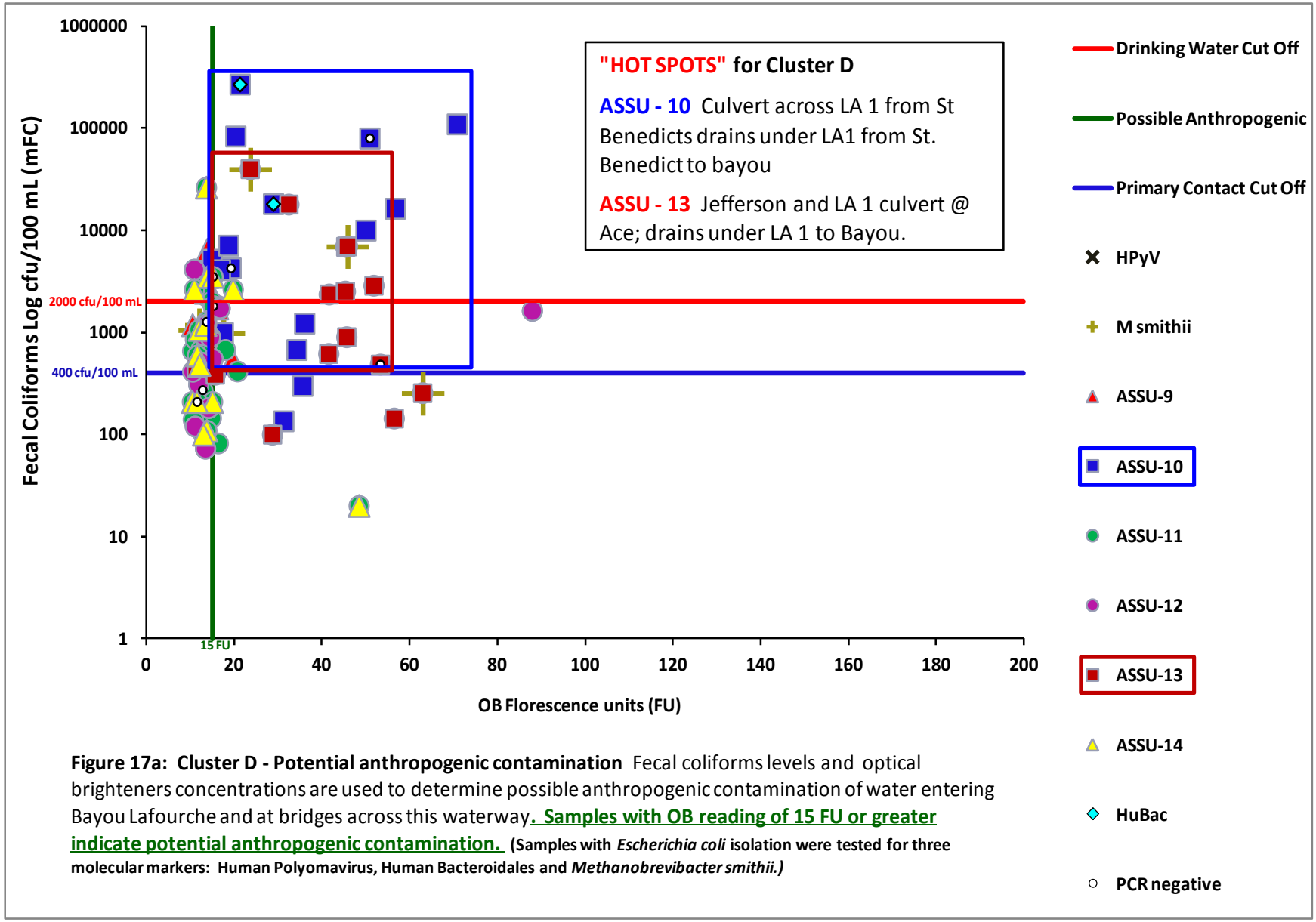


Figure 17a: Cluster D - Potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentrations are used to determine possible anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. **Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination.** **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human Bacteroidales and *Methanobrevibacter smithii.)***

Figure 17a: Cluster D - Potential anthropogenic contamination

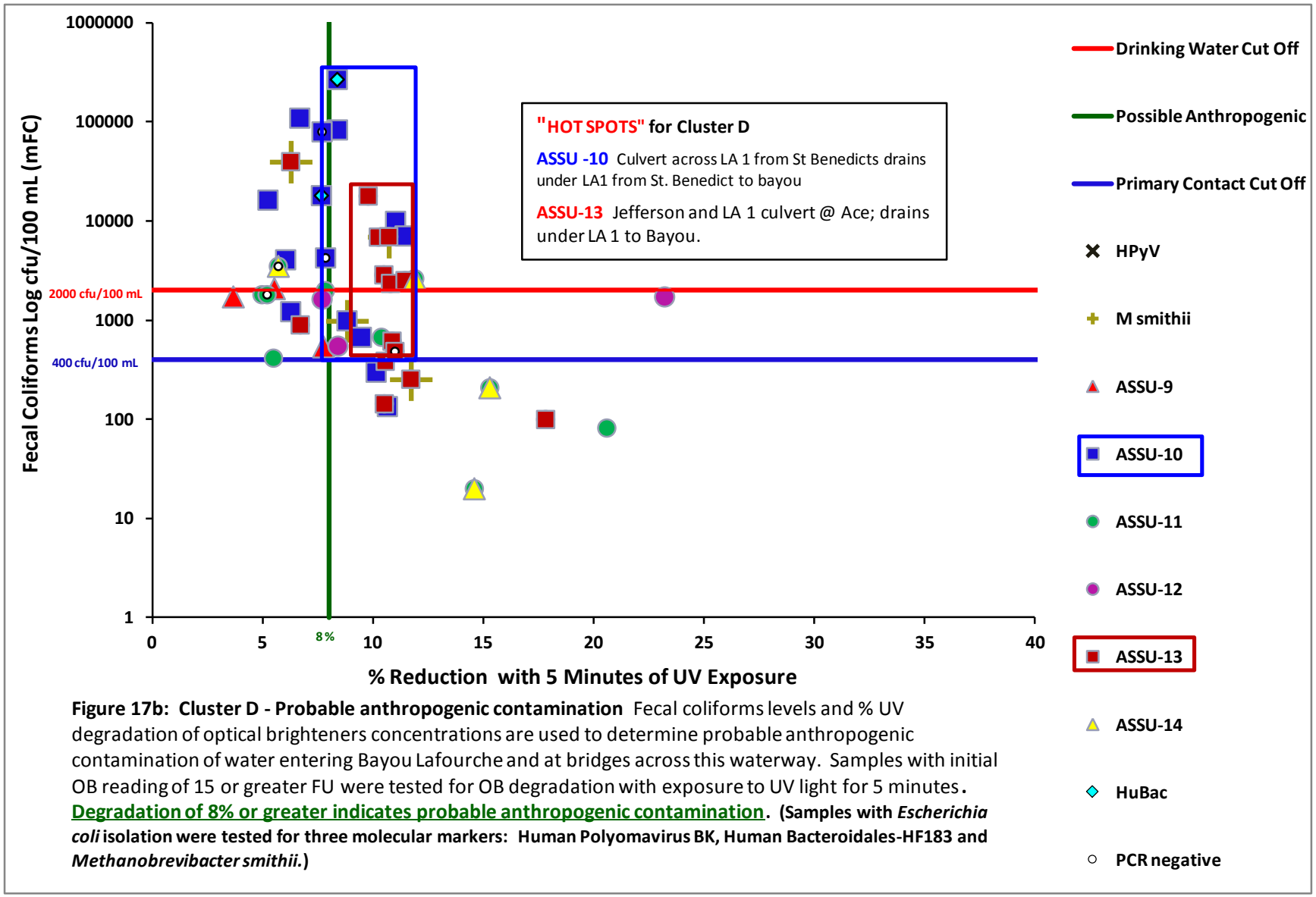


Figure 17b: Cluster D - Probable anthropogenic contamination Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. Degradation of 8% or greater indicates probable anthropogenic contamination. **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales-HF183 and *Methanobrevibacter smithii*.)**

Figure 17b. Cluster D - Probable anthropogenic contamination

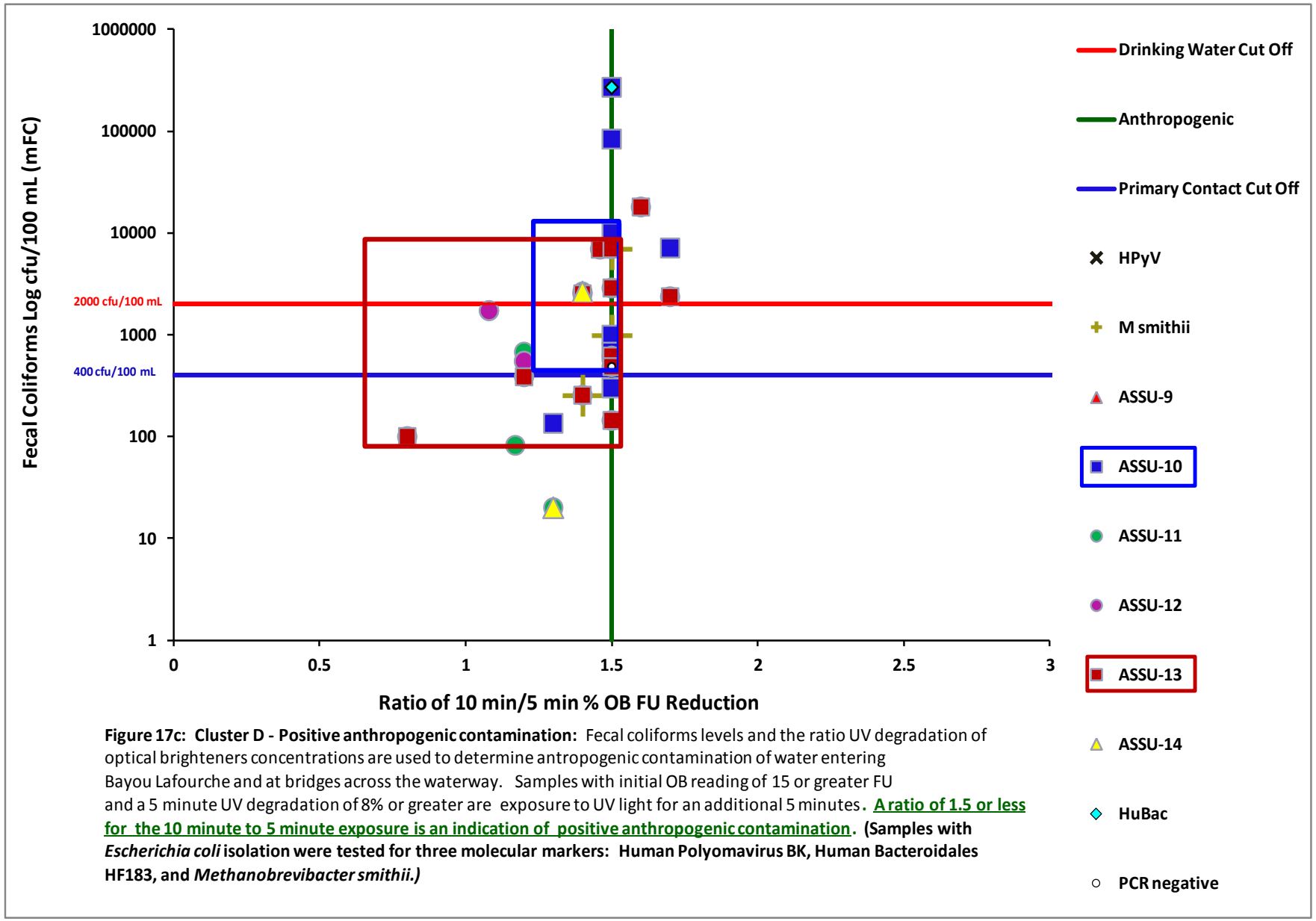


Figure 17c: Cluster D - Positive anthropogenic contamination: Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes. A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination. **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales HF183, and *Methanobrevibacter smithii.)***

Figure 17c: Cluster D - Positive anthropogenic contamination

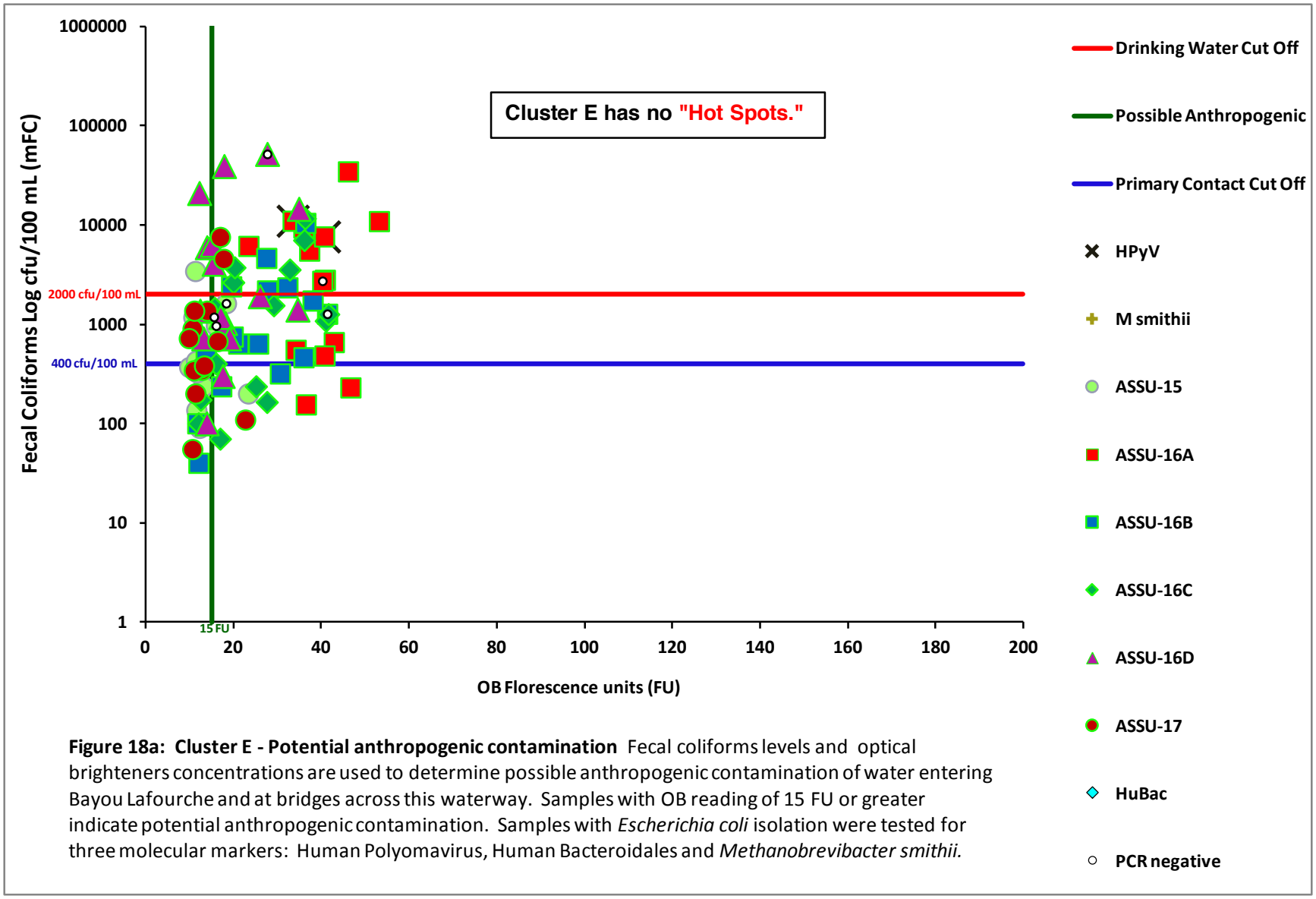


Figure 18a: Cluster E - Potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentrations are used to determine possible anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination. Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human Bacteroidales and *Methanobrevibacter smithii.*

Figure 18a: Cluster E - Potential anthropogenic contamination

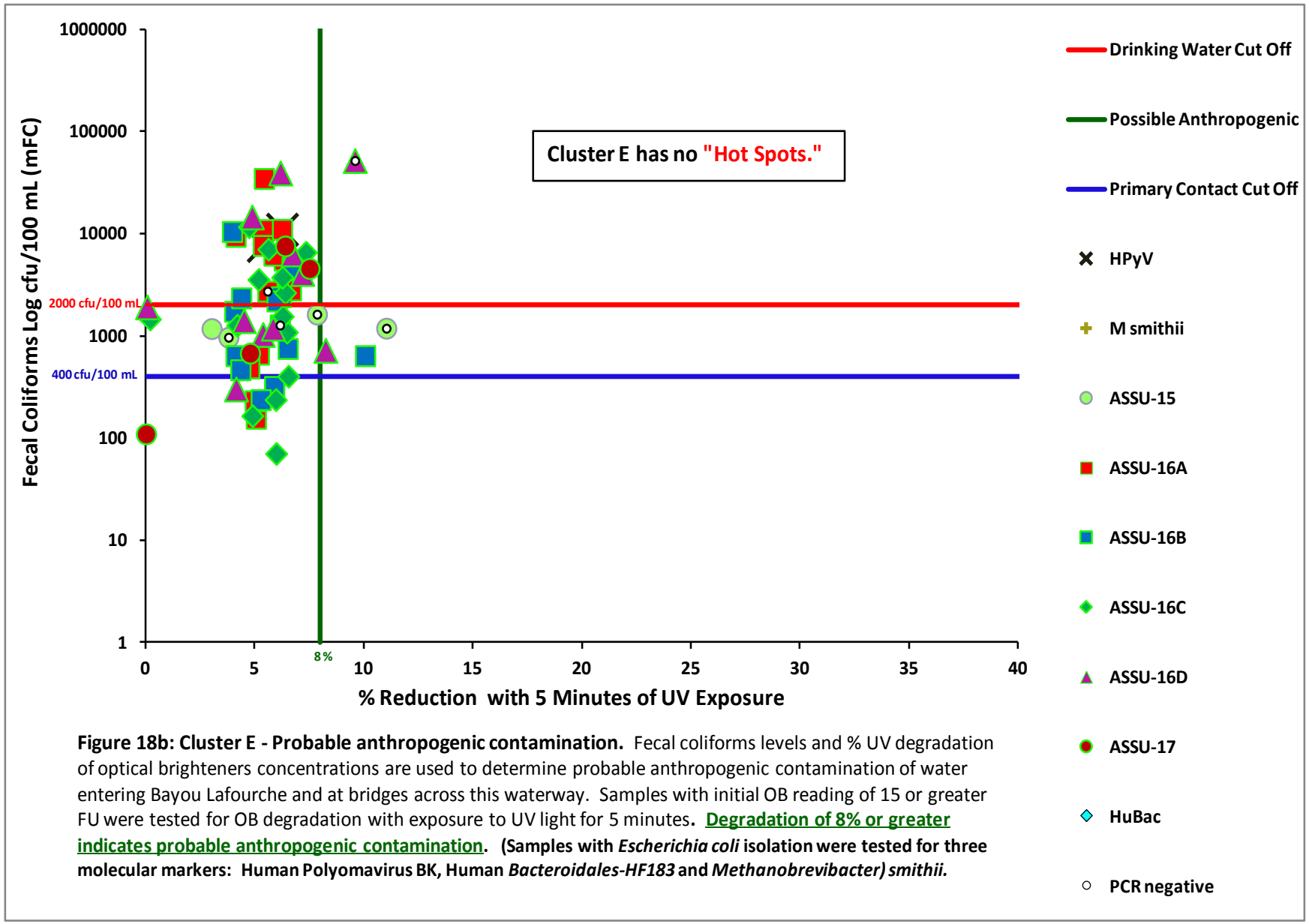


Figure 18b: Cluster E - Probable anthropogenic contamination. Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. Degradation of 8% or greater indicates probable anthropogenic contamination. **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human *Bacteroidales-HF183* and *Methanobrevibacter) smithii.***

Figure 18b: Cluster E - Probable anthropogenic contamination

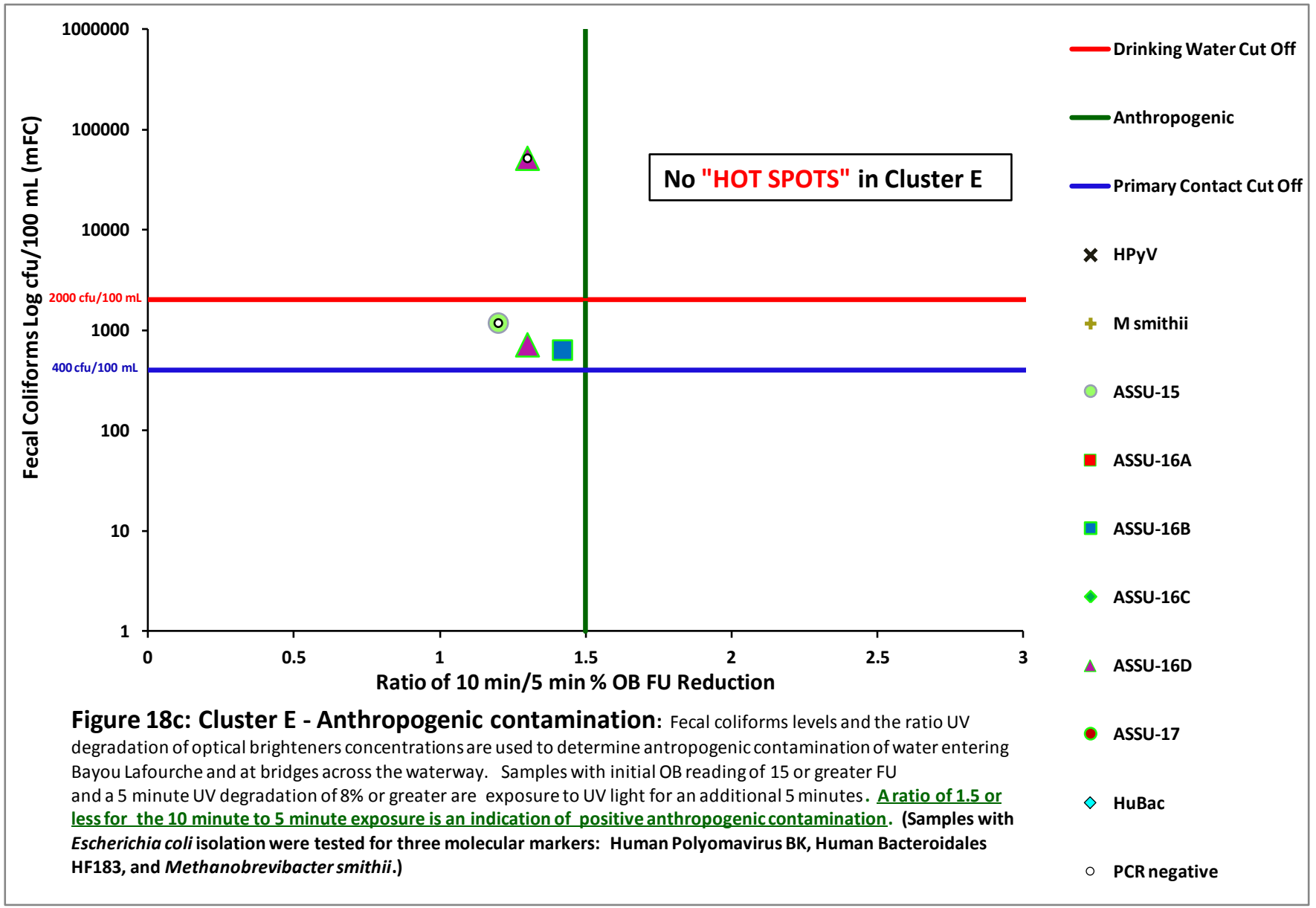


Figure 18c: Cluster E - Anthropogenic contamination: Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes. A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination. **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human Bacteroidales HF183, and *Methanobrevibacter smithii*.)**

Figure 18c: Cluster E – Positive Anthropogenic contamination

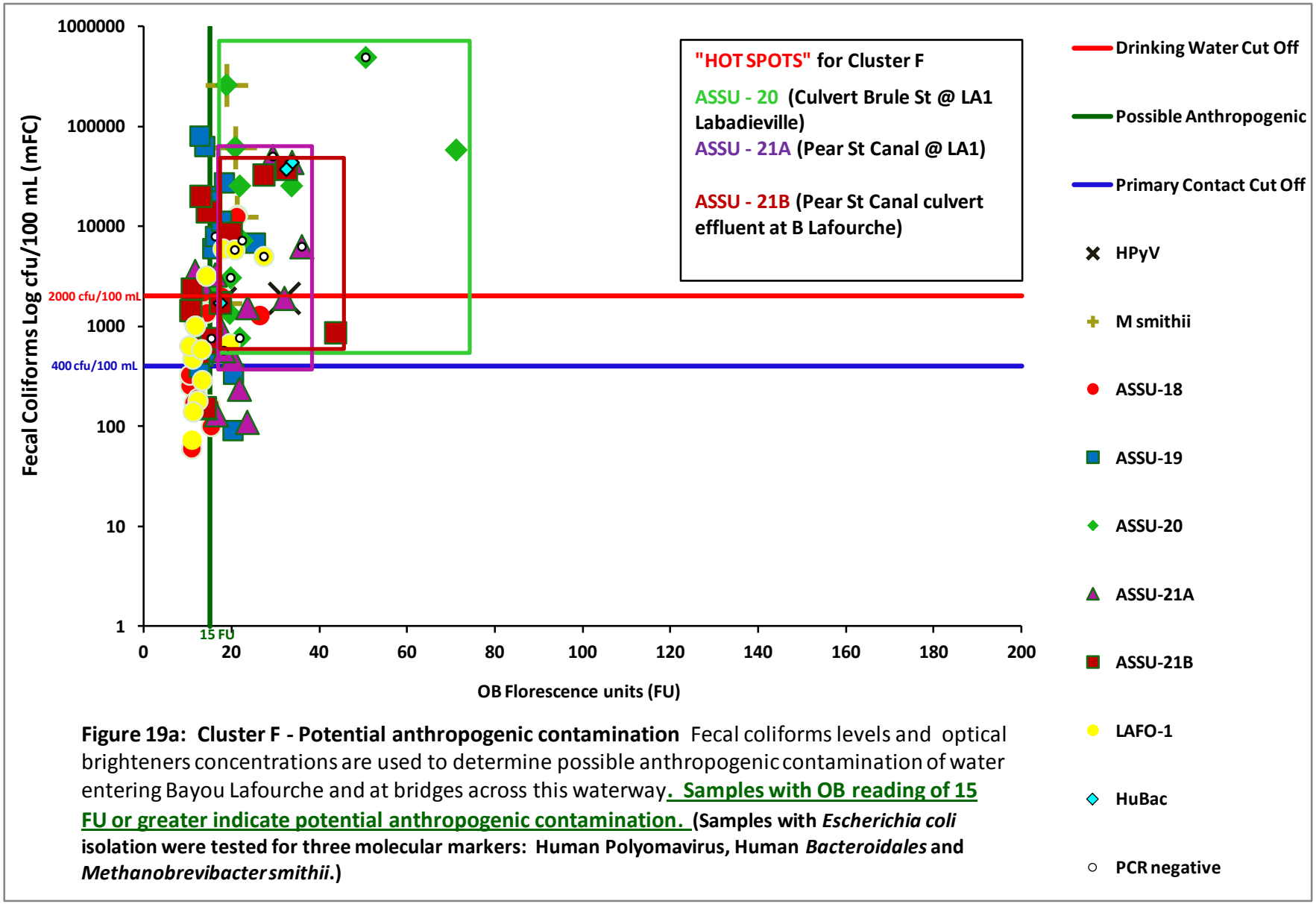


Figure 19a: Cluster F - Potential anthropogenic contamination Fecal coliforms levels and optical brighteners concentrations are used to determine possible anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. **Samples with OB reading of 15 FU or greater indicate potential anthropogenic contamination.** **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus, Human *Bacteroidales* and *Methanobrevibacter smithii*.)**

Figure 19a: Cluster F - Potential anthropogenic contamination

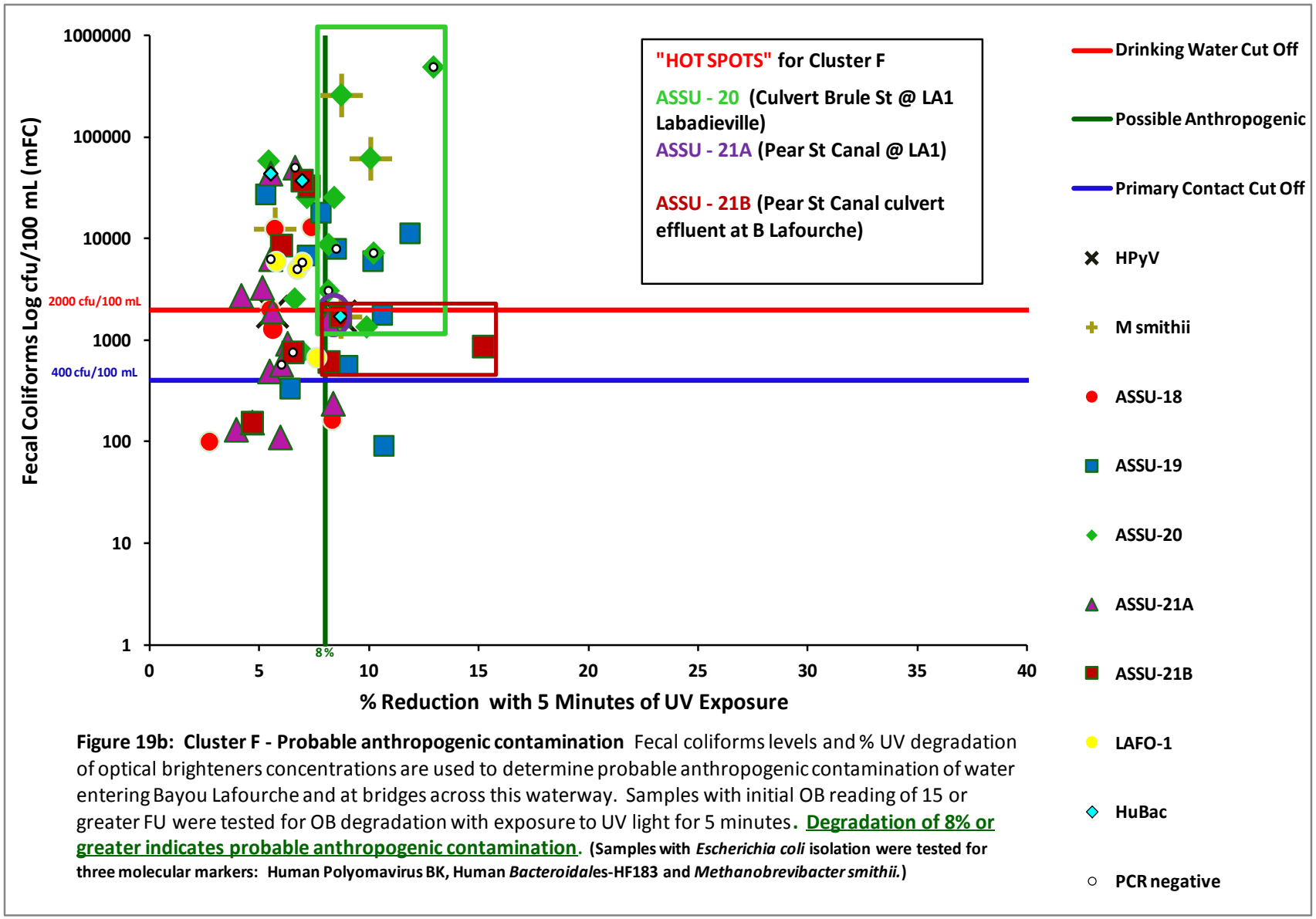


Figure 19b: Cluster F - Probable anthropogenic contamination Fecal coliforms levels and % UV degradation of optical brighteners concentrations are used to determine probable anthropogenic contamination of water entering Bayou Lafourche and at bridges across this waterway. Samples with initial OB reading of 15 or greater FU were tested for OB degradation with exposure to UV light for 5 minutes. **Degradation of 8% or greater indicates probable anthropogenic contamination.** **(Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human *Bacteroidales*-HF183 and *Methanobrevibacter smithii*.)**

Figure 19b: Cluster F - Probable anthropogenic contamination

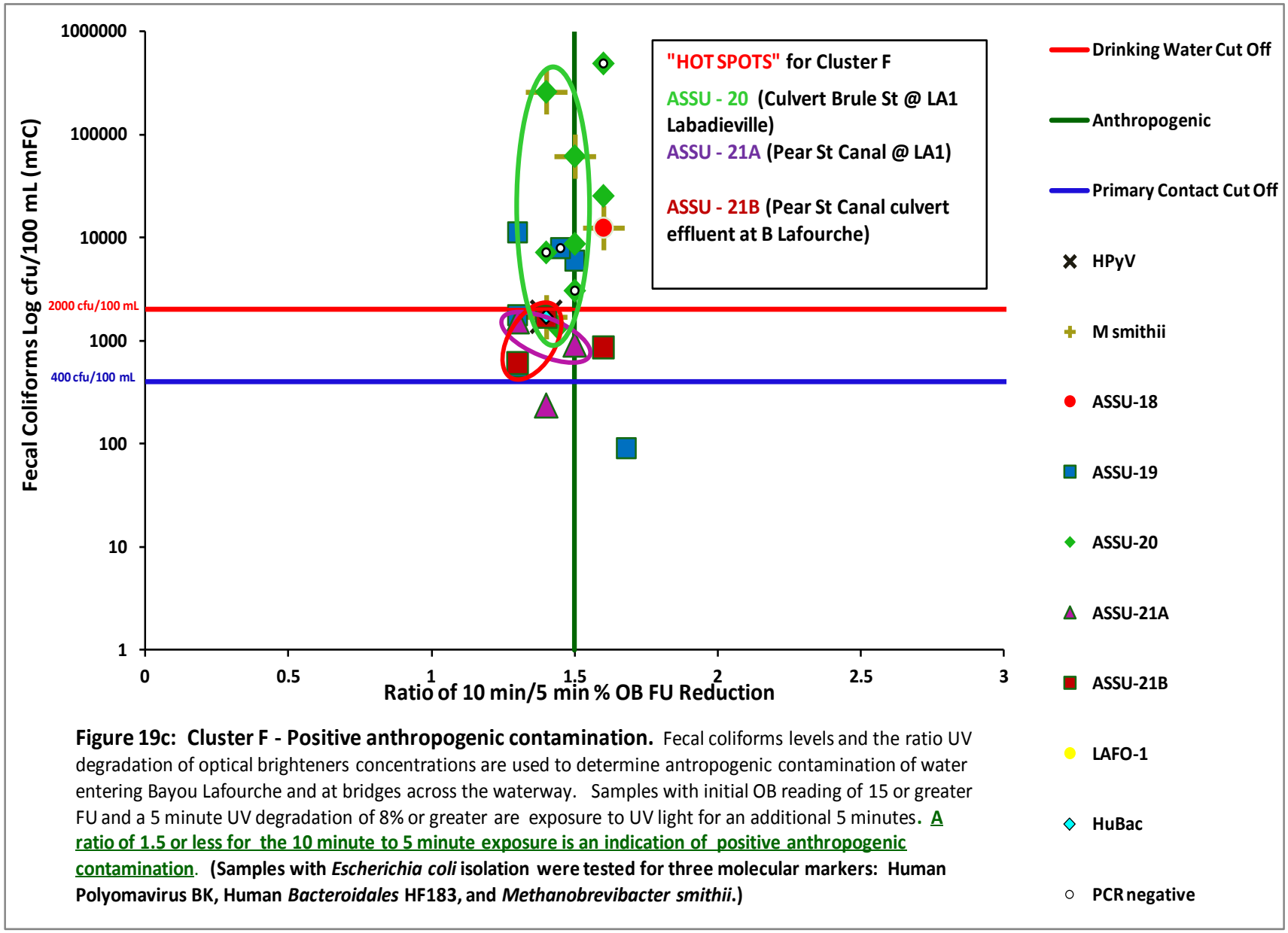


Figure 19c: Cluster F - Positive anthropogenic contamination. Fecal coliforms levels and the ratio UV degradation of optical brighteners concentrations are used to determine antropogenic contamination of water entering Bayou Lafourche and at bridges across the waterway. Samples with initial OB reading of 15 or greater FU and a 5 minute UV degradation of 8% or greater are exposure to UV light for an additional 5 minutes. A ratio of 1.5 or less for the 10 minute to 5 minute exposure is an indication of positive anthropogenic contamination. (Samples with *Escherichia coli* isolation were tested for three molecular markers: Human Polyomavirus BK, Human *Bacteroidales* HF183, and *Methanobrevibacter smithii*.)

Figure 19c. Cluster F - Positive anthropogenic contamination

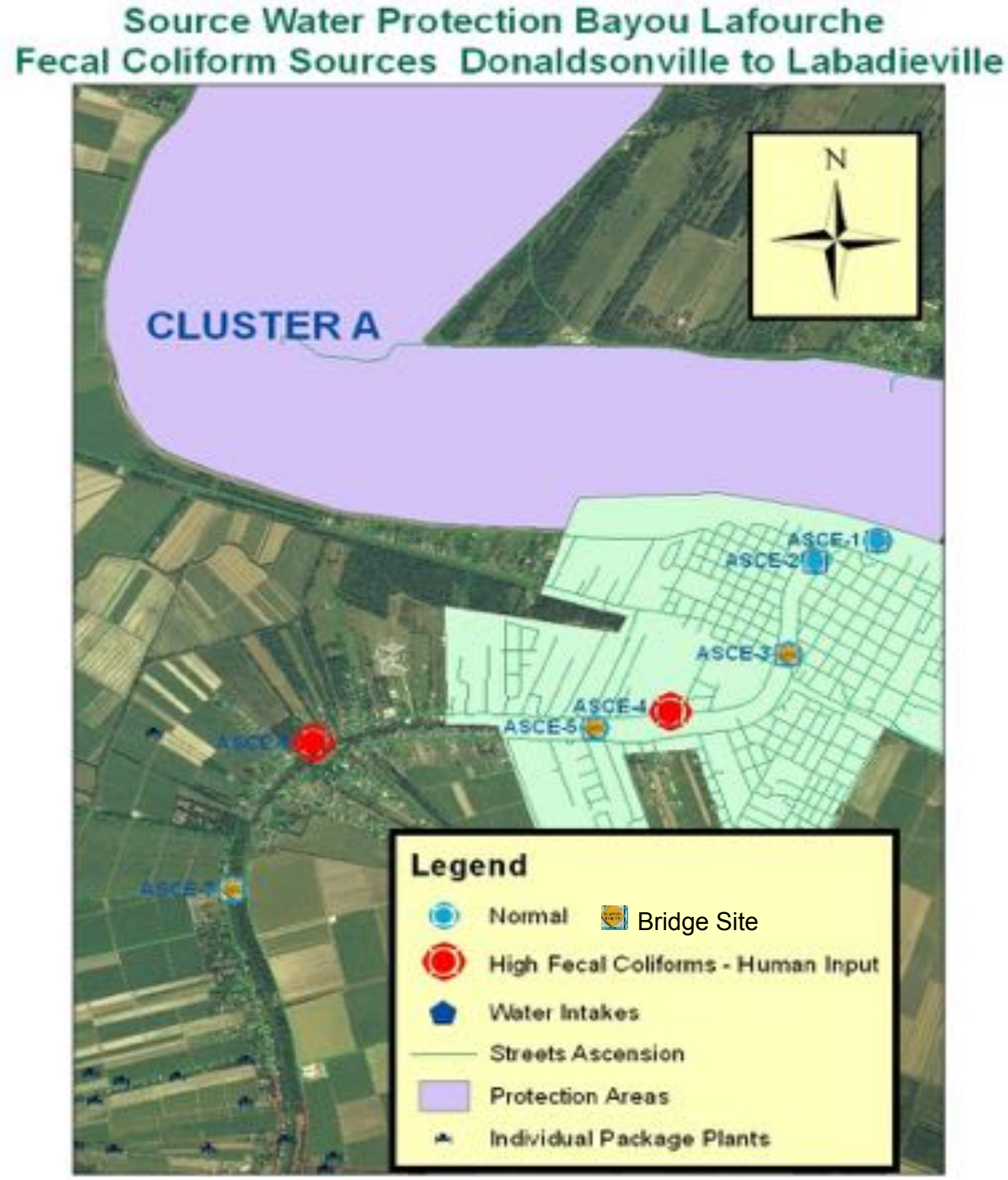
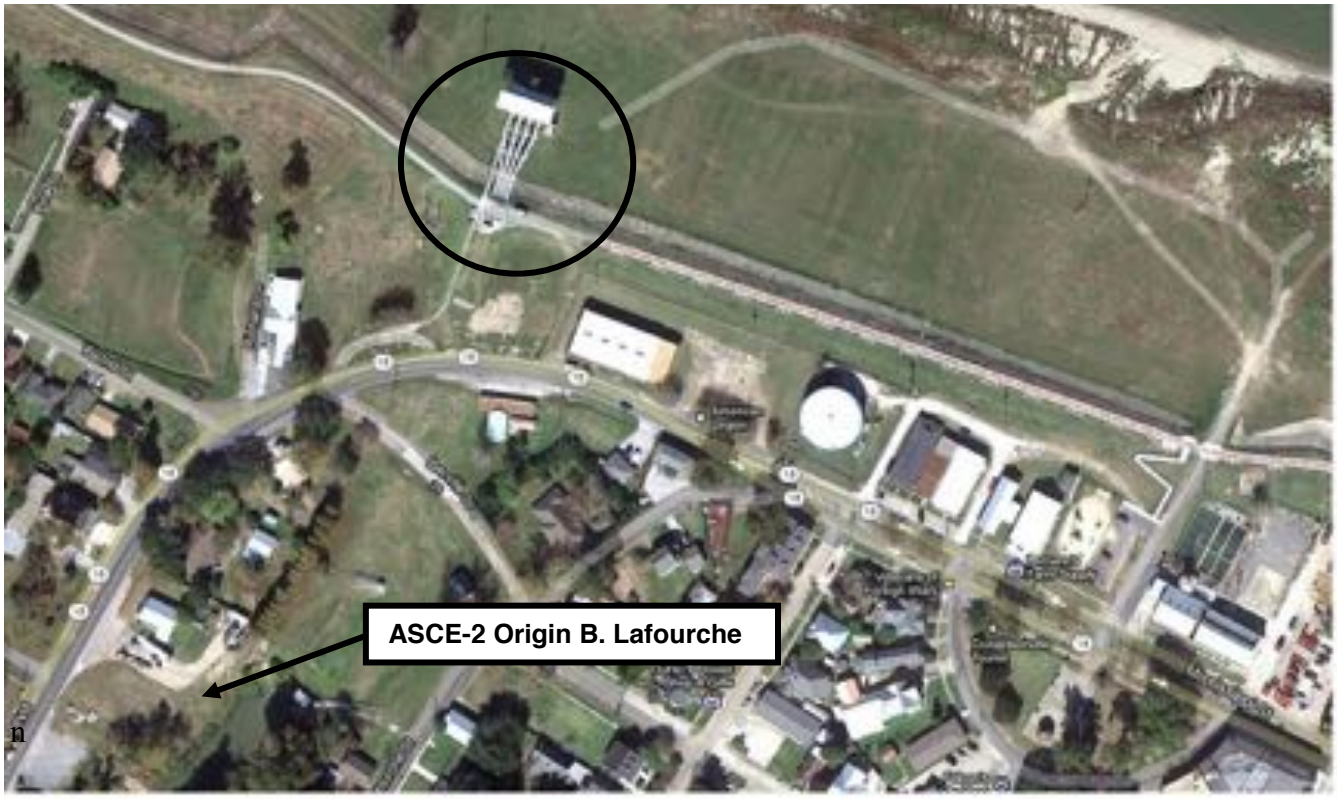
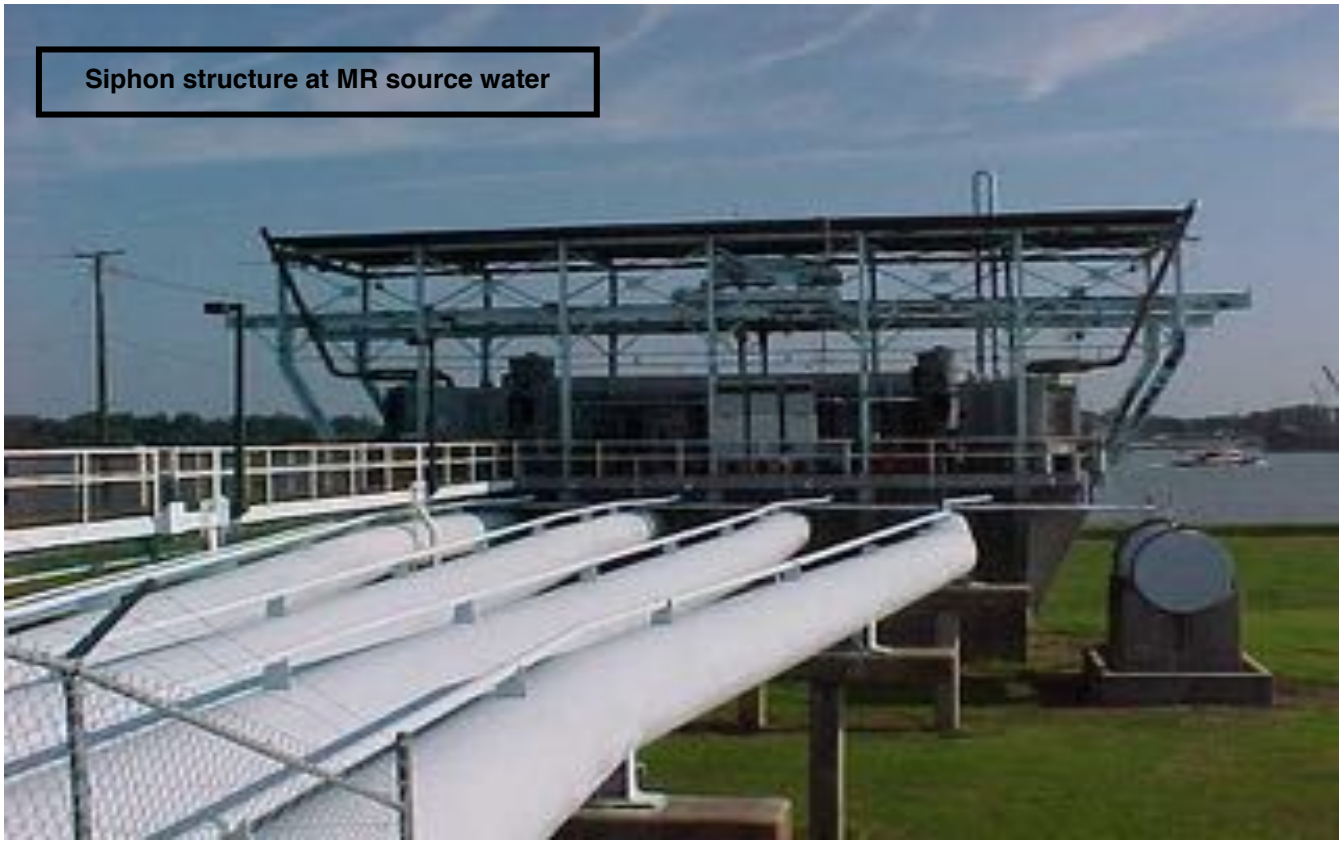


Figure 20. Cluster A (ASCE 1-7) Site Pictures and Discussion of each Site (2 HOT SPOTS - ASCE-4 and ASCE-6)

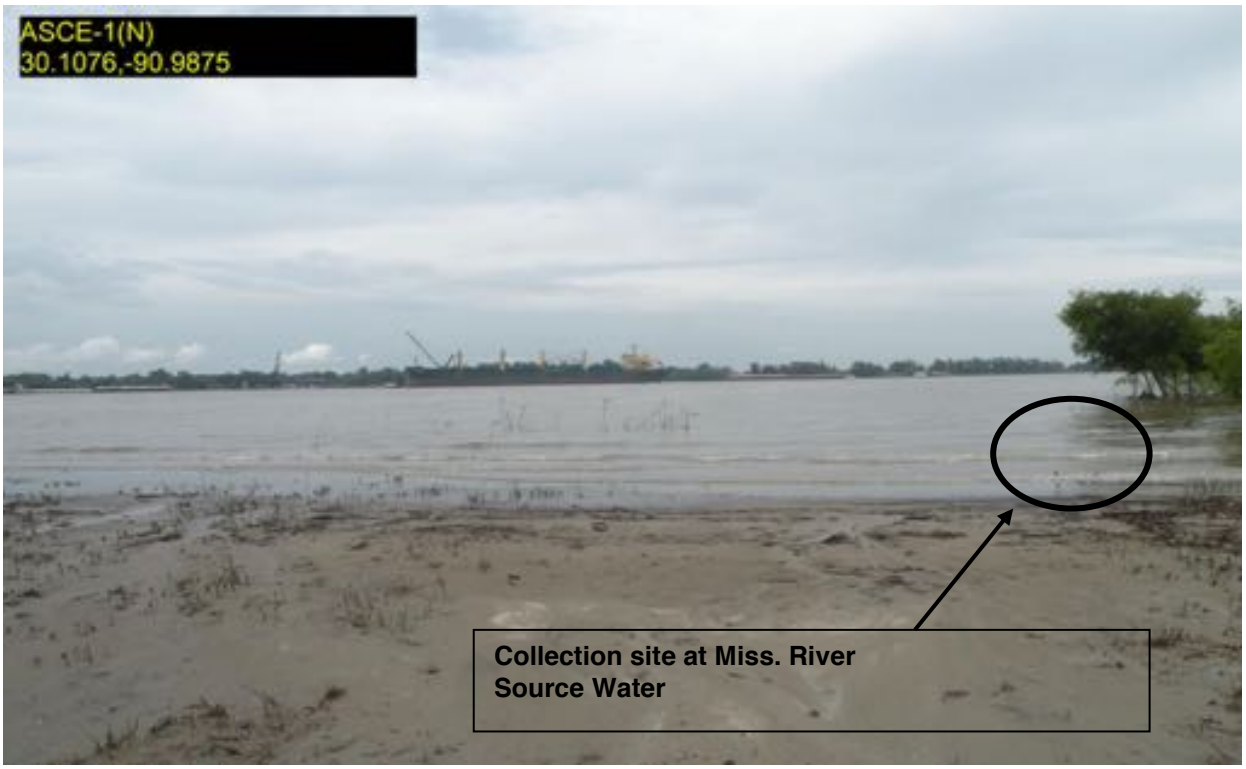
See Table 6 on page 35 and the following collection sites and pictures of the Cluster A Collection Sites. Also see Figures 14a, 14b and 14c from pages 82-84 for graphs showing whether each of the seven sites (ASCE 1-7) in Cluster A has potential, probable or positive anthropogenic sewage contamination.

ASCE-1 Mississippi River Source Water siphon structure and ASCE-2 origin of Bayou Lafourche at Donaldsonville





Le Mann Pump Station


ASCE-1(N)
30.1076,-90.9875
Collection site at Miss. River
Source Water


ASCE-1(S)
30.1076,-90.9875


ASCE-1(E)
30.1076,-90.9875


ASCE-1(W)
30.1076,-90.9875

Table 6. has all of the results for each of the sites. Most of the sites had four pre-selection sites that were included in the twelve months of sampling the final sites selected. This was a total of 16 site collections for the duration of the Phase 2 Project.

ASCE-1 in the Cluster A sites is the Mississippi River Source Water for Bayou Lafourche and all of its designated uses discussed previously did not have any microbial numbers that would not meet drinking water source (DWS) or secondary contact recreation (SCR) criteria. It had only six positive primary contact recreation (PCR) FC cfu/ 100mL counts. However the highest *E. coli* count was only 140 cfu/ 100mL. There were only one positive OB indications by % reduction ratio and one did have a single H-BAC marker. All other collections for ASCE-1 were negative for OB, *E. coli* and all human markers. The USEPA removed the MR source water from the TMDL list (EPA 2004). In fact a workshop and data review held by the Bayou Lafourche Fresh Water District at Nicholls State University concluded that one of the best strategies to remediate the Bayou to meet all of its designated uses would be to pump as much MR river fresh water into the Bayou at Donaldsonville as possible. Unfortunately the permanent earthen dam railroad trestle over the north Bayou in Donaldsonville has only 3 small culverts which are clogged with a sand bar and actual trees and other brush overgrowth of the culverts. This structure must be removed to allow restoration of the Bayou for the 300,000 people who have it as their only source of fresh drinking water, and many who would like to restore it for PCR and SCR. Canoeing is a favorite sport on the Bayou, but it is not as scenic as it should be and is often completely clogged with invasive species water lilies and Hydrilla plants. More fresh river water would also enhance the animal and plant habitats of the Bayou. See picture below of the railroad earthen dam over Bayou Lafourche.

Railroad earthen dam crossing over Bayou Lafourche in Donaldsonville. Congestion with trees and brush clearly is blocking the flow from the river.

ASCE-2 Collection Site is at the origin of Bayou Lafourche at the intake for the Peoples Water Works District in the city of Donaldsonville.

ASCE-2 Collection Site at People's Waterworks intake at origin of B Lafourche (West)

The four GIS geospatial photographs of ASCE-2 found on the next page are taken from the collection site.

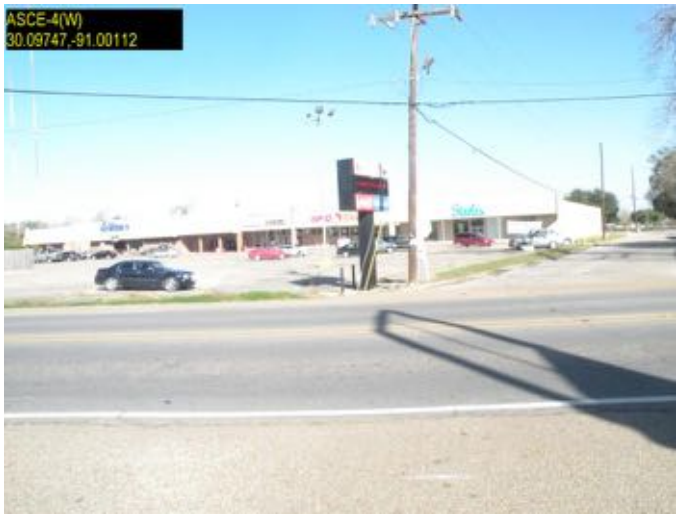
ASCE-2 at the origin of the Bayou Lafourche and the source water site for the People's Waterworks at the MR in Donaldsonville had only three FC counts that exceeded the PCRec designated use standard of >400 FC cfu/ mL. Of twelve collection dates 9/12 were positive for *E. coli*. There was only 1 positive molecular marker - the archaeon *M. smithii* on the last collection day in August 2012. However all of the OBs were negative with the exception of one positive OB ratio on the first date of pre-sampling in June 2011.

ASCE-3 Collection Site is the Albert W. 10th St. Bridge in North Donaldsonville

ASCE-3 at the Albert's bridge on W 10 St. in Donaldsonville did not have any evidence of human contamination in fifteen collection dates. There were three fecal coliform (FC) count results that exceeded the primary contact recreation (PCR) cfu/100 mL limits, and two FC cfu/100 mL that exceeded the drinking water source (DWS) and secondary contact recreation (SCR) criteria limits in the total fifteen collection dates. However there were no *E. coli* counts for warm-blooded animal fecal material above any of the LDEQ fecal coliform designated use criteria. Also, in all fifteen collections all OBs were negative and there were no positive human molecular markers. There are some ducks in the Bayou Lafourche and other warm blooded animal's storm drain runoffs that most likely were responsible for the few samples with high FCs. Also, the dilution factor of the entire Bayou, especially so close to the MR fresh water source can dilute the fecal coliform levels from both warm blooded animals and other sources. In fact, none of the fourteen bridge samples were "hot spots" of human fecal contamination.

ASCE-4 Popeyes drainage culvert to the Bayou Lafourche on LA Hwy 1 in Donaldsonville (HOT SPOT)

ASCE-4 Collection Culvert at Popeyes on Bayouside in Donaldsonville. Drains into Bayou Lafourche behind Popeyes.



The ASCE-4 site is in Donaldsonville. It is the culvert at the Bayouside of the Popeyes across the street from a strip mall. Behind the mall is a subdivision. The North view of the site is where the collection culvert resides, but the excess amount of weeds in this picture does not allow the culvert to be seen. It is seen in the picture of the collection site on the previous page. Homes and businesses on both sides of LA Hwy 1 drain towards Hwy 1 to a culvert in the parking lot of the strip mall (See birdseye view shot on the previous page.) This culvert drains under LA 1 to the culvert in the corner of the parking lot for the Popeyes on the Bayouside. This drains directly to the Bayou behind the Popeyes.

This site is considered a "Hot Spot" because 15/16 collection samples were > 2,000 FC cfu/ 100 mL (exceeding DWS and SCR). There were 12/12 collection sites positive for *E. coli* and 9/12 collection samples were >2,000 *E. coli* cfu/100 mL, which would have exceeded the LDEQ fecal coliform designated use criteria for DWS and SCR. *E. coli* is a definite fecal coliform from warm blooded animals, but is not necessarily from human feces. In fact 12/16 collections were negative for OBs. However, 1/16 samples were positive for both HpyVBK and *Methanobrevibacter smithii* (*M. smithii*). There were also an additional 4/16 samples positive for *M. smithii* only. Negative OBs in the presence of high FC and *E. coli* can suggest that the FC and EC in the collection site are from animals. However there were human markers isolated in two of the positive OB sites, and only three human markers was isolated from a negative OB site. Additionally there were two positive OB collections with no human markers.

ASCE-5 Rondinaud Bridge at the Sonic on LA Hwy 1 in Donaldsonville.

ASCE-5 is the Rondinaud Bridge at LA Hwy 1 at the Sonic west and to LA Hwy 308 east. This is NOT a designated "hot spot."

Three of the sixteen collection dates exceeded the designated criteria for DWS and SCR of >2,000 FC cfu/100 mL. Seven of the sixteen collection dates exceeded the designated criteria for PCR of >400 FC cfu/ 100 mL. However only three of the sixteen collection dates exceeded 400 *E. coli* cfu/ 100/ mL, and none of the sixteen collection dates exceeded the 2,000 cfu/100 mL. Additionally none of the OBs in 16 collection dates were positive, and there was only one positive human molecular marker - H-Bac HF-183. There are culverts from a trailer park across the LA Hwy 1 near the Sonic Drive In that drain under the Hwy1 into the Bayou. However, any human effluents are apparently diluted too much for detection at this site. Also, the City of Donaldsonville has planned to expand their city sewage lines to include this area, so it should not pose a problem in the future.

ASCE-6 2165 LA Hwy 1 in Ascension Parish (HOT SPOT)

ASCE-6 is in south Ascension Parish. It is designated a "hot spot." There were only 13 collection dates for this site. Of these, 9/13 exceeded the designated criteria for DWS and SCR of >2,000 FC cfu/100 mL; and 4/13 exceeded >2,000 *E. coli* cfu/100 mL. Five collection dates were positive for OBs. One of those were positive for the human sewage marker *M. smithii*. However, two of the negative OBs were positive for human sewage markers *M. smithii* and H-Bac.

ASCE-7 LA Hwy 943 Bridge Across Bayou Lafourche in lower Ascension Parish

ASCE-7 is the bridge that is the final collection site in Cluster A of the Group 1 collection sites in the spatial collection from north at the Mississippi River to south in the Bayou Lafourche watershed for Ascension and Assumption parishes. This site had only 4/16 collection dates exceed the designated criteria for DWS and SCR of 2,000 FC cfu/100 mL; and 1/14 collection dates exceeded 2,000 *E. coli* cfu/100 mL. Only 8/14 collection sites exceeded the designated criteria for PCR of 400 FC cfu/100 mL; and only 3/14 exceeded 400 *E. coli* cfu/100 mL. There were no positive OBs and no positive human molecular sewage markers.

ASCE-7 is definitely NOT a "Hot Spot."

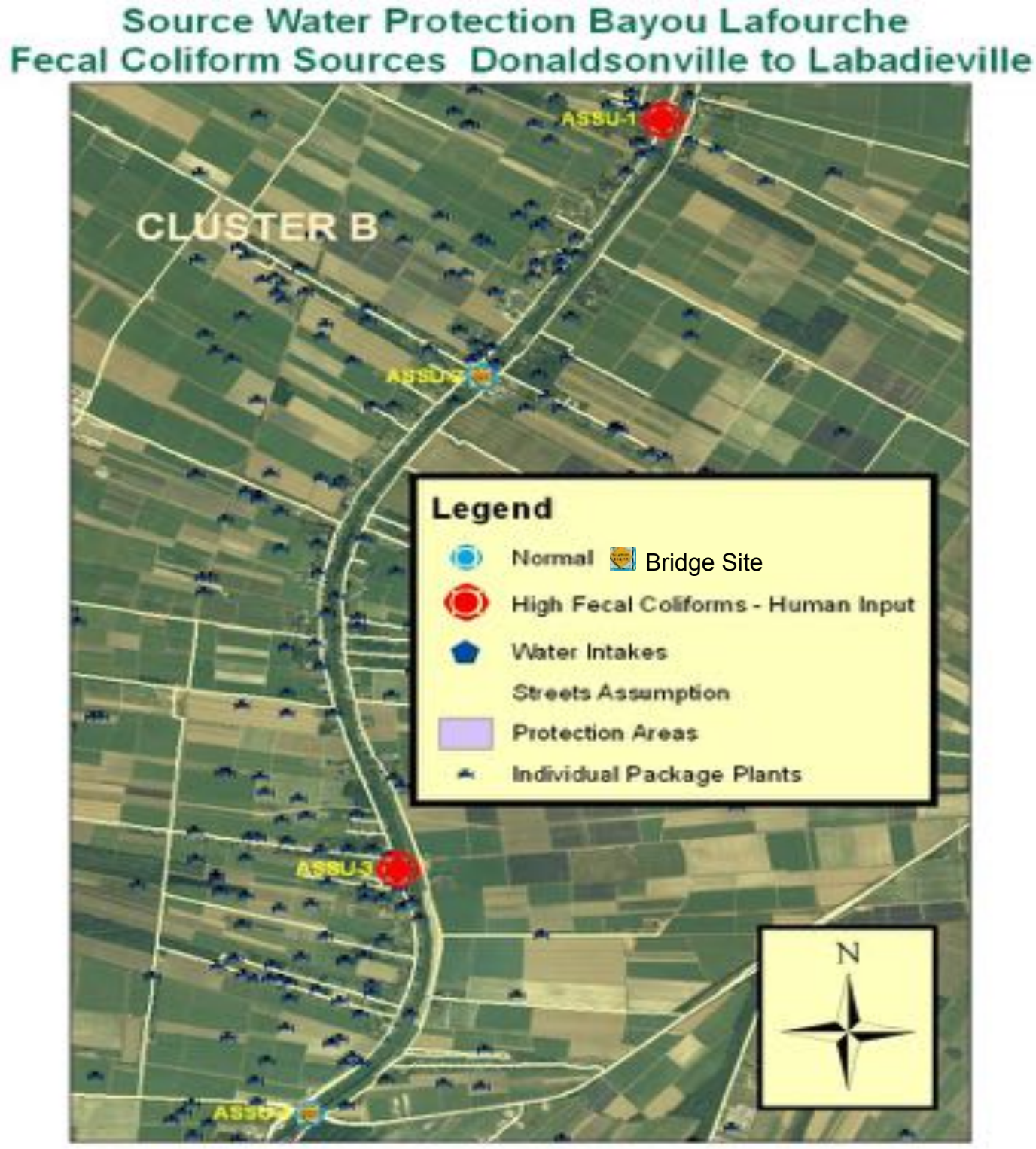


Figure 21. Cluster B samples: ASSU- 1, 2, 3, 4, (Hot Spots ASSU-1 and ASSU-3)

See Table 6 on page 35 and the following collection sites and pictures of the Cluster B Collection Sites. Also see Figures 15a, 15b and 15c from pages 85-87 for graphs showing whether each of the four sites (ASSU 1-4) in Cluster B has potential, probable or positive anthropogenic sewage contamination.

ASSU-1 7436 LA Hwy 1 in North Assumption Parish (HOT SPOT)

The Collection site for ASSU-1 is a culvert at 7436 LA Hwy 1 that drains under LA 1 to the Bayou side culvert and then drains directly down to the Bayou. There was generally a strong sewage smell at the collection culvert across from the Bayouside.

The last 2 pictures facing east show a close-up of the drain directly to the Bayou Lafourche from the collection culvert on the other side of LA Hwy 1.

ASSU-1 drainage culvert at 7436 LA Hwy 1 is the first collection site in Cluster B of the Group 1 collection sites in Assumption Parish and is a significant "**Hot Spot**" in this Phase 2 study of human contamination to Bayou Lafourche. This site drained a trailer court behind the LA1 trailer contributing directly to the ditch feeding the collection culvert. It drained houses from both sides of the LA 1 to this site. When the culvert had drainage water, it always smelled of raw sewage, so as was expected, the ASSU-1 site had 16/16 collection dates exceed the designated criteria for DWS and SCR of 2,000 FC cfu/100 mL; and 13/14 collection dates exceeded 2,000 *E. coli* cfu/100 mL. Only one collection date was below 400 *E. coli* cfu/100 mL for the entire sixteen months of collection months. However the FC levels for that same collection date was 380,000 FC cfu/100 mL. Fifteen collection dates of sixteen (15/16) were positive for OBs and there were 4/16 collection dates that were positive for all three human molecular sewage PCR markers. Three collection dates were positive for the two human molecular markers HPyV-BK and H-*Bac* HF-183 eubacteria. Three collection dates were positive for only one human molecular marker *M. smithii*, the archaeon. The presence of positive OBs and molecular human sewage markers is very significant in proving that this site is definitely heavily impacted by raw human sewage which drains under LA1 and directly into the Bayou Lafourche.

The area draining to this site should be targeted for a subdivision type sewage package plant.

ASSU-2 LA 998 Bridge in Belle Rose, Assumption Parish

ASSU-2 LA Hwy 998 Bridge in Belle Rose is collected directly in the Bayou from the bridge.

The site ASSU-2 sample is taken from the middle of the LA Hwy 998 Bridge in Belle Rose. It was of interest because it was not very far downstream from the serious HOT SPOT ASSU-1 discussed above.

The ASSU-2 bridge site had 6/16 collection dates exceed the designated criteria for DWS and SCR of 2,000 FC cfu/100 mL; but only 1/14 collection dates exceeded 2,000 *E. coli* cfu/ 100 mL.

The ASSU-2 bridge site had 5/16 collection dates exceed the designated criteria for PCRec of 400 FC cfu/100 mL; but only 1/14 collection dates exceeded 400 E. coli cfu/100 mL.

There were 2/16 collection dates that were + for OBs.

There was only 1/16 collection dates had a + human marker of *M. smithii.* The collection date of 02/02/12 had the highest levels of 8,739 FC cfu/100 mL for the entire collection period and also had the highest levels of *E. coli* (4,363 cfu/100mL) for the *E. coli* 14 sampling dates. It had not rained in the last 48 hrs. at the time of collection and the large numbers of FC and E. coli from ASSU-1 would not have been diluted from rain as the water moved downstream to the ASSU-2 bridge.

ASSU-2 is not a HOT SPOT despite one very high sampling date,.

ASSU-3 Tyler Lane at LA Hwy 1 Belle Rose (HOT SPOT)

The collection site at Tyler Lane is a large culvert **on the Bayouside** that drains along a cyclone fence and directly into Bayou Lafourche. Another culvert across LA Hwy 1 drains under the Hwy1 to the collection culvert on the bayouside of LA Hwy 1.

Views from the Collection Culvert:

ASSU-3 at Tyler Lane is one of the significant "Hot Spots" in this Phase 2. It is about equal with the ASSU-1 Site. See Table 6 for detailed results for each collected parameter.

All sixteen collection dates for this site exceeded the designated criteria for DWS and SCR of 2,000 FC cfu/100 mL; and 10/12 collection dates exceeded 2,000 *E. coli* cfu/100 mL. Only one collection date was below 400 *E. coli* cfu/100 mL for the entire twelve collection dates. However the FC levels for that same collection date was 36,364 FC cfu/100 mL.

Only one pre-site selection date was Negative for OB's. All sixteen other collection dates were positive for OBs and there were **5**/16 collection dates positive for all three human molecular sewage PCR markers.

Three collection dates were positive for two human molecular markers. One date was positive for HPyV-BK and H-*Bac* HF-183 eubacteria; one date was positive for HPyV-BK human virus and *M. smithii*, the archaeon; and one collection was positive for *M. smithii* and H-*Bac* HF-183. Two collection dates were positive for only the eubacteria human molecular marker H-*Bac* HF-183.

The presence of high levels exceeding designated use criteria of FCs, high *E. coli*, positive OBs and many molecular human sewage PCR markers (e.g. 5/16 collection dates with all three molecular markers positive) is very significant in proving that this site is definitely heavily impacted by raw human sewage which drains under LA1 into the collection culvert on the Bayou side, and directly into Bayou Lafourche.

ASSU-3 is a very HOT SPOT.

ASSU-4 LA Hwy Spur 70 Paincourtville Bridge

The ASSU-4 Spur 70 bridge travels east across LA Hwy 308 to the Sunshine Bridge and west across LA Hwy 1 to Pierre Part.

The ASSU-4 Spur 70 Bridge at Paincourtville is not a hot spot site. Only 3/16 collection dates exceeded the DWS and SCR designated use criteria for FC with 2,000 cfu/ 100 mL; and only one collection date exceeded 2000 cfu/100 mL for *E. coli.*

The PCRec designated use criteria for FC of >400 cfu/ 100 mL was exceeded for 7/16 collection dates; and *E. coli* exceeded 400 cfu/100 mL only 2/14 collection dates.

Only two OBs were positive, and there were no positive human PCR molecular markers.

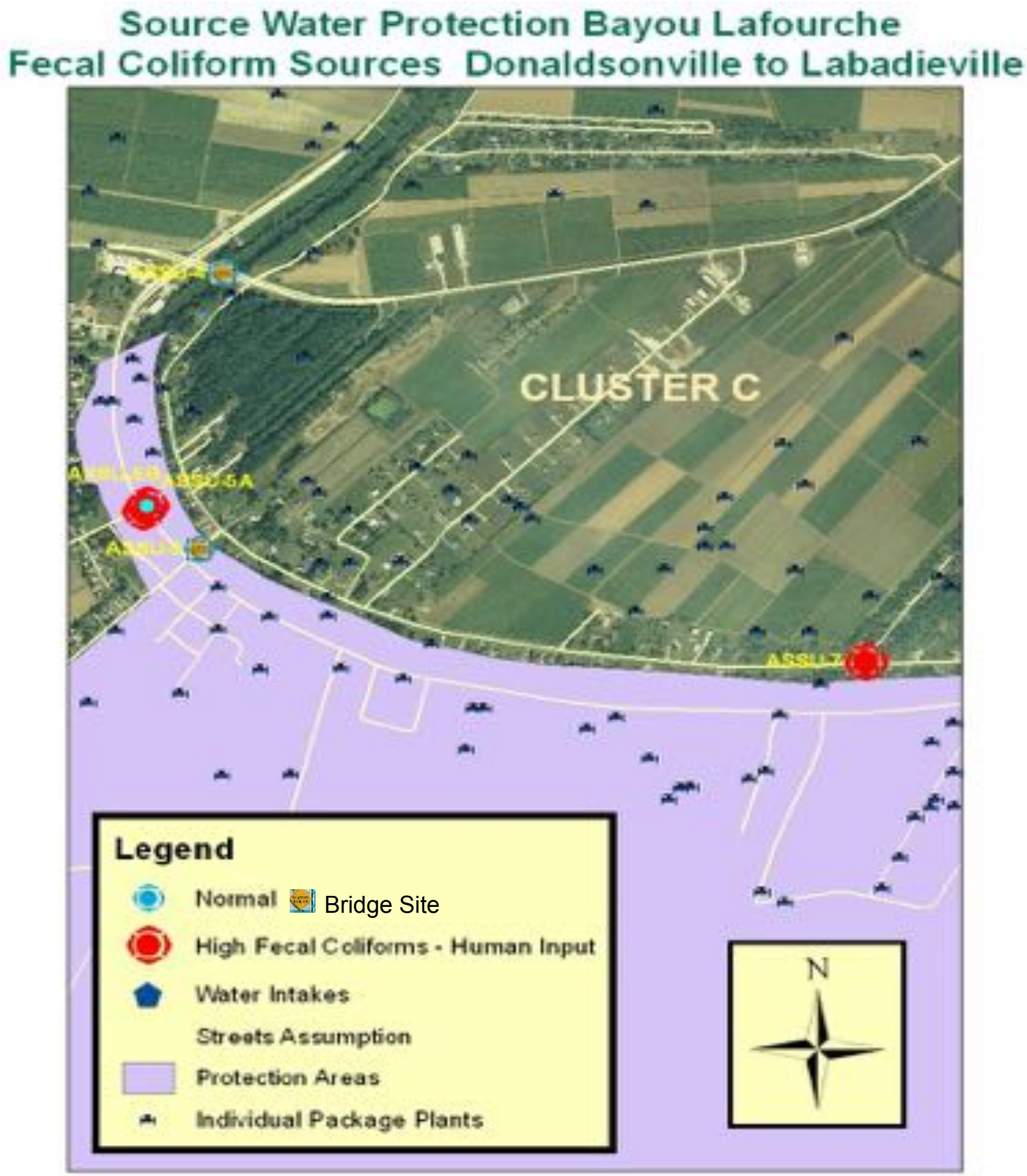


Figure 22. Cluster C (ASSU-5-8) (ASSU-8 not shown) Site Pictures and Discussion of Each Site (Hot Spots - ASSU-5A, ASSU-5B, and ASSU-7) See Table 6 on p. 35 for results and also see Figures 16a, 16b and 16c from pages 88-90 for graphs showing whether each of the sites (ASSU 5-8) in Cluster C has potential, probable or positive anthropogenic sewage contamination.

ASSU-5A and 5B -Culvert at Corner of LA Hwy 1 and LA Hwy 1005 (ASSU-5A) and Large Culvert Across LA Hwy 1 at Bayouside (ASSU-5B) (Both HOT SPOTS)

LA Hwy 1005 and LA Hwy 1 on the side across from the Bayou both drained to ASSU-5A, a ditch culvert in the corner of the intersection of the two highways. That culvert at 5A drained under LA Hwy 1 to a very large culvert (ASSU-5B) at the Bayouside on LA Hwy1. Culvert ASSU-5B drained directly into the Bayou. There was another identical large culvert just a few feet downstream from the ASSU-5B culvert which also collected from the Bayouside storm water and also drained into the Bayou.

The **ASSU-5A** culvert site at LA Hwy 1 and LA Hwy 1005 A is a **HOT SPOT**.

The FC's exceeded the designated use criteria for DWS and SCR of >2,000 FC cfu/100 mL in 10/14 collection dates. *E. coli* never exceeded 2,000 cfu/100 mL.

The FC's exceeded the designated use criteria for PCRec of >400 FC cfu/100 mL in 4/14 collection dates; and *E. coli* exceeded 400 *E. coli* cfu/100 mL in 4/12 collection dates.

There were 7/14 collection dates positive for OBs. There was 1/14 collection dates with two positive human markers of the human virus HPyV-BK and the human *Bacterioidales* eubacteria H-*Bac* HF-183. It was also positive for OBs. There was 1/14 collection date with one positive human marker, the *M. smithii* archaeon, but it was negative for OBs.

The **ASSU-5B** culvert site at LA Hwy 1 and the Bayou side is also deemed a **HOT SPOT**.

For ASSU-5B The FC's exceeded the designated use criteria for DWS and SCR of >2,000 FC cfu/100 mL in 7/13 collection dates; and *E. coli* exceeded 2,000 cfu/100 mL only 1/13 collection dates.

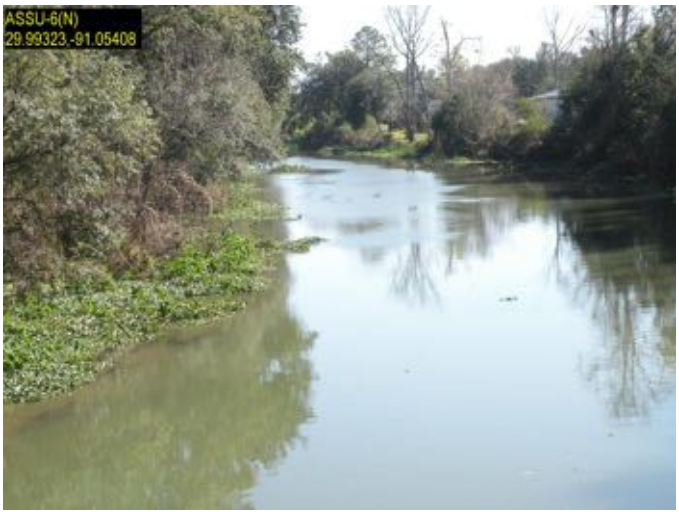
The FC's exceeded the designated use criteria for PCRec of >400 FC cfu/100 mL in 4/13 collection dates; and *E. coli* exceeded 400 *E. coli* cfu/100 mL in 2/13 collection dates.

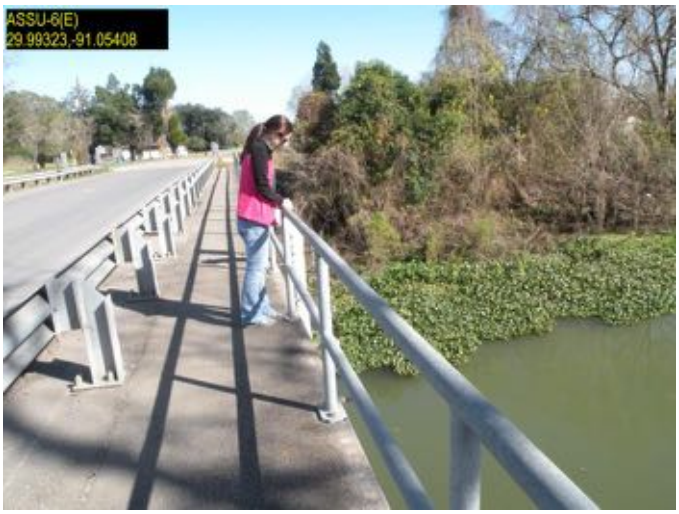
There were 10/13 collection dates positive for OBs.

There were 2/13 collection dates with two positive human markers. One was positive for the HPyV-BK human virus and the archeon *M. smithii* and was also positive for OBs. The other was positive for the archeon *M. smithii* and the eubacteria H-*Bac* HF-183, but was negative for OBs.

There were 2/13 collection dates with one positive marker. One was the HPyV-BK human virus; and the other was the archaeon *M. smithii*. These two positive markers were also positive for OBs.

ASSU-6 St Vincent's Bridge over Bayou Lafourche in Paincourtville





For ASSU-6 the FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 5/15 collection dates; but *E. coli* never exceeded 2,000 cfu/100 mL.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/15 collection dates; but *E. coli* exceeded 400 *E. coli* cfu/100 mL in only 1/15 collection dates.

There were 1/15 collection dates positive for OBs.

There was only 1/15 collection dates with one positive marker for the HPyV-BK human virus. It was negative for OBs. It was hot and cloudy on that collection date (8/17/11).

ASSU-6 was NOT designated a "hot spot."

ASSU-7 College Pt Rd at LA Hwy 308 and the Canaan Baptist Church (HOT SPOT)

ASSU-7 is a "**hot spot**" at College Pt. Lane on LA Hwy 308 next to the Canaan Baptist Church that drains a very large unsewered Trailer court. The drain pipes are clearly visible from the trailers to a drainage ditch that is partly underground and runs to the collection culvert at the Hwy 308 seen here. This site nearly always had a very strong sewage smell and was always filled with trash. The culvert at the Hwy 308 (West view) drains under the highway to a culvert on the Bayou side and then directly to the Bayou.

This East view of **ASSU-7** is not from the collection culvert. That view is seen in the previous page. This view is from a block down the College Pt Lane. It is typical of the trailers on both sides of College Pt Lane. It is a rather large trailer court and would greatly benefit from a subdivision size mechanical sewage package plant. Many of these trailers may not have individual package plants. This one appeared to drain directly from the trailer, but it was difficult to tell without going into the yard right against the trailer.

ASSU-7 is definitely a "**hot spot**."

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 13/13 collection dates; and *E. coli* exceeded 2,000 *E. coli* cfu/ 100 mL in 11/12 collection dates.

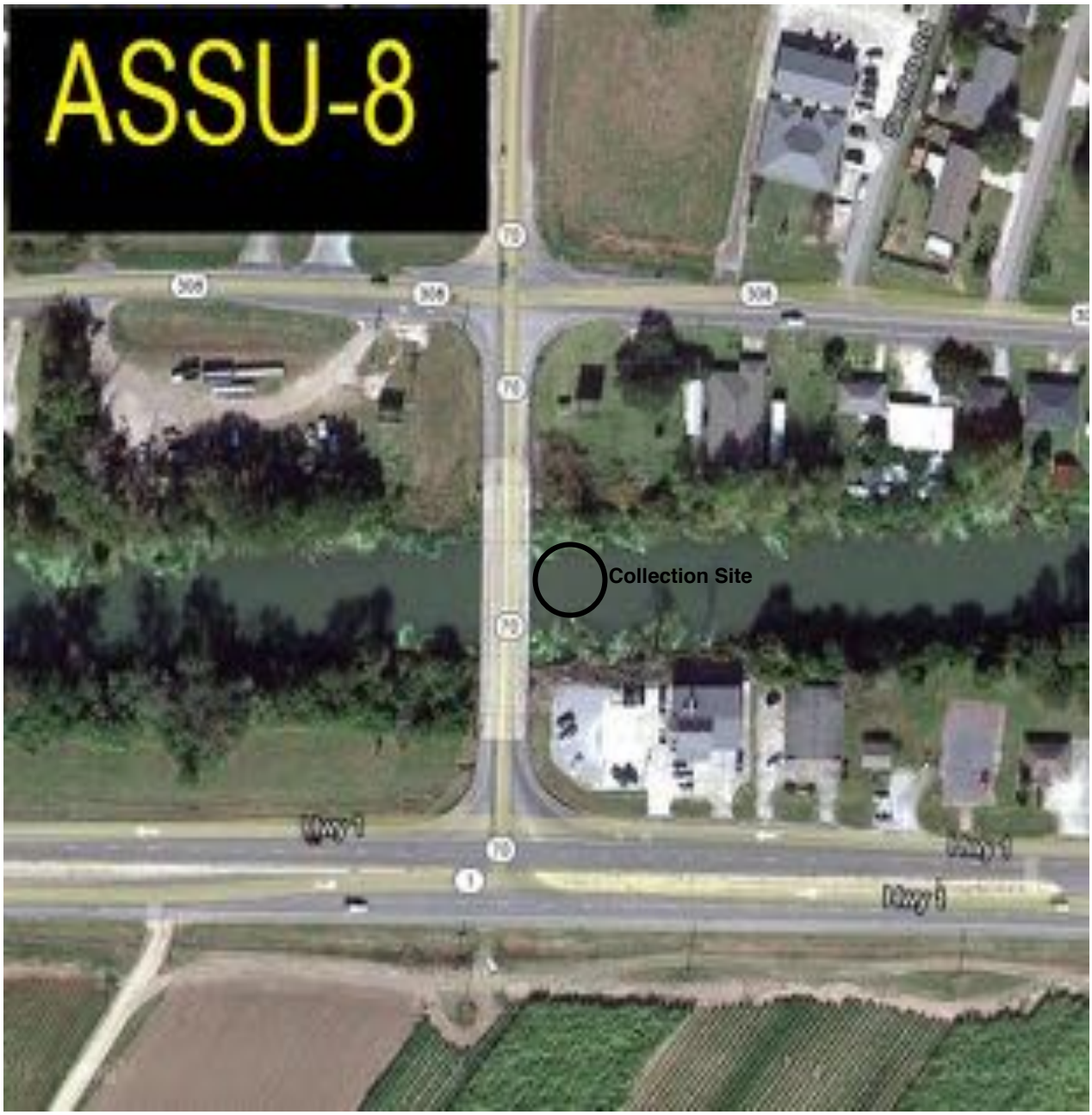
All of the FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 13/13 collection dates. *E. coli* exceeded 400 *E. coli* cfu/100 mL in only 1/12 collection dates.

There were 12/13 collection dates positive for OBs.

There was one collection date with two molecular human PCR markers. They were the human virus HPyV-BK and the archaeon *M. smithii.* This was in June, 2012.

There were 5/13 collection dates with a single molecular PCR human marker. They were the HpyV-BK in October 2011. The archaeon *M. smithii* were the other 4 single markers on 8/11, 1/12, 2/12, and 5/12.

ASSU-8 Spur 70 Bridge at Plattenville



The collection site for the Spur 70 Bridge was on the south side of the Bayou. The LA Spur 70 north goes to the Sunshine Bridge over the Mississippi River and connects the Bayou Lafourche to the River from Plattenville.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 5/16 collection dates; and *E. coli* exceeded 2,000 E. coli cfu/ 100 mL in 0/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/16 collection dates. *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 16/16 collection dates negative for OBs.

There was one collection date with one molecular human PCR markers. It was the archaeon *M. smithii.* This was in May 2012.

ASSU-8 is definitely NOT a "hot spot."

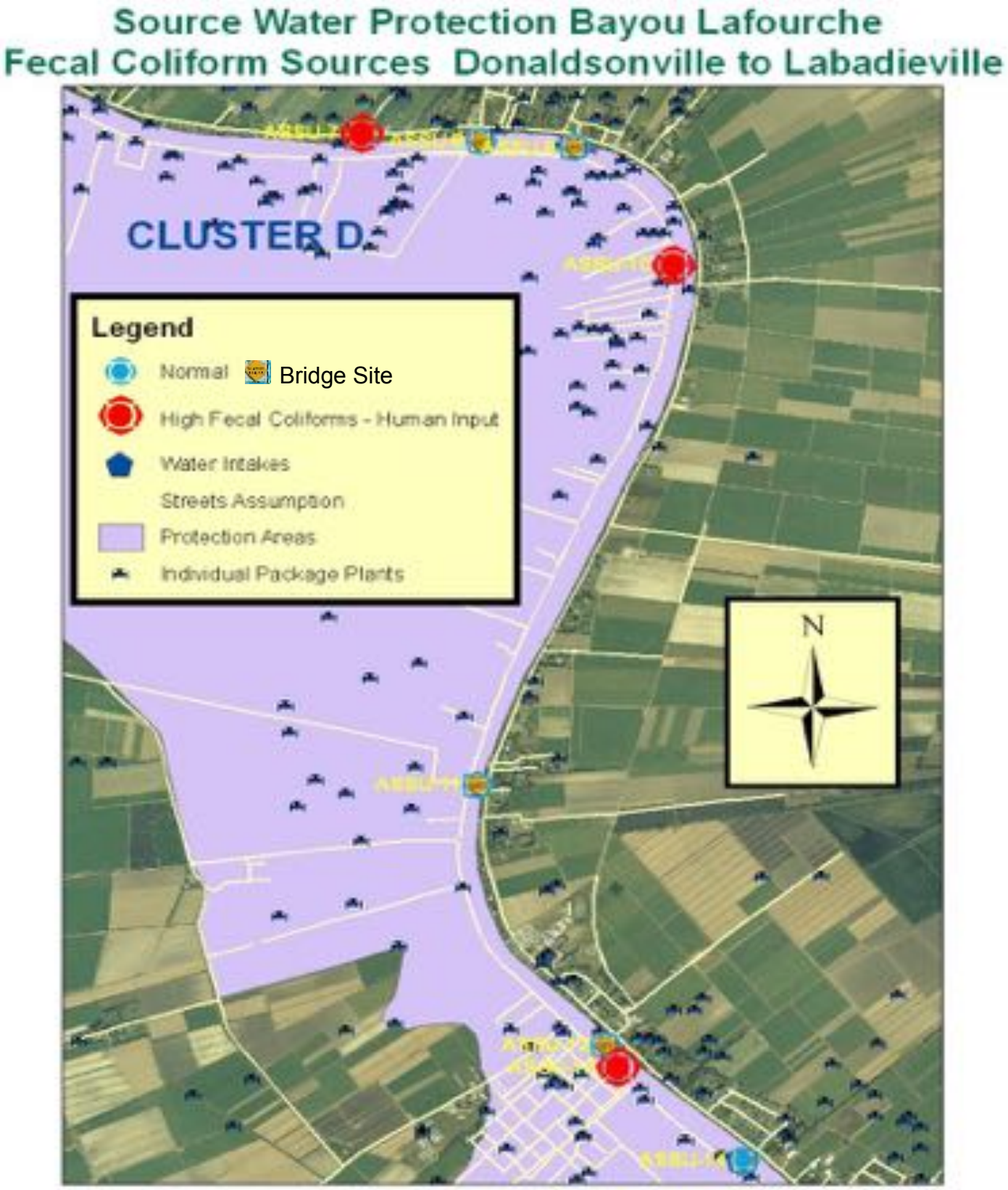
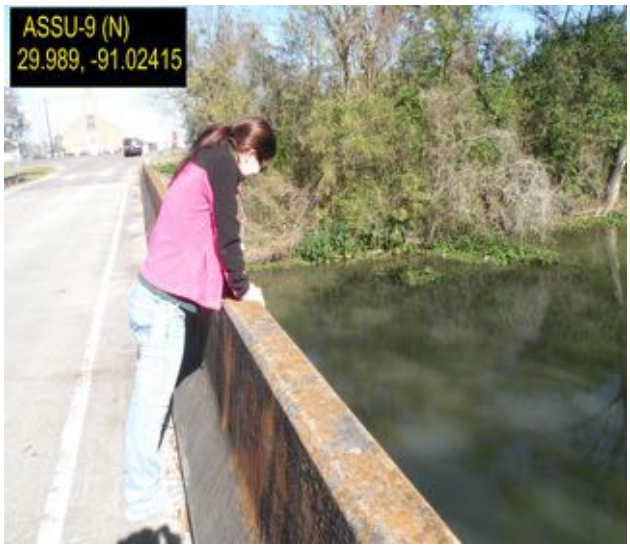


Figure 23. Cluster D (ASSU-9-14) Site Pictures and Discussion of Each Site (Hot Spots - ASSU-10 and ASSU-13) See Table 6 on p. 35 for results and also see Figures 17a, 17b and 17c on pages 91-93 for potential, probable, and positive anthropogenic contamination of the D Cluster of sites.

ASSU-9 Bridge St. Bridge at Plattenville



The ASSU-9 sample was collected on the East side of the Bayou (winding south).

The bridge at Plattenville for ASSU-9 is a small bridge connecting LA Hwy1 to LA Hwy 308 and the historic Plattenville Assumption Parish Catholic Church. This is a rural agricultural area without a heavy population.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 5/15 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 0/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/15 collection dates. *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 15/15 collection dates all negative for OBs.

There were 0/15 molecular markers positive for ASSU-9

See Figures 17a, 17b and 17c on pages 91-93 for potential, probable, and positive anthropogenic contamination of the D Cluster of sites.

ASSU-9 in the D Cluster is definitely NOT a hot spot.

ASSU-10 St Benedict Church and School on LA Hwy1 Plattenville (HOT SPOT)

Culvert in Church parking lot on LA Hwy 1

Sample collection culvert on the Bayou side at LA Hwy 1.

The culvert above at LA Hwy 1 in the parking lot of the Church drains under LA 1 east into the collection culvert on the Bayou side. This culvert drains directly into the Bayou.

The St. Benedict Catholic Church and School was established in 1911 and is located on LA Hwy 1 in a fairly heavily populated local area.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 11/16 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 2/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 3/16 collection dates. *E. coli* exceeded 400 cfu/100 mL in 1/13 collection dates.

There were 7/16 collection dates all positive for OBs and 3/16 single molecular markers positive for ASSU-10. These included *M.smithii* positive on 10/12/11, H-*Bac* positive on 11/9/11, and H-*Bac* positive for 5/17/12.

See Table 6 on page 35 for the numerical data for ASSU-10 and Figures 17a, 17a and 17c on pages 91-93 for potential probable and positive anthropogenic contamination of the D Cluster of sites.

ASSU-10 in the D Cluster was designated a HOT SPOT - although not as strongly so as previous HOT SPOTs.

ASSU-11 Hospital Road Bridge in Napoleonville

The Hospital Road Bridge in Assumption Parish connects LA Hwy 308 with LA Hwy 1 where the Assumption Parish Regional Hospital is located on Hospital Road.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 1/16 collection dates; and *E. coli* exceeded 2,000 E. coli cfu/ 100 mL in 0/13 collection dates.

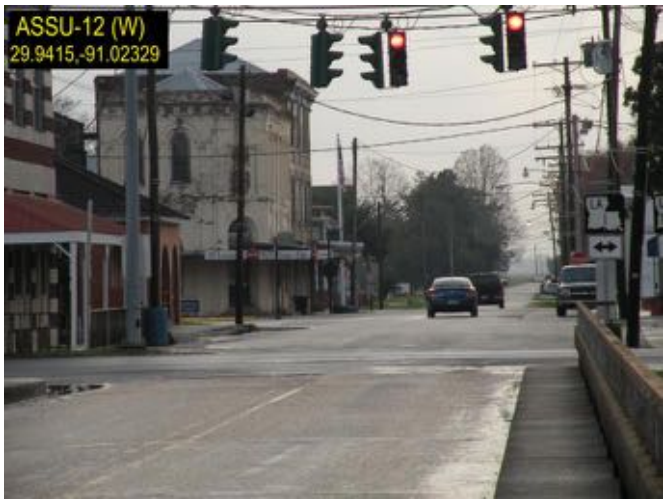
The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 10/16 collection dates. *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 2/16 collection dates positive for OBs and 0/16 molecular markers positive for ASSU-11.

See Table 6 on page 35 for the numerical data for ASSU-11 and Figures 17a, 17a and 17c on pages 91-93 for potential probable and positive anthropogenic contamination of the D Cluster of sites.

ASSU-11 is NOT designated a hot spot.

ASSU-12 Franklin St. Bridge - Hwy 1008 Napoleonville



The Franklin Ave/ Hwy 1008 Bridge in Napoleonville, Assumption Parish connects LA Hwy 308 with LA Hwy 1 to the historic area of Napoleonville and to Hwy 1008.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 1/14 collection dates; and *E. coli* exceeded 2,000 *E. coli* cfu/ 100 mL in 0/12 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 9/14 collection dates. However, *E. coli* exceeded 400 cfu/100 mL in 2/12 collection dates.

There were 2/14 collection dates positive for OBs and 0/14 molecular markers positive for ASSU-11.

See Table 6 on page 35 for the numerical data for ASSU-12 and Figures 17a, 17a and 17c on pages 91-93 for potential probable and positive anthropogenic contamination of the D Cluster of sites.

ASSU-12 is NOT designated a HOT SPOT

ASSU-13 Culvert at Jefferson St. and LA Hwy 1 by Ace Hardware, Napoleonville (HOT SPOT)

ASSU-13 Birdseye View and Collection Site

The **Collection site (at arrow and picture below) for ASSU-13** was the culvert at the corner of Jefferson St. and LA Hwy 1 and across Jefferson St. from the Ace Hardware in Napoleonville. This storm drain culvert collects runoff from several blocks and drains east under LA Hwy 1 (dash arrow) across to a culvert on the Bayou side and LA 1 (in rectangle).

The **ASSU-13** storm drain culvert at the corner of Jefferson St. and LA Hwy 1 in Napoleonville was selected as a final site because it was in a commercial area on LA1 and it drained under the Hwy directly into Bayou Lafourche.

The FC's exceeded the designated use criteria for DWS and SCR of >2,000 FC cfu/100 mL in 7/15 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 0/13 collection dates. However there was one date of collection with a 2,000 cfu/100 mL count for *E. coli.*

The FC's exceeded the designated use criteria for PCRec of >400 FC cfu/100 mL in 4/15 collection dates. *E. coli* exceeded 400 cfu/100 mL in 2/13 collection dates.

There were 10/15 collection dates positive for OBs and 3/15 single molecular markers positive for **ASSU-13**. All three of the markers were the archaeon *M. smithii*. They were isolated on collection dates 10/12/11, 11/9/11, and 8/15/12.

See Table 6 on page 35 for the numerical data for **ASSU-13** and Figures 17a, 17a and 17c on pages 91-93 for potential probable and positive anthropogenic contamination of the D Cluster of sites.

ASSU-13 is designated a weak HOT SPOT which mainly originates from storm drain runoff.

ASSU-14 Assumption Water Plant Intake at Bayou Lafourche in Napoleonville

This birdseye view of the Assumption Water District shows the collection site for ASSU-14 in Bayou Lafourche at the water plant intake pump station on the south side of the Bayou. There is a second intake pump station above the site collection pump.

LDEQ collaborating field scientist Jackie Millet is standing at the ASSU-14 Bayou Lafourche collection site at the south side of the Assumption Parish Water Waterworks' second intake pump.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 5/16 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 0/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 5/16 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 1/13 collection dates.

There were 3/16 collection dates positive for OBs and 2/16 single molecular markers positive for ASSU-14. Both of the positive markers were the archaeon *M. smithii*. They were in collection dates 11/9/11 and 8/15/12. However both of those collection dates were negative for OBs. *M. smithii* could possibly be found in some other warm-blooded animals.

See Table 6 on page 35 for the numerical data for ASSU-14 and Figures 17a, 17a and 17c on pages 91-93 for potential probable and positive anthropogenic contamination of the D Cluster of sites.

ASSU-14 is NOT designated as a HOT SPOT.

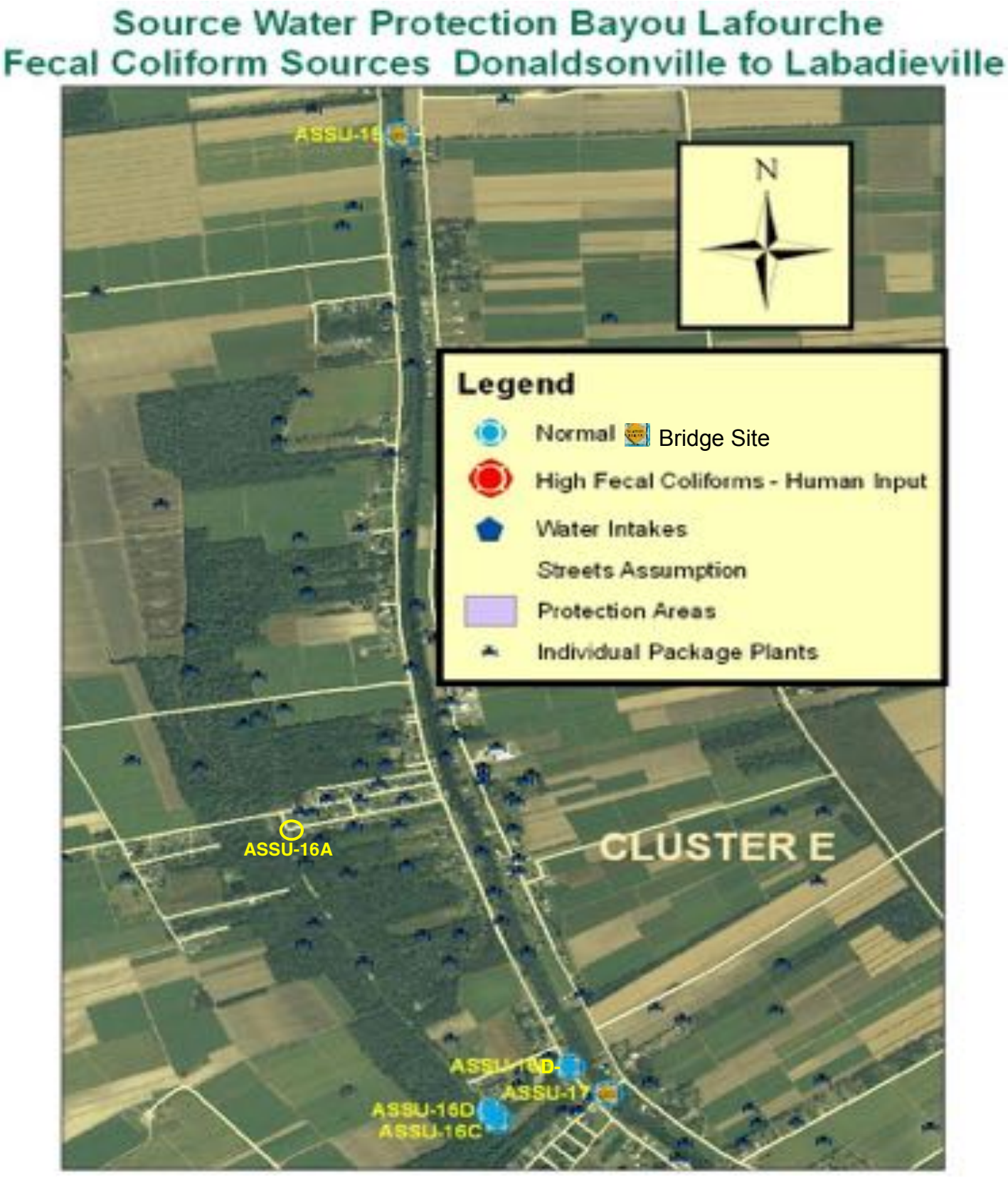
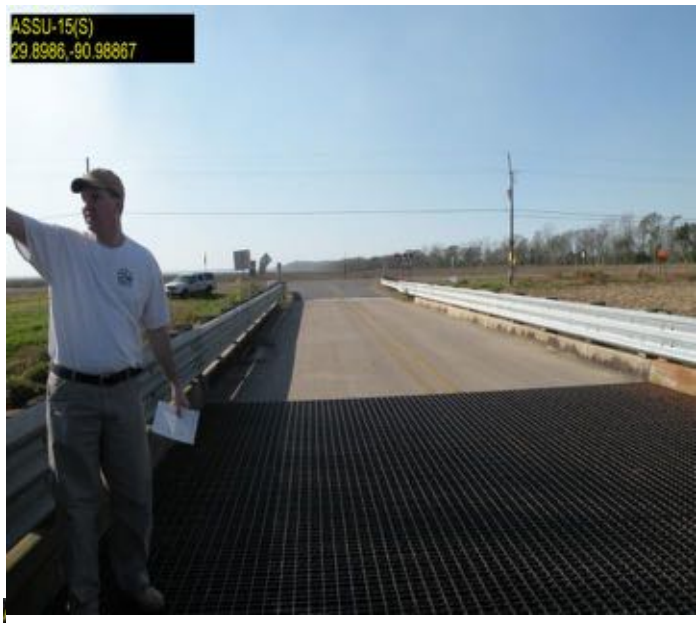


Figure 24. Cluster E (NO HOT SPOTS in Cluster E). See Table 6. on p. 35 for results and also see Figures 18a, 18b and 18c on pages 94-96 for potential, probable, and positive anthropogenic contamination of the E Cluster of sites.

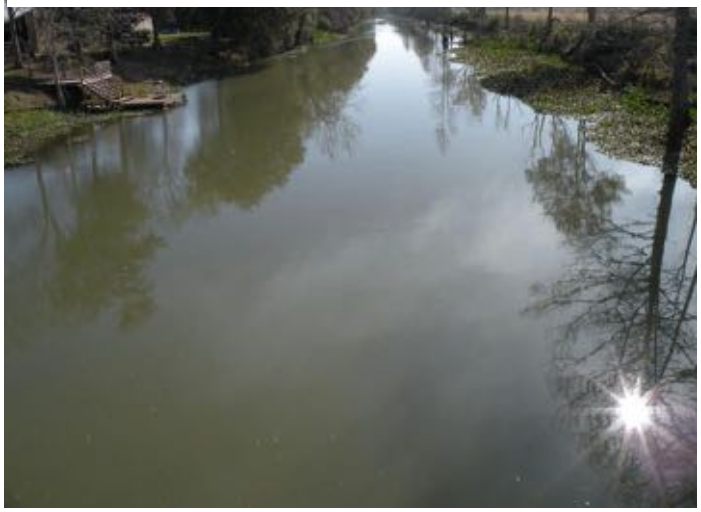
ASSU-15 LA 1010 Bridge in Supreme

ASSU-15 Collection site from LA Hwy 1010 bridge in birdseye picture above and closeup in Bayou below

LDEQ field scientist Jackie Millet looking down to the collection site in the east side of the Bayou.



LDEQ Project Officer Jesse Means on the Hwy 1010 bridge with the south view of site ASSU-15 to his back.



The LA1010 Bridge in Supreme is in an agricultural area and connects LA Hwy 308 to LA Hwy 1 and the Hwy 1010. It is the first site in the E Cluster

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 1/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 0/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/14 collection dates; but *E. coli* exceeded 400 cfu/100 mL in 1/13 collection dates, indicating that the total FC's may not have been mainly from warm-blooded animal origin.

There were 2/14 collection dates positive for OBs and 0/14 molecular markers positive for ASSU-15. The two + OB sites did exceed the PCRec criteria for FC cfu/100 mL.

See Table 6 on page 35 for the numerical data for ASSU-12 and Figures 18a, 18b and 18c on pages 94-99 for potential, probable and positive anthropogenic contamination of the E Cluster of sites.

ASSU-15 is NOT designated a HOT SPOT.

ASSU-16A Cancienne Canal at the end of Georgette St. in Supreme

The Cancienne Canal in Supreme, LA is a drainage canal behind LA Hwy 1 that is fairly extensive. Site ASSU-16A is where the Cancienne Canal virtually ends at Hwy 400. It does pass under the bridge at Hwy 400, but dissipates into a drainage ditch in the woods and the agricultural fields.

The collection site for ASSU-16A was a culvert in the Cancienne Canal. It is located in circle in the Birdseye view of the collection site above and the actual closeup picture of the collection site in the picture below.

The ASSU-16A site is in the Cancienne Canal at the end of Georgette Street in Supreme, LA. The north view is facing the end of Georgette Street at the Hwy 400 bridge over the Canal. The south view shows the newly installed subdivision sewage mechanical plant for this subdivision which is mainly house trailers.

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 9/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 2/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 3/14 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 1/13 collection dates.

There were 0/14 collection dates positive for OBs and 1/14 single human molecular markers positive for ASSU-16A. The positive molecular human marker was the human virus HPyV-BK collected on 08/22/12. The OBs on this date were negative; but the FC cfu/100 mL exceeded the 2,000 DWS and SCR designated criteria.

See Table 6 on page 35 for the numerical data for ASSU-13 and Figures 18a, 18b and 18c on pages 94-96 for potential probable and positive anthropogenic contamination of the E Cluster of sites.

ASSU-16A is NOT a hot spot site.

ASSU-16B Cancienne Canal before the pump at the end of Cancienne Road off LA Hwy1 in Supreme

Collection site in the Cancienne Canal from the Cancienne Road. Birdseye of ASSU-16B collection site is above and the close up of the site is below.

Dr. Balaji Ramachandran (GIS) and M.S. research student Stacy Martinez from the Nicholls State University team are walking toward the ASSU-16B site to take a sample and GPS reading at the Cancienne Canal under the large tree before the pump in the Canal (ASSU-16B(N) above left).

The FC's exceeded the designated use criteria for DWS and SCR of 2,000 FC cfu/ 100 mL in 5/16 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/13 collection dates.

The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/16 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

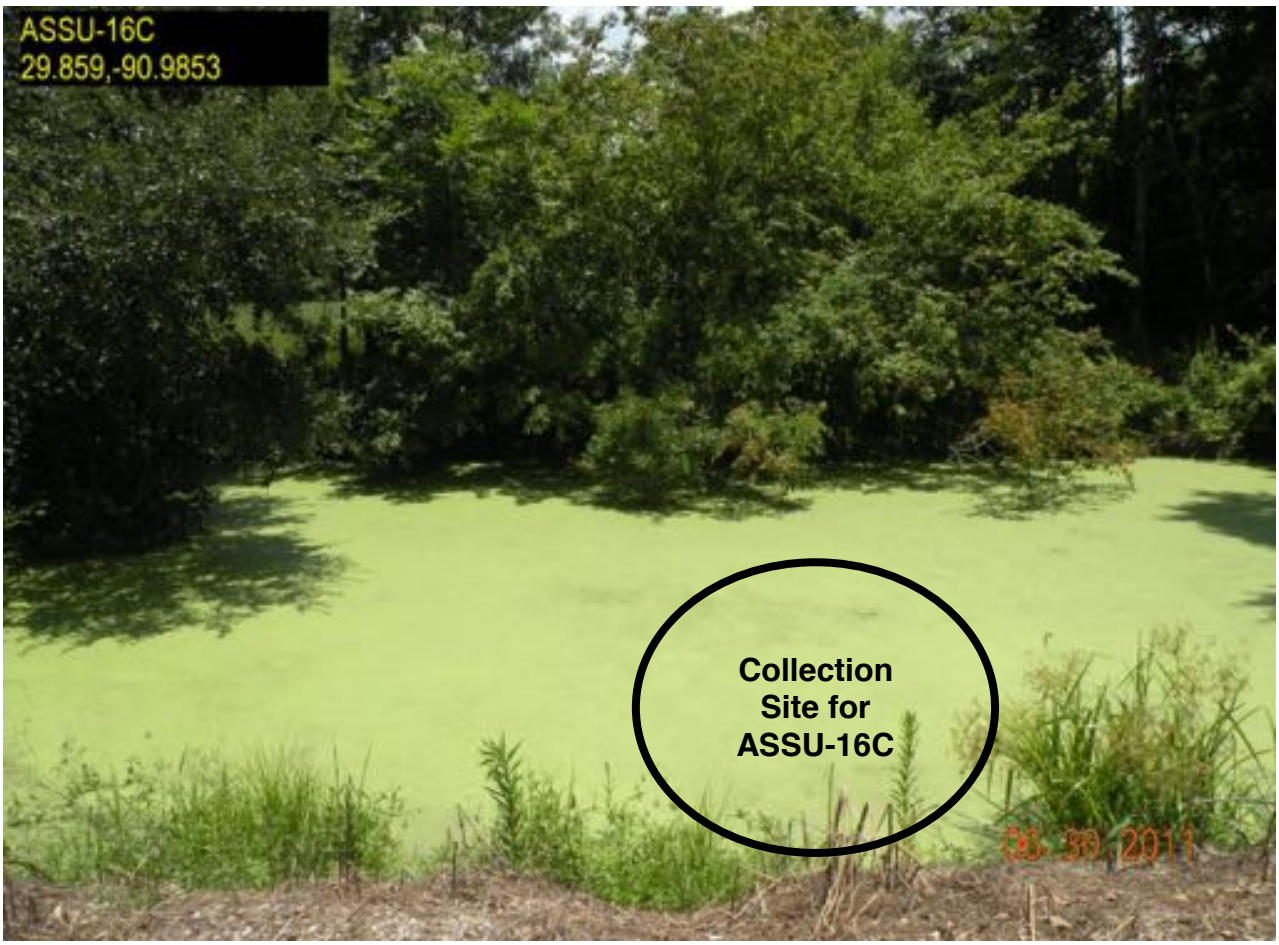
There were 1/16 collection dates positive for OBs and 0/16 positive human molecular markers.

See Table 6 on page 35 for the numerical data for ASSU-16B and Figures 18a, 18b and 18c on pages 94-96 for potential, probable and positive anthropogenic contamination of the E Cluster of sites.

ASSU-16B is NOT a hot spot site.

ASSU-16C Cancienne Canal after the pump on the levee at the end of Cancienne Road off LA Hwy1 in Supreme

Collection site for ASSU-16C from birdseye above in Cancienne Canal after it is pumped over a levee; closeup of the collection site after the pump is in the picture below.



The FC's for ASSU-16C in Cancienne Canal after it is pumped over the levee exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 8/16 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/13 collection dates.

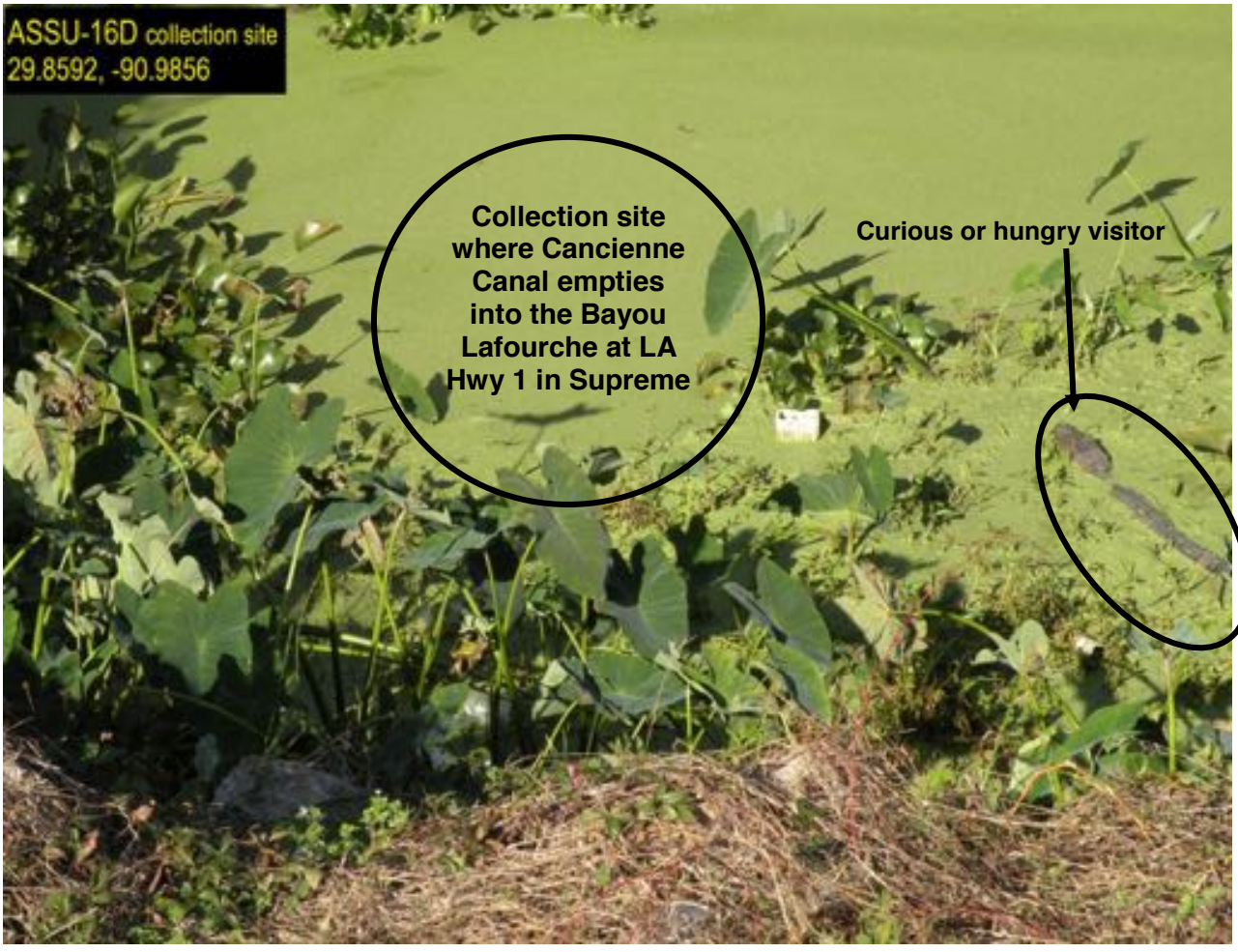
The FC's exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 3/16 collection dates. *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 0/16 collection dates positive for OBs and 0/16 human molecular markers positive for ASSU-16C.

See Table 6 on page 35 for the numerical data for ASSU-16B and Figures 18a, 18b and 18c on pages 94-96 for potential, probable and positive anthropogenic contamination of the E Cluster of sites.

ASSU-16C is NOT a hot spot site.

ASSU-16D Cancienne Canal emptying into Bayou Lafourche Collection Site at LA Hwy1 in Supreme



The FC's for ASSU-16D in Cancienne Canal where it empties into the Bayou Lafourche exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 8/16 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/13 collection dates.

The FC's for ASSU-16D in Cancienne Canal where it empties into the Bayou Lafourche exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 6/16 collection dates; and *E. coli* exceeded 400 *E. coli* cfu/100 mL in 1/13 collection dates.

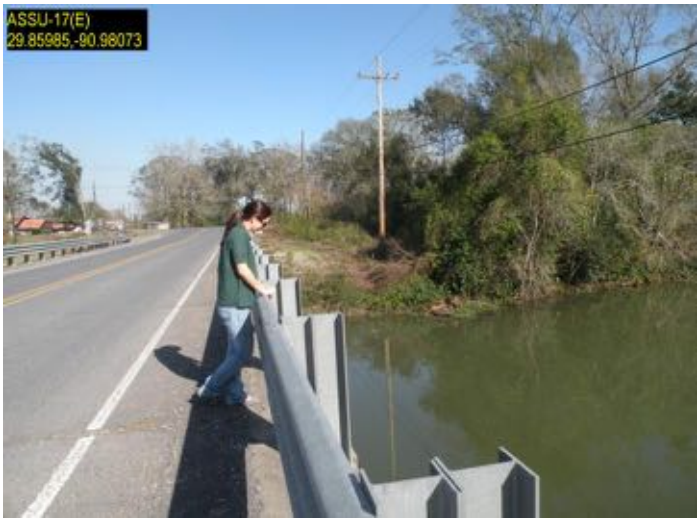
There were 2/16 collection dates positive for OBs and 0/16 human molecular markers positive for ASSU-16D. There were 0/16 human molecular markers.

See Table 6 on page 35 for the numerical data for ASSU-16D and Figures 18a, 18b and 18c on pages 94-96 for potential probable and positive anthropogenic contamination of the E Cluster of sites.

ASSU-16D is NOT a hot spot site.

ASSU-17 LA 1011 Bridge in Plattenville

Collection Site on north side of the Bayou from the Hwy 1011 Bridge



LDEQ's Jackie Millet (Field Team) and Jesse Means (Project Officer)

The LA Hwy 1011 bridge in Supreme is in a sparsely populated rural agricultural area in Assumption parish.

The FC's for the ASSU-17 bridge exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 2/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/13 collection dates.

The FC's for the ASSU-17 bridge exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 5/14 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 0/14 collection dates positive for OBs and 0/14 human markers positive for ASSU-17.

See Table 6 on page 35 for the numerical data for ASSU-17 and Figures 18a, 18b and 18c on pages 94-96 for potential, probable, and positive anthropogenic contamination of the E Cluster of sites.

ASSU-17 is NOT a hot spot site.

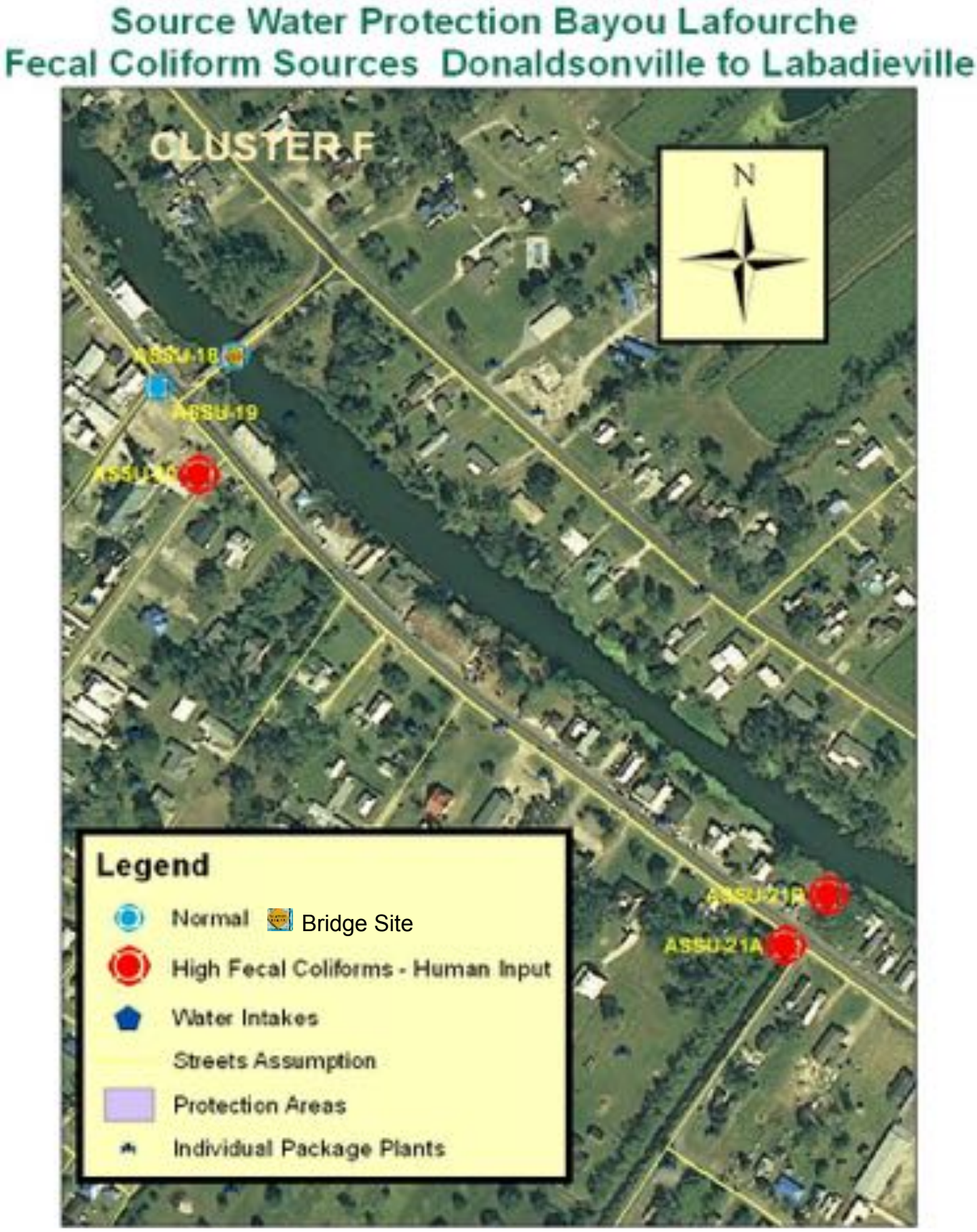


Figure 25. Cluster F Samples: ASSU-18, 19, 20, 21A, 21B, LAFO-1 (not shown) (Hot Spots ASSU-20, ASSU-21A, ASSU-21B. See Table 6 on p. 35 and also **s**ee Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

ASSU-18 LA 1247 Bridge in Labadieville to St Philomena Church on LA Hwy 1

Collection site over rail at south side of Bayou Lafourche

The LA 1247 bridge (ASSU-18) is the bridge in Labadieville that crosses from LA Hwy 308 to LA Hwy1 west at the St. Philomena Catholic Church.

The FC's for the ASSU-18 bridge exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 3/17 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/14 collection dates.

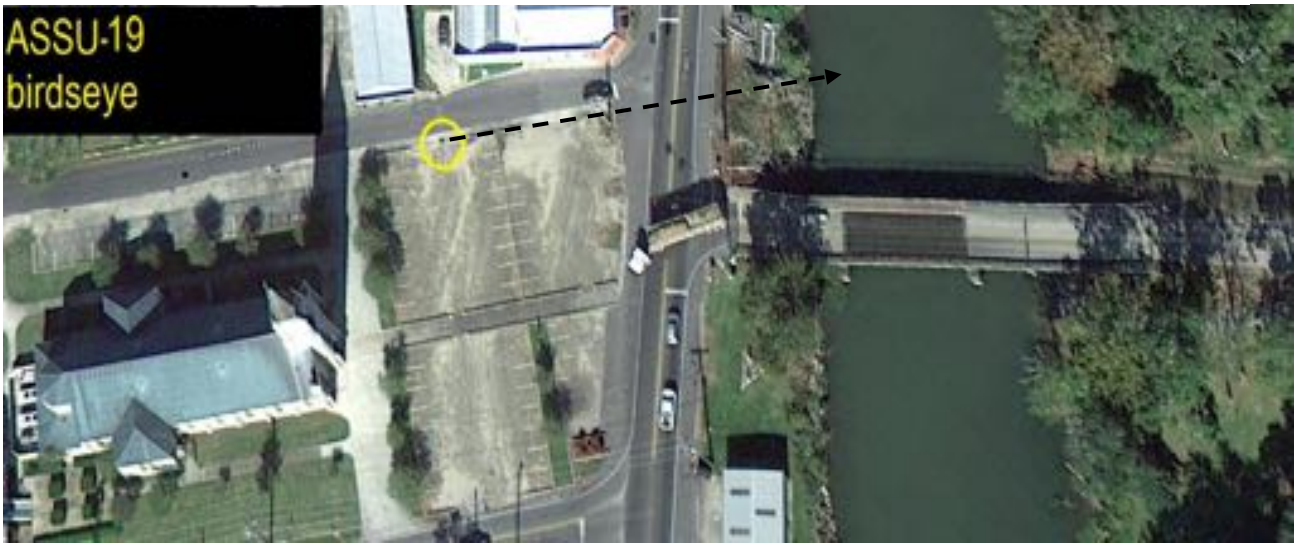
The FC's for the ASSU-18 bridge exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/17 collection dates. *E. coli* exceeded 400 cfu/100 mL in 0/14 collection dates.

There were 0/17 collection dates positive for OBs and 1/17 human markers (*M. smithii*) positive for ASSU-18.

See Table 6 on page 35 for the numerical data for ASSU-18, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

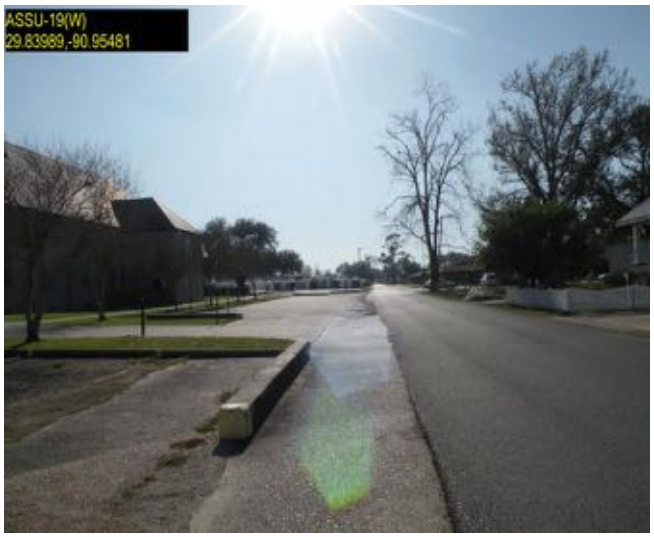
ASSU-18 is NOT a hot spot site.

ASSU-19 Convent St. Storm Drain Culvert on the right side of the St. Philomena Church Parking Lot in Labadieville



The Convent St. Storm Culvert drains under LA Hwy 1 in front of St. Philomena to a culvert on the Bayou side and then directly into the Bayou.

ASSU-19 Collection Site - Storm drain culvert on Convent St. on the right side of the front of St. Philomena Church



These four pictures facing N, S, E and W were taken standing at the ASSU-19 site, the storm drain culvert on Convent St. at the north side of the Church parking lot in downtown Labadieville. This culvert drains towards the Bayou under LA 1 into another culvert and directly into the Bayou. See birdseye view on previous page.

The FC's for the ASSU-19 Convent St. culvert exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 9/15 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 2/13 collection dates.

The FC's for the ASSU-19 Convent St. culvert exceeded the designated use criteria for PCRec of >400 FC cfu/100 mL in 3/15 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 0/13 collection dates.

There were 5/15 collection dates positive for OBs and 0/15 human markers positive for ASSU-19.

See Table 6 on page 35 for the numerical data for ASSU-19, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

ASSU-19 is NOT a HOT SPOT.

ASSU-20 Brule St. Culvert storm water culvert on the left side of the St. Philomena Church Parking Lot from front of Church (HOT SPOT)

Dr. Balji standing at ASSU-20 storm drain culvert to get GPS coordinates of this collection site. ASSU-20 is a **HOT SPOT**. This culvert drains towards the Bayou under LA 1 into another culvert and directly into the Bayou.

These four GIS pictures facing N, S, E and W were taken from the ASSU-20 site, the storm drain culvert on Brule St. on the left side of the St. Philomena Catholic Church parking lot.

The FC's for the ASSU-20 Brule St. storm drain exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 10/13 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/11 collection dates. It should be noted that on 10/19/11 and 12/14/11 there was no water in the ASSU-20 culvert site. This meant that even though other samples were collected on those dates, ASSU-20 could not be collected. That gave a total of only 13 collected samples for ASSU-20 for the project duration.

The FC's for the ASSU-20 Brule St. storm drain culvert exceeded the FC designated use criteria for PCRec of 400 FC cfu/100 mL in 2/13 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 2/11 collection dates.

There were 6/13 collection dates positive for OBs and 2/13 *M. smithii* human markers positive for ASSU-20. The 2 positive *M. smithii* human markers were also positive for OBs.

See Table 6 on page 35 for the numerical data for ASSU-20, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

ASSU-20 is designated a HOT SPOT. It is extremely close to ASSU-19, but has positive OBs and a positive human marker. However, it is not considered a strong **Hot Spot**.

ASSU-21A Pear Street Canal at LA Hwy 1 in Labedieville (HOT SPOT)

Stacy Martinez, graduate student at Nicholls State University collects a water sample at the Pear St. Canal on LA Hwy 1 for her thesis research. This drains through a very large culvert under LA 1 into Bayou Lafourche on the other side of the Hwy.

The FC's for the ASSU-21A Pear St. Canal site at LA Hwy1 exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 6/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 2/13 collection dates.

The FC's for the ASSU-21A Pear St. Canal site at LA Hwy1 exceeded the FC designated use criteria for PCRec of 400 FC cfu/100 mL in 5/14 collection dates. *E. coli* exceeded 400 cfu/100 mL in 3/13 collection dates.

There were 4/14 collection dates positive for OBs and 2/14 human markers positive for ASSU-21A (HPyV-BK on 02/16/12 and H-Bac HF183 on 07/25/12). Both dates with positive human markers were also positive for OBs.

See Table 6 on page 35 for the numerical data for ASSU-21A, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

ASSU-21A is designated a HOT SPOT.

ASSU-21B Pear Street Canal Culvert Draining into Bayou Lafourche in Labedieville (HOT SPOT)

The Pear Street Canal across from the Bayou side on LA Hwy 1 drains under LA1 through a very large Underground culvert from the Pear St. Canal which empties directly into the Bayou Lafourche.

Collection site in Bayou Lafourche where the large culvert from the Pear St. Canal drains into Bayou Lafourche

The FC's for the ASSU-21B Pear St. Canal culvert draining into B. Lafourche exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 6/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 2/13 collection dates.

The FC's for the ASSU-21B Pear St. Canal culvert draining into B. Lafourche exceeded the FC designated use criteria for PCRec of 400 FC cfu/100 mL in 7/14 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 5/13 collection dates.

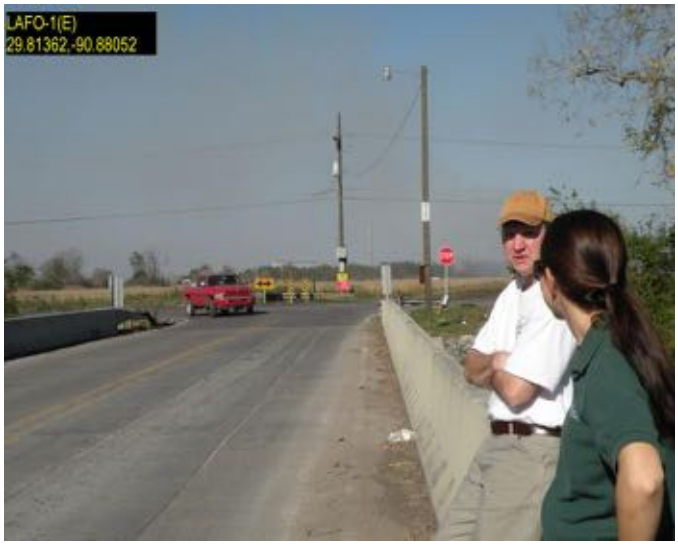
There were 1/14 collection dates positive for OBs and 2/14 collection dates positive for human molecular markers - one date with all three + human markers (2/16/12 -rain for past 48 hrs for that date) and one date with one positive H-*Bac* H183 eubacteria (7/25/12).

ASSU-21B had very close data to the ASSU-21A site, but more + *E. coli* collections for ASSU-21B and fewer + OBs.

See Table 6 on page 35 for the numerical data for ASSU-21B, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

ASSU-21B is designated a HOT SPOT.

LAFO-1 Bridge over Bayou Lafourche at St. John's Catholic Church and Franks Lane in Lafourche Parish



LAFO-1 Bridge connecting St. John's Historical Catholic Church and Franks Lane on LA Hwy1 north of the City of Thibodaux in Lafourche Parish with LA Hwy 308.

The FC's for the LAFO-1 bridge exceeded the FC designated use criteria for DWS and SCR of 2,000 FC cfu/100 mL in 3/14 collection dates; and *E. coli* exceeded 2,000 cfu/ 100 mL in 1/14 collection dates.

The FC's for the LAFO-1 bridge exceeded the designated use criteria for PCRec of 400 FC cfu/100 mL in 7/14 collection dates; and *E. coli* exceeded 400 cfu/100 mL in 0/14 collection dates.

There were 0/14 collection dates positive for OBs and 0/14 collection dates positive for human markers for LAFO-1.

See Table 6 on page 35 for the numerical data for LAFO-1, page 161 for the list and map of the six sites in the F Cluster and its **HOT SPOTS**, and Figures 19a, 19b and 19c on pages 97-99 for potential, probable, and positive anthropogenic contamination of the F Cluster of sites.

LAFO-1 is NOT a hot spot site.

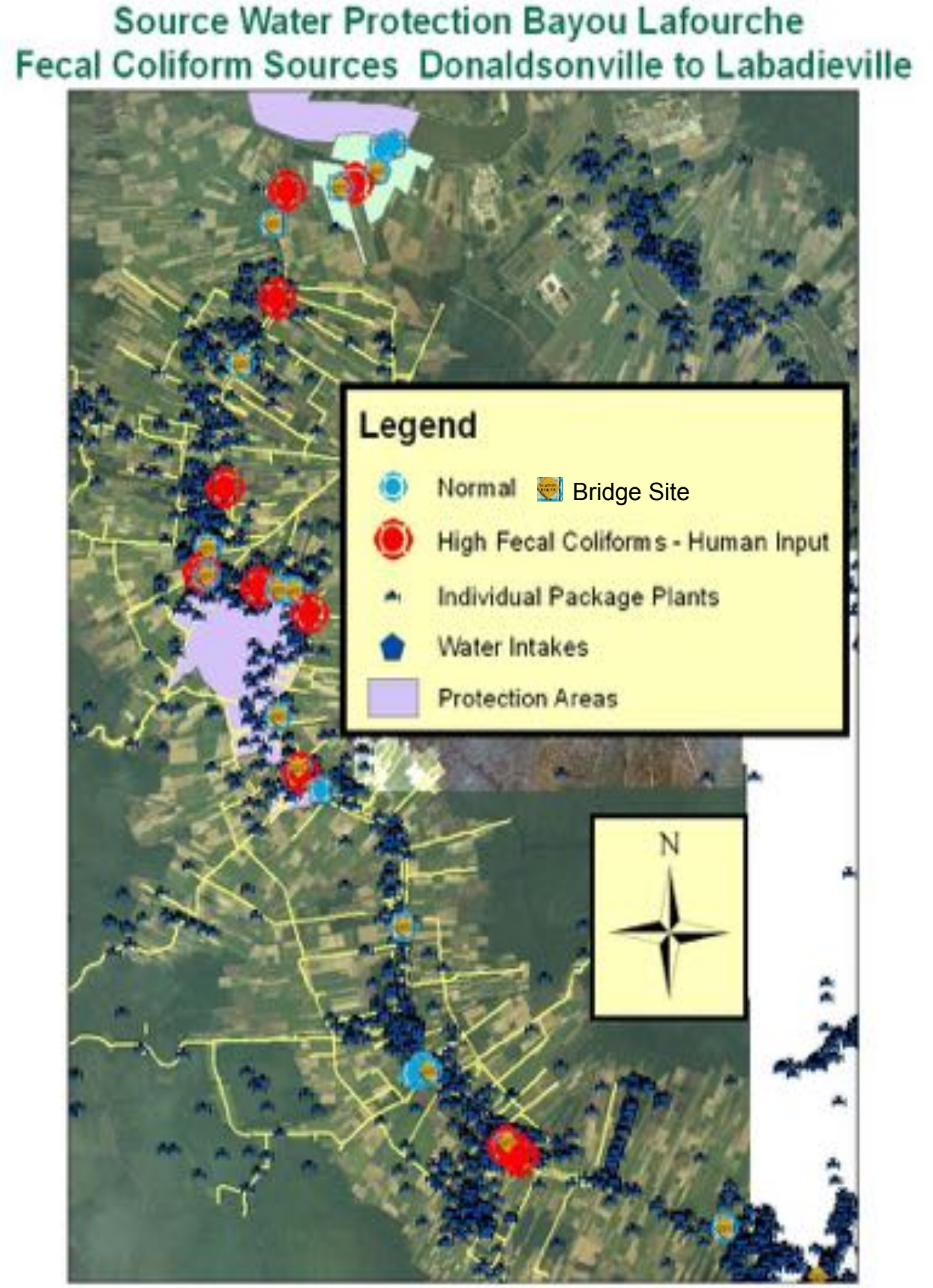


Figure 26. Entire Study Area for Phase 2 with All Thirty-Four (34) Sites and the Twelve (12) HOT SPOTS in six Clusters (A-F)

Figure 26 above is the map of the entire Project Phase 2 area from the Mississippi River Source Water in Ascension Parish, through the Bayou Lafourche watershed of Ascension and Assumption Parishes, and ending at the bridge to the St. John Catholic Church on LA Hwy 1 from LA Hwy 308 in Lafourche Parish.

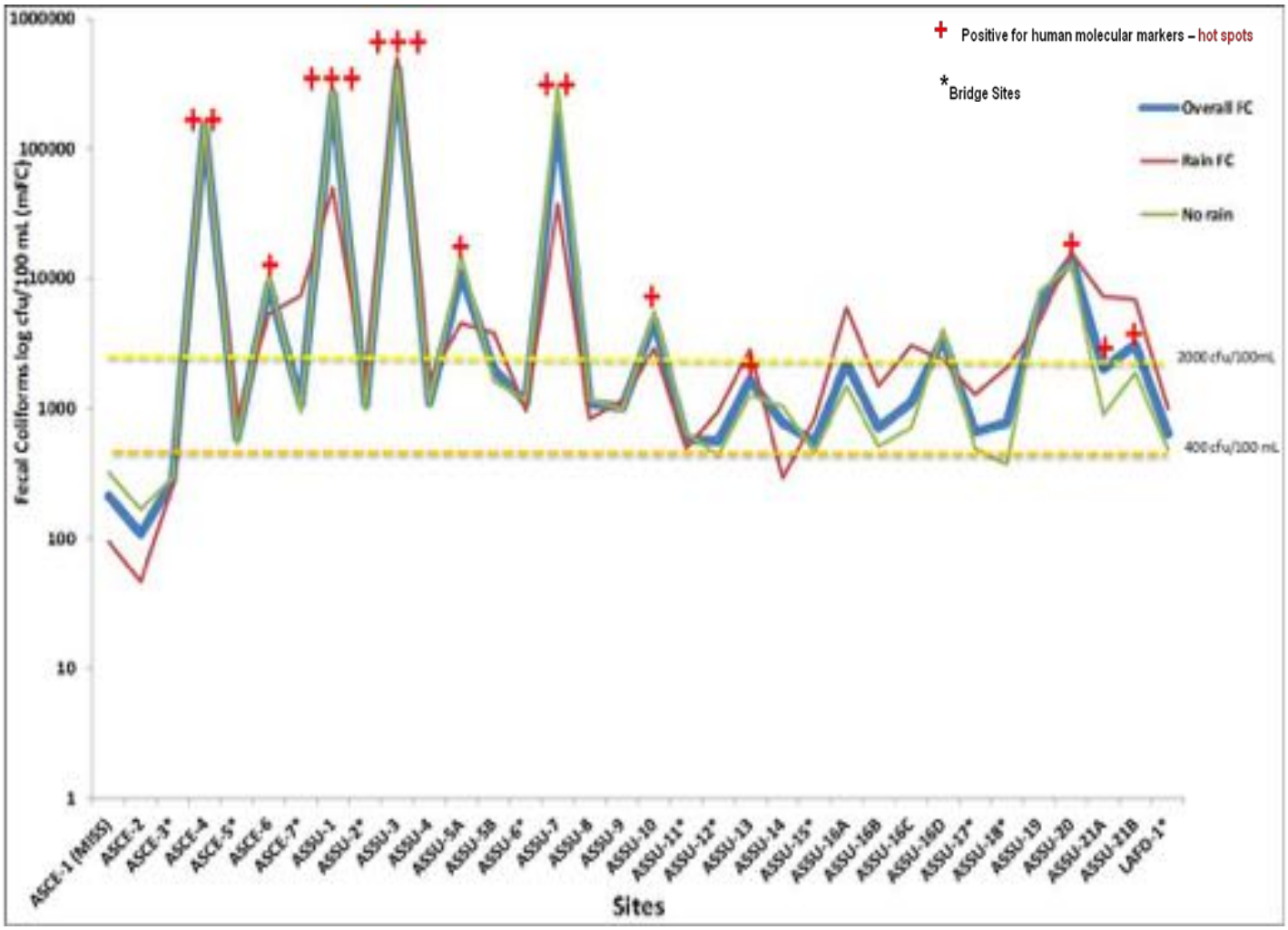


Figure 27. Geometric Total FC Means of All 34 Sites, 12 Hot Spots, with +Human Markers, and Rain Events

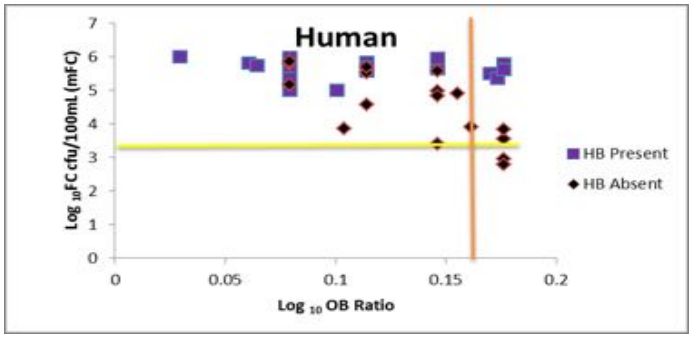
In Figure 27 above, all sites during rain and no rain events were evaluated using geometric means. Sites exceeding 400 geometric mean FC/100 mL for primary recreational contact and 2,000 geometric mean FC/100 mL for drinking water source (DWS) and secondary recreational contact, and that were OB+ and E. coli + were evaluated for confirmed anthropogenic contamination from sites draining to Bayou Lafourche. This was done using PCR analysis of water samples using 3 human molecular markers - human polyoma virus BK (HPyV-BK), *Methanobrevibacter smithii* an archaeon, and Human *Bacteriodales* HF183, an anaerobic eukaryon.

Note that twelve hot spots (**+**) were identified. Those with the **+++** indicators (ASSU-1 and ASSU-3) also had the highest total **geometric mean** levels of total or overall FC's (included all samples whether with or without rain). The **+++** indicated that these 2 sites in Assumption Parish were the hottest spots having 4-5 sampling dates in the total sampling dates with all 3 human molecular markers positive on the one sampling date. They also had high total geometric mean FC's exceeding the LDEQ designated criteria, and were OB + and *E. coli* +. The hot spot sites ASCE-4 and ASSU-7 were deemed the next highest (**++**) with high total geometric mean FC's exceeding the LDEQ designated criteria, OB + and *E. coli* +. These

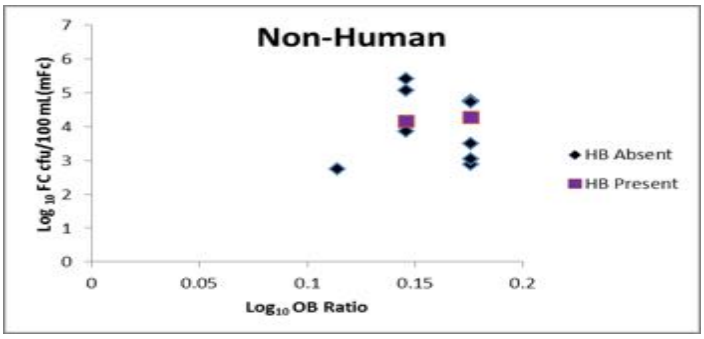
were confirmed as hot spots with human markers, but had fewer instances of multiple human marker isolations on a single sampling date. See Table 6 on page 35.

The Sensitivity and Specificity of the three molecular markers for those sites identified as anthropogenic hot spots - **Human versus** those identified as **Non-Human** are shown below in Figure 28. **Both sensitivity (62.96%) and specificity (100%) were highest for the human polyoma virus-BK marker.**

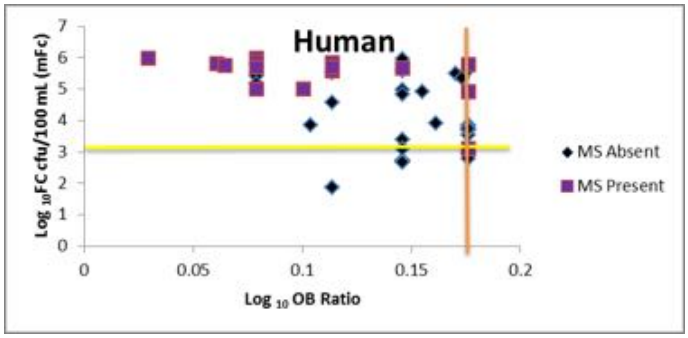
Sensitivity | **Specificity**



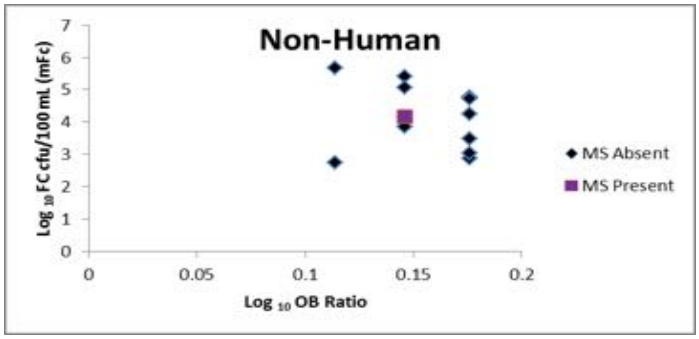
Human *Bacteriodales* HF 183: 59.26%



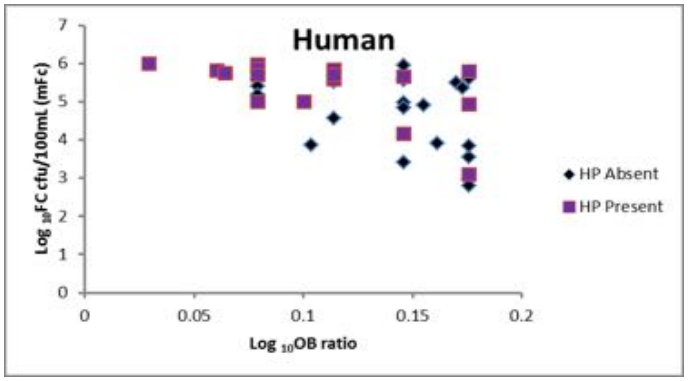
Human *Bacteriodales* HF 183: 77.78%



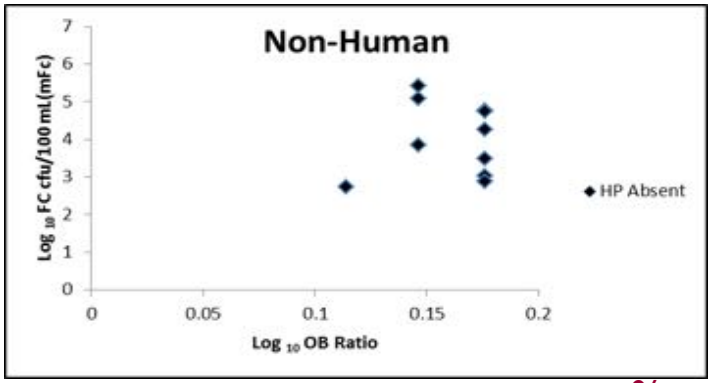
Human archaea species *Methanobrevibacter smithii*: 55.56%



Human archaea species *Methanobrevibacter smithii*: 88.89%



Human Polyoma Virus BK (HPyV-BK): 62.96%



Human Polyoma Virus BK (HPyV-BK): 100.00%

Figure 28. Sensitivity and specificity of all three human molecular in the sites identified as "human" (hot spots) and "non-human."

Figure 29 below shows the impact of rain and no rain on the overall FC at all sites including bridge sites.

Figure 29. Geometric Total FC Means of all 34 Sites Including Bridge Sites*: Impact of rain and no rain on FC Geometric Means and OB ratios

Not all bridges immediately downstream from hot spot influents like ASSU-1 and ASSU-3 were impacted by rain or no rain. The bridge at ASCE-7* shows a significant spike after rain. This bridge is downstream from the "Hot Spot" influent ASCE-6.

Figure 30. below shows just the bridges and the impact of rain or no rain on both FC and *E. coli* levels in the Bayou itself. ASCE-7 bridge shows the greatest impact of rain on the geometric mean cfu FC/100 mL. The impact on the *E. coli* is not as high.

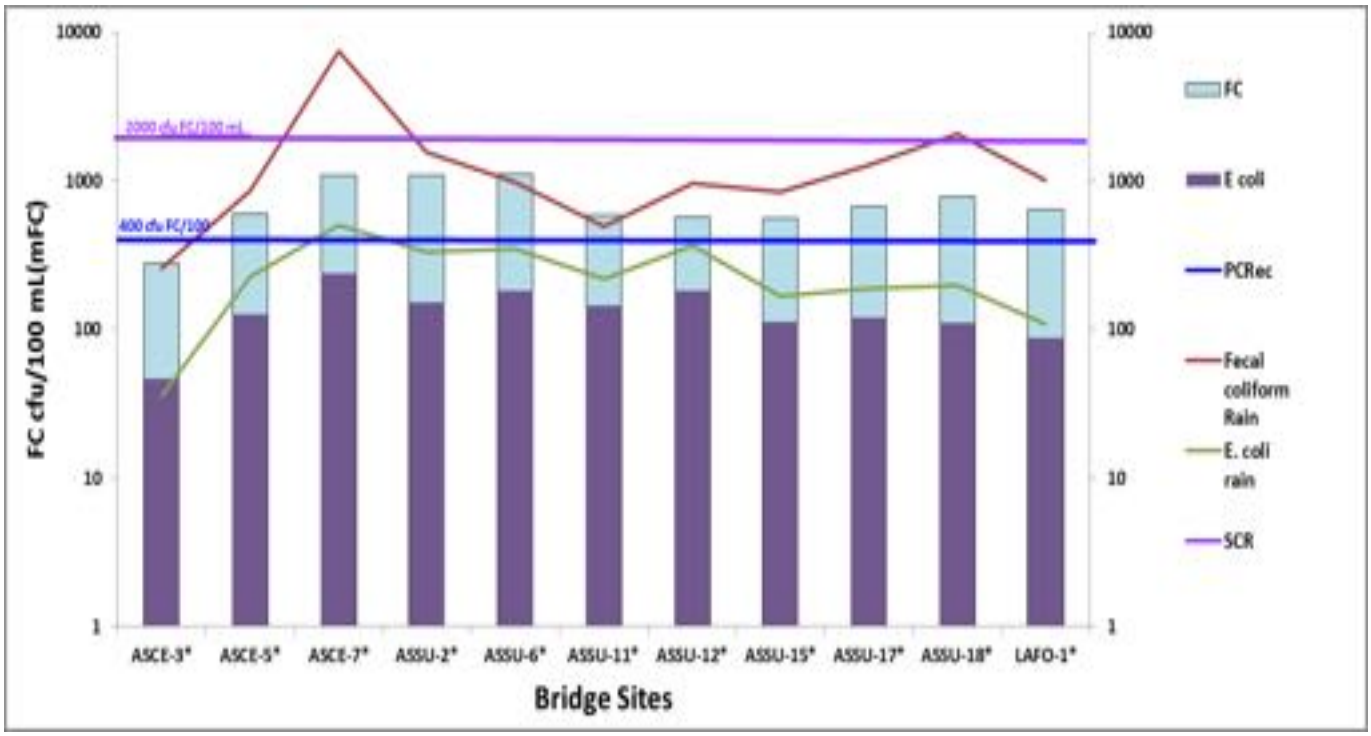


Figure 30. Geometric Total FC Means and E. coli (EC) Means of all Bridge Sites*: Impact of rain and no rain on FC and EC Geometric Means

Table 8. below shows the % recovery of the three human molecular markers was also analyzed as overall, no rain, rain, OB ≥ 15 FU (potential human) and OB ratio ≤1.5.

Variable	%Recovery of Tested Sites		
Overall	HuBac	*M smithii**	HPyV
n=106	25	38	24
	23.58%	35.85%	22.64%
No rain	HuBac	*M smithii*	HPyV
n=78	20	30	19
	25.64%	38.46%	24.36%
Rain	HuBac	*M smithii*	HPyV
n=27	5	8	5
	18.52%	29.63%	18.52%
OB ≥15	HuBac	*M smithii*	HPyV
n=95	24	36	24
	25.26%	37.89%	25.26%
OB ratio ≤1.5	HuBac	*M smithii*	HPyV
n=91	25	34	24
	27.47%	37.36%	26.37%

Table 8. Percent (%) recovery of the three anthropogenic molecular markers

Overall for all sites tested for the three human markers, *M. smithii* had the highest % of recovery (35.85%), but is not considered entirely human and has been associated with other warm-blooded animals. HPyV-BK (100% human) and Human *Bacteriodales* HF183 had almost the same % recovery of 22.64% and 23.58% respectively in all of the 106 samples tested for human markers.

The % recovery for the 78 samples tested without rain did not change significantly from overall. However the % recovery for the 27 samples tested with rain did drop with *M. smithii* having 29.63% recovery compared with HPyV-BK and Human *Bacteriodales* that both had rain % recoveries of 18.52%.

The overall original OB FU readings of the samples with OB≥ 15 FU considered "potentially" anthropogenic again showed the greatest % of recovery with *M. smithii* (37.89%), and the same % recovery for both HPyV-BK and Human *Bacteriodales* (25.26%).

The overall OB % uv degredation ratios of ≤ 1.5 considered to be "positive" anthropogenic also had the greatest % of recovery (37.36%) with *M. smithii*. The % recovery for HPyV-BK was 26.37%; and it was 27.47% for Human *Bacteriodales*.

4.0 PUBLIC INVOLVEMENT AND COORDINATION:

4.1 STATE AGENCIES

LA Department of Environmental Quality (LDEQ)
Jesse Means, Project Officer
Jackie Millet, Field Collection Specialist
Mary Gentry, QA
Lisa Miller, Controller
Robyn Geddes, Contracts and Grants

State of LA Department of Transportation –
Mr. Joey Tureau,
LA DOT District Engineer
Phone: 225-474-2022
225-675-5320

4.2 FEDERAL AGENCIES

The U.S. Environmental Protection Agency District 6 (EPA) has oversight over LDEQ for this work done in response to the TMDL imposed by EPA on this subsegment of Bayou Lafourche.

4.3 LOCAL GOVERNMENTS, INDUSTRY, ENVIRONMENTAL AND OTHER GROUPS, PUBLIC-AT-LARGE

Public at Large:

The P.I. was invited to give a presentation to the 2012 Jubilee Research Week at Nicholls State University in March 2012.
College of Arts and Sciences Jubilee Research Week:
Bollinger Memorial Student Union, Le Bijou Theater
"Bayou Lafourche Human Source Tracking," Dr. Marilyn B. Kilgen, Biological Sciences
March 26, 2012

Local Government:
Bayou Lafourche Fresh Water District:
Archie Chaisson, Executive Director
1016 St Mary Street,
Thibodaux, LA 70301
Phone: (985) 447-7155
Fax: (985) 447-6307
Email: blfwd@bellsouth.net or infoblfwd@bellsouth.net

The Bayou Lafourche Fresh Water District Board hosted its first Bayou Lafourche summit at Nicholls State University October 10-17, 2012. The P.I. presented a poster on our LDEQ-sponsored Bayou Lafourche projects and participated in a workshop which lasted for a week. All public, private, academic and government stakeholders were invited. The final summit findings were held at NSU and were open to the general public. The P.I. also attended and participated in that final summit findings.

The LDEQ Project Office Jesse Means was invited to present a Powerpoint of the Bayou Lafourche project to a Board meeting. The P.I. also attended.

Assumption Parish Government:
Bobby Naquin, public works director of Assumption Parish.
141 Highway 1008
Napoleonville, LA 70390
Phone: (985) 369-7742 or
(985) 369-9721

Fax: (985) 369-2958
Email: "Bobby Naquin" **<***bobbynaquin@assumptionla.com***>**

Assumption Parish Waterworks:
B.J. Francis, District Manager (B.J. Francis replaced Henry Templet).
4633 Highway 1
Napoleonville, LA 70390
Phone: (985) 369-6156.

Assumption Parish Engineer
Joseph Savoie, Jr., C.E.
Consulting Engineers, Inc.
P.O. Drawer R
Paincourtville, LA 70391
Phone: 985-369-2341
Email: *cjs3@cjsavoie.com*

Ascension Parish Government:

Public WorksAscension Parish Health and Utility Department –
1024 S. E. Ascension Complex Blvd. Gonzales, Louisiana 70737
Phone: 225-473-2673
Website: *http://www.ascensionparish.net/index.php?option=com_content&view=article&id=59&Itemid=95*

Kenny Matassa, Ascension Parish Government
Office Ph. 225-715-1291
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Address: Gonzales, LA

Ronnie Fairchild
Parish of Ascension Public Works Director
42077 Churchpoint Road
Gonzales, LA 70737
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rjairchild@apgov.us
www.ascensionparish.net

Ascension Parish Drainage:
Secretary is Peggy
George Rodeillat
Parish of Ascension West Side Coordinator
300 Houmas St.
Donaldsonville, LA 70346
Ph. 225-473-1231
grodeillat@apgov.us
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Larry E. Shriver
VP Operations
Water Science, LLC
18400 Legion Road
French Settlement, LA 70733
Ph. 225-938-2466
225-698-3806
biochem@eatel.net
lshriver@apgov.us

East Ascension Consolidated Gravity Drainage District Department –
Director: Bill Roux
42077 Churchpoint Road

Gonzales, Louisiana 70737

Phone: 225-621-5730
Fax: 225-644-4388
Department Services:

The East Ascension Consolidated Gravity Drainage District is charged with draining, reclaiming lands and providing flood protection in all areas of Ascension Parish that are east of the Mississippi River, by the construction, maintenance and operation of gravity and forced drainage facilities, including canals, ditches, pumps, levees and other related works.

4.4 OTHER SOURCES OF FUNDS

No other sources of funding were available for this project.

5.0 ASPECTS OF THE PROJECT THAT DID NOT WORK WELL

Other than a hold up of the contract approval to start the project, which threw off our original time line, everything else worked well.

The only other aspect of the project that does not work well with a University research team is the budget reporting format for the LDEQ grants. Universities do not generally charge by the hour for contract or research work. That is a format for Private Environmental Consulting Firms. The challenge of making very large budget reports for many different Tasks in a project, where each Task is treated as an entire separate budget, and where the final amounts must be to the penny in every category although the original budget is rounded off is great. Additionally having payment only given for a certain % of work completed in each Task is almost impossible to merge with a university payment requirement that research faculty can only be paid salary for work on grant and contracts in the three summer months regardless that the researchers work on the project for the entire period of the grant (not just in the summer). It is also very difficult to estimate the % of work done in the same Task where grant funds from DEQ and match funds from the University have a different % work completed.

Finally the P.I. did not request enough funds for help for the M.S. graduate student to complete all of the PCR samples at the same time as the FC mF samples. Doing 11-12 sites/wk for three weeks in each month is an enormous work load in of itself for a graduate student who is also taking classes. The addition of preparing each site selected for PCR analysis for molecular human markers for each of the sampling periods was a project in of itself. Many of the filters had to be frozen until they could be processed. This takes at least two full days per sample and only about 20 samples could be processed at the same time.

6.0 FUTURE ACTIVITY RECOMMENDATIONS

It is highly recommended that a third comprehensive evaluation of the Bayou Lafourche (Subsegment 020401) from the Valentine bridge south to the Intracoastal Water Way (IWW) is also done as Phase 3 to complete the evaluation of Bayou Lafourche subsegment 020401Fecal Coliform Sources.

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