

## **Section 12. Interim Bacteria Reduction Plan (IBRP)**

In 2007, as part of the MS4 Permit Renewal process, EPA Region 6 requested the JTF MS4 co-permittees to include an Interim Bacteria Reduction Plan (IBRP) in the Storm Water Management Program (SWMP). EPA stated that proceeding with interim bacteria reduction activities in the permit at this time, in advance of bacteria TMDLs (some of which are not anticipated to be completed before 2012), supports the statutory and regulatory requirements for MS4 permits to (1) reduce the discharge of pollutants to the maximum extent practicable, (2) effectively prohibit the discharge of non-storm water into the MS4, (3) limit discharges that cause or contribute to violations of water quality standards and, in the future as they are completed, (4) would likely contribute to necessary pollutant reductions identified by the TMDLs. EPA also stated that, consistent with EPA policy regarding water quality and TMDLs, Best Management Practices (BMPs) are expected to continue to be the primary control mechanisms in the MS4 permit.

This component of Harris County Flood Control District's (HCFCD) comprehensive SWMP targets anthropogenic sources of bacteria as a particular pollutant of concern and supports efforts already underway to address bacterial water quality impairments in the area

As this IBRP is a plan that has been developed prior to the development of any and all bacteria TMDL implementation plan measures in our area, it is assumed to be interim and fluid in nature. Although we believe that the HCFCD portion of the bacteria TMDL implementation plans in Harris County will be largely similar, if not identical, to the IBRP presented herein, if those TMDL implementation plans created require additional measures from HCFCD not currently included in the IBRP it will be expected that elements of this plan that are not expressly called out in the permit may be removed and replaced with TMDL elements. Therefore, it is expected that with respect to anti-backsliding provisions, this IBRP will be treated similarly to TMDL provisions and not similarly to permit provisions.

### **12.1 Source Assessment and Prioritization**

#### ***Current Program***

HCFCD has implemented numerous overarching activities to reduce the sources and discharge of pollutants including bacteria as described in the current SWMPs. The activities include:

- a program including operations of HCFCD facilities in a manner to minimize pollutant runoff, described in Section 3 of the SWMP; and
- a floatables reduction program, described in Section 6.c;

In addition to these steps, HCFCD, as a member of the JTF, has begun a review of ambient water quality data. The intent of the data review is to assist with the identification of localized "problem areas" for further evaluation, aid with prioritizing areas for implementing adaptive management measures and developing a long term monitoring program.

The JTF has initiated two bacteria source studies: 1) Preliminary indications of wastewater discharges impacted stream and sediments in HC waterways or watercourses and 2) Preliminary indication of contributions of industrial sanitary discharges. The first study is to evaluate the potential contribution of bacteria from in-stream sediments by re-suspension into the water column. The second study is to evaluate the potential contribution of bacteria from industrial effluent that is commingled with sanitary waste.

#### ***Proposed Program***

The HCFCD plans to continue with the above activities. The HCFCD plans to work with the other JTF members to develop and implement a unified ambient water quality monitoring plan to assess sources and gather information to assess impact of proposed activities.

The HCFCD proposes to support HC in developing a priority rating system for the various stream segments to target initial adaptive management measures to areas with the greatest public health significance.

**Implementation Schedule**

| Activity / Goal   | Schedule |
|---|----------|
| Form a Watershed Protection Stakeholders Group; help prioritize watersheds; and begin implementing a bacteria reduction plan.   | Year 1   |
| With stakeholder input, develop stream use prioritization schedule for drinking water sources, primary contact recreation, secondary non-contact recreation, secondary contact recreation, non-contact recreation. Use results to prioritize for mitigation measures. | Year 2   |
| Develop GIS stream segment map capable of tracking existing bacterial levels and goal levels. Start stream segment classification.  | Year 3   |
| Continue stream segment classification.   | Year 4   |
| Develop unified ambient water quality monitoring plan.  | Year 1   |
| Implement monitoring plan.  | Year 2   |
| Implement bacteria adaptive management measures per watershed prioritization methodology.   | Year 1-5 |

**12.2 Dry Weather Screening (DWS)**

**Current Program**

As stated in Section 11 of HCFCFCD’s SWMP, Harris County is the primary agency for implementing the monitoring programs, including the Dry Weather Screening and Wet Weather Screening programs with HC and HCFCFCD. SWMP activities for the monitoring programs are described in the SWMP for HC. The County receives and responds to identified sanitary sewer overflows identified by HCFCFCD.

**Proposed Program**

HCFCFCD plans to continue with their current activities. HCFCFCD plans to work with the other JTF members to evaluate and improve efficiencies in detecting illicit discharges, modifying methods as improvements are identified.

HCFCFCD supports Harris County’s proposal to develop additional regulations with the intent of increasing bacteria removal efficiencies of existing and new wastewater treatment plants, perform limited sampling to determine whether or not industrial dischargers using biological treatment have significant pathogens in their discharges, perform additional inspections thereby increasing compliance with regulations, and provide testing to determine whether discharges allowable under current laws and regulations are actually providing additional bacteria loading to the streams.

**Implementation Schedule**

| Activity / Goal   | Schedule |
|---|----------|
| Assist with establishing WWTP Design Stakeholder Committee.   | Year 1   |
| Assist with implementation of WWTP bacteria disinfection testing program  | Year 2   |
| Assist with other WWTP design research as necessary.  | Year 2   |
| Communicate research results to affected community. Once staffed, begin program to increase proactive inspections of WWTPs, increase WWTP enforcement on violations, and make sure WWTP performs as designed. | Year 2   |

|  |        |
|--|--------|
| Assist with implementation of chlorine contact chamber detention time testing program. | Year 3 |
| Research methods to improve Illicit discharge program and modify as necessary.         | Year 3 |

**12.3 Wet Weather Screening (WWS)**

***Current Program***

As stated in Section 11 of HCFCFCD’s SWMP, Harris County is the primary agency for implementing the monitoring programs, including the Dry Weather Screening and Wet Weather Screening programs with HC and HCFCFCD. SWMP activities for the monitoring programs are described in the SWMP for HC.

***Proposed Program***

HCFCFCD plans to continue with their current activities. HCFCFCD plans to work with the other JTF members to evaluate and improve efficiencies in detecting illicit discharges, modifying methods as improvements are identified.

HCFCFCD supports Harris County’s proposal to require increased bacteria removal efficiencies of existing and new WWTPs, providing additional inspections thereby increasing compliance with regulations, and finding and eliminating illicit discharges.

***Implementation Schedule***

Additional activities and their schedule are the same programs being done to eliminate dry weather illicit discharges. Applicable measures called out in table 12.2 will contain a wet weather component to be implemented at the same time as its dry weather component.

**12.4 Pollution Prevention and Remediation Programs (PPRPs)**

Pollution Prevention and Remediation Programs (PPRPs) for the HCFCFCD included the following programs:

- floatables program public education and involvement
- cosmetic washing discharges

**12.4.1 Floatables Program**

***Current Program***

HCFCFCD has implemented a program for the removal of litter and control floatable material within HCFCFCD bayous and structural controls (detention basins). Currently two floatables monitoring events are conducted annually at two HCFCFCD sites.

***Proposed Program***

HCFCFCD will continue the current program as well as develop and refine the program dependent upon data collected and future evaluation. Additional monitoring sites will be added or existing sites will be replaced with new locations.

***Implementation Schedule***

| Activity / Goal | Schedule |
|-----------------|----------|
|-----------------|----------|

|                                       |           |
|---------------------------------------|-----------|
| Continue floatable monitoring events  | Year 1- 5 |
| Evaluate and update program as needed | Year 1-5  |

**12.4.2 Public Education and Public Involvement**

***Current Program***

HCFCFCD, in conjunction with Harris County, has implemented a comprehensive public education campaign as described in Section 10 of the Harris County’s SWMP. Specific messages focus on:

- public reporting of illicit discharges
- proper management of used motor oil and household hazardous waste
- proper management of pesticides, herbicides and fertilizers
- prevention of littering
- preventing illicit discharges

***Proposed Program***

HCFCFCD plans to continue supporting the current activities. The HCFCFCD supports HC’s proposal to provide a convenient and cost effective method of collecting Household Hazardous Waste (HHW) to encourage proper disposal, categorize what fertilizers present problems related to bacteria and restrict their sale and use if applicable, and to educate the public on what they can do to improve water quality.

Activities that HCFCFCD will participate and support through the JTF include:

- review and enhance the JTF storm water quality website [www.cleanwaterclearchoice.org](http://www.cleanwaterclearchoice.org) for user accessibility to information such as pet waste, dog parks and fats, oils and grease management.
- evaluate other locations with restrictions on fertilizer usage and quantify benefits.
- develop an outreach plan with an effective message explaining the importance of proper pet waste disposal and its connection with protecting the Bayous. This message may be distributed through the JTF website and other avenues.
- develop an outreach plan educating the public of proper disposal of fats, oils and grease.

**12.4.3 Cosmetic Washing Sources**

***Current Program***

As stated in Section 6 of HCFCFCD’s SWMP, Harris County is the primary agency for preventing illicit discharges and improper disposal into the MS4 system. HCFCFCD responsibility is limited to referring water quality complaints to Harris County for further action.

***Proposed Program***

HCFCFCD plans to continue with current activities and participate with the JTF in evaluating the contribution of bacteria from exhibited animal washing and power washing. The HCFCFCD proposes to support HC in decreasing bacterial loading from exhibited animal washing and power washing if activities prove to be a source of bacteria.

***Implementation Schedule***

| Activity / Goal                          | Schedule |
|--|----------|
| Form exhibited animal stakeholder group. | Year 1   |
| Inventory exhibited animal locations.    | Year 1   |

**12.5 Monitoring and Assessment**

***Current Program***

As stated in Section 11 of Harris County Flood Control District’s SWMP, Harris County is the primary agency for implementing the monitoring programs for Harris County and Harris County Flood Control District. Harris County conducts the monitoring programs on behalf of the HCFCFCD. HC and HCFCFCD are jointly responsible for permit compliance and SWMP implementation for this requirement. SWMP activities for the monitoring programs are described in the SWMP for Harris County. The current program includes representative monitoring, dry weather screening and wet weather screening elements and includes required monitoring for bacteria at the Harris County representative monitoring sites.

***Proposed Program***

HCFCFCD plans to continue with current activities and to work with the other members of the JTF in regards to the development and implementation of a unified ambient water quality monitoring plan. The plan may include monitoring of BMPs to quantify efficiencies, long term tracking of ambient water quality responses to management efforts and sampling to estimate basin or land-use specific Event Mean Concentrations. Details of how the monitoring and assessment program are to be carried out can be found in Section 12.1: Source Assessment & Prioritization.

**12.6 Preventative Measures**

***Current Program***

HCFCFCD has a program in place including operations of HCFCFCD facilities to minimize pollutant runoff.

***Proposed Program***

HCFCFCD will continue with current activities. HCFCFCD will also participate in additional activities through the JTF to enhance the understanding of bacteria and mitigation measures include:

- work with the local universities to better understand sources of bacteria, and their behavior in the environment.
- evaluation of pond/basin and floatables control best management practices to determine their effectiveness with bacteria removal
- field investigations

**12.7 Research**

***Current Program***

HCFCFCD has been participating with the other members of the JTF in research to better understand the sources of bacteria and their life cycle including re-growth in addition to other water quality topics through field investigations, support of university research, monitoring literature and serving on research committees.

***Proposed Program***

HCFCFCD plans to continue with current activities. HCFCFCD will also participate in additional activities with other JTF members to enhance the understanding of bacteria and mitigation measures include:

- work with the local universities to better understand sources of bacteria, and their behavior in the environment.
- evaluation of pond/basin and floatables control best management practices to determine their effectiveness with bacteria removal
- field investigations