

**Watershed Outreach Workgroup
Meeting Agenda
Tuesday, March 11, 2014
10:00 AM to 12:00 PM
H-GAC Conference Room B, Second Floor**

Call to Order/Welcome/Introductions

Review Notes from Last Year's Meeting

Discussion: How to bring outside watersheds into the BIG? How do we maintain local watershed input, enthusiasm and action in a regional plan like the BIG.

Discussion: Preparing BIG 2014 Annual Report – I-Plan Strategy 11.0 Geographic Framework

Workgroup will review data source availability and past year BIG implementation activities related to I-Plan Strategy 11.0:

Implementation Activity 11.0: Geographic Priority Framework

11.1: Consider recommended criteria when selecting geographic locations for projects

Discussion: Review I-Plan Strategy 11.0 Geographic Priority Framework Language

Workgroup will review approved I-Plan wording. Workgroup will discuss potential editorial changes. Workgroup will agree on any updates and develop recommendations that will be presented at the annual BIG meeting for approval.

Adjourn

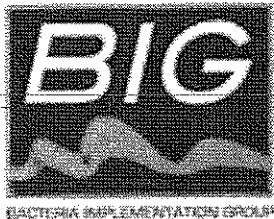
Upcoming Meeting Schedule

May 27, 2014: BIG Annual Meeting

March 11, 2014: Watershed Outreach

March 20, 2014: Monitoring and Plan Revision | Research

March 25, 2014: Coordination and Policy



**Residential & Outreach Work Group
Meeting Agenda
Wednesday, February 13, 2013
3:45 pm to 4:30 pm
H-GAC Conference Room A, Second Floor**

*Held in conjunction with a joint meeting of HGAC's Environmental Awareness Roundtable and Clean Water Initiative seminar on stormwater education.
(www.h-gac.com/cwi)*

Attendees

Richard Chapin (City of Houston), Marilyn Christian (Harris County), Ronald Drachenberg (Fort Bend County), Steve Hupp (Bayou Preservation Association), Tom Ivy (Texas Stream Team), Rachel Powers (H-GAC), Adam Wright (Fort Bend County), Jasmin Zambrano (City of Houston)

Call to Order/Welcome/Introductions

Rachel called the meeting to order and initiated self-introductions.

Review Notes from Last Year

Rachel provided the notes from last year in case they were needed for reference.

Update on I-Plan Approval Process

The TCEQ unanimously approved the BIG I-Plan on January 30, 2013. The approved version included the changes to the I-Plan that had been discussed at previous BIG meetings. None of the changes were in the references sections.

Review Annual Report format

Rachel explained that the conceptual format for the annual report was developed in collaboration by the BIG and agreed to at the BIG mid-year meeting in October 2012. The report will consist of three main components:

- 1) At-a-Glance: The At-a-Glance section will be one 11x17 paper that includes cover page with a photo; a table of implementation activities, proposed milestones, and an evaluation of progress; and a sheet with background information, a map, and high-level review of progress overall.
- 2) A printed report: In addition to a narrative overview, the printed report will include information about progress and goals for each of the strategies in the plan. Each strategy will be described by a narrative description preceded by a tabular summary sheet, which will include recommendations from the workgroup to the BIG regarding progress, achievements, focus for the coming year, and revisions to the I-Plan.
- 3) Web-based support documents: If additional information, such as lengthy tables, are necessary, these will be provided in an on-line format.

Review Implementation Progress-- The workgroup reviewed progress for each of the implementation activities, as follows.

- 8.1.1: Continue or begin a homeowner education program based on existing models
 - Back the Bay: This initiative of the Galveston Bay Foundation is now underway (www.backthebay.org).
 - Clean Waters Initiative MS4 Series: At least one workshop each year focuses on public engagement, education, participations, and awareness. This year, it preceded the work group meeting. (<http://www.h-gac.com/community/water/cwi/default.aspx>)
 - Environmental Awareness Roundtable: Held quarterly, this roundtable provides tools for public awareness. This year, it preceded the work group meeting, in combination with the CWI. (<http://www.h-gac.com/community/publicawareness/ear.aspx>)
 - Watershed Signs: H-GAC did not place new signs this year, but continues to answer calls made from older signs.
 - Don't Mess with Texas Water: TCEQ has entered into its first agreement with a local government for participation. In this program, approved signs can be placed on state highways at waterway crossings. The signs are rather non-descript. The signs have a phone number that is answered by the TCEQ's SBLGA program. (<http://www.tceq.texas.gov/p2/dont-mess-with-texas-water-a-way-to-report-illegal-dumping>.) On the website is a list of "Other Illegal Dumping Reporting Programs." It includes various cities, counties, and COGs from around the state, but the only programs from our region included in the list are Fort Bend and Walker Counties, despite a large number of other illegal dumping reporting programs in the region. In the past, TxDOT has not been amenable to placing watershed signs in its right-of-way.
 - Kiosks: H-GAC kiosks have been programmed and are almost ready for deployment.
 - Pet Waste:
 - The final bag dispensers from the order of 10,000 dispensers will be distributed at Trash Bash this year. H-GAC hopes to order more, as they were a big hit.
 - Rachel also shared information she obtained from the City of Houston regarding the number of citations and convictions in the City over the past five years. In general, these numbers are increasing. Of the 211 citations issued from 2007 through November 2012, 109 were issued in 2012. Of the 36 convictions during the same period, 12 were in 2012. Richard was very interested in the report.
 - Rachel indicated that she had been adding information to the H-GAC's website www.petwastepollutes.org, including information about ordinances.
 - MS4 Efforts: Rachel has been reviewing annual reports to try to identify common material (such as brochures, posters, or door hangers) or themes (FOG, pet waste, etc.). She hopes to post shared outreach material online.
 - Trash Bash: Last year, 3699 people helped bash trash in the BIG project area (out of a total of 6274 participants). A 319 Grant Application has been preliminarily approved for supporting water quality education at Trash Bash events. Each year for three years, a water-quality education display/activity will be developed and provided to each site for use during the event. These displays/activities will be available for other

events outside of Trash Bash. Possible themes include pet waste, FOG, and reporting.

- Harris County Regional Watershed Program—Rachel did not have information about this.
 - Stream Team—H-GAC and program partners trained 84 new volunteer citizen monitors in the BIG project area in 2012.
 - Informal Education Providers
 - Spring Creek Nature Center: Terry MacArthur does a great job working with local MS4 programs to provide water-quality-based educational opportunities to youth.
 - Waterworks Education Center & Water Week: The City of Houston reports attendance at these facilities in their MS4 Annual Report.
 - The Bayou Preservation Association has been giving many presentations.
- 8.1.2: Conduct pilot studies to evaluate results of education efforts
- Westfield Estates: As part of the Westfield Estates Watershed Protection Plan, H-GAC conducted a series of community outreach impact assessments to measure pre- and post-implementation. Questions related to attitudes and knowledge regarding bacteria, with particular focus on OSSF management and pet waste. The results of the assessment indicated that outreach efforts were fairly effective, the implementation activities were well received and that attitudes regarding contributing behaviors were positive. Justin Bower with H-GAC can provide more information.
 - Back the Bay: In 2011, the Galveston Bay Estuary program conducted pilot studies to help refine the Back the Bay campaign, which was subsequently launched.

Identify Activities on Which to Focus Efforts

The group decisively agreed that the focus for the coming year should be on reporting: helping people know to whom to report water quality problems (phone number, email, etc.), and what things should be reported.

Participants in the EAR/CWI were asked to prioritize awareness activities, and came up with the following:

- Education related to Sanitary Sewer Systems:
 - ***Don't put Fats, Oils, and Grease (FOG) down the drain***
 - Lateral line maintenance & education (these are privately owned connections to municipal sewer lines)
 - Infiltration and overflows
- Yard care
 - Keeping clippings and other yard waste out of the storm drain
 - Use watersmart landscaping & irrigation, including rainwater harvesting and water reuse
 - Overuse of herbicide and fertilizer
- Reporting—who to call and for what
- Back the Bay—tie into campaign

- Pet waste
- Construction site runoff
- Liquid waste haulers – shady operations; knowing about “trip tickets” for OSSF owners and grease generators

Confirm Recommendations to the BIG for Annual Report

The work group reviewed the draft Implementation Strategy Cover Sheets for the residential strategy.

There were 7 attendees including 2 BIG members and 2 alternates.

For the At-a-glance table, the group did not recommend changes.

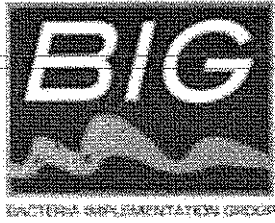
The wording for Progress was appropriate.

For achievements, the group recommended that education about what to report and to whom should be the primary focus. Additional focus should be on identifying regional opportunities for pet waste, FOG, and working with MS4s.

The workgroup did not recommend revisions to the plan.

Adjourn

BIG Annual Meeting: Tuesday, May 14, 2013



Joint Work Group Meeting:
Research, Monitoring, and Watershed Outreach
DRAFT Meeting Notes
Thursday, March 7, 2013
10:00 AM to noon
H-GAC Conference Room C, Second Floor

Attendees

Linda Broach (TCEQ), Danielle Cioce (Harris County POD), Jonathan Holly (Harris County FCD), Tom Ivy (Texas Stream Team), Marty Kelly (TCEQ), Kim Laird (TCEQ), Linda Pechacek (LDP Consultants), Rachel Powers (H-GAC), Jean Wright (H-GAC)

Call to Order/Welcome/Introductions

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Review Implementation Progress-- The workgroup reviewed progress for each of the implementation activities, as follows.

Implementation Strategy 9.0: Monitoring and I-Plan Revision

- 9.1: Continue to Utilize Ambient Water Quality Monitoring and Data Analysis

Jean Wright reported that H-GAC's Clean Rivers Program, including partners, has continued monitoring in the BIG project area. The Basin Highlights Report will be available for the BIG annual meeting on May 14, 2013, and will include information about water quality impairments and trends.

Enterococci were added as an additional parameter in September 2011, in part as a result of recommendations from the BIG. In non-tidal areas, about 1/3 of enterococci results exceed E. coli results, defying expectations. These discordant results do not appear to be random; a breakdown by segment shows that some segments have a greater frequency of discordant results than would be attributable to chance alone. The TCEQ indicated that their results were discordant, too, but that sometimes dilution seemed to correct the problem. Meeting participants asked that H-GAC look into the relationship to nutrients.

In September 2012, CRP monitors began recording evidence of contact recreation when they were sampling. There is not yet enough information to analyze, but by next year, more information should be available.

The Basin Steering Committee for H-GAC's Clean Rivers Program will hold its annual meeting on April 18, 2013, from 1:30 to 4:30 in H-GAC's Conference Room A, second floor. The committee serves as the primary forum for discussion of various water quality issues raised through the assessment process and it advises staff on all administrative matters related to the Clean Rivers Program, including work plan and budget development, monitoring of progress toward project milestones, and review of the draft and final basin reports and other work items. The committee helps set area-wide priorities based on its deliberations of water quality issues.

The regional monitoring workgroup continues to meet quarterly. At the spring meeting, scheduled for April 22, 2013, individual CRP monitoring partners meet one-on-one with H-GAC and TCEQ to review the partner monitoring plan for the coming year.

- 9.2: Conduct and Coordinate Non-Ambient Water Quality Monitoring

H-GAC submitted a draft non-ambient water quality monitoring QAPP to the TCEQ in 2011 and has been awaiting comments since then. In the meantime, H-GAC is continuing to try to identify alternatives to monitoring under a TCEQ-approved QAPP that would adequately validate the data.

The Harris County Flood Control District has developed a Regional BMP database, modeled on the International Stormwater BMP database. Currently, the database includes monitoring information for stormwater BMP projects developed by the HCFCD for its facilities. It has

been designed to accommodate information about other BMP projects in the region. More information is available at <http://www.bmpbase.org/LandingPage.aspx/>.

- 9.3: Create and Maintain a Regional Implementation Activity Database

Rachel reported that H-GAC has developed a preliminary Regional Implementation Activity Database. The preliminary version has been tested using information from MS4 annual reports. Many bugs have been identified, and the database will be improved for next year.

- 9.4: Assess Monitoring Results and Modify I-Plan

This activity will be discussed in-depth at the Coordination & Policy workgroup meeting on March 28, 2013.

- Highlights for annual report:

With only minor typographical changes, the participants agreed with the description of progress, achievements in the past year, focus for the coming year, and revisions recommended by H-GAC for the I-Plan Strategy Cover Sheet for the annual report.

Implementation Strategy 10.0: Research

- 10.1: Evaluate the Effectiveness of Stormwater Implementation Activities
- 10.2: Further Evaluate Bacteria Persistence and Regrowth
- 10.3: Determine Appropriate Indicators
- 10.4: Additional Research Topics

Bill Hoffman of H-GAC prepared a list of 29 articles with abstracts relating to BIG issues. The list included articles about predicting bacteria levels from other water quality parameters, bacteria in stormwater, microbial source tracking and alternative indicators, and naturalized fecal indicator bacteria.

Meeting participants indicated interest in the relationship between bacteria and biofilms, colloidal particles, TSS, and turbidity. The group discussed wet sieve analysis, sample dilution, and the use of filters smaller than .45.

The group also referenced research by Terry Gentry and work done by TCB/AECOM relating to testing sludge blankets from wastewater treatment facilities. Rachel will try to identify these articles.

- Highlights for annual report:

With only minor typographical changes, the participants agreed with the description of progress, achievements in the past year, and revisions recommended by H-GAC for the I-Plan Strategy Cover Sheet for the annual report. It did recommend changes to the description of focus for the coming year, adding that ***the relationship between bacteria and the supernatant and colloidal sediment that pass through a .45 micron filter should be a research focus in the coming year.***

Implementation Strategy 11.0: Geographic Priority Framework

- 11.1: Consider Recommended Criteria When Selecting Geographic Locations for Projects

Rachel provided a table showing both 2012 and 2011 lists of the "Most wanted" and "Most Likely to Succeed" assessment units. These lists are based on the seven-year geometric mean for the monitoring stations with the ten highest bacteria levels—for the most wanted list—and the lowest bacteria levels that are still considered impaired.

Most Wanted: The good news is that all but one of the assessment units on last year's top 10 lists showed decreased bacteria levels, sometime substantial. For example:

- Schramm Gully (1007R_01) at station 15869 went from a geomean of 35 times the standard to 20 times the standard, and dropped from 4th on the list to 9th. (It once had the highest bacteria level.)
- Little White Oak Bayou (1013A_01) at station 11148 went from a geomean of 28 times the standard to 19 times the standard, and dropped off the top-ten list from 7th place.

While these changes cannot be directly attributed to stakeholder efforts, anecdotal information suggests that identification of problems and actions to address those problems resulted in improvements.

Participants asked that H-GAC look into to new additions to the top ten list. Berry Bayou (station 16661 on 1007F_01) and Plum Creek (station 16658 on 1007I_01) are both in the vicinity of Pine Gully, and the area has been subject to attention for problems for many years. They indicated that there might be 15 years of data that might be of interest.

Most Likely to Succeed: Unfortunately, news from the "Most Likely to Succeed List" is not as good. While four of the assessment units on last year's most wanted list showed almost no change, the other six saw increases, albeit relatively minimal increases ranging from 0.1 to 0.8 times the standard (up to 2.2 times the standard).

Harris County provided a brief report on their project to prioritize waterways in the unincorporated portion of the county. They are moving forward with their analysis that addresses more of the prioritization criteria identified in the I-Plan. They indicated that they had not figured out a way to include recreational use in their analysis. Jean Wright indicated that CRP monitoring partners had started to record information about recreational use at monitoring sites, and HC might be able to include that information in their analysis. H-GAC said they would look into it.

- Highlights for annual report:

With only minor typographical changes, the participants agreed with the description of progress, achievements in the past year, and revisions recommended by H-GAC for the I-Plan Strategy Cover Sheet for the annual report. Participants recommended changes to the description of focus for the coming year, adding that ***Harris County will continue***

developing analytical capabilities to geographically prioritize waterways based in part of BIG recommendations for geographic priorities.

Confirm Recommendations to the BIG for Annual Report

The work group reviewed the draft Implementation Strategy Cover Sheets for the three strategies: Monitoring & Plan Revision, Research, and Geographic Priorities. There were 9 attendees including 2 BIG members and 2 alternates.

Changes to the draft coversheets are as follows:

- Research—area of focus—add the following: *"the relationship between bacteria and the supernatant and colloidal sediment that pass through a .45 micron filter should be a research focus in the coming year."*
- Geographic Priorities—area of focus—add the following: *"Harris County will continue developing analytical capabilities to geographically prioritize waterways based in part of BIG recommendations for geographic priorities."*

No changes to the I-Plan were recommended.

Rachel will send meeting notes and a draft section for the annual report as soon as they are available, and workgroup members will be able to provide comments. Workgroup recommendations will be reviewed by the Coordination and Policy and Plan Revision Workgroups at the meeting on March 28, 2013.

Adjourn

BIG Annual Meeting: Tuesday, May 14, 2013

Coordination & Policy work group meeting: March 28, 2013, 10:00 AM

[Tentative next meeting date: December 10, 2013, 1:00 PM to 3:00 PM, to coincide with the quarterly meeting of H-GAC's regional monitoring workgroup, which is held that morning.]