



HOW'S THE WATER?

2010 Basin Highlights Report

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How's the Water?

The simple answer is – it depends. Water quality experts consider several factors when determining water conditions in the H-GAC Clean Rivers Program Assessment Basins. These parameters include levels of bacteria, nutrients and dissolved oxygen (DO), as well as presence of Dioxin/ Polychlorinated biphenyls (PCBs) in fish tissue. And, depending on which stream segment you are interested in, the quality will vary.

Clean Rivers Program

The Texas Clean Rivers Program is a partnership with TCEQ and local/ regional groups to coordinate local and regional water quality monitoring, assessment, and public outreach efforts to improve the quality of surface water within each river basin in Texas.

Water bodies must meet certain standards for recreational uses, including swimming, wading and fishing, or they will be listed as impaired by the Texas Commission on Environmental Quality (TCEQ). Only six stream segments within the region are considered acceptable for recreation. The causes for the impairments vary, however, the most significant water quality concern throughout the region continues to be high levels of bacteria. Toxicity, particularly dioxin in fish tissue, is also a problem in 75% of the region's tidal water ways, though generally isolated to the Houston Ship Channel and Galveston Bay. Several Total Maximum Daily Load (TMDL) studies are currently under way to address these issues.

While most regional water bodies are considered impaired, water quality can be improved through the efforts of the Clean Rivers Program; local, state and federal agencies; and everyone living and working in the region. In fact, three stream segments show significant improvement. Water quality tests show that White Oak Bayou, the

Houston Ship Channel and the Houston Ship Channel Buffalo Bayou Tidal segments have reduced bacteria levels. These reductions can be attributed to a variety of activities such as the construction of storm water detention basins and the improvement of municipal sanitary sewer systems.

The Clean Rivers Program is committed to supporting water quality improvement efforts by:

- Providing consistent and reliable data for the region's water bodies;
- Conducting special studies on specific areas of concern; and
- Raising public awareness about water quality through education and information programs.

This report highlights the achievements of the Clean Rivers Program during 2009 and provides a snapshot of water quality conditions and issues in the region. For more information on the Clean Rivers Program and H-GAC's other water quality planning activities, please visit www.h-gac.com/water.



Evaluating Texas Water Quality

The TCEQ evaluates the condition of the state's water bodies on a periodic basis under the Clean Water Act Section 305(b). As required by the act, the inventory is updated every two years and consists of a review of the past seven years' worth of data collected by many organizations statewide, including local agencies working with H-GAC. The Draft 2010 Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d) provides an assessment of water quality results using this data. Also required by Section 303(d) of the CWA, the state must indicate all waters not meeting their designated Water Quality Standards which results in the List of Impaired Waters. The inventory is available on the TCEQ web site at www.tceq.state.tx.us/compliance/monitoring/water/quality/data/10twqi.

The term "impairment" is assigned to a portion of a water body when certain water quality parameters exceed threshold concentrations as specified in the Texas Surface Water Quality Standards, based either on the number of exceedances or the mean concentration over the threshold. This designation indicates the fish may not be able to get enough

Bacteria, including *Escherichia coli* (*E. coli*), alone may not be harmful to people; however, their occurrence may indicate fecal matter or dangerous pathogens may be present.

Dissolved Oxygen (DO) indicates the amount of oxygen available in the water to sustain aquatic life. All water-borne species must have a minimum DO concentration to survive.

Nutrients in high concentrations can cause taste and odor problems in drinking water, as well as health issues. Nutrients can also lead to algae growth. Decomposing algae consume oxygen, threatening a water body's aquatic population.

What is Dioxin?

Dioxin is a general term used to describe a family of chemicals that are highly persistent in the environment. Dioxin has been shown to cause cancer, severe reproductive and developmental problems, damage the immune system, and interfere with endocrine systems. Dioxin is formed as an unintentional by-product of many industrial processes, chemical and pesticide manufacturing, and pulp and paper bleaching.

The Department of State Health Services has found Dioxin in fish tissue samples collected from various parts of the Houston Ship Channel and Galveston Bay. Subsequently, appropriate bans or advisories on fish consumption have been issued.

The San Jacinto River Waste Pits Superfund Site, located near I-10 and being managed by the US Environmental Protection Agency - Region 6, is a major source of dioxin.

oxygen to survive, swimmers may be exposed to disease-producing organisms or people who eat fish from the water body may become ill. Water bodies that are shown to have an impairment for one or more parameters are included in the TCEQ's Impaired Water Bodies 303(d) List. Parameters most frequently found on the list include dissolved oxygen (DO) and bacteria levels and Dioxin/PCBs in fish tissue.

Once a portion of a stream is placed on the Impaired Water Bodies List, a series of actions may be taken by the TCEQ to restore water quality, including, but not limited to: denying increases in

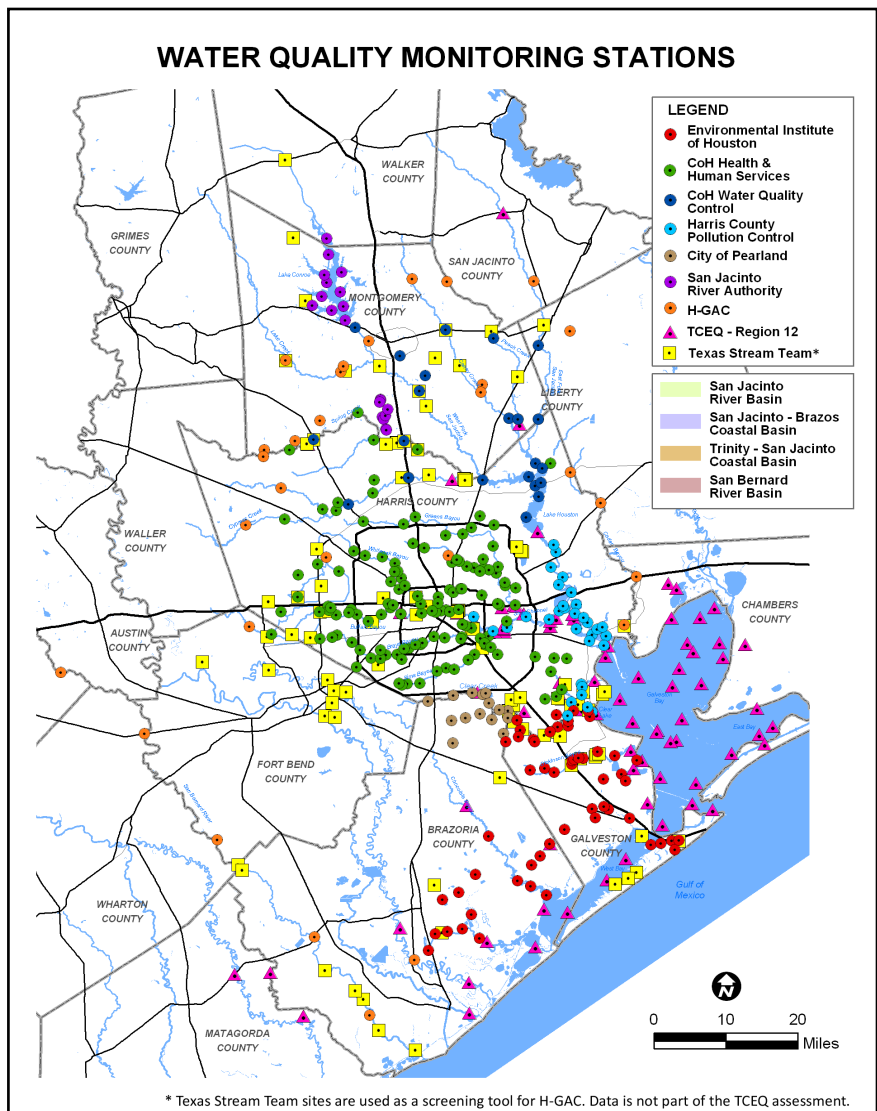
A TMDL study is a technical analysis that determines maximum amount or loading of a pollutant a water body can support and still meet the Water Quality Standard. Pollutants may include Bacteria, Dissolved Oxygen, Nutrients or Dioxin/PCBs.

wastewater permit effluent limits or conducting a TMDL study to allocate pollutant loads to certain sources.

The term “concern” is assigned to a portion of an assessed water body for parameters with no State Water Quality Standards, such as nutrients, that exceed established screening levels. “Concerns” on water bodies can also be the result of insufficient data being available to establish with confidence an “impaired” status for parameters that must meet the State Water Quality Standards.

Summary of Water Quality Impairments and Concerns

H-GAC’s Clean Rivers Program coordinates with scientists and specialists to sample and evaluate local water quality. Samples are run through a battery of tests to measure physical and chemical characteristics, such as DO, bacteria, and nutrient levels. The data are then submitted to the TCEQ and is used to determine the quality of our local water bodies.



The table on the following pages gives a brief overview of water quality in H-GAC’s Clean Rivers Program basins as determined by H-GAC’s interpretation. The numbers represent the percent of total segment length that is impaired for each parameter.¹

In addition to listing levels of impairment, H-GAC staff also interpreted the data and assigned one to five frogs to give a snapshot overall water quality. The “frog” count is based on the percentage of each segment that is impaired and the severity of the impairment.² Impairments relating to human health were deemed more severe than impairments for general uses.

1. The condition of water bodies listed on, or proposed for, the TCEQ303(d) list, as well as those with high levels of nutrients, was summarized using the 2010 TCEQ document, “TCEQ DRAFT 2010 Texas Water Quality Inventory - Sources of Impairments and Concerns,” as a reference.

2. Analysis of the TCEQ document, “TCEQ DRAFT 2010 Texas Water Quality Inventory - Sources of Impairments and Concerns,” calculation of the index, and assignment of the frog count were performed using SAS data management and analysis procedures. Some adjustments to the final count were made by H-GAC staff on the basis of professional judgment, in order to capture attributes not fully revealed by the 2010 TCEQ document.

Summary of Water Quality Impairments and Concerns

Basin & Segment Name	Number	DO	Bacteria	Nutrients	Dioxin/PCBs	Other	Frog(s)
Trinity - San Jacinto Coastal Basin							
Cedar Bayou Above Tidal	902					100	🐸🐸🐸🐸
Cedar Bayou Tidal	901		100	100	100		🐸
San Jacinto River Basin							
Buffalo Bayou Above Tidal	1014	2	83	70		2	🐸🐸🐸
Buffalo Bayou Tidal	1013	27	64	36			🐸🐸🐸
Caney Creek	1010		48				🐸🐸🐸
Cypress Creek	1009		88	88			🐸🐸🐸
East Fork San Jacinto River	1003		100				🐸🐸🐸
Greens Bayou Above Tidal	1016	5	100	90			🐸🐸
Houston Ship Channel	1006	2	66	65	39	39	🐸🐸
Houston Ship Channel / San Jacinto River and Select Bay Segments	1005			17	100		🐸🐸
Houston Ship Channel Buffalo Bayou Tidal	1007	11	93	84	23	23	🐸
Lake Conroe	1012			25			🐸🐸🐸🐸
Lake Creek	1015						🐸🐸🐸🐸🐸
Lake Houston	1002		18	48		1	🐸🐸🐸🐸
Peach Creek	1011		100				🐸🐸🐸
San Jacinto River Tidal	1001				58		🐸🐸🐸
Spring Creek	1008	10	53	39		1	🐸🐸🐸
West Fork San Jacinto River	1004		73	29			🐸🐸🐸
White Oak Bayou	1017		89	78			🐸🐸
San Jacinto - Brazos Coastal Basin							
Armand Bayou Tidal	1113	34	39	29	25		🐸🐸🐸
Bastrop Bayou Tidal	1105	15	32	15			🐸🐸🐸🐸
Chocolate Bayou Above Tidal	1108						🐸🐸🐸🐸🐸
Chocolate Bayou Tidal	1107		100	100	100		🐸
Clear Creek Above Tidal	1102		63	67	43	5	🐸🐸
Clear Creek Tidal	1101	5	82	24	30		🐸🐸🐸
Dickinson Bayou Above Tidal	1104	16	64				🐸🐸🐸
Dickinson Bayou Tidal	1103	55	84	3	46		🐸
Old Brazos River Channel	1111			100			🐸🐸🐸🐸
Oyster Creek Above Tidal	1110	66	100	100			🐸
Oyster Creek Tidal	1109						🐸🐸🐸🐸🐸
Brazos - Colorado Coastal Basin							
San Bernard River Above Tidal	1302	14	63	10			🐸🐸🐸
San Bernard River Tidal	1301		100	100			🐸🐸🐸🐸

Basin & Segment Name	Number	DO	Bacteria	Nutrients	Dioxin/PCBs	Other	Frog(s)
Bays & Estuaries - Gulf of Mexico							
Upper Galveston Bay	2421			100	100		🐸🐸
Barbours Cut	2436			100	100		🐸🐸
Bastrop Bay / Oyster Lake	2433						🐸🐸🐸🐸🐸
Bayport Channel	2438			100	100		🐸🐸
Black Duck Bay	2428			100	100		🐸🐸
Burnett Bay	2430			100	100		🐸🐸
Chocolate Bay	2432		13		40		🐸🐸🐸
Christmas Bay	2434						🐸🐸🐸🐸🐸
Clear Lake	2425		8	43	100		🐸🐸
Drum Bay	2435						🐸🐸🐸🐸🐸
East Bay	2423			100	100		🐸🐸
Lower Galveston Bay	2439			100	100		🐸🐸
Moses Lake	2431			64	100		🐸🐸
San Jacinto Bay	2427			100	100		🐸🐸
Scott Bay	2429			100	100		🐸🐸
Tabbs Bay	2426			100	100		🐸🐸
Texas City Ship Channel	2437			100	100		🐸🐸
Trinity Bay	2422			100	100		🐸🐸
West Bay	2424	6	19	11	81		🐸🐸
Gulf of Mexico	2501					100	🐸🐸🐸🐸

Ranking Key

- 🐸 Severe, multiple water quality impairments and/or concerns exist in the majority of the water body
- 🐸🐸 Significant, multiple water quality impairments and/or concerns exist in a majority of the water body
- 🐸🐸🐸 Impairments or concerns exist in a substantial portion of the water body
- 🐸🐸🐸🐸 Impairment or concern exists in the water body
- 🐸🐸🐸🐸🐸 No known water quality impairments or concerns exist in the water body

Regional Concerns

- Most water bodies in our region are considered unsuitable for recreational activities like swimming.
- More than half of our waterways do not meet state guidelines due to elevated levels of bacteria.
- More than 74% of the region's waterways have elevated levels of nutrients.
- Approximately 27% of the region's waterways have low levels of dissolved oxygen.
- Nearly 75% of our tidal waterways are impaired by dioxin or PCBs in fish tissue.

Most Improved/Degraded Streams for Bacteria

Every two years the TCEQ assesses the state's water quality and determines which water bodies should be included on the Impaired Water Bodies 303(d) List. This year, 62 new Assessment Units, or specific monitoring areas within stream segments, in the Clean Rivers Program basins were added to the list for bacteria. Water bodies are added to the list for a variety of reasons, including testing in previously unmonitored areas or recent parameter exceedances in historically monitored segments.

For this report, we looked beyond impairment. After analyzing water quality data from the past nine years, H-GAC staff established trends for each water body in the Clean Rivers Program basins. Most data showed fluctuations from year to year, but no overall upward or downward trends. However, there were three streams that showed significant improvement and four streams that showed significant degradation in bacteria levels.

Most Improved

Though the water bodies still have significant bacteria impairment, water quality tests show that White Oak Bayou, Houston Ship Channel and Houston Ship Channel Buffalo Bayou Tidal stream segments have bacteria levels that have been reduced up to 75%.

It's likely that several factors contributed to these improvements. All areas are covered by a joint storm water permit which means that the City of Houston, Harris County, Harris County Flood Control District, and the Texas Department of Transportation must take actions to manage storm water to reduce bacteria in the water bodies. The storm water permit has the added water quality benefit of requiring a reduction of sediments, nutrients, metals, oils, and grease from permitted water bodies.

The Harris County Flood Control District has constructed 16 storm water detention basins within the affected areas – seven in the upper portion of White Oak Bayou stream segment, three in the Halls Bayou portion of the Houston Ship Channel stream segment and six in the Brays Bayou and Halls Bayou portions of the Houston Ship Channel Buffalo Bayou Tidal stream segment. Some detention basins contain water quality features such as wetlands or wet bottoms. The detention basins allow the water to slow down and bacteria to settle out, resulting in cleaner water leaving the basin.

The City of Houston is reducing the environmental impacts of sanitary sewer system overflows by rehabilitating more than 950,000 linear feet of sewer lines per year. The City is cleaning fats, oils, and grease from sewer lines which can clog these lines and cause sanitary sewer overflows which dump untreated sewage into area water bodies. The City has also repaired several major sanitary sewer bypasses.

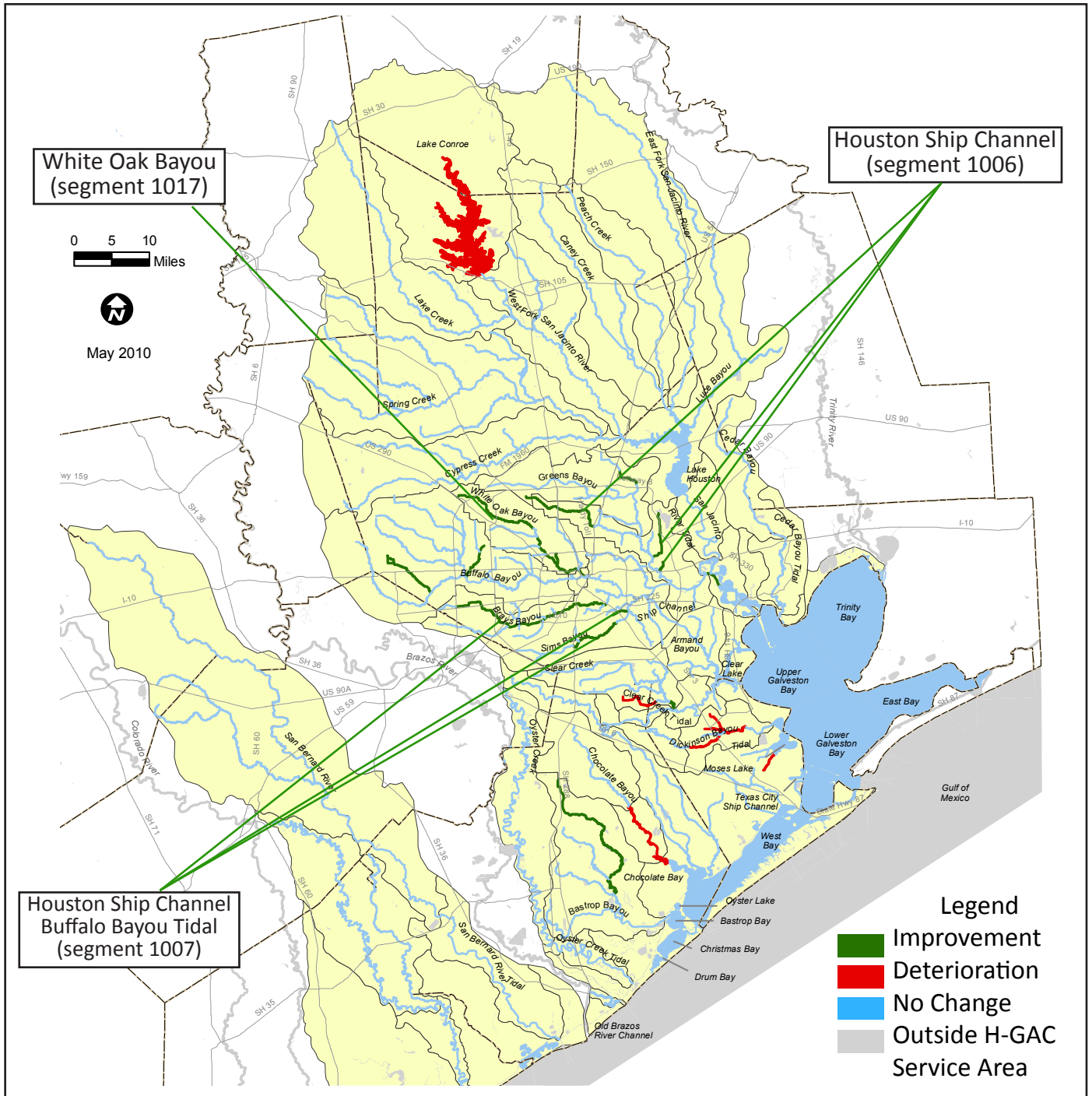
Five additional stream segments within the region showed improvement, including Greens Bayou Above Tidal, Clear Creek Tidal, Buffalo Bayou Above Tidal, Houston Ship Channel San Jacinto River, and Bastrop Bayou.

Most Degraded

Water quality tests show that Clear Creek Above Tidal, Dickinson Bayou Tidal, Chocolate Bayou Tidal, and Lake Conroe stream segments have increased bacteria levels up to 900%.

Pinpointing the exact causes of increased bacteria levels is difficult. Overall, failing septic tanks, sanitary sewer overflows, poorly maintained waste water treatment plants, agriculture, livestock, and

Waterways Showing Significant Change in Bacteria Levels



pet waste are the usual sources. The real questions are which of those sources are responsible for the largest portions of the bacteria problem and how do we prioritize the solutions.

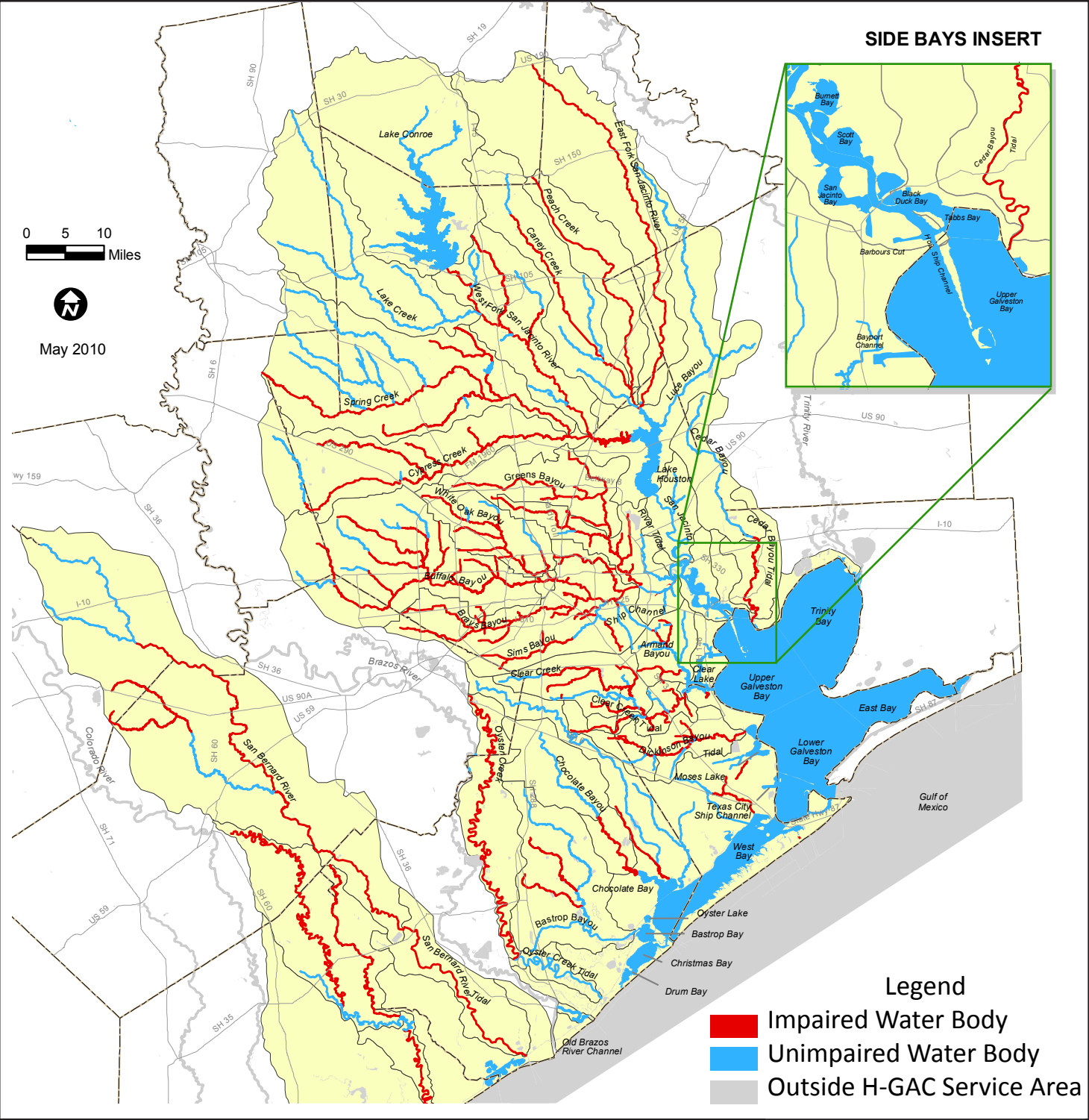
For example, in the Dickinson Bayou Tidal stream segment, an increase in development as well as sanitary sewer line breaks that discharged a large amount of untreated sewage into the bayou are

two significant factors leading to increased bacteria levels. The TCEQ is currently conducting a TMDL study in the Dickinson Bayou segment to help determine which sources are contributing to the bacteria problem.

Texas Sea Grant is also developing a Watershed Protection Plan to recommend actions that can be taken by local communities to reduce bacteria.

Of the four most degraded stream segments, only Lake Conroe is not currently listed as impaired. Bacteria levels in Lake Conroe are well below the state standards, but are increasing. This may be a result of increased development, sewage system failures, and improper use of fertilizers and pesticides by homeowners and lawn maintenance companies.

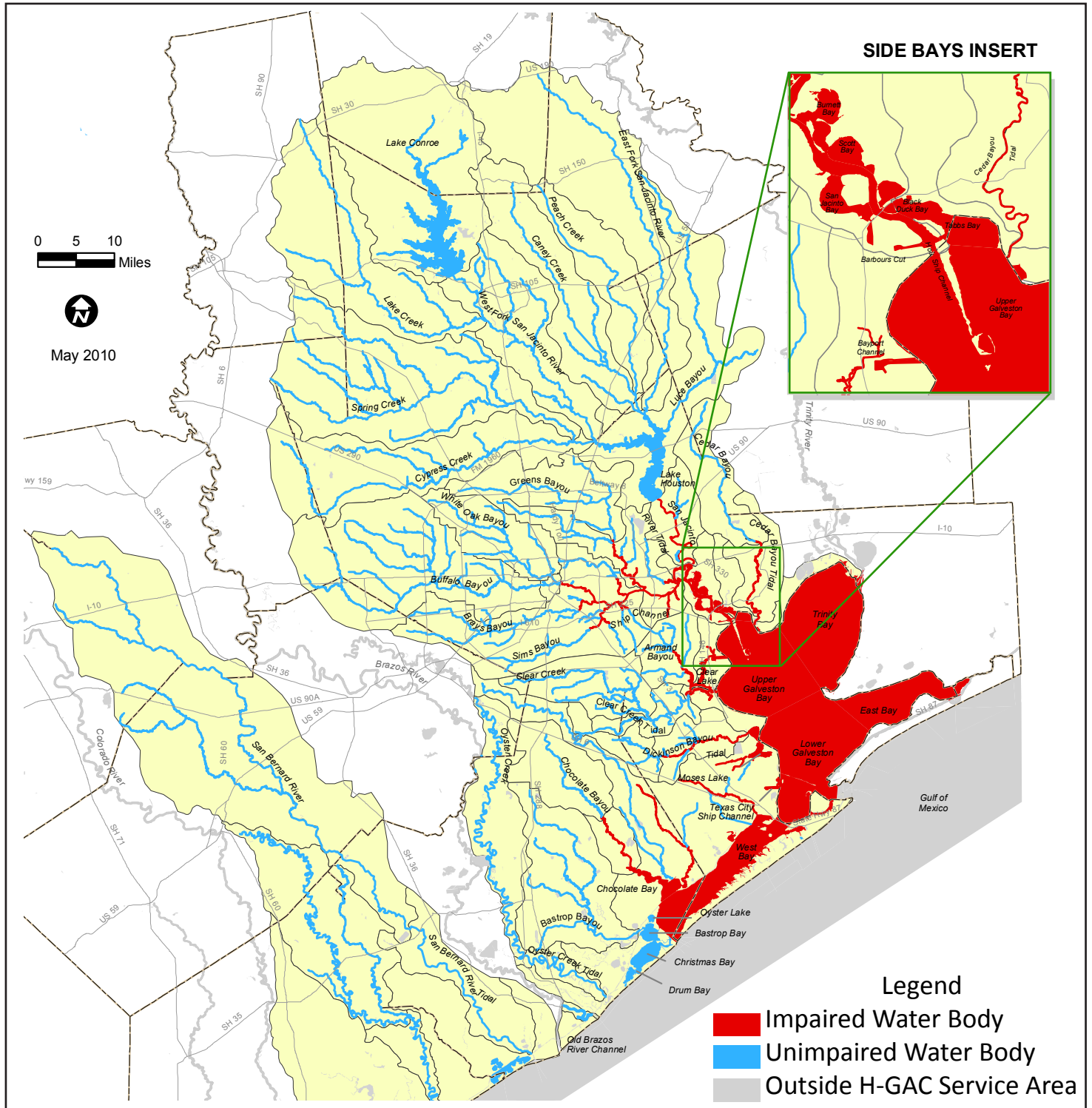
Water Bodies Impaired by Bacteria*



* based on TCEQ Draft 2010 List of Impaired Waters

To combat increased impairment of water bodies in the Clean Rivers Program basins, H-GAC staff will continue to work with stakeholder groups and partner agencies to develop and implement Bacteria Implementation Plans and Watershed Protection Plans. We will continue to look at trends to determine if the actions are effective in reducing bacteria levels.

Water Bodies Impaired by Dioxin/PCBs in Fish Tissue*



* based on TCEQ Draft 2010 List of Impaired Waters

Clean Rivers Program – 2009 Highlights



Clean water is crucial to our region’s environment, economy, and quality of life. The main goal of the Clean Rivers Program is to ensure safe, clean surface water for our region by providing data. In 2009, H-GAC’s Clean Rivers Program expanded water quality monitoring stations without additional financial resources, developed more accurate mapping standards, streamlined our data management system to promote efficiency and financial savings, and conducted special studies to address specific, previously-identified issues and local stakeholder concerns.

Water Quality Monitoring

Working with seven local agencies as part of H-GAC’s Regional Quality Assurance Project Plan (QAPP), we expanded our ambient water quality monitoring efforts to more than 370 sites by allocating monitoring resources to previously under-monitored areas. Thanks to these partnerships, we were able to complete this expansion with no additional funding in 2009.

Clean Rivers Program Partners met quarterly to discuss monitoring challenges, such as sampling

protocols or equipment problems, and to serve as a forum to share information from the TCEQ regarding quality assurance or data management issues.

Each spring, H-GAC convenes a major Coordinated Monitoring Meeting with all CRP Partners, other local agencies performing water quality monitoring, staff from the TCEQ, and other state environmental agencies to maximize available funding by reducing duplication of monitoring sites and parameters monitored. In 2009, this coordination resulted in:

- the selection of six sites that need 24 -hour DO monitoring
- identification of an additional five sites where flow data could be collected
- expansion of the geographic sampling coverage by eliminating duplicate sites and adding sites to previously unmonitored areas
- more accurate mapping of monitoring sites

A list of the sites and parameters monitored in the region is on the H-GAC Data Clearinghouse web site www.h-gac.com/rds/water_quality. A statewide listing of monitoring sites is available at <http://cms.lcra.org>.

CRP Partners include:

- City of Houston Department of Water Quality Control
- City of Houston Department of Health and Human Services*
- City of Pearland
- Environmental Institute of Houston*
- Harris County Environmental Public Health Division
- H-GAC*
- San Jacinto River Authority –Lake Conroe Division
- San Jacinto River Authority –Woodlands Division
- TCEQ Region 12

*Monitoring sites funded wholly or partially by the Clear Rivers Program.

Continued Efforts

H-GAC purchased flow monitoring equipment in 2009 that allows local partners to capture flow data in areas previously not possible.

Data collected allows the TCEQ to not only see how much of a pollutant is contained in a sample but also how much of that pollutant is in the water body at any one time. The flow information will be used in modeling applications for TMDLs and Watershed Protection Plans.

H-GAC also continued to streamline the data management and analysis process with the adoption of Statistical Analysis Systems (SAS) software, reducing the time and cost needed to review, format, and analyze data collected through the coordinated monitoring program.

This streamlined process means data used by assessment agencies and water quality managers will be more accurate and more readily available.

Special Studies

Water quality monitoring includes not only routine sampling but also special studies to address specific, previously-identified issues and local stakeholder concerns. Current special studies include habitat site characterizations and DO monitoring studies with the City of Houston to give the TCEQ a better picture of specific conditions in the region, and a study to evaluate the impact of development on water quality along the West Fork of the San Jacinto River.

Habitat Site Characterizations

The State of Texas assumes all water bodies should have adequate DO concentrations to support aquatic life; however, habitat alterations, like those in Houston, can lead to lower concentrations and decreased aquatic life.

The City of Houston's Habitat Assessment Study revealed that more than 90% of the water bodies studied within the city have habitat alterations to some degree. These alterations should be



considered by monitoring agencies, including H-GAC and TCEQ, when evaluating water quality.

H-GAC has forwarded all information, photos, and maps from the City's study to TCEQ's assessment group to determine whether the appropriate water quality standards are being applied. Additional habitat characterizations are scheduled for completion in 2010 and early 2011.

During the habitat study, monitors also identified other potential sources of pollution upstream from the monitoring sites, including dry weather flows. Water flows from storm sewers during dry periods generally indicate an illicit discharge.

The discharge can be as simple as ground water or water entering a storm drain from residential lawn watering or car washing. However, more serious issues can stem from illicit connections and sanitary sewer system overflows. Problems were forwarded to the appropriate City department for further investigation and correction.



24-Hour DO Monitoring

Generally, DO concentrations fluctuate both seasonally and throughout the day. DO levels tend to be higher during cooler months, and daily fluctuations are dependent on the amount of oxygen produced by aquatic plants through the photosynthesis cycle. Peak levels of DO are often found in the late afternoon, while the lowest DO concentrations usually occur just before sunrise.

As the State considers rating a water body as impaired for DO, additional testing and collection is needed to provide a clearer picture of these fluctuations.

During the summer of 2009, the City of Houston collected the first in a series of 24-hour DO measurements in six stream segments with impairment-level DO concentrations. A datasonde (an instrument that collects DO and temperature data) was installed at each monitoring location to collect information every 15 minutes for 24 hours.

The City will conduct five more events throughout the coming year. H-GAC will provide the collected data to the TCEQ to help with the next water quality assessment. TCEQ will use this data to help ensure the appropriate level of aquatic life use is applied to these water bodies.

USGS Study on West Fork San Jacinto River

Areas along the West Fork of the San Jacinto River between Lake Conroe and Lake Houston are undergoing rapid urban development as well as sand and gravel mining.

To better understand the relationship between these activities and suspended sediment (cloudy or turbid water), the United States Geological Survey (USGS) is currently analyzing water samples and flow measurements collected during the survey, and a full report is due in late 2010.

Real-time data from two monitoring stations is available on the TCEQ web site at www.tceq.state.tx.us/compliance/monitoring/water/quality/data/wqm/swqm_realtime.html#data.

Public Outreach and Education

H-GAC offers many opportunities for public involvement and encourages citizens to get involved in different aspects of watershed protection. Opportunities include using the Water Resources Information Map, becoming involved in a watershed stakeholder group, participating in the annual Trash Bash cleanup event, volunteering as a citizen monitor through our Texas Stream Team program, and learning more about water quality through the H-GAC Clean Waters Initiative.

Visitors to the H-GAC web site are encouraged to get involved in a variety of public outreach programs at www.h-gac.com/go/getinvolved.

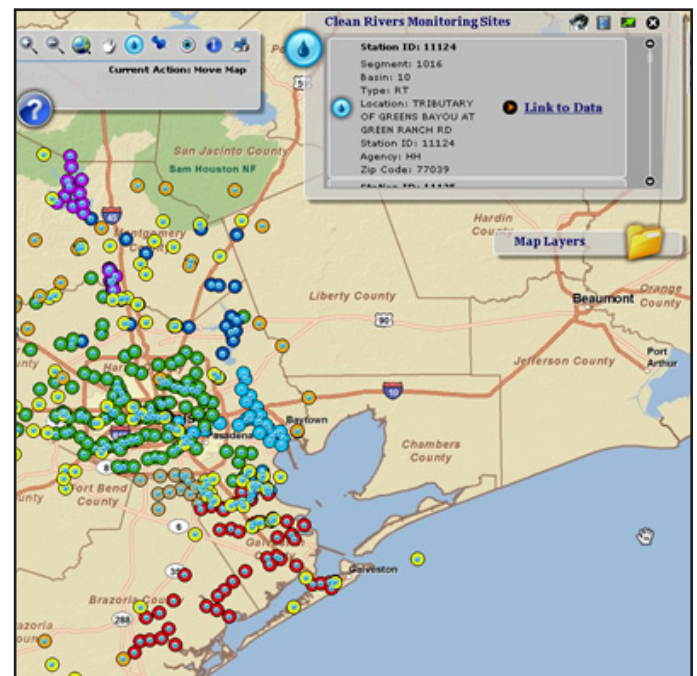
Stakeholder Groups and Public Meetings

Citizens, business owners, industry representatives, and other interested groups are invited to become a part of the planning process as a member of a stakeholder group in an area where a Watershed Protection Plan or TMDL study is being developed. More information is available at www.h-gac.com/community/water/watershed_protection/default.aspx. Citizens are also invited to attend CRP Steering Committee and Workgroup meetings. More information is available at www.h-gac.com/crp.

Water Resources Information Map (WRIM)

In November 2009, H-GAC launched the Water Resources Information Map (WRIM), a state-of-the-art interactive mapping tool which displays all monitoring sites, photos, and data associated with each site.

With this tool, users can check water quality trends in their own neighborhoods by accessing data from all Clean Rivers Program partners in a user-friendly format. More information is available at www.h-gac.com/rds/water_quality.



River, Lakes, Bays 'N Bayous Trash Bash®

Now Texas' largest lake and river cleanup event, the 16th annual Trash Bash event was held on March 28, 2009. More than 4,678 participants cleaned up 214,450 pounds (107.5 tons) of trash along 79 miles of shoreline at 16 locations throughout the Houston-Galveston region. In 2009, Trash Bash also showcased an interactive game made with different types of trash usually found at the cleanup event. The display required participants to guess how long it takes for each item to decompose in the environment. More information is available at www.trashbash.org.



Texas Stream Team

In 2009, H-GAC's Stream Team program received an Outstanding Service Award from Texas Stream Team for training and supporting hundreds of volunteer water monitors during the past 15 years.

Our network of volunteers grew to more than 80 members at 68 monitoring sites in 22 different watersheds. Texas Stream Team volunteers collect water samples each month. Data is used as a screening tool to help direct professional monitoring. For more information visit www.h-gac.com/texasstreamteam.

Clean Waters Initiative

H-GAC's Clean Waters Initiative program offers workshops to help local governments, landowners, and citizens develop effective strategies to reduce pollution in our area water bodies.

Workshops for 2009 included Land Use Strategies to Improve Water Quality and Storm Water Education and Outreach. More information and schedules are available online at www.h-gac.com/cwi.

Web Site

In addition to access to interactive mapping of monitoring data collected locally by the CRP, H-GAC's web site, www.h-gac.com/water, also provides the public access to all H-GAC CRP reports and studies, including current and past QAPPs, the CRP workplan and budget, and summaries of all steering committee meetings.

H-GAC Water Quality Programs

From bacteria reduction to watershed protection plans, H-GAC manages several water quality programs, all of which rely on Clean Rivers Program data.

Bacteria Reduction

The Bacteria Implementation Group (BIG),



BACTERIA IMPLEMENTATION GROUP

consisting of H-GAC and stakeholders, continued work on a Bacteria Implementation Plan. This “I-plan,” outlines activities governments, businesses, and individuals can

participate in to reduce bacteria in 72 area water bodies considered impaired by the TCEQ, including Buffalo and White Oak bayous, Lake Houston Watershed, and Houston Metro and Clear Creek project areas.

Other active TMDL projects in the region include:

- Dickinson Bayou – Bacteria
- Tidal streams – DO
- Upper Coast Oyster Waters – Bacteria
- Upper Oyster Creek – Bacteria and DO

H-GAC also hosts public participation and outreach meetings for the Houston Ship Channel and Upper Galveston Bay dioxin/polychlorinated biphenyl (PCB) TMDLs.

For meeting agendas, notes and a detailed list of impacted water bodies, visit www.h-gac.com/tmdl.

Watershed Protection Plans

Watershed protection plans (WPPs) provide guides for restoring water quality in impaired water bodies or protecting water quality in other water bodies

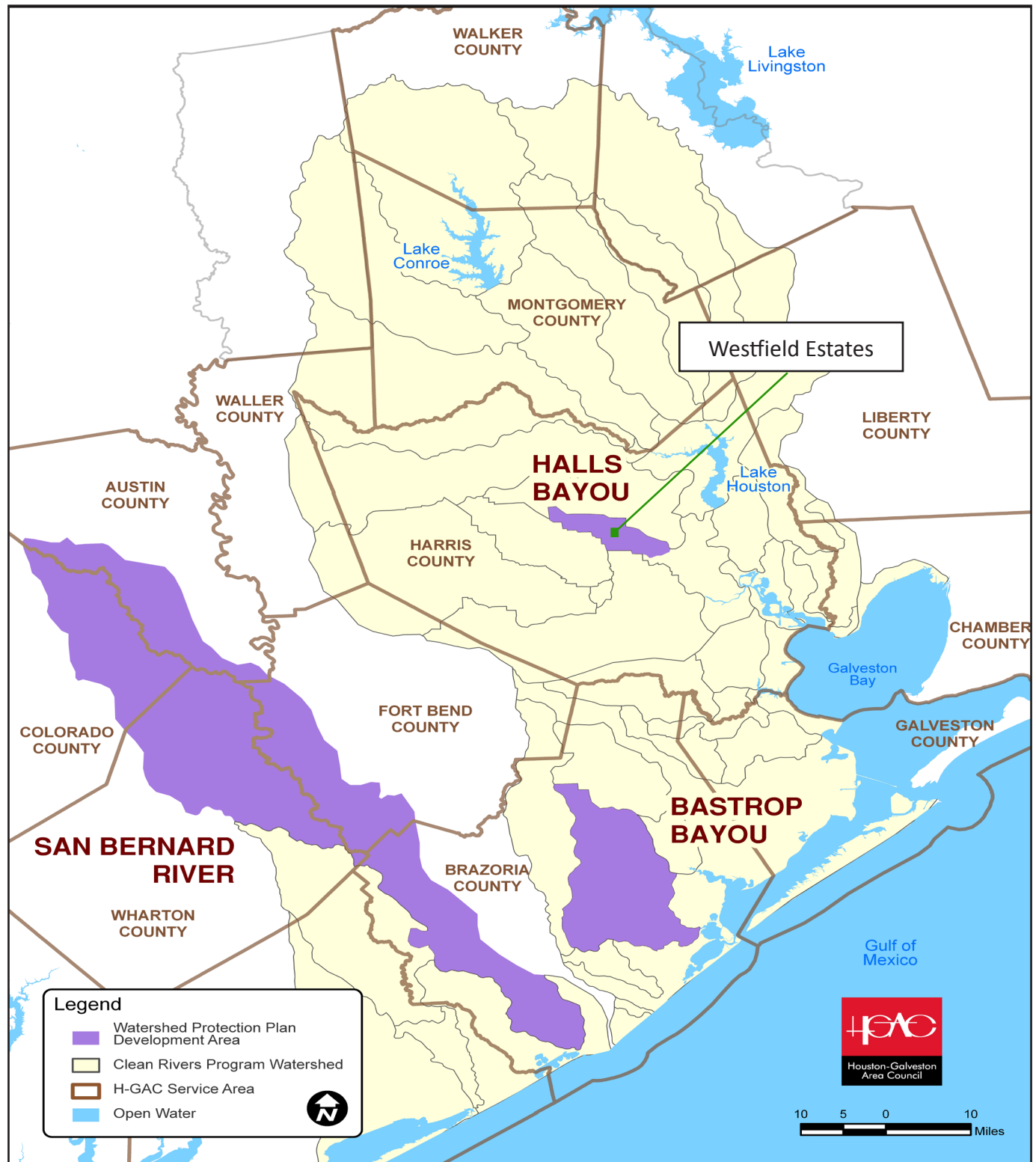
that may be affected or threatened by pollution. H-GAC is working with stakeholders to develop WPPs in three watersheds: Bastrop Bayou, San Bernard River, and Westfield Estates.

The Galveston Bay Estuary Program, H-GAC, and TCEQ and continue to develop a WPP for the Bastrop Bayou Watershed. The need for this WPP was highlighted in 2009 when the first case of waterborne cholera in the United States since 2005 was reported in the Demi-John community within the watershed. A draft of the plan is available at www.bastropbayou.org.

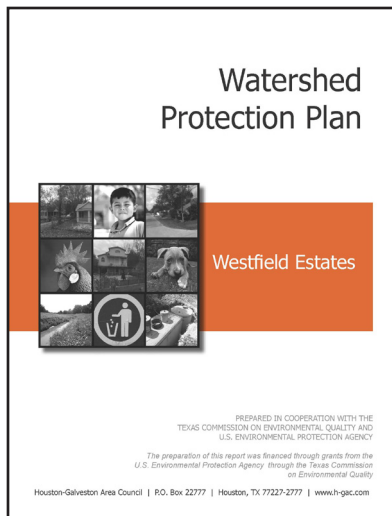
The San Bernard WPP began in September 2009 to outline strategies for reducing bacteria levels and increasing DO levels in the San Bernard Watershed. This WPP is funded by an American Recovery and Reinvestment Act (ARRA) Grant through the TCEQ. H-GAC will develop the plan through a major public involvement process over two years and make a draft of the WPP available in summer 2011. Additional information about the WPP and the process is available at www.h-gac.com/go/sanbernard.



Watershed Protection Plan Development Areas



H-GAC is working with stakeholders to develop Watershed Protection Plans in three watersheds: Bastrop Bayou, San Bernard River, and Westfield Estates.



The Westfield Estates Watershed Protection Plan will reduce bacteria in water bodies in a small, urbanized watershed north of Houston by managing malfunctioning septic systems and educating residents to

control pet waste. The plan is complete and is currently under review by the TCEQ. H-GAC has already begun preliminary education and outreach efforts in this predominately Hispanic community. More information is available at www.h-gac.com/westfield.

Local Laboratory Accreditation

The National Environmental Laboratory Accreditation Conference (NELAC) has developed a uniform set of standards for the accreditation of environmental laboratories that perform testing and analysis of environmental samples.

Any laboratories conducting analysis for use in TCEQ's regulatory decision making must be NELAC-accredited.

H-GAC continues its leadership role in the accreditation of local laboratories. All local laboratories have submitted their applications, and three of the four local labs have passed their initial TCEQ audit.

The fourth lab is awaiting the results of their audit. H-GAC continues to track laboratory performance by providing proficiency testing and samples to the local labs and paying for their accreditation through the Clean Rivers Program.

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