

Element E- Education and Outreach

Overview

Element E addresses three broad areas of outreach activities in this WPP:

- 1) Stakeholder outreach and participation refers to the targeted engagement and involvement of watershed stakeholders in the planning process, such as the stakeholder working group.
- 2) General Public Education & Outreach refers to activities to inform the public about how to become involved and more informed about their watershed, such as websites and community publicity.
- 3) Programs for Water Quality Education and Awareness refer to implementing WPP action areas that focus on outreach and education, such as homeowner education or feral hog training.

The Importance of Stakeholder Participation

NPS impairments result from multiple sources spread across a wide area. Individual action is essential, but it will take coordination and cooperation to address them. A broad-based and cross-collaborative strategy for stakeholder involvement is necessary for coordinating different activities and priorities in the basin, and also for understanding what resources are available. The Highland Bayou WPP Working Group began in 2012 and was revived in 2015 to foster participation in the development and of the recommendations in this WPP. The Working Group consists of stakeholders from multiple state, county and local agencies, together with private citizens. Their involvement in the planning process and in future years during the implementation phase will be critical.

'Stakeholder' is a term that includes concerned citizens, businesses, municipal officials, and agency representatives, among others. Any individual or agency that could be able to have an impact on the conditions of the bayou is considered a stakeholder. Since these individuals and their organizations have a role in the plan's implementation, it is important that the plan's goals and tasks match the abilities and resources of these groups.

10 Guiding Principles for Public Participation

Public participation should...

1. Provide opportunities to all interested persons to develop or implement the WPP;
2. Develop a public process that is transparent, responsive, and reliable;
3. Keep the public participation process informed, on target, and on time;
4. Create a forum where stakeholders can coordinate activities, projects, and programs;
5. Help participants understand the need for the project and about what happens next;
6. Communicate to stakeholders about issues identified in this process and the context of the planning effort;
7. Inform participants about the types of actions required by stakeholder for success;
8. Bring together citizens to evaluate options, to foster discussions, and to develop consensus directions about the plan's implementation;
9. Create an environment where participants felt that their ideas were heard;

10. Develop an online setting where announcements are placed, progress can be documented, and comments recorded.

What if we do nothing?? The Price of Inaction

- Water quality projects carried out by agencies may be uncoordinated or work at cross-purposes with other projects;
- Opportunities for substantial project funding from state and federal sources will be lost;
- Increases the likelihood that a Total Maximum Daily Load (TMDL) will be developed, which is less flexible and less voluntary than a WPP;
- Highland & Marchand Bayous will continue to fail water quality standards, limiting how the waterway is enjoyed by the community as a resource for recreation, economic uses, quality of life, and natural habitat;
- Opportunities for a coordinated and multi-community response to NPS and coastal hazards will be deferred or forgone for years, while the driving issues of NPS will deteriorate local waterways.

Stakeholder Participation Process

Designing the Stakeholder Participation Process

Challenges. The WPP project team anticipated several challenges that became the basis for designing the planning process.

1. Quickly informing a diverse stakeholder group about the background and context for planning;
2. Seeking candid input from participants about their perspectives, vision, and experiences in the watershed; and
3. Promoting whole group discussion to build common purpose, identify priority projects, and foster familiarity among participants.

Role of the Planning Team. As lead facilitators, the planning team's role was to keep the process and meetings on track, reach out to newly identified stakeholders, inform participants about the process and their role in it, and to gather and organize the group's ideas and priorities.

Role of Stakeholders. Stakeholders were asked to share with the group their role or their agency's role in the basin, to become familiar with the purpose of the WPP, to contribute to the group's understanding of issues in the basin, and to provide their ideas and their vision for priorities in the WPP.

Stakeholder Inspired Plan. Stakeholders were routinely reminded by the project team that the WPP is not the project team's plan; rather, it is the stakeholders' plan. As facilitators, the project team's goal is to bring out the ideas and issues that the group believes are relevant to the WPP. It is the role of stakeholders to provide the recommendations in the plan and determine action area priorities.

Building the Stakeholder Working Group

To start the process, the project team sought individuals from the local governments and agencies. Using this initial group, the question was posed to them about who else should be part of the planning process?

Who else has a stake in the conditions of the bayou? Who else has resources to improve those conditions? Who do you believe should be aware of this planning effort? This incremental approach to growing the list of stakeholders enabled the project team to bring together from a range of perspectives over 56 individuals. The project team contacted potential stakeholders via email, phone, and personal visits to describe the WPP process and why their involvement on the planning working group would help the bayous (Table E-1).

Table E- 1. Contacted stakeholder group

Organization	Title	First Name	Last Name
Artist Boat	Education Program Manager	Amanda	Rinehart
Bayou Vista Resident	Resident /Real Estate Broker	Nick	Stepchinski
City of Bayou Vista	Mayor Pro-Tem	Vaun	Henry
City of Bayou Vista	Mayor	Daniel	Konyha
City of Bayou Vista	Court Clerk	Lisa	Mitchell
City of Bayou Vista	City Secretary	Paula	Eshelman
City of Hitchcock	Engineer	Llarance	Turner
City of Hitchcock	Mayor	Anthony	Matranga
City of Hitchcock	City Secretary	Lucy	Dieringer
City of La Marque	Finance Director	Suzy	Kou
City of La Marque	Emergency Management Coordinator	Charlene	Warren
City of La Marque	City Manager	Carol	Buttler
City of La Marque	Director of Public Works	Les	Rumburg
City of La Marque	Public Works	Chaise	Cary
City of La Marque	WWTP Operations Supervisor	Jason	Hubbell
City of La Marque	Mayor	Bobby	Hocking
City of La Marque City Council	City Council District C	Robert	Michetich
City of Texas City	Engineer	Doug	Kneupper
City of Texas City	Parks Superintendent	Byron	Sefcik
Galveston Bay Estuary Program	Technical Programs Coordinator	Michelle	Krause
Galveston Bay Estuary Program	Water and Sediment Quality/ Monitoring and Research Coordinator	Lisa	Marshall

Organization	Title	First Name	Last Name
Galveston Bay Estuary Program	Natural Resource Uses Coordinator	Lindsey	Lippert
Galveston Bay Foundation	Water Quality Volunteer Coordinator	Sarah	Gossett
Galveston Bay Foundation	Water Programs Manager	Nathan	Johnson
Galveston County	Galveston County Commissioner, Precinct 2	Joe	Giusti
Galveston County Drainage District #2	Director	Allen	Kuehl
Galveston County Engineering	Assistant County Engineer	Nancy	Baher
Galveston County Engineering	County Engineer	Michael	Shannon
Galveston County AgriLife Extension	County Extension Agent	Phoenix	Rogers
Galveston County AgriLife Extension/ TX Sea Grant	County Extension Agent	Julie	Massey
Galveston County Health District	Air and Water Pollution Services	Taylor	Sanford
Galveston County Health District	Consumer Health Manager	Martin	Entringer
Galveston County Health District	Air and Water Pollution Manager	Lori	Fitzsimmons-Evans
Galveston County MUD 12	President	Bill	Alcorn
Galveston County MUD 12	Board	Bob	Bassett
Galveston County Parks and Cultural Services	Director	Julie	Diaz
Galveston County Parks and Cultural Services	Operations Manager	Robert	Simoneau
Galveston County Road and Bridge	Director of Road & Bridge	Lee	Crowder
Highland Bayou Estates	Resident Stakeholder	Jim	Bethune
Hitchcock Industrial Development Corporation	Chairman	Harry	Robinson
Hitchcock Industrial Development Corporation	Director of Economic Development	Sabrina	Schwertner
Omega Bay HOA	Vice President	Marcy	Scates
Private Resident	Resident Stakeholder	Tim	O'Connell
Scenic Galveston, INC.	Habitat Restoration Chair	Lalise	Mason
TCEQ Region 12	Aquatic Scientist in Surface Water Quality Monitoring	Linda	Broach
TCEQ Region 12	Technical Specialist Water Section, former wastewater inspector	Kim	Laird
Texas A&M AgriLife Extension	Assistant Professor & Specialist -	Jake	Mowrer

Organization	Title	First Name	Last Name
	Soil Nutrient and Water Resource Management		
Texas A&M AgriLife Extension – Texas Coastal Watershed Program	Extension Program Specialist	Charriss	York
Texas Parks and Wildlife Department	Regional Biologist, Water Quality Program	Marty	Kelly
Texas Parks and Wildlife Department - KAST	KAST Region 3	Stephen	Mitchell
Texas State Soil & Water Conservation Board	Regional Watershed Coordinator	Brian	Koch
U.S. Army Corp of Engineers	Deputy Chief, Project Management Branch	Byron	Williams
U.S. Army Corps of Engineers	Hydraulic Engineer, H&H/Water Management Branch	Mario	Beddingfield
University of Houston Coastal Center	Director	Steven	Pennings
WCID #19	Operator	Lee	Grundmann
WCID #19	Board of Directors, Secretary	Phil	Harrison

One-on-One Meetings, Feb-April 2016

“Every Little Bit Helps.”- Most frequent comment from one on one meetings.

A “One-on-one meeting” is an approach taken by the project team to work with stakeholders through an in-person, one-hour meeting at their place of work. The goal was to solicit feedback in a way that was otherwise difficult to do in a group setting and where participants were more likely to be guarded. The project team met with individual stakeholders to introduce project goals and to hear detailed stories about activities they are doing or have done that had a positive impact on the bayou. Stakeholders were also asked which issues are most important for the group to address. The informal, free-form conversation gave the project team a detailed perspective about that stakeholders’ role and activities. Similarly, stakeholders expressed appreciation to the project team for taking time to work with them individually.

56 individuals were contacted and 40 one-on-one meetings were held. Stakeholders were informed that the single text would be prepared and shared with the working group, but that no notes would be attributed to individuals. This was intended so that the full working group could be aware of the kinds of activities happening in the basin. The one-on-one meetings were held during the same phase as the stakeholder working group.

Table E- 2. Entities Contacted for 1-on-1s

Entity
Artist Boat
City of Bayou Vista
City of Hitchcock City Hall

Entity
City of La Marque
City of La Marque City Council
City of La Marque Public Works
City of La Marque WWTP
City of Santa Fe
City of Texas City
Galveston Bay Estuary Program
Galveston Bay Foundation
Galveston County
Galveston County Drainage District #1
Galveston County Drainage District #2
Galveston County Engineering Department
Galveston County Extension
Galveston County Health District
Galveston County MUD 12
Galveston County Parks
Highland Bayou Estates
Hitchcock Industrial Development Corporation
La Marque Economic Development Corporation
Omega Bay HOA
Scenic Galveston, INC.
TCEQ Region 12
Texas A&M AgriLife Extension
Texas Parks and Wildlife Department
Texas Parks and Wildlife Department - KAST
Texas State Soil & Water Conservation Board
U.S. Army Corps of Engineers
UH Coastal Center
WCID #19

Stakeholder Working Group Meetings: Dec 2015-Aug 2016

Whole Group Meetings. Stakeholder working group meetings were the primary way for developing and prioritizing recommendations in the WPP. The advisory meetings were designed as ‘whole group meeting,’ a process where all stakeholders are involved in a single, large meeting. This gave stakeholders the opportunity to directly engage and learn about others’ work in the watershed. This approach was a deliberate choice by the project team. The use of subcommittees to reduce meeting size was purposely avoided. For this planning effort, it was a priority of the project team that participants become familiar

with a broad range of leaders, agencies, organizations, and issues involved in the basin. Hearing about what others were doing and what they believed were required would lead participants to conversations about how to coordinate and prioritize seemingly unrelated activities. The project team believed that from this mix of individual perspectives, a shared sense of purpose and understanding of roles would emerge.

Nine working group meetings were held from December 2015 to September 2016. Working group meetings were weekdays, from lunch to 2:30. Lunches were offered gratis. Three stakeholder agencies- MUD #12, Galveston County Precinct #2 Commissioner, and the City of LaMarque each sponsored a lunch for the group.

Scheduling. Working group meetings were scheduled by selecting dates around key progress points in the project. Tentative meetings dates, usually two options, were sent to the entire advisory list as an online survey. The dates that received the most votes were selected by the project team. In the days leading up to the meeting, an agenda and prior meeting minutes were sent to the group. Working group meeting minutes, agendas, and handouts were uploaded to the website and are publicly accessible.

Project Binders. All participants were given project binders, a three ring binder with tabs for organizing handouts for each meeting and including agenda, meeting minutes, presentations and other relevant documents, such as maps and factsheets (Figure E-1). All maps in the binder have been updated and are in appendix A. Participants were asked to bring the binder with them to each meeting, where the project team would then hand out documents for that meeting. Stakeholders that joined the meetings mid-calendar were given binders complete up that meeting. The binder included approximately 200 pages of material by the final meeting.



Figure E- 1. Project binders given to stakeholders

Meeting 1. December 08, 2015. The first meeting for the advisory group was held in December 2015. The presentation to the group provided an overview of the WPP process and how the Highland Bayou WPP relates to other watershed planning efforts in Texas. The project team also introduced to the participants

the specific water quality issues that triggered the 303(d) listing and why this impacts community quality of life. The team presented the major project milestones and the role of their participation in coming up with plan recommendations.

Meeting 2. January 19, 2016. The second meeting presented a recap of meeting 1 and core concepts to the WPP process. Up and coming events related to water quality issues were covered. Participants were asked which other stakeholders should be contacted for this effort. The second half of the meeting covered specific sources of NPS sources. The concluding portion of the presentation introduced the major subwatersheds of Highland Bayou and the group was asked to contribute to a group discussion about the scope of potential issues in each subwatershed.

Meeting 3. February 24, 2016. In this meeting participants were again asked which other stakeholders should be contacted for this effort. NPS sources and issues were discussed in more detail. The discussion was facilitated and comments were recorded on the whiteboard for group memory. Charriss York, watershed coordinator for the Dickinson Bayou Watershed Protection Plan and Implementation Plan presented to the group and described the process used by that project to move forward. Notes from On-on-One meetings were reviewed as a group.

Meeting 4. March 10, 2016. Discussion on NPS sources was continued from meeting 3. Notes from On-on-One meetings were reviewed. Possible funding sources were covered as a whole group discussion. Group participants discussed the difficulty measuring flow in the bayou.

Meeting 5. May 18, 2016. One on one meeting notes were summarized by the project team in advance of the meeting and distributed to the participants for their review. The meeting included two of four mapping exercises designed for the group (Figure E-2). The goal of the mapping exercise was to review each project idea documented through the one-on-one meetings. What areas of the map do these projects apply to? Is there a history behind these projects that lead us to believe they would be successful or not? Is more information needed to assess if the projects belong in the WPP? The goal was to start organizing over a hundred project ideas into a manageable list for future voting, as well as to foster a group discussion about what implementing these projects would require. Participants were organized randomly around one of two tables to work as team through each of the project ideas. Over two dozen project ideas were involved in the mapping exercise. Wildlife and wastewater were the two quadrants included in the mapping exercise.

Meeting 6. June 14, 2016. The mapping exercise was continued for a third quadrant- Urbanization.

Meeting 7 June 28, 2016. The mapping exercise concluded with the fourth and final quadrant- Stream flow & hydrology.

Meeting 8. July 14, 2016. The mapping exercise outcomes from previous meetings were organized into set of BMPs and program activities for load reductions and awareness. All projects were ranked by their share of votes, and the outcomes were shared with the group.



Figure E- 2. Mapping Exercise to compile list of best management practices and program activities

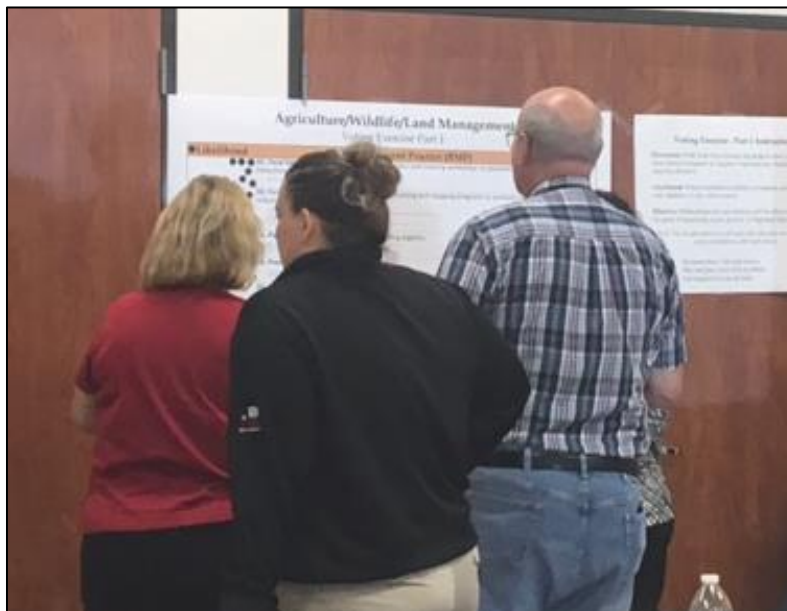


Figure E- 3. Voting exercise used to rank priority project ideas

Meeting 9. August 23, 2016. The stakeholder group was reconvened for meeting 9 to hear a presentation by the US Army Corps of Engineers SW District Galveston about opportunities for funding, projects, and assistance to communities.

Selecting and Ranking Priority Action Areas

BMPs and program activities for load reductions were ranked by a voting exercise for the stakeholder working group. Using project ideas from the one-on-one interviews, a comprehensive list of organized by the project team and released to the stakeholder working group. All BMPs and program activities were included on a poster-sized sheet and divided into one of four quadrants.

A dot voting exercise was prepared where participants were asked to vote on which projects they believed would be most effective and which would be most likely to happen. This approach was taken because stakeholders recognized that a project idea might be effective, but unlikely to happen for a variety of reasons. Their vote changed depending on whether they were being asked about effectiveness or likelihood. The dots for likelihood and effectiveness exercise were combined into a single score for each project. Participants who could not attend were sent a ballot by email. The top ten projects became priority action areas for which detailed tables were prepared. All other action areas are also included in the WPP.

Future work with the Stakeholder Working Group

After Fall 2016, the continuation of the Highland Bayou WPP will depend on several factors, including funding and related nearby watershed planning projects. The Galveston County Coalition of Watersheds, a group lead and managed by the lead project coordinator for Dickinson Bayou, Charriss York in Texas A&M's Texas Coastal Watershed Program will be starting at the same time. Additional funding is sought to update certain parts of the modeling, and once the analysis is released, it will require that the group revisit and approve certain parts of the WPP. The target timeline is for 2017-2018 for the updated modeling data.

The stakeholder working group will continue to exist as an email list, whereby information and project next steps can be communicated to the group. It is likely that the working group will form working committees to take on specialized projects and tasks in the basin.

General Outreach & Publicity

General outreach and publicity refers to methods and activities for publicizing the planning process to citizens and stakeholders. This set of activities will be conducted by Texas A&M AgriLife Extension Service, volunteers, and active stakeholders, as appropriate to the purpose of the outreach.

Facebook. A Facebook group page, the "Moses-Karankawa Bayous Alliance" was created for the project and planning process. Administrators for the page are Extension staff. The Facebook page is a key outreach tool for informing citizens and building awareness about issues in the basin. The page posts project related information, such as meetings, project status, events, survey results, relevant news items, and posts that congratulate the work of volunteers and stakeholders. By clicking on the Facebook page "Like" button, thirty-two people are directly linked with MoKa Bayous Alliance as of summer 2016.

Website. A project website, <http://agrilife.org/highlandbayou/>, has been created for the project. Administrators for the page are Extension staff. The project web site is the primary online presence for the Characterization Report and the Watershed Protection Plan. The site contains pages where documents,

maps and images are stored online and retrieved by the public. Stakeholder registration forms will be included on the website as a way to bring in additional stakeholders.

The website is organized by the following tabs (*italics*) and pages (*bullets*):

About

- Project Background
- What is a watershed?
- What is a watershed protection plan?

Project Documents

- Highland Bayou Characterization
- Project Maps

Meetings

- Workgroup Meetings
- Events

Get Involved

- Stakeholders
- Volunteers

Actions Matter

- Water Conservation
- Automotive
- Boating
- Household Hazardous Waste
- Fats, Oils & Greases
- Landscaping and Lawn Care
- Pet Waste
- Septic Systems
- Feral Hogs
- SWW

Learn & Teach

- Estuaries & Jobs
- Books & Publications
- Fact Sheets & Posters
- Games, Quizzes & Worksheets



Figure E- 4. Screen capture of the website

WaterNews RoundUp. WaterNews RoundUp was a weekly posting of news articles covering water quality issues in Texas and re-posted on MoKaBayousAlliance.org. Using the Google alerts service and local news outlets, a selection of timely local articles were selected for the Round-Up. Posts consist of a brief description of the article and a comment about the potential significance, concluding with a link to the article. Articles may be selected because they highlight a local issue or serve to educate the public about important water related issues.

TrashBash. On April 02, 2016, the Moka Bayous Alliance set up a table at Trash Bash on Reitan Point near Highland Bayou. The event is a semi-annual program where volunteers come to collect trash and litter from public areas. The event is an opportunity to reach out to people about work being done in the bayou and how they can make a difference cleaning up the bayous. The April event attracted 167 volunteers and the outreach table the alliance hosted reached 45 direct contacts. The table was set up with a pledge for volunteers to improve their stewardship of water and resources and a mapping exercise to communicate the connection between storm drains and the Galveston Bay ecosystem.



Figure E- 5. Students learning about how their storm drain *connects* to Galveston Bay at the Moka Bayous Alliance table during Trash Bash.

Ghirardi Watersmart Park Tour. In May 2016, the project team and stakeholders joined the Watersmart Park Tour to learn about WaterSmart practices and GI. The event brought together approximately 7 stakeholders and residents.

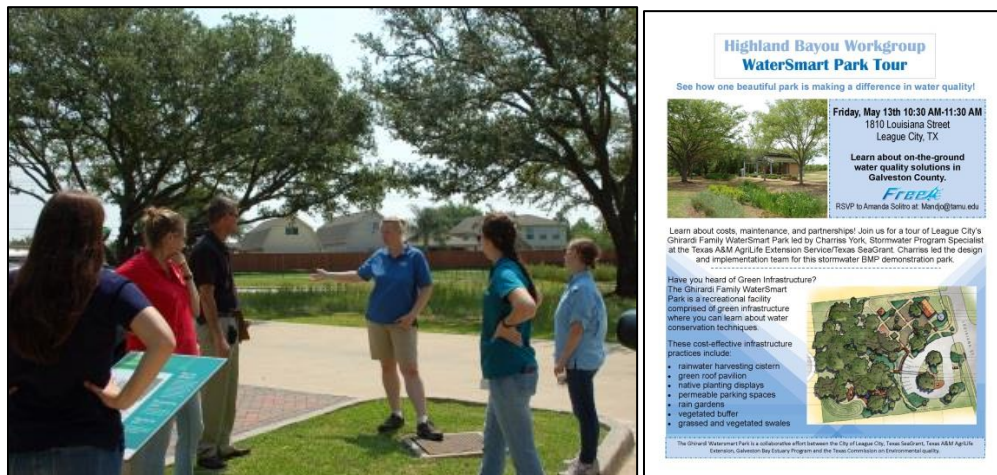


Figure E- 6. Ghirardi WaterSmart park tour facilitated for the stakeholder group.

Stakeholder Email. An email list is used to notify stakeholders of up-and-coming meetings and to share information about the project.

Media Relations. Extension project staff will reach out to local press and media sources to publicize events, meetings, timely issues, and public education. Media postings and press releases will be designed to educate, inform, engage, or motivate the target public or build general awareness, support, and interest.

Logo & Project Image. A logo has been designed and will be used consistently on project documents. The logo will be used consistently online, in presentations, and in project documents.

City Council Meetings. Extension has contacted each municipality and certain stakeholders. This was completed before the Kick-Off meeting. Extension staff presented the project, its importance, and the next steps.

Table E- 3. City Council meeting days, times, and locations

Municipality	Calendar	Time	Address
La Marque	The 2nd and 4th Monday	6:00 p.m.	City Council Chambers. 1109-B Bayou Road, La Marque, Texas 77568
Hitchcock	City Commission Meetings are regularly scheduled for the third Monday of the month	6:30 p.m.	Hitchcock City Hall. 7423 Highway 6, Hitchcock, TX 77563
Texas City	The City Commissioners meet the first and third Wednesday of each month	5:00 p.m.	City Hall. 1801 9th Avenue North, Texas City
Bayou Vista	The City Council meets the last Tuesday of the month.	6:30 p.m.	Community Center. 783 "C" Marlin (the corner of Neptune Drive and Marlin.)

Newsletters and Letters to the Editor: Many organizations in the watershed have in-house newsletters they send to their members. For example, the City of Bayou Vista sends a city newsletter to each household on a regular schedule. On a case-by-case basis, the project team will approach those organizations about the possibility of including information and articles in their newsletters.

WPP Action Area Outreach Activities

The Highland Bayou project team and stakeholder group will engage the resources of multiple organizations and programs to support the needs of outreach and environmental awareness in the basin. Activities listed here are divided into selected WPP Action Areas.

Education and outreach programs can be implemented through a number of approaches. Localities can take the initiative by creating their programs. Or, they can partner with existing programs and customizing those existing programs to the needs specific to that community.

10 out of 38 Action Areas have some focus on education and outreach in the watershed. Action Areas with minor outreach activities are not included here. Detailed information on all 38 activity areas are in Element C: Management Measures.

Action Area (06) - Wipes, Fats, Oils, Grease This activity area addresses homeowner awareness about the disposal of waste at home. The disposal of wipes and FOG in sinks and toilets is a major cause of leakages and backups in the municipal sewage system result in untreated sewage flowing into the stormwater system. System blockages result in costly repairs borne by the city (and taxpayers) and contribute bacteria and nutrients to local waterways. The primary goal is to educate residents about the proper disposal of these items and the impact improper disposal has on the city's system and ultimately the bayou. The most likely lead agency on this activity are the municipalities in the basin, although GBF and other entities may have programs that compliment this activity area.

Program activities include a mix of approaches including inserts in utility bills, Cease the Grease collection supplies, and Potty Potty educational resources for residents and students. Approaches should consider the targeted audience, whether that includes schools, city hall, public parks, or apartment complex mailbox areas, among other locations.

Action Area (19) - Pet Waste Education Pet waste is a public health issue, and pet owners should be educated about the impacts to health and the environment by not picking up pet waste. Bacteria from pet waste is a known contributor to bacteria levels in waterways. The project team estimates that there are over 5000 dogs in the watershed, and as Highland Bayou becomes more developed, the number of pets will increase. Education will focus on the connection between pet waste and water quality. Resources for this may include public awareness posters, pet waste pick up bags, and pet waste pick up stations in public areas. Likely lead agencies are Texas A&M AgriLife and municipalities.

Action Area (21) - Water Conservation Water conservation fits within the broad goal of stewardship for how water resources are used and wasted in the watershed. Through the use of WaterSmart landscaping and rain water reuse, site level stormwater runoff can be reduced while lowering water bills. Watershed partners can achieve this through a combination of sponsored workshops, practice demonstrations, factsheets, web resources, and public information campaigns. Municipalities can also use utility bills to distribute awareness campaign materials about practices around the home that can reduce water use. Likely lead agencies are state resources agencies, university programs, and municipalities.

Action Area (22) - Landscaping Education Multiple university and agency programs have resources to educate residents and landscaping professionals about residential yard waste and fertilizer management. In the City of Bayou Vista, homeowners are made aware of the impact that grass clippings have on water quality, reduced oxygen and resulting fish kills. The City even has an ordinance prohibiting the disposal of clippings in canals. More broadly in the basin, the educational focus will be on following recommended fertilizer applications and educating users about the negative impacts that excessive use has on nutrient levels in the bayou, including algae blooms and fish kills. Landscaping education is also includes WaterSmart practices and raingarden design principles. These practices can slow and reduce stormwater runoff from sites. Through a mix of educational workshop and demonstration exercises, residents can learn about best practices and benefits to the homeowner and the bayou. Programs exist in the region for providing things like rain barrels at a discount cost. Likely lead agencies are local resource conservation groups and Texas A&M AgriLife.

Action Area (24) - Green Infrastructure GI is an emerging practice where developers through the design of their projects harness the ability of natural systems to slow down and infiltrate stormwater runoff. This can include such simple practices as planters in parking lots to more sophisticated features like permeable pavement, engineered bioswales and green roofs. Education on this topic should take two approaches. The first is to educate designers and construction firms about the benefits to their bottom line and to the environment of incorporating these practices into their designs. The other approach is to improve public awareness through interpretive signage at demonstration sites about the benefits of these practices. Likely lead agency is Texas A&M AgriLife Extension Service.

Action Area (25) - Watershed Signage Watershed signage can help improve awareness that local drainages are actually part of the larger bayou system. Road-side signs about watershed boundaries have an official appearance and may reinforce awareness about watersheds. The likely lead agencies are municipal public works and County Road and Bridge department.

Action Area (26) - Illegal Dumping Prevention Prevention is about providing people with alternatives to illegal dumping and through education and awareness. There are multiple programs administered by not-for-profits, municipalities and the county for the disposal of various waste items, ranging from litter to surplus construction materials and tires. Priority tasks may target vacant properties, dead end streets, and public access points, such as parks. Alerting residents to opportunities for proper disposal of hazardous materials, usually scheduled throughout the year, can improve participation in these programs. Likely lead agencies are not-for-profit organizations, municipalities, state and county agencies.

GBAN is a system that allows residents to report online their sightings of illegal dumping. The GBAN sponsor, the GBF, relays these reports to the appropriate enforcement agency. The program utilizes a smartphone app and websites to facilitate the reporting process.

H-GAC sponsors a camera sharing program that allows participants the use of a camera to surveil and photograph illegal dumping. Incidents are reported to H-GAC and ultimately to the appropriate authorities.

Action Area (27) - Residential Waste Galveston County operates a hazardous materials collection for household hazardous waste. This can include household items like solvents, oils, batteries, and fuels. Improved awareness among residents in the basin about this program can improve participation and reduce the instances of these materials being dumped down drains and outdoors. League City, although not in the basin, collects unused pharmaceuticals, so that they are not flushed into the wastewater system. Likely lead agencies are Texas A&M AgriLife, municipalities, and not-for-profit conservation groups.

Illegal dumping may also be achieved through public signage or marking. This may include drainage stenciling or markers to alert residents that yard and street runoff flows into nearby waterways, and to limit the disposal of waste, oil, or other hazardous materials in the storm drain.

Action Area (31) - Feral Hog Workshops. Feral hog populations in the bayou contribute bacteria and sediment into the bayou. Knowing how to manage hog populations, along with state and county regulations, is important. Texas A&M AgriLife sponsors a training program for local hunters and

residents, although hunting is not allowed within the county.. Awareness should be targeted to rural property owners or land owners having or are near large open spaces. Jack Brooks Park and the adjoining UH Prairie Center are known to have feral hog populations. Likely lead agencies are Galveston county parks and Texas A&M AgriLife.

Action Area (36) - Natural Resource Education The bayou can be a great natural asset, particularly for recreation and education. Kayak tours (Artist Boat) are a way to bring youth and adults into the bayou to observe this natural system, its biota, and see how activities on the land impact the waterway, such as litter and junk, fishing line, algae blooms, and pollutant sheen on the water surface. A visceral connection with the natural system is a high impact educational activity, and can leave a lasting impression about the impact humans have on their waterways. Likely lead agencies are Texas A&M AgriLife and not-for-profit conservation groups like Artist Boat and GBF.

Program Resources Available for Action Area Activities

Numerous programs are available to support and potentially lead education and outreach activities in the basin. These programs were identify by the stakeholder working group, and are listed in Table E-4. Detailed information for some of these programs can be found in Element D: Technical and Financial Assistance.

Table E- 4. Education and Outreach resources available for Action Area activities

Organization	Program
Artist Boat	Youth Eco-Art Workshop and Adventures
Galveston County/City of Dickinson	County Tire Recycling Program
City of League City Police Department	National Drug Take Back Event
Don't Mess With Texas	Adopt A Highway
Don't Mess With Texas	Trash Off
Galveston Bay Estuary Program	Back the Bay Program
Galveston Bay Foundation	Cease the Grease
Galveston Bay Foundation	Dockwalkers
Galveston Bay Foundation	Galveston Bay Action Network
Galveston Bay Foundation	Living Shorelines
Galveston Bay Foundation	Pump Don't Dump Campaign
Galveston Bay Foundation	Rain Barrel Workshops
Galveston Bay Foundation	Water Warriors
H-GAC	Disaster Debris Clearance and Removal Services
H-GAC	H-GAC Texas Stream Team
H-GAC	Illegal Dumping & Camera Sharing Program
H-GAC	Household Hazardous Waste Disposal
H-GAC	OSSF Visual Inspection Training

Organization	Program
Houston-Galveston Subsidence District	Water Detective WaterWise Kit
Keep Texas Beautiful	KTB Training
Keep Texas Beautiful	KTB Youth & Education Program
National Wild Turkey Foundation	Hunter Education Program
Potty Patty	Potty Patty Patrol
TCEQ	Sanitary Sewer Overflow Initiative
Texas A&M AgriLife	Bacterial Source Tracking
Texas A&M AgriLife	Feral Hog Bounty Program
Texas A&M AgriLife	Feral Hog Management Seminar
Texas A&M AgriLife (TCWP)	Galveston Coalition of Watersheds
Texas A&M AgriLife	Texas Riparian and Stream Ecosystem Workshop
Texas A&M AgriLife	WaterSmart Program
Texas A&M AgriLife (TCWP)	Wetland Restoration Program
Texas Wildlife Association	Texas Youth Hunting Program
TPWD	Texas Landowner Incentive Program
TWDB	Major Rivers Education Program
TWDB	Rainwater Harvesting Training
TWDB	Water Resource Educator Workshops