Galveston Bay Comprehensive Conservation and Management Plan (CCMP) Revision Process

Sarah Bernhardt
July 13, 2016
Watershed Coordinators Roundtable
Waco, Texas
28 National Estuary Programs
The Galveston Bay Estuary Program

- A Program of TCEQ established in 1989 to provide comprehensive ecosystem-based management for this economically valuable resource.
- **Mission:** To preserve and protect Galveston Bay for generations to come.
- **Non-regulatory, voluntary partnership**

Galveston Bay Plan, approved in 1995.
Galveston Bay Watershed

- About half of Texas lives within Galveston Bay watershed
- Lower watershed focus since 1989
What do we do?

• Implement *The Plan*:
  – foster collaboration
  – build partnerships
  – leverage & acquire funds
  – implement priority projects

• Outreach
  – Presentations, exhibiting
  – support partner events
    • Bay Day and Trash Bash

• Information sharing
  – Status and Trends monitoring
  – State of the Bay Report
  – State of the Bay Symposium
Stakeholder Involvement

- Addressing multiple bay uses requires collaboration.

**Council**: 41 members
- 5 subcommittees:
  - Water & Sediment Quality - WSQ
  - Natural Resources Uses - NRU
  - Public Participation and Education - PPE
  - Monitoring and Research - M&R
  - Budget and Priorities - B&P
CCMP Revision

A revision of *The Galveston Bay Plan*

- *The Galveston Bay Plan* is the CCMP for the Galveston Bay watershed
- This process is currently ongoing
  - Has been called Plan Review, Strategic Action Plan, Plan Update, etc.
  - EPA is requiring that we complete a CCMP Revision
    - Updating language, goals, actions, etc. where necessary

### CCMP Revision Process

<table>
<thead>
<tr>
<th>Steps</th>
<th>Description</th>
<th>Tentative Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPWG identifies plan review priorities</td>
<td>The current CCMP is deemed relevant and comprehensive. No action plans are completed. An extensive public scoping process was completed between 2003-2007 resulting in the Charting the Course in 2015 Galveston Bay Strategic Action Plan (SAP) (G-085 4/09). The CCMP revision will focus on identifying priorities for the next 5-10 years through public input primarily through the subcommittees of the GBC.</td>
<td>June 10, 2012</td>
</tr>
<tr>
<td>CWG outlines characterization needs</td>
<td>Identification of the issues of concern</td>
<td>November 26, 2012</td>
</tr>
</tbody>
</table>
“The purpose of *The Galveston Bay Plan* is to address threats to the bay resulting from pollution, development, and overuse. To address these threats, five years of work commenced in 1990, consisted of three phases: (1) identification of the specific problems facing the bay; (2) a bay-wide effort to compile data and information to describe status, trends, and probable causes related to the identified problems; and (3) creation of The Plan itself to enhance governance of the bay at the ecosystem level.”

*The Galveston Bay Plan* (p. xi)
<table>
<thead>
<tr>
<th>Priority Ranking</th>
<th>The 17 Ranked Priority Problems from the 1995 Galveston Bay Plan</th>
</tr>
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<tbody>
<tr>
<td>#1 Priority</td>
<td>Vital Galveston Bay habitat like wetlands have been lost or reduced in value by a range of human activities, threatening the bay’s future sustained productivity</td>
</tr>
<tr>
<td>#2 Priority</td>
<td>Contaminated runoff from nonpoint sources degrades the water and sediments of the bay tributaries and some near-shore areas</td>
</tr>
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<td>#3 Priority</td>
<td>Raw or partially treated sewage and industrial waste enters Galveston Bay due to design and operational problems, especially during rainfall runoff</td>
</tr>
<tr>
<td>#4 Priority</td>
<td>Future demands for freshwater and alterations to circulation may seriously affect productivity and overall ecosystem health</td>
</tr>
<tr>
<td>#5 Priority</td>
<td>Certain toxic substances have contaminated water and sediment and may have a negative effect on aquatic life in contaminated areas</td>
</tr>
<tr>
<td>#6 Priority</td>
<td>Certain species of marine organisms and birds have shown a declining population trend</td>
</tr>
<tr>
<td>#7 Priority</td>
<td>Shoreline management practices frequently do not address negative environmental consequences to the bay, or the need for environmentally compatible public access to bay resources</td>
</tr>
<tr>
<td>#8 Priority</td>
<td>Bay habitats and living resources are impacted by spills of toxic and hazardous materials during storage, handling, and transport</td>
</tr>
<tr>
<td>#9 Priority</td>
<td>Seafood from some areas in Galveston Bay may pose a public-health risk to consumers of subsistence-or recreational-catch seafood as a result of the potential presence of toxic substances</td>
</tr>
<tr>
<td>#10 Priority</td>
<td>Illegal connections to storm sewers introduce untreated wastes directly into bay tributaries</td>
</tr>
<tr>
<td>#11 Priority</td>
<td>Dissolved oxygen is reduced in certain tributaries and side bays, harming marine life</td>
</tr>
<tr>
<td>#12 Priority</td>
<td>About half of the bay is permanently or provisionally closed to the taking of shellfish because of high levels of fecal coliform bacteria that may indicate risk to shellfish consumers</td>
</tr>
<tr>
<td>#13 Priority</td>
<td>Water and sediments are degraded in and around marinas from boat sewage and introduction of dockside wastes from nonpoint sources</td>
</tr>
<tr>
<td>#14 Priority</td>
<td>Some bay shorelines subject are subject to high rates of erosion and loss of stabilizing vegetation due to past subsidence and sea-level rise and current human impacts</td>
</tr>
<tr>
<td>#15 Priority</td>
<td>Illegal dumping and waterborne and shoreline debris degrade the water quality and aesthetics of Galveston Bay</td>
</tr>
<tr>
<td>#16 Priority</td>
<td>Some tributaries and near-shore areas of Galveston Bay are not safe for contact-recreational activities such as swimming, wade-fishing, and sailboarding due to the risk of bacterial infection</td>
</tr>
<tr>
<td>#17 Priority</td>
<td>Some exotic/opportunistic species (e.g. nutria and grass carp) threaten desirable native species, habitats, and ecological relationships</td>
</tr>
</tbody>
</table>
Plan Structure

Contents at a Glance

- Background
  - Plan creation
  - Value of the Bay
  - Challenges and proposed solutions
- 17 Ranked Priority Problems
  - 9 Action Plans
  - 2 Supporting Action Plans
  - 82 Action Items
- Support Sections
  - Regional Monitoring Program
  - Layout of the Plan’s Implementation
  - Estimation of Costs and Funding Sources
Charting the Course to 2015

- A Galveston Bay Strategic Action Plan
  - Developed between 2004-2007
  - An update for the Plan
  - A guide for Plan implementation
  - Accounts for changes in ecosystem demands and challenges
Galveston Bay’s Challenges

• Habitat Conservation
  – No. 1 priority identified by stakeholders.
• Public stewardship and recognition of Galveston Bay’s value as a natural resource.
• Water quality and water conservation
## RE-EVALUATING PRIORITIES

<table>
<thead>
<tr>
<th>Ranking (VHP)</th>
<th>Issue Area</th>
<th>Strategic Action Plan (SAP) Goals as Ranked in the 2009 publication Charting the Course to 2015</th>
</tr>
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<tr>
<td>#1 Priority</td>
<td>HP</td>
<td>Protect existing coastal habitats in the Lower Galveston Bay Watershed</td>
</tr>
<tr>
<td>#2 Priority</td>
<td>PPE</td>
<td>Create a sense of personal ownership and shared responsibility for all cultural components of the community including the public, industry, and government</td>
</tr>
<tr>
<td>#3 Priority</td>
<td>HP</td>
<td>Restore and enhance coastal habitats in the Lower Galveston Bay Watershed</td>
</tr>
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<td>#4 Priority</td>
<td>FW</td>
<td>Ensure freshwater inflows necessary to maintain the balance of salinity, nutrients, and sediments required to support a productive estuary</td>
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<td>#5 Priority</td>
<td>NPS</td>
<td>Reduce NPS pollutant loads</td>
</tr>
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<td>#6 Priority</td>
<td>PPE</td>
<td>Obtain information to develop and evaluate Estuary Program communication efforts</td>
</tr>
<tr>
<td>#7 Priority</td>
<td>PS</td>
<td>Maintain the capacity and integrity of municipal sanitary sewer collection systems to eliminate sewage bypasses and unauthorized overflows</td>
</tr>
<tr>
<td>#8 Priority</td>
<td>PH</td>
<td>Minimize the risk of waterborne illness resulting from contact recreation</td>
</tr>
<tr>
<td>#9 Priority</td>
<td>RSC</td>
<td>Supply the council and its members with the information and assessments they need to protect and manage the resources of the Galveston Bay Ecosystem</td>
</tr>
</tbody>
</table>
Preparing for revision

Early stages
- Determined continued approval of current Plan
- 2013-2014: Began work within subcommittees
- Identified issues of concern
- 2014: Gathered Success Stories topics and began drafts

Implementation Review
- Summer 2014: Completed Blue Sheets
- Summer 2014: Conducted Implementation review of GBEP funded projects
- Summer 2015: Conducted implementation review of all goals, objectives and actions in both the CCMP and SAP
- Summer 2016: Share draft implementation review with partners to complete data collection
Implementation Review Tasks Completed:

Subcommittees reviewed existing Plan language and provided edits in 2013-2014

Point Sources of Pollution Action Plan Flowchart (Reference to p. 211, *The Galveston Bay Plan*)

Key: Black text is from the original *The Galveston Bay Plan* flowchart. Red text indicates changes for the plan review document. Strike-through shows where text is being removed.

<table>
<thead>
<tr>
<th>Priority Problems</th>
<th>Raw or Partially treated sewage and Industrial waste Enters Galveston Bay Due to Design and Operational Problems</th>
<th>Illegal Connections to Storm Sewers Introduce Untreated Wastes Directly into Bay Tributaries</th>
<th>Certain Toxic Substances Have Contaminated Water and Sediment and May Have a Negative Effect on Aquatic Life in Contaminated Areas</th>
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<tr>
<td>Goals</td>
<td>Eliminate SSQs, Bypassed/Overflow, or Other Causes of Untreated Wastewater Entering Galveston Bay</td>
<td>Eliminate Illegal Connections to Storm Severs</td>
<td>Eliminate Harm from Produced Water Discharges: Industrial waste</td>
</tr>
<tr>
<td>Objectives</td>
<td>Develop Sufficient Overflow and Bypass Capacity to Control a Storm of Up to 5-Year Frequency</td>
<td>Ensure That All Wastewater Treatment Plants Operate in Accordance With Permit Requirements, Including Consolidation of Small Plants Where Feasible</td>
<td>Eliminate Harm from Produced Water Discharges by Small Plants</td>
</tr>
<tr>
<td>Action Items</td>
<td>Action PS-1: Determine Location and Extent of Bypass and Overflow Problems</td>
<td>Action PS-3: Regionalize Small Wastewater Treatment Systems</td>
<td>Action PS-5: Implement a Dry-Weather Illegal Connection Program</td>
</tr>
<tr>
<td></td>
<td>Action PS-2: Eliminate or Reduce Bypass and Overflow Problems</td>
<td>Action PS-4: Improve Compliance Monitoring and Enforcement for Small Dischargers</td>
<td>Cross reference references to tissue contaminants (dioxins/PCBs) with the Public Health action plan. Note: PH-6: Produced water discharges are now illegal due to a Sierra Club lawsuit. There is a new rule governing this, need to update the Action Item and note in the “box”</td>
</tr>
</tbody>
</table>
Implementation Review Tasks Completed: Blue-Sheet Concept

- Breakdown of the 82 actions from *The Galveston Bay Plan*
  - Changes in priority
  - Efforts between FY05-14
  - Problem and Goal addressed
  - Related actions
  - Previous revisions discussed
  - Comments about changes in policy, responsible agency, etc.
- One of several tools to assist with review of actions
- Internal exercise with GBEP intern and staff

**Public Health Protection Action Items**

<table>
<thead>
<tr>
<th>Review Period: FY05-14</th>
<th>Number of Baseline Actions: 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1: Develop a seafood consumption safety program</td>
<td></td>
</tr>
</tbody>
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**Possible Revision:**
"Coordinate with TDSHS on a Seafood Consumption Safety Program"

**Rationale for Revision/Comments:**
Update to reflect current conditions;

**1995 Priority Ranking:** Medium
**2009 Priority Ranking:** High
**2015 Recommended Priority:**

**1995 Priority Problem Addressed:** #9: Seafood from some areas may pose a public health risk due to the potential presence of toxic substances

**SAP Goals Addressed:** Reduce human-health risk resulting from consumption of seafood contaminated with toxic substances; Reduce the concentration of toxins in key species of concern

**Related Actions:** NPS-4, 6, 11, 13, 16; PPE-3

**Number of GBEP projects addressing action in review period:** 1
# Implementation Review Tasks

**Completed:**

**Implementation Progress Crosswalk**

## Point Sources of Pollution Action Plan Flowchart (Reference to p. 211, *The Galveston Bay Plan*)


<table>
<thead>
<tr>
<th>Priority Problems</th>
<th>Goals</th>
<th>Objectives</th>
<th>Objective Implementation Progress</th>
<th>Action Item</th>
<th>Comments/Suggestions</th>
</tr>
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<tr>
<td>Raw or Partially treated sewage and industrial waste enters Galveston Bay Due to Design and Operational Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan 1: Eliminate Wet Weather Sewage Bypasses/Overflows</td>
<td></td>
<td>Plan A: Develop Sufficient Overflow and Bypass Capacity to Control a Storm of Up to 5-Year Frequency</td>
<td>Wastewater plants must be designed to handle a 2 hour peak flow (usually double the standard permitted flow).&lt;sup&gt;3&lt;/sup&gt;</td>
<td>PS 1: Determine Location and Extent of Bypass and Overflow Problems</td>
<td>Most municipalities don’t report overflows. Very little data because it is self-reported. City of Houston began to update wastewater infrastructure starting in 2005, the city replaces 33% of their collection system every 10 years.&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>SAP 2: Maintain the capacity and integrity of municipal sanitary sewer collection systems to eliminate sewage bypasses and unauthorized overflows</td>
<td></td>
<td>SAP A: Identify systems with deficiencies and promote TCEQ efforts to enter into compliance agreements with municipalities with sanitary sewer overflows</td>
<td>TCEQ's Sanitary Sewer Overflow Initiative&lt;sup&gt;4&lt;/sup&gt; established a voluntary program to remove water treatment facilities from overflow enforcement as long as they meet requirements and are working to update their infrastructure.</td>
<td></td>
<td>TCEQ does not collect data for the number of overflows, some municipalities have this data&lt;sup&gt;2&lt;/sup&gt; but a coordinated data collection effort is needed (see BIG goals&lt;sup&gt;5&lt;/sup&gt;).</td>
</tr>
<tr>
<td>SAP B: Collaborate with owners and operators of Phase 1 and Phase 2 municipal separate storm sewer systems (MS4s) on development and Implementation of storm water management programs to eliminate unauthorized discharges into the MS4s</td>
<td></td>
<td>SAP B:</td>
<td>Some progress.</td>
<td></td>
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<sup>1</sup> Data courtesy of City of Houston, TCEQ, and other agencies.

<sup>2</sup> Data courtesy of City of Houston, TCEQ, and other agencies.

<sup>3</sup> Data courtesy of City of Houston, TCEQ, and other agencies.

<sup>4</sup> Data courtesy of City of Houston, TCEQ, and other agencies.

<sup>5</sup> Data courtesy of City of Houston, TCEQ, and other agencies.
CCMP Revisions and Updates

New guidance for NEPs issued by EPA in July 2015

- The CCMP is a living document, and EPA recommends that each NEP review its CCMP every three-to-five years to determine whether a revision or update is needed to keep the CCMP relevant.
  - If major changes are needed, the CCMP should be revised.
  - If minor changes are needed, the CCMP should be updated.

Timing
- EPA recommends that by September 30, 2015, those NEPs that have never revised their CCMPs will start to revise them. By the end of FY 2018 (September 30, 2018), each NEP is strongly encouraged to have revised its CCMP at least once.
- To ensure that CCMPs continue to be relevant, EPA recommends that each NEP revise its CCMP at least once every ten years.
CCMP Revision Guidance from EPA

• A revised CCMP should include revisions to the following sections of the original CCMP
  – monitoring plan
  – finance plan
  – education/outreach
  – public involvement strategies
  – habitat protection/restoration plan
• A revised CCMP should include the following:
  – new priorities, goals, objectives, and action plans
  – new action plans that indicate:
    • whether they replace or enhance former plans,
    • which entities will serve as lead implementers,
    • a timeline and milestones for completion, and
    • performance measures (quantitative/environmental results measures wherever possible)
• EPA expects that all CCMPs revised by the end of FY 2020 will be informed by a broad, risk-based climate change vulnerability assessment
CCMP Revision will:

- Fulfill EPA requirements for CCMP revisions
- Update the language of *The Galveston Bay Plan* to better reflect current challenges and priorities
Next Steps toward a revision

Moving Forward: Plan Revision

- Formalize revision process
  - October 2016 GBC approves H-GAC to facilitate revision

- Summer 2016: Internal review of other NEP CCMP priorities.

- September 2016 to Fall 2017: GBC will revise CCMP with H-GAC facilitation

- Fall 2017 Final CCMP presented to GBC

- 2018: Final plan is submitted to TCEQ and EPA
Houston-Galveston Area Council (H-GAC)

- H-GAC will work with the Estuary Program, Galveston Bay Council, subcommittees, and public
- Timeframe: September 2016-October 2017
Plan Revision Tasks

Facilitate Stakeholder Involvement

Encourage Public Engagement

Seek Public and Agency Comments

Secure Council and Agency Approval
Plan Revision Document

- Utilize Existing Documents
- Identify New and Emerging Issues
- Prioritize and Track Progress
- Facilitate, Coordinate and Collaborate
Project Time Line

9/2016

Plan Revision Framework and Prioritization 9/2016-1/2017

Public Engagement Plan

1st. Public Workshop 10/2016

Prioritization and Framework Development

2nd. Public Workshop 1/2017

Draft Plan Revision

Draft Plan Revision

3rd. Public Workshop 4/2017

Agency Draft Plan Review

Public Comment Period 6/2017

Address Comments

Plan Revision Agency Approval

GBC Approval 10/2017

10/2017

GBC/Subcommittee

Subcommittee

GBC Meeting

Subcommittee

GBC Meeting

Subcommittee

GBC Meeting

GBC Open House

Monthly Plan Revision Meetings
## Non-Point Source Pollution Action Plan

<table>
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<td>5. Reduce Marina Water Quality Degradation Associated With Sewage</td>
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Non-Point Source Pollution Action Plan

Plan-1 Goal
Reduce Urban NPS Pollutant Loads

Objective Plan-A: Establish the regulatory framework for NPS control throughout the entire immediate Galveston Bay waters within five years

Objective Plan-B: Reduce NPS Loads from existing development

Objective Plan-C: Reduce urban NPS loads from new development Using Technology-Based Best Management Practices

SAP-1 Goal
Reduce NPS Pollutant Loads

Objective SAP-A: Support development and implementation of Watershed Protection Plans and Total Maximum Daily Load (TMDL) implementation plans

Objective SAP-B: Coordinate an effective NPS campaign with the Public Participation and Education Subcommittee to foster public awareness of the consequences of human activities, including inappropriate disposal of sewage by boaters

Objective SAP-C: Support development and implementation, in coordination with the Monitoring and Research Subcommittee, of effective

Objective SAP-D: Support a regional approach to implementation of storm water management plans, including development of programmatic and numerical baselines. Coordinate with the Estuary Program Monitoring and Research Subcommittee to identify baselines in local tributaries for common pollutants to better monitor and track results

Objective SAP-E: Support and foster dialogue between registered sanitarians and other sanitary-waste specialists to encourage improvement in septic systems
# Non-Point Source Pollution Action Plan

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<td><strong>Objective Plan-B:</strong> Reduce NPS Loads from existing development</td>
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<th>SAP-1 Goal</th>
<th>Reduce NPS Pollutant Loads</th>
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<td><strong>Objective SAP-A:</strong> Support development and implementation of Watershed Protection Plans and Total Maximum Daily Load (TMDL) implementation plans</td>
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<td><strong>Objective SAP-B:</strong> Coordinate an effective NPS campaign with the Public Participation and Education Subcommittee to foster public awareness of the consequences of human activities, including inappropriate disposal of sewage by boaters</td>
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<td><strong>Objective SAP-C:</strong> Support development and implementation, in coordination with the Monitoring and Research Subcommittee, of effective</td>
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Non-Point Source Pollution Action Plan

Priority Problem
• Contaminated runoff from non-point sources degrades the water and sediments of the bay tributaries and some near-shore areas

Plan-1 Goal/SAP-1 Goal
• Reduce urban NPS pollutant loads

Plan-B Objective
• Reduce NPS loads from existing development

Objective Implementation Progress
• 15 out of 19 subbays and tributaries in the Galveston Bay watershed have shown improvement in nutrient concentrations since 1970s.
Non-Point Source Pollution Action Plan

### Plan-1 Goal
Reduce Urban NPS Pollutant Loads

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### SAP-1 Goal
Reduce NPS Pollutant Loads

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Nonpoint Source Pollution
Action Plan

Priority Problem
• Contaminated runoff from non-point sources degrades the water and sediments of the bay tributaries and some near-shore areas

Plan-1 Goal/SAP-1 Goal
• Reduce urban NPS pollutant loads

Plan-A / SAP-D Objective
• Plan-A: Establish the regulatory framework for NPS control throughout the entire immediate Galveston Bay waters within five years
• SAP-D: Support a regional approach to implementation of storm water management plans, including development of programmatic and numerical baselines. Coordinate with the Estuary Program Monitoring and Research Subcommittee to identify baselines in local tributaries for common pollutants to better monitor and track results

Objective Implementation Progress
• Texas Nonpoint Source Management Program jointly administered by the TCEQ and TSSWCB. Shift from top down to bottom up approach.
## Freshwater Inflow and Bay Circulation Action Plan

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<th><strong>Plan-1 Goal</strong></th>
<th><strong>SAP-1 Goal</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure beneficial freshwater inflows necessary for a salinity, nutrient, and sediment loading regime adequate to maintain productivity of economically important and ecologically characteristic species.</td>
<td>Ensure freshwater inflows necessary to maintain the balance of salinity, nutrients, and sediments required to support a productive estuary.</td>
</tr>
</tbody>
</table>

### Objective Plan-A:
Determine annual and seasonal inflow needs to the bay by 1995.

### Objective Plan-B:
Incorporate inflow needs in regulatory authority and planning processes by the year 2000.

### Objective Plan-C:
Increase water use efficiency within the GBP area by 10% by 2005.

### Objective SAP-A:
Support the Galveston Bay Freshwater Inflows Group to provide a forum for discussion on regional and state water management policy, and to develop and implement strategies for ensuring adequate freshwater inflows to Galveston Bay.

### Objective SAP-B:
Support further research to understand the annual and seasonal freshwater-inflow needs for Galveston Bay, as well as information needed to develop management strategies.

### Objective SAP-C:
Develop or support outreach initiatives that promote water conservation and educate the public on the value and importance of freshwater inflows.
Priority Problem

- Future demands for fresh water and alterations to circulation may seriously affect productivity and overall ecosystem health

Plan-1 Goal/SAP-1 Goal

- Ensure beneficial freshwater inflows necessary for a salinity, nutrient, and sediment loading regime adequate to maintain productivity of economically important and ecologically characteristic species

Plan-C Objective

- Increase water use efficiency within the GBP area by 10% by 2005

Objective Implementation Progress

- Water use in Region H went from 1,835,200 acre feet in 2000 to 1,786,022 in 2010
THANK YOU

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