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# I. Executive Summary

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The Galveston Bay System represents a huge economic, cultural, and environmental asset to Texas and the Nation. In order to maintain this value of bay assets for the future, and to address current problems which have been scientifically documented by the Galveston Bay National Estuary Program, *The Galveston Bay Plan* proposes more than eighty specific actions to address concerns related to pollution, development, and overuse of the bay and its resources. The costs of these actions have been estimated by the Management Conference, and are summarized in *The Plan* itself and in supporting documentation. Chapter VIII in *The Plan* summarizes how proposed actions are to be implemented, including how the work will be funded.

This report is intended to provide information to support the implementation chapter in *The Galveston Bay Plan*. This report does not necessarily include all funding sources or strategy elements that may be eventually utilized by the Galveston Bay Program in the future, nor will all funding alternatives developed in this report be adopted by the program or its partner implementing agencies. Naturally, each implementing agency is subject to continually changing fiscal opportunities and limitations. Each agency must determine what specific funding opportunities are available as actions are initiated, and the Galveston Bay Program will continuously facilitate this process. The information here, developed by contractors to the program, is intended to aid in identifying alternative funding sources, the actual use of which depends upon appropriate policy decisions developed by organizations represented on the Galveston Bay Council, or (where appropriate) by individual agencies.

## Action Plan Summary of Funding Opportunities

*The Galveston Bay Plan* is organized as a series of individual action plans, each of which contains a set of specific actions. Potential funding opportunities developed for this project are summarized below for each of the major action plans. These are given in descending order of priority (as determined by Management Conference rankings of priority problems and goals in *The Plan*), and do not correspond exactly to the order presented in *The Plan* itself.

**Habitat Protection.** Loss of vital habitats such as wetlands is listed as the highest priority problem in *The Galveston Bay Plan*. Actions to increase the quantity and improve the quality of wetlands and other habitats for fish and wildlife, as well as those that eliminate or mitigate the conversion of wetlands to other uses, will address the problem of loss of vital habitats. These actions are described in the

Habitat Protection Action Plan. State and local governments, universities and researchers can apply to several federal grant programs to finance habitat related research. Programs that specifically address research are described in the funding strategy for the Research Action Plan.

Federal programs and partnerships are the two most promising methods that can aid the Galveston Bay Program and the state in restoring and acquiring vital habitats, especially wetlands. To take full advantage of cost-share assistance from competitive matching grants authorized by the Breaux Bill, the Galveston Bay Program should aid the state in establishing a trust fund to acquire coastal wetlands, natural areas, and open spaces. This will enable the state to receive up to 75 percent of project costs from National Coastal Wetlands Conservation Grants. The Galveston Bay Program should assist private landowners to enroll in the USDA's Wetlands Reserve Program, which provides direct payments to agricultural landowners to restore and permanently maintain wetlands on their property. The Clinton administration has recommended increased funding for this program. The North American Wetlands Conservation Fund facilitates partnerships such as the Gulf Coast Joint Venture, a coalition of state agencies and private industrial and conservation groups which are pooling their funds and resources to acquire, protect, and restore wetlands and other priority habitat that support waterfowl. Other promising partnerships for acquisition and restoration include those between state agencies and the Nature Conservancy, as well as the Coastal America Program.

***Non Point Sources of Pollution.*** The environmental problem ranked second in importance in *The Galveston Bay Plan* is the presence of contaminated runoff from nonpoint sources. TNRCC administers the EPA's Nonpoint Source Implementation (Section 319) Grants through its Nonpoint Source Pollution Control Program, while the Texas State Soil and Water Conservation Board undertakes actions related to agriculture. To channel a larger proportion of the state's share of Section 319 money to Galveston Bay, the Galveston Bay Program should seek to include *The Galveston Bay Plan's* nonpoint source related actions in TNRCC's 319 work plan. Political subdivisions may apply to the TWDB for low interest State Revolving Fund Loans to plan, design and construct structural nonpoint source controls that are authorized in the states 319 plan, as well as in *The Galveston Bay Plan*. Funds from the NPDES-related grants program can be used to develop and implement control strategies for stormwater discharge problems. As Texas's designated coastal management agency, the GLO, will be eligible to receive money from NOAA's Coastal Zone Management Program for development of its Coastal Management Plan, which must include development of coastal urban and marina nonpoint source control initiatives. Local governments and other marina facility owners will be soon eligible to apply for Clean Vessel Act Grants from the TPWD to improve their pump-out facilities, to reduce nonpoint source pollution from marinas and boats.

***Point Sources of Pollution.*** The third most pressing problem identified in *The Galveston Bay Plan* is the entry of sewage and industrial wastes into Galveston Bay due to design and operational problems, especially during rainfall runoff. The State Revolving Fund, administered by the TWDB, offers low interest loans to

local governments for construction, repair and enhancement of publicly owned treatment works (POTWs). TWDB offers grants for Regional Water Supply and Wastewater Planning for preparing plans to regionalize small wastewater treatment systems.

Two other priority problems identified in *The Plan* are illegal connections to storm sewers and toxic chemicals contaminating water and sediment. The potential exists for TNRCC to use EPA Water Pollution Control formula grant funding to offset local government costs of eliminating illegal connections to storm sewers. Other possible sources of funding are Water Quality Management (\$205) and the State Revolving Fund.

***Freshwater Inflow and Bay Circulation.*** The fourth priority problem ranked in *The Galveston Bay Plan* is that future demands for freshwater and alterations to circulation may seriously affect productivity and overall ecosystem health in the Galveston Bay system. Financing procedures for this action are already underway. A cooperative agreement between TWDB and USGS will finance some monitoring costs. Planning initiatives will be financed through a combination of funding sources including the Clean Rivers Program and in-kind services provided by the Corps of Engineers. TNRCC will pursue and or provide funding for a study to evaluate the effect of channels and structures on bay structures on bay circulation, habitats, and species.

***Water and Sediment Quality.*** The fifth highest ranked priority problem in *The Galveston Bay Plan* is contaminated water and sediment. Potential federal funding sources for solution-oriented technical studies and monitoring for the recommendations in this Action Plan include NOAA's Sea Grant program, and the Department of the Interiors' USGS programs. The EPA has several programs for research and monitoring, along with planning and management assistance for implementation. Potential state programs include the Texas Water Development Board's funding for research, planning, and infrastructure through the State Revolving Fund.

***Species Population Protection.*** The sixth priority is to reverse the declining population trend for affected species of marine organisms and birds, and maintain populations of other economically and ecologically important species. The same TPWD-administered assistance programs that have been recommended in the funding strategy for acquisition of wetland habitat can be used to further these goals. Similarly, the same partnership and foundation grant programs can also help to fund species population protection efforts.

To fund a baywide species management program, the TPWD should seek financial assistance from the USFWS Wildlife Restoration (P-R) Fund. The TPWD program to return the shells of harvested oysters to designated locations in the bay to increase oyster spawning will require an appropriation from the Texas legislature, however, funding to augment this appropriation can be sought from NOAA's SEAMAP and Unallied Management Projects.

Houston Lighting and Power (HL&P), in partnership with the Port of Houston Authority and the Galveston Bay National Estuary Program, is successfully carrying out an experimental project to create five acres of oyster reef substrate using coal combustion by-products. TPWD can also seek funding for this program from USFWS programs such as Wildlife Restoration (P-R), the Coastal Wetlands Planning, Protection, and Restoration Funding, and from the Sport Fish Restoration Fund. Future support of this kind of work may also be available through mitigation or remediation projects which result from disturbance of natural oyster reefs (e.g. the deepening and widening of the Houston Ship Channel, if approved by Congress).

The Galveston Bay Program can seek to augment funding from NMFS for its bycatch development actions with NOAA's Sea Grant, MARFIN, SEAMAP, Unallied Management Projects, as well as the TPWD's Sport Fish Restoration Fund allocation. This fund can also be used to fund TPWD's educational programs for recreational fishermen about catch and release. To develop management plans for threatened or endangered species, USFWS and TPWD programs such as Fish and Wildlife Management Assistance can be used for technical assistance, and funds can be sought from the Wildlife Restoration and Cooperative Endangered Species Conservation Funds.

***Shoreline Management.*** The seventh most pressing environmental problem ranked in *The Plan* is inadequate shoreline management and environmentally compatible public access to the bay. Another problem cited in the plan is shoreline erosion and loss of stabilizing vegetation due to shoreline subsidence and subsequent rising sea levels. The Harris-Galveston Coastal Subsidence District (HGCSA) manages subsidence in the area, and funds itself with Subsidence Fees. *The Galveston Bay Plan* recognizes the important contribution made by the HGCSA, but does not recommend any new actions related to subsidence requiring funding.

To assist shoreline planning and management, the Galveston Bay Program will work with the USFWS and other agencies to monitor shoreline loss due to erosion. *The Plan* also recommends that the Coastal Coordination Council designate the Galveston Bay as a Special Management Area under the Coastal Management Plan. The most likely federal source of funding for this action plan is the Coastal Zone Management Award Program from NOAA. Funding to improve access to publicly owned shorelines may be sought from the Texas Parks and Wildlife Department from their Boat Ramp Assistance Program.

The National Parks Service Land and Water Conservation Fund provides grants to states for planning, acquisition and development of outdoor recreation facilities that could be used to improve public access to publicly owned shorelines. The Local Park Grant Assistance Program, administered by the TPWD, can also be used for these purposes. The DOT's Intermodal Surface Transportation Efficiency Act (ISTEA) program can be used for recreational area improvement and acquisition activities related to publicly owned shorelines. For instance, the Galveston Bay Foundation has been working with ISTEA funding to develop the Galveston Bay loop of the Texas Coastal Trail.

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**Spills and Dumping.** Ranked eighth on the list of Galveston Bay priority problems is addressing impacts of spills of toxic and hazardous materials. The Coastal Protection Fund, administered by the GLO, is the most promising source of funding for implementation of spill related actions. The GLO could share some of these funds with the Galveston Bay Program through Memoranda of Understanding. Privately funded initiatives such as the Marine Spill Response Corporation and Clean Channel Association can also aid in the implementation of spill related actions.

Should NOAA award the GLO Coastal Zone Management Program funding, the GLO may use it to finance planning and implementation of spill and dumping related actions such as an advance shoreline characterization, improvement of stormwater management, and public education on the harms of illegal dumping. As with the Coastal Protection Fund, the GLO would need to make arrangements to funnel any of this funding to the Galveston Bay Program.

The Galveston Bay Program is eligible to apply for assistance for some of the actions in this plan from EPA's TNRCC administered Water Pollution Control State and Interstate Program, the Water Quality Management Planning program, and the Nonpoint Source Implementation Grants Program. To improve trash management near the shoreline, and to publicize the harm caused by dumping, local governments, public agencies, and educational institutions may apply for TNRCC sponsored Clean Texas 2000 grants, as well as TNRCC's Solid Waste Management Public Information/Awareness Grants.

To develop educational programs to publicize environmental harm caused by illegal dumping, the Galveston Bay Program can apply to the EPA for Environmental Education Grants. Universities and other public or private organizations can apply to the TDH for Chemical Awareness Grants. Texas A&M was awarded \$60,000 in FY 1991 from this program to develop and provide public training workshops on hazard communication and chemical awareness.

**Public Health Protection.** Number nine on the priority problem list is the potential risks posed by the potential presence of toxic chemicals in seafood taken from the Bay. Problem twelve is that a large portion of the bay is permanently or provisionally closed to shellfish harvesting because of high fecal coliform bacterial levels. Sixteenth on the list of problems is that some tributaries and near-shore areas of Galveston Bay are not safe for contact recreational activities such as swimming, wade-fishing, and sail-boarding due to risk of bacterial infection.

To reduce the potential health risk resulting from these problems, *The Plan* recommends that the TDH seek funding through the Seafood Consumption Safety Program. For assistance with monitoring, sampling, and analysis of seafood, state appropriations should be sought. No grant programs have been identified to fund seafood testing. Funding strategies for reducing contaminant sources to the estuary have been developed and are described in this report.

NOAA's Sea Grant conducts outreach activities that can augment, but not provide funding to the TDH public education program. Funds from the TPWD-administered Sport Fish Restoration Program may also be used for these purposes, as long as the efforts are directed to recreational fishermen.

*The Plan* recommends that TDH should conduct more frequent water sampling in shellfish harvesting areas. This sampling can be funded by state appropriations, Water Research Grants from the TWDB, as well as NOAA's Marine Research- Regional Program. TNRCC can use funds from its EPA Water Pollution Control- State and Interstate Program Support (\$106) formula grant to support state pollution prevention and abatement projects including enforcement programs.

### **Grants, Loans, Technical Assistance and Partnership Opportunities**

Grants, loans, technical assistance, and partnership opportunities, although temporary, can augment and multiply conservation efforts already in place at the federal, state, local and private levels. Federal and state agencies provide a variety of grants and loans as well as technical assistance for locally funding programs. Public and private foundations such as the Coastal America Program, the Clean Texas 2000 Program, and other donors, provide grants and partnership opportunities to fund environmental conservation projects. In general, grants and loans should not be relied on for funding of long term administrative obligations, but should be used to fund, or to augment funding, of specific projects.

#### **Matrix of Funding Options**

FEDERAL FUNDS ADMINISTERED BY STATE AGENCIES		ACTION PLAN PRIORITIES								
FEDERAL PROGRAM	STATE PROGRAMS	1	2	3	4	5	6	7	8	9
Coastal Wetlands Planning (USFWS)	TPWD Programs	X					X			
Sport Fish Restoration Fund (USFWS)	TPWD Programs	X					X			X
Wildlife Restoration(USFWS)	TPWD Programs including Boat Ramp Assistance	X					X	X		
Cooperative Endangered Species (USFWS)	TPWD Programs	X								
Wetlands Reserve Program (USDA)	Local ASCS Office	X								
Rice Protection Stabilization (USDA)	Local ASCS Office	X								
Wetlands Protection-State Development Fund (EPA)	TNRCC and other state agencies with wetlands programs	X								
Intermodal Surface Transportation Efficiency Act (ISTEA) (DOT)	State DOT office							X		
Nonpoint Source Implementation (319) Grants (EPA)	Nonpoint Source (319) Grants (TNRCC)		X						X	
Capitalization Grants for State Revolving Funds (EPA)	State Revolving Fund (TWDB)		X	X		X				
National Pollutant Discharge Elimination System Related State Program Grants (EPA)	TNRCC Programs		X			X				
Coastal Zone Management Administration Awards (NOAA)	GLO Coastal Management Program		X			X		X	X	
Clean Vessel Act Grants (USFWS) via Sport Fish Restoration	State Boat Ramp Assistance (TPWD)		X							
Water Pollution Control - State Support (EPA)	TNRCC Programs		X	X					X	

FEDERAL FUNDS ADMINISTERED BY STATE AGENCIES		ACTION PLAN PRIORITIES								
FEDERAL PROGRAM	STATE PROGRAMS	1	2	3	4	5	6	7	8	9
Water Quality Management Planning (EPA)	Water Quality Management Planning (TNRCC)		X			X			X	
Water Pollution Control Research and Demonstration (EPA)	TWDB Programs		X			X				X
Sea Grant (NOAA)	Texas A&M Sea Grant	X	X	X	X	X	X	X	X	X
Outdoor Recreation, Acquisition, Development & Planning (Land & Water Conservation Fund) (National Park Service)	TPWD State Parks							X		
<b>STATE ENVIRONMENTAL FEES</b>										
	Water Quality Assessment Fees	X	X		X	X				
	TPWD User Fees	X					X			
	Coastal Protection Fees	X							X	
	Waste Treatment Inspection Fees			X		X				
<b>OPTIONS FOR LOCAL GOVERNMENT</b>										
	Ad valorem property taxes	X	X					X		
	Drainage Fees		X			X				
	Revenue Bonds		X	X						
	Municipal Sales & Use Taxes		X			X				

Federal agencies such as the Corps of Engineers, NOAA, USGS, USDA and the USFWS offer assistance in the form of technical expertise and "in kind" or work effort in place of financial assistance to projects. Many federal programs award grants or allocate funds to state agencies, which administer the programs for the state. Generally, the state entities eligible for federal grants have a mission and responsibilities that are compatible with the mission and responsibilities of the granting federal agency. Other federal grant programs are not "passed through" to the state, rather, proposers can apply directly to the federal agency for them.

**User Fees, Taxes, and Alternative Funding Mechanisms.** User fees and taxes can provide a stable source of revenue to fund ongoing programs. State agencies such as the TNRCC and the TPWD collect user fees to fund programs related to the fees charged. For example, the TNRCC administers a Waste Oil Recycling Fee. However, spending of the revenues from these user fees is usually restricted by legislation and portions may be dedicated back to general revenue. Local governments can use fees and taxes to provide a stable source of revenue to fund ongoing programs such as operation and maintenance of stormwater systems, wastewater treatment facilities, and water and sewer infrastructure.

When designing a method for financing new activities, it is generally best to use existing financing mechanisms rather than create new ones. This reduces the need for start-up funding, and new administrative infrastructure. In addition, using existing mechanisms is less likely to involve legislation or voter approval, and if either is required, the existing mechanism, if it has been successful in the past, will be more easily accepted.

