

**GREENS BAYOU**

**WETLANDS**

**MITIGATION BANK**



**Harris County  
Flood Control District**



# Introduction

The Greens Bayou Mitigation Bank is a 1,400-acre wetland project located in northeast Harris County. The Bank project combines wetland creation, mitigation and stormwater runoff treatment in a unique and highly beneficial manner. The design was the result of input from a team comprised of some of the most renowned experts in the fields of wetland ecology and water quality. Phase 1, which is approximately 200 acres, has been completed. The design calls for at least six more phases, which will provide for the restoration and preservation of the remaining 1,200 acres.

The Bank is located approximately five miles East Southeast of Bush Intercontinental Airport, adjacent to Beltway 8 at the confluence of Garners and Greens Bayous. The area provides a unique convergence of multiple ecosystems – a situation that makes the restoration and preservation of the area extremely valuable from both human and natural resource perspectives.

# What is a Mitigation Bank?

Mitigation banks are large-scale, ecosystem-oriented wetland restoration projects designed to provide sustainable ecological benefits in advance of unavoidable adverse impacts on wetlands caused by human activity. This relatively new approach is a long-awaited alternative to “traditional” compensatory wetland mitigation. Under the “traditional” way of compensating for effects on wetlands, compensation was accomplished on a project-by-project basis, resulting in smaller, often isolated wetlands. Mitigation banks provide a more comprehensive, effective and higher-quality approach than these isolated, piecemeal solutions.

Mitigation banking provides developers, utility providers, and state and local governments with the opportunity to pay a one-time fee to purchase credits from the bank, thereby satisfying all or a portion of the statutory wetland mitigation requirements.



# Habitat Types in the Bank

## Pond Habitat

Pond habitat includes areas that retain water during most years. Typical annual average water depths might range from 3 to 8 feet. Dominant vegetation in this habitat type consists of floating and submerged aquatic plant species. Typical wildlife includes macro-invertebrates, fish, turtles, amphibians and a variety of wading, swimming and diving birds (such as anhingas, ducks, geese, kingfishers and terns).



## Littoral Marsh

The littoral marsh habitat consists of shallow to deep marsh areas with annual average water depths in the range of 0.5 to 1.5 feet. These areas are vegetated by emergent herbaceous and woody plant species, as well as some floating and submerged species. Wildlife in the littoral marsh habitat would likely include macroinvertebrates, small fish, snakes, alligators, frogs, birds (such as osprey, bitterns and blackbirds) and mammals (such as racoon and deer).



## Transitional Forest

The third habitat category, transitional forest, consists of infrequently flooded swamp forest with annual average water depth varying from 0 to 0.5 feet above the surface to 0 to 2.0 feet below the ground surface. These areas are vegetated by trees, shrubs and groundcover and are highly diverse. The wildlife using these areas is also highly diverse, and it is dependent upon the successional stage with a large number of passerine bird species, including sparrows, warblers and cavity nesters (such as wood ducks).



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### Clean Water

Stormwater runoff in the area is ultimately directed into this engineered polishing marsh before flowing to the rest of the bank, providing a natural "filter" for removing almost all of the impurities, even heavy metals and hydrocarbons from auto traffic in the nearby roads.

### Unique Forests

This bank supports numerous wetland habitats, including the established forested wetlands. These forested wetlands are unique in that they take longer to develop and are the most expensive to establish. They offer the type of habitat that no other wetland can provide for such broad biodiversity.



### "Wildier" Life

A remarkable variety of water-dependent wildlife has already been recorded in Phase 1 of the bank. To accelerate the equilibrium of biodiversity within the bank, indigenous species may be introduced to help control the destructive types. When future phases are completed, nature will then do the rest.

### Migratory Water Fowl

As the broad range of migratory birds pass through this region each year, many of them utilize the variety of wetland habitats the bank has to offer. In this single concentrated area, a larger array of water fowl can be observed, as compared to many similar areas that offer fewer wetland habitats.



### Aquatic Vegetation

A multitude of aesthetically enhancing, native floral vegetation graces the bank throughout most of the area. Realizing that greater floral diversity means greater species richness of the entire ecosystem, intentional maximization of diversity in the plant palette was a goal from day one.

### A Better Way

This bank affords tremendous education opportunities for a broad audience, from pre-school to post-grad. And with the science, diversity and multi-functional benefits that can be seen in action, it also serves as a model for innovative wetland design within this community and around the world.



# Benefits

The construction of the first 200 acres is complete and benefits are already accruing. These benefits include:

## Environmental

- Higher-quality compensation for unavoidable impacts to wetlands
- Offset to diminishing quantity of wetlands in rapidly urbanizing county
- Improved habitat for plant and animal species

## Water Quality

- Groundwater recharge to local aquifers
- Stormwater surge basin optimizes ability to capture large volumes of runoff during major storm events
- Enhanced water quality through innovative use of created wetland system

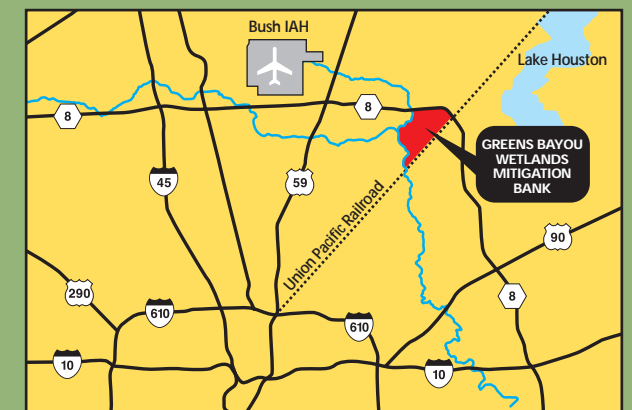
## Aesthetics

- Enhances aesthetics from several viewpoints along Beltway 8 and surrounding areas

## Credits

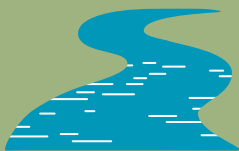
The Bank has freshwater herbaceous and hardwood credits available that can be used to offset the unavoidable wetland losses associated with the issuance of state and federal regulatory permits for projects within the bank's service area. This service area is Harris County.

Mitigation credits are available by direct purchase or by reservation agreements.



The Harris County Flood Control District is a special purpose district created by the Texas State Legislature in 1937 in response to devastating floods that struck the region in 1929 and 1935. The District's boundaries are coincident with Harris County, and the Harris County Commissioners Court serves as the District's elected representation. The District is responsible for devising the stormwater plan, implementing the plan and maintaining the primary drainage infrastructure.

We strive to build urban flood control projects that work, with appropriate regard for community and natural values. The Greens Bayou Wetlands Mitigation Bank is an important part of our mission.



**Harris County  
Flood Control District**

For information about the Wetlands Mitigation Bank or to contact us for credit sales, write or call the District's Environmental Services Department at:

Harris County Flood Control District  
Environmental Services Department  
9900 Northwest Freeway  
Houston, TX 77092

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