

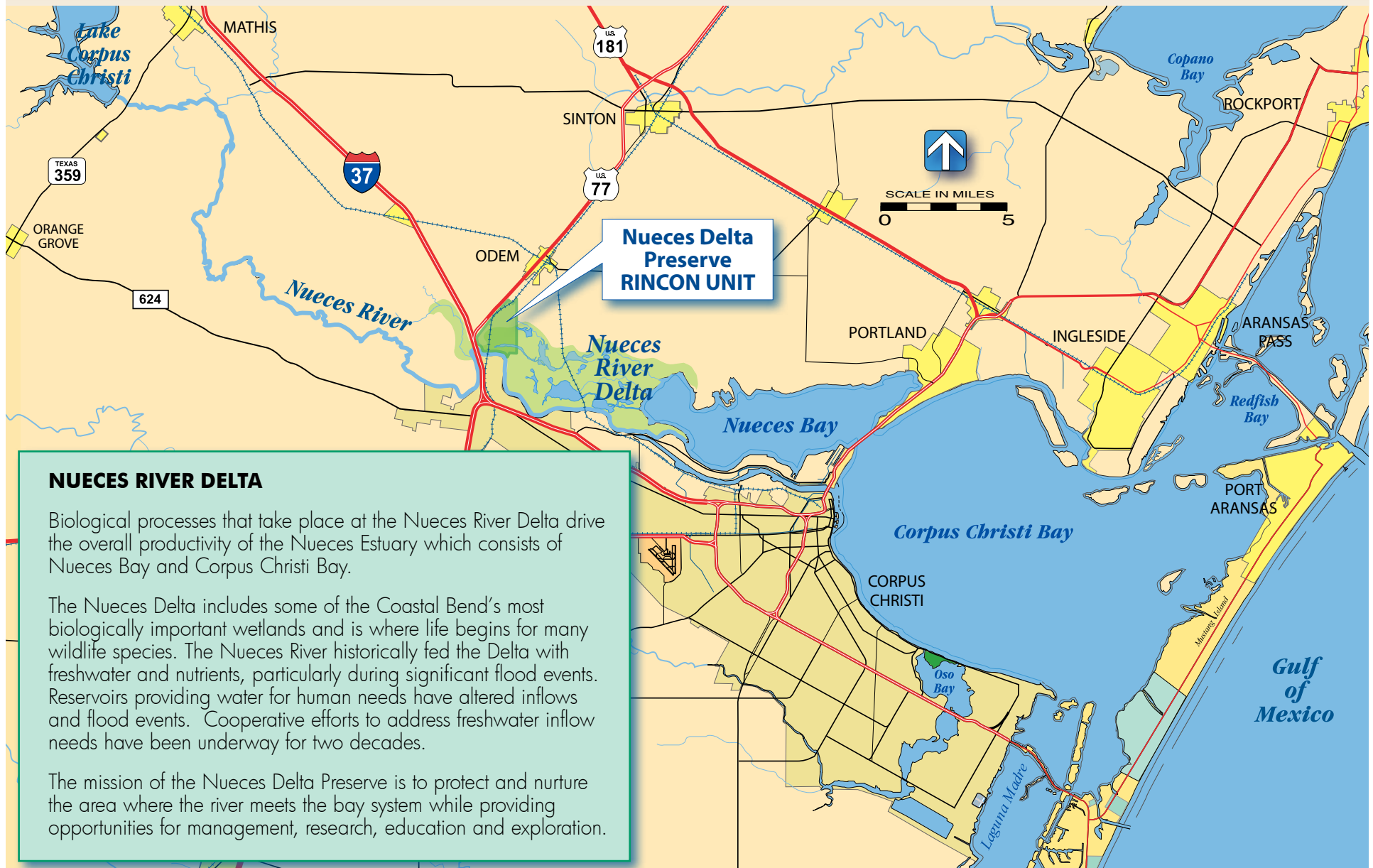
# ***Nueces Delta Preserve***

## Conceptual Master Plan

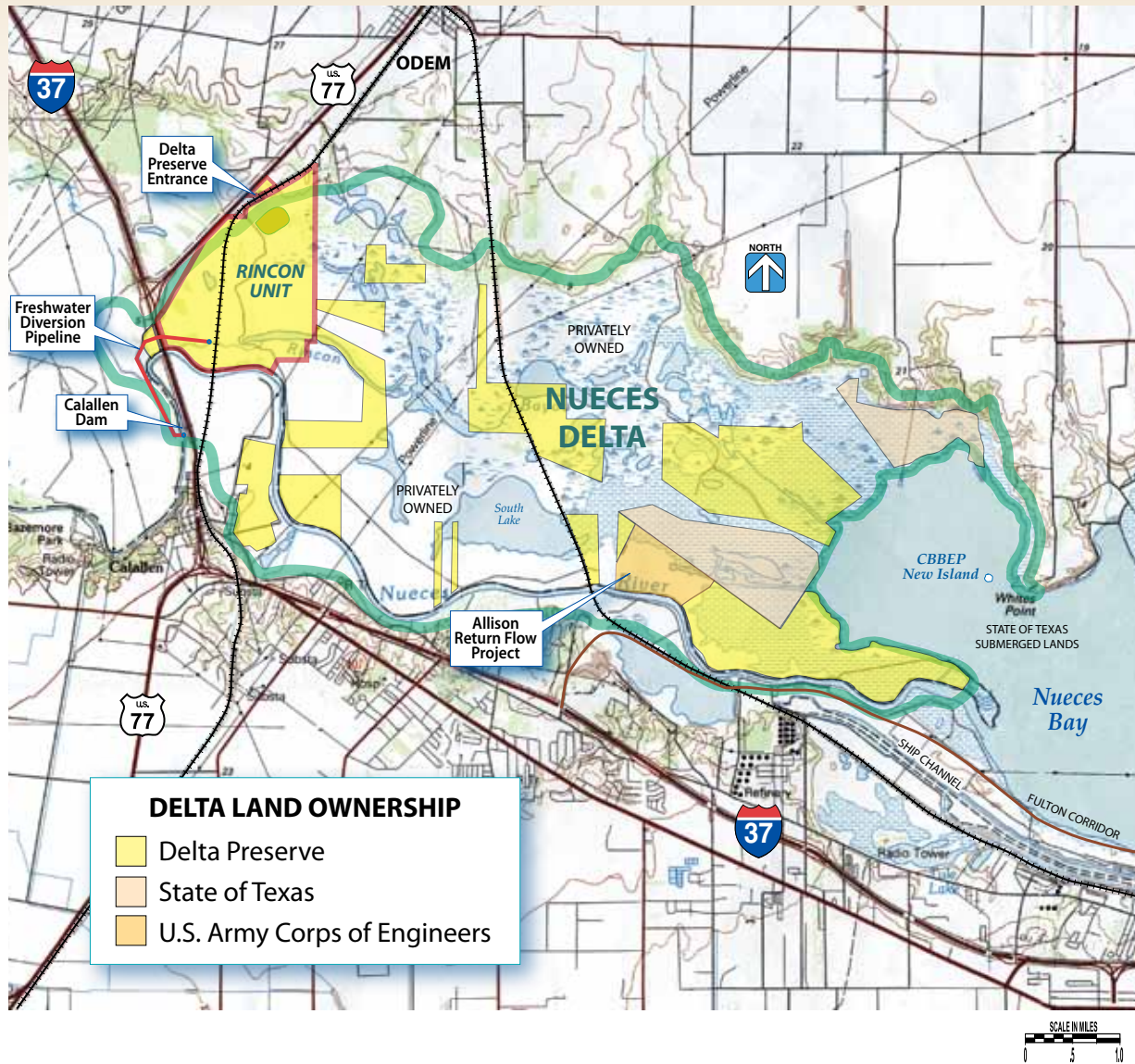
**Protecting Delta Habitat  
While Creating Opportunities  
for Management, Research,  
Education and Exploration at  
the Heart of the Estuary**



# Nueces Delta Preserve - the Heart of the Estuary



# A Decade of Progress in the Delta



## DELTA PRESERVE MILESTONES

The idea of conserving the coastal wetlands at the west end of Nueces Bay as a preserve was being discussed in the 1990s during development of the Corpus Christi Bay National Estuary Program management plan.

In 2000 the Coastal Bend Bays & Estuaries Program, Inc. (CBBEP) with help from partners began a long-term effort to conserve all of the Nueces River Delta. Early efforts included meeting with landowners and securing funding for initial habitat acquisition.

By 2004 the first land parcels in the delta had been purchased and others had been donated. The CBBEP now owns nearly 5,500 acres of habitat for conservation purposes within the delta and is pursuing land acquisition of thousands of additional acres held by private owners.

Once the Nueces Delta Preserve (NDP) was established, habitat restoration and management activities began on property controlled by the CBBEP. One of the first efforts was creation of a 50-acre Prairie Wetland Project done in conjunction with Ducks Unlimited and the U.S. Fish & Wildlife Service. It provides shallow-water wetlands for migrating waterfowl and shore birds.

In 2007 a pump station and 60-inch pipeline were built that bring river water from the Calallen Pool on the Nueces River and release it into the upper reaches of Rincon Bayou.

A pavilion was built in 2007 and a screened classroom was completed in 2009. Basic trails for observing wildlife and habitat are being developed in the NDP Rincon Unit.



# Tidal Marsh, Wetlands, Riparian & Upland Habitats



## DELTA MARKED BY DIVERSITY

The Nueces River Delta is a diverse mosaic of highly productive coastal marshlands, other wetlands, open water, islands, bay shorelines, upland prairie and riparian zones at the river bank.

The mixed vegetation communities, marine organisms and wildlife supported in the delta environment are also diverse and make up complicated food webs. Fiddler crabs, small clams, fish and shell fish are found at the saltwater margin. Many species of wading and shore birds spend time in the delta patrolling the shallows for food. The delta also supports resident birds and many migratory bird species including ducks and geese.

The diverse delta also supports hardy reptiles, amphibians and mammals including deer, bobcats, javelina, rabbits, opossum, mice and others. There are hundreds of plants and flowers plus the much smaller species of insects and bugs.



Wildlife Photography by Charlie Spiekerman



# Preserving and Managing Delta Habitat



## UPLAND HABITAT RESTORATION

The Nueces Delta Preserve is at the eastern edge of the Tamaulipan thornscrub, a subtropical, semi-arid collection of spiny trees, grasses and succulents like Texas prickly pear. Upland brushlands adjoin prairie grasslands, wetlands and saltwater marsh areas that are nursery habitat for many estuarine organisms.

The CBBEP has made conservation and restoration of the Nueces Delta a top priority.

Much of the delta has been used historically as grazed pastureland. Preserve personnel are now working to remove plants such as the huisache trees that have invaded the grasslands. Prescribed burns are periodically used to remove grass thatch and encourage new plant growth. Brush is being removed mechanically in some areas as a step toward restoring *Spartina* grasslands.

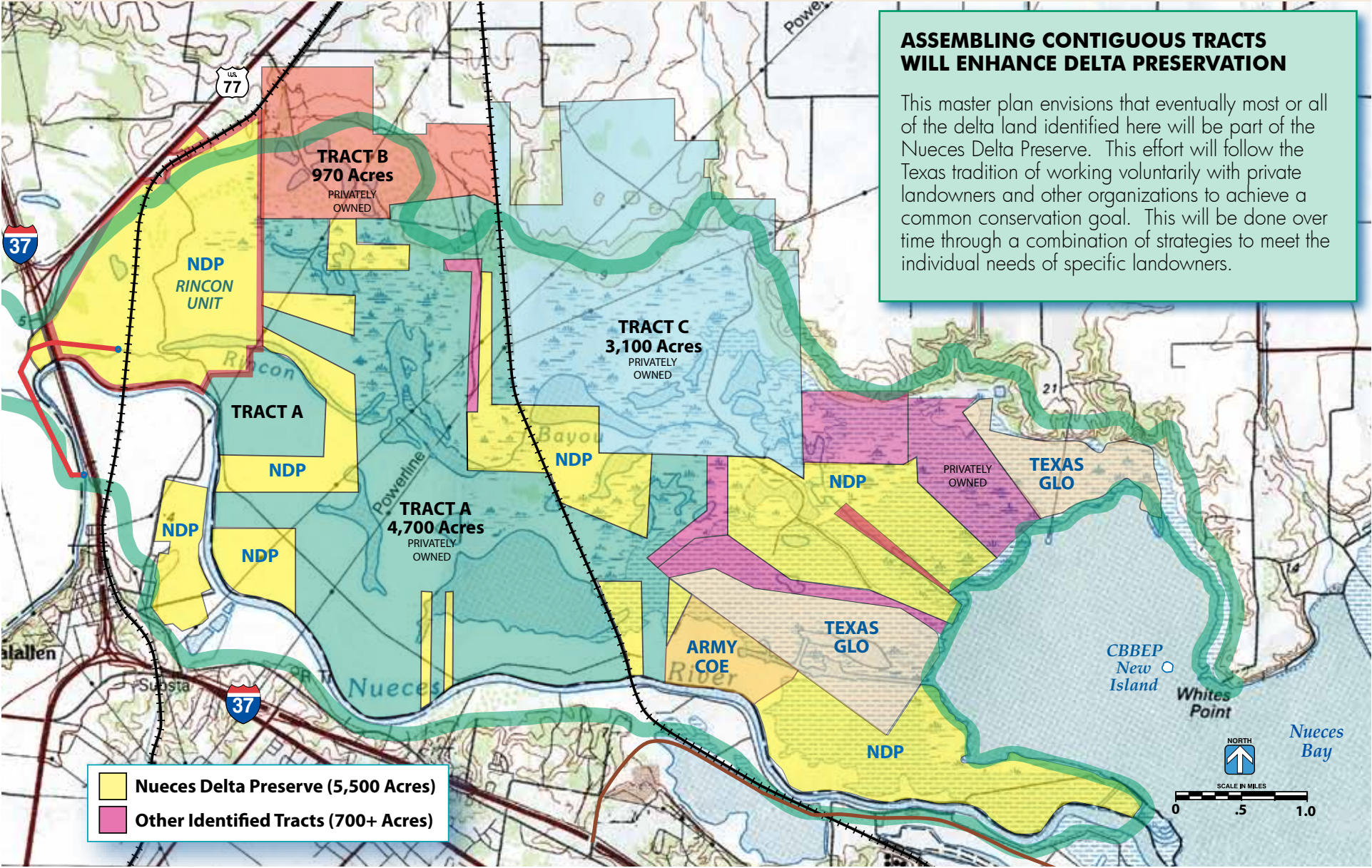
Basic all-weather stabilized access roads have been improved and trails are being built to provide visitors to the NDP Rincon Unit with an opportunity to experience close contact with a remarkable diverse natural setting and to observe the progress being made on habitat restoration.



Prescribed burns are used as a grassland prairie management tool



## ***Acquiring Additional Private Land Holdings***





# Educational Programs Blossom in the Delta



CBBEP has produced a set of Delta Preserve teaching guides



## EXPLORING THE DELTA

The Coastal Bend Bays & Estuaries Program began developing educational programs centering on the delta's wildlife and habitat soon after the Delta Preserve was established.

The educational staff stages summer academies for educators. These field trip based experiences are available to elementary and middle school teachers. By learning about the delta ecology, educators are able to return to their classrooms prepared to guide students in exploring the wetlands and coastal prairie habitats of the preserve.

Groups of students get the chance to get out of the city and interact with the transition zone at the edge of the estuary.

A Delta Preserve teaching resource guide focusing on grades 3 through 5 was completed in 2008 and additional materials will be created in the future.

**MONITORING** - University and government scientists are involved in a broad program to develop reliable scientific data about delta resources and impacts of freshwater inflow strategies and other management activities.

# Our Vision for the Delta Preserve



Once additional improvements are made to the NDP Rincon Unit it will be practical to accommodate a greater variety of educational and explorational activities for children and adults

## OPPORTUNITIES FOR LEARNING

While the first priority of the Nueces Delta Preserve is habitat conservation, this unique location provides South Texas an important opportunity for public education and better understanding of the delta's role as the transition zone at the water's edge.

Our vision for the Preserve includes improvements that will enhance the opportunities for education, research, exploration and management.

This vision includes an Estuary Learning Center and Visitor Center to be built on the Rincon Unit's highest ground near the Union Pacific Railroad and overlooking the delta. The center would adjoin the existing pavilion and classroom building. It would include informational exhibits, touch and interactive elements, a lecture hall, a laboratory, offices and adequate restrooms for bus loads of students. An observation tower and hillside amphitheater will be next to the existing classroom. A bunkhouse for visiting researchers will be nearby along with maintenance and support facilities.

Hiking trails with improved rest areas and interpretive signage will allow visitors to venture deep into the varied delta habitats.

Buildings in the Learning Center campus will be designed in a style consistent with South Texas history and culture.



## Nueces Delta Preserve RINCON UNIT

## Facility and Trail Conceptual Layout



# Conceptual Master Plan

## CREATING LEARNING OPPORTUNITIES

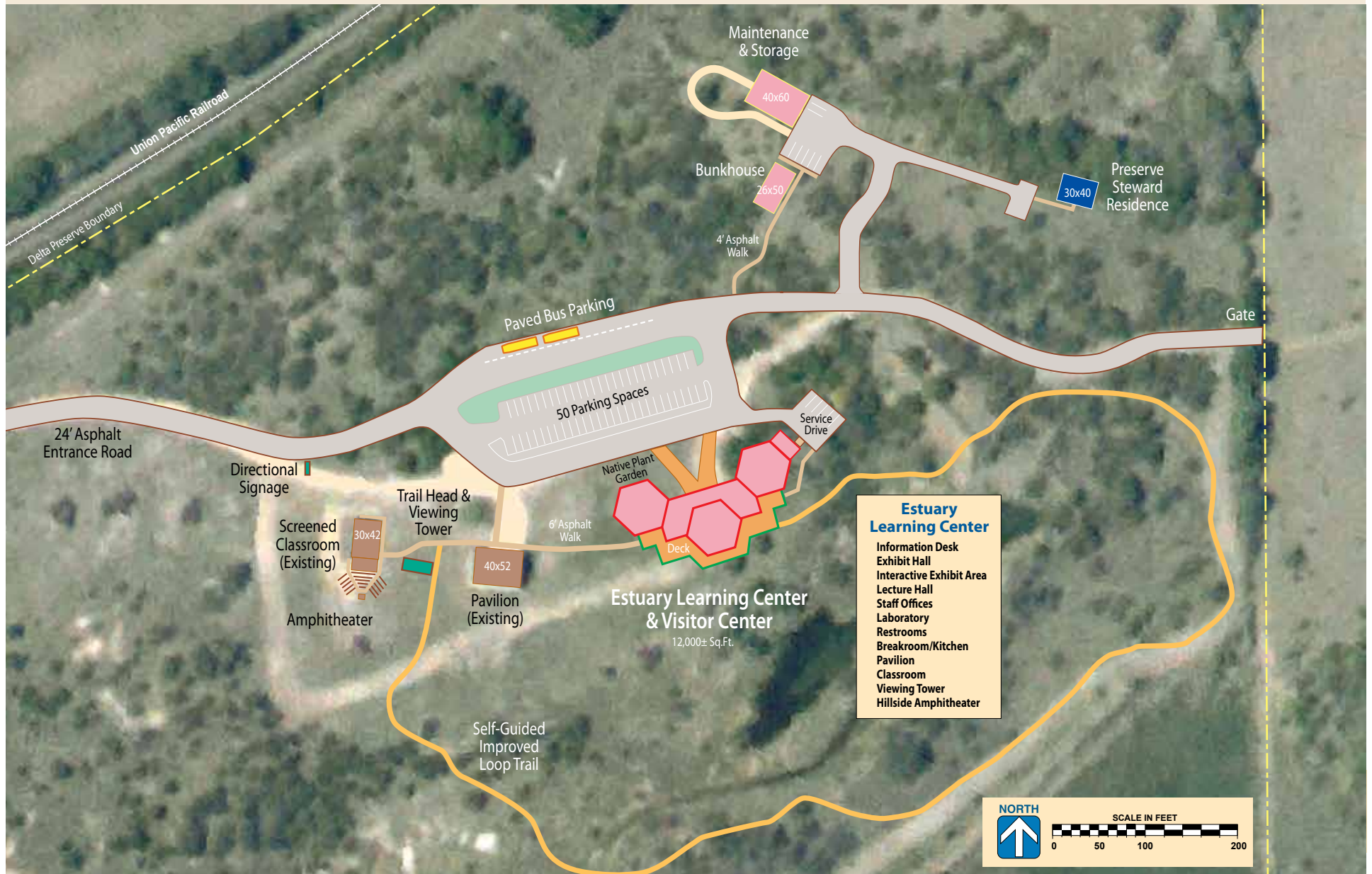
This conceptual plan is driven by the desire to open up the portion of the Nueces Delta Preserve near US 77 to limited, low impact educational programs, hands-on experiences and wildlife observation. Visitor activities will be confined to the NDP's 1,430-acre Rincon Unit.

No additional roads are contemplated. The entrance road from US Highway 77 to the Learning Center and the parking area, both on high ground, will eventually be paved. All other roads are likely to remain unpaved. A school bus turnaround and designated parking will be added near Rincon Bayou.

A series of trails are being built and will eventually serve all significant points of interest. Some of these trails will be primitive while others will have substantial improvements including trail heads with designated parking for cars and buses, decked areas to direct hikers, group seating at designated areas, safety measures where required and adequate interpretive signage. Observation points will be added to the Big Lake Trail and at Rincon Bayou. Big Lake will have parking, a shelter and a dock for launching kayaks and canoes.

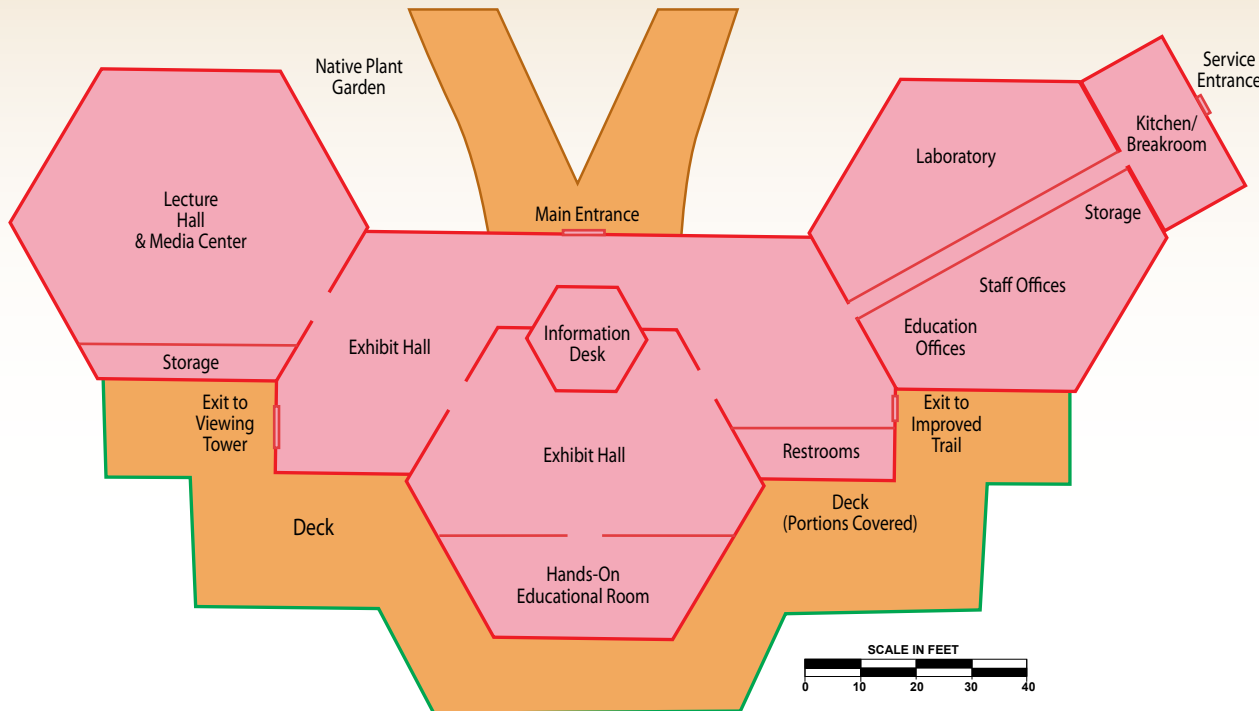
Guidelines will be developed for all signage in order to present visual consistency from the front gate to the most primitive trail. An entrance feature consistent with other architectural elements will replace the ranch gate that currently welcomes visitors to the Delta Preserve.

# Creating a Productive Campus Setting





# Elements of the Estuary Learning Center



## EXPLORING THE LEARNING CENTER

The Estuary Learning Center will be an important focal point in the Coastal Bend Bays & Estuaries Program's public education effort. At the same time it will have laboratory and office space to support the delta research projects that have been underway for many years and are important to future management of freshwater inflows to the delta.

The conceptual plan for the Center envisions a building that can be built in phases as the demand for educational programs grows.

The Learning Center will support the CBBEP's expanding outreach to grade school students, youth groups and birding enthusiasts. It will provide a place for educational displays and interactive exhibits that teach the value of the delta and the estuary. This will include the kind of hands-on touch exhibits that spark the interest of younger students.

The lecture hall will provide a venue for workshops, seminars and meetings of groups such as regional conservation stakeholders.



Observation Tower Concept

## Estuary Learning Center Conceptual Plan

12,000± Sq.Ft.



Screened Classroom  
(Completed 2009)



Hillside Pavilion  
(Completed 2007)

# Making the Learning Center a Reality



## A LEARNING ENVIRONMENT

The Estuary Learning Center will be the primary activity area for visitors to the Nueces Delta Preserve Rincon Unit. The main building will be air conditioned with adequate space and restrooms to accommodate several classes of students simultaneously. It will be supported by paved parking and by walks connecting to other parts of the hillside campus.

Water service can be extended to the campus site from the City of Odem system to the northeast. Electric power will be provided with underground service. A septic system will be adequate for wastewater demand.

Site engineering, architectural design and cost estimates of various elements will follow this initial conceptual plan.

