

Program & Master Plan



**AMERICA'S WETLAND
DISCOVERY CENTER**
Lake Charles, LA

THE DEVELOPMENT TEAM
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Stream Wetlands Services

October 3, 2002

Hon. Randy Roach, Mayor
City of Lake Charles
City Hall
Lake Charles, Louisiana 70601

Dear Mayor Roach:

First of all congratulations on your vision to create a Wetland Center in Lake Charles. Your sense of timing for such an excellent venue, along with your passion for preserving not only our wetland, but also the rich culture of South Louisiana natives has been an inspiration for all of us.

It is with a great sense of pride and anticipation that the Wetland Center Team presents to you the Master Plan, Program and Budget Report for **America's Wetland Discovery Center**, proposed for the City's property on the east shore of Lake Charles.

On behalf of Ron Forman, David Richard, Steve Dorand, Carlos Cashio, Jack Cochran and myself, please accept our appreciation for being able to work with you and to serve the citizens of Lake Charles.

Respectfully,



Joe Champeaux, FAIA
Principal

JC/amc

America's Wetland Discovery Center

Program & Master Plan

Lake Charles, Louisiana

**Presented to the City of Lake Charles
Hon. Randy Roach Mayor
And the City Council**

Rev. Samuel C. Tolbert, Jr. President

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The Wetland Center Team

expresses its appreciation
for the assistance
of

Mayor Randy Roach and his staff:

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provided by the LA Department of Natural Resources and the
US Department of Commerce**

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The Executive Tour

AMERICA'S WETLAND DISCOVERY CENTER

The Challenge:

Louisiana's wetland loss is America's wetland loss.

Governor Foster's Committee on the Future of Coastal Louisiana keys on this urgent message-calling for a national campaign to build public awareness of the state's vanishing wetlands and their critical impact on the country as a whole. Louisiana wetlands not only shape our unique culture, preserve wildlife diversity and furnish flood and hurricane protection, they provide more than 18 percent of U.S. oil production and 24 percent of its gas production; nearly 30 percent of the total commercial fisheries harvest in the continental United States; and 40 percent of the nation's fur yield. Louisiana wetlands decline equals U.S. production decline.

Response and Vision:

Advance wetland conservation through education via a signature destination facility which mirrors the beauty, ecological importance and economic value of Louisiana's wetlands.

Mayor Randy Roach and the City of Lake Charles are working with the development team to create America's Wetland Discovery Center as a national resource for wetlands education. Planned as a 56,000-square-foot exhibit center, the facility will emerge on six acres of wetlands along the city's downtown I-10 corridor. It will replicate a Louisiana coastal village with rustic, raised buildings and fresh- and saltwater habitats for native plants and animals. Here, visitors will discover the wonder of wetlands through such interactive, sensory learning tools as touch tanks, computer games and a dramatic immersion theater experience studded with special effects. Changing exhibit areas will enable information updates and presentation of new themes-encouraging repeat visitation while expanding the facility's teaching potential. The Center will engage and motivate visitors to help restore and preserve Louisiana's treasured wetlands.

Commitment:

An estimated \$16 million capital investment will fund construction over three years.

Phasing of the project is possible, providing an initial 47,000 square feet at an approximate cost of \$12 million. Phase II would expand the facility to include the immersion theater, call-to-action exhibit, a fisherman's boat dock, a festival-style seafood cafe/market and boat exhibits.

Partnership and Projections:

A public/private alliance for ownership and operation enables the facility to earn capital funding while covering operating costs with revenues generated by an estimated 270,000 annual visitors.

Owned by the City of Lake Charles, America's Wetland Discovery Center will be managed by a private, not-for-profit 501.C.3 corporation. Patterned on proven models, the facility will be self-supporting with its projected \$3.7 million annual operating cost fully funded through admission/concession/membership and facility rental/catering revenues. The Center will employ approximately 40 people and impact the area economy by an estimated \$32 million

Analysis 2

Analysis

The City of Lake Charles owns property on the eastern shore of the Lake, approximately 3 1/2 acres, between the Veteran's Memorial and the P.P.G. Fountain, and between Veteran's Memorial Parkway (North Lakeshore Drive) and the City's boardwalk at the water's edge.

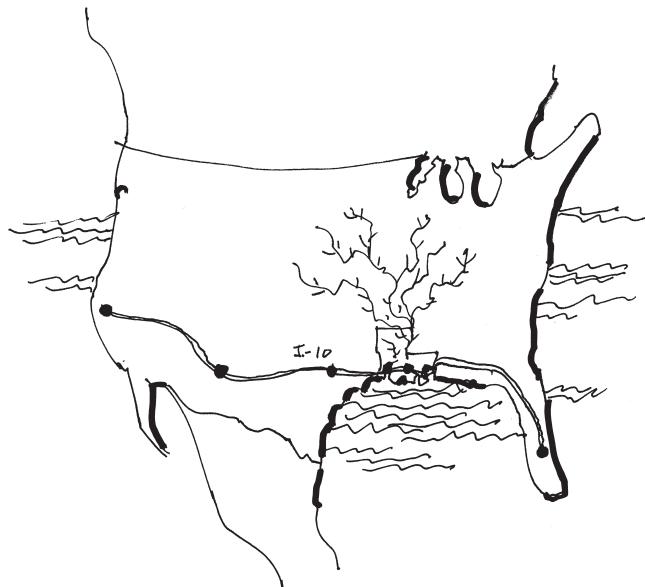
With much input from the Mayor and his staff, Officials from the LA Department of Natural Resources, NOAA, and the Governor's staff, the Wetland Center Team quickly determined that the initial scope of approximately 15,000 SF with a suggested budget of \$5 million was not sufficient to satisfy the growing perception for the Wetland Center to be a signature facility which celebrates an American treasure, our Louisiana wetland.

As reflected in the sections to follow the program grew to reflect a true National Wetland Discovery Center of 56,000 SF. In essence, the size of the site needs to be approximately 6 acres. To develop the Center over the edge of the Lake, while creating 'on shore' fresh water wetland exhibits, appeared to be appropriate and necessary.

To put the site into context nationally and regionally the following analysis is offered.

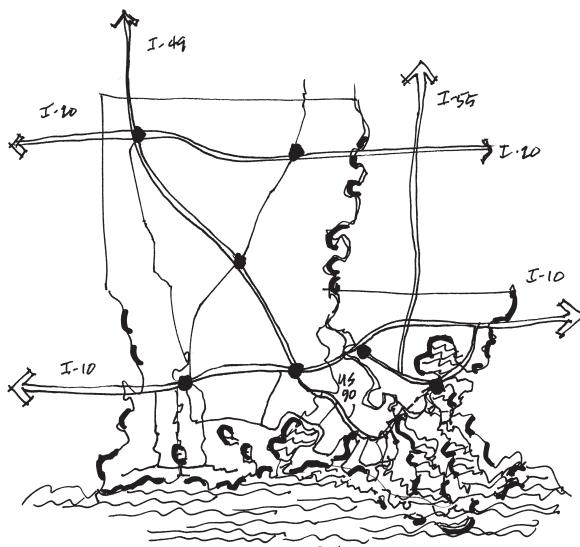
National Influences

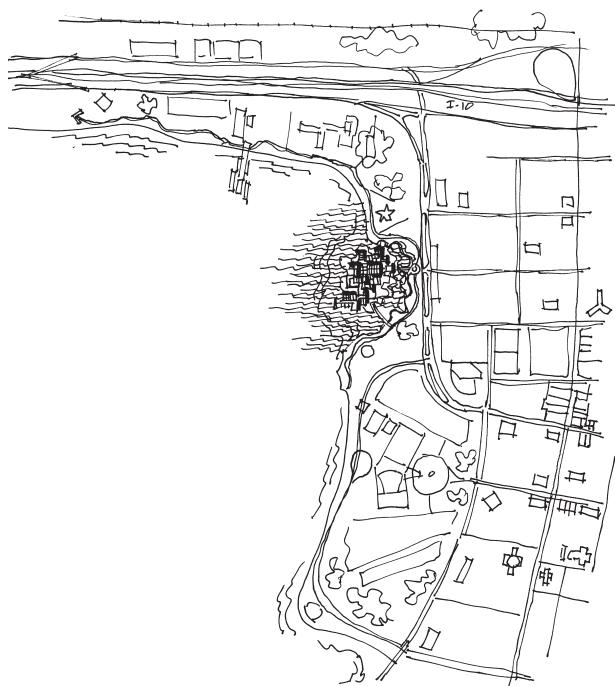
Louisiana and Lake Charles are located on Interstate 10, where 40,000 vehicles each day are connecting with destinations between Los Angeles and Miami. More tourists use I-10 than any other cross-country route. The Mississippi and its tributaries bring water from close to Canada, through the heart of Louisiana's wetland, and into the Gulf of Mexico.



Regional Influences

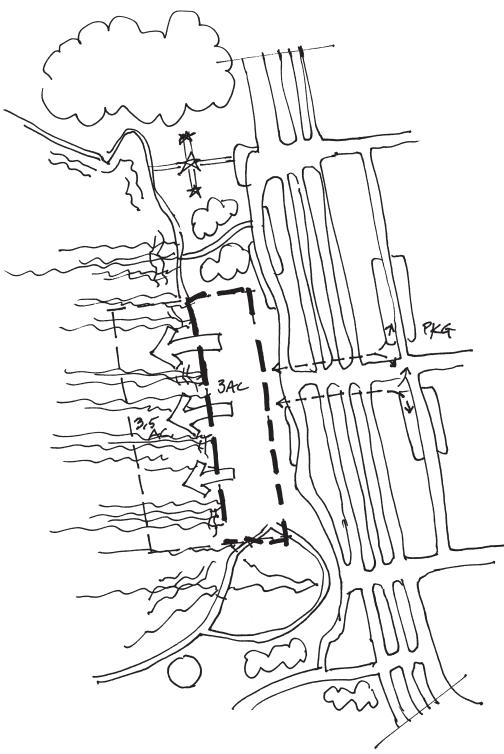
As Louisiana Wetland's Gateway from the West, Lake Charles is influenced by the Houston market of visitors, whether they come for gaming or to enjoy the richness of southern food, fun or 'Sportsman's Paradise'. The location for America's Wetland Discovery Center in Lake Charles offers a signature trail-head starting with the Creole Nature Trail for visiting coastal wetland through southern Louisiana to the Audubon Nature Institute in New Orleans.





City Influences

Directly on the lake, right off I-10, adjacent to Downtown, next to the Civic Center, near hotels, the Lake Charles location for America's Wetland Discovery Center is right where the action is for natives and visitors.



Site Influences

Originally $3\frac{1}{2}$ acres along the Lake's edge the site lends itself, as a true wetland, to 'capture' another 3 acres over the Lake, and to turn the Lake's edge into fresh water marsh, ponds and native animal exhibits, becoming a 6 acre site celebrating fresh to salt water wetland in one advantageous location. Parking for 1500 vehicles at the nearby Civic Center, as well as new parking for 150 cars along the East Service Road to Veterans Memorial Parkway (North Lakeshore Drive Exit from I-10) leaves visitors a short walk or shuttle service from the site.

Master Plan **3**

America's Wetland Discovery Center

Gateway to an Amazing World

From the celebrated swamps of South Louisiana to the misty peat bogs of Ireland, wetlands are found around the world. Covering billions of acres on every continent but Antarctica, they enrich our planet with vast natural resources, house an incredible diversity of native plants and animals (many of them endangered), and daily impact the lives of people across the globe.

Despite their astounding value, more than half the world's wetlands have been destroyed in the last century. More continue to vanish at an alarming pace. Yet we still depend on wetlands to meet essential needs, from food and jobs to protection from the forces of nature.

For thousands of residents and visitors of Lake Charles, the vital story of Louisiana's own vanishing wetland—and their impact on the entire nation—will be told through America's Wetland Discovery Center. Rising above actual marshlands along the city's namesake lake, this 56,000-square-foot adventure center will serve as the western trailhead for the Creole Nature Trail National Scenic By-way (recently designated as one of the nation's 20 "All-American Roads"). As such, it provides an interpretive gateway to Louisiana's "Wetland Trail," which begins here, passes through coastal swamps and marshes, and culminates at Audubon Nature Institute wetland exhibits in New Orleans. The Discovery Center will advance wetland conservation themes through authentic habitats, engaging exhibits, hands-on animal encounters, a special effects theater and other interactive learning tools. Combining educational exploration with high-quality, family entertainment, the facility will emerge as a national resource center for wetland education—and a premier regional attraction that dramatically impacts the area economy.

A National Treasure

In a ranking of world ecosystems, wetlands reside at the top of the list for value and productivity. They serve as nurseries and feeding grounds for countless fish, shellfish, waterfowl and fur-bearing animals. Berries, rice and timber thrive in the wetland, along with soils and plants used in medicines. Oil, gas and other natural resources abound here as well.

Economies are funded by wealth from the wetland. In 1997, for example, commercial and recreational fishing in the United States fueled a \$111 billion industry employing hundreds of thousands of people. More than 70 percent of that value originated with fish species that depend on coastal wetlands. Wetland-related tourism has generated \$59 billion a year (according to 1991 estimates), fur harvests add tens of millions more—and that's a mere start. Beyond the dollars and cents tallied in economic impact studies, the wetlands benefit our communities in many other important ways. As they soak up and slow down floodwaters, wetlands provide flood control for inland areas. They also serve as a hedge against coastal erosion, a buffer against hurricanes and tropical storms, and a filtration system that improves our air and water quality. Millions of people additionally prize these aquatic habitats as prime spots for fishing, hunting, boating, bird watching, wildlife photography and other leisure activities. In Louisiana, wetlands color our history, inspire our cultural heritage and—hopefully—shape our future.

The Mission

Talk about wetlands, and the topic hits home: the Gulf Coast holds half of all coastal wetlands in the continental United States. Louisiana alone claims more than 3 million acres of coastal wetland, including more than 40 percent of the nation's salt marshes. From these super-productive wetlands, Louisiana annually provides the nation with:

- \$4.4 billion in commercial and recreational fishing, hauling in nearly 30 percent (by weight) of the total commercial fisheries harvest in the continental United States. That take exceeds 1 billion pounds per year, making Louisiana No. 1 among the lower 48 states in fishery landings.
- more than \$37 billion in oil and natural gas production, including 18 percent of the total U.S. oil production and 24 percent of its gas production
- 400 million tons of waterborne commerce. In total shipping tonnage, Louisiana ports rank first in the nation.
- \$40 million in alligator harvests
- \$2.5 million in fur harvests—40 percent of the nation's total
- winter habitat for 70 percent of migrating waterfowl that travel the Central and Mississippi Flyways.

At the same time, Louisiana suffers 80 percent of U.S. coastal land loss each year. Shoreline erosion, subsidence, saltwater intrusion, rising sea levels, channel dredging, levee construction and many other natural and man-made hazards destroy up to 35 square miles of Louisiana wetlands annually. Without intervention, another half million acres or more could sink into the Gulf of Mexico by the year 2050—forever reshaping the Louisiana coastline, wiping out critical resources and crippling wetland production relied on by the entire nation. America's Wetland Discovery Center aims to promote Louisiana wetland conservation through environmental education. By enabling visitors to learn through a series of interactive exhibits and on-site demonstrations of successful wetland restoration techniques, the Center will advance its goals to:

- Nurture a strong appreciation for Louisiana's wetland and their importance to the nation as a whole
- Build awareness of the fragile nature of wetland habitats and the urgent need for their restoration and conservation
- Inspire a sense of environmental stewardship among individuals—the first step in ensuring the survival of our wetland for generations to come.

PURPOSE AND MISSION

America's Wetland Discovery Center's purpose of creating awareness of the importance of Louisiana's Wetland guides its mission to:

Exhibit the diversity of wetlands and culture of coastal Louisiana

Preserve Louisiana's Wetland

Provide opportunities for recreation in natural settings

Enhance the care and survival of our wetland through education research and conservation

Provide a guest experience of outstanding quality

Delivering the Message

The Expedition Begins

The stage for wetland exploration is set from the moment visitors step onto the boardwalk leading to America's Wetland Discovery Center. Surveying the surrounding swamp and marshlands as they make their way across to the entry pavilion, guests will witness first-hand the natural beauty and rich biodiversity of Louisiana's wetland.

The world they enter resembles a rustic fishing village. The facility's Lobby/Orientation Center is a metal-roofed building that suggests a Cajun country dance hall—a staple of social life for people of the marshes who gather often to celebrate special events, swap fish stories and just visit with neighbors. Inside, natural sound effects and authentic artifacts illustrate their way of life, from fishing boats and nets suspended from the ceiling to a collection of hand-carved duck decoys.

Ticketing will take place here, along with a variety of visitor services offered by the Wetland Concierge desk. This information booth will provide printed guides for exploring the Discovery Center as well as promote local and statewide businesses supported by the wetland. The concierge will take reservations for swamp tours, fishing trips—even lunch or dinner at area seafood restaurants. The orientation center also houses the Cypress Knee Gift Shop (offering Louisiana products, local crafts and other unique gifts) and the Marsh Grass Café, which will feature a menu of traditional Louisiana cuisine.

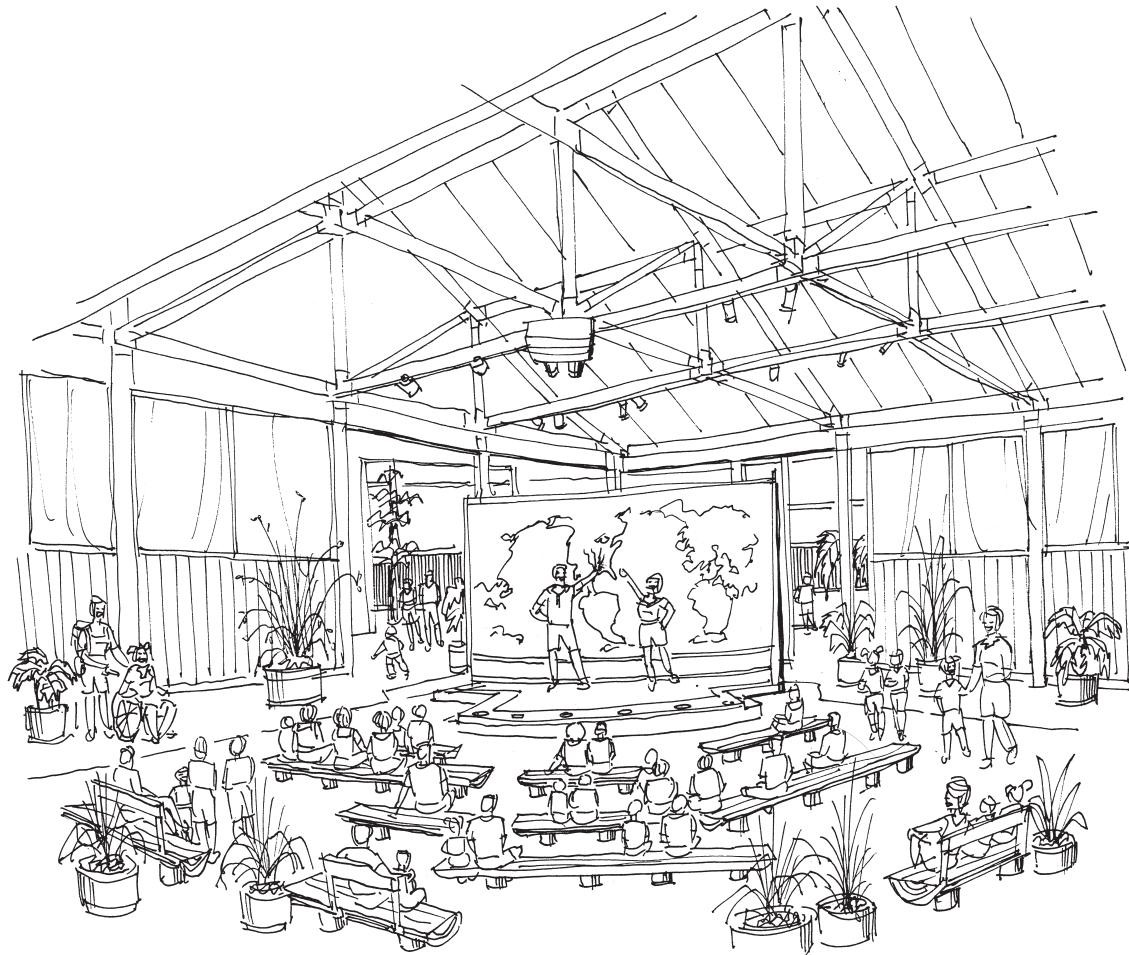


Orientation/Lobby

The Lobby experience is enlivened by a dramatic backdrop: a huge, interactive, rippling water sculpture of North America. Water courses across its center and through an enlarged image of Louisiana—representing rivers that run through the state and flow through its swamps and coastal marshes on their way to the Gulf of Mexico. The impression is central to the Discovery Center's primary exhibit theme: From the rivers, through the wetland and into the Gulf.

America's Wetland Theater

The first stop on the visitor expedition is America's Wetland Theater. Decked out as an old fishing camp, with log benches for seating, the theater will combine live character presentations with High-Definition (HD) video technology to showcase the great beauty and enormous value of our nation's wetlands. The brief show will serve as an orientation—and invitation—to the remaining journey through America's Wetland Discovery Center.



"To the Cajun, it is his living: hunting, trapping, crawfishing, frogging and crabbing. To the sportsman, it is fishing for bass and hunting for ducks, squirrels and deer. To the oil company engineer, it is fossil fuels. To the timberman, it is lumber. To the coastal fishermen, it is a nursery for his catch. To the public, it is a buffer zone where clean air and water exist. To the environmentalist, it is North America's largest and last total swamp ecosystem."

From: Atchafalaya: America's Largest River Basin Swamp
C.C. Lockwood 1981

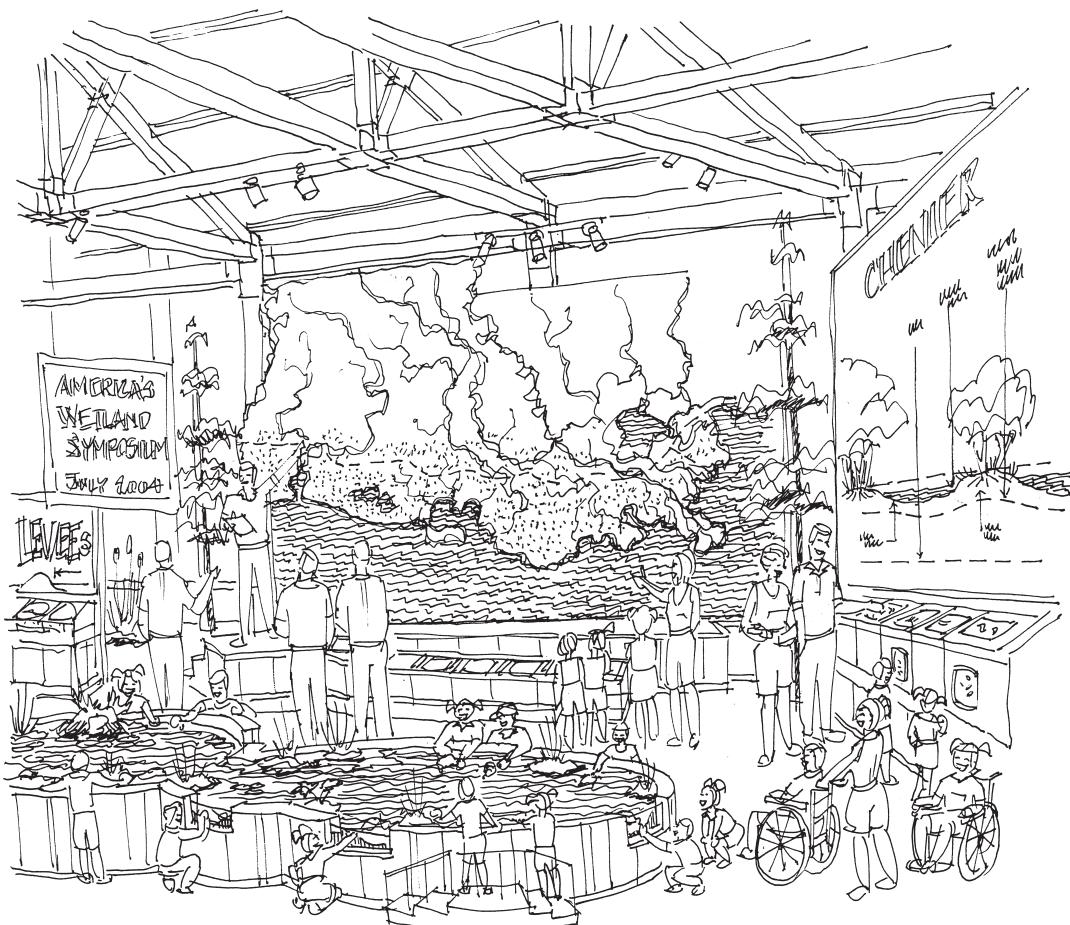
The Global Picture

Dozens of different types of wetlands are found worldwide, and the Discovery Center's first major exhibit area defines and highlights the most common. Visitors will learn where the various types of wetlands occur in North America and other countries, and gain a further sense of their importance through such components as: an interactive river water table, large-scale marsh habitats, graphic displays of bird migration paths and a shoreline diorama. An interactive kitchen will creatively showcase products from America's wetlands.

Information in this area will be continually reviewed and updated, and new data will be presented through changing exhibit space included here and throughout the Discovery Center complex. This allows flexibility (on an annual basis) to expand on existing topics, explore new ideas, focus on seasonal cultural themes, introduce additional wildlife—and encourage repeat visitation.



The Wetland Story Exhibit



Louisiana Wetlands Exhibit

Louisiana's Story

Water carried southward by the legendary Mississippi River flows into Louisiana's deltas and Atchafalaya Swamp and eventually empties into the Gulf of Mexico. In this building, visitors will trace the water's path and gauge its impact while discovering the various kinds of swamps and marshlands that comprise the state's incredible wetland system. Dioramas and live animal habitats will reveal the wildlife diversity of these rich environments. Here, visitors will enter the Discovery Lab and play the role of wetland researcher.

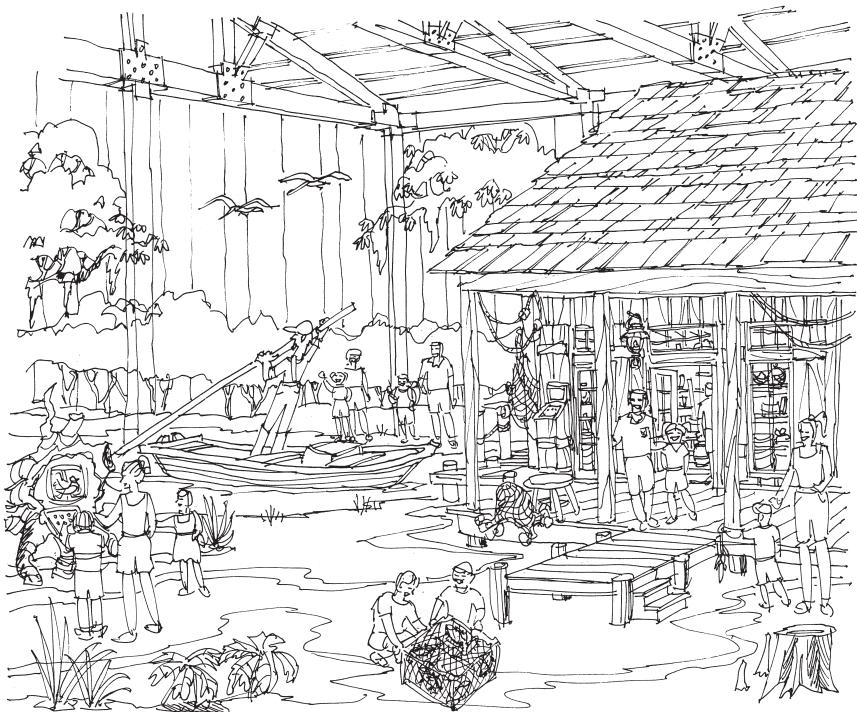
Microscopes offer up-close inspection of marsh water. Live shrimp, fish eggs and seasonal insects will also be on view. A lively interpreter—clad in lab coat—will assist visitors with experiments and offer additional information about the creatures and concepts featured in this exhibit area.



Wetland Play Exhibit

Learning Through Play

Children of all ages will revel in a journey through giant marsh grass (magnified 100 times!), where they come face-to-face with bigger-than-life crabs and other wetland creatures. A net play area beckons kids to make like a fish—climbing through a hoop or shrimp net and sliding into the hull of a shrimp boat. They can also “dive” through a coral reef exhibit and pop up inside a bubble exhibit, gaining a fish-eye view of the underwater world of wetlands.



Cultural Gumbo/Call to Action Exhibit

Our Cultural Gumbo: Stirring the Call to Action

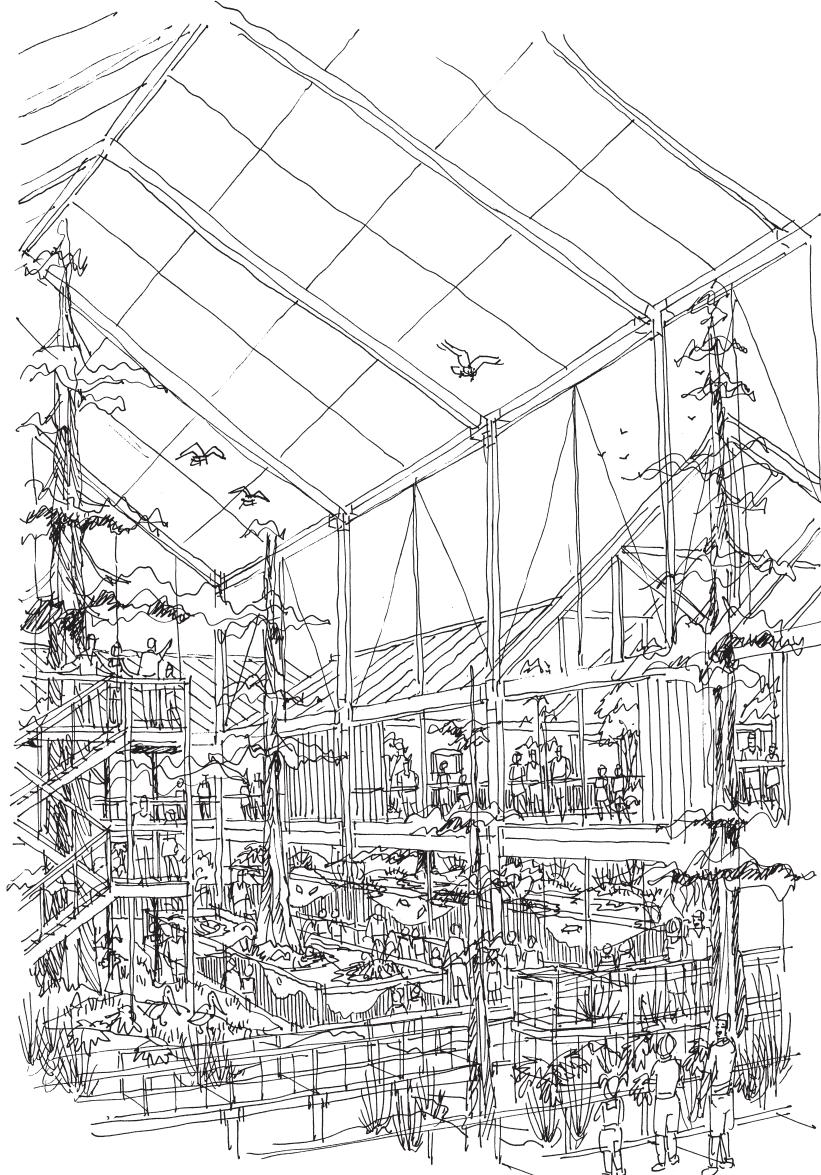
The distinctive culture that sets Louisiana apart from the rest of the world is fashioned from the fabric of wetland living. Through historic photographs and intriguing artifacts, the visitor will get to know the people who make their home in the state's marshes and swamplands.

From Cajuns to African Americans, the earliest swamp dwellers lived in harmony with the environment—working the wetland from season to season to obtain the resources they needed to survive. They shopped nature's super store, stocked with everything from fish to fry for supper to Spanish moss for stuffing furniture and mattresses. The emergence of oil and gas exploration, timber harvesting and other industries offered more resources while threatening the very habitats that yielded them. Visitors to this exhibit area will explore human impact on wetlands loss and discover methods for turning the tide. Graphic demonstrations of successful restoration and conservation techniques (from freshwater diversion projects that replenish water flow blocked by levee construction to the use of man-made structures and vegetative plantings to prevent shoreline erosion) will illustrate how conservationists and industry are working together to preserve our wetland. (See Appendix 1) This station presents the Discovery Center's strongest call to action: offering ideas on how all individuals can help ensure the future of these valuable resources.

Wildlife Adventures

A series of scenic boardwalks leads visitors to natural habitats that support animals and plants found in swamp, marsh and coastal ecosystems. Alligators and nutria populate the swamp. Pelicans, egrets and other shore birds reside in a towering aviary, alongside native butterflies. A ramp leading to the water's edge provides an encounter with crabs, redfish, shrimp and other marine animals that thrive in coastal waters.

Horseshoe crabs and other creatures are introduced via the Wetland Touch Pool. This marsh habitat not only enables visitors to view marsh-dwelling animals through an Aquacam (underwater periscope), but also invites them to actually touch these creatures in a highly personalized lesson on the nature of wetlands.



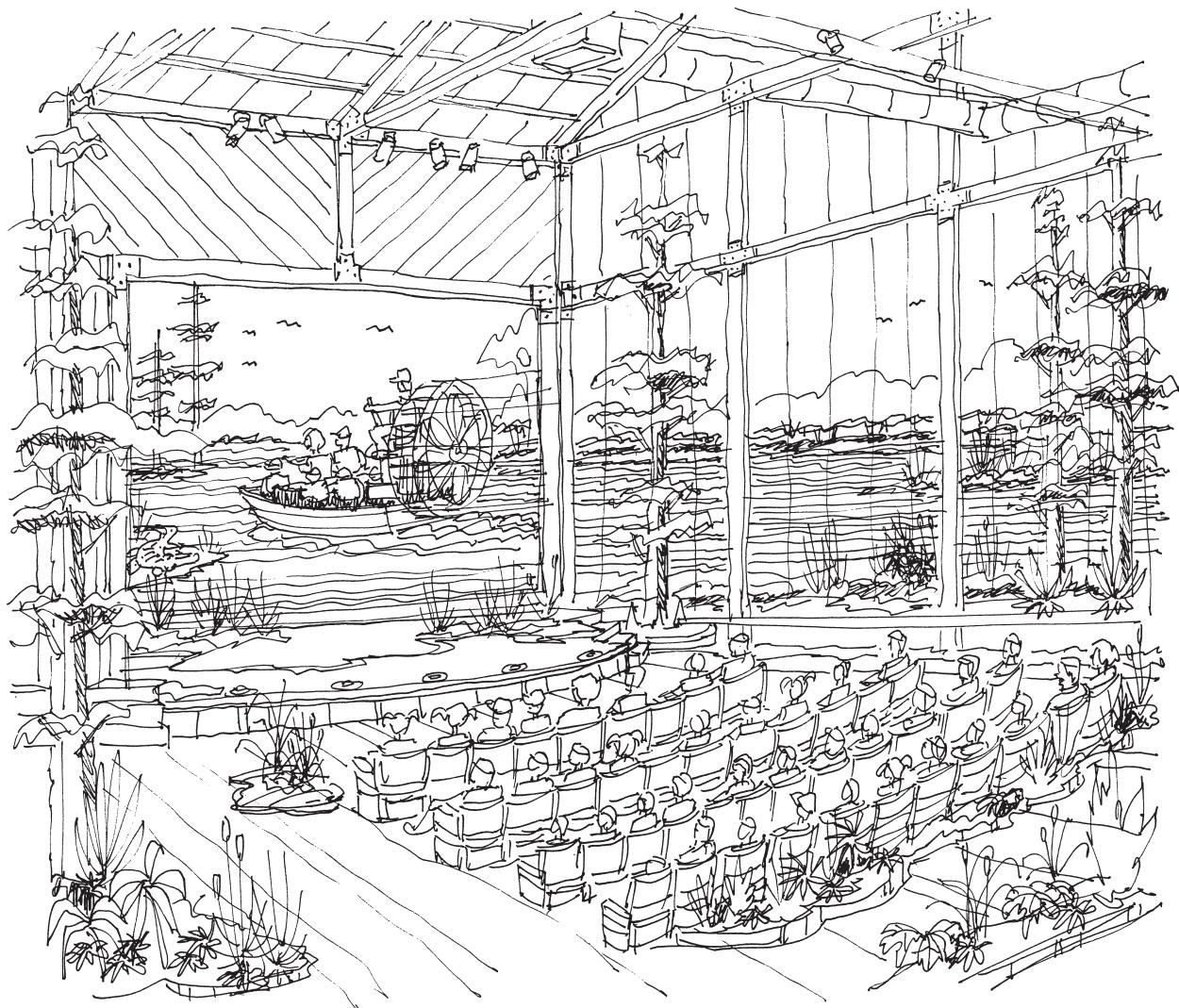
Aviary/Animal Habitat Exhibit

A Finale to Remember

The final adventure of this wetland expedition unfolds through bold special effects presented in a state-of-the-art Immersion Theater. Visitors embark on a remarkable voyage that begins with a lazy pirogue ride from the source of the Mississippi River. The trek continues down the Mighty Muddy, then accelerates during a wild, (literally) rocking airboat ride through swamplands and marshes. One minute, mesmerized passengers are moving past coastal rookeries filled with native and migrating birds; the next minute they're plunging into the Gulf of Mexico to explore the Caribbean-like coral reefs found in the Flower Garden Banks National Marine Sanctuary. The adventurers surface from their dramatic dive only to find themselves in the midst of a simulated hurricane.

Far more than a striking visual experience, the theater employs all the senses to keep the audience in the center of the action. Seats inflate to suggest underwater buoyancy as vibrant images of marine life emerge on the screen. The storm sequence intensifies as fog fills the theater, misters spray rain, and fans escalate marsh breezes into mild hurricane winds.

In its wake, the killer storm leaves devastating destruction. Acres and acres of Louisiana's wetlands are lost—and with them, many of our nation's valuable treasures. It is a lesson taught in a way that no textbook or journal article can match. A key component of the total adventure, the Wetland Immersion Theater will become an important community resource. Designed as a multipurpose facility to serve groups ranging from schoolchildren to convention delegates, it will be available for private events rental along with other components of the Discovery Center.



Wetlands Immersion Theatre

Reveling in the Wetland

The Phase II expansion invites guests to conclude their visit to America's Wetland Discovery Center by relaxing at the dockside Seafood Café/Market. A seasonal rotation of local vendors will offer live and cooked Louisiana seafood—and a chance to enjoy the wetland's culinary gifts on the spot, as visitors pull up chairs to paper-covered tables spread with boiled crawfish, crabs or shrimp. Some guests may even use their own boats to access the site, which features a working marina along with exhibits on the vessels used to navigate Louisiana's wetland.

The Vision

America's Wetland Discovery Center eventually will encompass six acres of outdoor marshlands and boardwalks and a complex of buildings totaling 56,000 square feet. The buildings will house exhibits; a Learning Center (classroom/resource library); gift shops, restaurants and other visitor amenities and services; a festival-style seafood Café/market and boat dock; administrative offices; a graphics workshop; and space for storage and maintenance support.

Development Program Budget Estimates



Development Program & Budget Estimate

Phase I Site Work

Program Items	Size	Estimated Cost
Parking, Drives & Service Areas		\$ 250,000
Visitor Parking	150 cars	
Bus Parking	10 buses	
Visitor Drop-off	3 cars	
Bus Drop-off	3 buses	
Handicap Parking	10 spaces	
Arrival Plaza		\$ 50,000
Paving, benches, trash receptacles, entry sign, handicap ramps, bollards, lighting, cross walks, etc.		
Realigned Lakefront Walkway		\$ 30,000
Freshwater Pond Development		\$ 100,000
Bog pond, beaver pond, freshwater swamp, and freshwater marsh		
Brackish Marsh Development		\$ 150,000
Wood Walkways & Decking		\$ 150,000
Entry walkway, education decks and walkways, atrium and eating decks and interpretive walkways		
Utilities		\$ 100,000
Water, gas, electrical, sanitary sewer and storm drainage		
Landscaping & Irrigation		\$ 200,000
Parking lot, walkways, pond areas, exterior exhibits, etc.		
Site Lighting		\$ 50,000
Parking lot, drives, walkways, decks, etc.		
Site Graphics		\$ 50,000
Directional and exterior interpretive graphics		
Miscellaneous Site Work		\$ 50,000
Subtotal Phase I Site Work Construction Cost		\$ 1,180,000

Phase I Architecture

Program Items	Size	Estimated Cost
Entry Pavilion	(900 SF)	\$ 50,000
Entry Atrium	(4,000 SF)	\$ 400,000
Restrooms	(1,200 SF)	\$ 240,000
Learning and Resource Center	(2,000 SF)	\$ 200,000
Wetlands Theater	(1,500 SF)	\$ 225,000
Exhibit Areas	(10,000 SF)	\$ 1,000,000
Gift Shop	(5,000 SF)	\$ 500,000
Food Concession	(2,800 SF)	\$ 420,000
Mechanical, Electrical & Life Support Room	(1,500 SF)	\$ 150,000
Workshop	(500 SF)	\$ 50,000
Aviary/Animal Habitat	(9,000 SF)	\$ 450,000
Animal Management Area	(2,000 SF)	\$ 200,000
Administration	(1,600 SF)	\$ 160,000
Ticketing	(500 SF)	\$ 50,000
General Storage	(500 SF)	\$ 25,000
Interior Circulation	(1,300 SF)	\$ 130,000
Covered Exterior Walkways	(2,000 SF)	\$ 100,000
Light House	(500 SF)	\$ 150,000
Subtotal Phase I Architecture		\$ 4,500,000

Phase I Exhibit Development

Program Items	Estimated Cost
Atrium	\$ 250,000
Wetlands Theater	\$ 100,000
Wetlands Story	\$ 500,000
Louisiana Wetlands Discovery Lab	\$ 500,000
Wetlands Play	\$ 500,000
Cultural Gumbo/Call to Action	\$ 500,000
Aviary/Animal Habitat	\$ 900,000
Exterior Playground	\$ 100,000
Beaver Exhibit and Holding	\$ 100,000
Wetlands Theater Film Development	\$ 200,000
Subtotal Phase II Exhibit Development Cost	\$ 3,650,000

Phase I FF&E

Program Items	Estimated Cost
Dining Tables and Chairs	\$ 20,000
Food Service Equipment	\$ 150,000
Gift Shop (Themed Displays)	\$ 600,000
Administration (Office Furnishings and Equipment)	\$ 10,000
Learning and Resource Center (Furnishings and Equipment)	\$ 30,000
Outdoor Tables and Chairs	\$ 30,000
Subtotal Phase I FF&E Cost	\$ 840,000

Phase I - Fees, Surveys, Permits, Testing and Contingencies at 20%	\$ 2,034,000
Total Cost Phase I	\$ 12,204,000

Phase II Site Work

Program Items	Estimated Cost
Construction Access	\$ 30,000
Wood Walkways & Decking	\$ 150,000
Interpretive Walkway	\$ 30,000
Boat Wharf	\$ 40,000
Café Deck	\$ 30,000
Site Lighting	\$ 20,000
Site Graphics	\$ 10,000
Miscellaneous Site Work	\$ 20,000
Subtotal Phase II Site Work	\$ 330,000

Phase II Architecture

Program Items	Size	Estimated Cost
Wetlands Immersion Theater	(6,000 SF)	\$ 1,200,000
Seafood Café/ Market	(2,000 SF)	\$ 200,000
Seafood Stalls	(1,000 SF)	\$ 50,000
Subtotal Phase II Architecture		\$ 1,450,000

Phase II Exhibit Development

Program Items	Estimated Cost
Theater Special Seating	\$ 500,000
Theater Theme Set	\$ 100,000
Shrimp Boat Exhibit/Graphics	\$ 100,000
Crabbing Exhibit/Graphics	\$ 5,000
Theme Film Production	\$ 500,000
Subtotal Phase II Exhibit Development Cost	\$ 1,205,000

Phase II FF&E

Program Items	Estimated Cost
Dining Tables and Chairs	\$ 5,000
Food Service Equipment	\$ 100,000
Outdoor Tables and Chairs	\$ 10,000
Office Furnishings	\$ 2,000
Subtotal Phase II FF&E Cost	\$ 117,000

Phase II - Fees, Permits, Testing and Contingencies at 20% \$ 620,400

Total Cost Phase II \$ 3,722,400

Total Cost Phases I & II \$ 15,926,400

Programming and Construction Budget

The development plan allows for phasing of the project in two stages. Phase I will provide an initial 47,000 square feet of exhibit space at an approximate cost of \$12 million. Phase II will expand the facility to its full vision (including the immersion theater, boat dock and seafood cafe/market)—bringing the total cost of America’s Wetland Discovery Center to \$16 million. The capital funding plan calls for construction dollars to be raised as follows: 40% Federal funding, 40% State funding and a 20% Local match.

BUDGET ESTIMATES

	Phase I Development	Phase II Development
Site Work	\$ 1,180,000	\$ 330,000
Architecture	\$ 4,500,000	\$ 1,450,000
Exhibit Development	\$ 3,650,000	\$ 1,205,000
Furniture, Fixtures & Equipment	\$ 840,000	\$ 117,000
Fees, Surveys, Permits, Testing & Contingencies	\$ 2,034,000	\$ 620,400
Total Cost Phase I	\$ 12,204,000	Total Cost Phase II \$ 3,722,400
Total Cost Phase I & II	\$ 15,926,400	

Partnerships Operations and Feasibility



Partnership for Success

A private, not-for-profit foundation will be established to open and operate America's Wetland Discovery Center. Under a renewable contract, the foundation will manage the facility on behalf of the project's owner: the City of Lake Charles, La.

The Discovery Center is projected to be 100 percent self-sustaining through admission/concession/membership and facility rental/catering revenues, with little or no reliance on city and state funding for operations. (A financial analysis detailing estimated revenue and expenses is included in appendix 2.) This public/private partnership has proven highly successful with similar living history museums such as those operated by Audubon Nature Institute in New Orleans.

Audubon has great success in attracting sponsorships of programs. Corporate sponsorships of education programs and special events will help underwrite the operational cost. An event like Wetland Fest would be available as a naming opportunity to a company in Lake Charles, as well as in the state.

Another area that the staff can approach will be Federal and State grants. Grants from agencies like NSF and IMLS are available for research, programs, and in some cases new exhibits. Grant monies pay for material costs and staff time on the project. At many museums grants assist in operational needs and staff research.

Sales Revenues

Due to the proximity of the Convention Center, nighttime and day-time rental possibilities exist. Tour and travel convention groups and companies look for unique rental venues for business meetings, ice breakers, and social events. America's Wetland Discovery Center offers a cultural experience for convention groups that are looking for that special Louisiana flavor. The facility size and design allows it to hold small business meetings as well as large convention parties. Working with the Convention Center, it can become a partner and an additional piece of the package offered to the Tour and Travel industry.

Special Functions

Demonstrations Theater

- Story Tellers
- Cooking Demonstrations
- Cajun Dance Lessons
- Theater Performances
- Crafts

Events

- Bands
- Individual Musicians
- Rentals, Evening
- Rentals, Day
- Special Events (Wetland Fest)
- 'Cajun Christmas'
- Seasonal Events (Halloween in the Swamp, Mardi Gras, Cajun Claus, etc.)

Activities

- Indoor Eating Area
- Wetland Summer Camp
- Family Overnights
- Video Presentations
- Music Programs
- Shows - Ducks Unlimited Show & Display
 Quilt Guild
 Boat Builders
- Changeable Displays
- Seasonal Displays
- Fais do do

Markets of Opportunity/Economic Impact

A feasibility study by noted economic analyst Tim Ryan of the University of New Orleans (see Appendix 2) identifies the target markets for America's Wetland Discovery Center as:

- the residents of Lake Charles and surrounding suburbs
- individuals who live within a 150-mile radius (the “day-trip” market, which includes the Houston metropolitan area)
- current visitors to the area

Additionally, more than 40,000 vehicles travel along the city's I-10 stretch daily—each carrying potential visitors to the Center, which will offer an up-close look at the very wetlands these people traverse on their journey.

The UNO study estimates that 270,000 people will visit the Discovery Center each year. Their attendance will:

- generate more than \$4 million in annual revenues (to fund an estimated \$3.7 million in annual expenses)
- indirectly support nearly 350 new jobs in the Lake Charles area
- provide increased tax revenues to the city and state of more than \$1.7 million annually
- create a total economic impact on the Lake Charles area of \$32 million

Business & Staffing Plan

Fulltime:

Director of America's Wetland Discovery Center
Administrative Assistant

Curator of Husbandry
Assistant Curator
Fish and Water Quality Manager
Animal Naturalist (Keepers) 5 people

Curator of Education and Volunteers
Education Coordinator
Volunteer Coordinator
Naturalist staff 3 people

Marketing and Group Sales Manager
Public Relations/Special Events Coordinator

Guest Services Manager
Assistant Manager
Visitor Services staff 3 people

Gift Shop Manager
Gift Shop Staff 3 people

Food and Beverage Manager
Food Service Specialists 5 people

Operations Manager
Maintenance Specialists 2 people
Facility Service Attendants 2 people

Design and Exhibitory Manager
Theater Coordinator
Audiovisual 2 people
Graphic Designers 2 people

Summer: Wetland Summer Camp
Teachers 2 people
Summer Assistants 4 people (teenagers)

Facility Revenues

The Center will earn revenues to offset the cost of operation. These revenue sources will come from the following areas:

Admissions Gate

General visitors both Adults and Children
School Groups (Discounted Rate)

Membership Sales

Create Friends of America's Wetland Discovery Center

Gift Shop Sales

Concessions Sales

Marsh Grass Café
Seafood Café/Market

Special Events

Wetland Fest
Christmas in the Swamp
Night Concerts

Education Programs

Summer Camps

Appendices **6**

Appendix #1
David Richard
Biologist, Stream Wetland Services

America's Wetland Discovery Center

Wetland Restoration Techniques

Louisiana is home of the mighty Mississippi River and the fresh water discharge point for forty percent (40%) of North America's mainland. Huge amounts of water and sediment come through the Mississippi River and its distributaries and are funneled through the nation to Louisiana. After the great flood of 1927, the Mississippi River was leveed and channelized to prevent those great floods and the many people that were in harms way. By doing so, we actually cut off the life blood to huge areas of Louisiana's marshes.

Louisiana has an abundance of both renewable and non-renewable resources. The huge oil and gas deposits under coastal Louisiana have been and continue to be collected to fuel this nation's economy. The great ports of Louisiana are unparalleled in the nation, the amount of cargo and energy that is supplied from our state.

The combination of industrial channels, oil and gas access channels, pipeline canals, trapping ditches, utility channels have caused huge land loss to coastal Louisiana. We have recognized these land losses and use a variety of restoration techniques to restore Louisiana.

Freshwater diversions - Freshwater diversions at Canaervon and the recently completed Davis Pond are examples of huge freshwater diversions to re-establish freshwater flow that has been cut off by the Mississippi levees for almost a century. These large freshwater diversion projects will help restore the hydrology and productivity of the coastal wetlands east and west of the Mississippi in the immediate area of their construction. Many and larger freshwater diversions are needed to mimic the traditional flow of the Mississippi to maintain and rebuild our coastal wetlands.

Silt diversions - Crevasses are constructed to allow not only the movement of fresh water but silt into shallow coastal areas to rebuild vegetative wetlands. These crevasses are an important marsh building process that is facilitated due to the huge tonnage of silt carried down the Mississippi River.

Hydrologic restoration - Hydrologic restoration is used to mimic historical flows and maintain the wetland diversity that is characteristic of coastal Louisiana. This hydrologic restoration in many cases includes areas from cypress-tupelo swamp through freshwater marshes, intermediate water marshes, brackish marshes, to the saline marsh and ultimately to the beach shoreline. These hydrologic restoration projects may include freshwater inflows, freshwater retention structures, and saltwater exclusion structures to maintain historical hydrologic and vegetative patterns.

Shoreline protection - The use of shoreline protection to prevent erosion along the many miles of the Intracoastal Waterway, navigational channels, and access channels has proven to be a valuable asset in deterring marsh loss. The shoreline protection projects use both hard structure and vegetative plantings to prevent shoreline erosion and actually trap silt along channels. Both the hard structure and soft structure shoreline protection measures are being used along miles of channels to prevent further enlargement due to boat traffic and wind action.

Vegetative plantings - Louisiana has been fortunate to be a leader in the use of vegetative plantings for the rebuilding of emergent marsh. These vegetative plantings are used in shoreline protection projects and also as a stand alone in marsh rehabilitation. Plants are placed in strategic locations to reduce wave fetch, promote the growth of submerged aquatic vegetation, and prevent erosion. This project has proved valuable in the establishment of emergent vegetation in coastal marshes.

Barrier island restoration - Barrier island restoration is important to protect the fragile marshes as the first line of defense against hurricanes and also as a barrier to saltwater and as a retention to freshwater. These barrier islands constitute a huge hydrologic barrier in southeastern Louisiana that is of utmost importance to maintaining the estuary and bay system

enclosed from the Gulf of Mexico system. This shoreline restoration technique consists of pumping huge amounts of sand and offshore deposits to re-establish barrier islands that have been deteriorated by hurricanes and lack of sediment input by the Mississippi River.

Beneficial use of dredged spoil - There are millions of cubic yards of dredged material that are needed to be removed from the industrial infrastructure that can be and is being used in beneficial ways. By using these millions of cubic yards for beneficial uses for the re-establishment of marsh, we are rebuilding wetlands that have been destroyed due to those channels in the past. This beneficial use is an important tool especially near industrial channels that can re-establish the hydrology and emergent wetlands that have been destroyed due to those channels.

A comprehensive plan conceived and written through agency, parish and citizen cooperation was developed in the form of The Louisiana Coast 2050 Plan. This Plan identifies huge and ambitious measures for the future of coastal Louisiana to re-establish and recreate thousands of acres that have been lost. This ambitious plan identifies many areas of the state where the aforementioned procedures or restoration techniques can be used to restore coastal Louisiana.

As we look farther into the future, and on a grander scale, we look toward the Upper Mississippi River Valley to limit nutrient inflow into the Mississippi River. We look to the Upper Mississippi River Valley in the upper Midwest and the upper central United States to re-establish the large bottomland hardwood forest that buffered the sediment, nutrient, and water flow into the Mississippi that will allow us to have a more constant flow in the Mississippi and to limit the amount of nutrients that cause the hypoxic zone in the Gulf of Mexico. We will have to identify many riverine systems that have been dammed to re-establish the historical flows and the historical timing of those flows to help maintain the productivity of coastal Louisiana. There are huge upstream drainage projects in 30 states that have contributed to the changes in hydrology in Louisiana. Meanders must be re-established in rivers and the outflows from dams must be timed to allow for the correct water flow and historical water flow to be re-established. We must look towards creating huge distributaries in the Mississippi River to re-establish the over bank flooding that was in the Mississippi River basin in Louisiana to add nutrients and freshwater to the coastal basins. We must find ways maintain the industrial infrastructure and cultural infrastructure along with the rich Louisiana wetland diversity that is our cultural and ecological heritage. This may include large locks to prevent industrial channels from allowing Gulf waters to intrude into traditionally freshwater swamps and marshes. We must use our expertise in water and silt management to reclaim, restore and protect our diverse Louisiana coastal wetlands - our national treasure.

Appendix #2
Dr. Tim Ryan
Dean of Economics, UNO

Feasibility for the Wetland Discovery Center in Lake Charles, Louisiana

Prepared by: Timothy P. Ryan
University of New Orleans
September, 2002

INTRODUCTION

The purpose of this report is to estimate the feasibility and economic impact of a proposed Wetland Discovery Center (educational/nature park) in Lake Charles, Louisiana. The Center will attract customers from several different market areas. The potential market is divided into four separate segments:

1. The primary market, which consists of a fifty mile radius around the site itself
2. The secondary market, which consists of residents who live between 51 and 100 miles of the site
3. The tertiary market, which consists of residents who live between 101 and 150 miles of the site
4. The visitor market, which consists of current and potential out-of-area visitors to Lake Charles

In order to estimate the feasibility, we compare the proposed Lake Charles Wetland Discovery Center to an existing similar park in Alexandria, Louisiana (the Alexandria Zoological Park). The potential number of visitors to the Center in Lake Charles will be estimated by comparing the penetration rates of the existing park in Alexandria to the various markets to the actual number of people in the various market segments for Lake Charles.

FEASIBILITY

Table 1 presents the attendance and penetration of the Alexandria park to the various market segments. Table 2 presents the estimated attendance and penetration of the proposed Center in Lake Charles to the various market segments.

TABLE 1
Alexandria Zoological Park Attendance

Market	Population	Estimated Penetration Rates	Estimated Visitors
Primary (0 to 50 miles)	358,807	16.2%	58,094
Secondary (51 to 100 miles)	1,649,863	3.9%	63,601
Tertiary (101 to 150 miles)	2,254,882	1.5%	34,770
Visitors	409,653	4.6%	18,950
Total	4,673,206		175,415

Sources: U. S. Bureau of the Census, Alexandria Zoological Center, and Author's Calculations

TABLE 2
Projected Wetland Discovery Center Attendance

Market	Population	Estimated Penetration Rates	Estimated Visitors
Primary (0 to 50 miles)	409,461	16.2%	66,295
Secondary (51 to 100 miles)	1,198,234	3.9%	46,191
Tertiary (101 to 150 miles)	5,333,435	1.5%	82,240
Visitors	1,290,053	6.0%	77,403
Total	8,231,184		272,130

Sources: U. S. Bureau of the Census, Author's Calculations

Thus, based on the actual attendance of the park in Alexandria, we estimated that the proposed Center in Lake Charles will have an annual attendance of 272,130 visitors with 66,295 coming for the city and its immediate suburbs, 46,191 coming from the area between 51 and 100 miles, 82,240 coming from the area between 101 and 150 miles away (this includes the Houston MSA), and 77,403 coming from existing visitors. According to the Louisiana Office of Tourism, the Lake Charles area currently has 1.29 million visitors. The main visitor attractions to visitors to Lake Charles are the riverboat casinos that attract visitors from Texas.

FINANCIAL ANALYSIS

This report does not contain a complete pro-forma for the project but does contain an analysis of the proposed revenues and expenditures of the proposed park in a “steady-state” year. The steady-state year is defined as a year after the Center has been up and running for some time and has had a chance to “work out the kinks.” The assumption for this analysis is that the per person revenue for the Center will be \$15.00. That includes all revenue ñ admission charges, retail purchase at the Center, and the like. Table 3 presents the estimated costs and revenues.

TABLE 3
Wetland Discovery Center Financial Analysis

Category	Amount
Revenues:	
Number of Visitors	272,130
Per Person Revenue	\$15.00
Total Revenue	\$4,081,945
Expenditures:	
Cost of Goods Sold	\$769,449
Salaries & Fringes	\$757,650
Administrative Costs	\$768,062
Operational Costs	\$1,363,927
Total Expenditures	\$3,659,088
SURPLUS	\$422,857

Source: Author's Calculations

Thus, the Center is expected to cover all costs, including principal and interest payments on borrowed capital funds, and produce a surplus of over \$422,000.

ECONOMIC IMPACT

This section estimates the total economic impact of the proposed Wetland Discovery Center based on the estimated attendance presented in Table 2. The spending impact, as estimated in this study, is made up of three components: the direct, or primary, spending; the indirect spending; and the induced spending. The direct spending is the spending that drives the entire economic impact and includes:

- The wages and salaries of Center employees.
- Costs of insurance, utilities and other services purchased in the state.
- Spending of visitors to the city due to the Discovery Center.

The direct, or primary, spending described above produces additional spending in the economy, which is referred to as indirect and induced spending. Indirect spending includes the spending of local firms that provide supplies to the firms involved in the direct spending. Induced spending is the spending initiated by individuals who are directly employed by the Center. They spend part of their income in the local economy that produces income for other local residents.

The indirect and induced spending are added together to produce secondary spending, which is sometimes referred to as the “ripple” or multiplier effect. The multipliers used in this study are calculated by the Bureau of Economic Analysis and published in the following reference: United States Department of Commerce, Bureau of Economic Analysis, Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II), 1999. These multipliers are specific to each industry in each area and those used here are for the relevant industries in Louisiana.

TABLE 4
Wetland Discovery Center Spending

Spending Categories	Direct	Secondary	Total
Cost of Goods Sold	\$769,449	\$504,816	\$1,274,266
Salaries & Fringes	\$757,650	\$940,243	\$1,697,893
Administrative Costs	\$768,062	\$1,247,398	\$2,015,461
Operational Costs	\$1,363,927	\$2,661,666	\$4,025,593
Visitor Spending - Hotels	\$4,204,404	\$8,346,162	\$12,550,566
Visitor Spending - Restaurants	\$2,347,119	\$4,605,516	\$6,952,635
Visitor Spending - Retail	\$1,408,271	\$923,932	\$2,332,203
Visitor Spending - Other	\$938,847	\$615,954	\$1,554,802
Total	\$12,557,729	\$19,845,688	\$32,403,417

Source: Author's Calculations

Thus, the Center and the visitors who come to Lake Charles will create additional direct spending in the local economy of \$12.56 million. The direct spending will create secondary spending of \$19.84 million. The total spending impact of the Center will be \$32.40 million.

In addition to the spending impact, new jobs, new earnings, and new state and local tax revenues are created by the economic activities of the park. Tables 5 and 6 present the estimates for employment and earnings and tax revenues, respectively.

TABLE 5
Wetland Discovery Center Employment and Earnings

Spending Categories	Earnings	Jobs
Cost of Goods Sold	\$158,541	9
Salaries & Fringes	\$1,018,887	13
Administrative Costs	\$418,316	18
Operational Costs	\$748,393	37
Visitor Spending - Hotels	\$2,667,274	141
Visitor Spending - Restaurants	\$1,288,568	94
Visitor Spending - Retail	\$290,167	17
Visitor Spending - Other	\$193,445	11
Total	\$6,783,592	341

Source: Author's Calculations

Thus, the proposed park will support 341 new jobs in the Lake Charles area. Not all of these jobs are at the Discovery Center itself, many are in businesses that receive spending due to the Center. These employees earn \$6.78 million.

TABLE 6
Wetland Discovery Center State and Local Tax Revenues Generated

Tax Source	Revenue
State Taxes	
Income	\$92,004
Excise	\$74,295
Hotel	\$336,352
Sales	\$453,016
Business	\$67,836
Total State Taxes	\$1,023,504
Local Sales	
Local Hotel	\$633,066
	\$126,132
Total Local	\$759,198
Grand Total	\$1,782,702

Source: Author's Calculations

Thus, the proposed Discovery Center will create slightly over \$1.02 million in new revenue for the state of Louisiana and \$.76 million in tax revenue for local governments in the Lake Charles area.

