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# WATER MARKS

Louisiana Coastal Wetlands Planning, Protection and Restoration News

# Funding Shifts to Large-Scale Projects

It's inevitable . . . a natural evolution," says Dave Frugé, field supervisor for the U.S. Fish and Wildlife Service. Inevitability, however, doesn't make the CWPPRA Task Force's shift in emphasis from small- to large-scale restoration projects any less profound.

Until recently, the majority of CWPPRA projects put under construction were designed as defensive measures. They were fast-track projects, designed to put the brakes on wetlands loss. For example:

- The Bayou LaBranche project used a combination of sedimentary, vegetative and structural techniques to create 250 acres of new marsh along the southern shore of Lake Pontchartrain in St. Charles Parish.
- The Cameron Prairie National Wildlife Refuge project used rock dike breakwaters to protect 640 acres of freshwater marsh in Cameron Parish from further erosion.
- The Boston Canal-Vermilion Bay project used a combination of structural and vegetative techniques to protect 466 acres of wetlands along the northwest shore of Vermilion Bay.
- The Freshwater Bayou project used rock breakwaters and water control structures to protect 1,700 acres of marsh in Vermilion Parish.

Each of these projects and others like them are expected to be highly successful. Not only are they meeting their environmental objectives; they

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A view of the Naomi Siphon in Plaquemines Parish. Similar technology and structures will be used in the Myrtle Grove Siphon Project — one of two large-scale, freshwater diversion projects endorsed by the CWPPRA Task Force in February.

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*Water Marks* is published twice a year by the Louisiana Coastal Wetlands Conservation and Restoration Task Force to communicate news and issues of interest related to the Coastal Wetlands Planning, Protection and Restoration Act of 1990. This legislation funds wetlands enhancement projects nationwide, designating approximately $35 million annually for work in Louisiana. The state contributes another 25 percent toward the costs of project construction.

Task Force member agencies:

- Department of the Army
- Department of Agriculture
- Department of Commerce
- Environmental Protection Agency
- Department of the Interior
- State of Louisiana

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# Funding Shifts to Large Scale Projects

have rallied grassroots support and demonstrated the effectiveness of specific engineering techniques in protecting wetlands as well.

## Focus on the "Big Picture"

On the other hand, the range of impact of these small projects is limited. Often designed to address localized problems, they can't begin to keep pace with coastal wetlands loss statewide. That, according to the Task Force, requires water-diversion projects extensive enough to affect major portions of Louisiana's coastal basins. Frugé, a Task Force member, describes these kinds of systemic efforts as those "that can benefit areas much larger than the actual project footprint."

The Task Force's shift in emphasis to "big-picture projects" was apparent at its meeting on February 28, 1996. It created two project categories, the first of which will include small-scale projects, defined generally as those having fully-funded costs of less than $10 million. The second will contain large-scale projects having "systemic, process-level benefits" and typically having fully-funded costs greater than $10 million. The Task Force dedicated no less than 2/3 of the Priority Project List funding for category 2 and the remaining funds for category 1.

*Often designed to address localized problems, small projects can't begin to keep pace with coastal wetlands loss statewide.*

## Two Large-Scale Water Diversion Projects

Shortly after approving the 2/3 — 1/3 funding strategy, the Task Force approved plans for phase one of a diversion project near Myrtle Grove, along the west bank of the Mississippi River in Plaquemines Parish. Scheduled to begin in September of this year, the project will use 6- to 8-foot diameter siphons to bring 2,100 cubic feet per second (cfs) from the Mississippi into a 15,000-acre target area. The fully-funded costs are estimated at $15 million.

The area affected by this project has long suffered from the detrimental effects of the Mississippi River levee and the dredging of oilfield and pipeline canals. As a result of subsidence and saltwater intrusion, the area has lost more than 8,000 acres of marsh and converted from a fresh to a brackish habitat. When the siphon is constructed, the project will protect over 1,000 acres of brackish marsh, enhance approximately 6,200 acres of brackish marsh and 3,950 acres of submerged aquatic vegetation, and create 150 acres of new marsh. Reintroduction of fresh water is expected to improve the habitat for fisheries and furbearer, reptile and waterfowl populations. In time, these improvements should enhance opportunities for recreational and commercial fishermen, trappers and sportsmen.

The Task Force also approved the expenditure of $1 million to do preliminary engineering design to determine the effectiveness of

*continued from page 1*

siphoning water from the Mississippi at Donaldsonville and diverting it into Bayou Lafourche. The work will concentrate on possible flooding problems (water levels will be raised about 6 feet in the bayou at Donaldsonville and 2 feet in Thibodeaux), land-rights issues (who owns the batture that will be flooded), and marsh benefits (how the water can best be directed into marshes to reduce loss). With an anticipated cost of $24.5 million, Bayou Lafourche represents a clear example of a large-scale project designed to produce big-picture results.

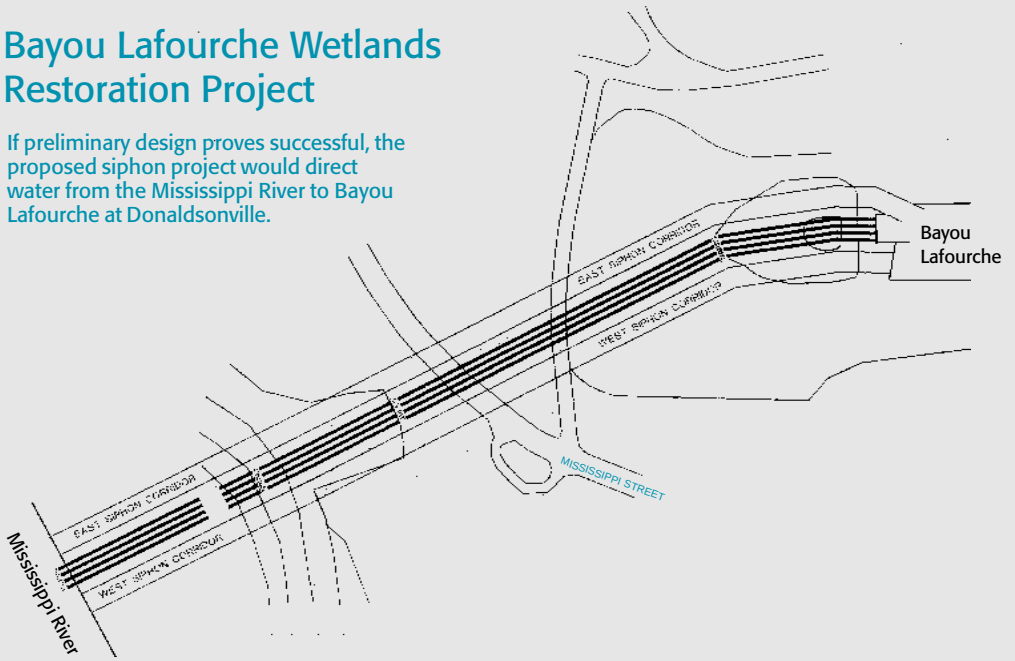
While large projects promise impressive results, they also present a unique set of problems:

- they cost more and therefore often require specific Congressional funding and authorization
- they take longer to plan and construct
- they are more likely to be controversial precisely because their effects are so far-reaching.

Yet these problems pale beside the enormity of the wetlands loss occurring along the coast. In fact, it may be the severity of the crisis itself that smoothes the inevitable transition to large-scale projects and renewed hope for the future of Louisiana's coastal wetlands. ❍

## Bayou Lafourche Wetlands Restoration Project

If preliminary design proves successful, the proposed siphon project would direct water from the Mississippi River to Bayou Lafourche at Donaldsonville.




# Biotechnology...

## The Newest Tool In Coastal Wetland Restoration

Artificial seed from a superior coastal wetland plant, produced by cloning large numbers of plants in laboratory dishes, could provide an important boost to CWPPRA's coastal wetland restoration efforts.

Through biotechnology, Dr. Timothy P. Croughan of the Louisiana State University Agricultural Center - Crowley Rice Research Station, and Michael D. Materne of the Natural Resources Conservation Service, Plant Materials Program, have produced individual plantlets encapsulated within a protective gel to form the equivalent of a plant-produced seed. These artificial seeds have the potential to be used as a substitute when plants fail to produce seeds naturally, or when they produce only a small number of fertile seeds. Croughan and Materne have concentrated their biotechnology efforts primarily on *Spartina alterniflora*, commonly known as smooth cordgrass or oyster grass.

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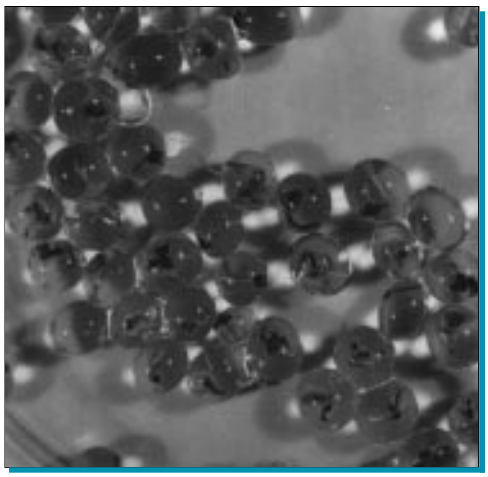

Individual plantlets encapsulated in protective gel.

# East Mud Lake Set for Phase Two

Workers install one of three double-barrel corrugated aluminum pipes at the East Mud Lake Project. Each pipe has a variable crest weir inlet section with a vertical slot.

Phase one of the East Mud Lake Hydrologic Restoration Project, approved on the second CWPPRA priority project list, is now complete. The project will benefit about 8,000 acres of wetlands in Cameron Parish just north of Holly Beach.

Through the years, the area has experienced excessive water levels and salinity fluctuations because of major changes in hydrology (water flow). The Calcasieu Ship Channel, LA Hwy 27, and West Cove Canal have all contributed to these changes, resulting in the loss of more than 70 acres of emergent wetlands per year for the last several years. The completed project will help reverse those catastrophic effects on the area.

"The completion of phase one of the East Mud Lake Project is a new beginning for the wetlands west of the Calcasieu Ship Channel," explained Don Gohmert, NRCS state conservationist. Designed to reduce wetland loss and degradation, the project will protect and enhance approximately 3,200 acres of emergent wetlands, as well as increase the quantity and quality of emergent and submergent vegetation in the area. The project will also enhance the habitat quality of open water in shallow estuaries and stabilize water salinity levels within ranges that are tolerable for brackish vegetation. As a result, the

*What's This?* →

See the Icon Legend — Page 6

## Good Fences Make Good Dunes

The first phase of the Timbalier Island Stabilization Project (TE-18), installation of approximately 7,400 linear feet of sand fencing, has been completed and is showing positive results, according to specialists with the Natural Resources Conservation Service.

"TE-18 is designed to reduce the rate of land loss by trapping and stabilizing sand sediment in vegetated dunes," explained Don Gohmert, state conservationist with the USDA Natural Resources Conservation Service. "Several inches to several feet of sand and sediment have already accreted along the fence in many areas."

A demonstration project approved for inclusion on the CWPPRA first-year priority project list, TE-18 consists of two major components, installed in two phases.

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area should see an increase in recreational opportunities because of improved fish and wildlife habitat.

## Phase One — Hydrologic Restoration

Included within phase one construction were:

- Four 36" corrugated aluminum pipes, each having a variable crest weir inlet section and flap gate
- Three double-barrel corrugated aluminum pipes, each pipe having a variable crest weir inlet section with a vertical slot
- One 48" corrugated aluminum pipe with interior screw or sluice gate and exterior flap gate
- Five corrugated aluminum pipes with flap gates
- One weir with two sections that have interior variable crest sections and exterior flap gates
- One weir with a variable crest boat bay
- Three earthen plugs
- Repair of approximately 1,500 linear feet of Mud Lake shoreline
- Rehabilitation of approximately 40,340 linear feet of boundary levee.

## Phase Two — Vegetative Techniques

"Phase two of the project is ongoing," said Gohmert. "It includes the planting of over 90,000 feet of shoreline and interior marsh with smooth cordgrass, an exceptionally versatile and aggressive plant that adapts well to changes in the marsh ecosystem. Planting smooth cordgrass will help protect shorelines and interior marsh areas from erosion, as well as provide a valuable seed source to populate other locations in the area." ❍

## Good Fences Make... *continued from page 4*

With the first phase of the project now completed, project managers are ready to implement phase two: transplanting marshhay cordgrass (*Spartina patens*) and Atlantic panicgrass (*Panicum amarum var. amarulum*) — a total of 18,900 plants — to stabilize the accreted sand.

### Fighting Erosion

The fencing component of phase one is designed to trap wind-blown sand on bare beaches and washover areas. As sand dunes begin to form, the land elevation adjacent to the fencing increases. The vegetative plantings in phase two will anchor these developing dunes while continuing to trap sand particles. Use of the two plant species, marshhay cordgrass and Atlantic panicgrass, will provide the opportunity to compare performance between species.

Timbalier Island is a remainder of the Lafourche delta landform which was abandoned by the Mississippi River approximately 1,000 years ago when the river switched to its present course. A valuable landform in the Gulf of Mexico, the island offers extra protection to Louisiana's delicate marsh shoreline from storms and hurricanes.

"Establishing and maintaining a healthy, continuous dune complex on Timbalier Island can effectively help protect against breaching of the island and its subsequent accelerated deterioration," explained Gohmert. "This project will help us evaluate the effectiveness of vegetation coupled with sand fencing in sand dune creation." ❍

Don Gohmert (right), state conservationist with the NRCS, explains sand fencing on Timbalier Island to Martin Cancienne (far left), district director for U.S. Representative Billy Tauzin, and Mike Jefferson, staff assistant from the office of U.S. Senator John Breaux.