

*New Orleans District
welcomes
Colonel Edward R. Fleming*





inside **Riverside**



Cover Photographs Anne Marino

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Together we can and will succeed

photographs by Anne Marino

Building Strong®



at what we do. Furthermore, we must treat everyone, internally and externally, with dignity and respect. The family that lives on the Chenier Plain must understand and believe that their needs are as equally important as the family that lives along the West Bank of the Mississippi River.

As most of you already know, I had the honor of assuming command of the United States Army Corps of Engineers New Orleans District this summer. In light of the many unique challenges currently facing the district, I am honored that the Corps has the confidence in my abilities to place me in this position. I understand we face high expectations. Together, we can and will succeed.

Moreover, I am extremely excited for the opportunity to join a team whose talent, dedication and resolve are known throughout the Corps.

During the last several years, the work that you have accomplished is unprecedented. Each day, you ensure safe and reliable navigation, lead the way in coastal protection and ecosystem restoration, and are one step closer to providing the greater New Orleans area with 100 year level one storm surge risk reduction. Our mission directly affects the lives of millions, both in South Louisiana and throughout the nation.

Yet, you do not need me to explain the importance of our mission. From Larose to Lake Charles, Boothville to Baton Rouge and Morganza to Morgan City, our teammates live and work

throughout the district's 30,000 square mile area of responsibility. You see firsthand the benefits of our mission. You understand its importance.

Every day, you work tirelessly to ensure our mission success. However, we know the challenges are far greater than our abilities alone. We need the help and coordination of our federal, state, local and private partners. To achieve the necessary levels of cooperation and a comprehensive vision, we must first be great partners. We must continue to strive to operate with the utmost integrity, greeting each day as an opportunity to become better

Building Strong Essays

Col. Edward Fleming



Bonnet Carré Spillway bald eagles successfully fledge two young

Makes six eaglets hatched during the past 4 years

by Chris Brantley, photographs, by Dave Johns and Jane Vogts

The nesting pair of bald eagles at the Bonnet Carré Spillway have successfully raised two more eaglets.

This makes a total of 6 bald eagles that have hatched from the nest just north of Airline Highway over the past 4 years.

Bald eagles will typically build their nests in large trees near rivers or coasts. A typical nest is around 5 feet in diameter and they will often use the same nest year after year. Over the years, some nests can become enormous, as much as 9 feet in diameter and weighing

up to several tons. The nest at the Spillway is in a large bald cypress tree immediately across the water from the Upper Guide Levee boat launch on the west side of the spillway. The eagles began using the nest during the winter of 2006–2007 and have been back every year since.

In the southern United States eagles lay eggs in late October and early November. The 35 days of incubation duties are shared by both male and female, but it is the female who spends most of her time on the nest. During incubation, one parent is always on the nest, not only to keep the eggs warm but to protect

them from squirrels, crows, and gulls that will break open and eat the eggs or young.

The nest at the spillway has become an attraction for both birders and nature photographers due to its relatively easy proximity to a safe viewing area. On any given day during the nesting season, up to 20–30 people are watching or photographing the activities at the nest, whether it is the adults bringing in food, or the young eagles jumping up out of the nest onto the cypress branches. Typically, the young birds will leave the nest in April and the adults will bring them to areas in the

spillway to feed on fish or other prey. The high water events the past two years have likely provided enough fish for the birds to raise two young successfully. When food is scarce, eagles may only raise one young or not even nest that year.



From left: An adult bald eagle sitting on the nest (January 2010); two hatched eaglets sitting in the nest (February 2010); eaglet trying out its wings (March 2010); and above young eaglet has left the nest (March 2010).

Jefferson Parish fronting protection

by Kristen Kendrick

Four pump stations located along the lakefront provide approximately 95 percent of the drainage capacity for East Jefferson Parish.

The impacts of Hurricane Katrina led to revisions of pump stations design standards and the lakefront fronting protection construction will bring the structures into compliance with the new strength and functional reliability standards.

Duncan, Elmwood, Suburban, and Bonnabel pump stations pump water from adjacent drainage canals into Lake Pontchartrain. Fronting protection at each location will reduce the effects of storm surge at the pump stations.

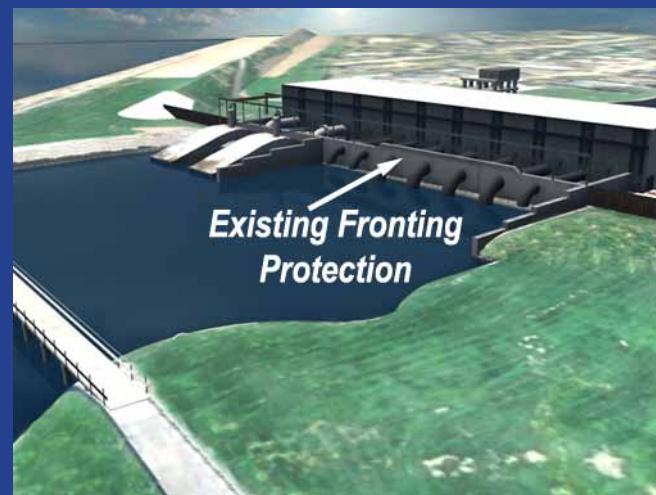
The first phase of the \$174 million construction contract was awarded to Odebrecht Construction Inc. and is slated to begin in August 2010 at Elmwood and Suburban pump stations.

T-walls will be constructed in front of the pump stations on the lake side and will tie into the existing levees on either side. The pump discharge tubes will be extended through the

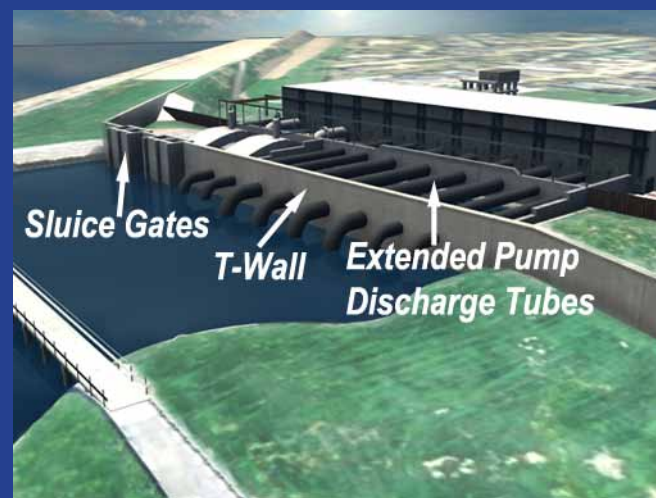
floodwall and valves or gates will also be constructed to prevent any water from backflowing through the pumps. Construction at Elmwood and Suburban pump stations will also include improvements to the existing breakwaters. By knocking down waves associated with storm surges, the breakwaters, working in tandem with the fronting protection, will provide a 100-year level of risk reduction when complete in fall 2011.

At Duncan and Bonnabel pump stations, a separate contract was awarded in 2009 to construct new breakwaters. The breakwater at both pumps stations are currently complete and provide a 100-year level of risk reduction. Duncan and Bonnabel pump stations fronting protection will begin following the completion of fronting protection and breakwater construction at Elmwood and Suburban pump stations.

Completion of the fronting protection at all four stations is scheduled for May 2013.



Current pump station landscape



Landscape with fronting protection in place

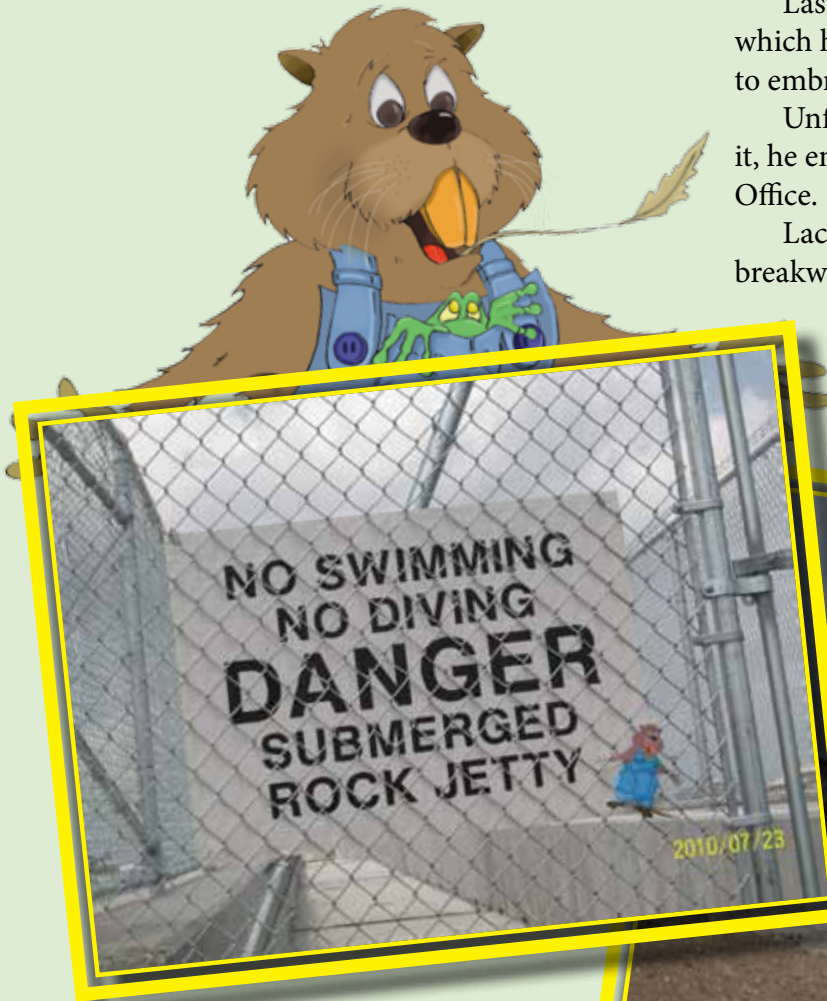
Papa Nutria's first adventure

by Amanda Jones

Last fall, *Riverside* introduced you to Papa Nutria and the journey on which he was about to embark throughout the Mississippi Valley Division to embrace the engineering career field.

Unfortunately, Papa Nutria got lost in the mail. But as fate would have it, he ended up on the desk of Lacie P. Davilman of the East Bank Area Office.

Lacie took Papa Nutria under her wing and brought him to the breakwater at Duncan in Kenner.



Keep an eye out for Papa Nutria's next adventure...



Navigation and restoration by Lee Mueller

Corps uses dredged material from Southwest Pass to build much needed coastal land

Over the course of a year, the U.S. Army Corps of Engineers, New Orleans District dredges approximately 30 million cubic yards of silt, mud, sediment and sand from the Mississippi River. More than half of this material, around 17 million cubic yards, is dredged from Southwest Pass.

Southwest Pass is the main deep draft channel for navigation through the Mississippi Delta into the Gulf of Mexico. With up to 30 vessels a day, the pass is dredged to maintain a depth of 45 feet. Beginning at mile 0 of the Mississippi River, known as Head of Passes, the channel branches out southwest into the Gulf of Mexico for 22 miles. These 22 miles, plus 6 miles above Head of Passes, require constant dredging, and are incredibly unpredictable in terms of dredging needs. Channel surveys are conducted daily and dredging assignments can change at the drop of a hat based on shoaling in the river.

The dredging industry has two types of dredges that can conduct maintenance dredging on the Mississippi River, the hopper and the cutterhead dredges. Hopper dredges are self-propelled vessels which can easily move up and down the channel and can respond quickly to unexpected shoaling in the channel. A hopper dredge holds all the material dredged within the ship to be later disposed of at a designated, environmentally cleared disposal

site. Typically hopper dredges are employed for work in Southwest Pass; however, the Corps tries to employ cutterhead dredges in Southwest Pass whenever possible because they have the ability to aid in the beneficial use of dredged material.

Cutterhead dredges operate in a very different manner than hopper dredges. A cutter dredge is much like a barge and is not self-propelled, making them slow to move and a possible obstacle for navigation traffic. Also, the operation of these dredges can be very expensive and require specific conditions in order to be cost effective. Most importantly, as material is dredged from the channel, it is immediately pumped through a pipeline and deposited in an identified placement site.

"Whenever possible, the Corps employs a cutterhead dredge to beneficially place sediment in areas adjacent to the river; however, maintaining safe navigation on the river is our main concern," said Michelle Ulm, operations manager for the Mississippi River.

In order to use a cutterhead dredge safely in the highly-trafficked Southwest Pass of the Mississippi River, the river needs to naturally shoal in a long, narrow, deep fashion along one bank of the channel. With these conditions, the cutterhead dredge can move slowly along one bank placing material by pipeline without causing major restrictions to deep draft navigation.

Opportunities for beneficial use

The New Orleans District has been active in the beneficial use of dredged material since 1976, and as of 2008, we have created approximately 25,000 acres (approximately 39 square miles) of land. Approximately three thousand of these acres were created in the Southwest Pass area.

Recently, the Corps was able to dredge the Southwest Pass with a cutterhead dredge and beneficially place the material in areas adjacent to the channel. A \$10.2 million contract was completed in February 2010 for dredging 3.2 million cubic yards of material from the channel. In general, one million cubic yards of dredged material can create 100 acres of land.

The dredge began working on the west side of the channel at mile 12 below Head of Passes and worked to mile 17.5, placing the material in four different areas along the way. With money still available within the contract, the cutterhead dredge moved to the east side of the channel and dredged from mile 10.5 below Head of Passes and worked to mile 12.25, placing the material in two different areas.

In addition to the beneficial use efforts along the banks of Southwest Pass, the Corps has continued its effort to beneficially place the material disposed of at Head of Passes by the hopper dredges working in Southwest Pass.

Hopper dredges use two disposal sites when dredging Southwest Pass depending on where they are located in the channel. If the

dredge is located closer to the Gulf of Mexico, below mile 11 in Southwest Pass, the vessel will head toward the ocean disposal site where the dredge material is dumped into the open waters of the Gulf of Mexico. A hopper dredge located above mile 11 in Southwest Pass will travel to the other disposal site located near Head of Passes. Dredged material placed in the Head of Passes location has a second life through the placement of this dredged material for beneficial use with a cutterhead dredge.

After a substantial amount of dredged material collects in the Head of Passes disposal site, a cutterhead dredge is contracted to dredge this area and beneficially place the material in the adjacent Delta National Wildlife Refuge. The Corps has been using the dredged material in this site for beneficial use for decades and several acres have been created as a result.

A contract was recently awarded to dredge this area and beneficially place the material and is scheduled to be completed this summer. The \$28 million contract, which is fully-funded through Operations & Maintenance funds, will beneficially place approximately 8 million cubic yards of material.

The New Orleans District recognizes the benefits of placing material dredged from the Mississippi River to nurture our depleting delta. There are ongoing efforts to utilize the capabilities and funding available to maximize the beneficial use of dredged material.

Comite River Diversion: The long but rewarding road

by Jenny Marc

When Patrick Henry famously expressed that he would rather die than live without freedom, he was setting the tone not just for a war, but for a nation. From declaring liberty to demanding civil rights, Americans have a long history of standing up for what they believe in. And from the actual battle field to the proverbial one, things here at the Corps are no different. For almost two decades project managers and engineers alike have fought tirelessly to keep the Comite River Diversion Project moving forward, and despite recent hurdles, they show no signs of stopping.

Background

After examining the original motive behind the Comite River Diversion, the decision to go ahead with the project seems like a no-brainer – in just one decade alone the river basin was plagued by four major floods, and eventually someone decided enough was enough. Originally a sub-feature of the larger Amite River & Basin study in 1967, the Comite River Diversion began taking on a life of its own roughly ten years later. During the 1980's, both a reconnaissance and a feasibility study were completed, and in 1992, the project was officially authorized by the Water & Resources Development Act.

Despite its complex planning and

design, the purpose of the project is simple: reduce river stages to provide flood protection. During times of high water, a 12-mile long channel will be used to divert excess water from the Comite to the Mississippi to minimize flooding. To accommodate the diversion structure, the project will also include a control structure, four drop structures, as well as six new bridges to allow for the uninterrupted flow of both rail and vehicle traffic. Once in place, the benefits will be endless – given a ten-year storm event, the Corps predicts that 650 residential structures will be spared. If a 500-year storm event rolls through, over 3,000 homes could be potentially saved.

Just as important as the plans, however, are the partners. As required of all Corps projects, Comite needed to cost-share (75 federal/25 nonfederal) the endeavor with nonfederal sponsors, and on October 1, 2001, an agreement was signed with not one, but three – the Louisiana Department of Transportation and Development (LaDOTD), the City of Baton Rouge Parish, and the Amite River & Basin Commission (ARBC) – all of which play different roles. While the LaDOTD will be on hand to help with both the LERRDS acquisitions (Land, Easements, Rights of Way, Relocations, and Disposals) and contribution of the nonfederal share for the project, the City of Baton Rouge will take over

operation and maintenance upon completion. ARBC, meanwhile, is the non-federal sponsor for flood plain management and is also contributing to a portion of construction costs via a separate agreement with LaDOTD.

A few bumps along the way

Although work has tirelessly proceeded for years, the project has encountered several hurdles along the way. One impact on the project has been the fact that it has not been included in the President's Budget since 2006. Another influence has been recent changes to the LERRDs acquisition process.

Once at the forefront of Corps projects prior to 2005, it was no longer in the spotlight following Hurricane Katrina. But just because it's taken longer than expected has not at all diminished Comite's significance. As Senior Project Manager Bobby Duplantier explains, it is just as relevant as any other project:

"When we can get the Comite River Diversion project built," he says, "it will be a major milestone in the district's Civil Works program."

While the schedule has slowed, it certainly has not become static. Later this year, construction on the control structure at Lilly Bayou is

expected to wrap up, and complete designs for two of the four highways are anticipated by next year. And despite its absence in the President's Budget in fiscal year 2011, there are still \$25 million worth of funds available. Furthermore, not only will this project directly impact 348 square miles of land between Zachary and Baker, Louisiana, but it will indirectly affect thousands of lives slightly south as well, one of the fastest growing areas post-Katrina.

"I am excited about this project," Duplantier explained, "because of the flood risk reduction that it will bring to everyone in East Baton Rouge Parish." And for those who question its relevance today—true, it's been a long time coming. But, if New Orleans has taught all of us just one lesson, it's that the best things in life are worth fighting for.



HSDRRS mitigation status update

by Shantel Washington, photographs by Scott Reicke

Mitigation for unavoidable environmental impacts to habitats is an essential feature of the Greater New Orleans Hurricane and Storm Damage Risk Reduction System.

The goal of HSDRRS compensatory mitigation is to replace the functions and values of habitats that are impacted during construction of Lake Pontchartrain and Vicinity and West Bank and Vicinity (WBV) HSDRRS projects after all efforts to avoid and minimize these impacts have been exhausted.

Mitigation of environmental impacts is required by various federal laws, including the Water Resources Development Acts of 1986 and 2007, the National Environmental Policy Act, the Clean Water Act and the Fish & Wildlife Coordination Act. The New Orleans District of the U.S. Army Corps of Engineers, in cooperation with environmental resource agencies and non-federal sponsors, are addressing environmental mitigation requirements by developing projects in compliance with these laws.

The LPV and WBV mitigation projects will compensate in kind for unavoidable impacts to the following

four habitat types: bottomland hardwood wetland, bottomland hardwood upland, swamp and marsh. Currently, total impacts requiring mitigation from both projects are approximately 4,000 acres.

Generally, mitigation will occur in close proximity to the location of the environmental impacts. For LPV, mitigation will occur within the Louisiana coastal zone and east of the Mississippi River. For WBV impacts, mitigation will occur roughly between the Mississippi River and Bayou Lafourche.

In May 2010, five public meetings were held to engage stakeholders and solicit their input regarding potential mitigation sites during the plan formulation phase. The community was invited to participate and submit comments either at the meetings or by phone, mail or online. On July 30, 2010, the LPV mitigation project delivery team convened to determine if each candidate project met the initial screening criteria. The team considered nearly 350 LPV sites based on public, nongovernmental organizations and agency input. Mitigation plan formulation is an extensive process and is currently underway.

"The team is committed

to executing mitigation projects with transparency and continuous coordination with the public, interagency partners and sponsors," said Soheila Holley, senior project manager.

The next steps are to: 1) further refine LPV projects in preparation for the alternative evaluation process and 2) evaluate potential WBV mitigation project sites against the initial screening criteria.

Compensatory mitigation is provided by HSDRRS project funding in the Supplemental Appropriations. LPV and WBV were authorized by the Flood Control Act of 1965 and the Water Resources Development Act of 1986, respectively.



New Orleans District Deepwater Horizon emergency response

by Ricky Boyett and Amanda Jones

On May 5, 2010, 11 days after oil was first discovered leaking from the Deepwater Horizon's damaged wellhead, the United States Army Corps of Engineers, New Orleans District received the first emergency permit request from the Louisiana National Guard to construct a pier in the Mississippi River Gulf Outlet for loading oil boom.

During the following four months, the New Orleans District received an additional 57 emergency permit requests, authorizing 44, denying two and withdrawing nine at the request of the applicant.

This unprecedented environmental catastrophe threatens short- and long-term impacts to the economy, marine and wildlife, and the already fragile ecosystem of the Gulf Coast. Responding to the emergency has required the consolidated efforts of our federal, state, local and private stakeholders. The Corps' role in the response is under our regulatory authority and environmental compliance. As a result, the New Orleans District Regulatory Office has been operating under the NOD-20 permit for emergency procedures.

"This permit allows the district to conduct an expedited assessment of any emergency permit request that protects against environmental hazards, loss of property or immediate economic hardships," said Pete Serio, chief of Regulatory.

Under the standard Department of the Army regulatory procedures, the permit process generally takes between 90 and 120 days, depending on the proposed project's complexity and potential environmental impact. In comparison, the NOD-20 process has allowed the New Orleans regulatory team to issue 20 permits on the same day the request was received, 15 on the following day, three in two days, two in three days, one in four days, one in five days, one in nine days and one in 15 days.

Many of these emergency permit requests reflect the innovation being applied to combat the threat of encroaching oil to Louisiana's coast. Emergency requests authorized under the NOD-20 permit include:

- 414,680 linear feet of oil boom
- 208,560 linear feet of sand berm
- 91,080 linear feet of HESCO baskets
- 73,979 linear feet of Tiger Dams (large water-filled tubes often used in emergency flood risk reduction)
- 14,450 linear feet of barges
- 5,333 linear feet of inflatable coffer dams
- 2,846 linear feet of sand bags
- 2,160 linear feet of rock closures
- 1,703 linear feet of sheet pile bulkhead
- 1,250 linear feet of earthen plugs for interior canal

"If every permitted project, not including the state of Louisiana's sand berm project, is fully constructed, more than 600,000 linear feet of potential oil protection will be in place," said Serio.

Although the NOD-20 permit allows expedited processing, the Corps must also conduct a judicious review of each request, ensuring compliance with the National Environmental Policy Act (NEPA) and other applicable laws. To do this, the New Orleans District has worked closely with federal, state, local and nongovernmental partners. The combined experience and expertise of these partners is an invaluable asset in the effort to ensure that a project's anticipated benefits outweigh any potentially adverse impacts. Many of the emergency permit requests reflect great ingenuity in finding solutions to the threats that face the Louisiana coast. Innovation is a critical component of emergency response efforts, but it is the Corps' responsibility to ensure good ideas are supported by science and engineering.

Additionally, any emergency permit issued under NOD-20 is considered temporary. Within 30 days of issuance, the applicant must submit either a restoration plan for the impacted site or a full Department of the Army permit application to continue construction or maintain existing structures. Following submission, the regulatory team will re-evaluate the permit request using the comprehensive review process, including the public notice period

and, if needed, an environmental impact statement.

The magnitude of the oil discharge and its potential impacts throughout the Gulf Coast created significant public interest in the emergency response efforts. In the complex and dynamic emergency environment, it became critical to ensure that any interested parties had access to the most recent and accurate information regarding the Corps' response efforts. To meet these needs, the New Orleans District combined traditional public information approaches, such as press releases and stakeholder newsletters, with social media websites, such as Facebook and Twitter, to reach a wide ranging audience. Additionally, the district created a Web page devoted to the Deepwater Horizon incident emergency permit actions. Updated daily, the Web page contains a list of every permit request received, the applicant, date received and current status. Clicking on any permit will take the visitor to all documentation associated with the permit. For more information, visit www.mvn.usace.army.mil/pao/mvnoilspill.asp

Even as significant progress is made to stop the oil, the effects will continue to threaten Louisiana's coast, marshes and estuaries. The overall response will take the continued efforts and cooperation of all our state, federal, local and private stakeholders. The New Orleans District is committed to the invaluable natural resource that is the Louisiana coast.

Louisiana Coastal Area public meetings

by Lee Mueller



In the months of June and July, the U.S. Army Corps of Engineers and the state of Louisiana held several public meetings to discuss five projects in the Louisiana Coastal Area (LCA) Ecosystem Restoration Program. The meetings were held to provide the public with an overview of the tentatively selected plans for each coastal restoration project as they were outlined in the draft feasibility studies and environmental impact statements.

As part of the National Environmental Policy Act requirements for federal actions, these meetings also provided the public with an opportunity to provide comments and ask questions about the projects and the tentatively selected plans.

Five LCA projects were addressed:

- Convey Atchafalaya River Water to Northern Terrebonne Marshes and Multipurpose Operation of the Houma Navigation Lock,

- Small Diversion at Convent/Blind River,
- Medium Diversion at White Ditch,
- Amite River Diversion Canal Modification,
- Terrebonne Basin Barrier Shoreline Restoration.

Authorizations to proceed with feasibility studies for these projects were included in the 2007 Water Resources Development Act.

The program

The LCA program, and the recommended projects contained within it, are the culmination of the Louisiana Coastal Area Ecosystem Study, which was initiated in 2001 and is jointly managed by the U.S. Army Corps of Engineers and the state of Louisiana to help address the state's severe coastal land-loss problems. The program includes 15 critical, near-term projects encompassing a large variety of restoration techniques, a beneficial use of dredged material program, a science and technology program, demonstration projects, as well as long-term restoration planning efforts. Partnership and collaboration with other federal, state and local partners, and stakeholders are the cornerstones for a successful LCA program.

The projects

Two public meetings were held to discuss the Convey Atchafalaya River Water to Northern Terrebonne Marshes and the Multipurpose Operation of the Houma Navigation Lock project, with one meeting in Houma on June 2 and one in Morgan City on June 17. The wetlands and marshes in the project area have been separated from the influence of the Atchafalaya River due to construction of the Gulf Intracoastal Waterway and other man-made canals, cutting off a significant source of freshwater, sediments, and nutrients. As a result, the Northern Terrebonne Marshes have deteriorated with an estimated loss of several thousand acres of solid, vegetated marsh. This project, as proposed, would greatly improve the interior water circulation of the Terrebonne marshes by introducing and containing freshwater, and reducing salt water intrusion into the marshes. In addition, the study has determined ways in which the Houma Navigation Canal Lock, once constructed, can be used to benefit and restore this ecosystem.

The Small Diversion at Convent/Blind River and the Amite River Diversion

Canal Modification are both designed to benefit the Maurepas Swamp ecosystem, which is one of the largest coastal freshwater swamps remaining in Louisiana. Public meetings to discuss these projects were held in St. James Parish on June 15 and Livingston Parish on June 24.

As proposed, the Small Diversion at Convent/Blind River would be a 3,000 cubic feet per second (cfs) freshwater diversion which would move water from the Mississippi River into the Maurepas swamp near Romeville, La. The project is designed to enhance water flow and water quality throughout the swamp, which in turn would nourish the proposed marsh plantings. The additional water flow is designed to help limit the amount

LCA continued on next page



Terrebonne Basin Barrier shoreline restoration

LCA continued from previous page

of salt water intruding into the Blind River from Lake Maurepas, which occurs each summer.

The Amite River Diversion Canal Modification project is also designed to benefit the Maurepas Swamp area by allowing flow to be restored between the swamp and the Amite River Diversion Canal. During construction of the diversion canal, dredged material was side cast on the banks and formed a hydrologic barrier between the marsh and the canal, which eliminated the natural movement of water. This project will re-establish connectivity. The project also includes marsh plantings and nutria protection.

A public meeting was also held on June 22 in Braithwaite to discuss the proposed Medium Diversion at White Ditch project, which would be located

on the east bank of the Mississippi River near Phoenix in Plaquemines Parish. This restoration feature is designed to benefit the area between the Mississippi River and River aux Chenes, and stretching south to the Breton Sound area. As proposed, the project would consist of a 35,000 cubic feet per second diversion that would pulse at full capacity during March and April (depending on river stage), and operate up to 1,000 cubic feet per second the rest of the year. The diversion would increase the input of freshwater, sediments and nutrients into the rapidly declining Breton Sound ecosystem. This fragile ecosystem suffered from the impacts of Hurricane Katrina and without quick action could continue to experience significant losses.

The sixth and final public meeting was held on July 15 in Houma to discuss the Terrebonne Basin Barrier Shoreline Restoration project, which focuses on restoring the important barrier island chain in Terrebonne Basin, including the Isles Dernieres and the Timbalier Islands. As with many barrier islands throughout coastal Louisiana, these islands have undergone a significant reduction in size from both natural and human impacts. Barrier islands not only provide a buffer against storm surges, but are home to an abundance of wildlife and fisheries, including threatened and endangered species. As outlined in the report, two options have been identified to restore this ecosystem. The first effort would increase the lifespan and function of the four islands in the Terrebonne Basin barrier system by increasing dunes and tidal habitats. However, this plan exceeds the cost estimate identified in the 2007 Water Resources Development Act authorization. As a result, the team developed a second option that is smaller in scale and focused solely on

Whiskey Island, but meets the current cost estimates.

The next step

Overall, the six public meetings held for these five LCA projects successfully provided the public the opportunity to engage in this important process. Comments received at the public meetings and throughout the 45-day comment period now become part of the official record for each particular project. Comments from community members that required a response were addressed by members of the project teams. The final report for each project will be completed in December 2010. Additional information on the LCA program and copies of the draft feasibility studies are available at: www.lca.gov.

Whiskey Island Plan C



A backbreaking effort by Jenny Marc

When General Van Antwerp famously committed the New Orleans District to breaking our backs trying, we knew he didn't literally mean it. Work late? Sure. Come in on weekends? Frequently. Yes, most of us here assumed that General Van's ambitious promise simply translated to "work really hard," but Senior Project Manager Darrel Broussard, well – he had reason to think otherwise. Given just eight months to complete a project that should take two years, maybe he was the unknowing subject of an experiment to see just how far you could push one man until he actually broke.

The Road to Success

Having spent nearly his entire professional life with the Corps, Darrel's career is a shining example that hard work still pays off. A New Orleans native, he graduated from Southern University with a degree in physics in May 1991 and came to the Corps as a civil engineer that same year. Over time he tried his hand in several departments, first in the geotechnical branch and then engineering control, before advancing to a management role.

"I liked the opportunity to meet with local sponsors," Darrel explains, when asked why he made the switch. "I also liked the idea of leading a team of people to finding viable solutions."

And find solutions he did. During his time here, Darrel has overseen roughly 75 projects, a feat that led to a series of promotions. By 2006, he advanced to

Senior Project Manager, and today he is tasked with protecting and restoring the state's sensitive ecosystem – a monumental undertaking that he makes look easy.

With fifteen projects currently under his supervision, Darrel's workload is just about as heavy as it gets. Whether he is listening to stakeholders or consulting with teammates, there's no doubt that he is constantly finding innovative solutions to new problems. And while it can take a while to see a project through from start to finish, lately he has found other ways to measure his success. For example: landing the title Project Manager of the Year.

The Payoff

Each March, USACE Headquarters sends out a national call for both Program and Project Manager of the Year proposals. As if being the senior leader of a Corps project wasn't challenging enough, these nominees are expected to have demonstrated excellence and positively contributed to their field significantly at some point in the past year. Basically, they've gone above-and-beyond in a job that expects them to go above-and-beyond in the first place.



Given this strict criteria, you'd think it would be tough to come up with a candidate. For the Chief of Projects Branch, Mark Wingate, however, the choice was quite easy.

"Darrel is a strategic thinker and he 'gets' the big picture," his supervisor says. "These assets, combined with customer care, position him to be a very effective PM."

After a two-page application detailing his accomplishments, along with a nomination from not only Mark, but then-New Orleans District Commander Col. Al Lee, Darrel became one of 22 nominees competing for the title – a title that, five months later, became his.

While Darrel's list of accomplishments is seemingly endless, most are quick to point to his leadership of the Terrebonne Parish Non-Federal Levees Project (NFL) as his standout moment of the year. After Louisiana State Senator David Vitter pressured the Corps for results by the start of hurricane season, 2009, General Van Antwerp promised to deliver – a promise that was passed on to Darrel. Seeing as it was already October, however, he only had a third of the time that such a project normally requires.

Instead of cracking under the pressure, Darrel simply accepted the challenge

and got to work. In just eight months, he commanded a \$30 million budget to design, plan, and construct seven miles of earthen levees in Terrebonne Parish. If anyone mistook General Van's vow for a bluff, the NFL Project singlehandedly proved them wrong.

Although Darrel, too, can see the merit in this project, he believes that this award cannot be attributed to just one feat. In addition to his educational background, which includes an MBA from Tulane University, he credits some of his success to earning his Project Manager Professional certification, a qualification that many fellow PMs choose to forego. But in between a lot of hard work and a little luck, Darrel recognizes that his colleagues have been the most influential factor.

"I owe much success to my team members. Although this is an individual award, I could not have received it without them. They are the ones doing all of the work – I'm just the one making sure it happens."

On August 2, Darrel traveled to Seattle to the USACE Summer Leaders Conference to officially receive the award. Aside from earning the prestige that comes with the title, Darrel will now serve on the Project and Program Manager Community of Practice Steering Committee, helping set the tone for fellow managers. And while he sees this as the award's greatest honor, perhaps fellow PMs have reason to worry – after all, seeing as Darrel completed General Van's mission without actually breaking, his standards are bound to be higher than ever.

Sector gate model helps engineer visualizations

by Jenny Marc, photographs by Pierre Hingle

At the end of November 2008, Pierre began work on a model of the sector gate that is currently under construction south of the Harvey Canal.

The actual 225 ft. sector gate, roughly twenty times larger than Pierre's replica, is just one component of the Western Closure Complex. Whereas typical floodgates simply block off water, sector gates are unique in the fact that allow continued navigation and remain open until a storm approaches, in which case they close to keep storm water out. In addition to being among the more recent of the Corps' floodgate projects, the West Closure Complex sector gate is also one of the largest in the United States.

Because most are still being built in and around New Orleans, many engineers are less familiar with

such projects. Having realized this, Pierre was inspired to help the "new-timers" better understand their assignment, and soon got to work several nights a week.

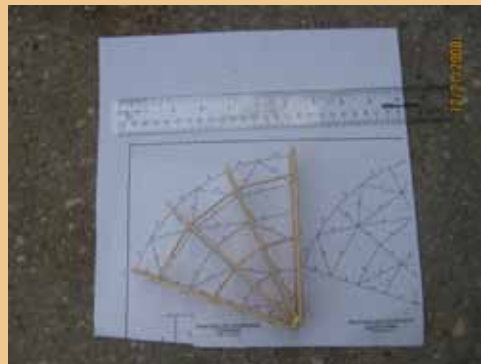
"I figured that, because most of these new engineers came in not knowing what a sector gate was," Pierre recalled, "that a working model would be better than a 2D image."

In addition to helping engineers visualize the sector gate, Pierre believes that his model will help give the public a greater understanding of both the Corps and some of their activities. Most recently, the replica made an appearance at the New Orleans Home & Garden show, where it received so much use that it came back to the office in need of minor repairs.

As impressive as his model is, Pierre admits that ideally he would have preferred a more extensive representation. "If I had the time, it would have been nice to build the whole project," he said. However, while that may not be feasible, Pierre still has some improvements in mind, such as adding an LED display and an iPhone app allowing him to remotely operate the device. But with crawfish boils in full swing, Jazz Fest and other summer activities, don't count on these enhancements coming any time soon!



Artist concept drawing of sector gate.



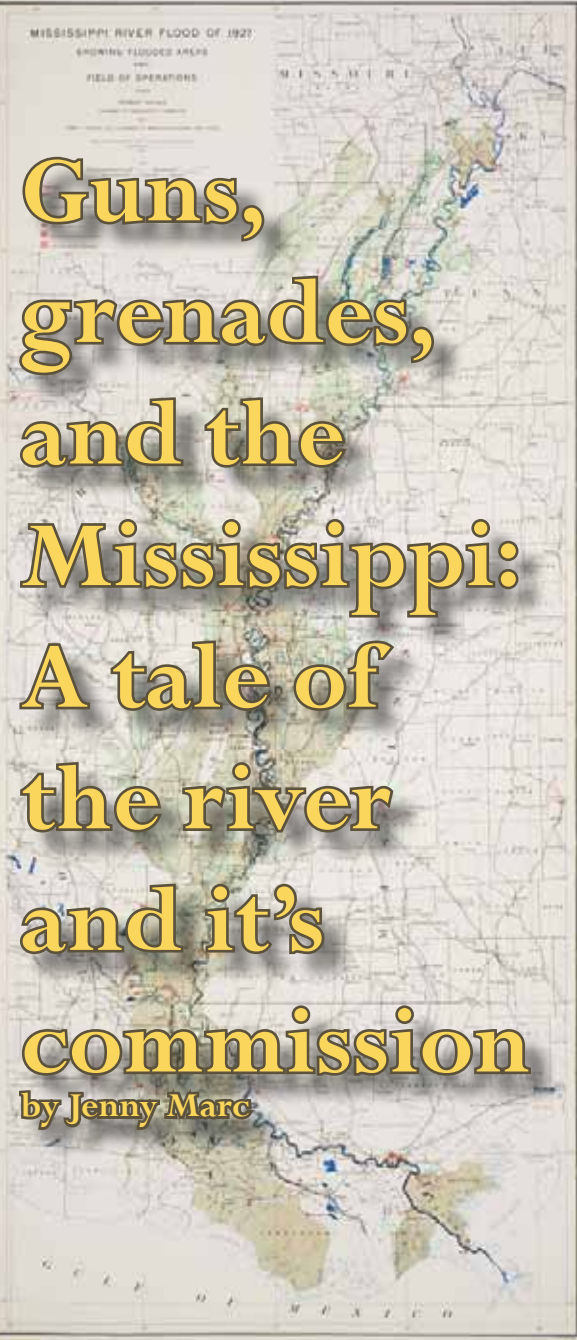
Scale model drawing



Sector gate model with gate open



Sector gate model with gate closed.



Guns, grenades, and the Mississippi: A tale of the river and it's commission

by Jenny Marc

Eight men, united by one unprecedented mission, march off together into uncharted territory. Recognizing that their assignment is more challenging than most, they set out with uncertainty; if for nothing else, they at least take solace in knowing that they are part of something larger than themselves. When it all becomes too overwhelming, too much to bear, the men look to Captain John Miller for guidance...

Ok – if you thought this was starting to sound more like *Saving Private Ryan* than a Mississippi River Commission story, you got me. But don't be so quick to write the two off as being completely unrelated. True, the MRC wasn't encountering rifle-wielding enemies, but they were up against quite a defiant opponent: the Mississippi River. Instead of fighting with hand grenades and tanks, they used levees and spillways. While they weren't trekking across northern France trying to save a soldier, they were moving up and down the river striving to preserve the livelihood of every waterside town. And the group was actually composed of seven men, not eight.

Not quite Normandy

For as much admiration as the Mississippi River deserves, those who live on or near it know its menacing side all too well. As the largest river in North America and the third biggest drainage basin in the world, the Mississippi empties 41 percent of the water from the continental U.S. Although it is essential for the trade and commerce of numerous industries,

it is also a source of great hardship and destruction during times of flood.

From the first European settlers to present day citizens, relentless efforts have been made to fight flooding. Until recently, the primary weapons against flooding were levees. Upon arriving in the early 1700s, French colonists observed that the first levees formed naturally, roughly three feet high. As years passed, they built upon these original sites to provide added protection, and by the turn of the century a levee system of over 100 miles existed, beginning in New Orleans and extending north.

This preventative construction wasn't just happening in Southeastern Louisiana. From Baton Rouge to St. Paul, levees were being built left and right. At first they were privately erected, funded only by landowners that were directly affected by the flooding. It soon became clear, however, that this approach was unfair: the levee that the landowner built was not just protecting his land, but rather, his entire town. To resolve this discrepancy, states took over and began both allocating funds and creating levee boards. Time proved, however, that even their resources were not enough. Not only did seven floods devastate riverside communities throughout the 19th century, but state managed levees meant that each region was devising its own system – a dilemma that was causing more harm than good.

Call in the troops

To unify the levee system, Congress established the Mississippi River Commission in 1879. Headquartered in Vicksburg,

Mississippi, the MRC was given jurisdiction from Lake Itasca, Minnesota to Head of Passes near the Gulf. This area was divided into four districts – Cairo, Memphis, Vicksburg, and New Orleans. The group was composed of seven members: three Corps of Engineer Officers (one of whom would serve as President), three civilians (two of whom would be civil engineers), and one member of the U.S. Coast and Geodetic Survey (now the National Oceanic and Atmospheric Administration). The members, appointed by the President and approved by Congress, were tasked with developing and implementing a plan to both prevent floods and improve navigation. Given this arduous assignment, the MRC first conducted engineering studies and then began working with levee boards to develop more steadfast levee standards and construction techniques.

Despite the initial success that resulted from federal involvement, the MRC soon encountered countless hurdles. Two disastrous floods within a decade of its conception disheartened not only the MRC, but everyone who depended on it. Although the Flood Control Act of 1917 allowed the MRC to share costs with local and state groups, the adopted "levee-only" approach proved less and less effective with each subsequent disaster. Finally, the flooding in 1927 that killed more than 500 people and left 700,000 temporarily homeless demonstrated that a drastically new approach was not an option, but a must.

The Great Flood of 1927's unparalleled destruction throughout expanded awareness for the need in

MRC continued next page

MRC continued from previous page
improving flood protection in the river valley. This disaster demonstrated that flood control in the Mississippi River Valley was not a local, but a national issue. The response to this heightened awareness came with the Flood Control Act of 1928. This Act authorized the Mississippi River and Tributaries Project. Among the most significant elements of the MR&T Project was a change in approach. While levees still provided invaluable protection, they were no longer seen as the end-all, be-all of flood prevention. The Corps quickly researched and employed new structures such as floodways.

A plan of attack

In addition to flood control, today the MRC undertakes a myriad of other tasks. Among its top priorities is the Mississippi River High Water Plan.

While the river's level varies greatly depending on where it is being surveyed, in New Orleans,

it averages roughly 6.7 feet with a flow of 482,000 cubic feet per second. Of course, this is all subject to change – and frequently it does. Alternating between low and high water season, the river's low season commences sometime in late summer. Come late March the winter's snow begins to melt and several weeks later the April showers kick in. While northerners are emerging from hibernation in search of May flowers, for everyone down south the work has just begun. The melting snow and rain increase can only mean one thing: high water season.

Because high water can be both unpredictable and problematic, the Corps developed the Mississippi River High Water Plan. This plan, which aims to prevent flooding in and around New Orleans, is divided into two phases. Both stages are actually fairly similar, as Mike Stack explains:

“The two phases of the high water plan involve close inspection of the river levee systems. During inspections, we are proactively searching for anything that could worsen with time or as river levels increase, such as scouring, seepage, and sand boils. In fact, the only respect in which the two really differ is in the frequency of surveillance. Throughout Phase I the system is inspected once or twice per week. In Phase II we move to daily inspections.”

The crux of this entire plan can be found just outside the New Orleans District at the Carrollton river gauge. With both manual and electronic monitoring options, the gauge is checked daily. If the river reaches a height of eleven feet, Phase I is implemented. Four feet later, the Corps moves to Phase II. While the New Orleans levees can handle a maximum of twenty feet, the official flood stage is seventeen.

Because of above average rainfalls, this past November was the “highest” November since 1935, measuring in at 14.9 feet. Phase I went into effect for more than two months, and was suspended on March 5, 2010. Although the Corps briefly enacted Phase I again at the end of March for several weeks, overall the river fell from the extreme highs of winter. An extra dry spring made up for the particularly wet fall, and in the end, high water season was fairly uneventful.

Worth the fight

Although they knew it was never going to be easy, Captain Miller's men couldn't fully grasp complexity of their assignment until it was halfway over. Some faltered, others had doubt, and everyone complained at least once along the way. And while it's unlikely that the MRC members are shedding tears or dressing wounds, even they have

to dodge the proverbial bullet from time to time. At their most recent public meeting on high water, there were definitely some critics among the crowd. In the face of tough questions, however, Colonel Fleming admits that these meetings are among the most important aspects of the job:

“Recently, I attended my first MRC public meeting as commander of the New Orleans District. I realize that interacting with the residents we serve is a crucial factor in determining the success of Corps projects. There is no better way to understand their needs and concerns than simple face-to-face communication.”

While there are certain to be challenges ahead, as long as the MRC members continues to face them with same resiliency that they've exhibited in the past, there's no question that they will continue in their success.



1927 Caernarvon Crevasse



Revetment Operations



1927 Flood Arkansas



1927 Flood Bordelonville, Louisiana