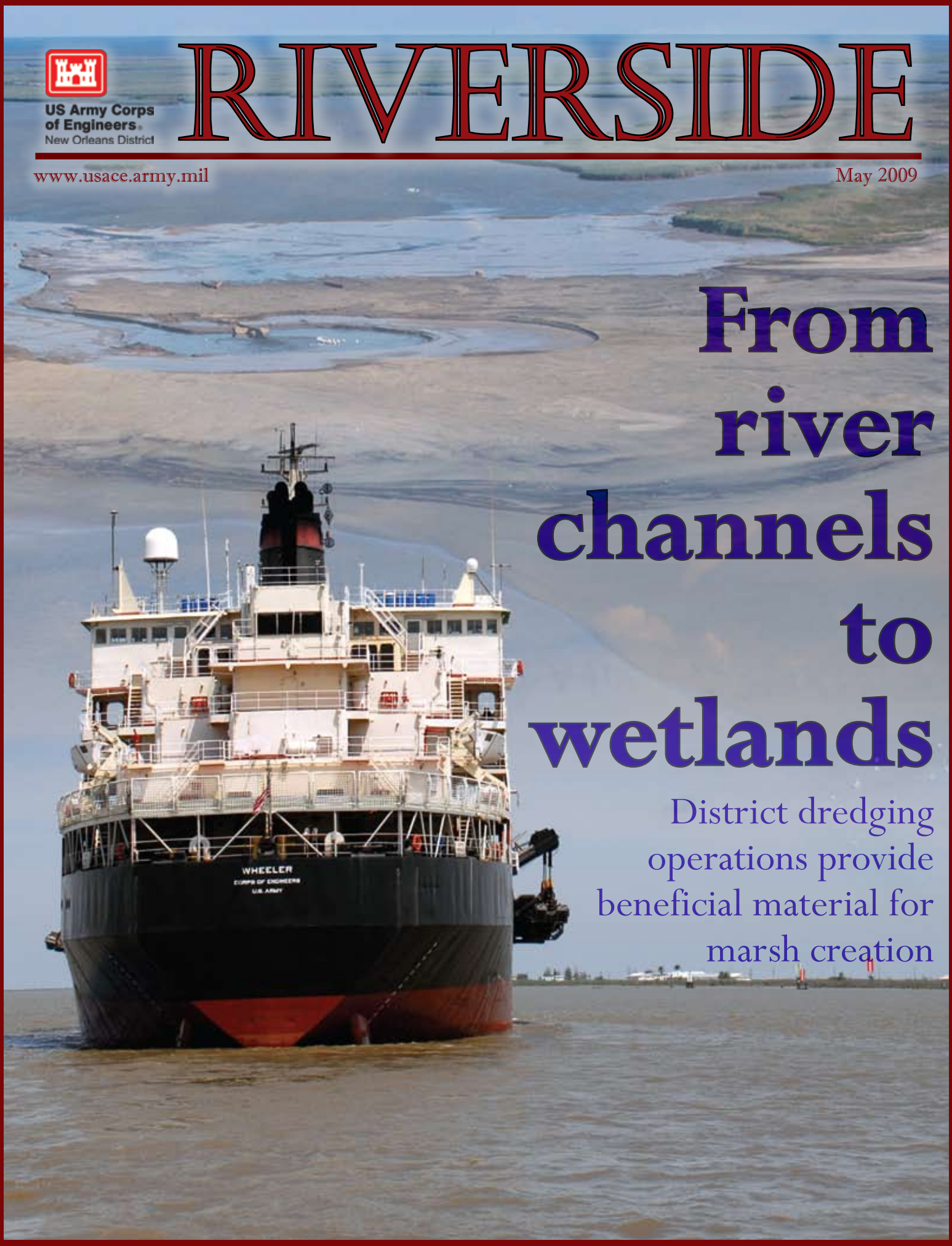
US Army Corps of Engineers
New Orleans District

RIVERSIDE

www.usace.army.mil

May 2009



From river channels to wetlands

District dredging operations provide beneficial material for marsh creation

Team New Orleans,
Job Well Done!

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, DC 20314-1000

18 March 2009

Headquarters, U.S. Army Corps of Engineers
Directorate of Civil Works
Washington, D.C. 20314-1000

March 11, 2009

New Orleans District
U.S. Army Corps of Engineers, New Orleans District
7400 Leake Avenue
New Orleans, LA 70118-3651

Team New Orleans

Dear New Orleans District,

I extend my heartiest congratulations to the New Orleans District and Boh Brothers Construction for the Harvey Canal Sector Gates project being named McGraw-Hill Construction's 2008 Best of the Best award winner in the Civil/Public Works category. This outstanding project is representative of the dedication and commitment to excellence of your team and your many contractor partners in the region as we strive daily to reduce risk to the public from future storms. I am proud that the panel of judges recognized the caliber of work being done.

Please pass on my thanks and congratulations for a job well done to the outstanding men and women of the district. I look forward to more great things to come!

Sincerely,

We are all very proud of you for this tremendous recognition. Hooah!

Merdith W. B. Temple
Major General, USA
Deputy Commanding General
for Civil and Emergency Operations


Ricky Boyett


Anne Marino


USACE


Ken Holder


Ricky Boyett

RIVERSIDE
May 2009
Vol.22 No. 7

Commander
Col. Alvin B. Lee

Chief, Public Affairs
Ken Holder

Design Editor
Ricky Boyett

Authorization

The New Orleans District Riverside is an unofficial publication authorized under the provisions of AR 360-1. Views and opinions expressed are not necessarily those of the Corps of Engineers or the Department of the Army.

Submissions

Articles and story ideas are welcome: publication depends on the general interest as judged by the editor. Direct inquiries to the editor by calling (504) 862-2201 or e-mailing ricky.d.boyett@usace.army.mil.

Circulation

1,800 copies per issue.

On the Cover

The dredge *Wheeler* during operations in the lower Mississippi River with image of marsh creation in the South Pass.

Success is a single vision

May is American Wetlands Month. Few people have a better understanding than those in South Louisiana of the vital role these lands have in the health of our nation's economy, ecology, and overall quality of life. Louisiana's wetlands provide improved water quality, reduced land subsidence, and critical habitat for plants, fish, and wildlife.

One of the three primary components of the United States Army Corps of Engineers' civil works mission is being an effective and conscientious environmental steward. To fulfill this critical responsibility, Team New Orleans is committed to employing innovative and sustainable measures in our ecosystem restoration and coastal protection efforts. Our participation in the Coastal Wetlands Planning, Protection, and Restoration Act Program (CWPPRA) and the Louisiana Coastal Area initiative provide the opportunity to work with our partners and stakeholders in the development and implementation of a systematic approach to small and large scale restoration projects.

Just this month, CWPPRA held a ceremony dedicating the progress of four projects currently underway in South Louisiana. Ceremonies such as this are bringing more attention to the importance and need for additional coastal restoration efforts. Now is the time to take advantage of this increased awareness to push for pioneering and comprehensive projects in this mission area.

Taking this advantage requires two courses of action. One of the lessons learned over the last four years was the need for a comprehensive systems approach when undertaking the Corps's civil works mission. This approach is exceptionally important in the area of ecosystem restoration. No longer can we use a project by project approach. Doing so creates a reactionary environment when proactive measures are critical for success.

As a team, we must examine how the pieces of our mission fit together. We must understand the effects one course of action will have on all other mission areas. If we do not adopt this shift in thought, we will see a continuation and possible acceleration of the detrimental land loss that threatens this region's way of life and the nation's economic vitality.

The second course of action is to strive to build a shared vision of coastal restoration among all of our partners. The task of ecosystem restoration is too great of a mission for any single agency. Only through a coherent strategy and focused effort by local, state, and federal agencies can we hope to stem the coastal loss of the nation. In this capacity, we have worked closely with the Louisiana Department of Natural Resources to maximize the Beneficial Use of Dredged Material and sought other areas where the state can assist efforts to restore critical areas of marsh that are outside the federal standard.

As one of our nation's leading environmental agencies, the Corps must embrace its role in advancing these partnerships. In doing so, we must effectively coordinate and communicate our efforts while truly understanding the concerns and issues of our partners.

Recently, the Mississippi Valley Division held a diversion summit in New Orleans. This meeting gave us the venue to hear and understand the scientific community's perspective while gaining insight from key stakeholders, our partnering federal agencies, and the states of Louisiana and Mississippi. Knowledge gained from these venues can only further our efforts in determining effective and innovative restorative projects.

These are certainly unique times in South Louisiana. There may never again be a time where the circumstances are so susceptible to seizing the moment and synchronizing our efforts for coastal restoration. Seizing this moment requires your focus and engagement in getting our message for environmental and coastal Louisiana out. This effort requires a new way of thought, engagement, and communication. Only after stretching our horizons and fully engaging our regional team can we say that we have reached the point of irreversible momentum in regional interdependence that is necessary to restore America's wetlands. I have every confidence that the men and women of Team New Orleans are ready for this opportunity. Thank you for all that you do, and together, we will carpe diem.

Building Strong

Essayons!

Col. Alvin Lee

In April, Chris Accardo received the Department of the Army Meritorious Civilian Service Award. However, thanks to great planning by his friends, family, and team mates, he was…

The last to know

It is not everyday you are asked to brief the Chief of Engineers on the daily operations of your division. It is even more rare to see him arrive for the meeting with members of your family. But then again, receiving the Department of the Army's Meritorious Civilian Service Award is indeed a rare occasion.

On April 10, 2009, Operations Division Chief Chris Accardo was instructed to meet Lieutenant General Robert Van Antwerp at the New Orleans' Louis Armstrong International Airport. The Chief of Engineers was in New Orleans for a tour of the FFEB geotechnical laboratory and wished to be briefed on the New Orleans District maintenance dredging operations while in town.

With Deputy Chief of Operations Jerry Colletti by his side, Accardo made the final preparations for the briefing. However, the tables were turned when Lt. Gen. Van Antwerp entered the conference room escorted by Accardo's family. Finally, Chris was let in on the surprise: he was not there to review dredging of the Mississippi River but to be presented with on of the highest honors given to civilians by the Department of the Army.

The Meritorious Civilian Service Award is reserved for individuals who accomplished their responsibilities in an exemplary manner while setting a record of achievement and inspiring others to improve the quality and quantity of their work. Above all, the individual must have established a pattern of excellence throughout his or her career.

Accardo's strength of character and dedication to the Corps' mission while responding to the hurricanes and high water is worthy of such high recognition. Each time the New Orleans District was called to respond to an emergency situation, Accardo undertook an instrumental role in the operations success.

Editor's Note: Congratulations, Chris. Your continued willingness to go above and beyond the call of duty reflects greatly upon you, your teammates at the New Orleans district, and the United States Army Corps of Engineers. We are proud to work alongside you and excited to see you receive this honor, even if we did let you be... the last to know.

Committed to the ruse, Jerry Colletti assists Chris Accardo's preparations for the upcoming brief. However, Accardo was shocked to see his family arrive with LTG Van Antwerp. Finally, the joke is revealed as the Chief of Engineers explained the he is actually there to celebrate Accardo's esteemed character and accomplishments over the last year. All photographs by Anne Marino

Restoring wetlands

Operations to ensure reliable navigation benefit coastal restoration

by Ricky Boyett

Anne Marino

Left: During this season's dredging operations in the Mississippi River delta, the contracted cutterhead dredge E.W. ELLEFSEN works its way along the navigation channel's edge. The sediment obtained from the operation is being piped outside of the channel to assist in marsh creation, bank restoration, and foreshore dike reinforcement. Insert: Similar processes have led to the creation of land near shipping channels throughout South Louisiana. Far Right: Deep draft traffic made possible through the Corps' dredging operations is a critical component to the economies of several states and the Nation.

Ricky Boyett

The three primary components of the United States Army Corps of Engineers' civil works mission are maintaining and developing safe and reliable navigable waterways; reducing the risk of storm and flood damage; and restoring and protecting the nation's environment. Historically, these responsibilities were undertaken independently. However, by employing a comprehensive system approach, the results of one project can be used to benefit the needs of another. One example of how the New Orleans District is pursuing these goals is by applying sediment obtained during its maintenance dredging operations to assist in the efforts to restore South Louisiana's fragile ecosystem.

The New Orleans District has the distinction of being located at the mouth of the third largest drainage system in the world, the Mississippi River Drainage Basin. Covering more than 1.2 million square miles, this funnel-shaped basin includes all or parts of 31 states and two Canadian provinces. Because of this unique location, approximately 41 percent of the contiguous United States drains through the New Orleans District's area of responsibility.

However, the Mississippi River brings more than just water through the district. Nearly 300 million tons of cargo traverse the Mississippi River each year. The majority of this cargo passes through south Louisiana. The economies of 28 states are directly linked to the oil, natural gas, grain, coal, and many other items that pass through this section of the river. To process this cargo, four of the Nation's busiest ports are located along the river between Baton Rouge and the Gulf of Mexico.

Ricky Boyett

Local, state, and national industries depend upon this river reach's capability to accept deep draft traffic. Keeping the river open to deep draft requires a large maintenance program. When the waters from as far away as New York and Montana flow through south Louisiana, they are accompanied by massive amounts of sediment. Each year, roughly 500 million tons of sediment enters the Gulf of Mexico by way of the Mississippi River. This is enough sediment to extend the coast of Louisiana 300 feet each year.

As the river widens and slows, it threatens navigation capabilities by depositing sediment into the federally authorized navigation channel. To maintain a deep draft depth of 45 feet, the New Orleans District removes approximately 30 million cubic yards of sediment from the river channel between Baton Rouge and the Gulf of Mexico annually. In total, an average of 70 million cubic yards of material is dredged annually from the 2,800 miles of navigable waterways maintained by the district. Managing the largest annual navigation operations and maintenance program in the nation requires a dredging program that accounts for nearly 40 percent of dredging operations by the U.S. Army Corps of Engineers.

While dredging is essential in keeping traffic moving along these waterways, the sediment obtained from these operations is a

(Continued, page 11)

On March 19, 2009, New Orleans District Commander Col. Alvin Lee signed the decision record for IER 4 titled "New Orleans Lakefront Levee, West of Inner Harbor Navigation Canal, Orleans Parish" following a 30-day public comment period.

Projects include implementing floodgates/ramps along Lakeshore Drive, replacing I-walls with T-walls throughout the Lakefront area, and retrofitting the Bayou St. John sector gate with 6 inches of new steel and concrete.


USACE

On April 13, 2009, the Corps awarded a $9 million contract for a permanent pipeline to carry dredged material from the Calcasieu River Ship Channel to the marshes in Cameron and Calcasieu parishes. This pipeline is designed to make marsh restoration in this area easier and cheaper.

The Corps will use material from maintenance dredging in the Calcasieu River Ship Channel to create at least 200 acres of new marsh each time we dredge the channel for the next 20 years. At the end of that time, the Corps expects to restore approximately 2,500 acres of marsh.


USACE

In Baton Rouge, the Mississippi River Commission closed out its annual high-water inspection with a public meeting aboard the Motor Vessel Mississippi on April 3, 2009.

These public meetings are designed to assist the commission's decision-making process by providing an effective means of maintaining a dialogue and sharing of ideas with federal, state, and local officials, as well as with the general public..

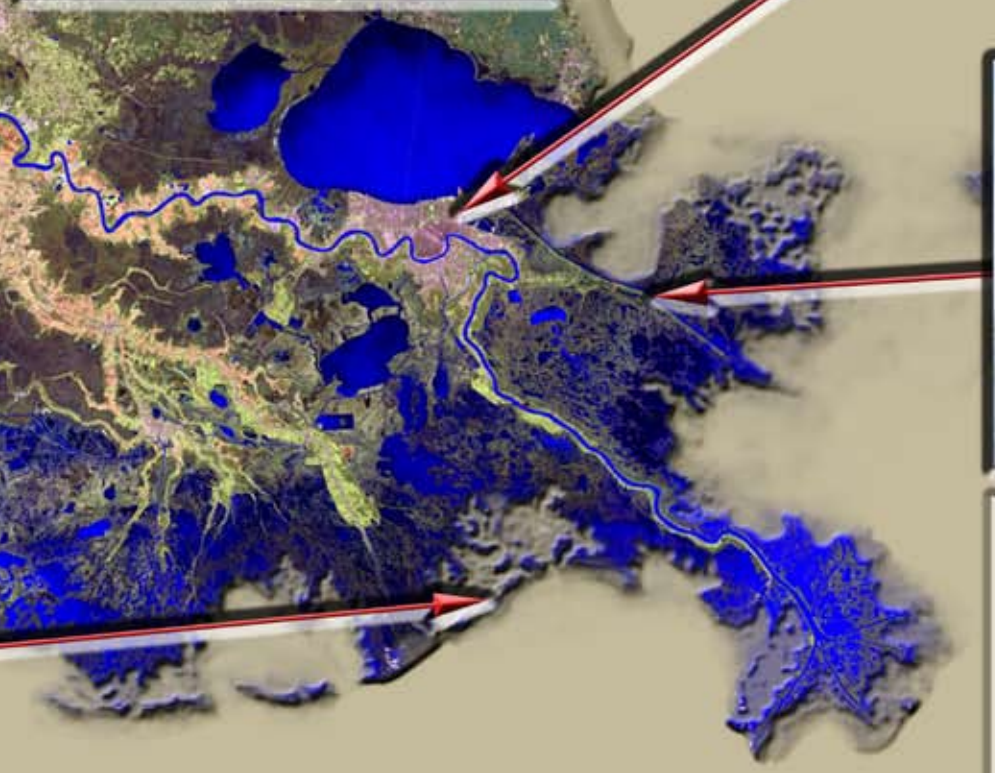
On April 2, 2009, the Corps and the State of Louisiana finalized a Cooperation Agreement to complete a $50 million project to reduce the risk of hurricane and storm damage to Grande Isle.

Designed to protect against a 50-year storm, this project will result in a 13-foot levee using innovative geotextile tubes packed with sand. Construction is expected to begin in early May 2009.


USACE

On April 3, 2009, the final environmental impact statement for the Inner Harbor Navigation Canal Lock Replacement Project was released for a 30-day public review period.

This final report recommends replacement of the existing IHNC Lock with a deep draft lock located north of the Claiborne Avenue Bridge using float-in-place construction.



On April 22, 2009, the Mississippi River Gulf Outlet was permanently closed to all navigation at Bayou La Loutre near Hopedale in St. Bernard Parish.

Construction on the closure site is progressing according to schedule. The closure structure requires a placement of nearly 434,000 tons of stone material. As a result, submerged rocks near the water's surface has made the channel extremely hazardous to all navigation.

A world of opportunity

From Airborne school to Algiers, Captain Kimberly Giles finds success wherever she lands

by Dominique Rouzan

Captain Kimberly Giles entered the Army in 2000 upon graduating from St. Bonaventure University in western New York. Growing up in Brooklyn and Long Island, New York has afforded her the opportunity to directly experience one of the most talked about places in the world. However, her time in the Army has given Giles life experiences that are incomparable to most.

Her interest in the Army became apparent when she signed up for ROTC during college. In joining the program, her intention was not to enlist in the United States Army. Instead, she was interested in conquering the mental and physical challenges that the organization demands.

"I liked what it represented and I enjoyed being a part of it," said Giles.

As she became more involved, she began to entertain the idea of an inspiring career serving our nation as part of the Army.

"The Army's advertisements didn't hurt the decision-making process either," she said.

With an easygoing, yet hardworking nature, life's transitions often come easy for Capt. Giles and adapting to Army life was no different. However, this was not necessarily the case for her family back home. Always supportive, some members did had strong reservations about her career choice.

"My family was really surprised when I told them I wanted to join. They were worried and scared for me, but they were always encouraging. When I was deployed to Iraq to serve as a battle captain, their concerns resurfaced. But I assured them that I would be okay and out of harm's way," explained Giles.

Currently serving as a project manager for the New Orleans District, Giles doesn't feel she has been treated any different from her male counterparts or given preferential treatment. She believes she was up for the rigid tasks at hand, just like the guys.

"I took up hard challenges to make sure I was taken seriously and to let everyone know that I was capable of getting the job done", said Giles.

After being stationed in Korea and deployed to Ramadi, Iraq, she realized just how much the citizens of the United States have to be thankful for.

"I've gained so much more appreciation for my country. After living in other countries, it really opened my eyes to what we have here. The luxuries and freedoms that we are privileged to should be embraced but never taken for granted," expressed Giles.

Pondering over her Army experience so far, Giles says she has always completed her duties and assignments without any hesitation but her first experience in airborne school did shake her up a bit.

"I was nervous when I had to jump out of the plane for the first time. But after I put my anxiety to the side and did it, I fell in love with the experience," Giles expressed. That's just one example of this atypical yet invigorating occupation. According to Giles, that is what she loves most about it.

"I always meet new people and get to change jobs often so it's exciting and good for me," Giles said.

When asked what advice she would give to those considering joining the Army, Giles said it is best to ask lots of questions and do as much research as possible.

"Speak to people who have served and consider their advice. Above all, make sure it is the right decision for you," she suggested.

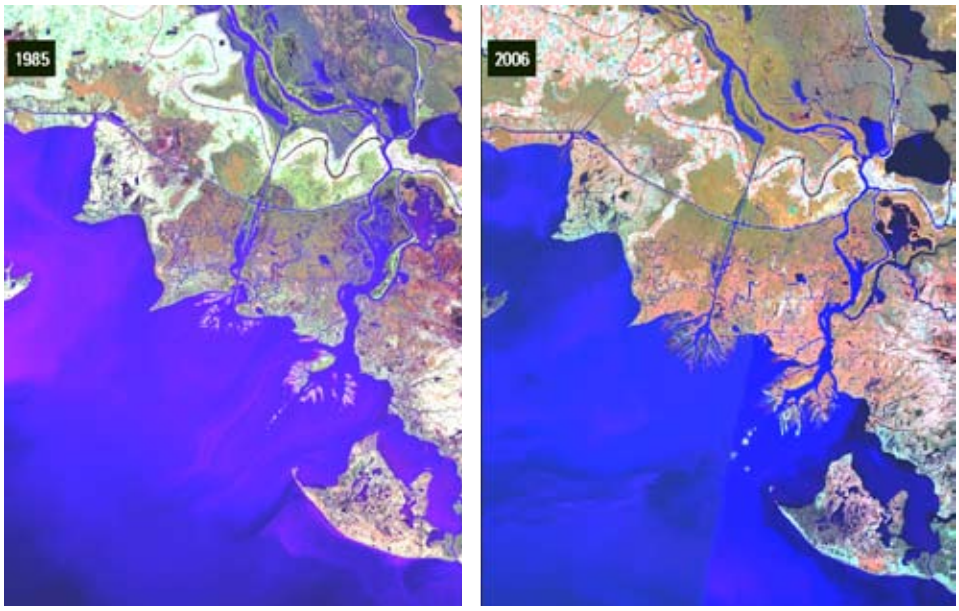
Giles is enjoying her time with the New Orleans District and is grateful for the experience. She has high hopes for her future, but plans to take it one day at a time.

"I would eventually like to become a battalion commander but it all depends on where the Army takes me," said Giles. "I'm definitely open."

(BUDMAT, from page 6)

valuable resource as well. The sediment obtained through dredging traditionally is placed in predetermined disposal areas outside of the channel or in open water. However, a sometimes viable alternative to this "dredge and dispose" method is applying the collected material toward the ecosystem restoration efforts in South Louisiana to create marsh, nourish beaches, or stabilize eroding shorelines.

The beneficial use of dredged material is a great weapon in the fight against future loss of one of our nation's vital ecological resources. Currently, Louisiana contains nearly 30 percent of all wetlands in the contiguous United States. Home to over 2 million people, these areas provide critical wildlife habitat, maintain water quality, control erosion and flooding, and contribute to the national economy by providing natural resources and goods. Yet, despite this national value, Louisiana has experienced nearly 90 percent of the coastal marsh loss in the lower 48 states. Since the beginning of the 20th century, Louisiana has lost nearly 2,000 square miles of land. As recently as 2000, Louisiana was experiencing approximately 24 miles of wetland loss per year. In 2003, a report by the United States Geological Survey forecasted a loss of over 500 miles over the next 50 years. However, Hurricanes Katrina and Rita drastically altered these predictions when they eliminated 217 square miles in only two days.



Beginning in 1985, the delta lands built in the Lower Atchafalaya River Basin over the next 11 years give great promise to the potential opportunities beneficial use of dredged material can have in our coastal restoration efforts.

Previous applications of the beneficial use of dredged material have gained positive results in wetland creation. In the Mississippi River's Southwest Pass, an average of 13 million cubic yards of sediment must be dredged each year to maintain deep draft capabilities. Performed by hopper dredges, the collected sediment is deposited either offshore or at the Head of Passes dredged material disposal site. Every year or two, this material at this latter site is redistributed into the Delta National Wildlife Refuge. Since 1998, this process has created over 150 acres of marshland.

Even greater results have occurred in the Lower Atchafalaya River Basin. In this section of the river, the navigation channel hinders sediment from reaching the delta, requiring extensive maintenance dredging. Under the federal standard, this material is used in the creation of artificial delta lobes and bird islands. From 1985 to 2006, 3,617 acres of wetlands were created using the material removed from the navigation channel.

Realizing the restorative gains that can be made through the beneficial use of dredged material, the New Orleans District is actively pursuing any opportunity to apply this maintenance technique. Just this year, the Corps has been able to award multiple contracts that will have positive restorative results.

In February, the Corps awarded a nearly $8.4 million contract to remove roughly 2.3 million cubic yards of material from the deep draft navigation channel in Southwest Pass. Completely federally funded, the dredged material is being placed in environmentally cleared disposal sites along the outer banks of the east and west sides of the pass. In addition to creating marsh, the material is being placed behind the existing rock dikes to restore the bank and reinforce foreshore dikes. Approximately 130 acres of marsh is expected to be built from this maintenance operation.

Not far from the Southwest Pass, a second nearly $6.6 million contract was awarded for the removal of approximately 2 million cubic yards of material from the Mississippi River Tiger Pass Channel in March. This dredged material will be placed in sites along both sides of the channel's outer banks, creating approximately 55 acres of marsh.

Farther down the coast, a $3.28 million contract was awarded for dredging in Vermillion Parish. Under this contract, 500,000 cubic yards of dredged material will be removed from the Freshwater Bayou. 100 percent of the material gained from this project will be applied to nourish the beach west of the channel.

Projects such as these represent only a small portion of the beneficial use restoration potential. Unfortunately, the greatest impediment is the additional costs necessary to undertake these projects. In accordance to the federal standard, the Corps must conduct all maintenance activities in the least costly, most environmentally acceptable manner consistent with sound engineering practices. On average, beneficial placement costs $4 more per cubic yard of material, leaving the procedure outside of the federal standard.

Under these standards, the Corps is unable to undertake an expanded beneficial use program without the continued support of its partners. Fortunately, the state of Louisiana shares the Corps' vision for the need of coast restoration measures. During a 2008 Beneficial Use Summit with the Louisiana Department of Natural Resources, the Maintenance Dredging Beneficial Use Working Group (MDBUG) was created to foster enhanced communication between agencies. MDBUG was charged with prioritizing beneficial use projects based on National Environmental

(Continued, page 16)

Right: Hopper dredges, such as the U.S. Army Corps of Engineers' WHEELER are operated in high traffic volume areas. Because they do not have to remain stationary, they are able to perform their operations with a minimal impact to navigation.

For beneficial use (middle right), temporary pipes deposit sediment into the designated area for land creation. Once operations are completed and sediment appropriately spread by an excavator (below), the pipeline is removed. Over a relatively short period of time, marsh grasses take root (bottom left) and spread over the dredged deposits. With the grass comes fish and wildlife such as these spoonbills (bottom right) feeding at a marsh restored with dredged sediment.


Ricky Boyett


Lane Lefort


Scott Riecke


Scott Riecke


Scott Riecke


Anne Marino

Bonnet Carré Spillway helps Wetland Watchers celebrate

Every year, the Hurst Middle LaBranche Wetland Watchers hold a celebration of the importance of our nation's wetlands at the Bonnet Carré Spillway. Over a thousand students from nine schools were given the opportunity to learn about these wetlands in a hands-on environment while being entertained by Amanda Shaw and the Cute Guys, the Allemandes Elementary Cajun Dance Group, the New Orleans Saints, and Radio Disney.

The Bonnet Carré Spillway Office of the New Orleans District assisted in the organization of the event held at the Lake Pontchartrain end of the spillway. During the event, Spillway Rangers took the opportunity to teach the many students of the importance of water safety. Given the role that water plays in so many of our summer recreational activities, this effort could not be timelier.

Several of the events focused on presenting an interactive learning environment. With the help of dozens of agencies, the students were able to take part in tours of the wetland areas, exhibits that ranged from restoration techniques, and in the identification of different fish and animal species that make their homes at the spillway.

While without the help of these agencies and corporations, this event could not exist, it is the students that comprise the essential factor of the event. These students had a hands on role in every aspect of the celebration from registration to leading the wetland tours. For one day, they were both the students and the teachers.

The New Orleans District is proud to have been a part of this exciting learning event and looks forward to future celebrations at the Bonnet Carré Spillway.

Right: Bonnet Carré Spillway Ranger Skip Jacobs helps students understand the importance of good water safety habits.

The students of Wetlands Watchers are active in all aspects of their annual celebration. Some students take the time make friends with a mounted nutria, scourge of the wetlands, or Captain Eddy. Others spent their time learning what they can do to help protect our planet. Even the St. Charles Parish Sheriff K-9 got in on the fun. Out on the water's edge, students and teachers identified local fish.

Earth Day 2009

Thirty-eight years ago, Earth Day was established as a day to inspire awareness and appreciation for our planet's environment. Across the globe, this day is celebrated by more than 500 million people throughout 175 countries.

This year's celebrations began with the annual Audubon Earth Fest in March. Over this two day event, several New Orleans team members volunteered their time and energy to helping educate the importance of our planet in a fun, music-filled environment.

The New Orleans District then followed up this event by having an event of our own. On Earth Day, the New Orleans Environmental Branch celebrated this global event by planting several Louisiana native bald cypress trees along the riverbank at the southern end of the district. This added greenery will certainly liven up our environment.

At the same time, the district participated in the dedication of coastal restoration projects that will reinvigorate south Louisiana's effort to stop wetland loss. To celebrate the progress of four coastal restoration projects, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) team held a dedication ceremony in Lacombe, Louisiana. As chairman of CWPPRA, Division Commander Col. Alvin Lee was on hand to mark these great steps forward in ecosystem restoration.

Eric Aubrey

Ken Holder

Scott Riecke

In March, New Orleans District volunteers took the opportunity to show local youth educational demonstrations. On Earth Day, the New Orleans District Environmental Branch helped bring a little greenery and scenery to the New Orleans District. At the same time, the CWPPRA team was dedicating four projects, such as the Fritchie Marsh Restoration, that will help restore our fragile environment.

John E. Reddoch Regulator of the Year

Dedication, character, and hard working are attributes that should never go unnoticed. For these reasons, Darrell Barbara has been selected to receive Regulatory Branch's annual John E. Reddoch Regulator of the Year award.

Created to honor the values and qualities of the former chief of the Eastern Evaluation Section, Regulatory selects one individual whose work over the past year has best exemplified the branch's seven public service commitment principles: professional, fair and reasonable, knowledgeable, honest, timely, accountable, and respectful.

Darrell Barbara, Regulator of the Year, is joined in a ceremony by his family, Pete Serio, and members of the John Reddoch family.

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, ARMY CORPS OF ENGINEERS
PO BOX 60267
NEW ORLEANS LA 70160-0267
ATTN: PUBLIC AFFAIRS OFFICE
OFFICIAL BUSINESS

First Class Mail
Postage & Fees Paid
U. S. Army Corps of Engineers
New Orleans District
Permit No. 80

Ricky Boyett

(BUDMAT, from page 11)

Policy Act status, oyster lease impacts, and dredging schedules. Ten projects were then selected for implementation in the 2009-2010 fiscal years.

Additionally, the interagency Louisiana Coastal Area Beneficial Use of Dredged Material program has given further assistance in our attempts to beneficially use this dredged material. This ten year, $100 million program will pay the expenses associated with beneficial use that are above and beyond the ordinary costs associated with the New Orleans District's dredging and disposal operations base plan. Acting through the Louisiana Department of Natural Resources, the state of Louisiana has agreed to fund 35 percent of this program. Through this shared commitment and additional funding, an estimated 3,400 acres of wetlands can be created during the life of the program.

With the help of our partners, more beneficial use projects will become a reality. In February, the Corps signed two memorandums of agreement with the Lake Charles Harbor and Terminal District for beneficial use in Southwest Louisiana. In these memorandums, the LCHTD has agreed to pay the incremental costs above federal standard to place this material in the Black Lake area and the Sabine National Wildlife Refuge. For the Black Lake area, about 2.6 million cubic yards of sediment taken from the Calcasieu Ship Channel will be used to create 440 acres of marsh. 900,000 cubic yards will be used to create 227 acres of marsh in the Sabine National Wildlife Refuge. These projects reflect the collaborative effort necessary to complete these valuable measures in South Louisiana.

In addition to these ongoing efforts with our partners, additional measures are being taken to make beneficial use easier and less expensive. One approach is by building a permanent pipeline to take material from the shipping channels to the disposal areas. As part of the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), the Corps recently awarded a $9 million contract for the building of this project on the Calcasieu River Ship Channel. This pipeline is part of a CWPPRA project that also includes the creation of four marsh building sites, two of which have already been constructed with material dredged from the Calcasieu River Ship Channel. This pipeline will have a large impact in the creation of remaining two marsh areas by saving the Corps and its partners approximately $2 million each time it is used to pump sediment into the marsh. Over a 20 year period, this structure will allow the Corps to create nearly 200 acres of marsh each time it dredges the channel. By the end of this period, it is estimated that approximately 2,500 acres of marsh will have been restored using this pipeline.

As awareness and concern for our wetlands increase, many new and innovative measures will be discovered. Studies are underway that range from diversion projects to plant life that promote better seeding of restored areas. Throughout this research, the Corps shall continue to seek ways to take full advantage of one of our rivers' greatest resources, the sediment they carry.