



US Army Corps
of Engineers®
Vicksburg District

THE Water's Edge

Winter 2011



- Fish habitat big concern at Arkansas lakes
- Repair work maintains integrity of dredge
- District adopts two more schools



US Army Corps of Engineers®

News magazine of the Vicksburg District
U.S. Army Corps of Engineers

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Commander's Corner Colonel Jeffrey R. Eckstein	3
Repair work maintains integrity of Dredge	4
Environmental Laboratory building achieves LEED Gold certification	5
Projects begin and end with Real Estate	6
District adopts two more schools	8
Natchitoches releases "Explore Louisiana Crossroads" iPhone APP	9
District among others receiving unqualified audit opinion with Army's audit agency	10
Safety Office completes annual safety inspections at Mississippi Project Office, lakes and field office	11
Outreach Committee's Christmas Kickoff and Project	12
MVK and MVD participate with local science fairs	13
Regional Command Council sets path for Planning organization's future structure	14
2011 marks the 200th Anniversary of the New Madrid Earthquake ..	15
Vidalia Area Office announces new area engineer	16
District selects Eckhardt as chief of Dredging	16
Slurry wall construction proves beneficial	17
VLDP	18
Privately owned hunting lodge reduces cost for hunters at Arkabutla Lake's physically challenged hunt	20
Bald Eagle surveys done at Enid and Grenada lakes	20
Shelters for fish habitat big concern at Arkansas lakes	21
Fish habitat days held at Arkabutla and Grenada lakes	22
Removing tires along DeGray Lake shoreline is tedious process	23

Need to Know

PEOPLE

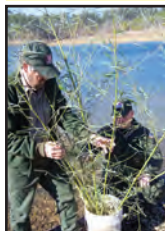
Tyrone Crear and Cody Eckhardt

PROCESS

Slurry wall

PROJECTS

Dredge JADWIN



On the Cover

Pictured left to right are wildlife biologist, Johnny Cantrell, and natural resources specialist, Jake Williams, preparing to install fish habitat at DeGray Lake.

Commander's Corner

with Colonel Jeffrey R. Eckstein



Greetings again!

Greetings again! Football season is over, we are moving into spring, and the funding situation is still unclear. Despite the uncertainty with the funding, there are several items we must continue to work on for the remainder of the year. Our Operations Plan has proven to be a valuable tool for tracking progress and keeping us disciplined. The recent civil works customer survey is an example of success in using the process. The response rate was more than 85%, including positive comments on how to improve.

We will track progress on communication and other due-outs throughout the year. We have seen a steady increase with our OCO volunteers and deployees, and we will achieve a double digit number of teammates deployed this year. A few things we must continue to focus on include input into the QMS database, achieving our weekly goal of 10 news article submissions a week, and achieving our P2 goals and milestones.

Beginning in springtime, we renew our focus on water safety. More than 10 people drowned at our facilities last year. I ask everyone to continue to raise awareness and provide input on ways to improve our program. Zero fatalities is an achievable goal. Besides water safety, we have also made improvements with our safety program, and I applaud you for your efforts.

I want to recognize Doug Kamien for his 35 years of service to the U.S. Army Corps of Engineers (USACE). As many already know, Doug is retiring this year. He began his USACE career with the Detroit District after three years on active duty at Fort Benning, Georgia as an Engineer Lieutenant. He has served in engineering and project management assignments throughout his career, to include HQUSACE, Washington D.C.; three years at Mississippi Valley Division (MVD) Headquarters, and the past 10 years as chief, Planning Programs and Project Management Division (PPPMD), and Deputy Commander of our district. I appreciate Doug's commitment to the district, his sense of duty and honor, and his guidance during the course of my first year and a half here. On behalf of the entire district, I thank him for his service and wish him and Joan the best in his retirement.

As we continue the year, it is imperative that we continue to communicate with our stakeholders, partners, and customers. Our operations and projects will be affected by budget and congressional decisions, so we must maintain constant communication with all parties involved for appropriate response. For items we commit to deliver, we must deliver. This is the Year of the Schedule. This requires all members involved to agree to the schedule and take all actions possible to meet the deadlines. Plans are good but results are great. As we strive to deliver on time and adjust to the fiscal constraints, we must insure we do not surprise others. Our discussions need to remain transparent and timely. For example, if we have cost increases we need to lay out in detail where the increases were incurred and how we plan to deal with them. We must not deliver a bill to customers without them having prior knowledge of it.

I continue to be impressed with the work that you all do for the community and nation. From the bald eagle surveys, to repairing more than 60 levee slides, the numerous levee inspections, execution of our supplemental and ARRA money, to remaining flexible with the uncertain funding. It is a great pleasure to be here and serve with you at this great district. Thank you for your efforts to support the mission.

Repair work maintains integrity of Dredge

By Shirley J. Smith
Photos by Alfred Dulaney

“They just don’t make ’em like they used to,” is a popular saying, and, that might be a true statement.

When comparing merchandise machinery of today to that of yesteryear, depending on what it is, sometimes we see a big difference in quality or production.

However, the Dredge JADWIN is a quite an exception to the rule: Built in 1933, and one of only two remaining of the four dustpan dredges built at that time, she is still going strong. With a 68-ft. digging depth, the JADWIN plays a huge role in the Corps’ maintenance of a 9-by-300 foot commercial navigational channel.

Over the years the JADWIN has needed repairs, sometimes annually, therefore making it more difficult to obtain the parts. Through comparison of replacing the dredge and remodeling it, it was found that the remodeling would cost less. This decision was made in 1985 when her steam engines were converted to diesel-electric, the liv-



ing quarters were remodeled, and the dredge refitted for less than \$10 million - approximately \$30 million less than the cost of a similar replacement dredge.

Now, the JADWIN is currently undergoing repairs. A new pump is being installed, as the old pump has become obsolete and repairs to it have become too costly. The pilot house is also getting a “facelift” due to years of leaking which has caused rust to form below windows and other areas. These repairs are

necessary in order for the dredge to maintain her structural integrity.

“The benefits of the repair work is to maintain a properly functioning dustpan dredge that is reliable and ready to conduct dredging operations anywhere within Mississippi Valley Division (MVD),” stated Patrick Chambers, chief of navigation section of Operations Division.

The repair work, which began in November 2010 and expected to be completed by June 1, 2011, is being done at a cost of approximately \$3.5 million. The structural design elements are being done by Marine Design Center, Philadelphia, Pennsylvania, and all other work is being completed by Corps team members.

Not having these repairs done could disable the dredge during critical dredging times, causing delays to commercial navigation within MVD. ◀



Looking up at location of leaks in the Dredge are left to right, Col Eckstein, Perry Huskey, and Patrick Chambers.



Blue tarp covers the pilot’s house portion of the Dredge.



Pat Chambers discusses with Col Eckstein the new pump housing to be placed in the Dredge.

Environmental Laboratory building achieves LEED Gold certification

By Jonathan Boone
Photo by Lamar Rutland

It should come as no surprise that the leading engineering research organization, the Engineering Research and Development Center (ERDC), is committed to sustainable design and construction. This proved true when the Environmental Laboratory decided to consolidate their footprint on the ERDC campus and build 85,500 square feet of office space. The ERDC leadership team committed to pursuing a better-performing building design that would contribute to the federal government's overall goal of reducing its environmental footprint. This commitment was given to the Vicksburg District to execute.

In the past, it was common for construction projects to proceed without special considerations for the complex range of issues that determine how environmentally sustainable a project is in the long run. More responsible design techniques used today include picking the right site, specifying the relationship of the building's configuration relative to the sun's position, minimizing types and amounts of waste produced during construction, and minimizing the use of non-renewable energy and natural resources. This concept of sustainable design can be best summed up as providing building facilities that meet a customer's current needs while maintaining the integrity of the earth's natural systems for future generations.

The creative building solutions executed through this particular design-build contract were the result of a collaborative team from the Corps and First-Yates Construction that took well planned ideas and delivered a structure that received Leadership in Energy and Environmental Design (LEED) Gold certification from the U.S. Green Building Council (USGBC's). LEED certification is the USGBC's nationally accepted benchmark for the design, construction, and operation of high performance "green" buildings. The Environmental Laboratory Building is the first "green" building on the ERDC campus in Vicksburg. The



Environmental Laboratory at ERDC.

building consolidates the Environmental Laboratory's administrators and researchers into a modern facility, allowing them to more effectively tackle the Nation's most challenging environmental problems.

Through the life of the project the team focused on providing numerous energy-efficient upgrades and sustainable design choices for the office interiors and exteriors to provide a healthy and productive work space for employees. Some of the "green" features include: water saving, low flow fixtures, reserved parking for low-emitting and fuel-efficient vehicles, bicycle storage and shower facilities, water efficient landscaping systems and drought-tolerant plants, optimized energy performance and metering systems, energy efficient elevator systems, increased ventilation, and reduced light pollution caused by exterior lighting features.

Achieving the USGBC's LEED Gold certification is a challenging, time-consuming process that requires top performance from all team members involved. This achievement is the result of the entire team's effort to develop a building that is a model for environmental sustainability and certainly reflects well on Vicksburg and the Corps. ◀

Projects begin and end with Real Estate

Acquisition branch does research and investigation

**By James Shannon Bussey
Photos by Sheila Franco**

When one thinks of real estate it is natural to think...land, home/house, rental property, business, etc., and one doesn't necessarily think of the federal government. However, here at the District when one mentions Real Estate, the Real Estate Division comes to mind.

What do they do? The answer is: all of the above, and then some. The Real Estate Division is composed of two branches: appraisal and planning, and realty services.

The Real Estate Division is an integral part in the beginning of every project, and it is safe to say that every project definitely ends with real estate. Basically a project can fall into two distinct categories. The first and most intricate ones require USACE to acquire an interest in the land and the other is where we ask permission for access. Acquiring an interest in the land is by far much more detailed and complicated.

At the beginning of each project, project managers and design engineers work closely with real estate. After a footprint of the project's right-of-way is determined it is given to the appraisal and planning

branch. Cartographers immediately begin taking the project footprint and applying ownership data to create a superimposed map of both. Sometimes, depending on the size of the project, this takes months of research and interpretation. Tax or ownership maps as well as deeds explaining ownership boundaries must be researched. After ownership is determined and mapped, complex legal descriptions are prepared by the planning division, giving a detail interpretation of the boundaries of each ownership.

When the current ownership is determined the next step in the process begins. First, the title on each tract must be researched and inves-

tigated by a title insurance company to ensure there is no "break" in the title and that it is clear and can be insured. Some projects require ownership data and is researched as far back as fifty years. Obtaining "title evidence" that concludes that ownership is clear and unbroken is essential in the project moving forward to the next step.

After the title company has provided the evidence, Office of Counsel attorneys must also do their own research and meet certain conditions to finalize the title so that it can be insured. Sometimes this involves researching birth and death records as well as even more courthouse research including pub-



Real estate showing cropland in Leflore County that is being purchased as an easement over a part of the Upper Yazoo project

lic documents such as wills.

While title is researched, licensed Corps appraisers are dispatched to conduct their field inspections and research the data needed to prepare an appraisal of each tract of land. The appraiser uses standard principles used by every appraiser in the private sector to prepare an appraisal that can be defended in court if needed. Recent comparable sells must be researched, documented and verified to assist the appraiser in determining the current market value of a piece of real estate. After the appraisal is prepared it must be reviewed and cleared by a review appraiser with many years of appraisal experience.

Two distinct things must happen before the next process can begin. First, the review appraiser must approve and certify the appraisal. Second, the attorneys must give their “stamp of approval” concerning the title. Only after these two conditions are met can the negotiation process begin. Probably the best known, and sometimes the only known, segment of the real estate process is the actual negotiation of the interest in the land. After the realty specialist charged with negotiating and acquiring the interest needed in the land obtains the title evidence and appraisal, the owner can be contacted. Sometimes ownership can be as simple as one person or a husband and wife, but sometimes it can include extended family scattered across the coun-



This piece of real estate is a grain-bin impacted by the Swan Lake project in Washington County

try. Each and every person with an interest in the property must be included.

After the point of contact is determined, a package is prepared and mailed. This package includes an offer letter stating the monetary offer, an “Offer To Sell” which contains a contract, a copy of the tract description, the estate (or interest in the land to be acquired), and a map outlining the tract. After the point of contact receives the package, the negotiating process begins. The negotiating process can include numerous phone conversations, meeting on site with the landowners, and even negotiating with a proxy for the landowners such as an attorney.

Sometimes the angle of the negotiation on the part of the landowner is just compensation, but other times it can be details

such as preserving or insuring that parts of the land on a tract remain unchanged. When an agreement in principle has been met, the Offer to Sell is signed by all owners and returned. The chief of Real Estate must approve and execute the agreement, and the agreement is binding. The binding contract is then forwarded to the assigned attorney in the Office of Counsel where he/she performs one last title check, prepares the deed, and orders the check. If the property is mortgaged, the attorney must also maintain contact with the bank or company holding the mortgage. After the check arrives, the attorney schedules the “closing”. The closing is the process where all interested parties meet and sign the deed and the funds are exchanged.

(Continued on page 11)

District adopts two more schools



By Shirley Smith
Photo by Alfred Dulaney

The Vicksburg District employs professionals of various disciplines, and many of those professionals perform volunteer services outside of their normal work routine. So, when the district adopted Vicksburg High School (VHS) during the 1998-1999 school year, the program enhanced volunteerism at the district.

Although VHS had been the district's only "adopted" school, this does not mean that the district assisted only VHS; whenever called upon, team members assist any school within the local community and surrounding areas.

Recently the district added two more "adopted" schools to its Adopt-A-School Program. The two additional schools adopted for the 2010-2011 school year are Sherman Avenue Elementary and Warren Central Intermediate.

Ray Hume, principal of Sherman Avenue Elementary stated, "We are so proud to have the Corps adopt us. Being a relatively new school, we strive to improve our image within the community; this program is a plus for that goal."

Dr. Edward Wiggins, principal of Warren Central Intermediate (WCI), stated, "It is great to have the Corps' Vicksburg District adopt us, and we look forward to a wonderful and great school year with this new partnership. I am certain that the valuable resources that you have to offer will be of great benefit to us."

The purpose for the adoption of these two schools is the same as for VHS: To create a climate for improving educational opportunities for all students. This partnership establishes a bond between the adopter and the adoptee.

of the Vicksburg Warren School District (VWSD) Board of Trustees and its central administration.

Each school has a coordinator and an Adopt-A-School committee whose purpose is to plan and implement a program designed in cooperation with the adopter's coordinator and committee.

Since the inception of this program, the district has provided valuable services to VWSD such as the donation of a van to the JROTC Department at VHS, donation of computers to the library, providing tutors, mentors, computer programmers, motivational speakers, proctors for state testing, panelists for mock interviews, speakers for Engineer's Week, chaperones for student activities, and, team members have even assisted with the beautification of the school campus, and much more.

The corporate sector is a key stakeholder of community relations; therefore this program is a vital tool within the District's community relations program. The program builds employee involvement and fosters team spirit; it fosters cooperation with the community's greatest investment asset-its students/schools.

The schools and the District must renew its adoption relationship on an annual basis through a ceremony by signing an official adoption continuation agreement. ◀

The program allows the school and its adopter or adopters to develop their own plan for the school year. Each plan is based on areas of focus, identified needs within the school, and available resources from the adopting organization. The school-business partnership is regulated under the policies and procedures



Alainna O'Bannon, Adopt-A-School Committee member, places a ribbon on a winning science fair project at Sherman Avenue Elementary.

Natchitoches releases “Explore Louisiana Crossroads” iPhone APP

By Brandi Bradford

Vicksburg District partners in Natchitoches, Louisiana announce the release of the “Explore Louisiana Crossroads” iPhone application.

Available for free through iTunes, the Explore Louisiana Crossroads application will allow users to take advantage of the advanced capabilities of the iPhone, iPad and iPod Touch user interface.

The Explore Louisiana Crossroads APP will be an easy-to-navigate tool for both pre-trip planning and for retrieving information while onsite at a variety of recreational sites in the area. It is intended both for visitors to the Natchitoches area, as well as local residents who may want to explore more of the historic, natural, and recreational treasures that the Crossroads offers.

Features of the Explore Louisiana Crossroads Visitor Guide Application include:

- Quick access and Google map locations for all recreational and historical sites, dining, shopping, lodging, camping, boating, fishing, and other activities available to visitors coming to the Louisiana Crossroads Region.
- Directions and details of what to find at each site, hours of operation, fees, and other important information in assisting visitors to locate any site.
- Historical and heritage information about one of the richest historic areas of the state.
- Auto and walking tour guides for the historic and natural resource sites in the area.



The iPhone

- Quick access to Northwestern State University, the City of Natchitoches along with safety information, emergency contacts and more.
 - Quick dial from your iPhone to contact all listings and links to area websites.
 - Links within each visitors guide to other information and interesting sites you may also want to see during your trip.
 - Safety information for all types of recreational activities.
 - Emergency contacts and other services such as post offices, banks, hospitals, etc.
- A consortium of Natchitoches organizations joined together to provide content for this application.

Project partners include:

- Natchitoches Area Convention and Visitors Bureau
- City of Natchitoches
- Association for Preservation of Historic Natchitoches
- Melrose Plantation
- Cane River Waterway Commission
- Cane River Creole National Historical Park
- Cane River National Heritage Area
- Natchitoches Area Chamber of Commerce
- US Army Corps of Engineers

The APP is “Powered by Nomad Mobile Guides(TM)”.

For more information please contact Brandi Bradford, lead park ranger, at (318) 354-8770. ◀

District among others receiving unqualified audit opinion with Army's audit agency

By Shirley J. Smith

Several years ago when most of us heard, for the first time, the acronym CEFMS (Corps of Engineers Financial Management System) it really didn't mean a lot to us; we knew that it was in regards to the Corps financial management system. Later, mandatory training in CEFMS was scheduled for all employees. Then, after the training, when we heard the acronym CEFMS some of us frowned, to say the least.

CEFMS soon became a hot topic, and sometimes too hot to handle without some solid guidance. However, since its inception, most of us have become very efficient at working in CEFMS, and it's not so bad after all.

Being the financial management system for the Corps, employees really didn't have a choice except to learn CEFMS...then or later. So, as with any financial system, audits must be conducted, whether they are done quarterly or annually, they must be done.

Audits are not joking matters, they are serious. The progress of the Department of Defense (DoD) towards financial audit readiness has been steady - but slow. Some reporting entities sustain unqualified audit opinions - and that's good.

"This score verifies that we're an organization of people with honesty and integrity. We say what we do, and we do what we say," said Lt. Gen. Robert Van Antwerp, Chief of Engineers. He further stated, "I'm proud to also announce that we've set a new benchmark in the federal community. We're the largest federal agency in terms of property, and the first major DoD activity to receive this unqualified opinion."

The largest reporting entity receiving a clean opinion is the Corps' Civil Works for sustaining a second consecutive unqualified audit opinion on its

FY 2009 and FY 2010 fiscal year financial statements.

The Chief Financial Officers (CFO) Act of 1990 (Public Law 101-576) mandated financial management reform. One requirement was auditable financial statements. Early audits were performed by Army Audit Agency from 1992 through 2000. The first "unqualified opinion" was received on FY2008 civil works financial statements. The Corps has received an unqualified opinion for FY2009 and FY2010 also. Corps of Engineers is the largest DOD agency to receive an unqualified audit opinion to date.

Early focus areas included:

- Asset Cost Reconciliation
- Proper Classification of project cost – construction in progress or expense
- Abnormal General Ledger Balances
- Project Relocation Costs
- Accumulated Depreciation
- System Security Issues
- Proper Recording of Accounts Payables and Accruals
- Equipment
- Real Property Buildings and Structures

Current focus areas are listed below:

- Plant Property and Equipment
- Cost Share
- Accounts Payables and Accruals
- Payroll

This audit effort has involved all elements of the district, and is not the sole responsibility of the Resource Management Office. ◀

Safety Office completes annual safety inspections at Mississippi Project Office, lakes and field offices

By Shirley J. Smith

The annual safety management evaluation of written programs and field investigation was conducted at all Mississippi Corps lakes and field offices during the months of January and February. The purposes of the site assistance visits are to provide support and recommendations to resource managers; and to assure that the managers are in compliance with applicable safety policies, regulations and guidelines.

These annual inspections are performed by personnel from the Vicksburg District's Safety and Occupational Health Office. Resource sites visited include lakes Arkabutla, Enid, Grenada and Sardis.

The Safety Office administers and manages the Vicksburg District's Safety and Occupational Health Program which establishes standards of risk management and loss control for government, con-

tractor and public visitor's activities throughout the district.

The Safety Office staff ensures that required safety laws, regulations and policies are incorporated, during the course of preparation, into all plans, designs, specifications, operating and maintenance procedures, and training programs. The Safety and Occupational Health Office also develops, recommends and coordinates safety and health procedures and training programs. These programs are designed for highly hazardous or specialized activities on hired labor work for which no general safety regulations have been developed. The office also recommends required training programs to be conducted by operating officials.

Facilities inspected during the site visits included Corps, contractor and public use activities

(swimming sites, motor pool yards, picnic areas, sewage facilities, etc.) and identified hazardous locations such as confined spaces.

Denise Kaufman, a safety and occupational health specialist in the Safety Office, stated, "We serve as the eyes and ears for the commander regarding safety within the district. We provide support to the field offices in matters of safety and assist them in any way we can."

Donny Weaver, chief of the Safety Office, stated, "The annual safety management evaluations are one of the tools that the Safety Office uses to carry out the commander's safety and health program by providing suggestions and recommendations to managers throughout the district and region. The management of risk at an acceptable level for all district activities continues to be one of our top priorities." ◀

(Concluded from page 7, Projects begin and end with Real Estate)

Afterwards the attorney has the deed recorded at the courthouse. Now we have the interest needed in the land for the project to go forth.

This process can take anywhere from six to nine months, assuming that the title is clear and the seller is willing and very cooperative. If those two conditions are not met, they can indefinitely delay the acquisition of the right-of way needed to complete a project. Even a somewhat willing

landowner can delay a project. Landowners are in no way concerned or bound by milestones or deadlines set forth by USACE. The alternative to a slow an unwilling landowner is the condemnation process used under "eminent domain", which should be avoided if at all possible. ◀

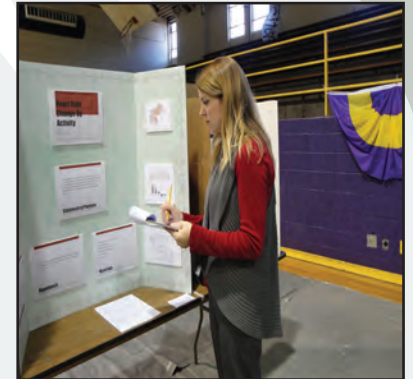
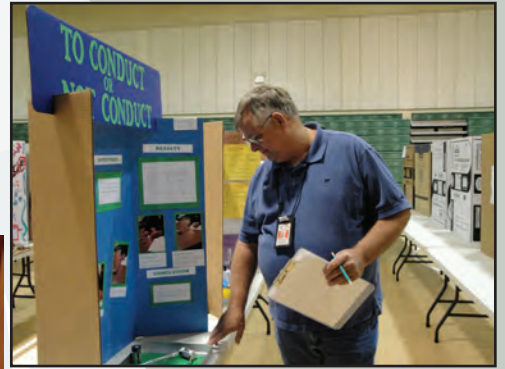
OUTREACH COMMITTEE'S CHRISTMAS KICKOFF AND PROJECT

Photos by Alfred Dulaney



MVK AND MVD PARTICIPATE WITH LOCAL SCIENCE FAIRS

Photos by Shirley Smith



Regional Command Council sets path for planning organization’s future structure

By Bob Anderson

With a close vote during their December 16th meeting, the MVD Regional Command Council set a Course of Action for the Planning organization to follow that will lead to greater regionalization and interdependence.

The Planning Organization will follow COA 2 as the optimal path to strengthen regional interdependence, enhance program delivery, fully leverage technical capacity and better sustain technical competency.

Rayford Wilbanks, Planning’s regional director, said, “Under COA 2, Planning will be aligned regionally by sub-Community of Practice functions.”

“This is the COA that the MVD Planning Leadership team recommended to the Regional Management Board, and we are pleased the Regional Command Council adopted it,” Wilbanks added.

Under COA 2, Planning will be functionally aligned as Planning Division North and Planning

Division South. The new organization will strengthen regional interdependence because the two lead districts, St. Paul and New Orleans, will be responsible and accountable to provide the Planning services to the districts.

There will be one Plan Formulation, Economics, Environmental Planning and Environmental Compliance Branch for the two Planning Divisions. All technical resources of the districts will be aligned to the appropriate branch and division. Each district will have at least one Planning Branch who’s chief is dual-hatted as the district liaison and Technical Branch Chief. This Course of Action also maintains a presence and expertise in each technical sub-function at each district.

In addition to assigning technical responsibility and accountability, and aligning the technical resources to the technical branches and lead district, efficiencies in leadership and oversight will be gained.

<p>Planning Evaluation Criteria</p> <ul style="list-style-type: none"> • Sustain Technical Competency • Fully Leverage Technical Capacity • Enhance Program Delivery • Strengthen Interdependence 	<p>Technical Branch Chief</p> <ul style="list-style-type: none"> - Maintains presence/expertise in each technical sub-function at each district 	<p>understanding of capability to resource requirements</p>
<p>Functional Alignment</p> <ul style="list-style-type: none"> - Organization aligned regionally by sub-CoP functions <ul style="list-style-type: none"> • Plan Formulation • Economics • Environmental Planning • Environmental Compliance - Maintains at least one Planning Branch Chief at each district who’s dual hatted as district liaison and 	<p>Evaluation Summary <i>(comparison to current structure)</i></p> <ul style="list-style-type: none"> • Sustain Technical Competency <ul style="list-style-type: none"> - Technical supervisors are responsible and accountable for maintaining technical expertise • Fully Leverage Technical Capacity <ul style="list-style-type: none"> - Technical supervisors are responsible and accountable for supporting delivery of planning mission - Better accountability and 	<ul style="list-style-type: none"> • Enhance Program Delivery <ul style="list-style-type: none"> - Technical supervisors will be better able to assess their employees’ capabilities and development needs to enhance delivery now and in future - Transfers supervisory personnel to technical production to enhance mission execution • Strengthen interdependence <ul style="list-style-type: none"> - No single district controls every technical sub-function - Drives reliance on interdependence to deliver the planning mission • Efficiencies over existing structure

2011 marks the 200th Anniversary of the New Madrid Earthquake

By Ashley Ebersole

When someone mentions an earthquake, it is common to picture California or Haiti. The reason being because those locations are aligned with the earth's continental plates and are prone to seismic activity due to the shifting and overlapping of these plates. The media has also made this information available by widely publicizing recent devastating earthquakes in these regions.

What you may not realize is that there are approximately 200 small earthquakes per year right in our back yard, in what is known as the New Madrid Seismic Zone. This area stretches from the northeastern corner of Arkansas to the southern-most part of Illinois, crossing five state lines and the Mississippi River in three places. Ninety percent of these earthquakes are too small to be felt by humans, but they serve as evidence that the fault line is active and poses a threat to those near it.

This year marks the 200th anniversary of the New Madrid Earthquake, one of the largest to occur in U.S. history. In December 1811, a series of more than 2,000 quakes began in this region, some reaching 8.0 in magnitude on the Richter scale.

According to the U.S. Geological Survey, the earthquakes caused the ground to rise and fall, opening deep cracks on the surface. Landslides occurred along bluffs and hillsides, large areas of land were uplifted permanently, and larger areas sank and were filled with water that still stands today; Reelfoot Lake was formed in a matter of minutes.

Huge waves on the Mississippi River overwhelmed many boats by capsizing them and washing others ashore. The waves made the river appear to flow backward, as geysers and fissures changed its path. Banks collapsed into the river and whole islands disappeared. The shaking was so powerful that church bells rang in Boston, Massachusetts, sidewalks

cracked in Washington, D.C., and chimneys toppled as far as Cincinnati, Ohio.

Earthquakes of this magnitude generally return once every several hundred years, but earthquakes of lesser magnitude in the 6.0-6.5 range are expected every 75-100 years. The last such earthquake to occur in this region was a 6.8 in 1895, although significant seismic activity in this region has been reported as recently as the first week of 2011.

Fortunately in 1811, casualties and damages were limited because of a sparse population and fewer structures than today. Presently however, an earthquake measurable to that of 1811 would be devastating to eight states: Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee, with the most probable damage in Memphis, Tennessee.

It has been estimated that an approximate 7.6 magnitude earthquake along the New Madrid fault line today would cause billions of dollars in damage and affect millions of lives. Halted navigation along the Mississippi River would hinder the nation's economy and transportation. There would be substantial damage to residential, public, and commercial facilities, as well as flood control works in the region.

While this fault system does not extend directly into the state of Mississippi, the geologic and soil conditions of Mississippi would amplify earthquake-induced shaking. The bedrock system found in this state is incapable of withstanding earthquake energy, and with an earthquake like that of 1811, Mississippi would undoubtedly experience the effects.

Yet, we are not helpless against another earthquake here in the New Madrid Seismic Zone. The Corps is constantly involved in the planning process for responding to an earthquake in this region. Federal agencies collaborate with state and local groups to identify high risk areas, assess response capabilities, and build state and local capabilities where there may be shortfalls.

The Corps will be a key player in providing resources and support to the areas affected and by helping to rebuild the impacted infrastructure. The district has developed a New Madrid Earthquake response

(Continued on page 16)

(Concluded from page 15, 2011 marks the 200th Anniversary of the New Madrid Earthquake)

plan specific to our district, and will also participate in multiple earthquake exercises in May 2011 to practice our preparations.

There is more to be done, and you can get involved. Take a moment to inform your family, friends, and neighbors about the New Madrid Earthquake of 1811-1812 and the potential of earthquakes in the Mississippi Valley. Make a plan and assemble a disaster kit for your home. Learn more by visiting FEMA's ready.gov and the MVK Emergency Management site at <https://kme.usace.army.mil/MVD/MVK/EM/default.aspx>. ◀



A passage is cleared for riverboats after the New Madrid quake of 1812.



People on the raft clear downed trees and sunken boats so riverboats can pass through.

Vidalia Area Office announces new area engineer

By Alice Bufkin

The Vidalia Area Office recently announced its new area engineer, Tyrone Crear.

In his new position Crear will oversee the construction management program of the area office. This will include serving as administrative contracting officer and contracting officer representative for construction contracts.

Crear previously held area engineer positions in Afghanistan, and at the Galveston and Detroit districts.

He earned a Bachelor of Science Degree in civil engineering from Southern University A & M in Baton Rouge, Louisiana. He is a licensed professional engineer in the State of Texas. He holds memberships in the American Society of Civil Engineers, Society of American Military Engineers, and Texas Board of Professional Engineers.

A native of Lake Providence, Louisiana, he is the son of the late Elizabeth Crear and the late Elijah Crear, Sr. who were of Lake Providence.

District selects Eckhardt as chief of Dredging

By Kavanaugh Breazeale

Cody Eckhardt was recently selected as chief of dredging operations, river operations branch, Operations Division.

Eckhardt is a native of Monroe, Louisiana, and a graduate of Ouachita Parish High School. He earned a Bachelor's of Science Degree in civil engineering from Louisiana Tech University.

He began his career with the district in the hydraulics branch of Engineering Division. He is the son of Warren and Donna Eckhardt of Monroe.

The Vicksburg District encompasses a 68,000-square-mile area across western Mississippi, southern Arkansas, and northern Louisiana, and employs more than 1,200 people. The district is engaged in hundreds of projects and supports disaster response in Mississippi, Louisiana, and Tennessee.



Cody Eckhardt

Slurry wall construction proves beneficial

By Shirley J. Smith

Photos courtesy of Kimberly Cruz Fernandez



Clearwater Dam



Excavating the trench, filling it with slurry



Workers pour concrete into the wall



The finished wall

Most of us enter some type building on a daily basis. However, most of us probably never ever thought about or wondered how the building's parking lot was constructed.

The construction of those underground parking lots could very well have utilized slurry wall construction, especially malls and hotels. What is a "slurry wall"? A slurry wall is a temporary non-structural barrier that is placed underground to impede groundwater flow. The cut-off wall is created by replacing the fluid in the slurry wall with concrete and re-bar. It can be employed as a structural element for different applications.

The construction technique for slurry walls starts with the construction of guide walls to layout the structure in the field. The guide walls are used to delineate the location and wall thickness. Excavation will begin after the guide walls are constructed.

During the excavation the trench is filled with slurry. Slurry will prevent the trench walls from collapsing due to lateral stresses and hydrostatic pressure (if water table is above the slurry). Later, end-stops are placed to form the ends of the wall, reinforcement is submerged and tremie pipes are placed, then the concrete is injected.

There are guidelines that must

be adhered to when using this technique. To meet Quality Assurance (QA) - Quality Control (QC) guidelines for the job, the slurry must be tested for density, viscosity, sand content, acidity and infiltration. The testing shall be done daily-during and after trench excavation is completed and before concrete is placed. If the slurry does not meet QA-QC guidelines, it must be treated or disposed of and replaced with fresh slurry that meets the QA-QC guidelines.

"I was able to gain experience in the construction of an underground parking lot for a future shopping mall and hotel building in Puerto Rico using slurry walls. In order to construct the parking lot, slurry wall construction was needed due to site conditions," stated Kimberly Cruz Fernández, a civil engineer in the geotechnical branch of Engineering and Construction Division.

Throughout Mississippi Valley Division, slurry walls have been used to cutoff groundwater flow or to lengthen seepage path. Some of the projects where the district has used the slurry walls technique are at Lock and Dam 5, Floodwater Retarding Structures, Vidalia Mat Casting Field, and Lake Chicot Pumping Station, among others.

(Continued on page 19)

VLDP

By Shirley J. Smith
Photos by Brian Crawford

Leaders are not simply born, one might say that they are raised. It is this philosophy that rests at the heart of the Vicksburg Leadership Development Program (VLDP), a program geared towards training future leaders of the District.



Class members engage in a team building exercise



Discussing a class project are VLDP members left to right, Sandy Gerbitz, Lee Grant, and Andy Strickland

Brian Crawford, strategic planner and VLDP coordinator, stated, "It is a vehicle by which the district grooms and trains future leaders. The program prepares its participants to deal with leadership issues that directly impact the district."

The first class for VLDP was selected in 2003 and has maintained a steady stream of participants since that time. A new class is selected annually to participate in the program which takes place over the course of a year.

Each class has its own agenda consisting of exercises and activities - some fun, and most are challenging. But, the entire program is a vital step towards leadership.

Crawford highlighted some of the unique components of this year's class, such as the list of leadership books they are assigned to read and report on quarterly. He stated that students are asked to cite impacts from the books that they see within the district.

The program allows the participants to both interact with each other as a team and engage with the district's senior management staff.

Tony Lobred, a member of the current VLDP class, shared his experience saying, "The program allows you an opportunity to get a perspective of what supervisors do, and from that experience one can decide if that is the path that he or she would like to follow. It also presents opportunities to get more involved and see how team members make the mission work. Sometimes we don't see the big picture, but this program lends to lateral communication."

Amanda Hanks, office automation assistant at Grenada Lake, has worked for the Corps for about 15 years, beginning as a student aide. She added that VLDP has allowed her to be open-minded; she has learned how to adjust to different personality types and has learned some of her own strengths and weaknesses. She stated, "The program is a stepping stone. It presents challenges, but that leads to future improvement."

The entire program is a vital step towards leadership.



With assistance from class team members, Stacy Thurman crosses over the meat grinder

When asked their definition of team work, both Lobred and Hanks said, “Communication, communication, communication, that is it.” Lobred also said that VLDP has exceeded his expectations and that many of the program’s challenges have raised the bar for him personally. “It is not a 9-5 learning curve, it is more than that. It might require some at-home, even weekend study, but it’s all a learning experience.”

The current class experienced something that none of the other classes had to endure-transition of coordinator. Pat Hemphill, former strategic planner and VLDP coordinator, was promoted to Deputy for Planning Programs and Project Management Division, and

Brian Crawford was selected to fill that vacancy. “It was a smooth transition. Brian gives great guidance. He picked up where Pat left off, and he is doing a wonderful job. He is a perfect example of effective leadership,” stated Lobred. Hanks agreed- adding, “Brian is definitely a leader; he makes you feel at ease. You feel as though he is molding you into a true leader. Pat gave us the introduction to the class and Brian picked up and is carrying the baton, never skipping a beat.”

Crawford is also a VLDP graduate. ◀

(Concluded from page 15, Slurry wall construction proves beneficial)

Presently, the Little Rock District is using slurry walls under the Clearwater Dam in Missouri.

Earlier applications were limited to civil construction projects, where slurry walls were used as hydraulic barriers in and under dams, and for external dewatering systems. More recently, slurry walls and cut-off walls have become valuable groundwater remediation tools for containing underground waste and for groundwater containment.

Some of the advantages of this technique are that these walls can be constructed to any depth, only limited by the available machinery. Compared with sheet piling, it causes less noise pollution. In urban areas where space is limited, this technique provides maximum space during construction. Another advantage with the slurry wall construction technique is that it can be employed in cohesionless soils with high groundwater tables. ◀

Privately owned hunting lodge reduces cost for hunters at Arkabutla Lake's physically challenged hunt

By Kavanaugh Breazeale

Local citizens near Arkabutla Lake have worked very closely with the Corps ranger staff in support of the participants of the Arkabutla Lake physically challenged hunt. This special event has become a great cooperative effort between state and federal agencies, sponsors and volunteers, and the local community.

These citizens have provided a privately owned duck hunting lodge to the participants for the past three years. Through this endeavor many of the hunters have been able to participate in the hunt that normally would not have been able to, due to the cost of lodging in local hotels.

Portions of the hunting lodge were remodeled to allow for total accessibility for the physically impaired, totally at the owners expense. With their

support, this partnership directly aids in the Corps' management goals in maintaining a healthy viable deer herd within the natural area. Providing this accommodation for hunt participants dramatically reduces the cost that the hunters incur while participating in Arkabutla Lake's physically challenged hunt.

This valuable resource has been extremely beneficial to the success of this hunt for a very special group of hunters. Their dedication and support to excellence, selfless service and extraordinary support to a special populace has enhanced the recreational experience for some of Arkabutla Lake's very special stakeholders, and insured a safe and successful special hunt. ◀



Bald Eagle surveys done at Enid and Grenada lakes

By Kavanaugh Breazeale

Bald eagle surveys were done recently at Enid and Grenada lakes.

This is a nationwide event that includes volunteers working with Corps rangers and biologists to determine the number of bald eagles in the area.

This one-day event, started in 1979, partners the Corps with the U.S. Geological Survey agency (USGS) to determine trends and migration habitats from the information gathered.

Sam Marter, wildlife biologist for the Corps said, "We gather info every year to help us determine feeding trends and habitat areas."

Thirteen adults and 17 juveniles were counted at Enid Lake; there were also five undetermined type eagles. The undetermined type eagles are those that are not categorized as adult or juvenile. Juveniles take five years to mature into adult breeding-age eagles.

The Grenada Lake count was one adult and two juveniles with four undetermined type eagles. Approximately 30 volunteers including the Grenada 4-H club assisted the rangers and biologists at both lakes. ◀

Shelters for fish habitat big concern at Arkansas lakes

By Shirley J. Smith,
Photo by Darrell R. Mitchell, DeGray Lake

If you're a fisherman, or even if you have ever watched someone else fish, have you ever wondered about fish habitat?

Have you wondered how fish survive, how they're kept healthy... until they're caught? Actually, without the assistance from humans, fish and other aquatic life just might not be so prevalent..at least not at some lakes.

Maintaining fish shelters for fish habitat is, and has been for many years, a big concern for personnel at Corps lakes. There is a process for establishing and maintaining these fish shelters, and more ways than one work. At lakes DeGray, Greeson, and Ouachita in Arkansas, cull hardwood brush provides shelters. The brush is cut, weighted, and placed in bundles in the lake, serving as attractors for fish, allowing them to hide from predators.

However, sometimes conditions arise that cause problems for fish habitat. In 2000 through 2005 hydrilla invaded the lakes. The hydrilla affected about

10,000 acres at Ouachita; in 2002 the hydrilla covered most of Lake Ouachita's shoreline; earlier in 2001, hydrilla was found in DeGray Lake.

One solution to the problem was Pakistani flies: The flies lay eggs that hatch into larva; the larva eats into the leaves of the hydrilla plant - destroying the upper part of the plant. Over years of propagating and stocking Pakistani flies, hydrilla at both lakes has been suppressed to the point of being manageable. While this was an improvement for many recreational boaters and skiers, it left a void in the available fish habitat. Corps personnel began to establish partnerships with different organizations, agencies, and school groups to develop new methods of replacing the hydrilla with more desirable habitat.

Sometimes we can allow nature to take care of aquatic life: Larger trees near the lake have been cut at the stump, allowing the tree to fall into the lake which provides fish habitat along the steeper shoreline. The "hinge-tree" shelters work great for bass and bream.

Mega mats are another type of fish shelter - they are horizontal fish shelters built on mud flats, and when the lake level is low the mud flat is exposed, allowing grass to grow around the shelter, providing more habitats when the lake levels are up.

To further assist with fish habitat, in 2008 students in the agricultural department at Center Point High School agreed to build crappie condos for all three Corps' Arkansas lakes. These "condos" are bamboo structures built with a five-gallon bucket of concrete as a base. In 2009, three additional schools joined in the project, producing more than 380 crappie condos.



Park ranger Jake Williams prepares crappie condos for placement in DeGray Lake.

(Continued on page 22)

(Concluded from page 21, Shelters for fish habitat big concern at Arkansas lakes)

During the past two years more than 600 crappie condos have been added to the three Arkansas lakes. In all, these students have donated about 1,000 hours to preserving and enhancing fish habitat which significantly improves the fishing opportunities for lake visitors. Students in other natural resource classes

have become interested in participating with the building of fish habitat shelters, two or three more schools are expected to participate this year. The Arkansas Black Bass Coalition also assists in placing several types of fish habitat shelters in the lakes.

Due to all of these efforts by lake personnel and the dedicated volunteers, native aquatic life is in good hands at the Corps' Arkansas lakes. ◀

Fish habitat days held at Arkabutla and Grenada lakes

By **Kavanaugh Breazeale**
Photo courtesy of Arkabutla Lake

Each year citizens around Arkabutla and Grenada lakes place expended Christmas trees and stake beds in the bottom of the lake to create and improve habitat and natural resources for the fish and aquatic life. Corps personnel and Mississippi Department of Wildlife, Fisheries and Parks biologists instructed volunteers on the proper construction and placement of fish shelters.

Wearing proper attire and using proper equipment such as fence post drivers, hammers and shovels, volunteers placed the fish habitat structures in muddy conditions.

Volunteers were authorized to use their all terrain vehicles (ATVs) to haul the expended Christmas trees and stakes to each designated location on the lake floor. Use of an ATV was restricted to one person per ATV and the operators were required to wear an approved Department of Transportation protective helmet.

“It is an excellent opportunity for fishermen to improve their knowledge of the fishing structures at the lakes,” stated Chris Terry, park ranger. ◀



Rob Hoff places stakes at Grenada Lake for fish habitat.

Removing tires along DeGray Lake shoreline is tedious process

By Renea Guin

Photos by Ron Austin and Renea Guin



Park rangers Renea Guin and Jeffrey Arthur bring more tires to be washed



Park rangers Steve Rodgers and Jake Williams collect more tires



Tires staged for washing

Over the past 40 years DeGray Lake has amassed about 1700 tires along its shoreline. These tires are the result of individuals bringing tires to DeGray Lake to utilize them as boat stop protectors along the shoreline when mooring boats. This is not a good thing - tires are considered hazardous waste.

As water levels fluctuate throughout the year the number of tires increases according to this fluctuation. Human nature is not to move the tires with the water level but to bring another tire for the new placement, which causes the large number of tires around the shoreline.

Visitors to DeGray Lake have occasionally collected five or six tires here and there for removal and have commented on how badly the tires affect our shoreline's appearance. This year the low water

level provided ample opportunity to collect the tires. DeGray Lake has received permission to waive the environmental waste disposal fee from the Arkansas Department of Environmental Quality. A local rubber company has provided the rental of a tire trailer plus hauling fees to transport the tires to their waste disposal facility in Little Rock. Each trailer holds 400-500 tires, depending on the size of the tires.

Since most of the tires being collected have been buried in mud and rocks for some time, these tires need washing out, thus adding to the process. The rubber company cannot effectively cut tires if they are full of mud and rock; it will dull and break their knives at the plant.

Since the week of December 6th park rangers have collected

1283 tires that have been hauled to the waste management facility. It takes four rangers all day to collect, wash, and load 70-250 tires depending on the condition of the tires. This process requires a pressure washer, portable size fire suppression tank, lots of gloves (rubber, leather or cloth), a Polaris Ranger, rope, winch, and lots of back-breaking work.

Park ranger Guin stated, "We have had a few volunteers to assist with this effort including the Bismarck Future Farmers of America students. Although I'm not sure they enjoyed the event they were impressed with the enormity of the process. They all had fun; it was something new and impressive, and a worthwhile cause. ◀"

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Sardis Lake (662) 563-4531
Arkabutla Lake (662) 562-6251
Enid Lake (662) 563-4571
Grenada Lake (662) 226-6391
Bayou Bodcau (318) 322-6391
JBJ Waterway (318) 322-6391
Ouachita-Black Rivers (318) 322-6391

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Other Vicksburg Engineer/Federal Organizations

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Vicksburg National Military Park
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