

What's Inside?

DEQ and the city of Shreveport work to improve air quality

Volunteers from DEQ participate in canoe trip for McMains Children's Developmental Center

Air Field Services group's work is vital to air quality efforts

DEQ oversees water sampling of crawfish ponds in Acadia Parish

DEQ delivers Hurricane Resource Manuals to parishes for fourth year

Second Line Stages promotes environmentally friendly practices

DEQ hosts information booth at annual 'Greening Day' event at LSU

DEQ On The Move

Who's Who at DEQ?

If you would like to subscribe to Discover DEQ, send an email to sectcommunications@mail.la.gov

Know about your air quality! Sign up for EnviroFlash and receive air quality notifications by email or phone. Go to www.deq.louisiana.gov/ enviroflash.

Air Quality Awareness topic of media interviews

o you know that Louisiana's air quality is continually getting better? What do you know about the air quality? Governor Bobby Jindal proclaimed May Air Quality Awareness Month, and DEQ is promoting air quality awareness for all of Louisiana's citizens.

Why is it important to know what's in the air? Knowing the air quality can impact your activities and protect your health. By using the Air Quality Index (AQI) and/or signing up for EnviroFlash,



(Left to right) Lauren Lambert-Tompkins, co-coordinator of Louisiana Clean Fuels and Vivian Aucoin, DEQ senior scientist, get ready for an interview about Air Quality Awareness on the Jim Engster Show at Louisiana Radio Network.

the public can determine whether or not it might be a day for high ozone (O3). A high ozone day can affect people who are sensitive to ozone such as the elderly, children, people with respiratory illnesses such as asthma, and others. These people should take precautions on those days, such as curtailing outdoor activities and. Schools can take advantage of the school flag program to notify the students and their parents of that day's air quality levels. They have green, yellow, orange, red and purple flags to designate the air quality, and can fly the flag that applies.

This is the AQI:



Persons concerned about small children and people with cardio-pulmonary health problems (such as asthma) usually select to be notified when the air quality is predicted to be **UNHEALTHY FOR SENSITIVE GROUPS**. People who work or exercise strenuously may also select this category due to their increased deep respiration.

People who do not have heart or lung health risks and are not as concerned about air quality may prefer to only be notified when **UNHEALTHY** air is forecast for the general public.

Continued on page 2



But air quality awareness means so much more. It involves knowing how an individual contributes personally to the quality of the air. Air quality improvement not only depends on regulations but also on personal choices. Do you carpool when possible? Do you combine your errands so that your driving emits fewer pollutants? Do you fill up your tank and mow your grass in the early evening on a predicted poor air quality day? Do you park your car and walk into the restaurant or place of business rather than sitting in a drive-thru line and idling? Small things? Yes, but improving our air quality depends on all things, big and small.

How do our daily activities impact air quality? Here are a few examples:

• 20-30 percent of the fuel used to power 2-stroke carbureted engines never gets burned and is released directly into the air (examples: lawn mowers, weed eaters & many outboard motors). The fix? Trade in your old equipment and upgrade to a 4-stroke engine or purchase a commercial propane mower.



(Left to right) John Pastorek, WBRZ morning show anchor, interviews Vivian Aucoin, DEQ senior scientist, and Ann Shaneyfelt, executive director of Louisiana Clean Fuels, during Air Quality Awareness week.

• Ten seconds of idling uses more fuel than restarting your engine and restarting a car many times has little impact on engine components such as the battery and starter motor.

 Idling your car with the air conditioning on can increase emissions by 13 percent To see an image of the the governor's proclamation, visit the DEQ website, www.deq.louisiana.gov.

• Today's starters can handle more stopping and starting than older models. It's actually harder on your engine to idle it than it is to turn it off and restart it.

• The average car travels 12,500 miles a year and releases about 10,727 pounds of emissions. Pollution from a poorly maintained car is about 3 to 4 times that of a properly functioning car.

• Proper tire inflation can improve your gas mileage by 3.3 percent – the Department of Energy estimates that 3.56 million gallons of fuel is wasted each year in the U.S. due to improperly inflated / underinflated tires.

So being aware of the air quality can save your health, save you money and improve the environment.

EnviroFlash is an electronic information system designed to communicate environmental issues to the public. EnviroFlash is a partnership between the U.S. Environmental Protection Agency and the Louisiana Department of Environmental Quality and provides instant air quality information that citizens can customize for their own needs, allowing them to take steps that can protect the health of their family. It provides this information via e-mail or phone.

If you would like to sign up for EnviroFlash, DEQ's automatic free air quality notification system, go to www.deq.louisiana.gov/ enviroflash.



DEQ and the city of Shreveport work to improve air quality

n a beautiful spring day in Shreveport, Vivian Aucoin, DEQ senior scientist staff, gave the Shreveport Advance group an update on the air quality, and in particular, ozone in the state. The meeting was held at the Shreveport Chamber of Commerce and Aucoin told the group that the Environmental Protection Agency will be announcing a new ozone standard in October 2015. This new standard could put the Shreveport area out of attainment, she said. She complimented Shreveport on the voluntary proactive effort the city has made to reduce ozone emissions.

"You guys were first," Aucoin said. "Little things can add up."

The Advance Program is a collaborative effort between EPA, states, tribes and local governments. The program encourages expeditious emission reductions in ozone attainment areas to help these areas continue to meet the National Ambient Air Quality Standards (NAAQS) for ground level ozone as well as particulate matter PM2.5. The program goals include:



Vivian Aucoin, DEQ senior scientist staff, standing, explains ozone and its impact to students of the Evangel Christian Academy Christian Leadership Class.

1. Helping attainment areas reduce emissions in order to ensure continued health protection;

2. Assisting areas to be in a better position to remain in attainment

3. Efficiently directing resources toward actions to address ozone or PM2.5 problems quickly.

Another highlight of the meeting was the recognition of the Christian Leadership Class at Evangel Christian School in Shreveport. This group is participating in the EPA School Flags program.

The School Flag Program alerts schools to the local air quality forecast and helps them to take actions to protect students' health, especially those with asthma.

Each day the school raises a flag that corresponds with EPA's Air Quality Index (AQI): green, yellow, orange, red and purple.



Evangel Christian Academy, Christian Leadership Class students and their teacher, Stephanie Mason, attended the Advance Group meeting in Shreveport.

The class, made up of seventh and eighth grade students, has taken responsibility for the program as a service to the school and to the community.

"As part of leadership class, we (teach them) to lead the way with community service and with this program, we can give back to the school and the surrounding area," said Stephanie Mason, leadership class teacher at Evangel.

The students had to complete all of their work and meet goals before they could attend the meeting to be recognized.



Volunteers from DEQ participate in canoe trip for McMains Children's Developmental Center

n Saturday, May 2, the 16th Annual McMains Children's Developmental Center canoe trip at Tickfaw State Park in Livingston Parish was held.

The event kicked off at 11 a.m., and served more than 45 children, siblings and parents from McMains, a center in Baton Rouge that provides a variety of therapies to children. Many of the children attending the trip have cerebral palsy or other physical disabilities that make the prospect of riding in a canoe a seemingly rare opportunity. This event makes that opportunity a reality, and everyone benefits from a fun and unique day out in nature along the Tickfaw River.

"The children and their families have a great time and are appreciative of the opportunity to do something most of us take for granted," said Al Hindrichs, DEQ senior environmental scientist and co-organizer of the event with his wife, Anne. Anne is the Director of Programs and Services and longtime social worker at McMains.



Al Hindrichs, left, briefs volunteers at the start of the event.

Cody Westmoreland and his staff at Tickfaw State Park marked their 11th year as hosts for the event, providing the canoes, paddles, life jackets and tents. The major sponsor of the event is BASF, which provides volunteers and prepares a large jambalaya lunch with water and sodas for everyone. This year marked BASF's 15th time participating in the event. Thanks to Tickfaw and BASF, the event is free to all volunteers, children and their families.

Nearly 60 volunteers were in attendance, with more than a dozen employees and family members from DEQ serving as canoers and lifeguards, as well as helping to seat the children into the canoes and tracking the departing and returning canoes and kayaks. Other volunteers represented St. Joseph's Academy, Episcopal High School, East Ascension High School, St. Michael's High School, the Kiwanis Club, LSU, the Louisiana Oil Spill Coordinator's Office and the National Oceanographic and Atmospheric Association.

Each year, Hindrichs helps to put the word out for volunteers and keeps everyone up to date on scheduling and logistics. While weather conditions have postponed two previous canoeing events at the park, the event carries on each year – which typically falls on the first or second Saturday in May.

Fixed in the center of some of the canoes were canvas chairs designed by LSU engineering students that are specially designed and configured to comfortably accommodate the children. Other children were able to sit in the center seat or even on beanbags. Once the child is ready, volunteers and parents grab their paddles and the canoe is underway. Canoes are sent out one by one for a round-trip voyage in the park that lasts around 30 minutes.

Accompanying the canoers as they journeyed down the river were lifeguard-capable volunteers who served in four lifeguard boats, ready to lend a hand. They also guided canoers down the right path and alerted paddlers to any impediments along the waterway. As usual, the event went off without a hitch and everyone stayed dry. Every child got an opportunity to ride out in a canoe, and smiles were in abundance upon each canoe's return to the landing – making it another success for all involved.





"I'm always grateful to the many volunteers and organizations that make this trip possible for the children and their families," Hindrichs said.

"Without the volunteers, the trip would not be possible. It gives the families an opportunity to explore a part of Louisiana in a way they may not have thought possible."

New volunteers are always welcome, so if you would like to participate in next year's event, or would like more information, please contact Al Hindrichs at Al.Hindrichs@la.gov.

Volunteers secure a child from McMains into a canoe during the event.

Air Field Services group's work is vital to air quality efforts

ike many large agencies, DEQ is not one thing but many. It is a sum of its parts. One of the parts that may go unnoticed by the public is Air Field Services. That's because much of the group is located not in the imposing Galvez Building in Capitol Park, but in a couple of rooms and a warehouse tucked away in the Louisiana Agriculture and Forestry Building on Florida Boulevard a couple of miles east of downtown Baton Rouge.

The name is a bit deceptive too. Air Field Services has nothing to do with airfields or airplanes, but everything to do with air sampling out in the field. Bob Bailey, environmental scientist manager, oversees Air Field Services which comprises four different shops, including two at Florida Boulevard, Air Toxics and PAMS monitoring (Photochemical Assessment Monitoring Stations).

"They do the PAMS monitoring which are the SUMMA canisters. Associated with that, they've got the 55C, which is a methane, non-methane hydrocarbon analyzer," Bailey said. The analyzer is very sensitive and can reliably measure very low (sub parts per million) concentration of non-methane hydrocarbons even when larger quantities of methane are present. The field testers use the data to determine if further sampling is needed. "That's their trigger for strike canisters," Bailey said.

Inside the crowded work room of the PAMS monitoring group, shelves are stacked with boxy metal electronics gear and tables are laden with valves, gauges, electronics gear and, everywhere, shiny nickel chromium oxide-plated spheres of SUMMA canisters. Tubes and wire spiral out of equipment and an array of red fire extinguishers stands watch beneath a table that is home to a computer, more gauges and gleaming canisters.

Environmental Scientist Supervisor Glen Jenkins runs the PAMS monitoring group. "We use our canisters to collect air samples at different monitoring sites. They're also used out in the field to conduct grab samples," Jenkins said. He said the group processes around 48 to 50 canisters a week in normal weeks. The canisters are sent to a lab where the contents are "evacuated" and analyzed. The canisters are then are readied for use again and sent back to DEQ. The Florida Boulevard shop sends them out to all DEQ air samplers across the state. Bailey said the group does all the ozone samples as well. That means the group may handle up to 500 canisters a month during the hot, hazy summer month, Jenkins said.

Continued on page 6



DEQ's Mobile Air Monitoring Laboratory (MAML) also operates out of the PAMS monitoring group, Jenkins said. DEQ Environmental Scientist Dave Wagenecht splits time between the Florida Boulevard location and the Galvez Building. He's a permanent MAML staffer. "Currently, the only MAML-only people are me and Randy Creighton (inspections)," Wagenecht said. "Randy is a master with the mass spec(trometer). Of course, we get supporting help from Glenn and some of these other people." By subjecting samples to electron bombardment with the mass spectrometer, the molecules of the substance are ionized and the ratio of the mass to charge given off by the ions can be measured. That result can identify a substance.

Bailey pointed out that the people who service DEQ's fixed air monitors (statewide system) also work out of Air Field Services. "They do all the ozone," he said. The data from the monitors is processed and posted to the DEQ website by the people in Air Data Analysis, also part of the Air Field Services Florida Boulevard location, Bailey said.



A wide variety of equipment populates the workroom at the Air Field Services office on Florida Boulevard in Baton Rouge.

Air Field Services personnel include: Air Toxics PAMS Monitoring (ATPM) -- Glen Jenkins, environmental scientist supervisor; Connie Payne, environmental scientist 3; Kandace Causey, environmental scientist 3; William Felicien, environmental scientist 3; David Wagenecht, environmental scientist 3; Site Operators Group (Baton Rouge) -- Shannon Saunier, environmental scientist supervisor; Remy Boudreaux, environmental scientist 3; Cory Parent, environmental scientist 3; Jana Orillion, environmental scientist 3; Steve Murrell, DCLA; Air Data Analysis -- Doug Wafer, engineer 5; Camilla Tao, chemical specialist advanced; David Liu, environmental scientist 3; Joe Ware, environmental scientist 1; Hien Tran, Environmental Chemical Specialist 2; and Jennifer Zimmer, DCLA. Air Field Services personnel working out of regional offices are Mary Arnold, environmental scientist 3 in Lake Charles; Peter Cazeaux, environmental scientist 3 in New Orleans; Rebecca Genter, environmental scientist 3 in New Orleans; Kim D. Winters, environmental scientist 3 in New Orleans; Troy Joel Harris, environmental scientist 3 in Shreveport.

DEQ oversees water sampling of crawfish ponds in Acadia Parish

hy would DEQ be inspecting and sampling crawfish ponds? How does that fall under their purvue? Because one of the functions of DEQ is to oversee water and soil monitoring by contractors working at sites that have been environmentally impacted through some event – be it natural or man-made.

When hazardous, potentially hazardous materials or solid waste is believed to have affected a site, the responsible party (which is typically the owner or operator of the site), is responsible for the cleanup. The responsible party will then choose to handle the cleanup personally or hire an environmental consulting firm to evaluate the potential impact to the site or perform corrective action. In either case, DEQ will assign an environmental scientist to oversee the project.



A track-mounted boring device collects samples next to a crawfish retention pond in Acadia Parish as DEQ Environmental Scientist Terry Svivester. left. confers with a contractor

Continued on page 7



"DEQ's role is to oversee the consultant's and contractor's work to ensure it meets the risk evaluation and corrective action program (RECAP) requirements," said Terry Sylvester, environmental scientist based in DEQ's Southwest Regional Office. "We are responsible for confirming that quality control is being followed, and that the collection and chain of custody of the samples follows the procedures, ensuring that that the integrity of the samples is not compromised."

Recently, DEQ oversaw a sampling effort at four crawfish containment ponds located in a rural area in Acadia Parish.

The remediation effort was prompted by the breach of a section of buried pipeline at the site which is leased to both an oil company and a private farmer; the breach allowed produced water to flow into the containment ponds.



During the sampling process, contractors use a drill that has a bentonite seal between outer drill case and the inner drill hole. This keeps pond water from entering the aquifer or compromising the sample.

After DEQ's Single Point of Contact group (SPOC) was contacted about the breach, a site visit was made to determine the extent of the potential impact to the soil and/or groundwater. After DEQ's inspection, the Remediation Services Division began the risk evaluation phase and will provide oversight throughout any required cleanup process. The responsible party hired a contractor to conduct sampling, and the initial sampling period began in late March.

In this case, immediately after the breach occurred, the pipeline owner placed absorbent pads to contain the spread of oil, and the oil and chloride produced water in the ponds were vacuumed out. A sampling plan was then launched in order to determine the depth of the line breach and the extent of the contamination.

A track-mounted boring device collects samples next to a crawfish retention pond in Acadia Parish as DEQ Environmental Scientist Terry Sylvester, left, confers with a contractor

Sylvester noted that the presence of chemicals such as chloride and total petroleum hydrocarbons are of particular concern. "One of our goals is to determine how widespread the impact is, and if the soil and/or groundwater has been impacted. We will then determine a course of action in order to identify and remove any contamination in order to bring the site back up to compliance."

During the sampling process, contractors use a drill that has a bentonite seal between outer drill case and the inner drill hole. This keeps pond water from entering the aquifer or compromising the sample.

At this site, Cardno ATC, a sampling contractor based out of Alabama, used a photoionization detector in order to gather readings on selected soil samples to determine whether hydrocarbons are present. If so, those findings will be recorded, the site will be marked for further investigation and additional sampling will take place.

The contractor also uses a boring device known as a geoprobe that is mounted on a tracked marsh buggy. The geoprobe uses direct push technology, which facilitates ease of sampling by allowing the device to reach an appropriate depth.

Several sites inside the ponds and along the adjacent levees in between the ponds have been sampled.



Samples will go to a laboratory which will analyze the samples, sign and verify the results. The responsible party will provide a report to DEQ with recommendations. "From that point, we will determine whether groundwater monitoring, additional sampling or other corrective action will be required," said Sylvester.

If crawfish in the ponds are believed to be impacted and are being harvested or sold, DEQ will contact the Louisiana Department of Health and Hospitals (DHH), the agency that oversees human health concerns related to environmental contamination. The site may then be transferred to DHH, who will investigate the matter and make a determination about whether the crawfish meet health standards.

DEQ delivers Hurricane Resource Manuals to parishes for fourth year

hen a natural disaster, such as a hurricane, hits Louisiana it is important to be prepared. Helping the parishes comply with environmental regulations, especially in an emergency situation, is an important function for the staff at DEQ. The DEQ Small Business Assistance Group has been on the road delivering Hurricane Resource Manuals to the parishes in the Capital Region. DEQ personnel are delivering these books to all 64 parishes in Louisiana. The books are hard copies of information, also available on the DEQ website, for use in emergencies, especially if there is no power. They contain information pertaining to hurricane/emergency recovery assistance as it relates to permitting, debris collection and environmental cleanup resources. This is the fourth year DEQ has compiled the manual for the parishes.

The manual is hand-delivered to parish emergency response officials by DEQ representatives in an effort to assist parish officials in following environmental regulations during emergency situations and to help them speed up the recovery process. The manual is delivered to each office so there will be information handy to local officials should the power or Internet access go out.

The manual contains vital information such as:

- DEQ Primary Contact Information
- Parish Liaison Call sheet
- Parish Homeland Security Contacts
- Pre-Approved Debris Sites
- Comprehensive Plan for Disaster Clean-up and Debris Management
- Flood Re-Entry Fact Sheet
- Air Permitting Documents
- Regional Office Listing
- Solid Waste Contacts
- Water Permits Contacts
- Web page Information

These manuals are part of DEQ's continuing commitment to its citizens, human health and the environment. All parishes receive a manual with instructions for its use. Information is updated annually. The current Hurricane Resource Manual is also available on the DEQ website at: www.deq.louisiana.gov/portal/ NEWS/HurricanePreparedness/ParishResourceBook.aspx.





Second Line Stages promotes environmentally friendly practices

s rising building costs abound and consumers become more ecologically conscious, new building construction has begun to take on a more environmentally friendly form across the world. Many builders and building owners have started to look at long-term paths to energy and water savings as they lay down the blueprints for new construction.

LEED, or Leadership in Energy and Environmental Design, is a standard set by the U.S. Green Building Council (USGBC), which recognizes environmentally-sound practices and applies a ranking to a project that meets certain criteria.

Covering two city blocks in New Orleans' Warehouse District, Second Line Stages is a fine example of that endeavor.

To achieve a LEED certification, applicants submit an evaluation fee to the USGBC, who assess and assign points to each environmentallyconscious building practice utilized in the project's construction. The USGBC tallies the points and awards one of four rankings: basic certification, silver, gold or platinum.

Gold status was awarded to Second Line after the campus was completed in the spring of 2010.

The ranking provides benefits such as possible tax rebates, the maintenance of higher property values and overall operational cost savings. According to the USBGC, LEED-certified projects see up to a 40 percent reduction in their water and energy bills.



Second Line Stages is a LEED Gold designated facility.

The location at 800 Richard St. in New Orleans was built as a foundry in the early 1900s, and became the site of the Toye Cab Company until ceasing operations in the 1980s. Susan Brennan purchased and developed the vacant property in the late 1990s and hired U.S. Risk Management, LLC to evaluate the site for environmental concerns. Under DEQ's guidance, three underground storage tanks and hydraulic lifts were removed, and soil remediation was undertaken to eradicate any potential or existing contamination as part of the site's designation as a Brownsfields redevelopment site. Cleared for reuse in 2009, the site converted into a film and TV production location, anchored by the main building and three stages.

The company supplies stage set materials and rents space to film studios and production companies. Major motion pictures such as "The Green Lantern," "Django Unchained" and "21 Jump Street" were filmed at the complex, including several TV and film productions.

As for Second Line's operations, ecological practices are used throughout. According to their website, more than 75 percent of the building's existing exterior walls and structural elements are composed of recycled material.



"The 'Green Project,' (a New Orleans-based organization) comes in and removes discarded materials such as steel, cable and wood for recycling and reuse," said Trey Burvant, co-founder of Second Line. "Approximately 30 yards of waste from dumpsters have been diverted from landfills so far."

"We promote sustainability and green practices such as recycling and food composting across the campus," said Brennan. "We also built the interior spaces using recycled materials. Recycled aluminum comprises the lobby walls, recycled carpet and concrete with aggregate material make up our floors, and recycled wood from discarded beams has been used to build many of the desks here – including the reception desk in the lobby."

For more information, call Second Line at (504) 528-3050, or visit: http://secondlinestages.com/sustainability/what's-green-about-us.

For more information on LEED, visit: www.usgbc.org/ DisplayPage.aspx.

DEQ hosts information booth at annual 'Greening Day' event at LSU

EQ was on hand to share information at Louisiana State University's 6th annual "Greening Day" event held on the campus. Tied into the Earth Day celebration, the event is hosted by LSU Landscape Services and LSU Campus Life.

Students, staff and faculty volunteers participate in beautification projects such as tree planting and gardening. Concurrent with those endeavors was the sustainability expo, where various organizations, businesses and groups set up shop and provided sustainability information to the students, faculty, staff and guests.

This year's Greening Day was held from 11 a.m. until 1 p.m. in Free Speech Alley next to the LSU Student Union. Other participating

Second Line – By Design

- Recycling bins in place throughout the complex
- Low-emitting adhesives, sealants, composite wood and paint are used for production design projects
- Energy-efficient lighting and air-conditioning systems
- Low-flow plumbing fixtures have reduced water use by up to 30 percent
- Promotion of a battery recycling program and widespread use of rechargeable batteries
- Reducing vehicle emissions through preferred parking for fuel-efficient autos, and bicycle racks and showers promote cycling over driving
- Recycling bins in place throughout the complex
- Energy-efficient lighting and air-conditioning systems
- Low-flow plumbing fixtures have reduced water use by up to 30 percent
- Promotion of a battery recycling program and widespread use of rechargeable batteries
- Reducing vehicle emissions through preferred parking for fuel-efficient autos, and bicycle racks and showers promote cycling over driving



Environmental Scientists Karen Latuso (left) and Kori Blitch (right) answer questions from LSU students at DEQ's information booth.

organizations included Louisiana Clean Fuels, Gulf South Solar and Bigbelly, a waste and recycling company focusing on eco-friendly practices through state-of-the-art operations.

Students, faculty and staff on the LSU campus stopped by the DEQ booth to inquire about current environmental issues and to learn more about DEQ's mission.

"DEQ is proud to participate in this event as it provides LSU students, faculty and staff an opportunity to learn about the agency and the work that we do to support sustainability," said Greg Waldron, DEQ Environmental Scientist.



DEQ On The Move



Al Hindrichs, DEQ environmental scientist senior (left), oversees members of the Harry Hurst Middle School Wetland Watchers, as they demonstrate Walnut Bayou, a river demonstration, for middle school students at the Wetland Watcher's Celebration in Bonne Carre.



Linda Hardy (left) and Marissa Jimenez (right), DEQ environmental scientists, demonstrate the Enviroscape model at the Pontchartrain Earth and Science Day.



Rhyshima Parms-Green, DEQ environmental scientist in the Nonpoint Source Pollution Group, and helper, A'Brianna Francois, demonstrate the Enviroscape model at DEQ's booth during Earth Day.



Who's Who At DEQ?



Evan S. Bordes – Administrative Program Manager for Customer and General Services, Office of Management and Finance

Bordes is a native New Orleanian who was raised in Metairie. He lived in Atlanta and Florida before returning to Louisiana after Hurricane Katrina to help his aunt and cousins rebuild their homes.

Bordes graduated from the University of New Orleans with a B.A. after attending high school at Clifton L. Ganus in New Orleans. Before joining DEQ he worked for St. Martin's Episcopal School in Metairie as the bookstore manager, football and baseball coach.

Bordes lives in Denham Springs with his wife Sonyia and five rescued dogs. He has a grandson, Kaleb.

Zheng "Karen" Xu – Water Permits Department, Office of Environmental Services

Xu holds a PhD degree from Tianjin University in China in Chemical Engineering and worked at the University of Notre Dame as a Postdoctoral Research Associate.

She joined the DEQ Water Permits Division as an Environmental Chemical Scientist working in Water Quality Modeling Assessment, the Total Maximum Daily Load (TMDL) group.

Xu is a member of the American Chemistry Society and the American Association for the Advancement of Science. She has had numerous papers published as the primary author.





Louisiana Department Of Environmental Quality's 1st Quarter Summaries

1st Quarter 2015 Enforcement Actions: http://www.deq.louisiana.gov/portal/DIVISIONS/Enforcement/EnforcementActions.aspx

1st Quarter 2015 Settlement Agreements: http://www.deq.louisiana.gov/portal/DIVISIONS/Enforcement/SettlementAgreements.aspx

> 1st Quarter 2015 Air Permits: http://www.deq.louisiana.gov/portal/tabid/2922/Default.aspx

> 1st Quarter 2015 Water Permits: http://www.deq.louisiana.gov/portal/tabid/2899/Default.aspx

1st Quarter 2015 Solid and Hazardous Waste Permits: http://www.deq.louisiana.gov/portal/divisions/wastepermits.aspx