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LDEQ utilizes electrofishing to support multi-agency mercury initiative

f you are an avid fisherman in Louisiana, be on the lookout for the Louisiana Department of Environmental Quality's (LDEQ) Mercury Initiative team and one of the department's electrofishing boats. Not only is the boat a sight to behold in and of itself, but these guys also know all the best fishing holes. The Mercury Initiative is a multi-agency initiative. LDEQ's role in the program is to sample fish all over the state and to monitor the mercury levels in the most widely consumed fish. LDEQ's Water

Surveys Mercury team is tasked with the sampling and data collection for the ongoing monitoring efforts. They sample around 100 locations throughout the state each year. They are assigned global positioning system (GPS) coordinates at each location, and the samples are taken within a five-mile radius of the set coordinates.

Over the years of the program, LDEQ has collected fish tissue and related mercury data for over 500 locations statewide. Some sites have periodic data going back to 1994. This data is available by accessing the Louisiana Environmental Assessment Utility (LEAU) Web Portal and, most recently, the LDEQ Water Data Portal.

The initiative targets species most widely consumed by the public, including largemouth bass, channel catfish, blue catfish, flathead catfish, freshwater drum, crappie, panfish and bowfin. The aim is to collect as many fish of each of the species as they can. "An ideal catch is

The electrode array (or umbrella) sends an electric charge into the water shocking the fish in the vicinity. The stunned fish float to the surface and are collected with a net. The fish are only momentarily shocked and often swim off within seconds of being stunned if they are not a species being collected.

25-440 fish. Sometimes we'll come back with around 40 if we are lucky. We are at the mercy of what's 'biting' at the time," Environmental Scientist Supervisor Guy Lafleur said. Each species sample will consist of different size classes with at least three fish of the same species and size in each composite. Generally, the team will collect a total of five to 12 sample composites at each water body or sample site.

The team underwent specialized electrofishing training in Vancouver, Wash., to learn to operate the new 18.5-foot electrofishing boat. The boat is equipped with a generator, electrodes, electrode arrays and booms to fish in those hard-to-reach



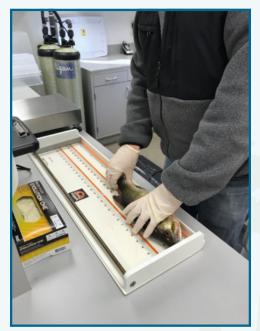
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The team looks for largemouth bass, channel catfish, blue catfish, flathead catfish, freshwater drum, panfish, crappie and bowfin in different size categories for sampling. If it is not a commonly consumed species, it is returned to the water.



The samples are taken back to the LDEQ workshop where they are measured, weighed and cleaned for tissue collection. The tissue collected is then sent to the lab at the University of Louisiana Monroe for data collection.

habitats. It can effectively shock fish up to 10 yards out and up to eight feet deep. The voltage is controlled by foot switches in the bow and operator's console. One switch will not work alone. Both the technician manning the bow and the boat operator must be hitting the switch simultaneously for them to work. This is a builtin safety mechanism to ensure the team is always kept safe.

Once the samples are collected, they are sent to the lab at the University of Louisiana Monroe. The data obtained from the samples are then turned over to the Louisiana Department of Health (LDH) to possibly issue fish consumption advisories that help ensure the safe enjoyment of Louisiana's water resources. The Louisiana Department of Wildlife and Fisheries (LDWF), and the Louisiana Department of Agriculture and Forestry (LDAF) are also consulted during the course of advisory development and dissemination. Advisories are also published in LDWF's annual fishing regulations. However, because this is produced once a year, it is likely that new advisories have been established following the release of the regulations. All of the water bodies with average fish mercury concentrations of 0.5 Parts per Million (PPM) or above are either under an advisory or are being further evaluated for a possible advisory.

The presence of an advisory on a water body does not necessarily indicate that no one should eat any of the fish taken from that water body. Rather, it means that some precautions should be taken regarding the type of fish consumed or the segment of the population you are in (for example pregnant or not; adult or child under 7). Additionally, all mercury advisories apply only to fish consumption, so you will not be exposed to mercury by swimming in a mercury advisory area.

Mercury, a naturally occurring element, is mined and used in numerous household products, dental fillings, industrial processes, and is also a trace element in fossil fuels (primarily coal). Although there are many potential sources, the greatest human-made source of mercury in water appears to be emissions from coal-fired electric plants. Mercury released into the air can travel long distances and then be deposited into streams and lakes through rain, fog, sleet or snow, making it nearly impossible to pinpoint sources of contamination. In addition to these human-made sources of mercury, natural sources of mercury are known to occur as well. These include, but are not limited to, mercury leaching or vaporization from bedrock and active/inactive mercury mines. Regardless of the source, all mercury emissions are being evaluated and reduced or eliminated where possible.

Mercury has become common in Louisiana's environment, which presents a challenge. However, even those water bodies currently under advisory are capable of supporting sport fishing and fish consumption. Be aware of the potential threat and practice safety precautions in areas under an advisory. If you see LDEQ's Mercury Initiative team out and about, remember it doesn't necessarily mean that water body is under advisory, but you can bet they can tell you where the fish are biting.



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Message from the Secretary Chuck Carr Brown, Ph.D.

We have nearly reached the end of 2018. We have passed Christmas. I hope all of you had a great holiday. I was able to drop in on a few holiday parties around the agency in the past week or so, and I can honestly say that everyone here had lots of Christmas spirit. I enjoyed seeing everyone I got to see and hope to see more of you in the New Year.

This is my last secretary's message of the year, and it is appropriate for me to look back on some of our successes from the past 12 months:

- · As of now, we are in compliance for all of EPA's criteria air pollutants except SO2, and that is in only one parish.
- · We are well on our way to establishing water quality trading where reductions to discharges can be quantified for credits that can be traded or sold.
- · We have received the Alternative Fuels Corridor designation for all Louisiana sections of interstates 10, 12, 20 and 49. We'll be putting up signage soon.
- The Volkswagen settlement awards are approved and awaiting final paperwork.
- The first two fast charging stations built in Louisiana under the corollary to the VW Settlement, Electrify America, are open for business on I-10 near Vinton and Breaux Bridge. Another station will open soon in Hammond.
- We implemented the use of unmanned aircraft. We are using them in emergency response applications and will be looking at uses in assessment and surveillance.
- · We were successful in getting EPA to end the summer blend gasoline requirement for the last 16 parishes. No more special blends are required in Louisiana. That's a gain for consumers and refiners.
- · We have done outreach events for air quality, permitting and other hot topics. Staff have attended EPA seminars on Environmental Justice and community involvement. We will continue to actively engage our stakeholders.
- · We added new members to our Environmental Leadership Program and continued to recognize contributions by agencies, industry and individuals who work to make the environment cleaner.
- · We pushed for litter abatement and recycling. Working with Keep Louisiana Beautiful, we participated litter pick-up events and beach sweeps to stimulate citizen involvement.

These are just a few of the highlights. I'll have the communications section come up with a more comprehensive list in January. But one thing I don't want to overlook is the generosity of LDEQ employees when it comes to giving to feed the hungry or donating blood or offering a hand-up to a needy co-worker. There are some big hearts here at the agency, and it makes me proud. We will continue our charity efforts in 2019, and I know we'll respond in a generous way again.

So, congratulations on a good year and a job well done. Thank you. We start 2019 now with the New Year holiday. Be careful as you party and ring in the New Year. You've got a full agenda coming in the next 12 months, so be safe and be ready.



"As I visited with General Counsel Herman Robinson at the Legal Section Christmas Party, I noticed that he has good taste in Christmas attire." Dr. Brown noted.



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LDEQ presents sewage treatment system maintenance classes in Lafourche Parish

ccording to the Louisiana Department of Health, approximately 500,000 on-site wastewater systems have been permitted in Louisiana since 1980. That equates to a total volume of 150 million gallons of wastewater per day. That's enough to fill a 154acre lake a day.

If a septic system is not properly maintained, it could be a risk to a family's health, hurting the environment and flushing thousands of dollars down the drain. That's why LDEQ's Aguifer Evaluation and Protection Team took to Lafourche Parish Dec. 10 and 11 to present free classes to the public on how to maintain sewage treatment systems. These classes were held in a specific effort to protect Bayou Lafourche from receiving improperly treated sewage. Periodically, the agency holds classes like these across the state in communities that can benefit from the information.

The information presented by the team is geared toward homeowners and owners/operators of on-site sewage treatment systems. The goal is to help citizens avoid unsanitary conditions impacting their home or business. The LDEQ team shows class attendees how they can do that by engaging in proper and periodic maintenance of their sewage systems. It may not seem like it, but sewage system maintenance impacts more than just the homeowner.

LDEQ's Aquifer Evaluation and Protection Team's role is to test sample locations and identify hotspots where untreated sewage may be impacting public water bodies. They look specifically for the introduction of fecal matter. While the team's findings may not be enough to affect drinking water, it may be affecting local wildlife, or fecal counts may be high enough to surpass standards such as the swimming standard. LDEQ reports their findings to many other state agencies so that appropriate action can be taken. The team also looks for funding to help replace failing systems in high impact areas, performs additional inspections, helps with repair and replacement projects and offers public education opportunities such as these classes.



LDEQ Geologist, Jesse Means, presenting on the impacts untreated sewage is having on Bayou Lafourche.



LDH Parish Sanitarian Manager, Lauren Comeaux, discussing the application process for a wastewater system permit.

The core of LDEQ's efforts is prevention. A lot of these issues can be prevented with education and the proper maintenance of sewage systems. "Think of the maintenance of your sewage system just like you would the maintenance of your car," LDEQ Geologist Jesse Means said. To learn more about the maintenance of your system, visit https://www.epa.gov/septic/ septicsmart-homeowners.



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Benefits of maintaining your sewage system:

Reduces odor, backups, and standing wastewater above drain fields

Better environmental conditions benefiting both fish and wildlife and human health

Removal of untreated sewage from ditches increasing the quality of life

Maintenance vs. repair cost

Self-management vs. enforcement (public health issue)

Partners in the Lafourche Parish education effort include the Barataria-Terrebonne National Estuary Program, the Louisiana Department of Health, The Louisiana Rural Water Association and Nicholls State University.

For more information on the class, contact Jesse Means, LDEQ Geologist - (225) 219-1827, jesse.means@la.gov or Rusty Reeves, LRWA Deputy Director - (337) 738-2896, *rustree@centurytel.net*.

Inspecting radiation-emitting devices: An interesting component of LDEQ's oversight



LDEQ Environmental Scientist Jennifer Elee tests the operational functionality of a wall-mounted X-ray unit at a dental office in Ouachita Parish.

uring a medical or dental appointment, a person may receive a CAT (CT) scan, radiography, fluoroscopy, mammogram or dental X-ray. These tests are all performed by radiation-emitting machines that are inspected by the Louisiana Department of Environmental Quality (LDEQ) on a frequent basis.

Jennifer Elee, an environmental scientist based in LDEQ's Northeast Regional Office located in West Monroe, is one of four MQSA (Mammography Quality Standards Act) certified inspectors with LDEQ. To be an MQSA certified inspector is to be credentialed and qualified to conduct mammography inspections. There are only 12 inspectors across the state qualified to conduct CT, radiography, fluoroscopy and dental inspections.

On a rotating schedule, Elee and her colleagues will visit medical centers, doctor's offices, dental offices and clinics across the state that use X-ray machines – be it for mammography, dental X-rays (such as the standard "bite-wings"), plus the broader panoramic

X-rays. The ultimate goal is to ensure the machines meet environmental health and safety regulations and that the images and imaging reports accurately depict the proper operation of the device(s).

The inspections are generally unannounced or are scheduled with as little advance notice as possible to confirm that a technician will be present and that the time of the visit reflects a typical day. The inspection begins before the inspector sets foot in the office when he or she conducts a document review of the past X-ray inspection records for the clinic or office in question. The inspector will then check the documentation on file at the clinic/office upon arrival.



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Duisiana department of environmental quality newsletter

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MAMMOGRAPHY INSPECTIONS

In order to maintain MQSA certification, LDEQ inspectors must conduct at least 12 mammography inspections a year, while supervising physicians overseeing mammography operations must read an average of 40 X-ray exams a month. Additionally, LDEQ certified inspectors and any radiologists and radiographers actively working with the units must have at least 15 hours of continuing education in radiation-emitting products and safety within the last three years.

The Food and Drug Administration (FDA), the federal agency responsible for regulating radiation-emitting imaging devices, will audit LDEQ's inspections within the radiation emitting device universe at least once a year. During the audit, an FDA representative will accompany an LDEQ inspector on a few mammography device inspections to observe, critique and comment as needed.

Key things for the inspector to examine are the technician's quality control reports per the manufacturer's recommendations pertaining to the device. The number of exams conducted during a certain time frame will also be reviewed, and the inspector will ask questions



Elee looks at a sample mammography image for contrast during the inspection of a unit at a hospital. Milliampere measurements and the kilovoltage penetrating power diagnostics for the unit must meet the radiation exposure time requirements under the FDA guidelines. The test image must indicate that the device is accurately picking up the various types of calcifications, masses and other common anomalies found in breast tissue.

regarding any unusable/inaccurate images that may have been returned for further evaluation, along with the result of those outcomes. Images that identify the presence of cancer are to be placed into reports that will be reviewed as well, as it's important to identify any trends in imaging and/or trends in a particular physician's diagnosis. The objective is to confirm that the results and diagnoses are in line with what the imaging reports show while ensuring that the machines are performing up to federal and state codes, are meeting the health and safety regulations and are providing accurate images.

CT, RADIOGRAPHY, FLUOROSCOPY, DENTAL INSPECTIONS

With regard to all radiation-emitting devices, a certificate identifying that the device falls under regulatory guidelines must also be posted on a wall or be made available for review. Other appropriate signage required for CT scan and other units is a sign posted outside the room denoting a "radiation caution" advisory.

The highlight of the inspection, however, is when sample X-ray images are taken to verify proper operation. This is done by exposing an instrument called a Piranha RTI (Radiation to Information) X-ray meter. The Piranha (used in lieu of the specific body part being photographed) is placed on the platform, and the inspector administers an X-ray of it. This X-ray will capture technical data that can be used to determine the proper calibration of the machine's components. It also checks the linearity, which quantifies the accuracy of the image. "It's important for proper calibration of the X-ray device so that technicians have a way to set and judge the technique factors" that refer to the specific body part being examined, Elee said.

The machine must have a pull-down tape measurer to measure the SID, or Source to Image Distance, which is a set distance from the lens to the platform. This is also double-checked by the inspector using their own tape measure.

Calibration records are then reviewed for each X-ray device in the facility, and technique factors (denoting a patient's size against the proper adjustment needed to acquire an accurate image) must be clearly delineated so that the image will be

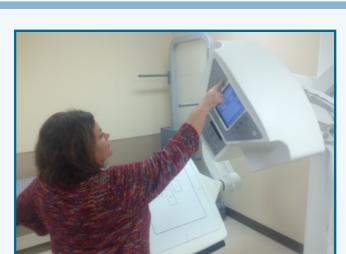


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DUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY NEWSLETTER

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During the inspection of a digital radiography unit at a clinic in Richland Parish, Elee tests the device's operational movement and functionality, conducts a source-to-image measurement to ensure that proper photographic ratios are in place, and takes a few sample X-rays to verify that the device is retrieving clear, accurate images within the standards set forth by the manufacturer.

reflective of a patient's body type, as measurements for a child, teenage and adult will vary.

In the event there are issues found with mammography machines, the FDA will oversee any follow-up. The LDEQ inspector is sent a copy of the facility's response and asked for concurrence, but the final decision lies with the FDA representative. For other X-ray devices in the state, most dental and medical facilities stay up to date and maintain their equipment. However, facilities with a problem usually have 30 days to correct any issues and respond to LDEQ. As with the other areas of oversight under LDEQ's purview, any party failing to comply with the regulations can be subject to an enforcement action should all reasonable measures to get the matter into compliance go unresolved.

During the inspection of a digital radiography unit at a clinic in Richland Parish, Elee tests the device's operational movement and functionality, conducts a source-to-image measurement to ensure that proper photographic ratios are in place, and takes a few sample X-rays to verify that the device is retrieving clear, accurate images within the standards set forth by the manufacturer.

One of the goals is to ensure that medical facilities and dentists are adhering to the "ALARA" concept, which means "As Low as Reasonably Achievable," so that the administered dosage is the lowest possible amount that will provide an accurate picture of the physiology. Once the devices have been tested for functionality and the records have been reviewed, the inspector will typically fill out a Field Interview Form, a copy of which the facility will sign and retain. The original goes into the Electronic Document Management System, or EDMS, where documentation pertaining to a facility is kept as a public record. For additional information about radiation informational resources, please visit: http://deq.louisiana.gov/resources/category/radiation-informational-resources.

LDEQ gives check to the Food Bank

his year, LDEQ employees participated in a drive to help the Baton Rouge Food Bank. According to the food bank, there has been a shortage of food, due to the many disasters in the U.S. LDEQ wanted to do as much as possible to fill the shelves up with non-perishable food.

Since October, LDEQ held various events, including the Halloween costume contest, popcorn sales, and held a "Fill-A-Plate" food drive that benefited the Greater Baton Rouge Food Bank. Thanks to the many charitable events and donations from LDEQ employees in the last several months, \$2,249 was donated to Greater Baton Rouge Food Bank this year. Secretary Dr. Chuck Carr Brown gave the check to Louisiana Food Bank Representative Charlene Montelaro on behalf of LDEQ.



Environmental Scientist Mia Townsel (Left) gave the Waste Permits
Division check for the Food Bank to Food Bank Representative
Charlene Montelaro with Secretary Dr. Chuck Brown.



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One division, led by Waste Permits Division Administrator Estuardo Silva, went the extra mile to give back to the Food Bank. The Waste Permits Division acquired their own bin, and held a competition to fill the bin up by Dec. 12. If they accomplished this goal, then the whole division would receive a pizza party.

With the leadership of Environmental Scientist Mia Townsel, Engineer Donelson Caffery, Hazardous Waste Permit Writer Perry Fontenot and Environmental Chemical Specialist Hoa-Van Nguyen, the Waste Permit Division achieved their goal, filled their "Fill-A-Plate" box filled with food, and held the pizza party on Dec. 19. Also, the Waste Permit Division gave a monetary donation of \$150 in addition to the Food Bank.



(L to R) LDEQ Engineer Donelson Caffery, LDEQ Environmental Scientist Mia Townsel, Louisiana Food Bank Representative Charlene Montelaro, LDEQ Hazardous Waste Permit Writer Perry Fontenot, and LDEQ Environmental Chemical Specialist Hoa Van Nguyen around a full "fill A Plate" box.



LDEQ employee Jamie Phillippe donates blood at the December blood drive.

LDEQ holds its December blood drive

he holiday season reminds people of the importance of giving back and helping others. The Blood Center at LDEQ hopes to share this same message with their annual blood drive.

Running twice a year, Chairwoman Minta Canelas and committee member Jillian Gautreaux, hosted the event for the employees at LDEQ to donate blood to The Blood Center. The goal was to have at least 20 employees donate blood each day, equating to enough blood to offer LDEQ employees blood assurance for an entire year.

If there is a need for blood for an employee, a family member or anyone who needs to receive blood, employees can donate blood in their name. When a blood donation is made for someone else, the Blood Center will send that person a monetary amount to be used as the person chooses. This was the case with Human Resources Specialist Gloria Robertson, whose brother needed blood donations

after enduring a tragic incident. In the August blood drive, some employees donated blood in her brother's name, and he received the credit for that donation.

During this year's blood drive, employees who donated were able to eat from the feast that was prepared for them. They also received a shirt from The Blood Center and were entered into a drawing for a chance to win a free movie rental at Red Box, free pickles as an appetizer at Walk-Ons, and free windshield wipers at Take 5 Oil Change with the purchase of an oil change for their vehicle.

The blood drive was a success, with the final tally coming in at 34 units over the two day event.



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LDEQ participates in Household Hazardous Materials Collection Day

ith a timely holiday spirit, LDEQ employees gave back by volunteering at the Household Hazardous Materials Collection Day (HHMC). Twentyone hundred cars were served.

On Dec. 15, thirty one LDEQ employees joined other volunteers at the Memorial Stadium to help East Baton Rouge Parish residents properly dispose of unwanted hazardous materials. These materials are items such as paint, electronics and chemicals that require special care when you dispose of them. Improper disposal of potentially hazardous substances can include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the regular trash. Improper disposal of these products can pollute the environment and pose a threat to human health.

The LDEQ volunteers' role in HHMC day is to staff the latex paint station. As donors drop off their paint, the volunteers mix the various paints together to create new colors and put them in five-gallon containers to be collected by Habitat for Humanity. Instead of ending up in a landfill, the paint is available for resale to the public at the Habitat for Humanity ReStore. Volunteers processed and mixed 179 5-gallon buckets of latex paint for the ReStore.

It is important that citizens recycle year-round and are always cognizant of the proper disposal of household hazardous materials. The holidays are an especially good time to practice proper disposal habits. While buying gifts this holiday season, instead of throwing out old items, collect them and donate them or recycle them.

The Environmental Protection Agency suggests following these quick tips for the safe handling of household hazardous materials (HHM):

- Follow any instructions for use and storage provided on product labels carefully to prevent any accidents at home.
- Be sure to read product labels for disposal directions to reduce the risk of products exploding, igniting, leaking, mixing with other chemicals, or posing other hazards on the way to a disposal facility.
- Never store hazardous products in food containers; keep them in their original containers and never remove labels. Corroding containers, however, require special handling. Call your local hazardous materials official or fire department for instructions.
- When leftovers remain, never mix HHM with other products. Incompatible products might react, ignite, or explode, and contaminated HHM might become unrecyclable.
- Remember, even empty containers of HHM can pose hazards because of the residual chemicals that might remain so handle them with care also.



The HHMCD served more than 2,100 vehicles, and 31 LDEQ volunteers created 179 buckets (5 gallons each) of recycled latex paint for donation to the Habitat for Humanity ReStore.

E-Waste:

Alarm clocks Cell phones Laptops

Digital cameras VCRs

Automotive Products:

Antifreeze

Air conditioning refrigerants

Motor oil

Starter fluids

Brake fluid

Cleaning Products:

Laundry bleach

Oven cleaners

Toilet cleaner

Shower cleaner

Wood polish



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LDEQ On The Move





Waste Permit Division Administrator Estuardo Silva challenged his division to fill their Food Bank box for the opportunity to win a pizza party. Not only did they fill their box and win the pizza party, they also raised \$150 in monetary donations.



LDEQ Senior Environmental Scientist Wayne Slater hosts an Enviroschool webinar on Spill Prevention Control & Countermeasure Plans (SPCC) and Spill Prevention Control Plans (SPC).

Christmas at LDEQ





Who's Who At LDEQ?



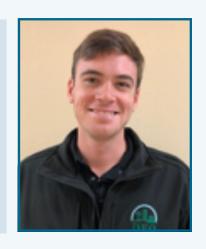
Hellena D. Williby - Environmental Project Specialist, Office of Environmental Services, **Water Permits Division**

Williby earned a Bachelor of Science degree in business management at Southern University A&M College and a master's degree - MBA/Public Administration at the University of Phoenix. She recently joined LDEQ's Water Permits Division after working at the Louisiana Department of Health since 1995.

Matthew W. Henry - Environmental Scientist, Northeast Regional Office, Office of Environmental Compliance, Surveillance Division (Water)

Henry was born and raised in Bossier City. He earned a Bachelor of Science degree in environmental science at Louisiana Tech University. Henry joined LDEQ in January 2018 hoping to make an environmental difference. He's based at the Northeast Regional Office.

Henry enjoys spending time with friends and family and cheering on all Louisiana sports teams. He enjoys hunting, fishing and any other excuse to be outdoors.





Harmony Hazelton - Environmental Scientist, Northeast Regional Office, Office of Environmental Compliance, Surveillance Division (Water)

Hazelton grew up in New Hampshire and went to college at the University of Montana where she graduated with a Bachelor of Science degree in geosciences in 2013. After college, she spent a couple of years working in the oil and gas industry as a wellsite geologist, first in North Dakota, then in Texas and Louisiana. Hazelton joined LDEQ in July working as an environmental scientist, mainly in the water

She enjoys reading, traveling, hiking, rock collecting and spending time with friends and family.

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Louisiana Department Of Environmental Quality's Third Quarter Summaries

Third Quarter 2018 Enforcement Actions:

http://deg.louisiana.gov/page/enforcement-actions

Third Quarter 2018 Settlement Agreements:

http://deq.louisiana.gov/page/enforcement-division

Third Quarter 2018 Air Permits:

http://deq.louisiana.gov/page/permits-issued-by-calendar-quarter

Third Quarter 2018 Water Permits:

http://deq.louisiana.gov/page/lpdes

Third Quarter 2018 Solid and Hazardous Waste Permits:

http://deq.louisiana.gov/page/waste-permits