



The mission of the Mississippi Department of Environmental Quality is to safeguard the health, safety, and welfare of present and future generations of Mississippians by conserving and improving our environment and fostering wise economic growth through focused research and responsible regulation.

INSIDE THIS ISSUE:

Fossil Whale	1
Brownfield Grants	4
Beach Outfalls Challenge	8
Restoration Contracting	9
MS VW Trust	10
Air Modeling Guidelines	11
Solid Waste Report	12

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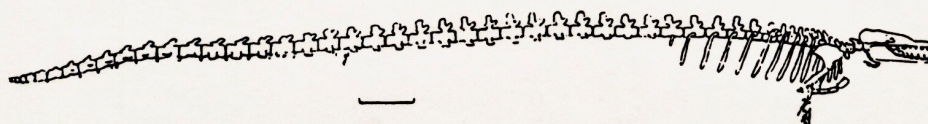
JUNE 2017

Excavation of a Fossil Whale Skeleton by MDEQ in Scott County

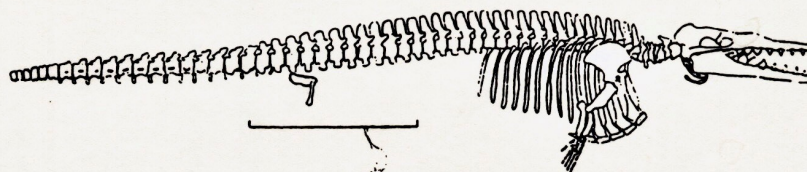
By James E. Starnes, RPG, and Paul Parrish, RPG, Office of Geology



Last fall, a Scott County resident hunting for Civil War artifacts discovered fossil bones protruding from the Yazoo Clay at the edge of a field near Sherman Hill. This part of the Yazoo Formation is known for the preservation of extinct early toothed-whale fossils, known as archaeocete whales. The fossil whale is the official State Fossil of Mississippi, and these whales lived at a time called the Late Eocene, some 34-40 million years ago, when higher sea-levels covered much of Mississippi. A largely complete skeleton of a 65-foot long fossil whale called *Basilosaurus cetoides* was excavated near this area in 2002. A complete reconstruction based on that fossil material hangs in the atrium of the [Mississippi Museum of Natural Science](#) today.



Basilosaurus cetoides (Owen)



Zygorhiza kochii (Reichenbach)

Top photo: Two intact whale vertebrae encased in Yazoo Clay.

Bottom photo: Madison Kymes with a freshly excavated vertebra centrum.

The bone material initially excavated by the collector indicated the fossil whale to be the remains of the smaller, 16-foot long, dorudont whale named *Zygorhiza kochii*. The most complete specimen of this species was collected from the Moody's Branch Formation on Thompson Creek in Yazoo County. This important specimen is also on display at the Mississippi Museum of Natural Science's Stories in Stone exhibit.



Last month, a team of scientists and engineers from MDEQ's Office of Geology and Office of Land and Water Resources was assembled to conduct a careful excavation on this newly discovered specimen. The team led by geologists James Starnes and Paul Parrish included MDEQ staff Andrew Newcomb, Mary McKay, Kristian Macias, Madison Kymes, Lindsey Henley, Johnathan McKinnon, Austin Brister, Andrew Cummings, Kristen Sorrell, Rachel Harris, and also included the discoverer Matthew Giammalvo and his friend Sid Champion.



Photo: Delicate excavation of the fossil remains from the dig site by MDEQ staff.

Many fossil vertebrate species are known only from a few bones or teeth, so to find a partial skeleton of an extinct whale is significant. After two weeks of excavation, the team recovered a number of vertebrae, rib bones, sternal segments, most of the limb and flipper bones, hyoid, a number of elements of the skull and lower jaws, including numerous teeth and even the delicate ear bones. The fossil bones lay scattered about the excavation like a jigsaw puzzle because of what happened to the carcass after it came to rest on the deep ocean floor. As the whale's body decayed, it became feeding ground for fish and sharks until there was no meat left on the bones. We know this because of the numerous fish and shark fossil bones and teeth that are found in direct association with the whale bones. This phenomenon, known as a "Whale Fall," occurs today as an oasis of biological activity in an ecosystem dependent on whale carcasses on an otherwise largely barren deep ocean floor.



The Sherman Hill specimen has been donated to the State collections at the Mississippi Museum of Natural Science for scientific preservation and study. The findings will be presented this spring at the Mississippi Academy of Sciences annual meeting. Plans are also being made for an educational display and exhibit at the public library in Forest to highlight this exciting find and to educate the public about Mississippi's rich prehistoric past and fossil record. More information about Mississippi's geological past is available at: <http://bit.ly/2oQBW4j>.

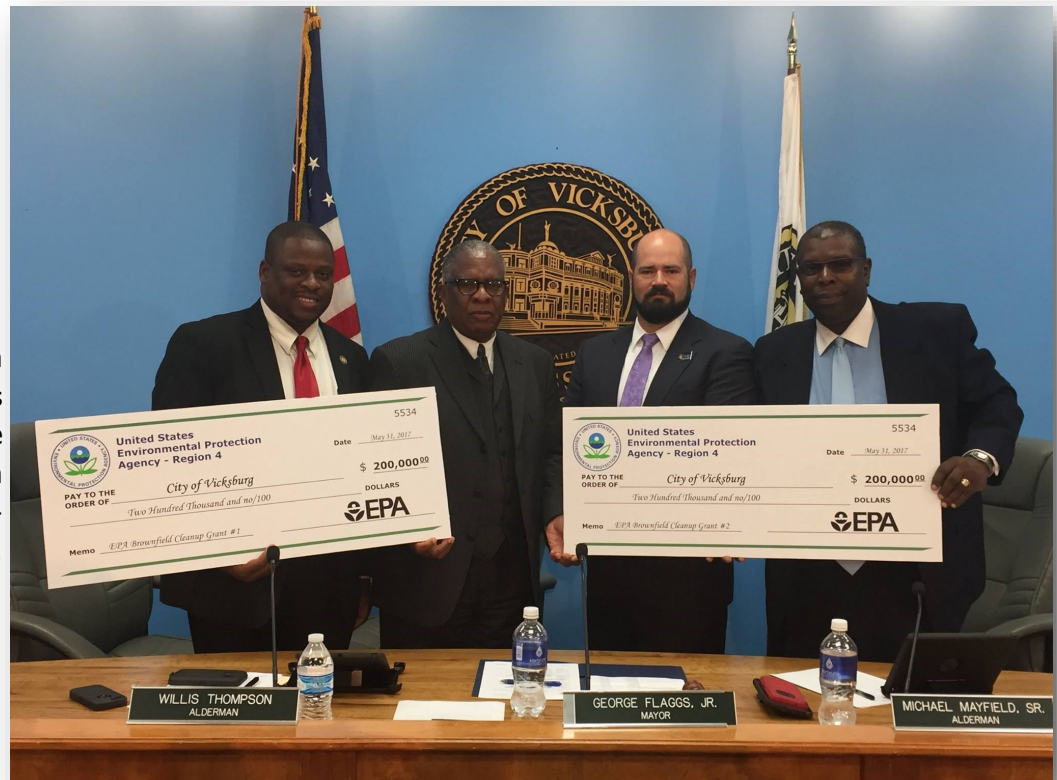
Mississippi Receives Record Nine Brownfield Grants Totaling \$2.89 Million

It was announced on May 31, 2017, that the U.S. Environmental Protection Agency (EPA) has awarded a record nine Brownfields grants to entities in the State of Mississippi. The amount awarded totals more than \$2.89 million. The record nine grants awarded surpasses the previous best, six grants totaling \$2.4 million in 2013.

In EPA Region 4, 111 applications were received for funding, with 40 ultimately receiving some level of funding, a 36 percent success rate. Mississippi entities submitted 10 applications with nine entities receiving funding, a 90 percent success rate.

For the last several years, the MDEQ Brownfield Program has worked with the Mississippi Municipal League to offer grant writing workshops to local communities seeking assistance in applying for the EPA Brownfield funds. When requested, MDEQ Brownfield Program staff also performed reviews of grant applications to provide recommendations based upon their experience for improvement prior to submittal to EPA. According to MDEQ Brownfield Program Coordinator, William McKercher, six of the eight entities receiving funding had participated in MDEQ's grant writing workshops.

Brownfield grants presentation in Vicksburg: Alderman Willis Thompson, Mayor George Flaggs, Jr., MDEQ's William McKercher, and Alderman Michael Mayfield.



Photos: Brownfield grant presentations in Crystal Springs and Greenville.

Grants were announced for:

- **City of Canton** – \$300,000 (\$200,000 for hazardous substances and \$100,000 for petroleum) to include an update of the city's brownfields inventory and perform assessment activities for properties identified for potential redevelopment.
- **City of Clarksdale** – \$300,000 (\$166,200 for hazardous substances and \$133,800 for petroleum) to include an update of the city's brownfields inventory. Assessment activities will focus on the 18th Street Neighborhood and the Brickyard Area.
- **City of Crystal Springs** – \$300,000 (\$123,000 for hazardous substances and \$177,000 for petroleum) to include area-wide planning, assessment activities and the prioritization of the city's brownfield sites.
- **City of Greenville** – \$300,000 (\$200,000 for hazardous substances and \$100,000 for petroleum) to include area-wide planning. One area of focus is the Lower Mississippi River Port Investment Initiative Area.



●**Louisville, Noxapater, and Winston County** – \$400,000 (\$205,000 for hazardous substances and \$195,000 for petroleum) to include the prioritization of brownfields sites and begin area-wide planning. Assessment activities will focus on West Louisville, East Louisville, and southeast Winston County. Partners are the City of Noxapater and Winston County.

●**City of Vicksburg** will receive \$400,000 for two brownfields cleanup grants (\$383,500 for hazardous substances and \$16,500 for petroleum). The funds will be used to address the 1832 Kuhn North Facility and the 1959 Kuhn South Facility of the former Kuhn Memorial Hospital. Both cleanup sites were part of a 12.8-acre former hospital, which has been vacant since 1989. They are contaminated with metals, PCBs, and inorganic contaminants. Grant funds for both sites also will be used to conduct air monitoring and support community involvement activities.

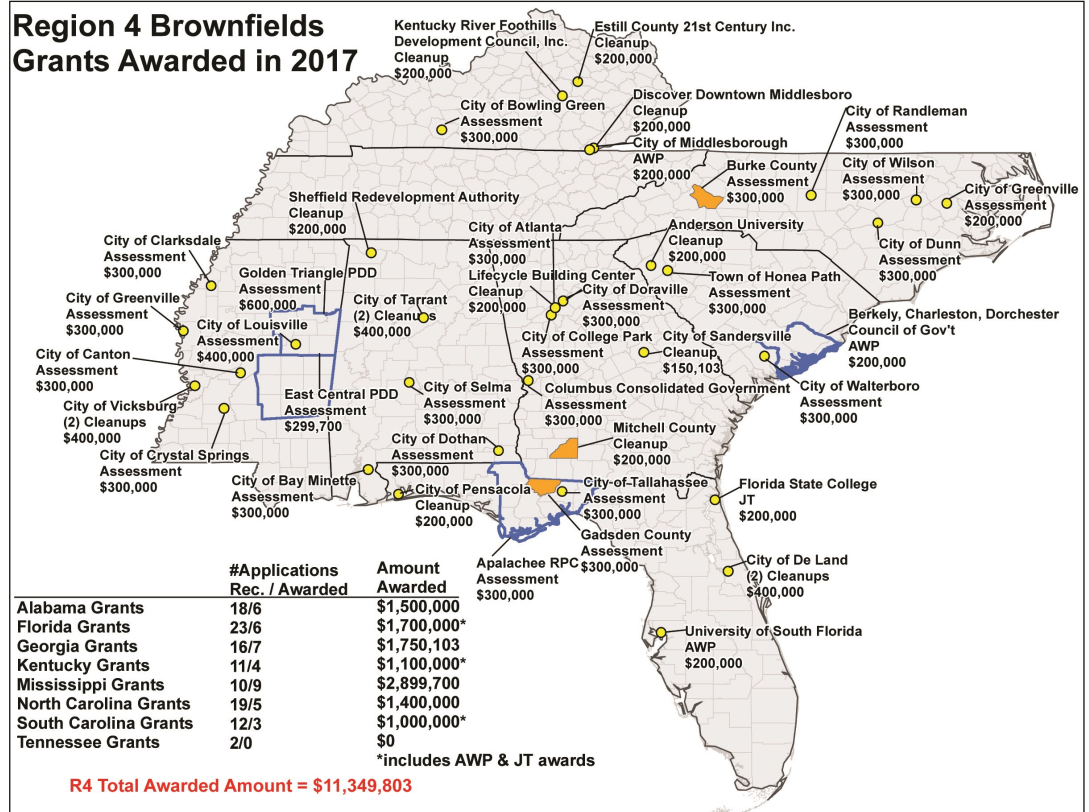
●**East Central Planning and Development District** – \$299,700 (\$155,100 for hazardous substances and \$144,600 for petroleum) to include an inventory and prioritization of brownfield sites. Assessment activities will focus on the cities of Forest, Philadelphia, and Meridian.



Brownfield grant presentation in Winston County.

●**Golden Triangle Planning and Development District, Inc.** – \$600,000 (\$400,000 for hazardous substances and \$200,000 for petroleum) to include the expansion of a brown-fields inventory. Assessment activities will focus on four census tracts within Choctaw, Clay, Noxubee and Oktibbeha Counties. Partners include the cities of West Point and Starkville, and the counties of Choctaw, Clay, Lowndes, Noxubee, Oktibbeha, Webster, and Winston.

A brownfield is a property of which the expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. EPA's Brownfields Program enables states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields.





Finalist Teams Named in Beach Outfalls Challenge

The finalists for the Beach Outfalls Challenge were announced on June 12:

- Team Allen Engineering and Science – Jackson
- Team GSRC/Compton – Baton Rouge
- Team MMMM – Biloxi
- Team SALT (In stream) – Bay Saint Louis
- Team SALT (On beach) – Bay Saint Louis
- Team Sustainable Outfall Solutions - Biloxi

Each team will prepare a presentation detailing its solution for judges to evaluate at the Beach Outfalls Challenge Showcase to be held at 9:00 a.m. on June 28 at the Fleming Education Center Auditorium at the University of Southern Mississippi Gulf Park campus in Long Beach. The Showcase will conclude with the announcement of the winners of the Beach Outfalls Challenge. The event will be open to the public.

Approximately 200 beach outfalls can be found every few hundred yards along Mississippi's beaches and provide an important storm-water function to the communities along the Coast. However, these beach outfalls currently act only as conduits, transporting storm-water from communities on the Coast to the Mississippi Sound with very little treatment of the water or ecosystem service delivery functions, which impacts the water quality in the Mississippi Sound. Quantities of nutrients (i.e., nitrogen and phosphorus) and pollutants are found in significantly higher concentrations in the water near the end of the beach outfalls.

The goal of the Beach Outfalls Challenge is to enhance Mississippi's ability to restore and maintain ecological integrity of priority bays and estuaries by providing measurable improvements to water quality and reducing significant sources of degradation. The Beach Outfalls Challenge will serve as a catalyst for innovative thinking and revolutionary improvements that can dramatically improve the quality of the water emptying into the Gulf of Mexico.

For more information on the finalist teams or to follow the final phase of the competition, please visit <http://beachoutfallschallenge.org/>.

For more information on the Beach Outfalls Challenge Showcase, visit the [Facebook event page](#).

Restoration Contracting Workshop

MDEQ's Office of Restoration and Office of Community Engagement Small Business Environmental Assistance Program (SBEAP) are offering an upcoming workshop on restoration contracting.

The workshop will be held at the Gulf Coast Event Center, 9475 Highway 49, Gulfport, from 1:00 p.m. to 5:00 p.m. on Thursday, July 13, 2017.

The purpose of this workshop is to provide information regarding the necessary requirements for pursuing restoration contracting opportunities. Businesses will have the opportunity to meet face-to-face with MDEQ procurement officers, the Mississippi Development Authority, and the U.S. Small Business Administration.

- MDEQ will be on hand to present requirements for procurement.
- The Mississippi Development Authority and the U.S. Small Business Administration will present information about becoming a certified business.
- The Mississippi Department of Finance and Administration will provide information about registration with the state's accounting system - MAGIC.

This workshop is free of charge. Seating is limited. Pre-registration at <http://www.restore.ms/restoration-contracting-workshop/> is required to ensure seating availability.

Contact the MDEQ Office of Community Engagement SBEAP at 601-961-5025 or email Melissa Collier at mcollier@mdeq.ms.gov for more information.





Mississippi Volkswagen Mitigation Trust

The Volkswagen (VW) Diesel Settlement requires VW to establish a \$2.7 billion Environmental Mitigation Trust Fund to be distributed among states to fund eligible mitigation projects to replace diesel emission sources with cleaner technology to reduce excess nitrogen oxide ("NOx") emissions. The Mitigation Trust Fund will be used for projects which will reduce pollution and improve air quality in Mississippi. VW must establish the Mitigation Trust Fund in part to settle claims that it sold vehicles with "defeat devices" designed to cheat emissions tests. Mississippi has been initially allocated \$9,874,414 to fund projects designed to reduce NOx emissions in the state. To receive the allocation, Mississippi must elect to become a Beneficiary of the Mitigation Trust within 60 days from the date the Mitigation Trust is established, known as the "Trust Effective Date." Governor Phil Bryant must make the election for Mississippi and designate a lead agency to participate in the Mitigation Trust on behalf of the state. Governor Bryant has identified MDEQ as the lead agency for purposes of administering the state's trust allocation and will apply for beneficiary status and formally designate MDEQ as the lead agency within 60 days from the Trust Effective Date.

MDEQ will provide a public comment period and will hold a public hearing to receive comments on its draft Mitigation Plan. To receive future notifications regarding the public comment period and public hearing date for the draft Mitigation Plan, sign up for the MDEQ VW Environmental Mitigation Trust [email list](#).

MDEQ has developed a fillable pdf [web-based form](#) to allow interested stakeholders to submit comments regarding the state's utilization of environmental mitigation trust fund monies associated with the VW diesel settlement. MDEQ's Air Division will receive and review the comments. MDEQ will not receive specific requests for project funding until the Mitigation Plan is developed and approved by the Trustee.

For questions or additional information, access the MDEQ Volkswagen Mitigation Trust [webpage](#) or contact Chad LaFontaine at (601) 961-5171.

New Air Quality Modeling Guidelines

On May 24, 2017, EPA announced that the revisions to air dispersion modelling requirements in Appendix W of 40 CFR Part 51 became effective. Published in the Federal Register on January 17, 2017, the *Guideline on Air Quality Models* establishes best practices with the intent to provide consistent and reliable modelling results for use in evaluating compliance with the National Ambient Air Quality Standards (NAAQS), as well as estimating single-source ambient air quality impacts in support of major source permitting under the Prevention of Significant Deterioration (PSD) program.

In conjunction with the final rule, EPA released a revised regulatory version of the preferred near-field modeling system, AERMOD (version 16216r). The updated modeling system includes several new or updated model options that help alleviate model over-prediction or allow for more appropriate source characterization. Of importance to applicants in Mississippi are the updates to the Nitrogen Dioxide Tier 2 and Tier 3 screening techniques, the optional adjustment of the surface friction velocity (ADJ_U*), and regulatory options to address plume rise for horizontal and capped stacks. MDEQ has provided preprocessed meteorology data for use with the updated AERMOD, both with and without the ADJ_U* option, which can be downloaded [here](#).

While these air modeling options were previously considered non-regulatory or “beta options”, they are now regulatory model options and do not require alternative model approval with Model Clearinghouse involvement/concurrence. Any option selected in the AERMOD Modeling System in support of regulatory permitting, however, requires consultation with MDEQ staff, and sufficient documentation and justification should be included in the corresponding modeling protocol. For questions or additional information, contact Pleasant McNeel at (601) 961-5171.

For additional information about the 2017 Appendix W final rule please visit EPA’s Support Center for Regulatory Atmospheric Modeling (SCRAM) website. The final rule and supporting information is available on EPA’s website [here](#).

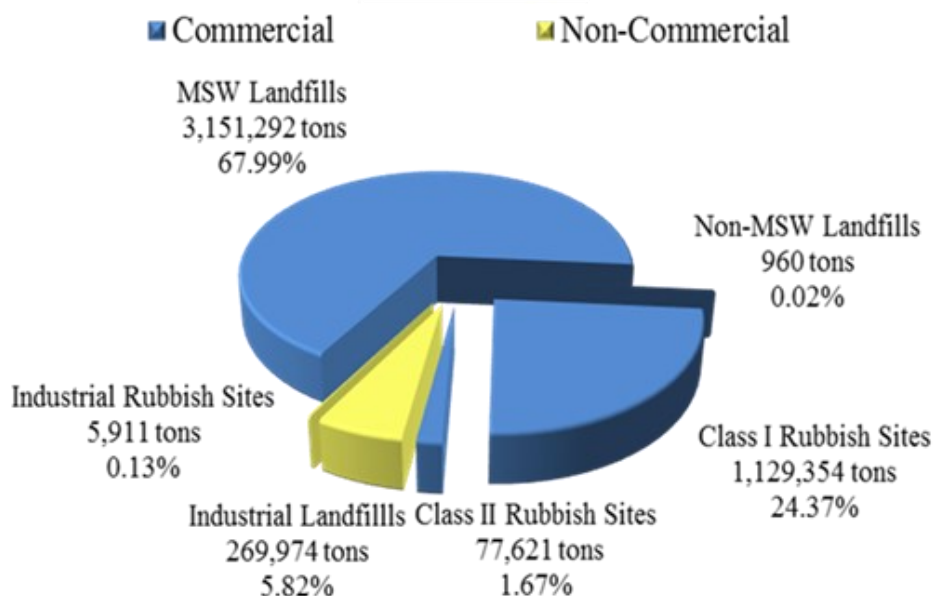
MDEQ Releases Annual State Solid Waste Report

MDEQ recently released the 2015 Status Report on Solid Waste Management Facilities and Activities. The annual status report summarizes and provides information on solid waste management and disposal activities that were conducted in Mississippi each calendar year.

The report is based on information provided to MDEQ by the individual facility owners as required by state law, applicable regulations, and/or the facility operating permits. The status report includes summary information for the following solid waste management facilities and activities:

- Municipal Solid Waste Landfills
- Non-Municipal Solid Waste Landfills
- Class I and Class II Rubbish Sites
- Industrial and Institutional Landfills
- Industrial and Institutional Rubbish Sites
- Transfer Stations
- Land Application Sites
- Processing Facilities
- Composting Facilities
- Beneficial Use of Nonhazardous Solid Waste and/or By-Products
- Waste Tire Management

The 2015 report indicates that just over 4.6 million tons of solid waste was received for disposal at commercial and non-commercial landfills and rubbish sites.



The total tonnage represents a nearly 1.4 million ton decrease in total nonhazardous solid waste disposal in Mississippi in 2015 as compared to 2014. This reduction was primarily due to a decrease in waste disposal at industrial landfills.

The 2015 annual report also indicates that other solid waste management facilities managed solid wastes as follows:

FACILITY	TOTAL TONS MANAGED
Transfer Stations	769,862
Land Application Sites	27,764
Processing Facilities	131,616
Composting Facilities	26,296

Additionally, over 980,000 tons of industrial and other solid waste by-products were distributed during 2015 for legitimate end uses through the MDEQ Beneficial Use program. Finally, the report shows that over 4.5 million passenger tire equivalents were managed in Mississippi in 2015 and approximately 92 percent of the waste tires generated within the state were recycled.

The solid waste information provided in the full report may be utilized by local government officials and solid waste decision makers, disposal facility owners and operators, state agencies, and other organizations and individuals. An electronic version of the report is posted on the [Solid Waste Facility Reporting Program](#) webpage for review by the general public as well as other members of the regulated community. MDEQ staff is also currently working to compile the reporting information for the 2016 calendar year solid waste report.

Please visit the [MDEQ Solid Waste Program webpage](#) or contact Colin Selman at cselman@mdeq.ms.gov or (601) 961-5171 for additional information.

MISSISSIPPI WELL OWNER NETWORK PROGRAM

THURSDAY, JULY 13, 2017

Harrison County MSU Extension Office
2315 17th Street, Gulfport, MS 39501

WATER SAMPLE
DROP OFF
9 a.m.–5 p.m.

WORKSHOP
6–9 p.m.



MISSISSIPPI WELL OWNER NETWORK PROGRAM

The Mississippi Well Owner Network program is a free, educational training opportunity for Mississippi residents who depend on household wells for their water needs. The program will benefit private well owners who want to become familiar with groundwater resources, septic system maintenance, well maintenance, water quality, and water treatment. Private well owners are independently responsible for monitoring the quality of their wells. Essentially, they are the operators of their own water systems and are responsible for ensuring that their water is safe.

BRING YOUR WELL WATER SAMPLES!

Well owners may bring water samples to be screened for *E.coli* bacteria for \$25. Pick up approved sample containers with instructions at the Harrison County MSU Extension office July 3–7 and July 10–12.

Each participant will receive free MSU Extension publications related to private wells and septic systems.

FIRST 40
REGISTERED WATER
SAMPLES WILL BE
FREE



Preregister for the workshop at
gcd.msucare.com/register or call 662-325-1788.

Produced by Agricultural Communications.

We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.





MDEQ Environmental Action Links

- Draft permits currently at public notice, <http://opc.deq.state.ms.us/publicnotice.aspx>
- Environmental Permits Division Scheduled Public Hearings, <http://opc.deq.state.ms.us/publichearingheader.aspx>
- Geology Permit Application Public Notice, http://opc.deq.state.ms.us/geology_public_notice.aspx
- Permits and certificates issued in the last 90 days, http://opc.deq.state.ms.us/report_permits.aspx
- General permit coverages issued in the last 90 days, http://opc.deq.state.ms.us/report_gnp_issued.aspx
- Notices of Intent for coverage under a Statewide General permit received by the Environmental Permits Division, http://opc.deq.state.ms.us/report_gnp_notice.aspx
- List of the 401 Water Quality Certifications currently at public notice, http://opc.deq.state.ms.us/report_wqc_public_notice.aspx
- List of the compliance inspections recently conducted, http://opc.deq.state.ms.us/report_eced_tasks.aspx
- Orders issued by the Mississippi Commission on Environmental Quality, http://opc.deq.state.ms.us/report_orders.aspx

Connect with MDEQ



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Picture of the Month

Front Beach in
Ocean Springs.

Taken by Emily Cotton,
Field Services
Division.

