

NATURAL NEWSLINE

MISSISSIPPI
Museum of
Natural
Science

For the third year in a row,
the summer feature exhibit
at the Mississippi
Museum of Natural Science
has been bestowed the



AAA Southern Travel Treasure Award
by the American
Automobile Association.

This year the award recognizes
Monsters of the Deep
as a "must see" during
your summer travels!
Join us beneath the sea.

MONSTERS
OF THE DEEP

was organized by PaleoFun, Inc.
and its display at the
Mississippi Museum of Natural
Science is sponsored
through the generosity of:
Gertrude C. Ford Foundation,
Mr. and Mrs. Dudley Hughes,
Janet & Luther Ott Charitable Fund
of the Community
Foundation of Greater Jackson,
The Walker Foundation,
and other generous supporters
listed on page 11.

VOL. 27 • NO. II • SUMMER 2009



JUN 13 - JAN 8

Join us beneath the sea for our largest exhibit ever!

Monsters of the Deep, now on display
at the Mississippi Museum of Natural
Science until January 8, 2010, transports
visitors into the underwater world of
prehistoric creatures and modern-day
aquatic giants. Exhibits feature skeletons
and realistically fleshed-out models.

With their incredible teeth, gaping
jaws, and long snake-like necks, the
bizarre monsters of the ancient seas
were unlike anything known today.
In this thrilling prehistoric world, huge
carnivorous, marine reptiles, such as sea
turtles the size of a car, filled the oceans.
"Don't miss the 21 foot, fleshed-out,
40-million-year-old toothed Zygorhiza
whale that complements our very
own 'Ziggy!'" explains Libby Hartfield,
Museum director.

Although the creatures of the deep have
changed over the past 65 million years, we
are still fascinated with the modern marvels
of present day monsters, such as the elusive
Giant Squid, fearsome sharks, and amazing
whales. The Museum is pleased to present
this opportunity to experience the scale of
these awesome creatures and learn more
about the oceans they inhabit today.

Check our calendar, online or in this
issue, for times and dates of coordinated
special programming to complement
Monsters of the Deep. In June and July,
enjoy the exciting, interactive, hands-on
programs of Fun Fridays, offered by Museum
Education staff. For months to come,
hear scientific lectures presented by experts
who will unravel the mysteries of sharks, gar,
sturgeon and other modern day "monsters"
of Mississippi coastal waters.

CONTESTS

1st Annual Photo Contest

The "Back to Nature" photography
contest begins May 1, 2009 and
ends on February 1st, 2010.
This photography contest is designed
to encourage Museum visitors to
venture out and capture the natural
beauty of the wildlife and habitats
seen on the grounds of the
Mississippi Museum of Natural
Science and along the trails of
LeFleur's Bluff State Park.
Contestants are also allowed to enter
photos that have been taken inside
the Museum. Winning contestants will
receive awards and their photographs
will be exhibited for all Museum
visitors to see. For more details,
visit www.ms-natural-science.org
and click on The Latest or
call 601-354-7303 for
official guidelines and entry form.

Jr. Duck Stamp Competition



Katelee Laird, a student at
Cathedral High School in Natchez, MS,
is the winner of the
Best of Show award in the
2009 Mississippi
Junior Duck Stamp Art Competition.
Katelee's color acrylic
depiction of a pair of Wood Ducks
will be forwarded to the
Federal Junior Duck Stamp office in
Washington, D.C. to compete with all
state winners for the national awards.
Katelee's artwork was submitted
by her art teacher, Andree Gamberi.



THE NATURAL NEWSLINE IS SPONSORED IN PART BY
THE JACKSON CONVENTION & VISITORS BUREAU.

MISSISSIPPI
Museum of
Natural
Science

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WILDLIFE, FISHERIES AND PARKS

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Nicholas Winstead
ORNITHOLOGIST



The Museum of Natural Science is blessed to be located in a community that appreciates and supports our endeavors. This support has been manifested in several critical areas recently.

Even during this tough economic situation the Mississippi Museum of Natural Science Foundation has been able to garner the financial support needed to bring *Monsters of the Deep* to Mississippi. This exhibit has had success around the country and I know our audience will enjoy it. Please notice the donors listed in this Newline and give them your thanks.

I am pleased to announce that our attendance has been up by 7% during the last twelve months. The Museum staff has worked hard to offer the services our visitors want and others are taking notice:

- The MPB episode, "Simply Science", featuring the Museum's "Fossil Road Show 2008", has been nominated for an **Education Emmy**. The ceremony takes place in Atlanta this summer.
- For the third year in a row, our visiting special exhibit has been recognized by Triple-A, as an **AAA Southern Travel Treasure—Monsters of the Deep 2009, DINOSAURS! 2008, Hunters of the Sky 2007.**
- The Museum was recognized this spring at the Governor's Conference on Tourism. For the fourth time, the Mississippi Development Authority declared our museum the state's **Travel Attraction of the Year**, for demonstrating results in bringing tourists and visitors to Jackson.
- This summer also marks the seventh time that the Museum has been awarded the coveted **Attraction of the Year SUMITT Award** (Superlative Merit in Travel & Tourism) by the Jackson Convention and Visitors Bureau. This honor is all the more cherished as it is a vote of confidence from our peers: the volunteers, employees and organizations of the tourism industry.



And on another front, the Museum Foundation has joined forces with the Community Foundation of Greater Jackson to establish a restricted fund account designated for the Museum of Natural Science. So now there is one more avenue available for our supporters and friends to help us.

Libby Hartfield
Libby Hartfield
MUSEUM DIRECTOR



Dee Gardner (MMNS FOUNDATION PUBLIC RELATIONS), Sherry Surrette (NATURAL HERITAGE PROGRAM COORDINATOR), Chris Zachow (PRESIDENT OF MMNS FOUNDATION), Halla Joe Ellis (PAST PRESIDENT OF MMNS FOUNDATION), Angel Rohnke (EDUCATION COORDINATOR) receiving the award at the Governor's Conference on Tourism

STAFF NOTES

New Staff



Welcome **Andrea Schuhmann**, the Museum's newest Outreach Educator and Naturalist covering northeast Mississippi. Andrea received her B.S. in Biology and her M.S. in Forestry from the University of Kentucky. Andrea has worked on a variety of projects throughout several states studying large mammals (e.g. elk, black bear, and moose). She resides in Oxford and is an outdoor enthusiast.

Project WILD
Facilitator of the Year



Congratulations go out to **Megan Ellis** for receiving Mississippi's *Project WILD Facilitator of the Year* award. She provides hands-on programs and teacher workshops in northwest Mississippi. Megan is a remarkable facilitator, exposing the Delta's children and teachers to Mississippi's magnificent wildlife. Megan's enthusiasm and knowledge of wildlife encourages all Mississippians to embrace the outdoors with passion and curiosity.

Creature
Comforts
Thursdays on
the MPB

Creature Comforts is a live radio show about all of Mississippi's critters—big or small, furry or scaled, wild or domestic. Every Thursday morning at 9:00am, Museum director Libby Hartfield teams up with local veterinarian Dr. Troy Majure, and a guest scientist or specialist for a rollicking discussion of pertinent animal-related topics. Guided by Mississippi Public Broadcasting's Kevin Farrell, the team takes call-in questions from listeners across the state. Join the live fun with a call to the team at 877-672-7464.

Fun Fridays
Monstrous
hands-on action

This summer, join the Museum's Education staff for Fun Fridays and experience interactive, hands-on programs coordinated with our current feature exhibit *Monsters of the Deep*. These family-friendly programs, for accompanied children, are offered every Friday in June and July.

DATES	TOPIC
June 19	Tracks & Signs
June 26	Under the Sea
July 3	Giants of the Deep
July 10	Jaws or No Jaws
July 17	Monsters Then & Now
July 24	Little Monsters
July 31	Jaws

QUICK CALENDAR

Creature Comforts
(every Thursday)
9AM on MPB

Monstrous Fun Fridays
(June & July)
10AM to 12NOON

Make a Splash
FRI · SEPT 25
8AM to 3PM

Slither, Crawl & Fly
SAT · OCT 31
10AM to 12NOON

Natural Christmas Crafting
SAT · DEC 5 & 12
10AM to 12NOON



Make a Splash - Photo by James Patterson

Make a
Splash
Celebrating
water education

This fun, interactive water day allows students to explore a variety of water-related topics. Students, teachers and volunteers participate in hands-on water conservation activities such as "The Migration Game" and "The Incredible Journey". Teachers may register third and fourth grade classes to participate. Call the Museum for more information and to register.

Natural
Christmas
Crafting
Fun holiday
activities

Get in the holiday spirit with these hands-on natural ornament-making sessions. All ages welcome!

Christmas for the Birds

DEC 5 · SAT · 10AM-12NOON
Learn how to create natural ornaments that will help feed the birds during the winter months.



Nature-Made Christmas

DEC 12 · SAT · 10AM-12NOON
Make fun ornaments using natural and recycled objects.



Kevin Farrell (Host of Creature Comforts); Libby Hartfield (Museum Director); Dr. Troy Majure (Owner/Veterinarian at the Animal Medical Center in Jackson)

From Idea to Exhibit Hall

If permanent exhibits are the backbone of our museum then special exhibits are a refreshing breath.

Each year the Mississippi Museum of Natural Science selects at least one large and one moderately-sized special exhibit to complement its overall mission and reenergize its message. These special features foster renewed interest from our frequent visitors and spark awareness for folks who have never graced our doors. They bring wonders from across the globe, igniting imaginations and fueling minds with beneficial understanding of our natural world.

Shopping for and deciding which of many tantalizing traveling exhibits to bring here to Mississippi is a big job. Our team of scientists work closely with our exhibit staff to ensure that each exhibit contains relevant biological information, an appropriate educational message, and geographic significance. We spend several months planning, researching, funding, designing, and installing each one, as well as developing educational programming, special events, and promotion.



MMNS staff installing A T.rex Named Sue Exhibit



Unloading the Monsters of the Deep Exhibit
Photo by James Patterson

In choosing special exhibits, one of our first tasks is resolving the logistics of bringing any one of them to our Museum. Is there a time slot on its travel schedule that matches our calendar? What are the costs of rental, shipping, and installation? Are there sponsors, who feel as we do that it has a worthwhile and beneficial message to share with Mississippi families? Do we have enough room within our facilities?

Any of these traveling exhibits can range from 3 to 5 tractor-trailers full of scientific models, fossils, and equipment. On occasion, display components



Traveling exhibit awaits uncrating

were so large that Museum doors had to be taken down just to get them into the building! Once the main elements are in

The mission of the Mississippi Museum of Natural Science is to promote understanding and appreciation of Mississippi's biological diversity through collections, research, scientific databases, education, and exhibits; and to inspire the people of our state to respect the environment and to preserve natural Mississippi.

place, our expert staff complete the installation with lighting, sound, media, and displays from our own collection.

Of course, none of these special exhibits would be possible without our sponsors, whom we recognize at each exhibit, online, and in each *Newsline*. It is through their generosity that we have been able to provide the most interesting and informative exhibits for our fellow Mississippians.

Deoxyribonucleic Acid Frozen in Time

by Susan Murray, MMNS Conservation Geneticist

Genetic Resources Collection will assist with conservation of rare species.

In 2001, Museum researchers began preserving tissue for future genetic studies. Soon afterwards, a conservation genetics lab was created and efforts began in earnest to build the collection and conduct genetic research on threatened and endangered species in Mississippi. The collection has grown and now includes material from over 3,500 individuals of fish, crawfish, mussels, snakes, turtles and mammals. The purpose of the Genetic Resources collection is to provide a repository of genetic material for use in research and as an historical record of the genetic diversity of Mississippi organisms. The collection is continually increasing through survey work, collecting efforts, and ongoing research projects conducted by the researchers at the Museum and the Mississippi Department of Wildlife, Fisheries and Parks.



We are currently improving our genetic resources collection by transferring all of the specimens from storage in alcohol to an ultra-cold freezer that maintains a temperature of -80°C.

Deoxyribonucleic acid, or DNA, is the molecule most often used in genetic research.

DNA breaks down very quickly after an organism dies, and storing tissue in alcohol slows down this process but does not stop it. Moving the tissue collection to our new freezer will allow us to prevent the DNA from breaking down any further and will allow us to extract high quality DNA from our specimens.

"In the conservation genetics lab, I study the variation in DNA across populations and species to help address conservation issues, such as assessing the genetic viability of imperiled populations and determining the taxonomic status of species. Currently, I am working on the molecular systematics (the science of classifying and naming species) of crayfish in Mississippi. Crayfish are an economically and ecologically important group of animals; however, few people realize how diverse crayfish really are. There are more than 540 different types of freshwater crayfish in the world, with the southeastern United States having the largest concentration of species. Here in Mississippi, we have over 63 different species of crayfish, 17 of which are only known to occur in Mississippi. In addition, there are as many as 10 new species of crayfish in Mississippi that are yet to be described. My research focuses on a group of crayfish that are almost entirely endemic to Mississippi and make up the genus Hobbseus. We know very little about this group, and many of the species are being tracked by the Natural Heritage Program and may be imperiled. I have combined forces with Dr. Bob Jones, our resident crayfish expert, to examine the relationships among Hobbseus species using genetic data. The different species of Hobbseus are very difficult to distinguish using just appearance or morphology, and in most cases only reproductively active males can be identified to species. The genetic data will allow us to identify an individual to species regardless of sex, age, or reproductive condition. This will allow us to collect more information about these elusive crayfish and help determine their conservation status." SUSAN MURRAY



Crayfish - *Hobbseus valliculus*

ONGOING

Come On Outside!

Visit the Museum's Native Plant Garden and nature trails to experience the wonders of the season in Mississippi. You'll find trail markers and signs identifying plants and habitats. So come on outside and discover the rich variety of Mississippi flora!

Fish Feeding

Meet some of our most fascinating aquarium inhabitants, every Tuesday and Friday at 10AM, and Sunday at 2PM.

Creature Features

Scheduled or spontaneous, these informal programs feature live or mounted animals. Scheduled every Saturday at 10AM and 2PM, Creature Features make learning fun!

First Tuesdays

Naturalist Lecture Series
On the first Tuesday of the month (except Dec and Jan), the Museum offers lectures addressing a variety of natural science subjects. Unless noted otherwise, the lectures take place from 12NOON to 1PM in the Museum's Rotwein Theater.

Lectures are free to Museum Foundation members or regular admission visitors. Please show your membership card at the gate. Regular Museum fee: \$5 for adults; \$4 for senior citizens; \$3 for children; \$2 for students with teachers. Members also receive a ten percent discount at The Dragonfly Shoppe.

MONSTERS OF THE DEEP



JUN 13-JAN 8, 2010 • SPECIAL EXHIBIT
Monsters of the Deep

The exhibit includes displays from aquatic prehistory to the whales, sharks and turtles that inhabit our oceans today. Don't miss the 21 foot, fleshed-out, 50-million year old toothed Zygorhiza whale!

JUN 19 • FRI • 10AM-12NOON
Fun Fridays

Tracks & Signs

JUN 26 • FRI • 10AM-12NOON
Fun Fridays

Under the Sea

JUL 3 • FRI • 10AM-12NOON
Fun Fridays

Giants of the Deep

JUL 4 • SAT • HOLIDAY
Museum Closed



Gulf Sturgeon from the Pascagoula River

JUL 7 • TUE • 12NOON-1PM • LECTURE
Fishing for Dinosaurs: Sturgeon Conservation in Mississippi

SPEAKER: Todd Slack, Ph.D. Research Fishery Biologist, U.S. Army Engineer Research and Development Center, Vicksburg

Coveted for its meat and especially its eggs, the Gulf Sturgeon was on the brink of extinction not so long ago. In 1991, it was listed as "threatened" under the Endangered Species Act and its numbers have slowly begun to rebound. Dr. Slack will bring us up to date on the status and threats to Gulf Sturgeon populations in Mississippi based on 10 years of work conducted on the Pascagoula River System and the coastal waters of Mississippi.

JUL 10 • FRI • 10AM-12NOON
Fun Fridays

Jaws or No Jaws

JUL 17 • FRI • 10AM-12NOON
Fun Fridays

Monsters Then & Now

JUL 20 • MON • WORKSHOP
Project WET Teacher Workshop

Located at the Museum; pre-registration is required by July 14, 2009; 601-354-7303

JUL 21 • TUE • WORKSHOP
WILD about Reptiles Teacher Workshop

Located at the Museum; pre-registration is required by July 14, 2009; 601-354-7303

JUL 22 • WED • WORKSHOP
Aquatic WILD Teacher Workshop

Located at the Museum; pre-registration is required by July 14, 2009; 601-354-7303

JUL 23 • THU • 9AM-3:30PM • WORKSHOP
Flying WILD Teacher Workshop

Located at the Museum; pre-registration is required by July 14, 2009; 601-354-7303

JUL 24 • FRI • 10AM-12NOON
Fun Fridays

Little Monsters

JUL 31 • FRI • 10AM-12NOON
Fun Fridays

Jaws



Photo by: Mike Smith, Coastal Fish Replicas

AUG 4 • TUE • 12NOON-1PM • LECTURE
Freshwater Monsters: Alligator Gar Research, Restoration, Management

SPEAKER: Ricky Campbell Hatchery Manager, Private John Allen National Fish Hatchery, Tupelo

The Alligator Gar is a primitive fish of Mississippi waters and the southeastern United States. It is the largest species of gar and the largest exclusively fresh-water fish in North America reaching 10 feet in length and 300 lbs. Although these fish are extremely tough, and well adapted to the big river systems of the Southeast, their declining numbers and the loss of suitable floodplain spawning habitats have led to restoration efforts. Ricky will talk about hatchery spawning of Alligator Gar, along with restoration activities in West Tennessee.



Opelated Frogfish from the Gulf of Mexico

SEP 1 • TUE • 12NOON-1PM • LECTURE
Monsters of The Deep from the Gulf of Mexico: Are they Really Monsters?

SPEAKER: Jim S. Franks Senior Research Scientist, Center for Fisheries Research and Development, Gulf Coast Research Laboratory of the University of Southern Mississippi, Ocean Springs, MS

What is known about the sea creatures that live in the depths of the world's oceans, and why are some of them thought of as monsters? Do these creatures have to be BIG to be called a Monster, or does size matter? This presentation will attempt to answer these questions and will examine the biology, habitats and unusual behavior of deep sea beasts, particularly those that live in the Gulf of Mexico.

SEP 7 • MON • HOLIDAY
Museum Closed

SEP 10 • THU • 4PM-7PM
Teachers' Back-to-School Night

Teachers - this is a great way to start the new school year! Get resource materials, program ideas, and activities that can be used to bring environmental and natural resource education into the classroom.

SEP 25 • FRI • 8AM-3PM • EVENT
Make a Splash

This fun, interactive water day allows students to explore a diversity of water-related topics.



Sandbar Shark - Carcharhinus milberti

OCT 6 • TUE • 12NOON-1PM • LECTURE
Sharks of the Gulf of Mexico: Menace or Misunderstood?

SPEAKER: Dr. Glen Parsons Professor of Biology, University of Mississippi, Oxford

If you want to learn about the common sharks of the Gulf of Mexico, as well as the rarely seen denizens of the deep Gulf, then don't miss this

talk. Dr. Parsons will present information on some of the myths surrounding sharks, how to avoid shark attacks, and information on some of the threatened/endangered sharks that prowl Mississippi coastal waters.

OCT 31 • SAT • 10AM-12NOON • EVENT
Slither, Crawl & Fly

Learn about the creatures that surround us, including snakes, spiders, and bats.



Loggerhead Sea Turtle

NOV 3 • TUE • 12NOON-1PM • LECTURE
Protecting Sea Turtles, Ships, and Shores

SPEAKER: Dena Dickerson Research Biologist, Environmental Laboratory, USACE, Engineer Research and Development Center, Vicksburg

Dredging operations, such as deepening shipping channels and protecting eroding shorelines, may be putting threatened and endangered sea turtles and their nesting habitats at risk. Dena Dickerson will discuss dredging equipment and protocols, developed over

the past 25 years, to protect sea turtles in the U.S. as well as around the world.

NOV 26 & 27 • THU & FRI
Museum Closed

DEC 5 • SAT • 10AM-12NOON • EVENT
Christmas for the Birds

Create natural ornaments to help feed the birds in winter months. All ages invited.

DEC 12 • SAT • 10AM-12NOON • EVENT
Nature-Made Christmas

Enjoy the beauty of the season by making hand-crafted ornaments from natural and recycled objects. All ages invited.

DEC 24 & 25 • THU & FRI • HOLIDAY
Museum Closed

JAN 8, 2010 • SPECIAL EXHIBIT
Monsters of the Deep

The exhibit closes.

**Dates are subject to change. Please call the Museum at 601-354-7303 to confirm an event.*

ONGOING

First Saturdays

Audubon Bird Walks

On the first Saturday of the month (except Dec and Jan) join experienced birders and Jackson Audubon Society members for a walk on the wild side.

Bird walks for family groups and beginners are from 8AM to 10AM at Lefleur's Bluff State Park Campground. Fee: \$3. For more information, call Mary Stevens at 601.956.7444.

TEACHERS

WET and WILD CEU Credits for Teachers

The Museum offers two environmental education programs, Project WILD and Project WET, with CEU credits available. For details, contact Angel Rohnke or Rebecca Jones at 601-354-7303.

Teacher Workshops

JUL 20 - Project WET Workshop
JUL 21 - WILD about Reptiles
JUL 22 - Aquatic WILD
JUL 23 - Flying WILD

Teacher Resources

To schedule a workshop or field trip, reserve a resource kit, download classroom materials, or learn more about how our Museum can help meet your classroom needs, call 601-354-7303 or visit www.msnaturalscience.org.



PRESCHOOL: The Museum's "hands-on" Preschool Discovery Room is designed specifically for pre-kindergartners, ages 3-5.



DISCOVERY ROOM

Visitor Access

PRESCHOOL CHILDREN

MON-FRI 1-4PM
SAT 9:30AM-12NOON & 1-4PM
SUN 1-4PM

TIME FOR TWOS (AGES 2 & UNDER)

2nd TUE 1-4PM

STORY TIME (AGES 3 TO 5)

WED 1:15, 2:15, & 3:15PM (AUG-MAY)

TUE AND THU 10:15 & 11:15AM (JUNE-JULY)

Reserved Group Access

SUMMER CLASS SCHEDULE

In June and July, class times are 9:00, 9:45, and 10:30AM, Wednesday and Friday only. Call Joan Elder for reservations (601-354-7303 ext. 136).

REGULAR CLASS SCHEDULE

In August through May, class times are 9:00, 9:45, and 10:30AM, Monday through Friday.

Reserved Group Classes

JUNE-AUGUST

"MAPP!" - a study of marine animals past and present!

Children will appreciate the diversity of marine animals from ancient times to present day.

SEPTEMBER & OCTOBER

"Legs, Legs, and More Legs!" (fun with animal legs)

Children will understand the importance of a key adaptation - legs! They will note a wide variety of legs.

NOVEMBER & DECEMBER

"Yummy Plants! Let's Eat!" (a study of herbivores)

Children will appreciate the diversity of plant-eating animals (herbivores); they will be able to identify many of them. Also, they understand that other animals eat only meat (carnivores) or a combination of meat and plants (omnivores).

JANUARY

"What's Not to Like!" (a fun study of reptiles)

Children will discover that there are many kinds of reptiles - turtles, alligators, lizards, crocodiles, snakes, dinosaurs, etc... They will note their unique characteristics and behaviors.



Touch Tank Critters Make Friends at Museum

by Karen Dierolf, Aquatic Biologist

Come and handle live marine creatures in the Museum's saltwater touch tank for a real hands-on experience!

As a part of this summer's special exhibit, *Monsters of the Deep*, the Museum is bringing eight different species of inter-tidal animals from behind the aquarium to your fingertips. These harmless sociable critters are ALIVE and provide a firsthand interactive encounter with nature that you won't soon forget. Kids will have the chance to pet and get closely acquainted with some of the friendliest and most unusual critters of the sea.



Short Spined Sea Urchin



Red-footed Sea Cucumber

Learn from our staff of scientists some fascinating facts about these mysterious creatures. For instance, horseshoe crabs probably look like scary monsters of the deep, but they are actually closely related to spiders and may have at some point saved your life! Sea urchins may have hundreds of sharp prickly spines, but some are actually quite friendly and very pettable. Did you know that starfish don't have gills, fins, scales, eyes, or a backbone and are actually not even fish at all? Is a sea cucumber a plant or an animal? Perhaps a more interesting question is, "did that sea cucumber just spit his guts out?! Ewww!"

Come visit the Museum this summer to find all the answers with the help and supervision of our team of scientists, and experience this marine petting zoo for yourself!



Touch Tank

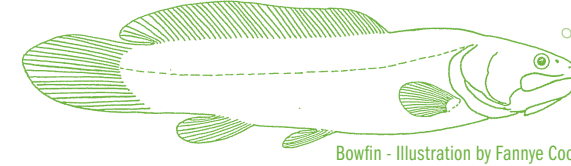


Pointed Sand Star

Swamp Things & Monstrous Improvements

by Andrew Whitehurst, Scenic Streams/Natural Areas Coordinator

While on the blue trail in late spring, I visited the upper slough observation deck and had a *Monsters of the Deep* experience. I saw a moving mass of bubbles coming down the bank toward me. When the bubbles moved into a spot of sunlight, I could see that it was a boiling mass of tiny fish, each one rolling to the surface and emitting a bubble then going back down. Then, just behind them and about a foot deeper down, a large and unmistakable form swam through the sunlight. It was a large male bowfin, *Amia calva*, herding a school of juveniles. The bowfin males exhibit parental care until the young reach about 4 inches in length. I read about this in fish biology texts, but had never seen it before. This group was spawned in the slough after high water.



Bowfin - Illustration by Fannye Cook

Bowfin, like gars, have both gills and a primitive lung, so when their floodplain lakes and sloughs begin to dry up, they can stay alive long after other fish have died due to lack of dissolved oxygen. Bowfin and gar can even exist in mudholes, breathing directly from the air with their lungs. There they wait until rains fill their sloughs, or floodplain oxbow lakes. Bowfin and gar have a hard outer covering of interlocking bony plates - ganoid scales - that protect them from predators too. In the floodplains of large rivers in the southeast, they are the ultimate survivors - not glamorous, but very tough!

Not considered very monstrous - but large and aquatic - river otters also visit our sloughs. They travel from the main channel of the Pearl River into backwaters to eat fish left behind when the high water goes down. Every spring, a group of otters appears when the waters recede. They go fishing in the sloughs that run along the blue and red trails. If you are quiet and go to the upper slough deck in the first couple weeks after the water goes down, you may see them early or late in the day when the trails are quiet. They are very active for a few days and move on after catching all the large shad, sunfish and catfish, leaving the smaller fish for the wading birds.



Upper Slough Deck Educational Sign

Other news from the trails - we have installed new educational signs at two spots, the upper slough deck and halfway down the bluff stairs. Also, for his Eagle Scout project, Caleb Jones of troop 9 in Madison built and installed nature journal



Nature Journal Box

boxes at the upper and lower slough observation decks. The nature journals encourage children to take in the sights and sounds on the trails and record their observations.

Children and their families have made some very thoughtful and original journal entries in the waterproof notebooks.

Recent Eagle Scout projects include a new bridge on the river trail by Jarrett Estes of troop 8 in Jackson, and 50' of safety railing on the blue trail by John Michael Mathis, troop 15 in Madison. A group from Scout troop 302 in Jackson came and repaired the fern garden trail and painted park benches till the paint ran out. The Belhaven College women's soccer team volunteered two times this spring. In March, they hauled 800 lbs. of gravel to bad spots on the lower blue trail, and in April finished the bench painting in the upper park. Also, Tom Buchanan's trash fence, built for his Northwest Rankin H.S. senior project, appears to have helped divert and corral much of the floating urban trash that invaded our sloughs during four high water events between December and April.

Volunteers help us greatly on the museum trails and in the park, and their energy and enthusiasm are welcome and appreciated.



Bluff Deck Educational Sign

\$100,000-\$200,000

Abe Rotwein Family
The Chisholm Foundation
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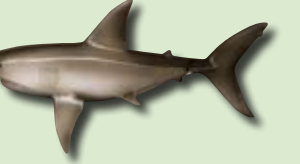
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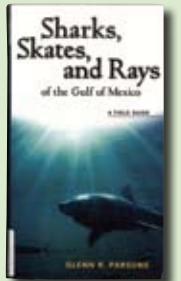
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Volunteer Notes

by Ann Peden, Volunteer Services

Spring marked the beginning of regular data collecting as the volunteer community noted the presence (or absence!) of butterflies at several sites on the Museum grounds. Volunteers helped install, and will also maintain, a new section of our Native Plant Garden, highlighting butterflies and pollinators. In addition to our "Hike and Learn" series, these activities help us to see the dynamic nature of LeFleur's Bluff Park, to mark seasonal changes, track trends, and simply enjoy being outside!

Volunteers are sharing our delight in learning about the natural world with visitors at special events. NatureFEST and International Migratory Bird Day were huge successes thanks to the support of 45 volunteers. Special thanks to Steve West, Don West, Clyde Hare, Joy Rushing, Lewis Rogers, Darrien Kelly, Nick Winstead and Andrew Whitehurst.

Welcome new volunteers: Trish Anderson, Lewis Rogers, Robin Persons, Bill Collins, Virginia Lee Cora, Sandra and Steve West, Jalen Day, Darrien Kelly, Brooke Nash, Kristina Young, Matthew Matranga, Cherish Forsman, Daniel Hill, Marquissa



NatureFEST 2009 - Photo by James Patterson

Anderson, Sheila Thompson, Jana Mertens, Kelly Hamilton, Courtney Allen, and Mariah Taylor.

Farewell to two interns, Jamie Sclafani (a research assistant with aquarist Mike Stegall) and Audrey Plaisance (education assistant) and welcome to intern Josh Conlee who will assist with Mike's field work, studying long-eared sunfish.

Congratulations to the following volunteers whose faithful service, talent and enthusiasm make the Museum a fun place to visit: Anna Jo Hennen, 100 hours; Jim Leonard, 100 hours; Anantha Sivasubramaniam, 100 hours; Flo Scanlon, 300 hours.

Join us as we enjoy our visiting exhibit *Monsters of the Deep*. New volunteers must complete a volunteer application and orientation, so contact Ann Peden at ann.peden@mmns.state.ms.us or 601-354-7303 to get started!

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THE A-MAZE-ING WATER JOURNEY

Our latest outdoor exhibit stands just outside the Museum atrium ready to receive individual or group exploration. Mazes are powerful learning tools and this giant one is no exception. The synergy between the physical act of exploring a maze while mentally interacting with the curriculum, engages and educates visitors of all ages and creates a memorable experience.

The A-MAZE-ING Water Journey exhibit coordinates with our current feature exhibit *Monsters of the Deep* and provides a unique journey of exploration, scientific inquiry, artistic expression and action! Spin the wheel, search the maze. Experience the science behind water purity, and realize the power each individual has to make a difference.



Maze photo by James Patterson

MUSEUM HOURS
MON-FRI 8AM to 5PM
SAT 9AM to 5PM
SUN 1PM to 5PM

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