



Mississippi Native Plants and Environmental Education



Newsletter of The Mississippi Native Plant Society and the Mississippi Environmental Education Alliance

Volume 28 Number 1

Life isn't about waiting for the storm to pass. It's learning how to dance in the rain.

Spring 2010

The **Mississippi Native Plant Society**, is a non-profit organization established in 1980 to promote the preservation of native plants and their habitats through conservation, education, and utilization.

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Mississippi's NCLI Committee Report

No Child Left Inside is a possible amendment to the Elementary and Secondary Education Act that has great potential to improve children's problem solving abilities and test scores in all subjects.

After the exciting turnout at the MEEA pre-conference workshop the organizers expanded the steering committee, now known as the NCLI Principals, and met at the Mississippi Department of Education (MDE) to begin developing a plan. We wrote and received a grant for MEEA to host a Guidelines (National Standards for Environmental Education) workshop. The primary purpose was to provide background training on the national standards for environmental education (EE) for MDE personnel. Additionally, key "Project" and EE center personnel and university representatives were invited to participate because of their role and leadership in Mississippi's EE Community. Their programs and efforts will form the basis of our EE Curriculum that is a component in the requisite Environmental Literacy Plan. We were limited to 25 participants, which was very unfortunate since we have around 40 agencies and organizations involved on the NCLI Committee. We invited Dr. Bora Simmons, who led the development of the national standards, to conduct the one-day workshop. After this meeting, the Principals met with Dr. Simmons to discuss our effort and a briefing on other states plans.

Where do we go from here? The NCLI Principals decided that Mississippi needs a statistically controlled pilot study to highlight the usefulness of environmental education in improving test scores. To begin developing the pilot, the NCLI Principals will visit the Oil City Magnet School that has been using EE to improve their standardized test scores. To see what Oil City Magnet School is doing go to the Project Learning Tree Press Room and read the article *Environmental Education Saves the Day* <http://plt.org/cms/pages/21_24_27.html>.

After this visit the NCLI Principals will meet and outline our project/study. One school will be selected in each of the four congressional districts using a variety of criteria. It would be premature to provide any specifics on our program; however, from the article you should surmise we will use teacher in-service training to engage the faculty and utilize as many EE resources as possible. In addition to training on the traditional "Projects" we have informally discussed encouraging partnerships between the schools and an EE center(s) in their area, and an *email an environmental educator* initiative where teachers can get questions answered or ideas for activities to teach specific concepts. Mississippi's efforts will be designed to engage all subjects as well as health/physical education. Most recently, the Mississippi State Department of Health has indicated an interest in joining our effort!

Very soon after this meeting, the much larger NCLI Committee (those who participated at the MEEA conference and the Guidelines training) will convene for a briefing on the plan's outline, an update on what we learned during the Guidelines workshop, and a brainstorm session to identify missing elements. Until then please do not hesitate to contact us with your ideas, questions or suggestions.
John Stark and Dr. John Guyton

MS NCLI Principals

Harold Anderson
Laura Beiser
Jennifer Buchanan
Trecina Green
Dr. John Guyton
Terri Jacobson
Dr. Betty Latimer
Carley Lovorn
Marion Sansing
John Stark, Chair



MNP & EE Calendar, Field Trips, Native Plant Sales, Et cetera

- February, every Thursday and Friday 10:00 - 2:00 Prescribed Burn Demonstration at the MSU Crosby Arboretum, Picauyune
- February 27, Snakes! Snakes! Snakes! (Family) 1:00 - 2:00 MSU Crosby Arboretum
- March 13, MSU Crosby Arboretum Field Walk 10:00 to Noon with Naturalist Alan Branhagen (Adults) Register by March 12. Join Alan Branhagen, Director of Horticulture at Powell Gardens (Kansas City, Mo; www.powellgardens.org) and plant designer of their new Heartland Harvest Garden - America's largest edible landscape. Learn how the native plants at Crosby Arboretum play a role in the web of life and can be used in gardening and landscape design. Program is free to members; \$5 for non-members.
- March 20 Botanizing on the Pontotoc Ridge in New Albany at Wildside, the home and gardens of Sherra and Ken Owen. MNP&EE editors add, this is a field trip you will not want to miss!
- March 27 New Albany Home and Garden Shop, Union County Fairgrounds
- April 3, Nature Journal the Art of Seeing with Robin Whitfield - 8:30 - 3:30 Noxubee National Wildlife Refuge
- April 9 MNPS Field Walks and Native Plant Programs 2:00 to 4:00 Explore propagating your favorite native wildflowers by seed and cuttings with Gail Barton, past President of the Mississippi Native Plant Society and author of *Basic Gardening: A Guide for the Deep South*. In this hands-on presentation, Barton will draw on her professional experience as owner of Flowerplace Plant Farm and personal experience as a backyard propagator. She will cover propagation facilities, timing, materials and methods. Be prepared to get your hands dirty! MSU Crosby Arboretum Members free; non-members \$5. Register by April 8.
- April 10 Programs and Field Activities 9:00 to 3:00 Join us for a full day of activities that celebrate our native plants with Gail Barton, past President of MNPS, Rick Webb of Louisiana Growers, and Bill Fontenot of Prairie Basse Nursery. There will be time for networking between sessions at the MSU Crosby Arboretum. Cost is \$20 per person for the day (includes a pizza lunch) or \$5 per session. Call (601)799-2311, Ext. 101 to pre-register early for this event.
- April 17 & 18 Spring Plant Sale MSU Crosby Arboretum 10:00 to 3:00 Sat/Sun Members Admitted at 9:00 Sat. Grab a cart and choose from a variety of wonderful native trees, shrubs, and perennials for your home landscape. Come early for the best selection of many hard-to-find plants. We'll help you select the right plant for the right place on your property. Free admission.
- April 24 Earth Day at the Crosby Arboretum: 10:00 to 11:00 "an Hour of Green" (Kids) Celebrate the 40th anniversary of Earth Day with fun family activities – a scavenger hunt, "green" bingo," and "trash to treasures art" with Master Naturalist Mary Cordray. Children to be accompanied by a parent or guardian. All materials are provided. Members' children \$2; non-members' children \$4.
- April 24 Home Landscape Design (Adults) 1:30 to 3:00 Learn how to create a successful landscape design for your property with Crosby Arboretum Curator Pat Drackett. Pat will discuss the basics of the landscape design process and tell how to create a low-maintenance and attractive landscape. By analyzing and understanding your planting site, you will be able to choose the appropriate plant material. Program is free to members and \$5 for non-members. Register by April 23.
- May 1 Can You Dig It? (Kids!) 10:00 to 11:30 Get "down and dirty" as you become a soil detective! Children will learn to use soil keys, hone observation skills, and watch a soil race with Master Naturalist Mary Cordray. Children must be accompanied by a parent or guardian. Materials provided by the Crosby Arboretum. Members' children \$2; non-members' \$4. Register by April 30.
- May 8 Pine Needle Basketry (Adults) 10:00 to Noon Join Judy Breland, Stone County Extension Agent, for a workshop teaching the art of pine needle basket-making at the MSU Crosby Arboretum. Participants can complete a small basket by the end of this workshop and will learn the methods for continuing with future projects. Wear old clothes! All materials will be provided. Admission is \$5 for members and \$7 for non-members. Register by May 7.
- May 15 GPS Scavenger Hunt at the Crosby Arboretum(Family) 10:00 to 11:00 Have fun learning how to use Global Positioning Satellite (GPS) technology in a real life setting. GPS receivers will be provided and a short training session will precede a scavenger hunt for features along the Arboretum paths. Bring the whole family! Free to members' families;\$8 per non-member family. Register by May 14.
- May 15 Yoga at Pinecote Pavillion (Adults) 1:00 to 2:30 Join certified yoga instructor James Sones in the beautiful natural setting of Pinecote Pavilion for a gentle yoga class followed by a short meditation sitting. Class size is limited to 16. Yoga mats will be provided, but you are welcome to bring your own. Please arrive at least 10 minutes early. Free for members; non-members \$5. Register by May 14.
- May 22, MNPS Harrell Prairie Field Trip, Bienville National Forest - Contact Dr. Tim Schauwecker tjs2@msstate.edu
- June 9, 10, 11 & 12 Kids' Summer Nature Camp at the MSU Crosby Arboretum Wed - Sat. 9:00 to 2:00 Children ages 6 through 12 will enjoy this four-day camp, learning about the outdoors with fun hands-on lessons, games and activities. They will leave camp with an increased appreciation and excitement for nature. Reservations required; please register by June 7. Bring sack lunch and drink each day. \$35 members' children; \$45 non-members' children. Limited to 15 registrants.
- May 30 - June 3 MSU Wildlife Fisheries and Aquaculture Intergenerational Camp 1 at MSU www.cfr.msstate.edu/summer_camp
- June 13 - 17 MSU Bug and Plant Camp at MSU www.cfr.msstate.edu/summer_camp
- June 27 - July 1 MSU Wildlife Fisheries And Aquaculture Intergenerational Camp 2 at MSU www.cfr.msstate.edu/summer_camp
- October 2, MNPS Conference will be held at the Mississippi Museum of Natural Science, Jackson, MS
- Native Plants for Sale at Any Time! Native plants are available throughout the year from Strawberry Plains Audubon Center's Nursery by appointment. Please contact Kristin Lamberson at 662-252-1155 for more information. Bring a wagon.
- For additional opportunities monitor:** EEinMississippi, <http://bigcypressoutdoorclub.wikispaces.com>, www.clintonnaturecenter.org, <http://www.crosbyarboretum.msstate.edu/>

Dear Mississippi Environmental Education Alliance Members:

It is an incredible time to be an environmental educator! Thanks to Dr. John Guyton of MSU Wildlife, Fisheries, and Aquaculture Department, huge strides toward incorporating environmental education into every subject in the public education system of Mississippi are on the horizon. Also, thanks to Mr. John Stark who is serving as a capable facilitator for this effort.

The catalyst for action in Mississippi is the National *No Child Left Inside Act (NCLI)* which was introduced to the U.S. Congress by Congressman John Sarbanes and Senator Jack Reed. If passed, this legislation would replace the “No Child Left Behind” program of the Primary and Secondary Education Act and focus on getting students outside and engaged in nature in order to improve public education. Numerous pilot studies in other states have proven that outdoor and environmental education increases student engagement in their lessons, improves problem solving ability, reduces discipline problems, increases teacher satisfaction and ultimately improves test scores. Mississippi and all states would have to have an “Environmental Literacy Plan” in place with the Department of Education in order to qualify for “No Child Left Inside” Federal Funding.



The “Environmental Literacy Plan” (ELP) for Mississippi must be appropriate to the national standards for environmental education and applicable to the Mississippi Curriculum Framework. The ELP must include an environmental education curriculum, an assessment strategy and a professional development plan for teachers.

The Mississippi Department of Education Bureau Director for Curriculum and Instruction, Ms. Trecina Green and her staff are actively engaged with the MEEA-NCLI Committee in the development of an ELP. The MEEA-NCLI Committee is composed of an exciting array of natural resource non-formal educators, academicians representing most of Mississippi’s colleges and universities, environmental, museum and nature center staff, and others. Environmental lesson plans are being aligned with the state standards.

At a workshop held on January 20, 2010, a national/world leader in environmental education was engaged by MEEA to inform and educate Mississippians on the national standards for environmental education and how to develop an ELP. Dr. Bora Simmons of the “National Project for Excellence in Environmental Education” distributed books on the National Guidelines for Excellence in EE and teacher preparedness guidelines. She also provided an enlightening perspective and background on the relationship of the national standards to the NCLI opportunity. After the workshop she met with the “NCLI Principals” or steering committee, for Mississippi’s NCLI effort.

The initial NCLI Committee meeting occurred between MEEA, partners, academia and the Department of Education during the annual MEEA conference held in Raymond, Mississippi. After this meeting several participants were invited to join the steering committee that is actively working to develop Mississippi’s ELP.

There is work to be done at all levels. Those with curriculums and programs such as Project Learning Tree, Project Wet, and Project Wild have already begun aligning their activities with all subjects in the MS Curriculum Framework. Nature and EE centers are aligning their activities. The next logical step after alignment is to begin building an assessment into each activity to insure it is being successful in achieving the curriculum framework objective it was used to teach. A session by one of the EE or nature centers at the next MEEA Conference on their evaluation of their program’s success in helping students master framework objectives would be well received.

The next steps will include a visit by some of the principals to the PLT Green School, *Oil City Elementary Magnet School*, in Oil City Louisiana who reversed a downward spiral by integrating environmental science concepts across the curriculum. Following this visit a statistically controlled study of 4 schools, in different congressional districts, will be designed to evaluate the effectiveness of this approach on student achievement gains, teachers attitudes and other variables. This project will build on several similar pilots that have been tested in Mississippi.

Stay tuned. The MEEA-NCLI committee will be meeting soon after this excursion to begin developing a plan for our target schools. At this point, it is safe to say that this plan will include training for the teachers at these schools in the Projects that are already aligned with the MS curriculum framework. It is highly desirable that EE centers in each congressional district carefully examine how their facilities and programs can help these schools excel. Absolutely nothing is off the table. If you are not yet involved contact John Stark at starkjohn@sbcglobal.net. For an introduction to the Oil City project go to the PLT Press room <http://www.plt.org/cms/pages/21_24_27.html> and read Environmental Education Saves the Day. A new day for environmental education has dawned in Mississippi.

Laura Beiser, Environmental Administrator MDEQ & Mississippi Environmental Education Alliance President

Greetings MNPS,

Make sure to mark October 2, 2010 on your calendar for the 2010 MNPS Conference that will be held at the Mississippi Museum of Natural Sciences. A \$5 fee will cover the cost of admission to the Museum. In addition to attending the planned workshops, presentations, and field trips at the conference, this location will provide a wonderful setting to enjoy the exhibits and hike the trails at the Museum. Jackson, Mississippi is home to a wealth of area attractions to also explore.

Workshops for the conference will begin at 8:30 am. Conference attendees have a choice between attending one of the three workshops. As requested, Heather Sullivan (Botanist at the Museum) and Alan Holditch (Forester at the Mississippi NRCS) will conduct a workshop on fern identification. Alan will first speak to the group about ferns and Heather will then teach attendees to identify ferns in the field. Dr. Lisa Yager (Research Coordinator at the Museum) will provide a workshop dedicated to educating the

group about invasive plant species. Adam Rohnke (Extension Associate at the Central MS Research & Extension Center) will give a workshop on backyard wildlife and the plants that attract them.

There will be three main presentations at the conference. John Gwaltney, creator of southeasternflora.com and President/CEO of Forestry Suppliers, Inc. (Jackson, MS), will speak to the group about plant identification and the Southeastern Flora Website. Dr. Sherry Surrette, Natural Heritage Program Coordinator at the Museum, will present information on native plants and pollinators. Tom Mann, Zoologist with the Mississippi Natural Heritage Program at the Museum, will talk about Mississippi's sandhill communities. Field trips for the conference will be announced in future newsletters.

The conference will be an exciting opportunity to learn more about native plants in Mississippi and to visit with friends who share a common interest. Hope that you will be able to join us!

Dr. Janine Conklin, MNPS President

Celebrate the Spring Equinox with MNPS

On Saturday March 20, members of the Mississippi Native Plant Society are invited to travel to New Albany to botanize on the Pontotoc Ridge.

The Pontotoc Ridge is one of the most unusual geographic areas of Mississippi. This series of steep hills and valleys in northeast Mississippi is the southern end of the Appalachian region. The head waters for streams and rivers flowing southeast and southwest originate here. Soils in the area are red sandy loams formed from layers of rock sediment deposited over 70 million years ago. When oceans covered the land this area was the seashore of the Mississippi embayment. This accounts for the region's rich floristic diversity and the presence of marine fossils.

Our group will meet at the Pilot Station and Store in New Albany at 9:00. The Pilot Station is located at Exit 64 off Highway 78 at the intersection of Highway 78 and Highway 15. From there we will convoy to Wildside, the home and garden of Sherra and Ken Owen. A small group of MNPS members toured Wildside 2 years ago in mid-April. We have scheduled this trip earlier in the spring in order to see a different group of plants in bloom.

This field trip will focus on spring ephemeral wildflowers that will be in bloom and on winter tree identification. We will begin with a stroll through Sherra and Ken's beautiful native plant garden where we will have the opportunity to study many wildflowers in close proximity to each other. For example, there will be several species of trillium within a few yards of each other.

We will then take a walk on the Wildside where we will have the opportunity to see the wildflowers in native habitats as understory plants beneath large hardwood trees. We will picnic in the garden and then continue to two other nearby sites. One of the sites has an interesting ledge that contains fossil rocks and is habitat for walking fern (*Azolla caroliniana*) and native sweet flag (*Acorus gramineus*). This cretaceous deposit overlies older Paleozoic rocks consisting of limestone, shale, chert and sandstone.

Sherra has chosen the date hoping to see large stands of spicebush (*Lindera benzoin*), the host plant for Mississippi's state butterfly the spicebush swallowtail, in bloom. Weather cooperating, we should see some early butterflies.

Of course, everything depends on the weather, but Sherra anticipates that in addition to the spicebush we might see spring cress (*Cardamine bulbosa*), spring beauty (*Claytonia virginica*), cutleaf toothwort (*Dentaria laciniata*), Dutchman's breeches (*Dicentra cucullaria*), 2 species of trout lily (*Erythronium* spp.), liverwort (*Hepatica* spp.), woodland phlox (*Phlox divaricata*), buttertong (*Senecio glabellus*), Jacob's ladder (*Polemonium reptans*), spring coral root (*Corallorhiza wisteriana*), sweet little Betsy (*Trillium cuneatum*), prairie trillium (*Trillium recurvatum*), twisted trillium (*Trillium stamineum*) and bloodroot (*Sanguinaria canadensis*) blooming.

Members who plan to participate should bring a lunch. A walking stick may be helpful in some of the steeper terrain. In case of inclement weather we will cancel. If you are planning to come, we ask that you call Gail Barton at 601-483-3588 or email lgbarton@gmail.com so that we know you are coming and can contact you if cancellation is necessary. If you have questions or are running late, you can call Sherra Owen at 662-534-7309 or 662-538-8432. Feel free to bring along a friend. We should have a lovely day filled with some of my favorite things – wildflowers, majestic trees, fossils, butterflies and a crowd of lively plant people!

NATURE JOURNAL: The Art of Seeing

Robin Whitfield, a Grenada artist and naturalist, will inspire participants to explore drawing and experimental techniques as a way to "see" and actively engage the natural world. This workshop is for anyone who loves and is curious about nature and the natural world. It is designed to help participants develop skills and ideas about ways to create a deeper sense of place. Weather permitting, the workshop will be conducted outdoors. In inclement weather, it will take place inside the Visitor Center where there will be plenty of materials and subjects to use. Participants should be prepared to be outside all day if the weather is favorable; bring a hat, insect repellent and a portable chair/stool. Please also bring your lunch, a water bottle, your favorite sketching tools and a clipboard. We will have paper and extra art supplies available for you. For more information on Robin, visit www.robinwhitfield.com. Meet at the Noxubee National Wildlife Refuge Visitor Center, on April 3, 2010; 8:30 a.m. - 3:30 p.m.

John Stark Named Executive Director of the Clinton Community Nature Center

MEEA and MNP&EE Congratulates John Stark for his recent appointment as the Executive Director of the Clinton Community Nature Center. John is known in the Mississippi EE community for his high energy environmental education programs that include music, story telling and Natural Science Excitement! John also is the MEEA NCLI Chair.

How much does the Log Weigh? by John Ruskey, Quapaw Canoe Company

Quapaw Canoe Company of Clarksdale is halfway through a dugout canoe project with a group of students from the Knowledge is Power Program (KIPP) Middle School of Helena, Arkansas. This year-long project involves art, mathematics and craftsmanship.

The challenge is to carve a functional dugout canoe using hand tools only from a 12 foot cottonwood log. The KIPP school slogan "there are no shortcuts" applies perfectly. Using crosscut saws, adzes & axes a group of eight students meets 4 times a week for one hour as an after-school activity. Safe handling of tools and sharpening are two of the skill objectives.



Early on in the project students were asked to address the question, how much does the log weigh? Approaching the log as a geometric solid (a cylinder) a possible approach to this question became apparent. KIPP students measured the ends of the log for radius (14.25"), recorded the length (153"), and then applied the formula for the volume of a cylinder to calculate $V=97,555$ cubic inches. On the first day of carving, students produced a block of wood one inch cubed, and weighed it (14 grams). Now it became a simple multiplication problem. The answer was produced: the log

weighed 1,365,770 grams or 3,005 pounds.

Next students decided how much they wanted the final canoe to weigh. We want to end up with one that can be carried with not too much difficulty, around 200 pounds. Now they knew exactly how much wood they had to remove with axes & adzes: approximately 2800 pounds of wood, almost 2 1/2 tons! Every day after carving the chips removed are weighed and 2-dimensional graphs are kept depicting the log and how much carving is necessary to finish the project.

Neal Moore's CNN report about this project can be viewed at the bottom of Quapaw Canoe Company home page www.island63.com.

Step 1: sketch the log with dimensions

Length = 153 inches

Average Diameter = 28.5 in. (Average Radius = 14.25 in.)

Step 2: Formula for the Volume of a cylinder

Mr. Banks steps up to the challenge by producing the formula:

$$V = \pi r^2 h$$

$$V = 3.14 \times 14.25 \times 14.25 \times 153$$

$$V=97,555 \text{ cubic inches}$$

Step 3: multiply by the weight of one

cubic inch of log = 14g

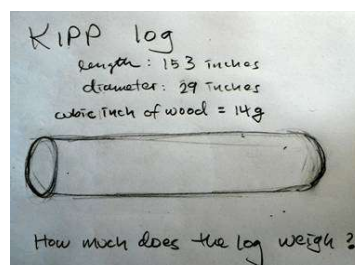
$$97,555 \text{ cubic inches} \times 14\text{g/cubic inch} = 1,365,770 \text{ grams}$$

Now: convert to pounds

1 gram = .0022 pounds

$$1,365,770 \text{ g} \times .0022\text{lbs/g} = 3,005 \text{ pounds}$$


KIPP students using axes and adzes in constructing a cottonwood dugout canoe.



A Look at Who's "Inside" Their Environment

By Sonya Smith, Science Field Coordinator ATOMS2xp Project – MSU

Environmental Education is all about motivating students to get inside their environment in order to increase their knowledge of environmental issues, create possible solutions, and take action to help solve environmental problems. In surveying teachers in Mississippi as well as other states across the country, time or the lack of time for going outside is a major concern among teachers.

Some Mississippi teachers that I have observed while working with the ATOMS 2xp project, however, have stepped outside the classroom and inside their environment and are using hands-on experiences and innovative techniques to incorporate environmental education across the curriculum. These teachers have discovered that using thought provoking questions enables students to make real life connections that make them more motivated to learn. As one teacher from Philadelphia Middle School explained, "Students are able to connect the dots and see the whole picture when I integrate my science lessons with cross-curricular activities."

These teachers note that these hands-on activities make a positive impact on their students' success and learning. One teacher stated, "When I teach a concept through hands-on activities, my students' test scores go through the roof." Another teacher added, "Environmental education activities give students a sense of pride for their environment and that pride carries over into other subject areas." When the teacher asked a student what she gained from the Destruction of the Ecosystem activity she said, "For the first time I really see what is happening to our world."

Three activities that I have observed teachers incorporating into their curriculum which are very budget friendly are Destruction of the Ecosystem, Life in a Square Meter, and Survival of the Fittest.

Destruction of the Ecosystem is an activity one teacher at Bay St. Louis Middle School facilitates each year as part of her

environmental science unit while incorporating language arts and math. Students begin this activity with the teacher asking them to take the role of deer in an ecosystem. The ecosystem is represented by a circle of unbroken hula hoops. This seems to be a very easy task at first glance because the hula hoops are touching each other. Students are then told that in order to survive, they can not place any hooves outside of a hoop. The teacher then tells the students that the ecosystem has been broken by the building of a subdivision and removes a hoop. The students then attempt traveling through the ecosystem again. Subsequently, other hula hoops are removed as schools, playgrounds, malls, factories, highways and stores are built. Eventually, it is impossible for any deer to make it around the ecosystem. As deer succumb to the fracturing of the ecosystem, students write in their journals how many deer die with each successive breach of the ecosystem. As a culmination to this activity, the students graph, discuss, and draw conclusions about what is taking place in their community, their state, and their world.



Another teacher in Wiggins, Mississippi is also teaching "inside" her environment. She used a square meter to create thought provoking questions which led her students to becoming more environmentally aware while also learning math and writing concepts, as well as, inquiry. This activity is called Life in a Square Meter, and it had students brainstorming, researching, and discussing what they might find in their environment. First, the teacher had students brainstorm and then research specimens that could be found in their own backyard. The teacher then had students use measuring sticks to rope off a square meter of land. The students took pictures, sketched and journaled about their natural habitat. The next step was to use plastic bags and collect specimens that were within their square meter. As a whole group, the students then classified and graphed their findings.

Within the last few years students in Caledonia, Mississippi have experienced numerous tornadoes. An elementary teacher used these life experiences to connect environmental issues and social studies with the activity, Survival of the Fittest. The teacher used a rope to make the shape of Mississippi and had the students stand in the circle pretending to be their favorite wild animal. The teacher and the students then discussed their location in Mississippi and what type of environment they were near. The teacher then used different scenarios of possible events that could be taking place in the environment while simultaneously pulling the rope smaller causing the animals to lose their habitat. Some of these scenarios included hurricanes, tornadoes, flooding and construction. As a wrap up for this activity, the teacher had the students draw a map of Mississippi and label where environmental changes might occur. One example was the concern of flooding if you lived close to the Mississippi River. Students shared their ideas and brainstormed solutions on how to restore their environment when destruction occurs.

These are just a few activities that can help students get "inside" their environment, connect to the natural world around them, and make educated decisions about how to take care of it. As I reflected on these activities, it is obvious that the Chinese Proverb from long ago still remains true today, "Tell me and I'll forget, show me and I may remember, involve me and I'll understand."



Mississippi's Native Azaleas by Gail Barton

When most southerners imagine a spring garden scene, robust Indica azaleas like 'Pride of Mobile' are usually part of the picture. These Japanese plants are commonly grown in the south and are prized for their evergreen foliage and gaudy flower displays.

Our native azaleas are a bit more subtle, but I think they are even more beautiful. Over the years, I have collected every native azalea species that will grow in my part of the state. I enjoy them as garden plants but it is even more exciting to see them in the wild.

Heather Sullivan, Botanist with Mississippi Museum of Natural Science, says that she has seen five species of native azaleas here in Mississippi. She says that piedmont azalea and swamp azalea are the most common. Alabama azalea, sweet azalea and Florida flame azalea are rare. The Biota of North America Program lists a sixth species (pinxterbloom azalea) in the extreme northeastern corner of Mississippi. Since Heather has not yet seen it, I'll categorize the pinxterbloom as *extremely* rare.

All of these azaleas along with their Japanese counterparts are in the genus *Rhododendron* spp. which literally translates as "rose tree." Rhododendrons, azaleas, mountain laurel, sourwood, blueberries and leucothoe are all cousins and are classed in the Heath or Heather Family (Ericaceae). The azaleas and many other members of this family thrive in soil with acid pH.

Our Mississippi native azaleas are deciduous rather than evergreen. Four of them bloom in early spring before or as the leaves emerge. The other two (sweet azalea and swamp azalea) flower in summer. The blooms of all are very fragrant. This sweet scent along with the narrow tube and exerted stamens cause local folks to refer to them as honeysuckle or wild honeysuckle.

The flowers may be deliciously scented but they contain toxic nectar. In fact, honey made from azalea, rhododendron and mountain laurel nectar is sometimes called “mad honey.” Azalea honey played an important role in European history. In the first century B.C., a Roman army led by Pompeii the Great was at war with the Heptakometes in Asia Minor. Reportedly, the Roman troops chanced upon a stash of honey. The soldiers eagerly consumed their find and soon became violently ill with vomiting, delirium and, according to some accounts, hallucinations. The splendid Roman army consisting of about one thousand soldiers was brought to its knees and, of course, easily defeated by the home team. Historians are fairly certain that the honey was left in the path of the Romans deliberately as a tasty and poisonous bait.

Here in the south, native azaleas have a slender tube that is normally pollinated by hummingbirds and hawk moths. The nectar is difficult for bees to access and many other flowers more appealing to bees are blooming during azalea season. Consequently, beekeepers can be confident that in our part of the world toxic honey is rarely produced from native azalea nectar. The most common native azalea in Mississippi is *Rhododendron canescens*. The piedmont or Florida Pinxter Azalea occurs in over half of Mississippi’s counties ranging through most of the state except the Delta. Fragrant pink to white flowers about 1” across are borne in large clusters before the leaves emerge. The stamens are quite long and the flower tube is covered with sticky hairs. During winter the wild honeysuckle azalea, as it is colloquially called, can be recognized by its large scaly flower buds. Most references describe this species as a 4’ to 5’ shrub but I have seen specimens that are well over 10’ tall. It is most usually found along on the banks of streams and rivers or in mixed hardwood forests nearby.

The extremely rare pinxterbloom azalea (*Rhododendron periclymenoides* a.k.a *R. nudiflorum*) looks almost identical to the piedmont azalea. Flower color, appearance and timing are very similar. This is, however, a more northern species that barely extends into northeast Mississippi. It can be distinguished in bloom because there are no sticky hairs on the tubes of the flowers.

The Florida flame azalea (*Rhododendron austrinum*) also blooms about the same time as the Piedmont azalea. Flower appearance is similar but coloring is a striking yellow to orange. The flower tube may be flushed with red and is covered with sticky hairs. The loud coloration has caused this to be a popular landscape plant. In the wild this species is found perched on hammocks and in low woods in the extreme southeastern counties.

The last of the spring bloomers is the Alabama azalea (*Rhododendron alabamense*). As the name would indicate, this species is more common in Alabama. According to the USDA Plants Database, it occurs in Mississippi only in Tishomingo and Lauderdale counties. Its preferred habitats are dry open woods or rich wooded slopes. Flowers are borne a tad later than those previously listed. They are crisp white with a yellow blotch and emit a distinct lemony scent.

Rhododendron arborescens, the sweet or smooth azalea, has white to pale pink flowers with red stamens. This tall fast growing azalea bears fragrant flowers in early summer on smooth rather than pubescent stems. *R. arborescens* is quite common in the eastern U.S. but according to the USDA Plants Database only occurs in Itawamba, Neshoba and Forrest counties in Mississippi. It can usually be found perched on high ground in swamp forests or along stream banks.

Rhododendron viscosum (clammy or swamp azalea) is the last to bloom – usually in July in my garden. After recent reclassification, *R. oblongifolium* and *R. serrulatum* (once thought to be separate species) were consolidated in with the swamp azalea. Flowers are white to pale pink with recurved petals and a viscous, sticky or clammy tube. This species can be distinguished from the summer blooming sweet azalea by its greenish stamens and hairy stems. *R. viscosum* is found on the edge of wet areas or perched on top of elevated hammocks rather than in standing water. The USDA Plants Database lists it in 11 southeastern counties.

All of these native azaleas make fine garden plants. They will grow in most parts of the state as long as the site has acid soil and some mid-day shade. If you want to give native azaleas a try, here’s my recipe for success. Start with a well-rooted gallon-sized nursery plant. Plant in late fall or early winter after teasing the roots apart and removing some of the soil-less potting mix. Set the plant in a wide shallow hole so that the top of the root ball is at ground level or an inch or two higher. Water often for the first couple of years and use a mild fertilizer that contains iron. Enjoy the azaleas in your garden. When they bloom it will remind you that it’s time to go to the woods to see the real deal! A visit to <http://www.naturallandscapesnursery.com/azaleas.html> may inspire you to start planting.

Field Trip to Jackson Prairie and Harrell Prairie Hill

US Forest Service personnel, the Nature Conservancy and a private donor, have been restoring Jackson Prairie sites in the Bienville National Forest. Join us on May 22 for a tour of two of the restoration sites as well as a visit to the prairie jewel of the Bienville, Harrell Prairie Hill. Take the Forest Exit on I-20 and meet at Wendy’s 9:00 AM. Contact Tim Schauwecker <tjs2@msstate.edu>.

Wildlife Conservation has Lost a Staunch Defender

It is with sadness that we report the death of Sam Hamilton, the Director of the U.S. Fish and Wildlife Service. The conservation world has lost one of its most dynamic leaders. Director Sam D. Hamilton died suddenly while skiing in Colorado following a regional leadership meeting. Hamilton, 54, was a 30-year career Fish and Wildlife Service employee whose vision and commitment to wildlife conservation was unmatched. He will be sorely missed by his friends and colleagues in the Service and across the conservation community. Sam was from Starkville and a graduate of MSU.

