



# Mississippi Native Plants and Environmental Education



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

Volume 26 Number 1

In the spring, at the end of the day, you should smell like dirt – M. Atwood

Spring 08

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

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The **Mississippi Environmental Education Alliance** promotes environmental education, supports the work of environmental educators and encourages the adoption of earth-friendly lifestyles leading to the sustainability of natural resources.

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## **Chemical Warfare, Nature Invented It First!** **by Dr. John Guyton, MNPS Education Chair**

Willow trees (*Salix*) have lived in wet environments, where insects abound, for millions of years. In order to do this they had to develop powerful chemical defenses to protect them from insects. When insects take a bite of willow they ingest a bitter toxic chemical, called salicin, that prevents the muscles in their stomach and legs from tightening properly. Some insects, however, not only survive the willow's defensive chemicals but break them down into a nutritious sugar and salicylic acid that they store in scuba-like tanks inside their backs. When these willow leaf eating beetles are attacked by ladybird beetles, or others predators, they simply turn their backs, open the nozzles on their scuba-like tanks and spray them with salicylic acid interfering with the functioning of their muscles!

The adage "one man's meat is another man's poison," dating to 1576, has an interesting application of scale here. Salicylic acid is a precursor to aspirin and humans' use of this insecticide is ancient. Hippocrates (born 460 B.C.), the father of medicine, in his record of pain relievers popular during his time, mentioned powdered bark and leaves from the willow tree. In humans, who are much larger than insects, it also relaxes muscles. Since insects are significantly smaller aspirin has a much more potent effect! It also, in its purest form, causes us some stomach problems, just as in insects!

Willows are also the host plant of the viceroy butterfly (*Limenitis*) and therein lies another story involving the willow. Viceroy caterpillars are also able to dine on willow leaves without any ill effects and actually accumulate salicylic acid in their bodies for use as a chemical deterrent. The young caterpillars do not have enough salicylic acid to deter predators, so they have developed a second strategy - the disgusting disguise of appearing as bird droppings on leaves! As an adult the viceroy, as it is commonly known, mimics the monarch where monarchs occur. In areas where the queen (*Danaus*) is more common viceroys mimic the queen. The queen and monarch both accumulate toxic glycoside, from their host plants. Since all three have similar coloration and appearances, and contain toxic chemicals, they collectively constitute a natural alliance deterring birds and discourage predators from attacking them or their allies! Wise birds learn, butterflies that eat toxic plants like a viceroy, look like a monarch or fly like a queen are not tasty!

**Fun Fact:** Some naturalists still chew on willow twigs for minor pain relief, but watch out for something that looks like a bird dropping!

### **Willow Tea**

Every teacher, gardener and naturalist should know where the nearest willow tree is. Willow tea is not a headache cure, although I am sure it would work, it is a wonderful source of rooting hormones. My first experiments with willow for rooting involved sticking willow branches that were about 8 inches long into the ground beside the grape vine cuttings I wanted to cover my arbor. Within a year the vines were 12 to 15 feet long and on top of the arbor. The second summer we enjoyed sitting on swings beneath the arbor eating grapes. To make willow tea stick a hand-full of twigs in a milk jug full of water and let them steep a day or two in the sun, or until you need it. Pour it on newly planted or transplanted plants. Many teachers subsidize their school budget by involving their students in collecting cuttings from house plants, rooting them and selling them before school is out.

## Newsletter Header

We are trying on a new newsletter header to see how it feels. It was designed by MNPS and MEEA member Marion Sansing. The part with a tree growing out of a book in the state outline is part of the MEEA logo, designed by Meredith Montgomery, Director of the Clinton Community Nature Center.

### Dear MNPS Members,

We are in the early planning stages for our 2008 Annual Meeting. So far, we have decided to meet at the Larry Box Conservation Center at the Noxubee Wildlife Refuge near Brooksville, Mississippi. **SAVE THE DATE OF SATURDAY, OCTOBER 18, 2008.**

I am really excited that we are meeting at the Refuge. The Refuge is a beautiful place that I thoroughly enjoyed exploring during my College days. The staff and the Friends of Noxubee Refuge are doing wonderful educational programs for kids and adults.

Here is a rough agenda. This is still a full day just like our 2007 meeting but it allows more time for hands on activity and networking.

8:30-10:15 Concurrent Workshops or Explore the refuge on your own. Possible Workshop topics include: Native Grass

Identification, Flower Arranging with Native Plants, Oak-lovers Trek to Crawford, MS to see State Champion Bur Oak and Durand Oak, Dutch Oven Campfire Cooking, Birding Basics with a hike on the Red Cockaded Woodpecker Trail. Please contact me at [lgbarton@comcast.net](mailto:lgbarton@comcast.net) if you have workshop input or preferences.

10:30-11:00 Welcome and Short Presentation about the wonderful things going on at the Refuge – Henry Sansing or other Noxubee Refuge Staff - Larry Box Conservation Center

11:00-12:00 Margaret Gratz – “Wildflowers for Wildlife” - Larry Box Conservation Center

12-1:00 Lunch (Since no eateries are nearby everyone can bring a lunch and we also will consume the products of the Dutch Oven Cooking Workshop.)

1:00 -2:00 Marc Pastorek – “Solving Landscape Problems With Wildflowers and Grasses” – Larry Box Conservation Center

2:00-2:15 Business Meeting - Larry Box Conservation Center

2:30-4:00 Afternoon Field Trip to Scattertown Trail (an older growth upland post oak/hickory woodland that should be beautiful that time of year) led by Bob Brzuszek. We may possibly offer a concurrent repeat of the guided walk of the Woodpecker Trail if enough members request it.

This year we will ask that everyone register in advance so that we have an idea about numbers. There will probably be a small fee for the workshops and a registration fee for non-members. Registration forms, a map and final details will be given in the next newsletter.

The meeting planning committee includes Gail Barton, Bob Brzuszek, John Guyton, Deb Mann and Marion Sansing. Since we are working with a rough draft, there is still time for any member to give input to committee members.

Also the position of Field Trips Chair for the Northern part of the state has become vacant. Any member willing to serve in this capacity should get in touch with me at [lgbarton@comcast.net](mailto:lgbarton@comcast.net).

I think we will have a wonderful 2008 MNPS Meeting - Gail Barton, MNPS President and Horticulture Instructor MCC

*Patrick Henry (of "liberty or death" fame) once said, "Since the achievement of our independence, he is the greatest patriot who stops the most gullies." (quote from The Earth Manual: How to Work on Wild Land Without Taming It, by Malcolm Margolin.).*

### MEEA President's Letter

The change and promise of spring is an obvious environmental comparison to our growing organization. So far 2008 is bringing out less obvious comparisons between individuals, organizations like MEEA and our nation. As MEEA is in the process of redefining our voice and direction, our nation is in the process of choosing a new leader and new possibilities. I'm sure many of you would agree that a greater environmental focus would support this national challenge. It is time for our officials that “represent” us to truly represent our voice in protection of natural resources and the environment. Mississippi can be a leader in this journey regardless of our rank or perception of our state. MEEA is one of many state environmental organizations with that voice, that ideal and that vision.

This year let us measure our potential by the effectiveness of our journey and accomplishments. I am asking you to seriously consider how we can individually and collectively be heard. How do you want to be involved in the change ahead? Consider joining a committee, attend a board meeting, write to our newsletter editors or simply voice your opinion. For far too long we have been told that our voice and opinion in Mississippi doesn't matter... isn't it time to be heard? We have the tools and resources to accomplish this together. Help me enable MEEA to be part of the solution and the promise of a clean sustainable future.

MNP&EE is the quarterly newsletter of the Mississippi Native Plant Society and the Mississippi Environmental Education Alliance.

#### Deadlines for Articles

Winter (Dec - Feb) - November 15  
Spring (March - May) - February 15  
Summer (June - August) - May 15  
Fall (Sept - Nov) - August 15

John DeFillipo, MEEA President

***Don't forget the MEEA Board Meeting on February 27 at the Noxubee National Wildlife Refuge 10:00-12:00. We will send you a map and directions.***

## ***MSU's Summer Nature Options and Intergenerational Camps***

### ***Collect Butterflies and Moths with the Lepidopterist Society and Work on Project Bug***

The Lepidopterist Society will hold their 2008 meeting on the Mississippi State University campus June 23 - 27, 2008. A teacher workshop will be held in conjunction and teachers will have the opportunity to participate in sessions, collect butterflies during day trips and moths during the evenings. A number of outstanding lepidopterists will be in attendance and several will be assisting with the teacher workshop. This is an incredible opportunity to collect and learn with and from the experts.

After years of managing Bug Camps, Drs. Mike Williams, John Guyton and David Held have begun developing Project Bug, patterned on the highly acclaimed Project Learning Tree. They will assist you in learning how to collect and preserve moths and butterflies before the field trips and work with you during and between the sessions to develop classroom activities from the presentations. We will add your lesson plans to those being compiled for Project Bug and you will be created as a developer of Project Bug. We will provide your nets, kill jars and spreading boards.

After the conference we will make a black light, and other resources, available for you to use when you host night collecting outings for your students. We will also add you to the Gloworm entomology newsletter and continue to provide opportunities

Registration is \$85. Accommodations are available at the Comfort Inn (662-324-9595) for the MSU rate of \$104/night, Hampton Inn (662-324-1333) for \$81/night, Holiday Inn Express (662-324-0076) for \$84/night, University Inn (662-323-9550) for \$48/night and Microtel (662-615-0700) for \$64/night. Rooms are also available in newly constructed or recently renovated dormitories including private bathrooms are available for \$30/night single or \$40/night double. The MSU Butler Guest House (662-325-4140) also has a few rooms at \$75/night. Mention that you are participating in the Lepidopterists' Society Meeting.

Collecting field trips are planned for the Noxubee National Wildlife Refuge during the day on June 24 (box lunch provided for \$7) and a night field trip is planned for the Osborn Prairie, a remnant of the Black Belt Prairie, on June 24. Another collecting opportunity at the Noxubee National Wildlife Refuge will follow the BBQ picnic on June 25.

For more information or to register contact John Guyton at [jguyton@cfr.msstate.edu](mailto:jguyton@cfr.msstate.edu) or 662-325-3482.

### ***Entomology Camps, 2008***

Yep, its time to collect bugs. The Entomology and Wildlife and Fisheries Departments will be offering Bug Camps again this summer. First camp will be at Crows Neck in Tishomingo County, June 15 - 19, 2008 and the second one will be offered at a place yet to be determined on July 13 - 17, 2008. We offer CEUs for all of our camps and have had teachers, museum educators and naturalists, who want to build entomology programs for their centers camp with us. Check our [bugcamp.org](http://bugcamp.org) for some pictures from last summer. Expect to have a blast with a tour of a working bee hive, day and night collecting, insect - plant interaction hikes, insect photography, tree beetles, learning how to pin and identify insects, dissecting carnivorous plants, etc. Camp costs \$225 plus the cost of CEUs (possibly 4). We also have a lot of parents who come to camp with their young entomologists. Campers must be at least 10 years of age. Contact Dr. John Guyton at [jguyton@cfr.msstate.edu](mailto:jguyton@cfr.msstate.edu) or 662-325-3482 or Dr. David Held at [dwh56@msstate.edu](mailto:dwh56@msstate.edu) or 228-388-4710.

### ***Wildlife and Fisheries Camp, 2008***

If you are seeking an exciting intensive outdoor experience this is the camp for you! Also an intergenerational camp we have many parents and teachers who participate. We do wildlife and fisheries camp on campus and at the Noxubee National Wildlife Refuge. Pictures from last summer can be viewed at <http://msucare.com/wildfish/education/camp-photos.html>. Some of the more popular options include an introduction to bowfishing, fly tying, instruction in tomahawk throwing, wildlife briefing on various wildlife species (turtles, turkeys, deer, skulls and bones, snakes, fish, waterfowl, pine beetles, etc.), a wildlife CSI, shooting muzzle loaders and clays, hunter ed and boater safety, blacklighting for insects, weather forecasting, rocks and minerals, stream ecology in the Noxubee River, an electroshock boat demonstration, and a wildlife luncheon. Consider making this a family vacation or bring your children and teaching partners. Camp is for ages 10 and up and costs \$225 plus the cost of CEUs (possibly 4) for teachers. Contact Diane Weeks at for more information or to register contact Diane Weeks 662-325-3174 or [dweeks@ext.msstate.edu](mailto:dweeks@ext.msstate.edu). For other questions contact: Dr. John Guyton 662-325-3482 or [jguyton@cfr.msstate.edu](mailto:jguyton@cfr.msstate.edu) or Dr. Bronson Strickland 662-325-8141 or [bstrickland@cfr.msstate.edu](mailto:bstrickland@cfr.msstate.edu).

### ***Hilary Shughart's Notes: Rain Garden Featured in Extension Article***

Go to [msucare.com](http://msucare.com), scroll down, select Lawn and Garden. You really can't go wrong from here. I am guiding you to the exciting article on Rain Gardens, featuring a photo of the garden at the Lafayette County and Oxford Public Library. Next, select Sustainable Landscapes, then the Rain Garden. Citizen Scientists can capture the stormwater from impervious rooftops, driveways, roads, and parking lots. By digging just six inches you capture the seasonal flooding suitable to plants such as the native iris, cardinal flower, penstemon, and soft rush. If you are lucky, you might include some cattail - like earrings on an elephant, iconic as a saguaro cactus, the cattail not only helps the soil absorb the rainwater, but also provides food, shelter, and beauty, as do you, when you plant it!

***The MNPEE Naturalist Page by Terri Jacobson, Wildlife Biologist,  
U.S. Fish and Wildlife Service, Jackson, MS.***

***The Private Eye***

I have discovered what it takes to think like a genius and to become more observant and excited about nature. . . I discovered The Private Eye! I will take my jeweler's loupe outside, look closely and practice creative thinking skills. Ten times, I will ask myself "What else does it remind me of?" and then I'll print my list of analogies here in the newsletter for you to guess. Answers may be submitted to me by email and I will collect each submission for a chance drawing at the next MEEA conference. To learn more about The Private Eye, visit the website <http://www.the-private-eye.com> or schedule a Private Eye workshop in Mississippi by calling 601-321-1129 or email me at: [terri\\_jacobson@fws.gov](mailto:terri_jacobson@fws.gov).

*Sign of Spring* - go ahead and record your answers beside the signs...

- |                        |                      |                          |
|------------------------|----------------------|--------------------------|
| 1. corn cobs           | 5. gold dust         | 8. tentacles of an alien |
| 2. lady's frilly dress | 6. onion skin        | 9. waxy candlesticks     |
| 3. seersucker fabric   | 7. suction cup disks | 10. raffia ribbon        |
| 4. tissue paper        |                      |                          |

***Discover Nature with Books!***

Books about Nature whether field guides, journals or children's story books are important for studying, identifying and just plain enjoying the wonders of our natural world. And books make wonderful gifts for a budding naturalist of any age. Here are some books in my library that I want to share with you! *by Terri Jacobson*

**Youth Book Review**

One Small Square – an eye-opening series illustrating close-up encounters of plants and animals in various ecosystems such as the backyard, woods, pond, swamp, cave and more. Very informative and illustrations are colorful and accurate. Each book encourages discovery by observing nature and using scientific methods of study and includes several engaging outdoor activities. Perfect books for nature center, classroom, or home library.

**Adult Book Review**

Bringing Nature Home by Douglas W. Tallamy – by studying the relationship between native plants and the insects they host – and their impact on wildlife, particularly birds, Tallamy realized our gardens and yards are the front line to protecting biodiversity. Not so much a "How to Guide" although Tallamy does give plant lists and includes many photographs but his book is more of a "WHY to" explaining the value of native plants and the importance of coexisting with nature and not fighting nature. This book gets you excited about going native!

***Spring Time is Bird Walk Time***

By studying nature, especially birds, insects and plants, one becomes more in-tune with the changing seasons. Spring is an exciting time to go for a walk and watch birds. Even though migrating purple martins start to arrive in February, the best spring time bird watching is mid-March through the beginning of May in Mississippi. Look! For bright blue, ruby red, bold yellow and neon orange feathered flashes of color dancing among the budding trees. Some birdwatchers travel to the coast to greet the colorful migrants as they fly in from Mexico, South America and tropics afar. But one can watch and listen for migratory birds in the backyard and in our neighborhoods. Some like the bright red scarlet tanagers are here just for a bit as they migrate through Mississippi to their northern nesting habitats. Look! There is a tiny bird zipping among the red tubular flowers, the ruby-throated hummingbird will stay here for the summer and the female will collect strands of spider webs and lichens to build a tiny cup nest. Listen! The tiny wings of the hummingbird actually do make a humming-like sound. Springtime is the apex of bird sound. Listen! For their voices bring joy to all who will listen. One spring bird that I hear in my yard is the black-throated green warbler. This small yellow-green and white bird with a black bib is so excited about the upcoming nesting season that he sings as he flirts from tree limb to the tips of the budding branch searching for tiny insects to fuel his journey northward. He sings about the importance of trees for he naturally knows that trees provide resting cover, food and places to nest. His musical buzzy voice proclaims "trees-trees-beautiful-trees" or some say he sings "trees-trees-whispering-trees". The black-throated green warbler passes through Mississippi on the way to Wisconsin and farther North and East to nest in hemlock and pine. Come Spring, listen for his voice and look for him among the trees.

***"Something will have gone out of us as a people  
if we ever let the remaining wilderness be destroyed." Wallace Stegner***

**Note:** The Jan/Feb ORION journal has a feature on *Healing Landscapes*, in which Daniel McCormick weaves natural material mats to forestall erosion and silt before breaking down and making way for native vegetation.

## ***MNPS Members Are Invited to Take “A Walk on the “Wildside” by President Gail Barton***

On Saturday **April 12, 2008**, MNPS members are invited to tour Sherra and Ken Owen’s teaching garden, trek the unique hills and hollows of Pontotoc Ridge and make a foray with Lucille McCook to a cedar glade in the Black Prairie. This field trip will be especially interesting to those of us who enjoyed Sherra’s presentation on traditional uses of Mississippi’s native plants at the MNPS October 2007 meeting.

The Pontotoc Ridge is a high ridge of hills separating the Red Clay Hills from the Black Prairie and the Northeastern Hills. It is described as a “highland” area that averages 400 to 600 feet above sea level. The soil is typically heavy clay. The headwaters for many streams and rivers including the West Fork of the Tombigbee River originate here.

Sherra will meet our group at the **Pilot Truck Stop in New Albany at the intersection of Highway 15 and Highway 78**. Each person should **bring a lunch or buy some snacks at the Arby’s Restaurant inside the Pilot**. We will leave the Pilot at **9:30** and drive about 6 miles to “Wildside”, Sherra and Ken’s home along the Pontotoc Ridge.

We will begin our day with a pleasant stroll through Sherra’s backyard native garden. We will view a variety of native plants in this cultivated setting. We will then hike a 1 mile wooded nature trail that Ken and Sherra maintain to see the plants in a natural setting. After our tour we will pic-nic in Sherra’s garden. **Sherra is arranging a tour of another Pontotoc Hills site and a cedar glade in the Black Prairie for those who want to continue after lunch.**

### **Sherra estimates that the following plants will be in bloom at the Pontotoc Ridge sites:**

Baneberry ( <i>Actea pachypoda</i> )	Spicebush ( <i>Lindera benzoin</i> )
Green Dragon ( <i>Arisaema dracontium</i> )	Sweet Cicely ( <i>Osmorhiza longistylis</i> )
Jack in the Pulpit ( <i>Arisaema triphyllum</i> )	Alleghany Spurge ( <i>Pachysandra procumbens</i> )
Pawpaw ( <i>Asimina triloba</i> )	Jacob’s Ladder ( <i>Polemonium reptans</i> )
3 species of Ginger ( <i>Asarum canadense</i> , <i>Asarum shuttleworthii</i> , <i>Hexastylis arifolia</i> )	Woodland Phlox ( <i>Phlox divaricata</i> )
Spring Cress ( <i>Cardamine rhomboidea</i> )	Solomon’s Seal ( <i>Polygonatum biflorum</i> )
Spring Coralroot ( <i>Corallorhiza wisteriana</i> )	Bloodroot ( <i>Sanguinaria canadensis</i> )
Toothwort ( <i>Dentaria laciniata</i> )	False Solomon’s Seal ( <i>Smilacina racemosa</i> )
Green Violet ( <i>Hybanthus concolor</i> )	2 species of Trillium ( <i>Trillium cuneatum</i> and <i>Trillium recurvatum</i> )
Golden Seal ( <i>Hydrastis canadensis</i> )	Bellwort ( <i>Uvularia grandiflora</i> )
Copper Iris ( <i>Iris fulva</i> )	

We should also be able to see several species of ferns including Cinnamon fern (*Osmunda cinnamomea*), Royal Fern (*Osmunda regalis*), Sensitive Fern (*Onoclea sensibilis*), Broad Beech Fern (*Phegopteris hexagonoptera*), Christmas Fern (*Polystichum acrostichoides*), Northern Maidenhair Fern (*Adiantum pedatum*), Adder’s Tongue Fern (*Ophioglossum vulgatum*), Rattlesnake Fern (*Botrychium virginianum*) and 2 other species of Grape Fern (*Botrychium dissectum dissectum* and *Botrychium dissectum obliquum*).

After viewing the Pontotoc Hills sites, we will convoy about 30 miles toward Tupelo to the Black Prairie. The Black Prairie is an extension of the Black Belt of western and central Alabama that lies in the alluvial plain of the Tombigbee River. The land is covered with rich black soil that gives the region its name. The main cities in the prairie are Tupelo, Columbus, West Point, Aberdeen, Starkville, Okalona, and Macon.

We will meet Dr. Lucille McCook at Connewah Creek Chalk Bluffs owned by the Nature Conservancy. At the cedar glade we will see the federally endangered Price’s Potato Bean (*Apios priceana*) that has been identified only at this location in Mississippi. We will also see Dwarf Larkspur (*Delphinium tricorne*), Giant Indian Plantain (*Cacalia muhlenbergii*) and American columbo (*Swertia caroliniensis*)

If we manage to stay on schedule (and plant people rarely do) **our field trip should conclude around 3:30.**

This is a marvelous opportunity for anyone who wants to learn to identify ferns or spring wildflowers. Participants will also experience the Pontotoc Hills and a Black Prairie Cedar Glade, two very different and unique Mississippi ecosystems. Reserve a spot on this wonderful field trip by contacting Gail Barton at [lgbarton@comcast.net](mailto:lgbarton@comcast.net) or calling Sherra Owen at 662-534-7309 or 662-538-8432. Members are welcome to bring a guest. Since we will be touring a teaching garden, any interested MEEA members are cordially invited to attend as well.

***“Wild thing you make my heart sing...”***  
***You never knew Jimi Hendrix was referring to native plants did you?***

### ***Using EE to Improve Students' Grades by Dr. John Guyton, MSU Wildlife and Fisheries***

Each day, after school, I asked our daughters what they had learned, and I bet you already know their typical answer, "nothing." Now, it took a while for me to decode the meaning of their lackadaisical reply. In reflecting on the infrequent items they mentioned, it was easy to understand what piqued their interest - lessons that they perceived as interesting or useful. Most of the time they were bored and failed to see the need, value, relevance or usefulness of their lessons. Well, there is a solution.

There is a teaching technique, gaining popularity, that has been found to **improve students' standardized test scores in all subjects, reduce discipline problems** (as reported by principals) **and improve teacher satisfaction to the point of reducing teacher absenteeism!** Now, that sounds like something we can all use a whole lot more of. This technique, popularized by Dr. Gerald Lieberman, is commonly known by its acronym, EIC, or using the Environment as an Integrating Context.<sup>TM</sup> So, how do you do it?

**Guyton's Version of EIC** - Gerald trademarked EIC I will call my version **EI** or Environmental Integrations. During Dr. Lieberman's first trip to Mississippi to speak at a MEEA conference (Crows Neck) I asked him for a recipe to which he replied there were a lot of different paths. Disappointed, I read everything on his website and made up the following "recipe." When I showed it to him later he indicated I had captured the essence and it looked like I had included the elements common in most programs.

There are many ways to use integrated instruction and the journey is usually successful. The technique I have found successful is to **identify questions, problems, projects and issues, of interest to students**, that they can **answer, solve, complete or resolve**. Students can work on their projects in groups or individually. Their individual interest, or the needs of a project group or the teacher, will dictate whether groups or individuals work together. Teachers can use EI in their individual classrooms or with other teachers in a departmentalized or interdisciplinary setting, taking advantage of advance techniques such as block scheduling, team teaching, etc.

**A logical starting point** is to involve the students in brainstorming a "shopping list" of **questions, problems, projects and issues in which they are interested** relative to the topic they will be studying next. Students progress by formulating a theme statement, that may be in the form of a question, that will guide their problem-solving activity. The news media actually supports and reinforces this type of learning with a non-stop supply of environmental current events. Once students have identified the questions, problems, projects or issues they want to work on, the teachers' job becomes easier and more enjoyable. The teacher has veto power and must/will decide which topics are most easily adaptable to curriculum mandates and which might be useful in preparing students for the currently popular high-stakes standardized test.

A few examples students might choose to research may include the following. If the world is heating up, what crops might grow better? Do plants grow better or faster in a CO<sup>2</sup> rich environment? How much can I reduce my family's grocery bills by growing vegetables on the back porch? Is locally grown produce cheaper than produce from California or South America? Why should I not squish a slug? Once students have identified an area of investigation *they are personally interested in*, the teachers' role becomes one of facilitator as they help the students learn the fundamentals of their question, problem, project or issue; find resources, books and other references; help students develop the necessary skills and begin experimenting; and last, but certainly not least, make sure their curriculum mandates can be mastered during the investigation. The amount of class time devoted to EI can be as little as one period or day per week or it might evolve into a continuous activity, with the teacher inserting mandated instruction at key, or appropriate, points. The duration of an EI activity may be a week or less or last all year. Some class time may be allocated to the various tasks required to resolve the theme and the remainder may resemble traditional instruction. Only now, the instruction has become more meaningful to the students because **THEY NEED** the information and skills in the completion of tasks in which they have an interest. Here, Project Learning Tree, The Leopold Education Project and the other projects contain a plethora of activities that are useful in guiding the students study of many natural phenomenon.

EI lends itself to the use of local natural and community surroundings; natural and social systems; community-based investigations; integrated, interdisciplinary instruction; service-learning; collaborative instruction; learner-centered constructivist approaches; and cooperative and independent learning.

There are numerous opportunities for **volunteers** to work with students who are interested in outdoor investigations or an EI type project. Just remember - whether you are a resource, teacher or facilitator, *it must be a project in which the students are interested*. **They will be your best audience ever if you are sharing knowledge and/or skills to assist them in answering their questions, solving their problems, completing their projects or resolving their issues - and that my friends is the secret to engaging youth.**

A report linking this type of instruction to student achievement can be found on the Association for Supervision and Curriculum Development Internet site: <<http://www.ascd.org/readingroom/infobrief/issues26.html>>. The spokesperson of EIC is Dr. Gerald Lieberman and a more complete description of the EIC research can be found on his internet site <[seer.org](http://seer.org)>.

Relax, don't worry, it has been said that if you can sufficiently interest students in a topic - they will teach themselves to read (or whatever). And, letting them select a topic of interest to them makes it a lot easier than you can possibly imagine!

## ***National Survey of Fishing, Hunting, and Wildlife-Associated Recreation***

The US Fish and Wildlife Services National Survey of Fishing, Hunting and Wildlife-Associated Recreation, conducted about every five years, provides information on the number of people fishing, hunting, and watching wildlife and the amount of time and money spent on these activities. Over 87 million U.S. residents 16 years old and older fished, hunted, or wildlife watched in 2006 (29.9 million people fished, 12.5 million hunted, and 71.1 million participated in at least one type of wildlife-watching activity). Recreationists' avidity was reflected in their spending over \$120 billion. Sportspeople spent a total of \$75 billion in 2006 (\$41 billion on fishing, \$23 billion on hunting, and \$11 billion on equipment). Wildlife watchers spent \$45 billion on trips, equipment, and other items. Check it out on line at <http://federalaid.fws.gov/surveys/surveys.html>.

## ***You are going to Love this Stop on the Internet!***

Go ahead and get on the Internet. Go to [zipcodezoo.com](http://zipcodezoo.com) and start wandering around. Someone is paying for a huge amount of memory to run this site! It seems Mississippi has 79989 plants listed and described on this site. And then there are the animals...

## ***The Classroom Environment by Dr. John Guyton, MSU Wildlife and Fisheries***

*Much is known and little is practiced.*

Recently at a meeting I listened to participants lamenting the problems with unruly students and teachers' inability to handle these problems. There are solutions. So I thought I would drop a few classroom tips.

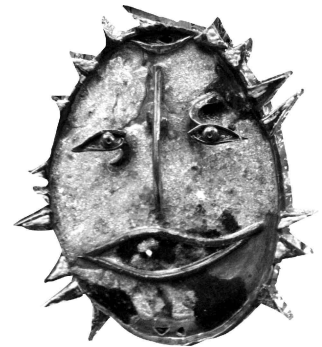
The very first item on many teacher assessment instruments is *Begins Instruction Promptly*. This is absolutely essential to a well functioning classroom, but it has to start on the first day of school. It is exponentially more difficult to implement after the first day and week. The reason is very simple - once children have the opportunity to chat with their friends, whatever they are talking about is more important, to them, than anything the teachers has to say. My advice to my preservice teachers was to "start fast and go like their pants are on fire until the period ends." Giving students time to talk at the end of the next period not only waste instructional time it will be a disservice to their next teacher.

During the same meeting a teacher mentioned her students could read words, they just could not get the meaning of the sentence or paragraph. Reading programs are a dollar a dozen, but a few things I know. With the video generation stimulation is paramount and teachers desperately need a way to stimulate students to read. Science can help here. *Before a reading assignment provide a hands-on science opportunity to investigate a concept that will be covered in the reading assignment.* In most cases this will pique student's curiosity at which point you can share with them some books on the shelf, or a story within, which they will find additional information to satisfy their curiosity.

## ***Meadowmakers Catalog, and Prairie Primer now online!***

MNPS's immediate past president Marc Pastorek sells collected prairie seeds and plants and his catalog is now online. It is in pdf format and can be printed out. This is an excellent and informative booklet about prairies in the deep south. Current MNPS President Gail Barton was instrumental in putting the catalog together last winter and it has great potential as a teaching tool as well as being a seed and plant source! So, check out Marc's site at [www.meadowmakers.com](http://www.meadowmakers.com). Teachers, if you live and teach in the prairie you should consider helping preserve this important habitat by returning a section of your school yard to prairie.

That art work on this page is also Marc's. Dr. Joy Anderson won it in the drawing at the last MNPS meeting.



## ***MNPS & East Central MS Native Plant Society Events***

The Armchair naturalist's Guide to the Universe (or at least Mississippi!)

Unless otherwise noted, events take place at the Oxford/Lafayette Co. Public Library auditorium at 6:30 p.m. All events are free and open to the public. For more information, contact Nan Johnson, 662-473-4559, East Central MS Native Plant Society

Feb. 28 (Thurs)-Mussels and fresh water ecology of the Southeast - Dr. Mel Warren, research fisheries biologist, USDA Forest Service

March 4 (Tues)- Winter tree identification nature walk (other flora & fauna included) in Bailey's Woods - Dr. Matt Zuefle, assistant professor Parks/Recreation Dept., Univ. of MS NOTE: WE WILL MEET AT THE UNIVERSITY MUSEUM PARKING LOT on University Ave. at 5:15 p.m., walk starts 5:30 sharp & ends at twilight.

April 12 (Sat) Tour of Sherra and Ken Owen's teaching gardens, see *Take a Walk on the Wild Side* on page 5.

**MS Native Plant Society Membership Application or Renewal Form**

Join the organization devoted to the study and appreciation of wildflowers, grasses, shrubs and trees native to the state of Mississippi. **Join Today!**

\_\_\_\_\_ New Member \_\_\_\_\_ Renewal Name \_\_\_\_\_  
\_\_\_\_\_ Student: \$7.50 County \_\_\_\_\_  
\_\_\_\_\_ Individual or Family: \$10.00 Address \_\_\_\_\_  
\_\_\_\_\_ Sustaining: \$15.00 \_\_\_\_\_  
\_\_\_\_\_ Contributing: \$35.00 Telephone \_\_\_\_\_  
\_\_\_\_\_ Life: \$125.00 email \_\_\_\_\_

Please return this form with check to: MNPS, Inc., C/O Dr. Debora Mann, 114 Auburn Drive, Clinton, MS 39056-6002

**Coastal Plains Chapter MNPS:** Meets every 4<sup>th</sup> Monday at various locations near Gulfport. For more information contact president, Edie Dreher at 228-864-2775 or mail to 100 24<sup>th</sup> St., Gulfport, MS 39507.  
**Starkville Area Chapter:** For meeting times and information, contact Bob Brzuszek at rbrzuszek@lalc.msstate.edu or phone 662-325-7896.  
**NE MS Native Plant Society Chapter:** contact Margaret Gratz at 662-844-5640 or gratz@redmagnet.com

**Mississippi Environmental Education Alliance Membership Application**

The state alliance devoted to environmental education and the affiliate of the North American Association for Environmental Education. **Join Today!**

Name: \_\_\_\_\_ New \_\_\_\_\_ Renewal \_\_\_\_\_

School or Organization: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone:(day) \_\_\_\_\_ (evening) \_\_\_\_\_

e-mail: \_\_\_\_\_ Fax: \_\_\_\_\_

- |  |  |   |
|--|--|---|
| <b>Membership Category</b>                           | <b>Committee Interests:</b>                  | Return this application, with your check or money order, to MEEA, C/O John DeFillipo, MS Museum of Natural Science, 4391 South Frontage Rd., Columbus, MS 39701 |
| <input type="checkbox"/> Individual (\$10.00)        | <input type="checkbox"/> Strategic Planning  |   |
| <input type="checkbox"/> Student (\$5.00)            | <input type="checkbox"/> Nomination          |   |
| <input type="checkbox"/> Family (\$25.00)            | <input type="checkbox"/> Conference/Workshop |   |
| <input type="checkbox"/> Institution/Business (\$50) | <input type="checkbox"/> Awards              |   |
| <input type="checkbox"/> Life (\$150.00)             | <input type="checkbox"/> Communications      |   |
| <input type="checkbox"/> Patron (\$150 - \$1,000+)   | <input type="checkbox"/> Financial           |   |

**Join MNPS, MEEA or Both!**

The Mississippi Environmental Education Alliance conducts an annual conference and occasional workshops. They are preparing to assist colleges of education meet the new EE standards required for NCATE accreditation. For information on upcoming activities watch the newsletter, contact President John DeFillipo or check the calendar on [eeinMississippi.org](http://eeinMississippi.org)

**MEEA has a Web Site! Check out [EEinMississippi.org](http://EEinMississippi.org).**

**Don't forget the MEEA Board Meeting, open to all, on February 27, 10:00 - 12:00 at the NNWR!**

**MISSISSIPPI NATIVE PLANT SOCIETY**

c/o Dr. Debora Mann  
Millsaps College  
1701 North State Street  
Jackson, MS 39210-0001

