



Merry Lea
Environmental Learning Center
of Goshen College
Wolf Lake, IN 46796

"Where Earth and People Meet"

Producing Stewards

Winter 2003

A Newsletter for Teachers

www.goshen.edu/merrylea

(260) 799-5869

A Natural Disrupter to Education: West Nile Virus

Merry Lea was shy of children this past fall due to the West Nile virus scare. And we have the right to be scared since this little bugger called the *Culex pipiens* mosquito is carrying a virus that can cause encephalitis, an inflammation of the brain. Why this epidemic? How can this tiny insect be an angel of death? It's because of educational defaults; ignorance of the importance of our ecosystems.

Prior to people other than Native Americans coming to Indiana, 25% of this state was wetlands. Currently only 3% of the state is wetlands. What does that have to do with West Nile virus? Besides wetlands being deterrents for floods, rechargers for our ground water and sponges for excess nitrogen and phosphorous, they also provide great habitat for a plethora of living things that eat mosquitoes. But we've learned it's okay to destroy our marshes and swamps.

Luckily this has been a cold winter but, then again, spring is just around the corner. Extermination of the mosquito is not the end all answer because what would that do to the critters that rely on them for food? And what is happening to the critters that are munching their insecticide covered prey currently? How will it affect the longevity of the Brown bats that eat on average of 2000 mosquitoes a night? How about the Purple Martins and the Fowler's toad, the Leopard frog and the Blue Darner Dragonfly?

A recent Indiana Department of Natural Resources report exclaims, "Did you know? Healthy Wetlands Devour Mosquitoes! Mosquitoes become a problem, however, in areas that have standing water, yet do not support the beneficial animals that feed on mosquitoes. Most any kind of wet area or standing water makes a good breeding site for mosquitoes: old tires, cans, and other containers that collect rainfall; even hollow logs that hold water, and low spots in the ground where water pools. And because these types of places do not provide good homes for those beneficial insects and other kinds of wildlife that feed on mosquitoes, the mosquitoes quickly reproduce out of control."

Education and life teaches us that it is better to be proactive than reactive. So let's educate our youth and our community members that wetlands are saviors and needed, not villains and not producers of the grim reaper. -Paul D. Steury, Education Coordinator

Why Standards Correlation?

I work with school groups at Merry Lea because I love learning. I want to help others, both children and adults, learn. I also teach at Merry Lea because I love the natural world. So I'm particularly passionate about helping children and adults learn to appreciate and know more about the natural world. I want them to come to understand more about how the natural world functions and how each of us fits into the grand scheme of things. After all, we humans aren't something different than the natural world, or "the environment" as so many people refer to it. No, each of us is part of it as much as the trees in our yards or the soaring mountains (not in Indiana!) or the whales in the ocean. I want others to recognize this and to grow to value and appreciate it. I want others to care so much that they're willing to make personal sacrifices to help take care of this amazing earth we live on.

So why am I telling you this? Well, I recognize that if we're going to continue to have school groups come to Merry Lea so we can teach them and enjoy being outside with them that we need to make our programming tie into what you're expected to teach in your classroom. I know that there is intrinsic value in children just being outside exploring and reconnecting to the earth around them. However, I also recognize that schoolteachers often need to justify taking students out of the classroom for any reason.

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MEL: Merry Lea's Mobile Environmental Laboratory

We have what you need to make your class come to life. Thanks to a generous Lily Grant, Merry Lea can now offer resources to enrich your current curricula in areas of water quality, air quality, soil quality, GPS/GIS, and natural history. Acquired to investigate any ecosystem, you can discover what might be affecting your quality of life by using these tools of an environmental scientist. The equipment purchased and maintained by Merry Lea includes the same items being used by the Environmental Protection Agency, the Indiana Department of Environmental Management and the Indiana Department of Natural Resources. They were chosen for their usability in the outdoors.

They include:

- Hach Water Quality kits
- Hydrolab DataSonde Water Quality probes
- Trimble GeoExplorer Global Positioning Systems
- ESRI Arcview Geographic Information Systems
- Toshiba Laptops
- Bushnell Binoculars
- Nikon Naturescopes
- National Stereoscopes
- Digital microscopy
- Silva orienteering compasses
- National Audubon Society and Peterson's Field Guides
- Flexcam Video microscope
- Panasonic 27 inch monitors

All of this and more are housed in a van and can be delivered to your school for classroom use, school yard investigations, or visits of other sites. To participate in this lending program please contact us and register to participate in the weeklong course that provides instruction for use of each instrument. Merry Lea will conduct the 3 graduate credit course called "Instrumentation and Curriculum for Environmental Science" June 16-20. Call Paul D. Steury at (260) 799 5869 for more details.

The Importance of Outdoor Education

It is apparent to anyone who observes children growing up that they learn an incredible amount of material from the time they are born until they enter school. An overwhelming percent of their total learning comes from their own exploration of their environment. They see, they feel, they taste, and they hear. They make mistakes and learn from them. They experiment and test their skills. All of this is assimilated and becomes a part of their understanding of themselves and their surroundings. Reflecting on this, I am caused to wonder why it is that when we send children to school to continue their education, we expect them to learn primarily through verbal communication. While this is a necessary part of a child's education, it should not supplant all the other ways children learn. They need to be given the opportunity to continue to learn from their own experience.

Education in the outdoors is an ideal place for this to happen. Guided, but not rigidly structured, experiences in the natural world are invaluable in the learning process of children. These not only teach information effectively, they also help to empower a child, giving him or her the satisfaction of gathering information on their own and drawing conclusions from it. Most children welcome this kind of opportunity. It is important for those of us who have the responsibility for their education, to provide this sort of experience for them.

-Dr. Dave Miller, Program Director

The Classic Buteo: the Red-Tailed Hawk

The Red-tailed Hawk is a large, stocky hawk of woodlots, fields, alpine meadows, prairies, and roadsides all across the country - the classic buteo. In terms of weight, it is the largest eastern buteo. Only the western Ferruginous Hawk is heavier. Only it and the Rough-legged Hawk exceed the Red-tailed in measurements. Red-tailed Hawks are the epitome of a buteo. Their hunting habits and habitat preferences are so varied that to single out one characteristic is to do them an injustice.

The Red-tailed Hawk is our most common and widespread buteo. Its plumage is highly variable, but the rufous tail of the adult is a true diagnostic field mark.

In general behavior, Red-tailed Hawks are birds of both open and wooded areas, particularly wood edges and are often seen perched on a treetop or telephone pole or some other look out while hunting. Red-tails prey mainly on rodents but also on insects and their larvae, fish and larger mammals such as rabbits and squirrels. They often pursue prey into dense brush. They also pirate prey from other raptors, and eat carrion.

Courtship displays are a series of steep dives and climbs and include glides by both adults together with their feet down. Talon grappling has been reported and could be either courtship or aggressive display.

The Red-tailed Hawk has demonstrated an amazing ability to acclimate itself to the world of man's making. The agricultural practices of the northeast, which cleared bottomland and left hilltops forested, provided ideal habitat. The wood lots harbored the bird's nest and the fields provided it's prey.

The Eisenhower administration's lasting gift to mobile America, the interstate highway system further benefited Red-tails by creating miles upon straight-cut mile of ideal hunting and wintering habitat from originally unusable forest for their pursuit. The wood's edge provides hunting perches. The grassy roadsides and wide center divisions are ideal habitat for small rodents. -Russel Shew, Merry Lea Volunteer Hawk Watcher

Ecology for Teachers

Jump into our wetlands, woods, and prairies June 9-13, 2003 to focus on ecosystems and ecological principles.

Discussions with Dr. David Miller, Ph.D. will deal with the composition of natural systems, the impact of human activity on those systems, and how societal values help determine the impacts. The course will be taught using a hands-on approach, much of it being conducted outdoors doing experiments and gathering various data. Techniques for teaching these concepts in the classroom will also be included. The course is designed for elementary teachers, but has also been beneficial for middle school and high school teachers. This course is a great way to increase your knowledge of the natural world, strengthen your science courses, and earn credits for maintaining your teaching license. For more information call (260) 799 5869



cont. from front So, what I'm trying to do is help you out in this justification process as well as help you out by connecting our programming information into what you're expected to teach (everything is connected after all...) Because of this we on the Merry Lea education team are continually working at making connections between our classes and the state standards for each grade level. We haven't gotten everything correlated yet and we recognize that this will continue to shift slightly as we "tweak" our programs. However, we've been making good progress. If you would like a copy of which standards we're aiming to address in a program you're scheduled for, contact me & I'll get the information out to you as quickly as I can. You can reach me at carolge@goshen.edu or 260-799-5869. See you outside soon! -Carol Good-Elliott, Environmental Science Educator

Schedule of Events

March 15	Merry Lea Spring Dinner
April 23-27	Smoky Mountain Wildflower Pilgrimage
June 9-13	Ecology for Teachers
June 16-20	Instrumentation and Curriculum for Environmental Science

Never too late to schedule a field trip at Merry Lea! Give Carol Good-Elliott a call at (260) 799-5869

Check out our new student web pages at www.goshen.edu/merrylea/studentmain



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