Spring 2017

The Merry Leaflet

Merry Lea Environmental Learning Center of Goshen College
P.O. Box 263, Wolf Lake, IN 46796 260-799-5869
http://merrylea.goshen.edu/ merrylea@goshen.edu

MAEE Adds International Experience:

Partnerships Blossom on Andros Island

Imagine that you earn an environmental education degree in Indiana. You can navigate an oak-hickory forest, teach about prairies and identify macroinvertebrates in your sleep. But what if you get a job in the Rocky Mountains?

The 2016–17 cohort of Merry Lea's Master's in Environmental Education program will have a leg up with this problem should it arise. They've already had to adapt their skills to an unfamiliar setting: a tropical island. The group spent three weeks on Andros Island, which is part of the Bahamas. Andros is a land of pine forests and mangroves, fisheries and national parks. Here, the lifestyle resembles the developing world more than it resembles the world of cruise ships and hotels that most people associate with the Bahamas.

"Learning will be reciprocal between graduate students and Bahamians. Each group of graduate students will learn about the ecology of the Bahamas from local people, including high school students, local citizens and the Bahama National Trust park warden," wrote Dave Ostergren, director of the graduate program, when he designed the course. This partnership played out in a variety of ways.

During their first days on the island, Bahamian primary school students took the group from Merry Lea outdoors and introduced them to the setting. Hiking was a challenge in some places because the surrounding bush was very dense. The cohort from

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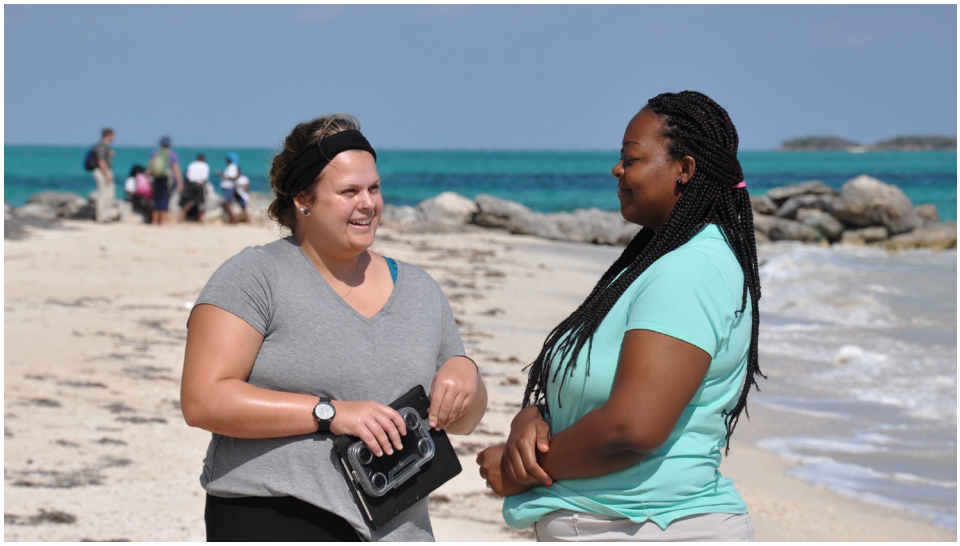
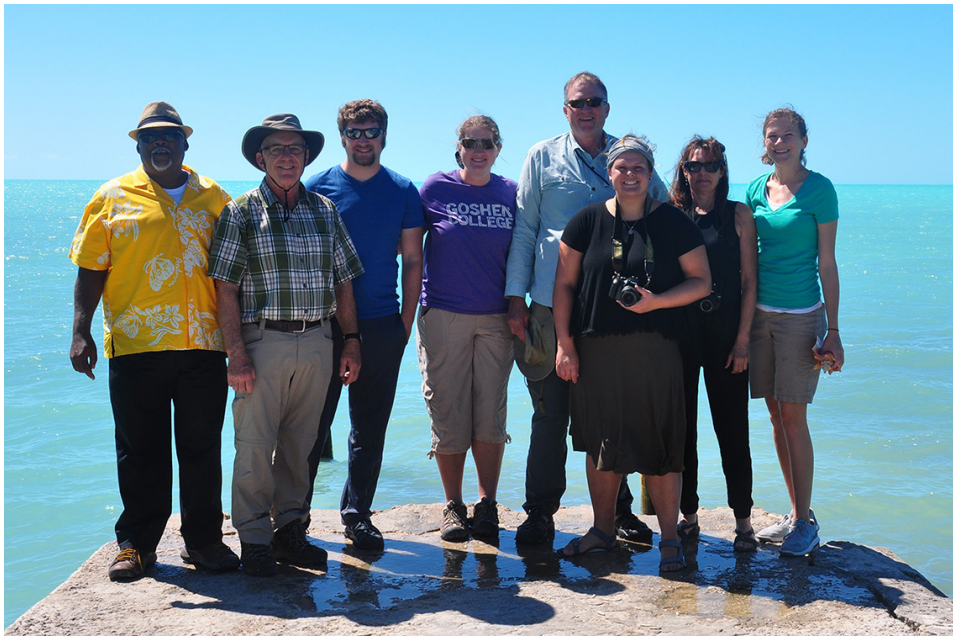


Aly Munger, a student in Merry Lea's Master's in Environmental Education program talks shop with Mrs. Kinsey a sixth grade teacher at Fresh Creek Primary School on Andros Island. The two share an interest in art as a pathway to environmental education.



The group from Merry Lea visited a pier near Red Bay on the northwest side of Andros Island. The area is known for its sponges. Left to right: Peter Douglas, host and interpreter of the island; Luke Gascho, Ken Bauer, Kaitlyn Bradley, Dave Ostergren, Aly Munger, Maggie Olson, Maddy Herron.

Director's Desk

Building on a Vision – Part Two

by Luke Gascho

The visionary work from Merry Lea's early years in the 1970s continues to speak into our thought processes as the Merry Lea team designs programs. I am fascinated by how 40-year-old concepts are so contemporary in our current efforts to achieve our mission.

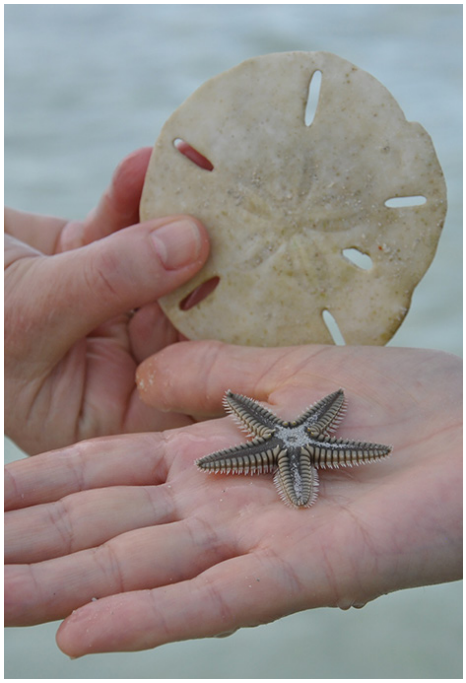
In this issue of the *Merry Leaflet*, you will learn about the experience of offering a graduate course entitled, International Environmental Education on Andros Island for the first time.How does Merry Lea's mission connect this spot in Noble County with the Bahamas 1,200 miles away? Answers are found in the purpose statements from the 1974 Master Development Plan for Merry Lea:

The purpose of MERRY LEA *is to show to all groups and individuals their great influences on our Earth and its total life. People contribute to their own education and that of others in active, enjoyable learning experiences. Varied programs are being developed in cooperation with schools, colleges and universities, religious institutions, youth groups, adult and business organizations which deepen their understanding and appreciation of natural resources and the surroundings. Through cooperative efforts with national, state, county, municipal, and private natural resource agencies, the Center will become a laboratory for the demonstration of solutions to natural resource problems and environmental management techniques.*

The primary locus of our programmatic work is the 1,189 acres of Merry Lea. While we fulfill many parts of the stated purpose locally, this site becomes a launching pad for many other learning experiences and audiences. This is true for this new course. The students learned directly about global impacts on ecosystems, as well as the ways schools, nonprofits and governmental agencies on Andros work at responding to our "great influences on our Earth and its total life." The need for "cooperative efforts" that we experience in our regional and national setting was reiterated in the immersion learning on Andros Island.

The following excerpt is from one of the four action foci named in the 1974 plan. While we would use gender-neutral language today, the core purpose remains poignant as a center for the work we undertake in 2017:

EDUCATION -- MAN AND HIS ENVIRONMENT *The environmental education envisioned by the Center is to instill in this and future generations an understanding of the profound relationships among resources, biotic systems, and man. By sensitizing people to their surroundings, such education shows how the environment shapes people and how each individual shapes his environment, both to his advantage and to his disadvantage. Therefore, the Center must design activities to demonstrate this vital interaction between man and his environment.*



Sand dollar and sea star, Andros Island

The mandate for our tasks and programmatic design is clear—our educational experiences must "demonstrate the vital interaction between people and the environment." The learning opportunities on Andros Island do fortify the work that we are doing at Merry Lea. The experience is also a grand extension of our mission to another place. It is a delight to be part of such an engaging, historical purpose. Ω

ABOUT MERRY LEA

Merry Lea was created with the assistance of The Nature Conservancy and through the generosity of Lee A. and Mary Jane Rieth. It is operated by Goshen College. The center provides a comprehensive program of environmental education and recreation.

The *Merry Leaflet*, published in spring, summer, fall and winter, provides news about programs and developments at Merry Lea. Jennifer Halteman Schrock is its editor and the author of articles without bylines. Look online at www.goshen.edu/merrylea/latest for more news.

Student Journals from Andros Island:

New Places, Creatures and Teaching Experiences

In both the 5th grade class and the 2nd-3rd grade class I'm working in, hardly any of the students have any experience exploring outside, or have even been on a field trip. I'm really looking forward to exploring ecosystems with them. Hopefully this will be a good experience for them.

I'm amazed by the teachers at these schools—they have so few of the resources I'm accustomed to seeing in American classrooms, but they are so great at their jobs regardless. I really admire them.

– Ken Bauer

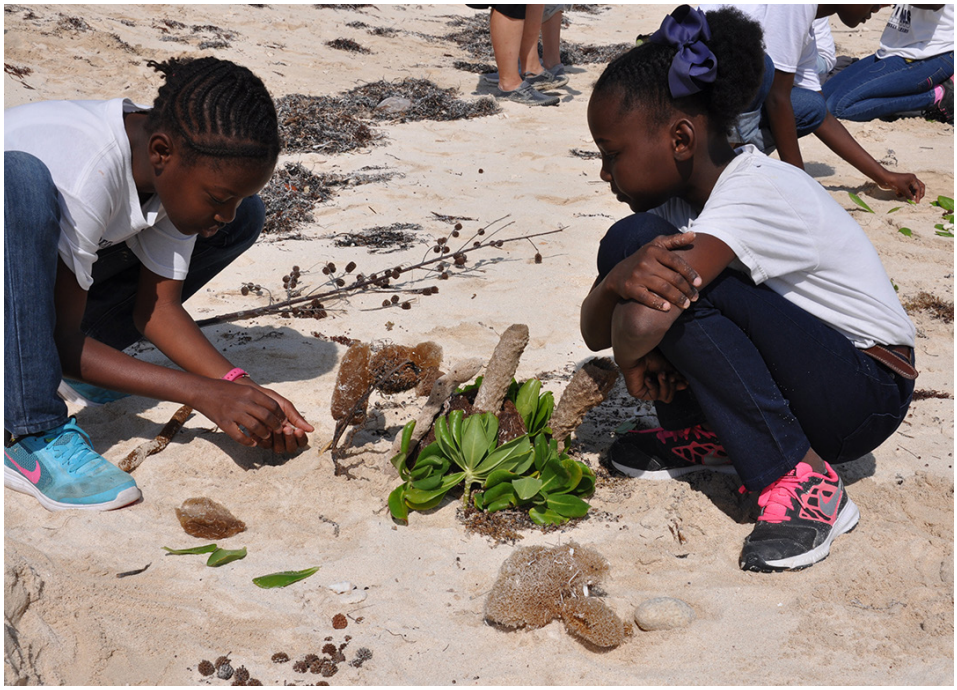
I am really starting to settle in with my group of first graders. Their desire to go outside and explore is almost overwhelming! We went out and looked at the colors of living things, which was such a fun game we almost did nothing else. The infinite shades of green and brown would have taken lifetimes to explore.

We went inside for our coloring time, but it started to rain. Instead of coloring, we sat at the doorway and listened, smelled, and watched the rain. The kids were so mesmerized by it and could remember how the plants need rain to grow and animals need it to drink. These first graders really make you appreciate simple moments.

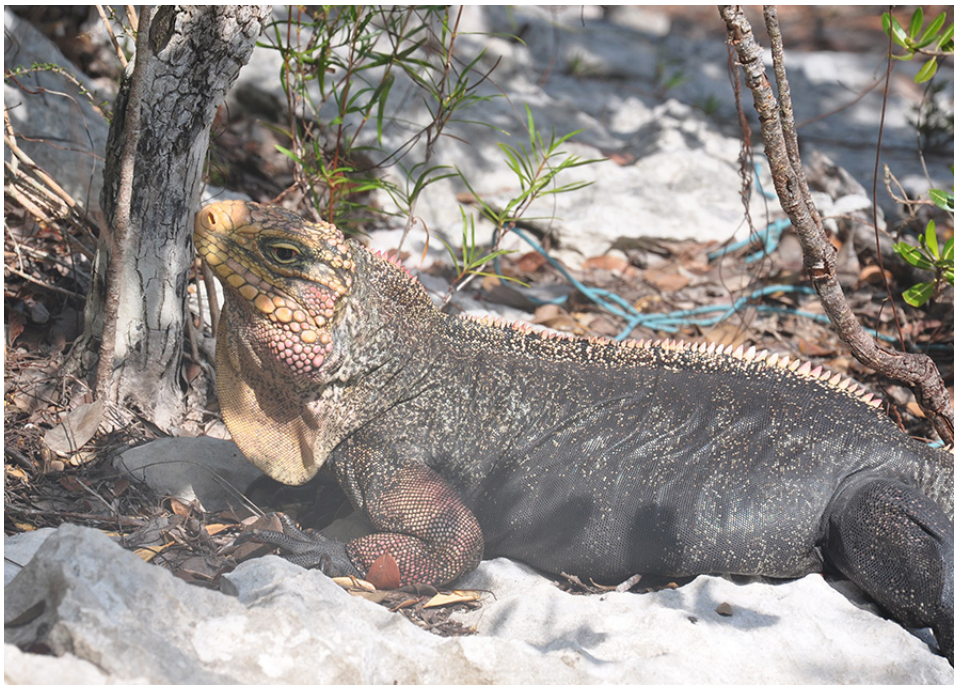
– Maddy Herron

We went reef diving today. Some of the fish species we saw include the bluehead wrasse, great barracuda, blue parrotfish and foureye butterflyfish. The structure of the reef surprised me—there were more "plains" of broken, white, dead coral than I expected to see. I touched a plantlike elkhorn coral because my brain couldn't believe the coral to be rock-hard and sharp even though I knew this was factually true.

– Ken Bauer



Children create ephemeral art as part of their final day with Merry Lea's master's students.



An Andros Rock Iguana. These endangered reptiles grow to be more than four feet long.

Last night God's creation was so amazing. First we saw a full moon with a partial eclipse and then a beautiful meteor sped across the sky. We walked across the beach under the full moon as the waves were coming in, and we all had moon shadows. It was spectacular!

–Kaitlyn Bradley

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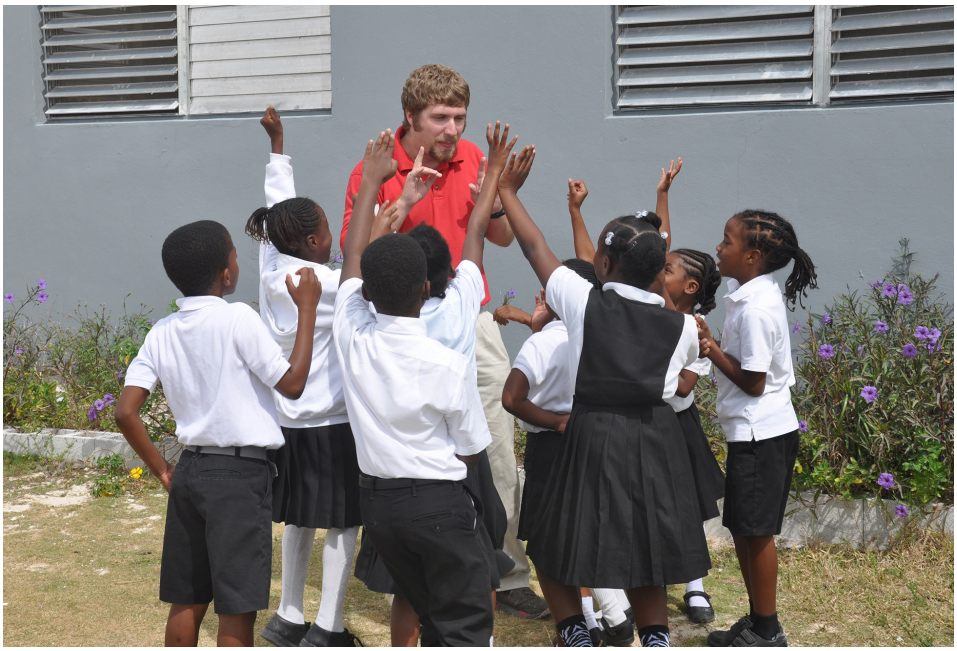
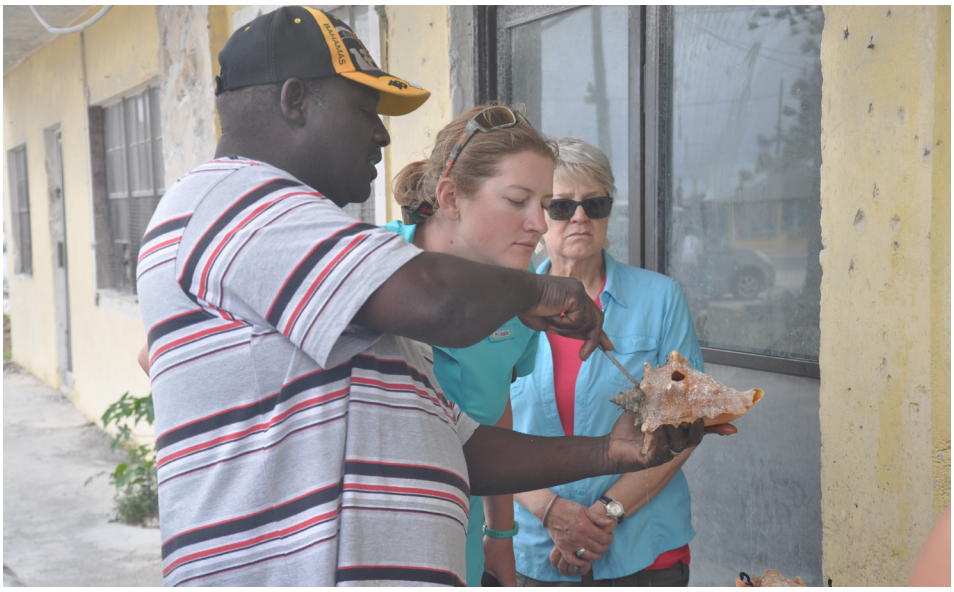


Second and third graders from Promise Institute, a private school on Andros Island, flock around Ken Bauer in hopes of getting to be a heron in the next educational activity he has planned.



The owner of a shop that sells conch salads gives a quick cooking lesson to MAEE Student Kaitlyn Bradley and Becky Gascho, also a Merry Lea guest. Here, he explains how he extracts the meat of the animal from the shell. Conch salad is a Bahamian specialty that includes conch, onions, peppers and spices.

Kaitlyn Bradley and Maddy Herron enjoy the chance to swim in a blue hole—a large marine cavern open to the surface.

I will probably never have the experience of seeing flocks of wild flamingoes again in my life. I did not know they are born black and have black under their wings as adults. They also go through a gray stage.

–Maggie Olson

I was surprised to see educational posters that had clearly been made to be exclusive to the Bahamas. For example, alphabet posters featured Caribbean animals (C is for Conch) rather than North American fauna. All the people depicted on the posters were dark-skinned, and some learning materials even pictured specific Bahamian islands.

– Ken Bauer

We went snorkeling past the reef where it was 30-40 ft deep. We were seeing some parrot fish, grouper, and queen trigger fish surrounded by deep blue water as far as we could see. The open water was humbling. It made me realize that we as a species are such a small piece in this massive puzzle of a world.

As we continued to swim away from the boat, a weird sensation swept over me, and I decided to look behind me. I turned to see a beautiful Caribbean reef shark. This majestic creature was calmly looking at our group of comically alien-looking snorkelers. I was beyond excited to share this moment with such an ancient species. I swam toward it, realizing that even though I knew I was safe, I felt fear. Some primal instinct in me was letting me know that this animal was higher up on the food chain than I was. It was such an incredible moment. I can only hope to spread my enthusiasm and respect for such misunderstood creatures.

–Maddy Herron

After our wonderful "English" breakfast complete with eggs, bacon, mushrooms, tomatoes and other goodies, we went to Rainbow Blue Hole and learned a bit about medicinal plants before enjoying swimming in the blue hole.

–Kaitlyn Bradley Ω

Continued from page 1

Merry Lea encountered species like mahogany, sandalwood, guava, and the poisonwood tree—a relative of poison ivy that can cause severe blisters. Frequent "banana holes" were another hazard not found in Northern Indiana. The island's porous limestone erodes, creating ankle breakers or holes big enough to swallow a car.

U.S. students also had the privilege of learning from Peter Douglas, their primary host and interpreter of the island. Peter is a master diver whose intimate knowledge of the local corals enables him to describe how climate change is affecting the reefs. He also shared his wealth of experience with the local politics and ecology.

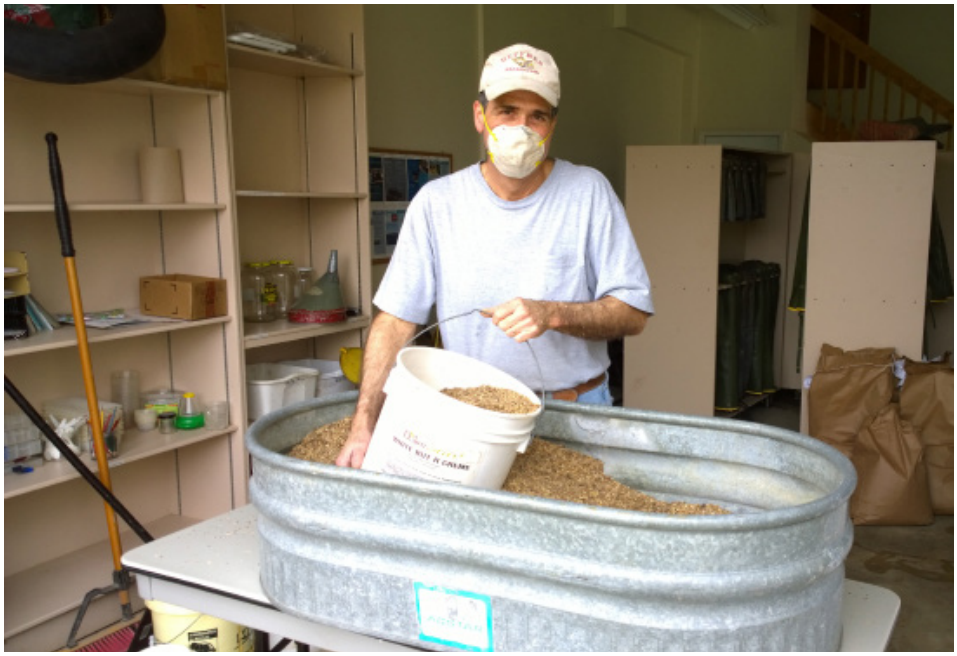
New Ways to Explore

For their part, the master's students brought ways of experiencing the outdoors that were new to Bahamian children. Their challenge was to apply their environmental education background to the new ecosystems in order to create curricula for children between kindergarten and 7th grade.

The Merry Lea students taught six half days in two different schools. The main focus of their curriculum was on mangroves—a landscape feature easily accessible on foot from the schools. Using strategies drawn from Merry Lea's Exploring Nature programs, the master's students got the children outside to observe this vital ecosystem. Mangroves are trees that are adapted to the ebb and flow of saltwater tides. They grow in a dense, swampy tangle along tropical shorelines. Like Northern Indiana wetlands, mangrove ecosystems prevent erosion, provide habitat for many species and keep pollution from reaching bodies of water.

In another exercise, children connected with their locale through ephemeral art, creating masterpieces out of shells, sponges, leaves, pine cones and sand. Later, they wrote about the experience.

The partnership between Andros Island and Merry Lea will continue this July when Shantel Johnson, a teacher from Andros Island, joins the 2017 – 2018 MAEE cohort. Ω



Director of Land Management Bill Minter prepares seed for a future prairie savanna on the west side of Merry Lea. This brings a 25-year land management plan to completion.

West Side Project Nears Completion

Unlike many workers, Bill Minter can *see* at least one of the things he's accomplished over the past quarter century. It is a 65-acre naturalized area on the west side of Merry Lea.

The 25-year project transformed abandoned cropland overrun with invasive woody shrubs into native wetland, prairie and oak savanna habitats. Over the years, as Bill had time in between teaching and other responsibilities, he removed invasive shrubs and young native trees, leaving the black oaks to mature. More recently, the work focused on controlling nonnative herbaceous vegetation such as persistent patches of Canada thistle.

The Last New Prairie

This May, with the help of a contractor, Bill will plant prairie seed on a ten-and-a-half acre-site known as Edwards Meadow. This is the final piece of the puzzle that will connect the black oak savanna with Edwards Wetland. No other large areas on the property are appropriate to restore in this way, so the planting brings with it a sense of completion.

The tub of seed Bill is mixing in the above photo contains 45 species of grasses and forbs native to the area. Big and little blue stem grasses, switchgrass, gray-headed coneflower and butterfly weed are a few of the species in the mix. Bill purchased most of the seed he is planting, but students in his Restoration Ecology course also collected some of it during a lab period. Seeds of some of the species needed to be stratified—mixed with damp sand and chilled in a refrigerator to simulate winter conditions.

From the various bags of seeds Bill had assembled, he created two seed mixes: one for soil with a moderate amount of moisture and one for drier conditions. Both contain about 50% grass seed and 50% forbs. Oats are also included as a nurse crop. The oats will grow rapidly and crowd out weeds while the fragile prairie seedlings put down roots and get established. Mixing the tiny, costly prairie seeds with oats also makes it easier to distribute the seeds evenly over the acreage.

During the next two years, the prairie will require mowing. The third year, it will be burned. After that, the new prairie will be on its way, and the black-eyed susans will put on their annual show for visiting hikers. Ω

May 9: One Spring Day in the Life of Merry Lea

Joel Pontius, far left, spends part of the morning observing the undergrads in his environmental education course as they lead school groups for the first time.

Farm Manager Jon Zirkle and Assistant Professor Ruth Mischler plan for the Agroecology Summer Intensive.

Wild geranium lights up a woodland path near the Council House at the Learning Center Site.

Roaming Merry Lea's property is never a bad idea, but it is especially rewarding in May. This is a time of heightened activity when nearly all of Merry Lea's endeavors are on display. Here's what a camera and a note pad logged on Tuesday, May 9:

At the Learning Center:

Earlier in the month, 22 Goshen College students arrived for May term classes. Eight of them are elementary education majors taking a course entitled, Field Experience in Environmental Education. Today is the first day that the undergraduates are leading groups of children themselves, team teaching in pairs. Half of the group is at the Learning Center Site with fifth graders in an Exploring Nature program.

Joel Pontius, who teaches the field experience course, hovers at the window, hoping his class will have a good experience. "Students come in thinking they need to know everything about everything to be able to teach on the trail. I spend the first few days helping them understand that children don't really care about that," he says. "Instead, we talk about how to facilitate experiences of wonder."

One thing the trail groups might have noticed is the vibrant display of trillium and wild geranium in the woods near the Learning Center trailhead. Cool weather has allowed these wildflowers to linger longer than usual, and the woodland floor is a calico print of purple, white and green.

Inside the Learning Center Building, Bill Minter and the master's students are discussing the complexities of the Endangered Species Act in a land management course. "What if your retirement savings are tied up in land and you discover an endangered bird on the property?" Bill poses.

At the Farmstead:

Outside at the Kesling Wetland, 3rd graders are squishing in the mud, dipping for macroinvertebrates during a wetlands program. They are not in

One Spring Day, continued

the least deterred by the cool weather or even a few falls into chilly water.

Inside the barn, an entomology class is gathered for a lecture with Andy Ammons, a biology professor from the Goshen College campus. The question at hand is, "How can you identify seemingly identical insects to the species level?" The answer is their reproductive structures—leaving this writer wondering whether it is appropriate to report on a frank discussion of insect penises in the *Merry Leaflet*.

At Rieth Village:

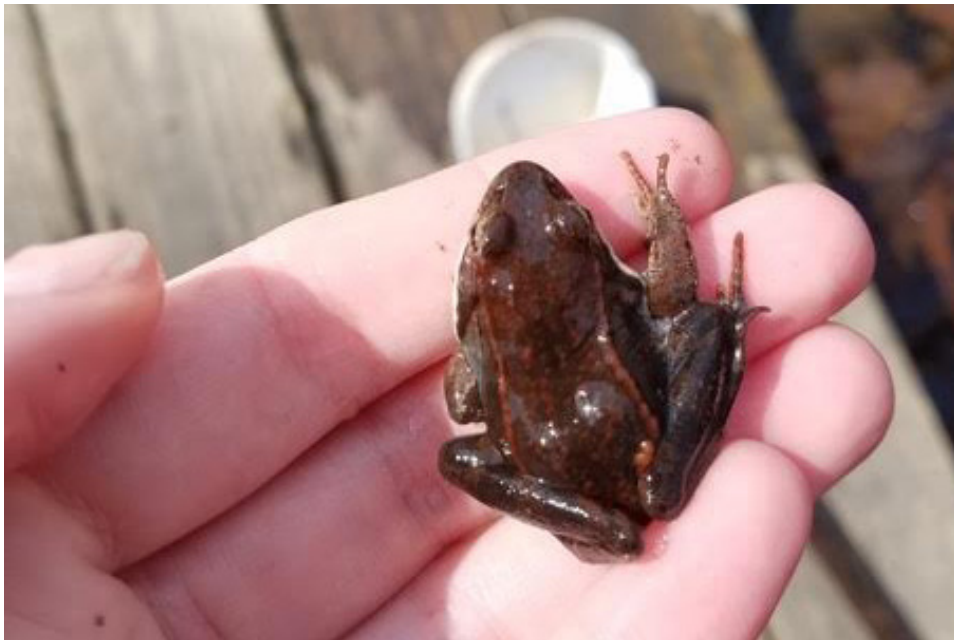
Meanwhile, part of the crew at the Merry Lea Sustainable Farm is meeting to prepare for the Agroecology Summer Intensive. Jon Zirkle will teach the soils course, and Ruth Mischler will teach a course on cropping systems. The areas overlap, so they are sorting out who will cover topics like irrigation, tillage and drainage, and in what ways.

"I plan to show how weeding tools affect soil structure," Jon volunteers.

Assistant Farm Manager Ellie Schertz has just emerged from the head house after packing bags for this afternoon's delivery to CSA customers. Chickens, salad greens and vigorous bunches of lovage are in this week's goodie bags. Lovage is a celery-like herb used in salads and soups. It will go well with the chicken, Ellie says.

May 9 has more stories to tell, but these are the ones most visible at Merry Lea's main sites. Ω

Ellie Schertz showing a fine crop of lovage from the Merry Lea Sustainable Farm.



Spring Species Spotlight: Wood Frogs

By Katie Stoltzfus, Environmental Educator and Public Program Coordinator

I love my job. I can't count how many times I've said that in the last ten months. Why, you ask? Good question. There are many reasons, but one of the most important is that it allows me countless opportunities to find renewal in the out-of-doors. To feel physically, spiritually, and emotionally connected to the land, I can easily take advantage of the 1,189 acres just outside of my office door.

On a recent walk on our trails, I stopped at one of the many vernal ponds at Merry Lea. This particular spot is one of my favorite places to visit, especially this time of year. So much life is happening in a vernal pond in the spring. As I stood at the edge of the pond, the sound of hundreds of frogs calling became almost deafening.

As I looked around me, I noticed a small, brown creature sitting by my foot. I quickly picked it up. It was a wood frog! This species of frog can range from light tan to brown in color, but they can easily be recognized by the dark face mask that covers the snout and extends to the eardrums. Wood frogs also have a white upper lip and dark, prominent dorsolateral ridges running from just behind the eardrum to the legs. Even if you're not close enough to recognize a wood frog by its distinctive face mask, you can identify their unique call. A wood frog's call sounds like short, raspy quacks. Many say this sound is similar to that of a duck's quack.

The wood frog, *Rana sylvatica,* can be found in ponds, wetlands, and moist woods throughout much of North America. Wood frogs are small, usually between 1 to 3 inches in length and they can live up to 5 years. These frogs eat insects, beetles, and crickets. They are also a favorite food source of larger frogs, garter snakes, water snakes, raccoons and skunks.

Wood frogs are a unique frog species because in the winter, in their dormant state, they can freeze almost solid. During this time, a wood frog's heart stops beating and they stop breathing, but they can produce an antifreeze substance that prevents them from freezing to death. Then, in the spring, the frogs will thaw out, emerge from the leaf litter and search for a mate.

If you're wandering the trails at Merry Lea during the spring, make sure to stop by the vernal pond to search for wood frogs. Or at least stop and listen for their distinctive call. Ω

Merry Lea
Environmental Learning Center
of Goshen College

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" Where Earth and People Meet "

Next Public Program

Nature Play Day at Merry Lea

Wednesday, June 14, 1:00 - 6:30 PM
At Merry Lea's Learning Center Site

The Indiana Children and Nature Network (ICAN) is encouraging organizations to offer activities June 10-18 that will connect children, families and communities with the natural world. On June 14th, Merry Lea will offer a variety of activities geared towards children and families. Choose from activities such as:

- guided and self-guided hikes,
- dipping for macroinvertebrates and amphibians in a vernal pond,
- making nature crafts,
- and ending the day with a "bring your own roastables" campfire supper.

Wanted: Adopt-A-Net sponsors. Bird banding begins May 22. The sheet below illustrates the detailed records the researchers keep on each bird. Bird banding research helps scientists identify species that are in trouble.

Would you like to sponsor a net? Donate $80 for a net, and you'll receive a personal update on Merry Lea's birds from Carol Good-Elliott.