Beyond A Single Semester:

Faculty Prepare for New Sustainability Majors

by Jonathon Schramm

By way of Merry Lea, Goshen College has been offering summer agriculture education since 2008 and fall sustainability education since 2012. Beginning in the fall of 2017, the college will offer students complete majors in these rapidly-emerging fields. This announcement is in some ways the culmination of a lot of work by many people, and in others, just the beginning of an even more robust collaboration between staff on

Sustainability:

The art of meeting the environmental, social and economic needs of the present without compromising the needs of the future.

campus and at Merry Lea.

These new majors, called Sustainable Food Systems (SFS) and Sustainability Studies (SS), will build on the current residential programs at Merry Lea and a range of existing courses on campus taught in a variety of departments. Meanwhile, the business department has created a third new major, Sustainability Management, based on its strong foundation in ethical business leadership.

One of the exciting elements is that students in all three majors will share a common core experience of six courses, in which they will be introduced to the themes and patterns of analysis that are common to any sustainability practitioner. As first-year students, they will engage in introductory courses together before diversifying their studies in subsequent years. Seminar courses that focus on discussion and reading will continue to bring them back together with their colleagues to work out

the intersections and sustainability implications of experiences they are having in disparate classes. Finally, senior capstone projects will put small teams of students from the different sustainability majors into collaboration with a community partner to work towards sustainability. In short, these majors will truly be an interdisciplinary experience that will prepare students to

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Sustainability Leadership Semester (SLS)

Left to right: Jonathon Schramm, SEED faculty; David Leaman-Miller, student; Tom Hartzell, coordinator of residential undergraduate programs; Joel Pontius, director of the SLS; Dave Ostergren, SEED faculty; Bekah Schrag, Gabby Castañon, Jack Shomberg, students; Luke Gascho, executive director.

The 2016 Sustainability Leadership Semester wrapped up December 9 with remarks, playful awards and a photo show. The group crafted the paddle pictured above during their weeklong canoe trip. It is signed with wishes for the Elkhart River Watershed. Ω

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Director's Desk by Luke Gascho Building on a Vision

I like letting the past speak into today—and the future.

The work of pursing Merry Lea's mission—and vision—is

a wonderful, energizing journey. A major inspiration I have experienced through the last 20 years is engaging with such an amazing team of coworkers. New and revised programs have emerged from the team as we work at "providing environmental education for all ages." In this issue of the Merry Leaflet, you will learn about new undergraduate majors we are offering.

I also find inspiration as I read through planning documents from the early days of Merry Lea. In 1973-1974, the Merry Lea board prepared a master plan. Statements from that document resonate clearly with the ways we have designed the new interdisciplinary learning experiences for college students. The following two paragraphs from 1974 remind me of how well we are on track with the collegiate programs.

SCIENTIFIC AND SOCIAL RESEARCH

A longer range goal, in which considerable interest has been expressed by natural and social scientists in colleges and universities throughout Indiana, is to use appropriate portions of the Center for field studies, and more restricted use of the entire Center for scientific and social research. Such research will be in biology, ecology, limnology, systematics of plants and animals, and palynology, as well as glacial geology, human ecology, hydrology, and bioclimatology. The proximity of several colleges and universities makes intensive scientific research at the Center highly feasible. This proximity also makes possible research in the broad fields of humanistics.

What do you think! The leaders in 1974 recognized the potential to realize these goals. These visionary statements provided an important rationale for seeking to partner with an institution of higher education. This happened in 1980 when Merry Lea was donated to Goshen College. The following statement from the 1980 Memorandum of Understanding represents more of the vision behind the work we have done to advance collegiate learning and research.

It is the intention of the College that the Center will constitute an integral part of its educational program, and that it expects to develop an environmental, nature and earth study department and use this facility as a field laboratory.

I am grateful to be part of this unfolding journey. I am thankful too for all the readers of the Merry Leaflet who demonstrate the importance of the pursuit we are on together. $\boldsymbol{\Omega}$

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lead in their communities in ways that are increasingly needed in our world.

For Merry Lea, these new majors create several important changes in our work. First, because our residential experiences are now embedded in a broader suite of courses on campus, we can emphasize different themes. For example, beginning in 2018 the summer agroecology program will no longer include a course on marketing and management, since students in the SFS major will take several business courses during their work on campus. Instead, they'll have a class on animal husbandry along with a new course on food systems that connects work at Merry Lea's farm to broader questions of food production & distribution.

Secondly, guiding students through these new majors will give faculty at Merry Lea much greater opportunity to collaborate with our colleagues on campus. We will work together with them on course design, advise student research and facilitate joint projects with partner groups in the community. We look forward to co-teaching seminar courses with a number of colleagues and helping students to navigate the many career options in this area. We are excited about the prospects of energetically recruiting new students to attend Goshen College to study in these crucial new fields. And we are glad to be working in a more unified fashion than ever before to help support the academic mission of the college. We believe that its goals of peacemaking and creation care are more important than they have ever been! Ω

Dr. Jonathon Schramm teaches in both of Merry Lea's on-site semesters. He is also the new Sustainability Core Coordinator, overseeing the new majors.

OUT 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.

Luke Gascho, Executive Director Kerry Goodrich, Property Supervisor ERS Carol Good-Elliott, Environmental Educator Tom Hartzell, Coordinator of Undergraduate Programs Jane Litwiller, Environmental Educator MEMB Bill F. Minter, Director of Land Management John Mischler, Director of Agroecology Ruth Mischler, Assistant Professor, SEED Dave Ostergren, Director of Graduate Program EAM Joel Pontius, Director of the Sustainability Leadership Semester Jonathon Schramm, Associate Professor, SEED Jennifer Halteman Schrock, Communications Manager Katie Stoltzfus, Public Program Coordinator/Environmental Ed. Marcos Stoltzfus, Director of Environmental Education Outreach Maria Tice, Admin, Assistant/Volunteer Coordinator Doug Yoder, Building Manager Jon Zirkle, Farm Manager

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New Agroecology Profs Join Merry Lea's Team



Ruth and John Mischler

In early January, John and Ruth Mischler joined the Merry Lea Team. The couple shares one position, with John as the director of agroecology and Ruth as an assistant professor in the Sustainability and Environmental Education Department.

The two are delighted to be able to work at the same place. "Working together at Merry Lea was years in the making for us," John says.

When they met, Ruth was studying organic cover cropping systems, and John was studying ice cores from Antarctica. While these fields seem different, much of what drew the couple together was a sense of shared purpose and the desire to serve the greater good. They envisioned ways that their professional lives could complement each other.

John: Systems Thinking, Earth Science

John and Ruth are excited to build on the foundation that Dale Hess laid during the first ten years of Merry Lea's agroecology program. They also bring new areas of expertise. John is a biogeochemist by training. His undergraduate degree is in physics and geology, and as a master's student, he studied the geosciences. His doctoral work focused on agriculturally derived nutrient loading of ecosystems and the implications this has for human health and environmental sustainability. While agriculture is a part of the earth sciences, it was partly John's relationship with Ruth that catalyzed his interest in the connection between agriculture and climate change.

John brings a penchant for big picture thinking to his position. "What is lacking in education today is a systems understanding of the interconnectedness of all things.

We need to understand the whole system in order to successfully manage the resources we have," he says. For John, agroecology involves knowledge of not only the soils in the garden and their surrounding ecosystems, but also phosphorus cycling, greenhouse gases and the broader climate.

Ruth: Crops and Animals

Ruth studied environmental science as an undergraduate student. Her interest in agriculture first blossomed after a pivotal summer experience working at the World Hunger Relief Farm in Waco, Texas. She went on to do a master's degree in agronomy with a focus on cover crop research.

Ruth also loves working with animals. In high school, she shadowed a veterinarian long enough to learn that she did not want to work with sick animals. Her interest is in keeping animals healthy. Hands-on experience at a goat dairy has given her a special fondness for goats. She hopes to add goats and sheep to Merry Lea's barnyard menagerie of poultry and pigs.

Ruth's background has prepared her to consider the uniqueness of each farming situation. During her time as a Fulbright scholar in Zambia, she researched chemical versus traditional strategies for growing sweet potatoes. There, the fact that some weeds were a food source was a factor. You can't eat pigweed if you've sprayed it. Likewise, while milking machines are efficient for a large dairy, the time required to properly clean milk hoses might make hand milking the right choice for a small dairy.

The agroecology position that John and Ruth share includes four areas: teaching, hands-on farming, research and community outreach. Ruth will teach the Cropping Systems course in the Agroecology Summer Intensive this summer and will develop a course in animal husbandry for 2018. She will also be involved in the nuts and bolts of the Merry Lea Sustainable Farm along with Farm Manager Jon Zirkle. Ruth enjoys apprenticeship learning in outdoor settings and looks forward to guiding students as they work with her in the gardens.

As the director of agroecology, John will continue developing the new food systems major and recruit students for it. His role also includes research and mentoring student researchers. He wants to study topics that can benefit both large and small farmers.

John is currently teaching a new course on the Goshen College campus entitled Earth Science, Meteorology and Climate. In coming years, it will be a requirement for the new climate change track in Goshen College's environmental science major.

The couple's community outreach role will take shape over time, but it will certainly include getting to know local farmers and the local sustainable farming scene. It could also include providing services for nutrient management.

Ruth and John have two children, ages four and one. They plan to build a home near Merry Lea and become part of the community. $\boldsymbol{\Omega}$

EEO Team Rescues Bird Mounts from Insect Pests



Above, Environmental Educator Carol Good-Elliott cleans a turkey vulture mount with a paintbrush.



Joel Pontius, SEED faculty member, retrieves his office decor from the cider shed. Joel, who lived in Wyoming before coming to Merry Lea, enjoys the company of elk antlers and the horns of a bighorn sheep.

See insect photos, bottom of page 5.

Merry Lea's Environmental Education Outreach (EEO) team expanded their knowledge of entomology this winter when they discovered that something was eating the taxidermy displays in the exhibit room in the Learning Center.

Merry Lea owns dozens of bird mounts, a few mammal mounts and a tableful of furs. These nature displays are important teaching tools for environmental education and play a role in some Pre-K to 12 programs.

Alas, when the EEO team examined their bird mounts, they found places where the structure of feathers was compromised and falling apart. Underneath the feathers, they found larval cases and cases that insects had made out of fiber.

Figuring out what to do about this was one of the many learning experiences and opportunities for teamwork that Merry Lea provides. EEO members called other nature centers and became acquainted with websites such as museumpests. net and connecting to collections.org. Among other things, they learned that the problem reflects a down side of the Environmental Protection Agency's ban on arsenic. Now, taxidermists are limited in the chemicals they can use to prevent insect damage.

Dermestid Beetles and Clothes Moths

With the help of Carol Good-Elliott's 800-page entomology textbook, the team confirmed that the mounts were suffering from an infestation of dermestid beetles and clothes moths. These species are scavengers that feed on leather, fur, skin, wool, felt, silk and museum specimens.

Marcos Stoltzfus began working on a plan for treatment and ongoing preservation. Jane Litwiller sealed the glass cases that hold mounts to prevent re-infestation. Jane and Marcos inspected the Learning Center offices for possible sources of contamination. The ancient bird mount hiding in Jennifer Schrock's office was retired to the trash can and Joel Pontius' antler collection was quarantined.

Meanwhile, the Cider Shed became a pest management hospital and everything from the fox fur to the dignified snowy owl received treatments. Katie Stoltzfus recalls spending a morning with a vacuum cleaner and paintbrush, dusting the mounts. They were then frozen and refrozen in order to bring dormant insects out of diapause and kill them. Another strategy involved encasing the mounts in giant Ziploc® bags with mothball packets affixed to the top of the bags. The fumes settle downward. After returning mounts to the Learning Center, the EEO team placed traps baited with insect pheromones in the cases to monitor for any remaining pests.

"One thing we concluded along the way was that our purpose is education, not long term preservation, as it might be for a museum," Jane commented. The team has no plans to ban kids bringing nature items into the Learning Center that might contain insects. That would interfere with their learning. But they have warned the staff to be vigilant and to inspect animal matter frequently.

To see a copy of Merry Lea's Collections Management Plan, contact Marcos Stoltzfus, marcosas@goshen.edu. Ω

Board and Staff Share Snacks, Inspiration

The members of Merry Lea's board and of the Rieth Foundation Trust Advisory Committee meet quarterly at the Farmstead. Yet they may not recognize the faces of the staff members they hear about. Likewise, the staff is aware when board meetings happen but may not know the names of the members. On February 2, the three groups had a chance to meet and mingle over snacks.

Executive Director Luke Gascho, who corralled the 30+ attendees into a long, lumpy oval, asked each person to share something about their work with Merry Lea that was energizing. Despite the number of speakers, answers were varied enough to hold everyone's attention.

"I like to think of myself as a liaison to the farming community," observed Forrest Keefer, a retired entomologist turned farmer who serves on Merry Lea's board.

"I am nourished—literally—by purchasing Merry Lea's pork," reported Deanna Risser, who serves on the Rieth Foundation Trust Advisory Committee.

"I think of my work here as a stone thrown in a pond, with ripples spreading outward," said Dave Ostergren, director of the graduate program at Merry Lea. He was referring to his master's students who are now practicing environmental education in places as varied as Arizona and Vermont, Oregon and Texas.

Ross Peterson-Veatch has an ex officio role on the board because he is the academic dean at Goshen College. "Merry Lea gives us a chance to advance our theory that experience is key. It is an incarnation of our values," Ross said.



Foreground: Kenneth Newbold, a board member, and Deanna Risser, Rieth Trust Advisory Committee, share ideas at a Merry Lea meeting that included board, staff and trust committee members. Background, right to left: Marcos Stoltzfus (staff), Tom Hightshue (trust committee), Leslie Lasuer (trust committee) and Marcia McNagny (board chair).

Board Member Janeen Bertsche Johnson looks forward to recruiting students from her institution—the Anabaptist Mennonite Biblical Seminary (AMBS)—to participate in the Sustainability Leadership Semester at Merry Lea. This new arrangement between Merry Lea and AMBS will enable seminary students to earn a concentration in environmental sustainability.

"I love being part of the physical and spiritual experiences that people have here," explained Farm Manager Jon Zirkle. Other staff members expressed many variations on the theme of being outdoors, whether with preschoolers or with chickens; whether relishing the trail ah-has of middle school groups or reveling in solitude on a lawn mower.

Luke Gascho concluded the gathering with a reflection on change and stability. He pointed out that everyone was sitting in an area where there were once stanchions for cattle. Despite significant change, the support structure that undergirds Merry Lea has endured. Ω

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Anthrenus scrophulariae, a dermestid beetle

Photo by Vítězslav Maňák, Wiki Commons



Photo by Olaf Leillinger, Wiki Commons

Urban Environmental Education:

Master's Students Meet Green Detroit



Master's students Maddy Herron and Ken Bauer ponder outdoor art made from recycled material at the Heidelberg Project in Detroit.

Students in Merry Lea's Master's in Environmental Education program spent December 1 and 2 in Detroit, Mich., learning about greening in an urban context. Professional field studies such as this overnight trip are a regular part of the program. The field studies sometimes feature urban contexts to broaden the experiences that students receive in rural Northern Indiana.

This is important since at least some of the master's students plan to work in urban areas. Maddy Herron, a Texas native, sees the need for environmental education in cities and believes her personality is well suited for this context. Ken Bauer grew up in Goshen, Ind., but has an interest in environmental policy that could well take him to a major city like Chicago or Washington, DC.

Recycled Materials

Creative recycling was a repeating theme during the trip. Recycled materials were used throughout a business incubator that the cohort visited called the Green Garage. As the name suggests, this nonprofit makes its

home in an old garage. The retrofitting from garage to nonprofit office used so many recycled materials that it created only one dumpster of trash. For example, wood scraps were glued together to create an attractive textured wall, and the railings on the stairs were previously pipes.

Students also visited the Heidelberg Project, a quirky outdoor art installation that has taken over an abandoned neighborhood. The art is made entirely of objects left behind by people who have fled the neighborhood in search of jobs or better services. As one walks around the neighborhood, one sees piles of stuffed animals and children's toys, a wheelbarrow full of trophies, dozens of shoes tied to a fence.

MAEE Student Ken Bauer says that the Heidelberg Project was his favorite part of the trip. The courageous people who were making art, even out of the sadness that had befallen their area, moved him deeply.

"I felt I was really experiencing despair," he said. "The tragedy of the economics of Detroit was abstract to me until I visited that place. Then I really got it."

Gardening

With the help of a nonprofit called The Greening of Detroit, MAEE students saw new variations on gardening. At the organization's Market Gardens, the group helped prepare beds for the winter. Urban gardening includes the challenge of polluted soil. These 2.5 acres were reclaimed from an industrial site that had soil so contaminated it had to be capped and the cap covered with several feet of fill dirt.

"Raised beds are an important strategy in this setting," remarked MAEE student Kaitlyn Bradley. She was struck by how much remediation work had to be done before even beginning a garden.

The Greening of Detroit offers a free job-training program that is open even to people with a criminal record. It then hires 80% of its graduates, at least for summer employment. In fact, a current director, Hector Santiago, was a former student.

Maddy was struck by the difference The Greening of Detroit was making in its community.

"People's whole lives were transformed," she said, reflecting on the words of one man who enjoyed the work so much he told them he was jealous of people who had grown up on farms.

Positive Change

"In the four years I've been coming on this trip, we've been able to see positive changes in the communities we visit," observed Luke Gascho who teaches a leadership course in the master's program.

One example was the wall of a brick building behind the Greening of Detroit's market garden. Once it was covered with graffiti. Now, it sports a mural depicting a smartly attired marching band playing instruments made of recycled materials. Another case in point was the alley beside the Green Garage which was frequently flooded. Now it is paved with permeable material and serves as a model for other building projects. Ω

New Endeavors

Chickens Visit Goshen College >>

Sustainability on the Goshen College campus takes many forms. On February 15, it even included chickens grazing on the lawn and kayak-carrying races. The deadline for applying to Merry Lea's Agroecology Summer Intensive and Sustainability Leadership Semester is approaching, so program leaders are making students aware of their options in eye-catching ways.

At right, Jon Zirkle and Melissa Kinsey enjoy a light-hearted moment with the chickens. Jon is Merry Lea's farm manager and an instructor in the ASI; Melissa teaches the ASI's course on farm management and marketing.



<< Exploring Bahamian Ecosystems

Merry Lea's master's students are taking a break from Northern Indiana to practice environmental education in an unfamiliar setting: Andros Island in the Bahamas. Below, students encounter elkhorn coral while snorkeling. Stay tuned for more on their experiences in the next *Merry Leaflet*.



Sedge Meadow Restoration >>

Land Manager Bill Minter is preparing for a sedge meadow restoration at Luckey's Landing. Sedge meadows occur along lake edges. They are dominated by sedges and grasses, but also include water-loving flowering plants like cardinal flower, great blue lobelia and swamp milkweed.

Bill's first step is to remove trees and shrubs in the area with the help of the contractor pictured. With the brush gone, it will be possible to address an aggressive cattail problem as well. Ω





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Our Next Public Programs

To register for any of these programs, visit the Events tab on Merry Lea's website, https://www.goshen.edu/merrylea. Register online.

Amphibians in the Classroom – Teacher Workshop

Where: Learning Center Building When: Monday, March 27 to Wednesday, March 29, 7 PM - 9 PM

This free workshop is open to any educator interested in learning more about amphibians. We will explore species local to Northern Indiana and discover what makes them important



indicators of environmental quality. Participants are expected to attend all three sessions. They will receive up to 6 PGP points, a curriculum outline, easy identification cards and a classroom activities packet.

Friends of Merry Lea Dinner

Where: Farmstead Site When: Saturday, April 8, 4 to 8 PM

The evening begins with a late afternoon hike, followed by dinner at 6 p.m. and a presentation reviewing recent developments at Merry Lea. Free to donors; others pay \$15 per person. Mark your calendars now; details to follow.

Conservation Leadership School

Where: Farmstead Barn Site When: Monday, June 12, 10 AM to Friday, June 16, 2 PM

Do you know high school juniors or seniors interested in exploring environmental science? Invite them to consider Merry Lea's conservation school. The week includes canoeing, hiking and learning how to protect a variety of ecosystems. The cost of \$25.00 per student covers lodging and meals. Ω