UT Researchers Partner with Green Ribbon Initiative

LEC professor, Dr. Jon Bossenbroek and M.S. student, Sara Guiher are partnering research with Green Ribbon Initiative to develop the “Oak Openings Region Invasive Species Strategy.” The management restoration strategy is aimed at eradicating invasive plants that pose a major threat to the ecosystems of the Oak Openings region.

A regional list of target invasive plant species has been developed; these species are being prioritized for management using an assessment created for the region. Best management practices for each species will be compiled to ensure that agencies are implementing up-to-date methods in a standardized manner. Mapping data for a subset of species is also being analyzed for potential pathways and vectors of spread into Oak Openings habitat types. In addition, mobile and web mapping and communication about invasives will be facilitated by the development of a regional alert system.

The results of this research will be used by regional land managers, that include: The Nature Conservancy, Toledo Area Metroparks, Olander Parks, and Ohio DNR, to make informed decisions about invasive plants on their properties. Consistent management practices and increased interagency communication will enhance efforts to treat invasive plants in vital Oak Openings habitat types. Through this project, UT and the Green Ribbon Initiative are working together to restore and protect this unique and special region.

Food for thought... According to Doug Tallamy, Professor of Entomology and Wildlife Ecology at the University of Delaware, non-native plants become highly invasive when they leave our gardens displacing plants in native ecosystems. Invasives are not the ecological equivalent to native plants because they provide very little in terms of food web support and actually end up reducing the productivity of local food webs. In the USA 85% of woody invasive plants are “escapees” from our gardens.

Upcoming Events

May 19

Naturalist Night: We are kicking off our 2016 Naturalist Series with Marquita Tillotson of Nature’s Nursery at 7 p.m. This event will feature live animals as well as animal artifacts (feathers, pelts, bones, etc). Great family fun... come join us!

June 1

Summer 2016 Research Experience for Undergraduates (REU) students arrive for 9 weeks. Students are partnered with scientists, engineers, graduate students, and agency professionals to conduct cutting-edge research on important land-lake environmental challenges.

June 3

Adopt-a-Beach™: LEC will again partner with Barefoot Wine & Bubbly and the Alliance for the Great Lake’s Adopt-a-Beach™ program to clean the Maumee Bay State Park Lake Erie Beach. Event will start at 4 p.m.

June 15

Attention parents of children ages 0-5, the Ready to Read Program from the Toledo Lucas County Public Library will be at the LEC. This outreach literacy program provides training to parents to aid in preparing children, birth to preschool, for kindergarten. Visit the literacy van from 10 a.m. to 1 p.m. to sign-up for library cards and to check out library materials. For more information call 419-259-5350.

July 13

Naturalist Night: Featuring Sara Guiher, UT graduate student, “Neighborhood watch: Learn to identify and manage invasive plants in your yard.” Come lean more about this engaging topic and how you can help prevent the spread of invasive plants in our region.

LEC Professor Appointed to the International Joint Commission's (IJC) Great Lakes Science Advisory Board

LEC professor Christine Mayer has been appointed to the IJC’s Great Lakes Science Advisory Board-Research Coordination Committee as a binational member. This appointment recognizes Dr. Mayer’s work and scientific expertise in Aquatic Ecology of the Great Lakes.

The IJC is a bi-national organization between the United States and Canada whose commission was established under the Boundary Waters Treaty of 1909. The IJC’s two main duties are to regulate shared water uses and to investigate transboundary issues and make recommendations to both governments for possible solutions.
The Lake Erie Center’s 2015 Photo Contest Winners

Gary Bending
1st Place-Adult

Mike Guhl
2nd Place-Adult

Ginny Sussman
3rd Place-Adult

Thomas Staff
Hon. Mention-Adult

Quentin Francis-Edmonds
1st Place-Teen

Nico Francis-Edmonds
2nd Place-Teen

Jessica Dombrowski
3rd Place-Teen

Conor Loughlin
Hon. Mention-Teen

Shanna Richie
1st Place-Special Needs

Eric Harteis
People’s Choice Award

Marc Arnett
Hon. Mention-Special Needs

Trinity Watson
Hon. Mention-Youth

Dakota Crick
1st Place-Youth

Danielle Hentges
2nd Place-Youth

Danny Dowling Bruce
3rd Place-Special Needs

Trinity Watson
Hon. Mention-Youth

Dakota Crick
1st Place-Youth

Marc Arnett
Hon. Mention-Special Needs

Ginny Sussman
3rd Place-Adult

Elise Wagner
2nd Place-Special Needs

Danielle Hentges
2nd Place-Youth

Madison Sizemore
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UT Water Quality Sensor and Buoy
Dr. Bridgeman’s team will deploy UT’s water quality sensor and buoy in Maumee Bay in mid-May. The buoy is part of a collaborating network of buoys located throughout the western Lake Erie basin. Collaborators include NOAA, BGSU and OSU’s Stone Lab, as well as several municipal water intakes and pump stations. This is the second season for UT’s buoy, which along with the other buoys, provide researchers with live data that are used to better understand water quality and its characteristic changes throughout western Lake Erie basin. This information is vital in the assessment of Harmful Algal Blooms (HABs) and lake water quality.

The sensor and buoy were purchased with funds provided by the Ohio Department of Higher Education grant. The buoy is equipped with the YSI EXO sonde, comprised of several probes that measure water quality parameters: chlorophyll, phycocyanin, water temperature, oxygen levels, pH, conductivity, and turbidity.

One research goal is to develop a HABs warning network that will provide lake-wide coverage and allow water plant managers to make timely decisions on treatment processes. Live data, from all the collaborating water quality buoy locations, are available during the summer months through the Great Lakes Observing System (GLOS) at http://glos.us/.

Collaborating Water Quality Sensor/Buoy Network

Lake Erie Center’s 2016 Nature of Maumee Bay Summer Science Camp for Kids
Two options for Summer 2016

-Week long, day camp
  June 13-17, 9:00-12:00, $75
-One-day mini-camp
  Tues. August 9, 9:00-3:00, $40

- Scholarships & sibling discounts available
- Class sizes are limited
- Program for entering 4th & 5th graders

For more information or to register please contact Rachel Lohner at 419-530-8364 or rachel.lohner@utoledo.edu

Legend
- NOAA GLERL
- UT-Little Cedar Point
- Municipal Intakes and Pump Stations
- OSU-Stone Lab
- BGSU-Sandusky Bay & Bayside Intake
- GLOS

UT Ornithologist’s Tips for the Beginning Birder
With “The Biggest Week in American Birding” (May 6-15) just around the corner Dr. Henry Streby a UT Assistant Professor of Ecology and Ornithologist offers some tips for the beginning birder. Dr. Streby received his Ph.D. from the University of Minnesota and did a post-doctorate fellowship through the National Science Foundation at the University of Tennessee and University of California-Berkley. Dr. Streby is actively conducting research on the migration of warblers that breed from North Carolina to Manitoba, Canada, and winter in Central and South America. Lean more about Dr. Streby’s research at http://henrystreby.wix.com/research.

Streby states that as a beginning birder you don’t have to spend a ton of money to enjoy birding, in fact, you can begin birding with a very nominal investment. He suggests you start out local, like your backyard by putting up a couple of bird feeders and simply observe who or what shows up! It is important to always remember to be an ethical birder and act in a way that will preserve and protect birds and their natural habitats. To enhance the new birder’s overall experience and help teach proper birding etiquette, Streby suggests joining a birding club or finding someone with birding experience that can provide tips and helpful information.

Some recommended equipment for the beginner: a pair of binoculars (7x35), choose a pair that will allow you to easily follow a bird in flight; a bird field guide to help with bird identification, such as one by Kaufman, Sibley, or National Geographic; and a basic camera. Streby advises that the beginning birder wait until they gain experience and determine their level of commitment before making the decision to invest in more advanced equipment.

The Toledo area has some of the nations best birding opportunities, some suggested sites are Black Swamp Bird Observatory Grounds, Magee Marsh, East Harbor State Park, Great Egret Marsh, Mallard Club Marsh Wildlife Area, and Maumee Bay State Park. For more listings and information visit the Biggest Week in American Birding’s website at www.biggestweekinamericanbirding.com.
LEC Summer Research Happenings
Dr. Bossenbroek’s Lab:
Jessica Sherman, Ph.D. student, is evaluating the Maumee River’s potential to support the reintroduction of lake sturgeon (*Acipenser fulvescens*) by developing a habitat suitability index model to assess the amount of available habitat for both spawning adults and age-0 (yearling) fish.

Kristen Hebebrand, M.S. student, will be working on a gravity model to predict the spread of *Hydrilla* (*Hydrilla verticillata*) to the Great Lake Basin.

Sara Guiher, M.S. student, will help develop the Oak Openings Region Invasive Species Strategy, focusing on managing invasive plant species. The goal is to increase early detection and rapid response.

Dr. Stepien’s Lab:
Megan Niner, Ph.D. student and lab tech Shelby Edwards, are sampling fish throughout the Great Lakes for VHS fish virus. Recent analysis of 2015 field samples from Fairport Harbor tested positive for VHS and indicated new mutations of the virus.

GLGL researchers (Nate Marshall- Ph.D. Student, Katy Klymus-Ph.D., and Cecilia Hennessy-Ph.D.) will continue to develop and test several next-generation DNA assays to monitor and diagnose species compositions and relative abundances of invasive and native species.

Eva Kramer, M.S. student, is working to analyze population genetics of silver and bighead carps at two invasion fronts.

Dr. Daryl Dwyer’s Lab:
Members of the ERRL Lab will continue stream and wetland monitoring in conjunction with the Great Lakes Restoration Project and using a predictive model to monitor daily bacterial levels at Maumee Bay State Park’s lake front beach for the Ohio Department of Health.

This summer ERRL Lab will begin work on a new grant with the USGS to develop a predictive model for lake front beaches to detect the algae toxin-microcystin based on environmental parameters.

For information about what is happening with Dr. Christine Mayer and Dr. Thomas Bridgeman - Check out their stories in this edition on pages 1 and 3.

LEC Faculty, Staff and Student Highlights
Awards
Congratulations! to LEC’s Dr. Thomas Bridgeman. He was the recipient of two awards during the month of November, the Water Management Association of Ohio- President’s Award for his outstanding contributions to the Ohio water resources community, and the UT Shining Star Award for his exemplary research on harmful algal blooms (HABs) and excellence in teaching.

Fall 2015 Graduates
Accolades! to Phoenix Golnick on her recent graduation in December. Phoenix received a Master of Science in Biology (Ecology track) degree as part of Dr. Bridgeman’s Limnology Lab. Phoenix is currently working as a research associate in Dr. Bridgeman’s Limnology Lab. We are so proud of his outstanding achievements.

Hip, hip, hurrah! to Ken Gibbons on his recent graduation in December. Ken received a Master of Science in Biology (Ecology track) degree as part of Dr. Bridgeman’s Limnology Lab. Ken is currently working as a research associate in Dr. Bridgeman’s Limnology Lab. We are so proud of his outstanding achievements.

Please support our work by becoming a Friend of the Lake Erie Center!

Your tax-deductible contribution will help support our research, education, and outreach, as we work to protect our region’s most valuable natural resource - Lake Erie! We are a vibrant and active facility, located on the shores of Lake Erie in Oregon, Ohio, where students, scientists, agency partners, political leaders, and members of the public come together on Great Lakes environmental issues. We are a leader in research on toxic algal blooms, water quality, habitat conservation, and fisheries. With your support we look to expand and continue our efforts in the coming year.

https://give2ut.utoledo.edu/folec.asp

LEC Faculty, Staff and Student Highlights

The Lake Erie Center’s 2016 Photo Contest
Theme: “The Nature of Our Region, from Oak Openings to Maumee Bay”

Amateur photo buffs of all ages and skill levels are invited to participate. Color or black and white photographs will be accepted. Entries are limited to three (3) per person. Prizes will be awarded in multiple age categories, including a $25 VISA gift card for 1st place winners! Deadline for submissions is Friday, October 21, 2016. For more information and contest rules, visit https://www.utoledo.edu/nsm/lec/events/photo_rules or contact 419.530.8360, lakeeriecenter@utoledo.edu