Speaker Abstracts, Ohio Amphibian and Reptile conference
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How Science Supports Conversations about Conservation with Diverse Stakeholders

JUSTIN CONGDON

Keynote

Head-starting Spotted Turtles in Northeast Ohio: A Cooperative Conservation Effort

PAUL PIRA
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There is a general consensus among Ohio researchers, conservation biologists, and natural resource managers that many of Ohio's spotted turtle (*Clemmys guttata*) populations have experienced significant declines and some are in need of immediate conservation management. In 2012, a consortium of regional park districts and conservation organizations developed a spotted turtle headstarting/repatriation program. The main objective of this project is to increase survivorship of turtle hatchlings and repatriate declining populations of this Ohio Threatened species in protected habitats within Northeast Ohio. This program utilizes well established techniques for trapping/tracking adult turtles, collecting eggs, and head-starting animals in captivity. To date, 75 eggs from several populations have been incubated, 22 hatchlings raised, and 8 animals released into the wild. Additional cohorts are ready for release in 2018. Other NE Ohio populations are slated for future inclusion into this program along with research into documenting/monitoring the survivorship of released turtles; and continuing adaptive management for increased survivorship (meso-predator control programs, closing trails/roadways during peak dispersal periods, etc.). Secondary products of this program may include an increased recruitment of these animals into adult populations, new opportunities for public education, local academic involvement through research, and improved communication/collaboration amongst conservation partners.

Role of ODNR-Wildlife in Herp Conservation

KATE PARSONS
ODNR Division of Wildlife

Kate will discuss ODNR – Division of Wildlife's role in the conservation of reptiles and amphibians. Activities include land management, harvest management, law enforcement, information and education, research/monitoring and planning.

Forest Management and Timber Rattlesnakes: A Thermal Landscape Perspective

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Temperature is of paramount consideration for ectothermic animals, directly affecting biochemical processes and behavior. Numerous studies have thoroughly described multiscale habitat selection and use

in rattlesnakes generally, and timber rattlesnakes (*Crotalus horridus*) specifically. However, there is currently limited understanding of how habitat management directly affects the thermal landscape. The primary objective of this study is to develop a predictive model of landscape temperature and to relate landscape temperature to rattlesnake body temperature. To create a down-scaled near-surface air temperature model, we deployed remote temperature loggers across our focal landscape in Southeast Ohio. We then used fine-scale (5-m resolution) LiDAR data to derive spatial topographic surfaces as well as surfaces describing canopy height and canopy cover. Using temperature data collected from loggers, we fit linear mixed effects models to describe the spatial variation of near-surface air temperature as a function of spatial landscape covariates and local weather conditions. Our near-surface air temperature model fit the data well with high predictive power, and internally measured snake body temperature was accurately predicted by landscape temperature. We demonstrate the importance of the thermal landscape in a more detailed assessment of gravid and non-gravid snakes. Our study provides a novel perspective of habitat use and management, and adds to the limited knowledge of timber rattlesnake ecology in the Midwest. A clear understanding of the landscape features affecting near-surface air temperatures and the spatial thermal ecology of timber rattlesnake has the potential to facilitate more effective and targeted habitat management.

To list or not to list? Kirtland's snake (*Clonophis kirtlandii*) Species Status Assessment Findings

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U.S. Fish and Wildlife Service, [1]Columbus, OH; [2]Onalaska, WI; [3]State College, PA; [4]Frankfort KY; [5]Columbia, MO; [6]East Lansing, MI; [7]Bloomington, IN

The U.S. Fish and Wildlife Service conducted a species status assessment (SSA) to assess the viability of Kirtland's snake (*Clonophis kirtlandii*) over time. The SSA is the biological analysis that is provided to decision-makers who ultimately determine if a species warrants listing under the Endangered Species Act (Act). Within an SSA we identify the species' ecological requirements for survival and reproduction at the individual, population, and species levels. We also identify stressors and project future population trends when possible. Data on Kirtland's snake demographics, threats, and population viability are extremely limited or unavailable. Because we do not know baseline population conditions and could not connect potential stressors to a population effect on the species, we were unable to reasonably assess the current and future viability of Kirtland's snake. Thus, we conclude that the best scientific and commercial information available does not indicate that the Kirtland's snake is in danger of extinction nor likely to become so within the foreseeable future throughout all or a significant portion of its range. Accordingly, we find that listing Kirtland's snake as an endangered or threatened species under the Act is not warranted at this time.

Conservation and Recovery of the Hellbender in Ohio

GREG LIPPS AND NICHOLAS SMEENK
Ohio Biodiversity Conservation Partnership, The Ohio State University, Columbus, OH

The Eastern Hellbender is Ohio's largest salamander, and one of the world's largest amphibians. In 1990, the species was listed as endangered by the Ohio Division of Wildlife. Subsequent

surveys from 2006 to 2009 found that populations had drastically declined since the mid-1980s, with a shift in demographics indicating that most sites were lacking juvenile recruitment and were therefore not viable. Since 2012, a group consisting of members from wildlife and environmental agencies, zoos, soil and water conservation districts, parks, and schools and universities have been working to reverse the decline of the Hellbender. The Ohio Hellbender Partnership has focused on the two objectives of the conservation plan for the species: protecting and restoring habitat and a head-start program to release captive-reared animals back to the wild. Since 2012, a total of 712 Hellbenders have been released into 18 sites in 8 Ohio watersheds. Hundreds of acres in priority watersheds have been protected or restored to maintain or improve water quality and habitat. Over the next few years, a greater emphasis is being placed on using artificial shelters (Hellbender Huts) to monitor released animals and further investigate egg and larval development and causes of recruitment failure.

Salamanders and Strip Mines: Engaging Students with Biodiversity and Land Use History

KIP BRADY

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Biodiversity preservation is strongly dependent upon people's attitudes, which are, in turn, shaped by their experiences. Authentic educational experiences, those that immerse students in the process of doing something real and meaningful, hold great potential for increasing scientific literacy, generating useful data, and, most importantly, facilitating first-hand experiences with local biodiversity. Here I share some example learning experiences that have engaged students from the New Philadelphia City School District in research examining the effects of historic surface coal mining on the salamander communities of forest ecosystems. These experiences have improved student motivation, enhanced students' abilities to understand and do science, and increased students' familiarity with forest biodiversity. In an age where accelerating extinction rates have converged with decelerating experience with nature, focused learning experiences that immerse students in the study of local amphibian communities could be an important factor in mitigating amphibian declines.

Generating Community Support for Blanding's Turtle Nesting at Sand Beach

TERRY BREYMAIER

Since 2014 I have been photographing and documenting Blanding's turtle encounters and nesting events on private property long Lake Erie. What started as a recreational activity quickly turned into a community-wide activity that has engaged a number of residents. To date, I have documented over 100 Blanding's turtles at this site and have photographed a number of nesting/hatching events. Here I will discuss the steps I took to get the surrounding community involved in my project, how it has developed over the years, and future directions.

Turtles and Telemetry: a 14-yr Walk in the Park with High School Students

JOHN SOUDERS[1], KURT WHITFORD[1], AND CONNIE O'CONNOR[2]
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Students and teachers from West Clermont Local Schools have been actively engaged in an ongoing study of Eastern Box Turtles (*Terrapene carolina*) for over 13 years. That represents approximately 325 students who have worked in the project over 13 years. Collectively that is 364 days of student learning outside the regular classroom. Or another way to look at this is, students have spent 15,925 student/hours collecting data on the habitats, movements, and habits of these charismatic wanderers over the life of this project. All of these data has been collected in a database of 2,300 records with 29 data points per record. What have we learned from this amazing effort? How have two teachers been able to sustain a program of this magnitude? What has the program meant to the future of the student participants? And where does the program go from here?