

# 3<sup>RD</sup> OHIO REPTILE RESEARCH & CONSERVATION CONFERENCE

8 March 2014. Ohio Historical Center, Columbus, Ohio

[www.OhioReptiles.org](http://www.OhioReptiles.org)

<b>8:30</b>	<b>Registration &amp; Setup</b>
<b>9:00</b>	<b>Welcoming Remarks</b>
<b>9:20</b>	Keynote Address: <b>Their Blood Runs Cold: Adventures with Reptiles and Amphibians</b> Dr. Whit Gibbons, Professor Emeritus of Ecology, University of Georgia's Savannah River Ecology Laboratory.
<b>10:15</b>	Award Presentation
<b>10:30</b>	<b>Morning Break</b>
<b>11:00</b>	<b>A Night in the Life of an Ohio Rough Greensnake</b> Joe Letsche
<b>11:20</b>	<b>The Present Status of Ohio's Timber Rattlesnake</b> Doug Wynn
<b>11:40</b>	<b>Species Distribution Modeling for the Eastern Massasauga Rattlesnake in Northeastern Ohio</b> Eric McCluskey and Thomas Hetherington
<b>12:00</b>	<b>Lunch</b>
<b>1:30</b>	<b>Common Wall Lizards are Here to Stay: The History of an Introduced Species</b> Jeffrey G. Davis
<b>1:50</b>	<b>Gene Flow in Northeastern Ohio Populations of the Five-lined Skink</b> Tara Buk and Francisco Moore
<b>2:10</b>	<b>Map Turtles (<i>Graptemys</i> spp.) in the Lower Great Miami River</b> Paul Krusling
<b>2:30</b>	<b>Afternoon Break</b>
<b>3:00</b>	<b>Landscape-scale Distribution Modeling for Eastern Box Turtles in Northwest Ohio</b> Matthew D. Cross, Gregory J. Lipps, Jr., and Karen V. Root
<b>3:20</b>	<b>A Spotted Turtle (<i>Clemmys guttata</i>) Headstarting, Augmentation, and Repatriation Program for Northeast Ohio</b> Paul J. Pira
<b>3:40</b>	<b>Developing Priorities for Conservation of Ohio's Reptile Diversity</b> Gregory J. Lipps, Jr., Brian Armitage, and Carolyn Caldwell
<b>4:00</b>	<b>Closing Remarks and Adjourn</b>

*Special thanks to our sponsors for their financial support of today's program:*



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## ABSTRACTS

3rd Ohio Reptile Research & Conservation Conference  
March 8, 2014. Columbus, Ohio

### **Keynote Presentation: Their Blood Runs Cold: Adventures with Reptiles and Amphibians**

J. Whit Gibbons, Professor Emeritus at the University of Georgia's Savannah River Ecology Laboratory (SREL)

Herpetofauna are known as hidden biodiversity. Because of the clandestine nature of almost all species of reptiles, almost all of the time, scientists know surprisingly little about many aspects of their life history and ecology. Whit Gibbons will discuss his long-term research on reptiles, unveiling some of the mysteries that continue to baffle herpetologists - - Why have the largest known black swamp snakes been caught only by kingsnakes? Why can no one find 2-year-old diamondback terrapins? Why do blue tail skinks sometimes kill house cats? Ignorance about reptiles is even more apparent among the general public, resulting in a lack of familiarity with most species and myths, misunderstandings, and irrational fears about others. Whit concludes with recommendations for what research ecologists and conservation biologists can do to remedy the problem that so many people are indifferent toward the wellbeing of reptiles.

[Whit Gibbons](#) is Professor Emeritus of Ecology at the University of Georgia's [Savannah River Ecology Laboratory](#) (SREL). He is author of 20 books on herpetology and has published more than 250 articles in scientific journals as well as numerous popular articles in magazines. He has had numerous interviews and commentaries about reptiles and amphibians on National Public Radio. In addition to writing a weekly newspaper column featuring environmental issues for more than 30 years, he has authored encyclopedia articles on herpetology that have appeared in World Book, Compton's, and Encyclopedia Britannica. He also wrote the first merit badge booklet on "Reptile and Amphibian Study" for the Boy Scouts of America. Whit is a frequent speaker at civic and scientific meetings, giving talks about reptiles and amphibians to all ages from kindergarten to college to retirement, emphasizing ecological research and environmental awareness.

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### **A Night in the Life of an Ohio Rough Greensnake**

**Joe Letsche** (letschejoe@gmail.com)

Ross County Park District, 15 N Paint Street, Chillicothe, Ohio 45601

The Rough Green Snake (*Opheodrys aestivus*) is an arboreal, diurnal, arthropod specialist that forages and sleeps in dense, shrubby edge vegetation. Little is known about many aspects of the natural history of this species in Ohio or other areas in the northern portions of its geographic range. In September of 2013, I had 35 encounters with Rough Green Snakes on their night time roosts at the Buzzard's Roost Nature Preserve in Chillicothe, Ohio. I'll share a naturalist's perspective on their roosting behavior, initiation of morning activity, and roost plant preference based on this small sample size.

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### **The Present Status of Ohio's Timber Rattlesnake**

**Doug Wynn** (sistrurus@aol.com)

Department of Evolution, Ecology, and Organismal Biology, The Ohio State University,  
Columbus, Ohio 43210

Timber Rattlesnake studies were initiated in Ohio in 1989 when the Division of Natural Areas and Preserves funded projects to collect data from the Tar Hollow and Shawnee State Forests.

Studies have continued every year since and as sample sizes have increased to 665 Timber Rattlesnakes, most basic natural history facts have changed considerably. This species has now been documented from eight counties within the last five years. Approximately 65 dens are now known. They are found on every aspect, rocky ledges are rare, and in some cases no rocks are visibly present. Males average 101 cm in length (47-135) and females 85 cm (45-118). Newborns (n=47) average 31.6 cm (23.0 – 42.3) in length and have an average weight of 29.1g (10.3-44.0). Births have occurred between August 22 and September 27. The average litter size (n=12) is only 6.6. Some aspects of their biology still remain unanswered since recaptures are rare. For example of the 665 encounters, fourteen are recaptures. Data has been provided to other workers and their results are pending. These include population viability modeling, population genetic work, and GIS modeling. Populations continue to be impacted by poaching, intentional killing, accidental killings, and habitat destruction and incompatible management practices from logging.

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### **Species Distribution Modeling for the Eastern Massasauga in Northeast Ohio**

**Eric McClusky** (mccluskey.29@osu.edu) and Thomas Hetherington

Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, Ohio 43210

The eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) is a rare species across its range and is thought to be experiencing widespread population declines. Application of conservation oriented management practices to this species is hindered by incomplete knowledge of the spatial distribution of populations and suitable habitat. To ameliorate this obstacle to conservation efforts we constructed species distribution models for the massasauga in northeastern Ohio. Our models were generated using the software program Maxent incorporating a mix of geographic information systems (GIS) and remote sensing derived data layers. For our data layers, we selected environmental variables that captured key components of massasauga habitat. Our modeling results identified a series of locations with predicted high suitability for massasauga. Subsequent surveys yielded few individuals suggesting that low population size and barriers to dispersal in northeastern Ohio are preventing colonization of available habitat. We have begun examining historical land use in northeastern Ohio using aerial photographs to determine its impact in shaping the present distribution of massasauga in the region. We are continuing to investigate locations predicted to be suitable habitat in an attempt to identify new populations and also are exploring the potential for broader conservation applications of these models in Michigan.

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### **Common Wall Lizards are Here to Stay: The History of an Introduced Species**

**Jeffrey G. Davis** (ohiofrogs@gmail.com)

Cincinnati Museum Center - Fredrick and Amye Geier Research and Collections Center, 1301 Western Avenue, Cincinnati, Ohio 45203-1130

In 1952, after vacationing in the Lago di Garda region of Italy, a child of a prominent Cincinnati family returned home with ten lizards he had collected. He released them in his yard in the Columbia Tusculum neighborhood on the east end of the city. After more than 60 years, Common Wall Lizards (*Podarcis muralis*) have spread throughout Cincinnati and Hamilton County. In recent years they have made their way into northern Kentucky, neighboring Butler County, Ohio to the north of Cincinnati, and down the Ohio River to at least one site in Indiana. What started as a population of ten animals has grown into dense populations that probably

number in the hundreds or thousands if not more. This discussion follows what we know about the history of this species' introduction and dispersal in southwest Ohio and beyond.

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### **Gene Flow in Northeastern Ohio Populations of the Five-lined Skink**

**Tara Buk** (Tbuk313@gmail.com) and Francisco Moore

The University of Akron, Biology Department, Akron, Ohio 44325

Gene flow determines to what extent populations will remain separated as independent evolutionary units, and thus has a large effect on the microevolution of a species. This is significant in conservation research because gene flow between small fragmented subpopulations can often have great effects on the species stability. A major obstacle to the preservation of animal populations is habitat fragmentation, which often results in the isolation and subsequent loss of subpopulations. If small populations are lost and there is no migration between subpopulations, recolonization of suitable habitat does not occur and the overall population declines. The loss of natural-occurring populations reduces gene flow, which may lead to genetic differentiation. This study will investigate the population structure of the five-lined skink, *Plestiodon fasciatus*, occupying what appears to be isolated sites in the fragmented landscape of Northeast Ohio. Populations in Akron are of particular interest because they exist in highly urbanized locales, and these lizards have rarely been recorded in Summit County. Additionally, there is a large gap in distribution records of the species statewide. Five polymorphic microsatellite markers were used to evaluate the gene flow between 5 different locations in Northeast Ohio. The gene flow estimates between populations in the area were used to infer colonization and migration/dispersal between populations. This data will offer information on the genetic divergence of this species and contributes to our understanding of the larger problem of animal conservation in urban areas, as well as its relation to anthropogenic habitat fragmentation and degradation.

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### **Map Turtles (*Graptemys* spp.) in the Lower Great Miami River (LGMR)**

**Paul J. Krusling** (pkrusling@gmail.com)

Cincinnati Museum Center - Fredrick and Amye Geier Research and Collections Center, 1301 Western Avenue, Cincinnati, Ohio 45203-1130

Map turtles have a long and confusing history regarding their taxonomy and distribution in the Ohio River watershed. Ohio has two known species of Map Turtles, the Northern Map Turtle, (*Graptemys geographica*) and the Ouachita Map Turtle, (*G. ouachitensis*). In spite of its proximity to major population centers, herpetologists have long neglected the LGMR as a waterway of interest. A recent spotting scope and camera survey in the LGMR has added a third species of Map Turtle, the False Map Turtle, (*Graptemys pseudogeographica*), to the herpetofauna of Ohio. Map turtles have wide and overlapping distributions and have also been subject to numerous relocation events due to the biological supply and pet trades further complicating their natural distributions. Their established presence in southwest Indiana lends credibility to the hypothesis that they are either recovering natives or recent natural immigrants to Ohio.

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## **Landscape-scale Distribution Modeling for Eastern Box Turtles in Northwest Ohio**

**Matthew D. Cross**<sup>1</sup>([mcross@bgsu.edu](mailto:mcross@bgsu.edu)), Gregory J. Lipps, Jr.<sup>2</sup>, and Karen V. Root<sup>1</sup>

<sup>1</sup>Bowling Green State University, Department of Biological Sciences, Bowling Green, Ohio 43402

<sup>2</sup>Gregory Lipps, LLC, Delta, Ohio 43515

Eastern box turtles (*Terrapene c. carolina*) are a species on the decline throughout their remaining range and are one of nine target species for conservation efforts in the Oak Openings Region of northwest Ohio. Understanding the ecology of the box turtles in this region at a scale relevant to land managers is a critical factor governing their long-term survival in this area. We used box turtle presence data from an ongoing telemetry study, visual-encounter surveys and reported sightings to generate predictive models of the environmental requirements and geographic distribution of female box turtles within our study area. Our models indicated that habitat type, soil type and canopy density were the most important predictor variables and, to a lesser extent, elevation and distance to forest edge. Month-to-month models showed seasonal shifts in predicted distribution of occurrence probability; May had a distinctively different distribution from the other months. Analysis of the distribution of occurrence probability quantiles (0-100) revealed there was a disproportionately large amount of highly-ranked habitat within protected areas, particularly the Oak Openings Preserve. Our results highlight temporal shifts in habitat usage and distribution for box turtles in this region and can be used to guide conservation efforts.

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## **A Spotted Turtle (*Clemmys guttata*) Headstarting, Augmentation and Repatriation Program for NE Ohio**

**Paul J. Pira** ([ppira@geaugaparkdistrict.org](mailto:ppira@geaugaparkdistrict.org))

Director of Natural Resource Management / Park Biologist. Geauga Park District. 9160 Robinson Rd., Chardon, Ohio 44024.

There is a general consensus among many Ohio researchers, conservation biologists, and natural resource managers that most of Ohio's spotted turtle (*Clemmys guttata*) populations have experienced significant declines and some populations 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 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, eggs from one population have successfully been incubated and hatchlings raised for eventual release back into the wild. Other additional NE Ohio populations are slated for future inclusion into this program along with 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.

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## **Developing Priorities for Conservation of Ohio's Reptile Diversity**

**Gregory J. Lipps, Jr.**<sup>1</sup> (GregLipps@gmail.com), Brian Armitage<sup>2</sup>, and Carolyn Caldwell<sup>3</sup>

<sup>1</sup>Gregory Lipps, LLC, 1473 CR 5 2, Delta, Ohio 43515

<sup>2</sup>Ohio Biological Survey, P.O. Box 21370, Columbus, Ohio 43221-0039

<sup>3</sup>Ohio Division of Wildlife, 2045 Morse Road, Columbus, Ohio 43229-6693

Prioritizing is an important component of any effective planning process, especially when determining how to allocate limited human and financial resources. The Ohio Division of Wildlife, which has legal authority for the conservation and management of Ohio's wildlife, is using a species prioritization system originally developed in Florida (Millsap et al. 1990). Ranking of Ohio's reptiles has been carried out by a group of herpetologists on three occasions: 1999, 2009, and 2014. The ranking system assigns scores to taxa (species or subspecies) based upon variables in two categories. The first (biological) is based upon seven variables describing the range-wide distribution, abundance, and life history of the taxa, with higher scores assigned to attributes that increase vulnerability to extinction. The second (action) includes four variables that describe the current state of our knowledge of the taxon's distribution, population trend, limiting factors, as well as management directed at its conservation. Higher action scores indicate deficiencies in our knowledge and management of the taxa in Ohio. The highest combined (biological + action) scores from the 2014 ranking include taxa that have limited ranges in Ohio and for which we know little about their natural history in the state (e.g., Short-headed Gartersnake, Smooth Earthsnake); those that have specialized ecological requirements (e.g., Spotted Turtle, Kirtland's Snake, Eastern Hog-nosed Snake, Smooth Softshell Turtle); and, species that appear to have experienced large declines that are not completely understood (e.g., Blue and Black Racers, Smooth Greensnake). The species prioritization system is also a useful tool for tracking changes in our understanding of the biology of Ohio's reptiles and actions being undertaken to ensure their continued contribution to the state's natural heritage.

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**Directory of Attendees. 3<sup>rd</sup> Ohio Reptile Research & Conservation Conference  
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<b>First</b>	<b>Last</b>
Donna	Abel
Seth	Abel
Abbie	Abke
Phil	Agosti
April	Almond Knox
Ralph	Anderson
Rita	Apanius
Tom	Arbour
Tara	Archer
Chad	Arment
Craig	Asplund
Peggy	Asplund
Andy	Avram
Brian	Ayres
Megan	Beaver
Alexis	Beaverson
Kristy	Becka
Dr. John C.	Bedick
Marc	Behrendt
Craig	Biegler
Marci	Bird
Annalecia	Blair
Lauren	Blyth
Marylou	Bohannon
Teri	Boz
Frank	Brockmeyer
Carl	Brune
Janet	Buck
Michael	Budd
Tara	Buk
Liza	Butler
Caitlin	Byrne
Carolyn	Caldwell
Melinda C.	Capers
Kelly	Capuzzi
Dr. Larry	Cartmill
Denis	Case
Sam	Catella
Ellie	Chandler
Tori	Chandler
Ruma	Chatterji
Craig	Ciola

<b>First</b>	<b>Last</b>
Ashley	Ciola-Varga
David	Clipner
Mary	Clipner
Delores	Cole
Paul	Converse
Nicole	Costello
Matt	Cross
Norm	Damm
Eric	Davenport
Jeff	Davis
Kaylee	Davis
Mark	DeBrock
Jenn	Dennison
Tony	DiNovo
Marissa	Dubina
Josh	Dyer
Vinny	Farallo
Jen	Fashing
Maggie	Finch
Bill	Fisher
Whit	Gibbons
Bob	Glotzhober
Joe	Greathouse
Jerry	Greer
Cassandra	Gronbach
Jim	Grow
Rachel	Hefflinger
Nicole	Hafer
Bob	Hall
Maggie	Hantak
Cheryl	Harner
Samantha	Harvey
Mike	Hazy
Brianna	Henry
Tom	Hetherington
Tory	Holmes
John	Howard
Vince	Howard
Jenn	Hunter
Gabe	Ibanez
Ken	Inoue
Emma	Jechura

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Brooke	Johnson
Sarah	Kay
Brian	Keane
Jamie	Kidwell
Steve	Kievit
Sarah	Kitson
Dana	Klavinger
Bob	Klips
Sara	Klips
Paul	Knoop
Liam	Knox
Lindsey	Korfel
Paul	Krusling
Shawn	Kuchta
Matthew S.	Lattanzio
John	Lennon
Joe	Letsche
Greg	Lipps
Owen	Lockhart
Jim	Logue
Alison	Longwell
Joe	Loucek
Amanda	Martin
Darrell	Martin
Heather	Martin
Tim	Matson
Brandon	Mays
Eric	McCluskey
Gail	McConnon
Jerry	McDonald
Dr. Dan	Meakin
Brian	Menker
Jen	Moore
Susan	Moore
Joe	Moosbrugger
Keith	Moran
Diana	Morse
Mary	Musgrove
Chad	Nelson
Suzanne	Nelson

<b>First</b>	<b>Last</b>
Justus	Nethero
Peter	Niewiarowski
Ray	Novotny
Matt	O'Connor
Daniel	Paluh
Donna	Parrish
Jason	Parrish
Regis	Patton
Joan	Pfingsten
Ralph	Pfingsten
Paul	Pira
Laura	Puckett
Sarah	Purdum
Nathan	Ramey
Brett	Rodstrom
Kerri	Rogers
Willem	Roosenburg
Marty	Rosenberg
Deb	Ruppersburg
Drew	Russell
Ryan	Schroeder
Mike	Schumacher
Luke	Scott
Luke	Scott
Michael	Seigal
Colleen	Sharp
Sue	Simon Westendorf
Mike	Sisson
Shawna	Skinner
Ann	Soika
Jim	Spetz
Madison	Stahr
Heather	Stehle
Sam	Stevens
Ray	Stewart
Kathy	Temple-Miller
Scott	Thomas
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K Roger	Troutman
Cheyenne	Vick



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Marilyn	Weiler
Stephanie	West
Celeste	Wheeler
Doug	Wynn
Melissa	Youngquist
Sam	Zbikowski