

in orientation across years. This study provides the first estimates of breeding probability and assessment of migratory orientation patterns for *A. jeffersonianum* and contributes to the understanding of the reproductive ecology and natural history of pond-breeding amphibians.

Habitat Use and Home Ranges of Longnose Leopard Lizards

An understanding of species' habitat requirements is needed for effective land management decisions, but for many North American reptiles, habitat use information is lacking. The Longnose Leopard Lizard (*Gambelia wislizenii*) is a predatory lizard of most North American deserts, and, although common in the interior of its range, appears to be declining at some peripheral populations. To understand habitat use and movement patterns, SCHORR ET AL. (2011. *Herpetological Conservation and Biology* 6:312–323) used telemetry and two habitat comparison methods to study a *G. wislizenii* population at the eastern boundary of the range. *Gambelia wislizenii* home ranges at Canyons of the Ancients National Monument, Colorado, are the largest recorded. Habitat analysis using microsite-attribute comparisons and compositional analysis documented second-order habitat preference for

Big Sagebrush- or Utah Juniper-dominated landscapes. *Gambelia wislizenii* was found in areas with moderate shrub and forb cover with much bare ground, but not in areas dominated with

grass cover. Incorporating management strategies that limit grass encroachment and maintain bare ground cover with moderate tree and shrub cover might help sustain populations of *G. wislizenii*.



PAUL MOREY

Home ranges of the Longnose Leopard Lizard (*Gambelia wislizenii*) at Canyons of the Ancients National Monument, Colorado, are the largest recorded. This predatory lizard of most North American deserts, here eating a Sagebrush Lizard (*Sceloporus graciosus*), was found in areas with moderate shrub and forb cover and much bare ground, but not in areas dominated with grass cover.

NEWS BRIEFS

Snakes on a Train!

A clumsy smuggler, who managed to get away, failed to contain the dozens of King Cobras and other snakes he was transporting from Ho Chi Minh City in Vietnam to Hanoi (probably to be sold illegally to restaurants). After panic broke out on the train and police were called,



OWAN ABIF

Upscale restaurants in Vietnam can charge as much as the equivalent of \$500 for a meal of King Cobra.

the snakes were collected and turned over to a sanctuary. Upscale restaurants can charge as much as the equivalent of \$500 for a meal of King Cobra, beginning with the selection of the snake, having it killed at tableside, and including a serving of a snake's-blood appetizer. In one survey, 84% of Hanoi's restaurants were serving illegal wild animals of some sort, including weasel, monitor lizard, and porcupine.

"News of the Weird for August 7"
Daily Herald, Provo, Utah

Giant Crocodile Captured Alive in the Philippines

Villagers and veteran hunters have captured a one-ton Saltwater Crocodile (*Crocodylus porosus*), which they plan to make the star of a planned ecotourism park in a southern Philippine town. Mayor Edwin Cox Elorde said dozens of villagers and experts ensnared the 21-foot (6.4-meter) male along a creek in Bunawan township in Agusan del Sur Province after a three-week hunt. It could be one of the largest crocodiles to be captured alive in recent years, he said, quoting local crocodile experts.

Elorde said the crocodile killed a water buffalo in an attack witnessed by villagers last month and was also suspected of having attacked a fisherman who went missing in July. He said



Saltwater Crocodiles (*Crocodylus porosus*) are the largest extant crocodilians. A male (not the individual illustrated) measuring 6.4 m in total length was captured by residents and crocodile farm staff along a creek in Bunawan in the southern Philippines.

he sought the help of experts at a crocodile farm in western Palawan province. "We were nervous, but it's our duty to deal with a threat to

the villagers,” Elorde told the Associated Press by telephone. “When I finally stood before it, I couldn’t believe my eyes.”

After initial sightings at a creek, the hunters set four traps, which the crocodile destroyed. They then used sturdier traps using steel cables, one of which finally caught the enormous reptile late Saturday. About 100 people had to pull the crocodile, which weighs about 2,370 lbs (1,075 kg), from the creek to a clearing where a crane lifted it into a truck. The crocodile was placed in a fenced cage in an area where the town plans to build an ecotourism park for species found in a vast marshland in Agusan, an impoverished region about 515 mi (830 km) southeast of Manila. “It will be the biggest star of the park,” Elorde said, adding that villagers were happy that they would be able to turn the dangerous crocodile “from a threat into an asset.”

Despite the catch, villagers remain wary because several crocodiles still roam the outskirts of the farming town of about 37,000 people. They have been told to avoid venturing into marshy areas alone at night.

Adapted from the Associated Press
5 September 2011

Eastern Diamondback Rattlesnakes Suffer Sharp Declines from Habitat Destruction and Human Persecution

Just days after the Lake Erie Water Snake (*Nerodia sipedon insularum*) was declared recovered and removed from the federal endangered species list, snake researcher Dr. Bruce Means and three conservation groups (the Center for Biological Diversity, Protect All Living Species, and One More Generation) asked the government to save another snake, the Eastern Diamondback Rattlesnake (*Crotalus adamanteus*), by adding it to the list of protected species.

Dr. Means and the groups submitted an extensive scientific petition to the U.S. Fish and Wildlife Service detailing the snake’s natural history and decline toward extinction. The petition initiates a formal, multiyear review process under the Endangered Species Act to determine whether the Eastern Diamondback Rattlesnake warrants protection as a “threatened” species.



The Lake Erie Water Snake (*Nerodia sipedon insularum*) was declared recovered and removed from the federal endangered species list earlier this year after its population grew to more than 11,000 as a result of habitat protection, public education, and protection from killing.

“We’re seeking to protect the Eastern Diamondback Rattlesnake under the Endangered Species Act because it has a nearly perfect record of saving imperiled species,” said Collette Adkins Giese, a conservation biologist with the Center for Biological Diversity. “The Endangered Species Act just saved the Lake Erie Water Snake — it’s the surest tool we have to save the rattlesnake too.”

The Lake Erie Water Snake was listed as a threatened species in 1999 with a population of just 1,500–2,000 snakes. It was delisted earlier this year after its population grew to more than 11,000 as a result of habitat protection, public education, and protection from killing. Similar recovery actions are also needed for the Eastern Diamondback Rattlesnake, which is facing the same threats that the water snake faced.

Dr. Means and colleagues first documented the decline of the Eastern Diamondback Rattlesnake in a paper published in 2000 in the scientific journal *Herpetological Natural History*. The paper concluded that the species was “declining almost all over its range” and that human exploitation was having “a severe impact on remaining populations.” Dr. Means has conducted fieldwork in the southeastern United States for 40 years, including extensive research on the Eastern Diamondback Rattlesnake; he is an adjunct professor at Florida State University and is president of the Coastal Plains Institute.

“The Eastern Diamondback Rattlesnake is a wildlife icon of North America. Africa has its lion, Asia its tiger, and we can boast of this marvelous ‘Don’t Tread On Me’ snake,” said Dr. Means. “Like so many others, it’s a wildlife treasure that we must not allow to go extinct. Remaining habitat for the snake must be preserved, and negative public attitudes toward these nonaggressive animals must be reversed.”

The Eastern Diamondback Rattlesnake was once abundant in longleaf pine savannas across the southeastern United States, but only 2–3% of the original habitat remains. Exploitation by humans is also having a severe impact. Thousands of the rattlesnakes are killed each year for their skins and meat with no limits on annual harvests in South Carolina, Georgia, Florida, Mississippi, Alabama, and Louisiana — and in Alabama and Georgia, these snakes are targeted by “rattlesnake roundups,” gruesome festivals that offer prizes to encourage hunters to collect the imperiled snakes, which are exhibited and then slaughtered.

“Sadly, the demise of the Eastern Diamondback Rattlesnake is being incentivized by rattlesnake roundups,” said Jim Ries of One More Generation. “Converting these events to rattlesnake festivals where the species is celebrated for its value to the ecosystem would continue to generate revenue for local communities while preserving the species.”

The Eastern Diamondback Rattlesnake poses little public safety risk. Although it is



SUZANNE L. COLLINS, CNRH

Only 2–3% of the original habitat of the Eastern Diamondback Rattlesnake (*Crotalus adamanteus*) remains. In addition, thousands are killed each year for their skins and meat, and in Alabama and Georgia, these snakes are targeted by “rattlesnake roundups,” during which snakes are exhibited and then slaughtered.

venomous, more people are killed every year by lightning strikes and bee stings. The proportion of people who are snake-bitten while engaging in outdoor activities is also very low. Those most likely to be bitten are snake handlers who either keep venomous snakes in captivity or work with them professionally. Still, malicious killings by those who perceive the snake as a threat are contributing to its decline.

“Survival of these snakes in large part depends on whether people continue to persecute them or instead choose to allow these amazing creatures to share the land with us,” said Bill Matturro of Protect All Living Species. “As a farmer and owner of wooded land, all living things on my land — including Eastern Diamondback Rattlesnakes — are both respected and protected.”

The Center for Biological Diversity recently signed a historic agreement with the U.S. Fish and Wildlife Service under which the agency agreed to make protection decisions for hundreds of species over the next several years. Although the agency is normally required to respond to a petition within one year, any decision on the Diamondback will likely be delayed as the Service works through the backlog of species needing protection and addressed in the agreement. “Securing protection for the Eastern Diamondback Rattlesnake is likely to take several years,” said Adkins Giese. “We hope that steps will be taken in the interim to protect the Eastern Diamondback and prevent further population declines.”

Background

The Eastern Diamondback Rattlesnake is the largest rattlesnake in the world. Adults are typically four to five feet long and weigh four to five pounds, but a big snake can reach six feet in length and weigh 12 pounds or more. The Eastern Diamondback is distinguished from other snakes by its large size, dorsal pattern of diamonds, yellowish unpatterned belly, dark tail with rattle, and infrared-sensitive pit between the eye and nostril.

Scientific studies over the past decade have documented range-wide population declines and significant range contractions for the Eastern Diamondback Rattlesnake: (1) The Eastern Diamondback Rattlesnake is absent or extremely rare across large portions of its former range. It has essentially been extirpated in Louisiana, is endangered in North Carolina, has limited ranges in South Carolina, Alabama, and Mississippi, and has become uncommon in much of Florida. It is also declining in Georgia; (2) The rate of population decline is unknown, but estimates indicate that just 3% of the historic population remains; and (3) Analysis of data from four rattlesnake roundups in the southeastern United States showed a steady decline in the weights of prize-winning Eastern Diamondback Rattlesnakes and the number collected.

Adapted from a news release distributed by the Center for North American Herpetology (CNAH)

Blue Iguana Hatchlings at the San Diego Zoo

The San Diego Zoo Institute for Conservation Research announced the hatching of two clutches of Grand Cayman Blue Iguanas (*Cyclura lewisi*). The parents were imported to the U.S. as youngsters in 2005 as part of the conservation strategy for the Association of Zoos and Aquariums (AZA) Rock Iguana Species Survival Plan (SSP) and the Blue Iguana Recovery Program (BIRP). The first clutch of two hatchlings was a first-time breeding event for sire and dam and perpetuates two founder lineages (Daniel and Carley) new to the U.S. captive population. The second set this year consisted of seven hatchlings and was the fourth clutch for their parents and their largest to date. The *Cyclura* SSP now manages 50 *C. lewisi* among 13 partner zoos. These offspring bring the captive population closer to the goal of mirroring the genetic diversity remaining in the wild. The SSP also has been encouraged by breeding behavior observed earlier this year between two previously unbred males and their new mates, whose transfers were recently organized between partner zoos (Indianapolis, Shedd Aquarium, Gladys Porter, and Central Florida).

Tandora Grant

San Diego Zoo Institute for Conservation Research



Two of seven hatchling Grand Cayman Blue Iguanas (*Cyclura lewisi*) that comprise their parents' largest clutch to date.

Ozark Hellbender Listed as Endangered

The U.S. Fish and Wildlife Service has designated the Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*) as endangered under the federal Endangered Species Act (ESA) and also finalized its decision to list the Ozark and Eastern Hellbenders in Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In combination, these listings will provide significant protection to Hellbenders, both domestically and internationally.

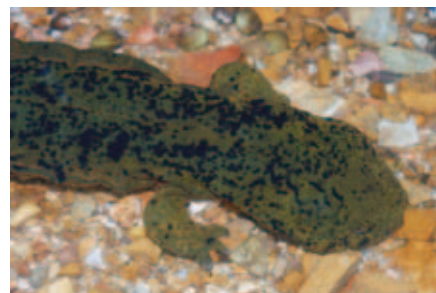
Under the ESA, an endangered species is any species that is in danger of extinction throughout all or a significant portion of its range. Ozark Hellbenders inhabit the White River system in southern Missouri and northern Arkansas. Ozark Hellbender populations have declined an estimated 75% since the 1980s, with only about 590 individuals remaining in the wild. Numbers have dropped because of degraded water quality, habitat loss resulting from impoundments, ore and gravel mining, sedimentation, and collection for the pet trade. Also threatening the Ozark Hellbender is a fungal disease, chytridiomycosis (chytrid), and severe physical abnormalities (e.g., lesions, digit and appendage loss, epidermal sloughing), which most Ozark Hellbenders exhibit.

The average age of Ozark Hellbenders is increasing and few young are being found, indicating problems with reproduction or juvenile survival. This, and the multiple threats from disease and habitat degradation, could lead to extinction of the Ozark Hellbender within 20 years.

"The Ozark Hellbender faces extinction without the protection afforded by the Endangered Species Act," said Tom Melius, the Service's Midwest Regional Director. "Listing provides tools and an infrastructure within which partners can pool resources and expertise to help save this species."

The Service determined that designating critical habitat under the ESA for the Ozark Hellbender is not prudent because the designation would require publication of detailed descriptions of Hellbender locations and habitat, making illegal collection for the pet trade more likely.

To better control and monitor the international trade of Hellbenders, the Service has included both the Ozark and Eastern Hellbenders in Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES is an international agreement between governments designed to prevent species from becoming endangered or extinct as a result of international trade. Collection within the United States and international trade of Hellbenders is of growing concern, particularly as they become rarer and consequently more valuable. Listing Hellbenders in Appendix III of CITES would aid in curbing



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Hellbenders (*Cryptobranchus alleganiensis*) are among the world's largest salamanders, growing to total lengths of over 70 cm.

unauthorized international trade, not only by controlling exports from the United States but by enlisting the assistance of 174 other countries that are CITES Parties in controlling trade in the species.

Currently, two subspecies of Hellbenders are recognized, the Ozark Hellbender and the Eastern Hellbender (*C. a. alleganiensis*), but recent studies have shown that additional lineages might be worthy of recognition at even the species level. The Ozark Hellbender occurs only in Missouri and Arkansas, whereas the range of the Eastern Hellbender includes portions of 16 states (Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia).

Hellbenders have large tails and tiny eyes, and their flattened bodies enable them to move in the fast-flowing streams they inhabit. Hellbenders are habitat specialists that depend on constant levels of dissolved oxygen, temperature, and flow in their aquatic environment. Even minor alterations to stream habitat are likely detrimental.

The Endangered Species Act makes it illegal to kill, harm, or otherwise "take" a listed species. The ESA also requires all federal agencies to ensure that actions they authorize, fund, or undertake do not jeopardize the existence of listed species, and directs the Service to work with federal agencies and other partners to develop and carry out recovery efforts for those species. Listing also focuses attention on the needs of the species, encouraging conservation efforts by other agencies (federal, state and local), conservation groups, and other organizations and individuals.

The listing of the Ozark Hellbender under the ESA will take effect 30 days after publication of the final rule on 6 October 2011, whereas the listing of Hellbenders in CITES Appendix III will take effect 180 days after publication of the final rule. This additional time is necessary so that the Service can submit required documentation to the CITES Secretariat, which will then notify all CITES Parties of this action taken by the United States.