NEWSBRIEFS

Wake Up, Floridians, to this Cold-blooded Killing

As if the results of the sixth day of Creation, when God made "every thing that creepeth upon the earth," were being canceled out, hordes of new people are putting some of Florida's humblest residents to flight, wiping them out in hundreds of thousands. *Amphibians and Reptiles: Status and Conservation in Florida*, a just-published scientific survey edited by Walter E. Meshaka, Jr. and Kimberly J. Babbitt, paints a gloomy picture of what is happening to the state's herpetofauna.

Crushed beneath car wheels, buried by bulldozers, poisoned by insecticides and fertilizers, chased from back yards and patios as obnoxious pests, eaten alive by exotic red ants, over-collected by egotistical pet owners, Florida's snakes, turtles, frogs, lizards, and salamanders face a future that is getting grimmer and narrower year by year.

"Florida has a greater biodiversity of reptiles than any place on the North American continent, just a wonderful diversity of creatures," said Bruce Means, executive director of the Coastal Plains Institute and one of the contributors to the book. "Unfortunately, they are under assault from wildly burgeoning human masses. I've been doing this for 44 years, and I've seen species like the Southern Dusky Salamander just disappear. I am not optimistic about the future at all."

A collection of articles by scientists who are experts in their field, the book speaks openly of "persecution" and "extirpation" of some reptiles, particularly Box Turtles, Gopher Tortoises, and Common Kingsnakes. Scientific abbreviations like "DOR" stand for "Dead on Road," and mean the myriad squashings of frogs, lizards, turtles, and snakes beneath the wheels of ever more abundant vehicles. Some roads, like U.S. 441 across Payne's Prairie in Alachua County, and the Tamiami Trail that runs across Florida from Miami to Tampa, are virtual abattoirs, greased with the gory little bodies of "anurans." "On Aug. 5, 1991, I stopped counting after 10,000," biologist Jim Weimer said in a 1996 interview, describing a single night on U.S. 441 across Payne's Prairie. "This was just one night. On May 2, 1991, there were over 5,000 Southern Leopard Frogs killed."

KENNETH L. KRYSKO

Kingsnakes (*Lampropeltis getula*) are declining precipitously in Florida. Those spared by collectors ae being killed by non-native fire ants.

Florida is growing by leaps and bounds. The population is already above 15.3 million and expected to reach 25 million over the next quarter-century. Every hour, 28 new people come to live in Florida. Billions of dollars are to be made in development. "But at what price?" Meshaka and Babbitt ask in their introduction. "Drives to work are unbearable, and one must drive farther and farther to see nature . . . as space runs out, agriculture is now giving way to human development, the borders of which stand cheek to jowl with every major wetland, upland, and estuarine system in the state."

The condition of Florida's herpetofauna has become "drastically unrecognizable" from what it was 50 years ago. In short, these little frogs, snakes, lizards, salamanders, and turtles are behaving like croaking, slithering, wriggling, plodding-footed, extremely stressed little canaries in a sunny coal mine. Their deaths are hastening the day when Florida, the richest habitat in America for mammals, birds, reptiles, turtles, crocodilians, and amphibians, will be little more than a sterile monoculture.

Interestingly, enormous Palm Beach County is not the most biodiverse county in Florida when it comes to herpetofauna. That honor goes to little Franklin County, southwest of Tallahassee in the Big Bend, with 99 native amphibian, turtle, crocodilian, and squamate reptile species. Nearby Liberty County is second, with 98, and Santa Rosa County has 97. Palm Beach County, by contrast, has only 69, Martin 44, and St. Lucie 46 species. The least biodiverse place in Florida, when it comes to these creatures, is DeSoto County, just east of Charlotte County near Florida's lower west coast.

If you want to grasp the dizzying reach of these creatures' antiquity, consider the lowly Eastern Box Turtle (*Terrapene carolina*). It has been in Florida since the Pliocene Era, which began five million years ago. At least three subspecies occur in the state, and one island, Egmont Key, off Tampa Bay, used to have so many of them that early 18th Century French explorers in the Gulf referred to all of America as "L'île aux Tortues," the Isle of Turtles [see *Iguana* 12: 152–159]. Egmont Key became a National Wildlife Refuge in 1974, but it is being eroded and lacks the funds to afford more than a single caretaker. The Box Turtle is generally thought of as "common" in Florida but this report suggests it may not be nearly as common as supposed.

The fate of the Gopher Tortoise (*Gopherus polyphemus*) is even more dire. This slow-moving creature lives in burrows on sandy uplands, the very sort of land most prized by developers. Bulldozers often entomb the hapless tortoises alive. Thanks to their slow metabolism, they may linger for months underground before dying of thirst and hunger. As many as 68,000 Gopher Tortoises have been killed in Florida over the past 12 years, according to Florida Fish and Wildlife Conservation Commission figures, in order to make room for roads, houses, malls, and golf courses. "Current Gopher Tortoise regulations and conservation measures appear to be inadequate to sustain the species in

SUZANNE L. COLLINS, CNAH

As many as 68,000 Gopher Tortoises (*Gopherus polyphemus*) have been killed in Florida over the past 12 years in order to make room for roads, houses, malls, and golf courses.

Florida through the next century," writes Ray E. Ashton Jr. in the new report.

The grimmest article of all in the new book is "The Decline and Extirpation of the Kingsnake in Florida," by Kenneth L. Krysko and Daniel J. Smith. The Common Kingsnake (*Lampropeltis getula*) is a magnificent creature, coming in several colors, harmless, beautiful and sweet-tempered, and therefore much sought-after by collectors, who pay up to $300 for one. Traffic and drainage along the infamous U.S. 441 across Payne's Prairie practically wiped out the snake in the 1960s. By 1977, not a single Common Kingsnake could be found there. Collectors captured practically all the Common Kingsnakes along the Tamiami Trail west of Miami by 1995. Franklin County used to abound with them. A survey in 2000 found a single specimen, mortally wounded on a highway. At present, the only large population of Common Kingsnakes lies around and to the west of Lake Okeechobee. Non-native fire ants are busily killing off these refugees.

More than 77,590 American Alligators (*Alligator mississippiensis*) have been killed as "nuisances," because they invaded Florida back yards since 1977; the state Fish and Wildlife Conservation Commission now fields about 5,000 calls each year from alarmed homeowners. The state lets private trappers dispose of them, and their meat and hides were worth nearly $3 million in 1999.

The pet industry is thriving at the expense of wildlife. One Florida collector caught 4,194 Southern Cricket Frogs (*Acris gryllus*) and sold them over a two-year period. Turtles are captured and sold at the rate of up to 5,663 a year. Rattlesnakes are sought-after for their skins, meat, and gallbladders, which are used in Chinese traditional medicine. About 20,000 snakes of all species are removed from the wild annually to be sold as pets.

The legendary Ross Allen of Silver Springs was one of the biggest entrepreneurs. Jolly old Ross Allen was a hero to countless children and Boy Scouts in the 1950s and 1960s. They loved watching him handle snakes fearlessly, and were thrilled to hear how many times he had been bitten by rattlers and survived. They didn't know Allen was in the snake trade up to his neck. Over a five-year period, Allen bought and sold 6,858 Eastern Rat Snakes (*Elaphe obsoleta*; now assigned by some authorities to *Pantherophis alleghaniensis*) alone, the new report says. Allen regarded the woods of central Florida as a kind of infinite piggybank of valuable snakes.

SUZANNE L. COLLINS, CNAH

Over one five-year period, Ross Allen, famous Florida snake-handler, bought and sold 6,858 Eastern Rat Snakes (*Elaphe obsoleta*; now assigned by some authorities to *Pantherophis alleghaniensis*).

The figures in the new book are devastating. From 1990 to 1994, collectors captured and sold 5,683 salamanders, 88,096 frogs and toads, 17,627 turtles, 189,712 lizards, and 85,311 snakes of all species. Eighty percent of the lizards, 76 percent of the snakes, 50 percent of the turtles, and 27 percent of the lizards came from Lake Okeechobee south. This is just the legal, reported trade.

A few bright spots appear in the report. American Alligators are thriving, even getting larger. The average "nuisance" Alligator hide now measures 7.3 feet in length. Also, 1.26 million acres of state-protected land remains in Florida, off-limits to development.

Still, Meshaka and Babbitt declare: "Rather than just waving our arms to attempt to slow the rate of human growth and habitat alteration, we should anticipate the worst and develop plans that have the potential to maintain current levels of biodiversity."

Michael Browning
Palm Beach Post
15 September 2005

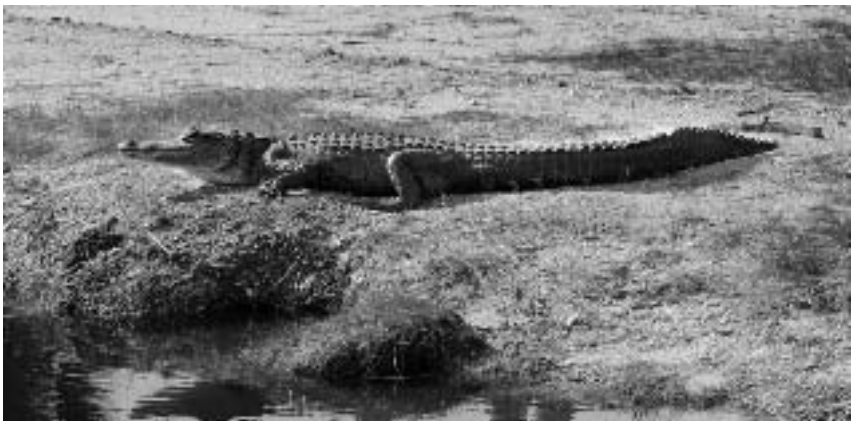
American Alligators Killed

Any Florida alligator longer than 4 feet that makes residents or visitors feel unsafe, and that is reported to the state's Gator Hotline, is subject to a practice called "harvesting." The animal is taken away by a trapper and ultimately killed. Linda Collins, a spokeswoman for Florida's Statewide Nuisance Alligator Program (SNAP) reports that a total of 7,991 were harvested in 2005.

For years, the city of Sanibel only had aggressive gators removed from the island. However, following an incident in July 2004, in which a woman was killed by a 12-foot American Alligator, Sanibel joined the statewide program for removing them.

Since the change on Sanibel, more than 100 American Alligators have been harvested there, including 23 in 2005. No fatalities and no subsequent reports of pets or human attacks have been reported since the policy was instituted.

News-Press (Fort Myers, Florida)



SUZANNE L. COLLINS, CNAH

Nearly 80,000 American Alligators (*Alligator mississippiensis*) have been killed as "nuisances" since 1977.

SUZANNE L. COLLINS, CNAH

American Alligators (*Alligator mississippiensis*) that frighten or threaten Florida residents may be "harvested" (taken by a hunter and killed).

Mexican Garter Snake One Step Closer to Protection as an Endangered Species

Responding to a petition and lawsuit from the Center for Biological Diversity, the U.S. Fish and Wildlife Service (USFWS) announced today that the Mexican Garter Snake (*Thamnophis eques*) may warrant protection as an endangered species under the Endangered Species Act (ESA) and announced that they will begin a status review to be completed by September 2006. The species is an aquatic Garter Snake with a distribution in Arizona, southwestern New Mexico, and México. It is one of hundreds of native riparian species that are threatened by the destruction and degradation of rivers, streams, and springs in the Southwest. The Center petitioned for protection of the snake 15 December 2003.

Populations of the Mexican Garter Snake are severely fragmented and isolated due to loss and destruction of suitable habitat, which consists of riparian areas with permanent water, streamside vegetation for cover, and native prey species. "The decline of the Mexican Garter Snake is symptomatic of an extremely widespread decline in the aquatic fauna of the Southwest," stated Dr. Phil Rosen, herpetologist with the University of Arizona.

The Mexican Garter Snake has been extirpated from most of its U.S. range, including the Colorado, Gila, and much of the Santa Cruz and San Pedro rivers. The decline of the Mexican Garter Snake is closely linked to the deteriorating quality of streamside habitats, the disappearance of native frogs and fishes, and the rampant introduction and spread of nonnative species, such as the Bullfrog, Sunfish, and Bass.

"Widespread degradation of southwest rivers and introduction of dozens of exotic species necessitates protection of the Mexican Garter Snake," stated Noah Greenwald, conservation biologist for the Center for Biological Diversity. "The Endangered Species Act is an important safety net for the nation's wildlife and could help save the Mexican Garter Snake."

TOM BRENNAN

Mexican Garter Snakes (*Thamnophis eques*) are one step closer to protection as an endangered species.

Center for Biological Diversity
5 January 2006

Second Eastern Box Turtle Conservation Workshop

The North Carolina Zoological Park and the Humane Society of the United States are pleased to announce that the Second Eastern Box Turtle Conservation Workshop will be held at the North Carolina Zoological Park in Asheboro, North Carolina on 24–25 March 2006.

This workshop will pick up the work started at the first workshop held in Laurel, Maryland in 2004. Several presentations will be scheduled in the morning, but the focus of the meeting will be to develop working groups for the issues identified under Research, Repatriation, and Rehabilitation of Box Turtles and Box Turtle Conservation Education.

SUZANNE L. COLLINS, CNAH

Eastern Box Turtles (*Terrapene carolina carolina*) are the focus of a second conservation workshop this month in North Carolina.

U.S. Turtle Species Added to CITES Appendix III

The Alligator Snapping Turtle (*Macroclemys temminckii*) and all species of Map Turtles (*Graptemys* spp.), which are native to the United States, are being given international protection by their inclusion in Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The listing, which will allow the U.S. Fish and Wildlife Service to work with states to regulate exports, marked the first time the U.S. has used Appendix III to protect native species.

The Alligator Snapping Turtle, the largest freshwater turtle in the world, is a species of concern due to several factors that include loss of habitat and collection from the wild for human consumption and export as pets.

Twelve species of North American Map Turtles are currently recognized. Two of these are on the Federal list of threatened species and a third is a candidate species for Federal listing. Map Turtles are vulnerable for many reasons; some currently known threats to the species include loss of habitat, exposure to contaminants, and collection for the pet trade.

SUZANNE L. COLLINS, CNAH

Alligator Snapping Turtles (*Macroclemys temminckii*) and all species of Map Turtles, such as this Barbour's Map Turtle (*Graptemys barbouri*) are now included in CITES Appendix III.

Surprising Killer Of Southeastern Salt Marshes: Common Sea Snails Conserving Diamondback Terrapins May Help Preserve Coastal Habitats

Periwinkles (*Littorina* sp.), the spiral-shelled snails commonly found along rocky U.S. shorelines, play a primary role in the unprecedented disappearance of salt marsh in the southeastern states, according to new research published in *Science*. Based on extensive field studies, the work challenges six decades of salt marsh science. Ecologists have long thought that stressed soil – too much salt, not enough oxygen – was the main killer of this critical marine habitat. Brian Silliman, a Brown University research fellow and a

University of Florida assistant professor, said drought-stressed soils pave the way for predatory periwinkles that spread fungal disease as they graze on cordgrass.

"Snails can transform healthy marsh to mudflats in a matter of months," said Silliman, lead author of the *Science* paper. "This finding represents a huge shift in the way we see salt marsh ecology. For years, scientists thought marsh die-off was simply a 'bottom-up' problem related solely to soil conditions. We found that the trouble also comes from the top down. Drought makes the marsh vulnerable, then the snails move in."

Thousands of acres of salt marsh have disappeared from South Carolina to Texas since 2000, according to several scientific studies. In Louisiana alone, more than 100,000 acres of marsh were severely damaged between June 2000 and September 2001. This drastic decline poses a serious threat to the ecology and economy of the southeastern seaboard and the Gulf Coast. Salt marshes serve as nursery grounds that support commercial fisheries, protect coastline from storm-induced floods, and filter fresh water before it flows out to sea.

Mark Bertness, chair of the Department of Ecology and Evolutionary Biology at Brown and a co-author of the paper, said a better understanding of the causes of salt marsh loss would point to better ways to protect them. "Loss of blue crabs and turtles, which prey on periwinkles, allows the snails to flourish," Bertness said. "Protect the crabs and turtles [such as Diamondback Terrapins, *Malaclemys terrapin*] and you can help save the marshes."

Silliman came up with the periwinkle premise as a graduate student conducting field research in Virginia.

Periwinkles (*Littorina* sp.) are spiral-shelled snails commonly found along rocky U.S. shorelines. They apparently play a primary role in the unprecedented disappearance of salt marsh habitats in southeastern states.

SUZANNE L. COLLINS, CNAH

Diamondback Terrapins (*Malaclemys terrapin*) are known predators of small mollusks like periwinkles. Impacted by the declining quality of coastal habitats and heavily exploited by humans for food, terrapin populations in many areas have declined dramatically in historical times. Actively managing the species may not only help conserve these turtles, but may help preserve salt marsh habitats in the southeastern United States.

Silliman found that removing snails from cordgrass, the dominant plant species in salt marshes, bumped up grass growth as much as 50 percent. Silliman earned his Ph.D. at Brown and worked in the Bertness lab along with Johan van de Koppel, a former postdoctoral research associate now at the Netherlands Institute of Ecology. For more than two years, the trio tested Silliman's top-down hypothesis of marsh ecology along the Georgia, South Carolina, and Louisiana coasts in conjunction with Louisiana State University researchers Lee Stanton and Irving Mendelssohn.

In 12 randomly selected die-off sites, the team surveyed periwinkle populations. They found the largest concentration of snails – as many as 2,000 per square meter – along dead-zone borders. To test the idea that the snails contribute to cordgrass death, they created dozens of deterrents – wire mesh enclosures measuring about one meter square. Enclosures were placed ahead of fronts of grass-grazing snails and monitored for more than a year.

Inside the enclosures, snail-free cordgrass thrived. In fact, plant biomass increased more than threefold. Outside the cages, in 11 of the 12 sites, snail overgrazing converted healthy marsh to exposed mudflats in as little as three months. When snail density was high, destruction was more extensive.

Researchers also wanted to test the notion that increased soil salinity, brought on by drought, acts in concert with snails to kill marshland. So, in one healthy site in Georgia, the team elevated soil salt concentrations in areas with and without snails. Sites were monitored for eight months. In the experimental plots, increased salinity reduced grass growth by 45 percent, while high salt levels, in combination with the presence of snails, reduced grass growth by 84 percent.

How do periwinkles contribute to marsh destruction? Silliman has shown that they kill the grass by slicing the stems during grazing, leaving plants vulnerable to harmful fungi. In a process called "fungal farming," snails then consume the fungi living off injured grass. "We've found a synergism between climate change and grazers," Silliman explained. "Severe drought triggers formation of traveling fronts of grazing snails. Then there is runaway consumption, which leads to waves of marsh destruction. Given predicted increases in climate change-induced drought, these results highlight the potential for marsh die-off to be even more intense and extensive in the future."

The findings, the authors argue, underscore the interplay of climate and consumers in the worldwide collapse of coastal systems. While an overabundance of snails may fuel southeastern salt marsh destruction, they point to other examples of habitat destruction that may be caused, in part, by a plethora of grazers: Sea urchins wiping out California kelp beds, sea stars devastating Australian coral reefs, snow geese decimating marshes along the Artic Sea, bark beetles killing off Arizona pine forests.

Georgia Sea Grant, Louisiana Sea Grant, The Nature Conservancy, the National Science Foundation and the Schure-Beijerinck-Popping Fund supported the work.

Science Daily, 20 December 2005
Source: Brown University
(http://www.sciencedaily.com/releases/2005/12/051219091308.htm)

Florida May Require Permit for Large Reptiles

You can't keep them from eating alligators in the Everglades. You can't bust people for letting them loose — unless you happen to catch them in the act — but you can, at least, make people think twice before buying a Burmese Python or a Nile monitor or any of a handful of large, nonnative reptiles that have formed wild colonies from Flamingo to DeLand.

That's the rationale behind a new state bill that would require a $100 annual

permit to keep certain large reptile species, and provide for "pet amnesty days," during which 16-foot pythons and the like can be turned in, no questions asked.

While the exact list of species has yet to be figured out, and the state's plan for the unwanted animals is fuzzy at best, the bill "is a great start," said Florida Rep. Ralph Poppell, R-Vero Beach, who is co-sponsoring the legislation along with Sen. Bill Posey, R-Rockledge. It would put large reptiles in the same tightly controlled category as venomous snakes — which Florida residents also need a $100 permit to keep.

"Before, you could just buy little Johnny one, no big deal," Poppell said. Now little Johnny could be forking over $2,500 during the course of the snake's life, and have to answer to the state if it ever gets loose. The bill would, its supporters hope, slow the tide of unwanted reptile pets and reduce impulse purchases, since buyers would need a permit in hand first. Biologists don't expect the bill, if it passes, will make Burmese Pythons vanish from the Everglades, or even slow their progress beyond South Florida. "There's thousands of them out there," said Kevin Enge, a biologist with the Florida Fish and Wildlife Conservation Commission. "Burmese Pythons could potentially survive up to Orlando or on the coast even farther north."

Strangely, the recent abundance of pythons seems to have only encouraged more python-dumping. "The park biologists are finding clean ones lately, without scratches or marks," Enge said, indicating they've been raised in captivity.

The bill would give unhappy owners a way to dispose of their erstwhile captives. The state's first "pet amnesty" event is being planned for Orlando. What will happen to the dropped-off creatures, however, is unclear. "That's something we'll have to work out," Enge said. "A lot of these animals I don't think there's a real market for. Realistically, they are probably gonna be euthanized. How we're gonna explain that to the public I don't know."

JOSEPH BURGESS

Spiny-tailed or Black Iguanas, such as this *Ctenosaura similis*, a Middle American native, are locally abundant in several regions of southern Florida where they often inflict considerable damage on decorative landscaping, most of which is composed of non-native vegetation.

Dave Soltz, manager of Mr. Petman in South Daytona, said he felt the $100 permit requirement would dissuade retail buyers of large reptiles. Soltz said he tries to be as clear as possible about the growth and requirements of pets like Burmese pythons, but it doesn't always take. "We give them as much information as they're willing to listen to," he said. Commercial reptile breeders, of which Florida has dozens, have lent support to the permitting measure — because the alternative could be to shut down the trade in all exotics. "That would be the next step," Poppell said. "But we really don't want to put people out of business."

Enge thinks dealers may have been responsible for the first releases of Nile Monitors and Burmese Pythons, because it takes quantities of animals to establish a breeding colony. Eugene Bessette, an Alachua County snake breeder who supports the restrictions and helped the state craft them, said he thought individual pet owners were to blame for most of the releases. "People throw away cats; they throw away dogs; they throw away children," Bessette said. "We live in a disposable society." Whatever the cause, the fact is that colonies of Spiny-tailed Iguanas, Nile Monitors, Burmese Pythons, African Rock Pythons, and Boa Constrictors are established in pockets of Florida, and have been for years. Eradication efforts are likely to intensify soon, Enge said. "They're gearing up for the Burmese Pythons. There will probably be federal money to try and eradicate them."

It's not merely because 16-foot snakes freak people out, said Enge, but because their prey items could include threatened and endangered species. "So far what we've found in their stomachs are limpkins, house wrens, one had a feral cat," Enge said. "We worry that they could get into Wood Stork colonies."

The bill, if it passes, may serve to keep the next big, unwelcome, predatory species out of the state. Anacondas are being considered for the list. At least two have been discovered in the Everglades, probably released by their owners and not reproducing. No one expects that the giant South American snakes would survive and breed here, but then, no one expected Burmese Pythons to, either. "Ten years ago, I'd have said Burmese Pythons could never become established in Florida," Enge said.

LORI OBERHOFER, EVERGLADES NATIONAL PARK

ROY WOOD, EVERGLADES NATIONAL PARK

This young Burmese Python (*Python molurus bivittatus*; top), caught in Everglades National Park, is testament to the reality that wild snakes are thriving and breeding in southern Florida. The larger adult (bottom) is more typical of snakes being seen and reported; many obviously are former pets released by owners when they become too large to easily accommodate in captivity.

Virginia Smith
Daytona Beach News Journal
19 February 2006

State to Consider Reptile Ban in Schools[1]

For students who have pet snakes, salamanders, or other reptiles in their classrooms, an order to remove the coveted creatures would probably seem cold-blooded.

State officials aren't ready to lay down that law in public schools yet, but they recently did so at licensed child care centers across North Carolina. The reason is *Salmonella* – a bacterium found in the digestive tracts of all reptiles that can cause diarrhea, fever, headaches, and severe vomiting in humans.

A newly formed panel with the N.C. Commission for Health Services

[1] Editors' note: The IRCF strongly endorses the educational use of reptiles in properly supervised situations in which necessary precautions and hygiene are enforced.

will meet for the first time this month to discuss school sanitation rules, which haven't been revised in 15 years, and it could be a scaly outcome for the use of reptiles in education. "The sanitation requirements now (at schools) are not nearly as restrictive as they are for toddlers and infants at child care facilities," said Ed Norman, an environmental epidemiologist with the children's health branch of the N.C. Department of Environment, Health, and Natural Resources. "This committee has formed to look at those rules." Norman said the rules governing child care centers were reviewed in August and went into effect January 1. Public health officials suggested the reptile ban as a way of preventing *Salmonella* outbreaks among preschoolers who can be forgetful about handwashing. Since *Salmonella* is carried in the intestinal tracts of reptiles, they intermittently or continuously shed the bacteria in their feces. The disease can be fatal for young children or anyone with a weakened immune system, Norman said. "Younger kids are at greater risk, but really, any child could be," he said.

Robert Hunt, environmental supervisor for the Nash County Health Department, said he knows of no child-care centers here that were affected by the new rule. In line with the state standard, his office performs health inspections only once a year at public schools in the county, but Hunt said he would recommend that children not be allowed to handle a reptile – especially iguanas – in a classroom. "Ensuring proper handling and handwashing afterward is very important," Hunt said.

Reptiles can't be found at every school around the Twin Counties, but they're not exactly uncommon. Science kits furnished as part of the N.C. Standard Course of Study provide many classrooms with critters such as hermit crabs, earthworms, and mice. At D.S. Johnson Elementary School, that's also how fourth-grade teacher Edith Berry obtained eight anoles – tiny lizards that resemble chameleons. Berry said the benefits have been innumerable. Her students learn about the lizard's ecosystem, its ability to change color according to its surroundings and its dietary affection for crickets. "It's been absolutely wonderful," Berry said. "It's one of the reasons my students have grown to love science." Berry requires her students to wear disposable gloves while handling the anoles.

SUZANNE L. COLLINS, CNAH

A Red-bellied Water Snake (*Nerodia erythrogaster*) in a classroom at Williford Elementary School (North Carolina) greatly enriched the learning experience for students.

COURTESY OF TODD CAMPBELL

Todd Campbell, Assistant Professor of Biology at the University of Tampa, holding a Nile Monitor (*Varanus niloticus*). Building on work by Kraig Hankins (City of Cape Coral), Kenneth Krysko (Florida Museum of Natural History), and Kevin Enge (Florida Fish and Wildlife Conservation Commission), whose collective efforts generated a public awareness of this issue, Dr. Campbell has been actively working on the monitor problem since 2003.

At Williford Elementary School, third-grade teacher Suzanne Lindsey doesn't feel that's necessary. Lindsey said she has had a snake in her classroom aquarium every spring for about the last 20 years – usually from April through the end of the school year. She's also occasionally had other reptiles. "It would be a terrible thing to have something that neat and not be able to touch it," Lindsey said. "But my kids are only allowed to hold it under supervision. "They understand the risk of *Salmonella*, and we talk about the importance of handwashing when we're finished." Lindsey's students are not allowed to feed the reptiles or help with cleaning the aquarium, and she said having an animal in the classroom is more enriching than simply looking at a picture. Last year, their Red-bellied Water Snake (*Nerodia erythrogaster*) turned out to be pregnant and gave birth to 63 babies that were each smaller than a pencil. "Every class came by and saw them, and it was so memorable," Lindsey said. If the law changes, she said, so be it. "If we're told they're no longer allowed, I'll respect that," Lindsey said. "Unfortunately, these laws come and go."

Michael Barrett
Rocky Mount Telegram
6 February 2006

Lose the Lizards in Lee County

The City of Cape Coral has a population of the Nile Monitor Lizard (*Varanus niloticus*) perhaps numbering in the thousands. The City has been logging sightings and attempting to eradicate the monitor lizard since 2001. The trapping effort has included city employees, grant-funded individuals, college interns, and volunteers. So far, we have captured 120 monitors.

In recent months, monitors have been sighted on Sanibel Island, Fort Myers, and in the Charlotte Harbor Aquatic Buffer Preserve. They are probably established on Pine Island. The fears that these exotic lizards would spread to the barrier islands are most likely founded. With the realization that the City's current efforts are not adequate to reduce the population of monitors, we are enlisting the aid of the U.S. Department of Agriculture, Wildlife Services. They have been the lead agency dealing with Brown Tree Snakes, African Pouch Rats, and feral hogs, among others. They are familiar with the monitor lizard problem and are interested in assessing what is needed to control the population. They are attempting to gauge the amount of local support for an eradication/management effort. They are also interested in meeting with anyone concerned about the spread of the Nile Monitor in southwestern Florida.

We are asking you for support in eradicating the monitors of Lee County, Florida. The USDA needs to hear from concerned individuals now. The amount of federal funding for this will depend on the amount of public support for its necessity. Please pass this information along to anyone that is concerned with the spread of monitor lizards in southwestern Florida. A letter or email to your congressional representatives or the USDA stating your support for eradicating the Florida populations of monitors would be helpful.

Thank you for your efforts to preserve Florida's and the nation's natural resources.

Bernice Constantin
Florida and Puerto Rico Wildlife Services
2820 East University Avenue
Gainesville, Florida 32641
bernice.u.constantin@aphis.usda.gov

Kraig Hankins
Environmental Biologist, City of Cape Coral
khankins@capecoral.net

Grant To Fund Bog Turtle Conservation

A program aimed at restoring and conserving Tennessee's smallest, most endangered turtle got a $11,350 boost from the American Zoological Association's Conservation Endowment Fund. The grant to the Knoxville Zoo and Bern W. Tyron, the zoo's director of animal collections/herpetology, will be used in 2006 to increase resources and staff for the Tennessee Bog Turtle Program. The program began in 1986 when the first animal was found in Johnson County. Funding comes from the Nature Conservancy of Tennessee, Tennessee Wildlife Resources Agency, and the zoo.

Bog Turtles (*Glyptemys muhlenbergii*) live in wetlands with shallow, slowly flowing water. Bog Turtles are characterized by a large bright orange, red, or yellow blotch on each side of the head. These animals have been found in 12 states, from New York to Maryland, and, after a 250-mile gap, south from southwestern Virginia to northern Georgia.

Fewer than 100 live turtles have been discovered in Tennessee since the first was found almost 20 years ago. Tyron estimated 93 wild turtles now live in the remnants of a wetland bog in eastern Tennessee. The mud-loving turtles aren't always easily seen. Two of the Johnson County sites were found as recently as 2002 and 2003.

One of North America's smallest turtle species, the average Bog Turtle is 3½" long. The largest known Southern Bog Turtle, found in Johnson County, is only 4½" long.

Helping wild turtles reproduce is the key to helping the species survive. Researchers haven't seen young turtles in recent years, but have found destroyed nests. "The eggs just disappear," Tyron said. Data suggest that only half of the females lay eggs in any given year; typically each only lays three eggs. Some of the grant money will pay for an outdoor egg incubation station to safeguard the wild turtles' eggs. Tyron and field coordinator, Lynn Eastin, will remove eggs from the nests they find to the center. After they hatch, baby turtles will be returned to their nest spots.

While the program's priority is restoring and managing animals found in the wild, it also places captive-born turtles into the field. Born and reared for a time at the zoo, 113 of the captive-born turtles have been put on undisclosed Carter County property in the last 15 years. Even after 15 years, Tyron said the release of the zoo-born turtles remains an experiment that cannot replace efforts to save those born in the wild. He estimates more than 50 percent of the captive-bred turtles have survived in Carter County. Add those to the 93 known wild animals and still fewer than 200 Bog Turtles live in the Tennessee countryside.

Other CEF grant money will hire a second field coordinator for the program and pay for 23 tiny radio transmitters. Secured to turtle shells by epoxy, the 5.2-g transmitters have allowed researchers to monitor 39 wild turtles since 2001 and nine captive-born released turtles since 2002. The grant-funded transmitters are in addition to 30 paid for by the Nature Conservancy. Tyron plans to put a transmitter on every adult wild female turtle that is found. The transmitters will help researchers know which turtles reproduce and then find the eggs for the incubation center.

Bog Turtles may be small, but they can move. From April until fall hibernation, a turtle may crawl ½–¾ of a mile. The signal from one turtle's transmitter led researchers to the Johnson County habitat found in 2002. One turtle traveled almost 2½ mi, moving out of its home valley and over a mountain. Researchers will never know exactly where the animal was going; its transmitter was found by the side of a road.

SUZANNE L. COLLINS, CNAH

Researchers studying Tennessee Bog Turtles (*Glyptemys muhlenbergii*) received a grant from the American Zoological Association's Conservation Endowment Fund.

Amy McRary (amymcrary@comcast.net)
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Memorandum of Understanding between ISG, IIF, and ICRF

In October 2005, a memorandum of understanding between ISG, IIF, and ICRF was established in order to facilitate cooperation in the development and implementation of conservation action on behalf of iguanas and their habitats.

The IUCN/SSC Iguana Specialist Group (ISG) prioritizes and facilitates conservation, science, and awareness programs that help ensure the survival of wild iguanas and their habitats. The ISG currently consists of 86 biologists, conservation managers, and government officials from 25 countries. ISG membership is by invitation from elected co-chairs on behalf of the chair of the IUCN Species Survival Commission.

The International Iguana Foundation (IIF), chartered in part to support the conservation action plans of the ISG, supports conservation, awareness, and scientific programs that enhance the survival of wild iguanas and their habitats. IIF Membership is restricted to approved board members (14 currently serve).

The International Reptile Conservation Foundation (IRCF) works to conserve reptiles and the natural habitats and ecosystems that support them, with a strong emphasis on iguanas. An advisory council and editorial board advise the president and other officers. Public membership is international with payment of annual dues, and members receive quarterly copies of the journal *Iguana*.

Both IIF and IRCF are registered 501 c (3) nonprofit foundations and engage in fund-raising activities to support iguana conservation. IRCF focuses primarily on web-based marketing campaigns and direct merchandising to fund programs, whereas IIF relies strongly on a zoo base of support and extramural grants. Both IRCF and IIF fund projects in accordance with ISG conservation priorities, with priority given to those projects that: (1) Are components of approved Species Recovery Plans, (2) Are ISG endorsed, (3) Directly contribute to the survival of endangered iguanas and their habitats, and (4) Are part of an established conservation program. For

projects not involving iguanas, IRCF seeks recommendations from other IUCN specialist groups as appropriate.

Mutual benefits include: (1) Enhanced ability to develop coordinated strategies to meet ongoing project needs, particularly those of an emergency nature requiring a rapid response and the use of volunteers. (2) Enhanced ability to reach the general public with conservation messages through a variety of media, including a strong internet presence, the journal *Iguana*, joint public relations campaigns, and public venues such as trade shows. (3) Enhanced information-sharing channels with the American Zoo and Aquarium Association (AZA), scientific community, and public sector to raise both monetary and in-kind services to support iguana conservation projects. (4) Enhanced communication to facilitate prioritization of worthy projects, provide insight into critical project needs, and foster public support for program priorities.

IIF, IRCF, and ISG are committed to using their collective resources to promote the cause of iguana conservation. IIF, IRCF, and ISG pledge to work together to identify and outline funding priorities and projects that complement each other. In general, IIF will seek to provide long-term core project support, including baseline funding for salaries and project costs, including travel, equipment, and supplies, whereas IRCF will focus on immediate, discrete, critical program needs, and gaps in funding and staff. Both IRCF and IIF will continue to prioritize their iguana conservation efforts based on the guidance of the ISG. All three organizations will strive to maintain open communication channels to maximize information flow and coordination of efforts.

ISG
Iguana specialist group

IRCF

Durrell Wildlife Finds Montserrat Galliwasp Lizard Thought to be Extinct

During recent herpetological surveys, Durrell Wildlife's herpetologist on the ground in Montserrat, Agnieszka Ogrodowczyk, found a critically endangered Giant Montserrat Galliwasp (*Diploglossus montisserrati*). The significance of this find is that the Montserrat Galliwasp had been considered possibly extinct, because only two other individuals had been found in the last ten years, both from just one small area in the Centre Hills. This discovery provides optimism for believing that the giant galliwasp of Montserrat is in a better state than was previously thought. However, the species must still be regarded as highly threatened due to the active volcano, which has already reduced the forest, on which the species appears to depend, by one third of its original range. The animal caught by Agnes was 41 cm in length and weighed 170 g.

DURRELL WILDLIFE CONSERVATION TRUST

Durrell herpetologist, Agnieszka Ogrodowczyk, holds the newly rediscovered Montserrat Galliwasp.

Giant Galliwasps are large (20 cm or more in head-body length), secretive, ground-dwelling lizards found only in the Neotropics. Four species are known from the West Indian islands of Hispaniola and Jamaica, but the Montserrat species is the only one found in the Eastern Caribbean. All Galliwasps are threatened with extinction, and one Jamaican species is known from only one museum specimen, and may in fact be extinct.

The next step is for the Montserrat Forestry Department and Durrell Wildlife Conservation Trust to develop and carry out a full field survey of all the remaining moist forest areas in order to develop a conservation strategy for this unique island lizard. The herpetology staff at Durrell Wildlife also is working on and studying a closely related species in an effort to better understand these animals' behavior and breeding ecology in hopes of generating valuable information that can be transferred to field scientists in Montserrat to conserve the species in the wild.

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The Montserrat Galliwasp in its habitat.

The Montserrat Reporter Online
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