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Notes From a Co-Chair

T. Norton

The 2008 Gopher Tortoise Council (GTC) Annual Meeting was hosted by the GTC and the Georgia Sea Turtle Center this year on Jekyll Island from Oct 2 to Oct 4. The hotel was located right on the beach and the meeting and all the meals were conducted right at the hotel and associated facilities. A productive pre-meeting board meeting was held on Thurs night. The first day of the meeting focused on wildlife and ecosystem health and disease. Invited speakers came from all over Florida and Georgia and as far away as Massachusetts. The day ended with a tour of the Georgia Sea Turtle Center. Saturday began with a rehabilitated Kemp's ridley and a loggerhead sea turtle being released on the beach near the hotel. The second day topics were focused on gopher tortoise and habitat management issues. Friday and Saturday night dinners were held outside next to the beach with our traditional keg of beer each night. On Sunday, two great field trips were hosted by Dirk Stevenson et al and Stacia Hendricks. Special thanks go to the Georgia Sea Turtle Center staff and all the GTC members that helped with the conference. See you next year in Gainesville.

Thank you to outgoing GTC co-chair Margaret Gunzburger and welcome to new co-chair Christian Newman.



Images associated with the 2008 GTC meeting in October at Jekyll Island, Georgia.



2008 GTC STATE REPORTS

Florida

Joan Berish



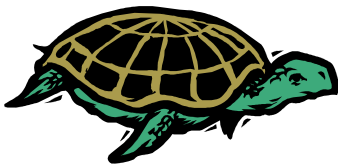
After being listed as a Species of Special Concern since 1979, the gopher tortoise was officially reclassified as Threatened by the Florida Fish and Wildlife Conservation Commission (FWC) in November 2007. This reclassification followed on the heels of a unanimous ‘thumbs up’ by FWC Commissioners for the state’s gopher tortoise management plan. The plan was the result of intensive efforts by two FWC issue teams and a dedicated group of stakeholders. Boyd Blihovde, a former co-chair, represents GTC on the Gopher Tortoise Technical Advisory Group (GTTAG), which includes a wide diversity of interests, ranging from humane and environmental organizations to the development industry.

After creating an approved management plan, the FWC gopher tortoise issue team worked intensively last winter to draft new permitting guidelines, again with considerable input from the GTTAG. The new guidelines were approved by FWC Commissioners in April 2008. The guidelines provide incentives to responsibly relocate and restock tortoises to protected, managed lands rather than unprotected sites; moreover, receiving displaced tortoises can provide economical and ecological incentives to landowners to manage their habitat for tortoises, commensal species, and other native wildlife. A phased implementation of these guidelines is slated to occur from spring 2008 through spring 2009. One of the more complicated aspects of the new guidelines involves the creation of an online permitting website that will facilitate permit application, review, and record-keeping; therefore, full implementation of the new guidelines will take place when this on-line permitting system is up and running next spring. Some parts of the new guidelines, such as applications for authorized gopher tortoise relocation agents and permits for certified recipient sites, are already in effect. Additionally, FWC now requires temporary enclosures to enhance site fidelity of relocated tortoises on recipient sites.

“...the gopher tortoise was officially reclassified as Threatened by the Florida Fish and Wildlife Conservation Commission (FWC) in November 2007.”

Funding associated with the species management plan has allowed FWC to hire a new full-time plan coordinator, Ms. Deborah Burr. Deborah had to hit the ground running last November, and has hired an administrative assistant and a database specialist to help keep track of all the facts and figures associated with implementing this comprehensive plan. She is also about to hire a local government coordinator, who will reach out to county environmental offices to more synergistically conserve tortoises in Florida. Finally, the FWC relocation permitting guru, Rick McCann, now has 4 full-time permit biologists who will be able to keep a closer eye on developers and authorized agents during the permitting and subsequent relocation process.

The original FWC gopher tortoise issue teams charged with drafting the management plan have been distilled down to a 6-person implementation team, known as GT3. This team has additional legal, law enforcement, and education resources within the agency, and is creating a detailed task chart for Year 1 that will painstakingly track progress in achieving the actions outlined in the plan.

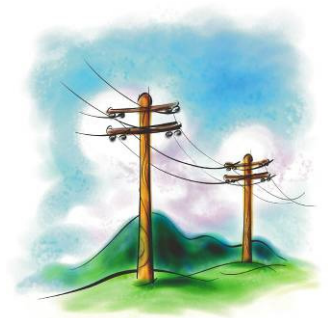


On the research front, Matt Aresco continues his tortoise restocking study at Nokuse Plantation in the Panhandle, and St Joe Paper Company is embarking on a restocking study as well, on Apalachicola National Forest. Henry Mushinsky and Earl McCoy have several papers coming out that take a closer look at translocation. Paul Moler is the point-man on a much-needed tortoise genetics study in the Panhandle, and one of Rick Seigel’s students has collected shell shavings at the Kennedy Space Center to examine tortoise genetics.

Louisiana

- Twelve tortoises were translocated to a state owned wildlife management area. Four were from a housing development and the rest were from single locations.
- We are conducting a project funded by USFWS to survey utility ROWs within the tortoise's range in LA. This project aims to identify effects on tortoises resulting from work done to restore utilities after Hurricane Katrina. A side benefit is that this project allows us to check on our known populations and potentially locate new ones.
- Rachel Wallace from University of New Orleans is looking at genetic population structure and Mycoplasma exposure.
- Florida harvester ants (*Pogonomyrmex badius*) were rediscovered last year (they've been missing in LA for 45 years) at one of our GT sites.
- An eastern diamondback rattlesnake was recently discovered (first LA record in nearly 15 years).

Beau Gregory



Alabama

Mark Bailey

Major impacts to tortoise populations within the listed range in Alabama include the Alabama Motorsports Park in Mobile County that will displace approximately 55 tortoises and a proposed 300 acre landfill in Washington County that by initial estimates may affect up to 100 tortoises.

Bruce Porter (USFWS) reports the status of the three conservation banks in the listed portion of the range in Alabama: Mobile Water and Sewer System (MAWSS) Bank (225 acres), Alabama Department of Transportation (ALDOT) Bank (~800 acres) and South Alabama Utilities (SAU) (360 acres). The MAWSS bank currently has 134 tortoises with about 30 of those being hatchlings. Good reproduction was noted in 2003 and this has continued as evidenced by different age classes on the bank. The Board has proposed to expand this bank by adding 1200 acres for a total of 1425 acres. Habitat and resident tortoise population assessments are currently under way for this expansion. The ALDOT bank has about 100 tortoises and there is some evidence of reproduction. The SAU bank has about 20 tortoises. Like the ALDOT bank, it was started to mitigate for impacts associated with their agency's waterline and sewer projects in Mobile County, and so far they have not gotten involved in commercial banking.

The Alabama Field Office of USFWS has been approached by several speculators concerning tortoise banking opportunities in Alabama. One Greene County, Mississippi bank (1000 acres) a mile or two across the state line will be allowed to accept tortoises from both Alabama and Mississippi, and is very near opening for business. Commercial banking options are currently very limited and one problem with this is the price for a credit tends to be high, which is not good for the tortoise. USFWS requirements for certifying a mitigation bank are strict, and depending on the initial condition of the habitat, getting into the tortoise banking business can be prohibitively expensive for speculators.

Outside the listed portion of the range, Craig Guyer's lab has three years of funding through the ADCNR Division of Wildlife and Freshwater Fisheries (DWFF) State Wildlife Grant Program to do gopher tortoise burrow surveys of Geneva State Forest, Conecuh National Forest, and the Perdido River Longleaf Hills Forever Wild Tract in the Perdido River WMA. The overall goal is work with local land managers to create and/or maintain viable tortoise populations.

Eric Soehren and Nick Sharp (ADCNR State Lands Division) have continued their work on gopher tortoise translocation and monitoring at the Wehle Nature Preserve in Bullock County, with the first tortoises being moved

in 2006. Nick has taken the lead in 2008, and has been working with Ft. Benning (Mark Thornton) and Auburn (Sharon Hermann, Craig Guyer, Geoff Sorrell) to arrange for the translocation of 50 gopher tortoises from Ft. Benning, GA in response to DoD's need to move hundreds of gophers due to BRAC implementation. Several large pens have been built, and the first ten tortoises were moved from Ft. Benning on October 1, 2008. Prior to this, 21 tortoises have been translocated from other sites. This translocation initiative will serve as a model for establishing more gopher tortoise preserves on other applicable Forever Wild tracts for the purpose of conserving tortoises in Alabama.

Jim Godwin (Alabama Natural Heritage Program), Mark Sasser (DWFF), and Dr. Dan Speake (DWFF) are working through Auburn's Guyer lab on an ambitious indigo snake reintroduction into Conecuh National Forest that is being funded both through State Wildlife Grants and Project Orianna, The Indigo Snake Initiative, a private wildlife conservation organization dedicated to the range-wide conservation of eastern indigo snakes and their habitats. Three additional years of funding are available. The 24 juvenile snakes in captivity at Auburn are scheduled for release in 2009, pending discussions about the importance of genetics. These are progeny of three wild-caught gravid females from Georgia. After laying eggs, the females were returned to their site of capture. Six one-hectare pens have been built in the Conecuh National Forest in anticipation of eventually releasing the juveniles. This method will be followed for at least the next three years to produce the young snakes needed for release.

Mississippi

Tom Mann

Examination of all indicators of tortoise habitat quality foretells a continued decline of tortoise populations throughout southeastern Mississippi. Prospects for formal recovery of the species by the standards published in The Gopher Tortoise Recovery Plan are no more than mirages. Some tortoise habitat is being improved, albeit slowly, on the Chickasawhay and DeSoto Ranger Districts of the DeSoto National Forest, and a tortoise mitigation bank program may soon get underway. At best the latter will be a controlled retreat, though, not a step toward genuine recovery, since parcels from which tortoises are relocated will be ceded in perpetuity to uses incompatible with a tortoise presence. We're left hoping that tortoises will flourish on their new reservations in the "Trail of Tears" approach to tortoise conservation.

In September, Gustav pushed a substantial wall of water ashore in Hancock and Harrison Counties, reminding folks of the risks inherent in placing dwellings close to the Mississippi Sound, reinforcing the inland population shift—often into remaining fragments of tortoise habitat.

I see no substantive changes to the threats to the tortoise in Mississippi from those reported in my 2007 state report (with two possible exceptions—Josh Ennen reports low genetic diversity within and among Mississippi tortoise populations, and there have been several reports of coyotes eating adult tortoises), so I'll borrow the following lines from last year's report: "threats to the tortoise in Mississippi include fire suppression; absence of seasonally appropriate fire (exclusive or over-reliance on dormant season burning); predation of eggs, pipped eggs, and/or small juvenile tortoise by the non-native fire ant and armadillos; habitat conversion to industrial forestry (if in 'dog-hair' stockings with little if any herbaceous layer), suburban/urban development, roads, sand pits, and agriculture; invasion of habitat by cogongrass; and continued predation on tortoises by our conspecifics dwelling in certain pockets of ignorance/insularity. The relative significance of these threats varies from place to place in Mississippi and among the states in the range of the tortoise, but fire exclusion and inappropriate burning are probably the most significant problems here, though the impact of various habitat conversions is increasing rapidly."

I remain concerned about the scale of indiscriminate application of herbicides—particularly aerially applied, broad spectrum herbicides, which can suppress herbaceous vegetation for an entire growing season—on industrial forest lands during site prep and seedling release. I do not understand why such use of these materials on lands known to be occupied by tortoises does not constitute take or harassment of a federally threatened species.

There are a few slivers of silver lining to these clouds. Longleaf restoration programs and the Healthy For-

ests Reserve Program are being facilitated with federal and state assistance on private lands. Also, there are private landowners, large and small, that do cherish what remains of the biodiversity on their holdings, and some do a pretty fair job of management. One such person, Cecilia Charles, moved to Mississippi from New Jersey several years ago and bought three acres of abandoned pasture ten miles west of Wiggins. In mowing walking lanes in the overgrown pasture to facilitate walks with her dogs, she unintentionally improved the habitat for tortoises. There was only one burrow on the property when she began her brush clearance and mowing; now eight adult tortoises share her rehabilitated pasture. She has also assiduously suppressed fire-ants, and annually her property yields a small crop of hatchling tortoises, an increasingly uncommon phenomenon in a fire-ant infested landscape. I visited her property to offer suggestions on continued tortoise-friendly management, noticed a big patch of cogongrass, and helped her secure appropriate herbicides to treat this from the local Natural Resources Conservation Service agent. I suspect that there are lots of other folks like Cecilia out there in the hinterland, and we hope to learn of many of them in a private lands survey (described below) which will be undertaken in 2009.

Tortoise Research

(information provided by researchers, consultants, and agency biologists, edited as necessary)

Hatching Success Investigations

- Baseline hatching success in priority soils on the Chickasawhay Ranger District of the DNF- Researchers: Shea Hammond and Dr. David Beckett (both of the University of Southern Mississippi)

As of this writing, Shea is AWOL on his honeymoon, following a tough month of thesis completion and defense, and wedding preparations, and was not available for a research summary. Dr. Beckett reports that Shea found a high percentage of late-term dead embryos in many nests. Whether this is due to unfavorable environmental variables (perhaps a soil mediated effect), depressed heterozygosity, reproductive senescence, or some combination thereof, is not known.

- Hatching success on well-drained vs. excessively well drained soils-Researchers: Thomas Smith (U.S. Army Corps of Engineers, Construction Engineering Research Laboratory), Dr. Carl Qualls (University of Southern Mississippi), and Dr. Qualls' students: Joshua Ennen, Danna Baxley, Will Selman, Thomas Mohrman, and Lauren Caviezel.

This is the second year of the egg translocation experiment. Clutches of eggs were divided between paired man-made nests in burrow aprons with high and low clay content soils. In addition to monitoring hatching success in these nests, nest temperatures and interstitial oxygen and carbon dioxide levels are monitored in each nest. By examining these data and other nest/habitat data (e.g., soil composition, vegetation cover, canopy cover, etc), it is hoped that the environmental factor(s) contributing to diminished hatching success will be identified. In 2008, 21 clutches of eggs were located; these yielded 40 experimental nests as described above. Analysis of data was incomplete as of this writing.

In a laboratory experiment studying metabolic rates of developing tortoise embryos, Lauren Caviezel determined (among other things) that dead embryos could potentially act as oxygen sinks within a nest, which may be a contributing factor to the low hatching/emergence success of tortoise nests in Mississippi.

- Headstarting Project- Researcher: Matt Hinderliter (The Nature Conservancy, Camp Shelby Tortoise Biologist) Camp Shelby Field Office (CSFO), Camp Shelby Joint Forces Training Center (CSJFTC)

This is the third year of the head-starting study, the purpose of which is provide a better understanding of the survivorship and behaviors of the younger age classes, and lead to a more complete conservation strategy that addresses tortoise protection from egg to adult. If recruitment is significantly depressed, head-starting may prove an essential technology permitting bridging of the recruitment gap until the factor(s) responsible for the recruitment deficit can be satisfactorily addressed.

In September 2007, 10 yearling tortoises were hard-released into the gopher tortoise refuge with radio-transmitters, and have been tracked at least twice a week since. All 10 survived through the winter, although in May 2008 two tortoises disappeared (presumed predation - unknown predator), and the remains of a third were found (predation by gray fox, based on presence of scat directly adjacent to the shell fragments). This summer,

another tortoise disappeared (presumed predation – unknown predator), and the remains of two more tortoises were discovered (one with an owl pellet directly adjacent to the shell fragments). One tortoise was recently eaten by a coachwhip. Three two-year-old tortoises still live and are being tracked in the field.

In May and June 2008, tortoise nests were identified by daily burrow apron inspection at five sites. Twenty-one nests were located, with a total of 94 eggs (4.48 eggs/clutch). The eggs were counted and then re-buried (with a nest protector) for a period of 60 ± 5 days. At that time the eggs were dug up and placed in an incubator at the field office for the remainder of the incubation period. To date, 59 eggs have hatched (62.8%). An additional 31 hatchlings were obtained from a University of Southern Mississippi study being performed on Camp Shelby, bringing the total number of hatchlings entering the head-starting study to at least 90.

Currently in the head-starting pen are 20 two-year-old tortoises and 65 yearling tortoises. Of these, 10 two-year-olds and 15 yearlings will be fitted with transmitters and released into the field in the fall of 2008. Sites will include the tortoise refuge and annually-mown fields (military firing points). Additionally, 20 hatchlings will be fitted with transmitters and released at the same sites as the older tortoises. The remainder of the hatchlings will be measured, photographed, PIT tagged, and released into the head-starting pen into starter/natural burrows.

- Genetic population structure-Researcher: Rachel Wallace (University of New Orleans)

This project is examining the influence of fine-scaled habitat variables on gene flow, using microsatellites and spatial statistics to examine dispersal distances and landscape variables that might act as barriers to movement. Fifty tortoises were captured between 21 September and 25 October 2008, but samples have not yet been analyzed.

- Genetic analysis to identify possible genetic bottlenecks- Researchers: Josh Ennen and Dr. Carl Qualls (University of Southern Mississippi)

Additional tissue samples were collected for DNA analysis: six from Mississippi and over 100 from 13 counties in Florida. Mississippi populations seem to have significantly lower genetic diversity than eastern tortoise populations; it is suggested that this may contribute to the comparatively low hatching success observed in clutches incubated in situ and in the lab.

- Winter activity of yearling gopher tortoises in southern Mississippi- Researchers: Tom Radzio, Matt Hinderliter, David Delaney, and Andrew Walde

Automated video systems were used to document the winter movements of 9 yearling tortoises at Camp Shelby. Tortoises emerged from their burrows throughout the winter on milder days (generally at air temperatures 9 degrees Celsius or higher). Foraging seldom occurred, but was observed at or above temperatures of 19 degrees Celsius.

Surveys

- DeSoto National Forest (DNF) priority soil tortoise surveys.

In June 2008, Mark Bailey, Jeff Holmes, and crew completed the third 100% survey of tortoise burrows (including subjective habitat assessment) on approximately 9,300 acres of priority soils in the De Soto National Forest (excluding Camp Shelby), a project that began in June 2007. These data are currently being analyzed and compared to results from surveys in 1997 and 2002. A report to the DNF is being submitted in October 2008. This is a trend survey conducted approximately every 5 years with this being the third survey. The report will provide status and age class of burrows, habitat description and improvement needs, cogon grass location, and trend analysis.

- Mitigation Bank Candidate/Florida Harvester Ant surveys.

Over the past two years I've surveyed approximately 76 discrete sandhills in Lamar, Forrest, George, Wayne, Smith, Jasper, Clarke, Lauderdale, Greene, Pearl River, Stone, Harrison, Perry, and Jackson Counties, to ground-truth potential mitigation bank sites, test speculations about the superiority of priority soils for tortoise recruitment, and survey for Florida harvester ants, recently rediscovered on the mainland of Mississippi after a hiatus of approximately 70 years. All but 12 of the sites were on private land. Only one of the sandhills (a private tract) was in good condition in terms of community composition and structure. The remainder were underburned (if burned at

all), and were degraded by various combinations of overgrowth of brush and hardwoods, sand pits, bedding, heavy application of herbicides, presence of subdivisions/trailer parks, and/or dog-hair stockings of loblolly. Yet tortoises persist at a majority of the sites, though generally in small numbers, and often in anthropogenic clearings. Small tortoise burrows generally comprised a higher percentage of the total burrow population than I have observed on the suitable soils on which most tortoises occur in Mississippi. Only 22 of the sandhill sites still support Florida harvester ants (*Pogonomyrmex badius*), and generally no more than one or two mounds were observed per site. The ants (and many tortoises) typically persist only in anthropogenic openings—particularly pipeline and powerline corridors, even on the DeSoto National Forest. Lucas Majure, Mark Bailey, Scott Peyton, Brad Smith, and Will McDearman also contributed to this harvester ant survey.

- Mitigation Bank baseline survey.

Westervelt Ecological Services

Mark Bailey, Conservation Southeast

In August 2008, Bailey conducted burrow surveys on approximately 1000 acres of priority and suitable soils on two Greene County tracts owned by Westervelt Ecological Services (formerly Gulf States Paper Company) and proposed as mitigation banks. Of the 30 resident tortoises trapped, 25 had ELISA tests performed by the University of Florida Mycoplasma Research Lab, and all were negative for *M. agassizii*.

- Survey of gopher tortoises on private lands in Mississippi.

Vicki Underwood (Graduate Research Assistant), Dr. Holly Ober, and Dr. Debbie Miller

Department of Wildlife, Ecology, & Conservation, University of Florida

This project involves preparation, delivery, and analysis of a mail survey questionnaire for private landowners known to have gopher tortoises on their land. The list of landowners with known or suspected tortoise occurrences will be developed in part in consultation with biologists and other professionals working in the Mississippi Department of Wildlife, Fisheries, and Parks, the U. S. Forest Service, the Mississippi Forestry Commission, the Natural Resources Conservation Service, the U.S. Fish and Wildlife Service. Utility corridor managers and private consultants may be able to provide useful information as well. A primary role of the survey is to determine rough tortoise population sizes on private lands and to determine their relative population densities under different habitat management regimes. Habitat management suggestions will be offered consistent with land management objectives of individual landowners. It is hoped that the survey will trigger a positive response from individuals willing and able to accept tortoises which must be relocated from development projects. This project is funded by a donation from The Nature Conservancy of Mississippi, and is being developed in collaboration with the Research Section of the Mississippi Museum of Natural Science and the Jackson, MS, office of the U.S. Fish and Wildlife Service.

Tortoise Habitat Management

- DeSoto National Forest.

DeSoto Ranger District (DRD) (information provided by Diane Tyrone, DRD biologist).

The DeSoto Ranger District accomplished several gopher tortoise habitat improvement projects or the planning for these projects. These include:

-Completion of the Environmental Assessment (EA) for Gopher Tortoise Habitat Improvement with Herbicide. The purpose of this EA is to restore and improve gopher tortoise habitat. This EA includes the treatment with herbicide of all potential gopher tortoise habitat on the DRD. Several different herbicides and application methods may be utilized.

-Completion of the Environmental Assessment for Ecosystem Restoration for Gopher Tortoise and Red Cockaded Woodpecker Habitat. The purpose of this EA is to protect, restore and enhance forest ecosystems to promote the recovery of gopher tortoises and red-cockaded woodpeckers. Habitats will be improved via thinning and longleaf restoration (involves removal of off-site pines species and restocking with longleaf).

-Excessive woody encroachment on 1240 acres of habitat on gopher tortoise habitat underlain by priority soils was sprayed with foliar application of herbicide. Use Permit Area of the DNF) mulched 41 acres in Red-Cockaded Woodpecker areas on the DRD, a practice which also improved gopher tortoise habitat.

-the Mississippi National Guard at Camp Shelby (much of which is a Special Use Permit Area of the DNF) mulched 41 acres in Red-Cockaded Woodpecker areas on the DRD, a practice which also improved gopher tortoise habitat.
 -Approximately 450 acres of cogongrass were treated with foliar herbicide spray.

- Chickasawhay Ranger District.

The Chickasawhay Ecosystem Restoration Stewardship Project began in 2005 with collaboration from conservation agencies, conservation organizations, the University of Southern Mississippi, and forest users. Upon planned completion of this project in 2010, all 73 priority soil locations on the district will be restored. Revenues generated from the sale of timber products are being retained on the district to fund restoration needs for gopher tortoise and red-cockaded woodpecker. Service work needed for restoration is imbedded into a timber sale contract called an integrated resource contract.

On September 2, 2007 the first of 4 planned integrated resource contracts (IRTC) was awarded (Chick ER #1), and on July 11, 2008, Chick ER #2 IRTC was awarded. The first two contracts have implemented 1118 acres of pine and hardwood overstory thinning, 690 acres of midstory reduction, and 41 acres of cogongrass eradication on priority soils and nearby suitable soils. Sale preparation for the Chick ER #3 IRTC will begin in December.

In September the Mason Creek Stewardship Project was approved. This project will restore areas on suitable soils with large gopher tortoise populations within Mason Creek Wildlife Management Area.

- Ward Bayou Wildlife Management Area.

Obtained by the US Army Corps of Engineers as mitigation for lands destroyed during the creation of the Tenn-Tom Waterway; used as a Wildlife Management Area by the Mississippi Department of Wildlife, Fisheries and Parks.

This tract supports several dozen tortoises, but had been densely stocked with loblolly prior to acquisition by the Corps, and is badly infested with cogongrass and Chinese tallow. The Corps is restoring the site to longleaf, and attempting to eradicate the cogongrass. Two ponds have been created on this site in hopes that a population of the Mississippi gopher frog (*Rana sevosa*) can be established here. Comprehensive surveys for tortoises are undertaken every other year.

Relocations

- Southeast Supply Header Pipeline (on-site translocation and monitoring)

Wendell Neal and subcontractors

Endangered Species Consulting Services

Forty gopher tortoises were captured from burrows located in the SESH pipeline ROW. Two of these tortoises were too small to transmit and monitor and were simply released into adjacent suitable habitat. The remaining 38 tortoises were outfitted with transmitters, and relocated on 22 colony sites adjacent to the corridor beginning in Perry County, MS and ending in Mobile County.

- Black Creek Development Project (Lamar County).

Chuck Walters relocated twelve tortoises to the Elledge relocation site (also in Lamar County). This was the only significant relocation of tortoises from a housing development site in Mississippi in 2008.

- Pine Belt Regional Landfill to Plum Creek Habitat Conservation Area.

Plum Creek is providing tortoise mitigation habitat for the Pine Belt Regional Solid Landfill

William B. Smith, Jr., Environmental Biologist

Consultant to Plum Creek for this project

Three adult tortoises were transferred from the Pine Belt Regional Solid Waste Management Authority facility near Runnelstown to the Plum Creek Habitat conservation Area north of Richton. A baseline total of 151 burrows

were found, including 54 active adult burrows, 14 active sub-adult burrows, 14 active juvenile burrows, and 8 hatchling burrows. This sandhill supports an unusually large percentage of juvenile tortoises (for Mississippi). Interestingly, it also supports the gopher tortoise tick (one of only 6 known sites for this species in MS, and is by far the best site in the state for Florida harvester ants.

Miscellaneous Conservation Initiatives

- Gopher tortoise conservation banking (listed range).

Shauna Ginger, biologist

Jackson, MS Field Office, U.S. Fish and Wildlife Service (USFWS)

1) USFWS guidelines will be finalized 2008 with the first bank potentially opening in the spring of 2009.

2) A Programmatic Safe Harbor Agreement / Candidate Conservation Agreement with assurances for gopher tortoise and black pine snake in LA, MS, AL is to be finalized this fall.

3) The Healthy Forests Reserve Program (new Natural Resources Conservation Service (NRCS)/ USFWS easement/ cost share program is focused on threatened and endangered forest species; and the first easement in the US was signed this year in Mississippi (a pilot state for the program, which launches nation-wide this year). This program provides easement value and/or cost share for landowners to maintain/restore habitat for gopher tortoises, black pine snakes, and Mississippi gopher frogs in Mississippi.

- Tortoise Rehabilitation

Dr. Karen Rushing and Dr. James Askew are thanked for their long-term services in rehabilitative care of several tortoises injured on roads and chewed by dogs in 2008 and in previous years.

Annual GTC Education Report

Laura Wewerka

Thanks to the help of several GTC officers and members, several projects are making some great progress even though I have had to reduce the amount of time I'm able to devote to GTC.

- A full-color "Living With Tortoises" brochure is having some final changes. It will be available on the website and hopefully printed.
- Our gopher tortoise brochure has been translated into Spanish and the text needs to be put in the brochure format. Once again, this will be available on the website, and hopefully printed.
- There are currently no reservations for the GTC display. If you know of an event that you could take it to, or have an idea of a place that it could be displayed please let me know!
- The PowerPoint program has been updated and is available on the website. If you know of an educator that needs several copies I'll be more than happy to burn disks and send them.
- Reprinting Gopher Tracks is a project we are continuing to work on. Ron Concoby has graciously offered to head up this effort. Thanks Ron!
- The Donna J. Heinrich Environmental Education Grant was awarded to the Jekyll Island Foundation for two educational programs, "Turtles for Tomorrow" and "Turtles, Tortoises and Terrapins, Oh My". It was a difficult choice as we had several excellent projects.

I've also just recently heard about a new children's book and a children's play that focuses on gopher tortoises. It is exciting to hear about other people's efforts to educate people, particularly children, about gopher tortoises. I hope to get copies of these materials soon and will let you know about them in an upcoming report.



Conservation Views

Florida Turtle Conservation Trust Press Release

The views expressed in this column are solely those of the author and do not necessarily represent the position of the Gopher Tortoise Council. To respond to this column or submit your own view on a current conservation issue, please contact the editor.

The commercial harvest of freshwater turtles is a significant and growing conservation threat in Florida. Turtles are slow-growing, long-lived animals that take years to reach sexual maturity. It is our opinion that harvest of freshwater turtles is unsustainable, particularly when you take into consideration the many other threats, both natural and anthropogenic. Over the past year, this conservation threat has received considerable attention by turtle scientists, conservationists, and the general public.

Efforts to ban the harvest of freshwater turtles in Florida have increased in November. A group of biologists met with the Office of the Governor and a letter from 32 leading turtle scientists was presented to Governor Crist urging him to act on behalf of Florida's wild turtles. A letter writing campaign was initiated by the Florida Turtle Conservation Trust (FTCT) and other conservation NGOs with considerable success. A Florida Fish and Wildlife Conservation Commission (FWC) biologist reported that collectively the governor's office and the state wildlife agency received over 3,000 pro-turtle letters and only 22 pro-harvest from the public. We believe this clearly speaks for how the citizens of Florida feel about this conservation issue. Finally, a meeting to address this issue was held by the FWC and the large turnout included at least nine non-FWC turtle biologists. An excellent case was made for complete harvest closure.



Commercial fisherman delivering 8 cases of medium-sized Florida softshell turtles (*Apalone ferox*) to Tampa International Airport for shipment to Los Angeles. Photo: G. Heinrich.

On 20 November, Governor Crist sent a letter to FWC Chairman Rodney Barreto stating “With the world market demand for freshwater turtles, it is clear that the commercial harvest of our wild populations of turtles could result in long term impacts very quickly. According to many of the turtle biologists, if the Fish and Wildlife Conservation Commission is not vigilant and does not act swiftly we could be in grave danger of irreparable damage to our turtle population. Based on the information, I would urge the commission move toward a complete ban on the harvesting of our wild turtles.”

The FTCT thanks Governor Crist for his sound leadership on this turtle-related issue and for demonstrating a strong act of responsible environmental stewardship. We also commend the Commission for their decision to expedite the rule making process.

Despite these positive developments, we must remain diligent and steadfast if we are to see a timely regulatory change banning the harvest of Florida’s wild turtles. We need your help to make this happen. We urge Florida conservation NGOs and interested parties to support the following actions.

1) Letters need to be sent to Governor Crist thanking him for his call “toward a complete ban on the harvesting of our wild turtles.”

Contact info for Governor Charlie Crist (Charlie.Crist@MyFlorida.com)

Office of Governor Charlie Crist

State of Florida The Capitol

400 S. Monroe Street Tallahassee, FL 32399-0001



2) Separate letters need to be sent to FWC Chairman Rodney Barreto and Executive Director Ken Haddad urging them to implement a regulatory change to ban the harvest of Florida turtles.

Contact info for FWC Chairman Rodney Barreto (commissioners@MyFWC.com)

Mr. Rodney Barreto, Chairman
Florida Fish and Wildlife Conservation Commission
620 S. Meridian Street, Tallahassee, FL 32399-1600

Contact info for FWC Executive Director Ken Haddad (ken.haddad@MyFWC.com):

Ken Haddad, Executive Director
Florida Fish and Wildlife Conservation Commission 620 S. Meridian Street, Tallahassee, FL 32399-1600

3) Please forward this information to other conservation-minded individuals and encourage them to write letters to the above parties.

Resource information:

Link to packet presented to Governor Crist by the Florida Turtle Experts Working Group and IUCN/SSC Tortoise and Freshwater Turtle Specialist Group:

http://www.ftct.org/Packet_for_Gov.%20Crist.pdf

Link to FWC press release:

http://myfwc.com/whatsnew/08/statewide/News_08_X_TurtleWorkshop3.htm

For additional information, please contact:

George L. Heinrich, Founding President, FTCT
Director, Florida Riverine Turtles Conservation Program
george@heinrichecologicalservices.com

Tim Walsh, President, FTCT
turtleconservationist@gmail.com



Florida Fish and Wildlife Conservation Commission biologist inspecting a shipment of Florida softshell turtles (*Apalone ferox*) at Tampa International Airport. Photo: G. Heinrich.



Photo: G. Heinrich.

Tortoise Land Protected

TNC Press Release

The Nature Conservancy has donated two sites and sold another totaling nearly 1,000 acres to the Fish and Wildlife Conservation Commission (FWC) that will help protect the gopher tortoise, newly listed as a threatened species.

FWC purchased the 720-acre Davidson Ranch in Gilchrist County July 15 from The Nature Conservancy. In late June 20, FWC accepted the Conservancy's donation of the 320-acre Janet Butterfield Brooks Preserve and the 30-acre Chinsegut Hill tract, both in Hernando County. The Conservancy sold the property at a significant discount to the state - \$2 million versus the FWC appraisal of \$6.2 million - to advance the protection of the tortoise.

The Davidson Ranch and Janet Butterfield Brooks sites will be surveyed in detail by FWC to determine their carrying capacity to accept relocated tortoises, but preliminary FWC and Conservancy data and visual inspections show both tracts are prime candidates for relocation sites. Davidson Ranch, located in an area of increasing rural ranchette development, is a beautiful, old-growth longleaf pine sandhill forest with scattered oaks and wiregrass ground cover essential for a number of listed species, including gopher tortoise and Sherman's fox squirrel. It is potentially critical habitat for other rare species such as indigo snakes and southeastern kestrels. "With the uplisting of the gopher tortoise to threatened status in April, developers can no longer acquire incidental take permits and either need to conserve tortoises or relocate them to quality sites. This transaction will help FWC do that," said Wendy Caster, the Conservancy's senior field representative who negotiated the project.

The Butterfield Brooks tract also contains high-quality, old-growth longleaf pine-dominated sandhill habitat and will be managed with gopher tortoise mitigation park management funds. FWC land management activities will be focused on providing optimum habitat for listed wildlife populations. The Chinsegut tract, also composed of sandhill habitat, will become a part of the Chinsegut Wildlife and Environmental Area and will provide more area for the public to view and enjoy wildlife observation.

Recent Research

GTC Members in Bold

Riedl, S.C., **H.R. Mushinsky**, and E.D. McCoy. 2008. Translocation of the gopher tortoise: Difficulties associated with assessing success. *Applied Herpetology* 5:145-160.

McCoy, E.D., **H.R. Mushinsky**, and R.D. Moore. A future with small populations of the gopher tortoise. In: *Urban Herpetology*, in press (Herpetological Conservation, Jung and Mitchell, Eds.).

McCoy, E.D., and K.S. Berry. Using an ecological ethics framework to make decisions about the relocation of wildlife. *Science and Engineering Ethics*, in press.

Tuberville, T.D., **T. M. Norton**, B.D. Todd, and J. S. Spratt. 2008. Long-term apparent survival of translocated gopher tortoises: a comparison of newly released and previously established animals. *Biological Conservation* 141:2690-2697



Turtle Calendar Available

The 2009 edition of Turtles – a 4-language monthly planner and calendar featuring the art work of Ghislaine Guyot and the photographs of Russ Gurley – is now available at a 20% discount to GTC members, and the publisher will donate \$1 to GTC for every copy purchased through this offer. The calendar includes 76 glossy pages, with watercolors and/or photographs of the world's turtles on every page. \$14 per calendar includes shipping. Checks payable to Ghislaine Guyot, 2311 Bourgogne Drive, Tallahassee, FL 32308. Be sure to state that you are with GTC, and include address label or full mailing address. For more information: GGuyot13@aol.com



Natural History Note

On 17 May 2007, we observed an ambystomatid salamander inhabiting an unoccupied gopher tortoise burrow in Baker Co., Georgia. The salamander was observed 3.5 m inside the burrow using a Sandpiper Technologies, Inc. (Manteca, CA) Peeper Video Probe System with a black and white monitor. The individual was identified to genus using body size and type. Species level identification could not be determined. Ambystomatid salamanders occurring in this region include *Ambystoma tigrinum*, *A. talpoideum*, *A. opacum*, and *A. bishopi* (formerly *cingulatum*; Smith et al. 2006. Southeast. Nat. 5:599-620), although the latter two are rarely if ever encountered on the study site.

The nearest wetland (1100 m away) was a cypress/tupelo swamp where *A. talpoideum* have been previously documented. At least 60 vertebrate species inhabit gopher tortoise burrows for various reasons (Jackson and Milstrey 1989. Gopher Tort. Reloc. Sym. Proc. 86 pp). To our knowledge, however, ambystomatid salamanders have not previously been reported using gopher tortoise burrows. These salamanders spend much of their time underground in burrows they dig themselves or in small mammal burrows (Semlitsch 1983. Can. J. Zool. 61:616-620). We do not know if the salamander inhabited the burrow or was just using the burrow for temporary shelter, although, the presence of leaf litter and the depth of the burrow suggest that the burrow would likely offer suitable shelter for ambystomatids.

A. Heupel, K. McKean, J. Linehan, D. Steen, L. Smith



A tiger salamander, *Ambystoma tigrinum*, could have been the species observed within the tortoise burrow. Photo: A. Heupel.



Aubrey Heupel originally hails from the Midwest where she received a B.S. in Animal Ecology from Iowa State University. For the past few years, she has worked in the Southeastern U.S. participating in a variety of amphibian and reptile ecology studies, including a stint as a research technician at Ichauway. She currently works as a biologist for FWC evaluating the effects of wet savanna restoration on herps in the Apalachicola Basin. She can be contacted at heup57@gmail.com

Mole salamanders, *Ambystoma talpoideum* (pictured) may be the most abundant ambystomatid salamander in the study area. Photo: A. Heupel.

Newsletter of The Gopher Tortoise Council

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The Tortoise Burrow

<http://www.gophertortoisecouncil.org>

The Tortoise Burrow is published in December, April and August. Deadlines for submission of announcements and articles are the 15th of the preceding month. Send materials to the editor:

David Steen
DavidASteen@gmail.com

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