



The TORTOISE BURROW

Newsletter of the
Gopher Tortoise Council
www.gophertortoisecouncil.org

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ALABAMA FLORIDA GEORGIA LOUISIANA MISSISSIPPI SOUTH CAROLINA



SHARON HERMANN

Notes from a Co-chair

Recap of the 2002 Annual Meeting

In October, more than 130 people gathered for Gopher Tortoise Council activities at Thomas University in Thomasville, Georgia. For 24 years, people concerned about the gopher tortoise and upland native communities of the Coastal Plain have gathered to discuss conservation issues, learn about new research and debate changes in agency policies. This year, the Council sponsored a fire management workshop, "Fire Management and Fauna of the Upland Coastal Plains." General sessions and the annual business meeting were held on October 19 and field trips on the 20th. Although the majority of participants were from three states (Florida, Georgia and Alabama), an impressive total of 13 states was represented, including at least one person from each state that is home to gopher tortoises. Diversity of affiliations was equally remarkable and included more than 20 academic institutions, 22 agency offices, 11 non-profit organizations, 12 businesses, and many private individuals.

The Friday fire management workshop featured presentations by nine experts and covered up-to-date information on the effects of prescribed burns on gopher tortoises, other reptiles and amphibians, arthropods, and ground nesting birds. The Saturday general session included 11 talks on gopher tortoises that covered recent research, conservation projects and education efforts. In addition, a panel of five regional experts discussed past and present predator control activities and how this issue may or may not relate to gopher tortoise management. Joe Mitchell rounded out the Saturday evening barbeque with a

slide show on herp conservation and his personal view of life. Over half of the registrants joined one of four field trips offered on Sunday.

Lora Smith was presented with a plaque of appreciation for her impressive leadership as 2001-2002 co-chair of the GTC (see page 5 for more details). Luckily for the organization, Lora has promised to continue to share her insight, common sense and good humor with us!

Once again, Joan Berish worked her magic as chair of the nominating committee and came up with an outstanding choice for 2003-2004 GTC co-chair, Boyd Blihovde. He is a Park Biologist at Wekiva Basin GEPark in Apopka, Florida. He has already plunged into work on current issues and is planning the 2003 meeting, which will be held in central Florida (see announcement on the back cover). The GTC board and membership look forward to working with Boyd.

A complete list of the speakers, panel members and award recipients from the Fall 2002 Annual Meeting is available on the GTC website. If you are interested in this information but do not have web access, please contact the meeting organizer, Sharon Hermann, at Dept. of Biological Sciences, Funchess Hall, Auburn University, Auburn, AL 36849. e-mail: shermann@juno.com

State Reports

Presented at the GTC Annual Meeting, October 19, 2002, Thomasville, Georgia

Alabama --ED WESTER

The gopher tortoise is federally protected as a threatened species in Mobile, Washington, and Choctaw Counties in southwestern Alabama. Gopher tortoises are protected by state nongame regulations throughout the remainder of southern Alabama.

As always, gopher tortoise conservation efforts in Alabama are most intensive in the federally protected range. This is particularly true in Mobile Co., which is experiencing rapid growth and urban sprawl. Conflicts between development and gopher tortoises are ever increasing. In 2001, the USFWS, the Mobile Area Water and Sewer System (MAWSS), and Environmental Defense initiated a Habitat Conservation Plan (HCP) for the gopher tortoise in Mobile Co. The HCP basically sets up a Conservation Bank and allows for the relocation of gopher tortoises from private lands (generally single-home and small developments) to a 222-acre tract within a 7,000 acre area around Converse Reservoir owned and managed by MAWSS. It is estimated that this tract can support up to 125 relocated gopher tortoises in addition to the few existing resident tortoises. A fee of \$3,500 is required for each relocated tortoise and covers the long-term costs of protecting, managing, and monitoring 1.5 acres of habitat.

To date, 33 gopher tortoises have been relocated to the Bank site. Relocations have been done by, or under the direct supervision of, USFWS personnel from the Daphne Field Office. All relocated tortoises, as well as resident tortoises, have tested negative for URTD. Relocated tortoises are fitted with radio transmitters and monitored intensively following release. All have remained on site with the exception of one subadult tortoise from which the signal has been lost. There has been one mortality of a resident tortoise that was found dead on an old field road. It is believed that this individual might have been killed by dogs. Habitat management at the site has consisted of burning, hardwood removal, brush removal, and exotic cogongrass control. The site is posted against trespassing and Mobile Co. Sheriff's Office officers routinely monitor the area. Plans are being made for another controlled burn this coming spring and for installation of a fence along a portion of the site adjacent to private lands to limit access by people and dogs. A scientific advisory panel (several of whom are GTC members) has been established and provides oversight and review of the ongoing operation and management of the Bank, as well as reviewing its success.

Prior to establishment of the Bank, most of the relocated tortoises would likely have been lost. Either incidental take permits would have been issued or sites simply would be developed with no interaction with the USFWS and no consideration of resident tortoises. The Bank has been well received by the public and the USFWS reports a much more positive and proactive approach by the development community when dealing with gopher tortoises on lands slated for development.

Along with extensive development in this part of Alabama has come the need for new roads and/or the widening of existing roads. As I have often reported in the past, there are some road projects in Mobile Co. that have been delayed for years because

of potential impacts to gopher tortoises and their habitat. Several other planned road projects are also likely to threaten tortoises. Given the preliminary success of the MAWSS Gopher Tortoise Conservation Bank, the Alabama Highway Department has recently purchased a 550-acre tract in Mobile Co. and has plans to develop an HCP and operate a similar bank for gopher tortoises impacted by road construction.

Florida --JOAN BERISH

The gopher tortoise has been listed as a Species of Special Concern in Florida for over two decades now. A recent biological status review indicated that, under Florida Fish and Wildlife Conservation Commission's current listing criteria, the gopher tortoise would warrant elevation to threatened status. However, Commissioners have elected to postpone consideration of this and other proposed species' status amendments until staff has evaluated whether the listing process needs revision.

However we define its legal status in Florida, the gopher tortoise is in desperate need of a realistic, proactive management plan--which Paul Moler and I are attempting to create. Two of the many strategies we'll propose include implementing--rather than merely proposing--prescribed fire on public lands, and restocking the vast areas of recently restored, but gopher-depleted, sandhills at Eglin AFB in Florida's Panhandle. Dick Franz and I are coordinating with Eglin regarding criteria for this undertaking.

Relocation dilemmas associated with rampant development continue in Florida. There are still two types of permits: special permits to relocate 5 or fewer tortoises on-site (issued at the regional level with minimal review), and the standard permits (issued for more than 5 tortoises on-site or any number off-site). The standard permits are now reviewed and issued by our Tallahassee office.

Testing a sample of tortoises for exposure to the bacterium that causes upper respiratory tract disease (URTD) is still required prior to off-site relocations. The finding of even a single exposed tortoise precludes off-site relocation, meaning that either an on-site option is pursued, or the developer applies for an incidental take permit while protecting tortoises and habitat elsewhere through payment into a mitigation bank.

The completion of my final report on a four-year study regarding the effects of URTD on tortoise populations is on-hold until our statistician can perform the necessary data analysis. Lori Wendland and I hope to prepare a manuscript early next year. In the meantime, an inter-disciplinary team from the University of Florida and the University of South Florida has initiated a five-year study regarding URTD and gopher tortoise population dynamics and health, with special emphasis on effects of relocation and habitat alteration.

A number of tortoise die-offs have been documented on Florida's public lands in recent years, and URTD is suspected as at least a contributing factor. Several accounts have been recently published, or are in press, regarding these mortality events: one by Cyndi Gates et al. in *Florida Scientist* and one by Rich Seigel et al. in *Journal of Herpetology*.

State Reports Continued

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Henry Mushinsky and Earl McCoy have completed their re-survey of 10 public lands and will be publishing those data in the near future. Unfortunately, the majority of the populations that they followed have declined. Henry and Earl also recently teamed with Terry Stilson to produce a manuscript on their recently completed study regarding diet of juvenile tortoises. Additionally, they have other graduate students studying stress associated with relocation, paternity in tortoises, habitat selection, and use of remote sensing to predict tortoise habitat.

Georgia --BILL BIRKHEAD

Erin Clark (Savannah River Ecology Laboratory) reports that the tortoises relocated from McIntosh County (GA) have been released on the Savannah River Site (SRS) and that they are currently tracking over 30 adults daily. The goals of this project as outlined on the poster displayed at this year's GTC meeting are: to re-establish a protected population of gopher tortoises on the SRS; to test the efficiency of existing relocation methods; and to develop a model for the relocation of other tortoise species (see SC report on page 4 for more information).

Craig Guyer and his graduate students (Auburn University) continue research associated with gopher tortoises from an evolutionary perspective. Roger Birkhead spent the summer at the Wade Tract in Thomas County continuing mark-recapture efforts that have been ongoing for the past 10 years, and carrying out radio-telemetry work to elucidate the movement patterns of tortoises. He also collected fungal samples from these tortoises for Valerie Johnson and took blood samples for Paula Kahn's immunocompetence studies and his future genetic work.

Mitch Lockhart (Valdosta State University) has now collected about 90 different tortoises at Moody AFB. All have tested negative for URTD. He and his group are continuing their plasma chemistry analysis. They are, in addition, doing a genetic fingerprint of tortoises at Moody to analyze relatedness among different "colonies," and they have recently started a salmonella screening study.

Jonathan Neufeldt, a graduate student of Bill Birkhead (Columbus State University), is in the process of finalizing his thesis on the terrestrial movements and habitat use of gopher frogs on Fort Benning Military Reservation. Jonathan was a previous recipient of a J. Larry Landers Student Research Award.

Jim Ozier (Georgia Department of Natural Resources) reports that the Safe Harbor Program for the red-cockaded woodpecker continues to progress. To date, 104,000 acres have been enrolled in the program, protecting 61 red-cockaded family groups. Much of this land is located in the Tallahassee Hills physiographic region (*sensu* Wharton) of Georgia, where this year's GTC meeting was held. A recent statewide survey indicates that 793 groups of red-cockaded woodpeckers reside in Georgia, up from previous estimates.

Dave Rostal (Georgia Southern University) made a presentation at this year's GTC meeting in which he updated studies he and his students have been conducting on the population biology of the gopher tortoise on Fort Stewart Army Reservation from

1994 to 2002. Dave and his students have been looking at sex ratios, size frequencies, hormone cycles, reproductive events, and hatching success of these populations. Dave is especially interested in factors that may help explain distributional limits of this species.

Donna Wear (Augusta State University) is now monitoring 11 adult (eight male and three female) gopher tortoises, which have been released on the McDuffie Public Fishing Area. Tortoises released at this site are of unknown origin. This site was selected for waif animals since it is within the historic range but does not support an extant natural population, thus there are no concerns for disease transmission or genetic disruption. Donna is researching the fidelity of tortoises released here and developing protocols for improving the likelihood that they will remain on-site by testing various pen-acclimation durations vs. straight releases. She notes that the translocation success has been excellent; only one released male has wandered off site.

John Jensen (Georgia DNR) reports that the State of Georgia and The Nature Conservancy have purchased the Moody Tract in Appling County. This tract consists of old growth longleaf on which gopher tortoises, indigo snakes, and red-cockaded woodpeckers are present.

Louisiana -- INÉS MAXIT

In an attempt to expand current distribution, the Louisiana Natural Heritage Program (LNHP) has released, since 1989, 79 tortoises in the north part of Sandy Hollow Wildlife Management Area (WMA) where there were no native gopher tortoises. The first sign of successful reproduction within the introduced tortoise population was recorded this year with the observation in the area of a 3-inch long young tortoise.

Last August, the LNHP and the Vet School at Louisiana State University established a health surveillance program for gopher tortoise populations in Louisiana. This program is also evaluating the potential use of gopher tortoises as a sentinel for emerging infectious diseases and toxins within their natural range. Baseline information about the presence of various infectious diseases and environmental toxins will be obtained through a cross-sectional study during 2002 and 2003. In subsequent years, the goal of the program will be to determine the incidence of the detected diseases and toxins on gopher tortoises being monitored.

As part of the first phase of the program, twenty tortoises were captured from August until October in Ben's Creek WMA in Washington Parish and in Sandy Hollow WMA in Tangipahoa Parish in southeast Louisiana. Blood and fecal samples were taken from each individual to determine the presence of infectious diseases (Mycoplasma, Eastern Equine Encephalitis, and West Nile Virus), parasites burdens and environmental toxins (organophosphates, organochlorines, lead, zinc, and copper). In 2003, efforts will be also focused on gopher tortoises on private lands.

Mississippi --COLLEEN HEISE

The negative trends cited in last year's report continue. Much tortoise habitat is permanently lost to urbanization, particularly in the coastal counties and in the Hattiesburg, Petal and

State Reports Continued

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Poplarville areas, and to habitat deterioration resulting from insufficient burning. Habitat destruction and fragmentation accompanying Mississippi's extensive four-lane highway construction program continue. International Paper, which previously owned large amounts of gopher tortoise habitat in the state, is divesting itself of large holdings. There is concern that these tracts of land will be sold for development.

This would have been a good year to catch up on much-needed growing season prescribed burning in Mississippi, as there was plenty of rain. However, the U.S. Forest Service was unable to burn throughout most of the spring and summer because of the emergency situation regarding the effort to control the huge western fires.

Ed Wester is completing another comprehensive survey of tortoise burrows on all priority soils on the DeSoto National Forest (DNF), which is among the most important public lands with regard to tortoise recovery in Mississippi. The last survey was completed in 1995, and results from Ed's work should provide an index of tortoise population trends on the DNF. The Mississippi Army National Guard is also considering resurveying Camp Shelby for gopher tortoises.

During 2002, the U.S. Fish and Wildlife Service Jackson Field Office reviewed over 140 new construction or related projects, mostly to be conducted, permitted or licensed by other federal agencies within the listed range and habitat of the gopher tortoise. Three of these projects, all pipeline construction, would adversely affect the tortoise. Upon completion of formal Section 7 consultation under the Endangered Species Act, pipeline companies captured and relocated 17 tortoises outside the pipeline construction corridor to other nearby burrows along the right-of-way. None of the tortoises was injured during excavation and none tested positive for upper respiratory tract disease (URTD). Final monitoring reports on relocated tortoises will be submitted in 2003.

The USFWS Jackson Field Office initiated a multi-agency effort this year to control the continued invasion by cogongrass. The Mississippi Department of Agriculture agreed to serve as the lead agency to develop a statewide control and eradication plan, in coordination with other governmental agencies and conservation organizations. The development of the plan, hopefully, will stimulate further interests and commitments among participants to control this noxious weed that adversely affects gopher tortoise habitat.

No HCPs or incidental take permits for the gopher tortoise by private (non-federal) entities were approved or issued this year. The first Safe Harbor Plan with a private landowner for the gopher tortoise is expected to be announced for public comment in the Federal Register in December. Also, Environmental Defense began drafting a range-wide (listed range) Safe Harbor Plan for the gopher tortoise, as well as a Candidate Conservation Plan with Assurances for the candidate black pine snake. The plan would provide regulatory incentives to private landowners who voluntarily restore and enhance longleaf pine and gopher tortoise habitat. An approved plan and master permit from the Service would significantly streamline and simplify the regulatory process for state and other non-federal governmental agencies, private organizations, and private landowners. These enti-

ties would enroll under the master plan and permit, instead of each having to prepare a separate, redundant plan with all attendant regulatory documents and processes.

In related work with private landowners, the USFWS Jackson Field Office in partnership with the Mississippi Fish and Wildlife Foundation assisted private landowners in managing about 800 acres of actual or potential gopher tortoise habitat in longleaf pine stands, through longleaf regeneration, prescribed fire, and other actions.

Gopher tortoise research and management by The Nature Conservancy at Camp Shelby continues. This past summer, we focused on two major gopher tortoise research projects: URTD and the effects of prescribed fire on gopher tortoise habitat management. The URTD project is the second year of a two-year study investigating the prevalence and distribution of the disease in tortoises on Camp Shelby. During this study we have had no tortoises test positive, but several tested as suspect. There was no correlation between increased military activity or type of habitat and tortoises that tested suspect. We will continue to opportunistically test tortoises for URTD at Camp Shelby.

This past spring we began collecting data on tortoises in ruderal areas (areas that are cleared of trees and kept in a herbaceous stage by annual mowing) to determine how they will respond when adjacent forested areas are improved by prescribed fire. This research is an attempt to determine whether we can increase the amount of available habitat to tortoises on Camp Shelby by only using prescribed fire. It is possible that since the midstory habitat has become so overgrown that other methods such as herbicides or mechanical methods may be needed in conjunction with prescribed fire to adequately improve the habitat.

Deborah Epperson and I recently submitted a manuscript to the Journal of Herpetology about the nesting and hatchling ecology of gopher tortoises on Camp Shelby. We are also summarizing the gopher tortoise relocation that we did on Camp Shelby for construction of a multi-purpose range complex. In 2003 we hope to expand our gopher tortoise research to include looking at the effects of cogongrass on gopher tortoises and their habitat. Because cogongrass continues to spread in the Southeast, it is important to understand the potential impacts of this invasive, exotic plant species on rare species.

Camp Shelby hosted Firoz Ahmed and Nara Heng, the two Asian interns chosen by the Gopher Tortoise Council for the Visiting Southeast Asian Turtle Researcher Project. See the article on page 10 for a description of this project.

South Carolina --TRACEY TUBERVILLE

The gopher tortoise is state listed as endangered in South Carolina. The species reaches the northeastern limit of its range in the state, with the largest populations occurring in the southeastern corner along the Tillman Sand Ridge in Jasper County. Isolated populations persist in Aiken and Hampton counties. Limited monitoring has occurred on state-owned lands but little natural history is available on the species in this portion of its range. However, several research projects have recently been

State Reports Continued

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initiated or are anticipated to begin within the next year.

During Fall 2001, approximately 100 gopher tortoises were translocated from a development site in Georgia to the Savannah River Site (SRS) in Aiken County. At that time, there were no resident populations of gopher tortoises on the Department of Defense site, but the SRS was known to be part of the species' historical range. During Spring - Fall 2002, Erin Clark, a master's student at the University of Georgia, conducted a radio-telemetry study of 36 adults to determine the effects of penning on site fidelity, burrow establishment, and movement patterns of gopher tortoises. Dr. Whit Gibbons' herpetology lab at the Savannah River Ecology Lab will continue research and monitoring efforts on the translocated population and compare results with similar data collected from nearby natural populations.

In Spring 2003, South Carolina Department of Natural Resources (SCDNR) will initiate a multi-year radio-telemetry project of gopher tortoises at the Tillman Sand Ridge Heritage Preserve in Jasper County. This will be the first radio-telemetry project conducted on a natural population of gopher tortoises in South Carolina and should provide valuable and much-needed information on the natural history of the species in this portion of its range. The project may be expanded to include tortoises from nearby commercial timberlands in order to compare the response of tortoises to different habitat management prescriptions.

SCDNR has also begun a conservation planning project for amphibians and reptiles in the state. The initial phase of this plan will focus on the Coastal Plain, particularly on reptiles and amphibians that are resident specialists of the longleaf pine ecosystem. The planning process will address all species, with a focus on the species of highest conservation concern in the state. The final report will identify strategies for conservation of these species and set priorities for survey and inventory, monitoring and research, and land protection. The final product will be a component of an overall conservation plan for vertebrates of high conservation concern in South Carolina.

Jayme Waldron, a Ph.D. student at Clemson University, has been studying resource partitioning and habitat utilization of the eastern diamondback rattlesnake and the canebrake rattlesnake at Webb Wildlife Center, where they occur sympatrically. As part of the study, she has been radio-tracking individuals of each species since April 2002. In addition, she has continued a mark-recapture study that was initiated by SCDNR personnel in 1994. A total of 95 eastern diamondbacks and 75 canebrakes have been captured on the property. Future research will include continuing the radio-telemetry study, conducting diet analysis on road-killed specimens collected throughout the range of both species, and determining prey availability and abundance.

Distinguished Service Award Presented to Lora Smith

Over the years the Gopher Tortoise Council has recognized members that have served our organization in an exemplary manner. One of the highlights of the recent annual meeting was the presentation of the Council's Distinguished Service Award to Lora Smith.

Lora has served the Council for well over ten years, including twice as membership secretary and most recently as co-chair. While co-chair, she organized the GTC annual meeting and a workshop on the impacts of roads on upland species in the southeast held at the University of Florida. During her

tenure, Lora facilitated the development of the Council's position statement on tortoise relocation, updated the bylaws, and played a lead role in the development of the Council's new slide presentation. She has provided both strong leadership and steady direction for our organization. We hope that Lora will continue to remain active with the Council as we work toward conserving the gopher tortoise and the fascinating world in which it lives.

Congratulations Lora!



Lora Smith and visiting Southeast Asian biologists work with a timber rattlesnake

Meeting Announcement: Conserving Amphibians and Reptiles Through Education

Partners in Amphibian and Reptile Conservation (PARC) National Conference
and Education/Outreach Working Group Organizational Meeting

6 - 8 April 2003; Sheraton Hotel, Gainesville, Florida

Hosted by Southeast PARC and held in association with The Herpetology Conference.
Supported by the Gopher Tortoise Council and Touchstone Energy.



Conserving Amphibians and Reptiles through Education, a PARC national conference, will feature 16 nationally known biologists and environmental educators and will highlight over a dozen successful herpetological conservation education programs (see list below). The program and registration material (including lodging information) are available via the GTC website or by contacting George L. Heinrich at highpine3@aol.com. Updated information will be posted on a regular basis.

The PARC education conference will be held in association with The Herpetology Conference, which begins one day earlier. For more information on The Herpetology Conference, please contact Audrey Owens at aowens@flmnh.ufl.edu or visit www.flmnh.ufl.edu/natsci/herpetology/afhc.htm. Registration for both conferences can be done on the same form. A discounted rate is available for those wanting to attend both conferences.

The conferences will be held at the Sheraton Hotel in Gainesville, Florida and arrangements have been made for attendees to receive a discounted room rate. Individuals planning to attend are encouraged to reserve rooms at that hotel. The meeting rooms will be provided free of charge, providing we purchase a set number of room-nights. Call the Sheraton Hotel at (352) 377-4000 and mention The Herpetology Conference (not the PARC conference) to guarantee a room at a substantial discount.

Keynote Address:

PARC Education: Where Have We Been and Where Should We Go?
Whit Gibbons (Savannah River Ecology Laboratory)

Using Turtles as a Vehicle for Environmental Education: Uniting Biologists and Educators
George L. Heinrich (Heinrich Ecological Services)

Keynote Address:

Making Documentary Films about Herps: The Fun, the Adventure, the Process, and the Frustrations
D. Bruce Means (Coastal Plains Institute and Land Conservancy)

The Gopher Tortoise Council's Conservation Education Program
Laura Wewerka (Gopher Tortoise Council)

Environmental Education as a Critical Component of Reptile and Amphibian Conservation
John Jensen (Georgia Department of Natural Resources)

The Gopher Tortoise Conservation Initiative: New Answers to Old Problems
Ray Ashton (Ashton Biodiversity Research & Preservation Institute)

PARC Products: Educating About the Value of Herpetofauna
David Scott (Savannah River Ecology Laboratory)

What We Learn with Pleasure, We Never Forget
Jeff Hohman (Touchstone Energy)

The Clinch River Environmental Studies Organization (CRESO) - A High School Field Research Program That Has Never Missed a Black Racer Data Point
John Byrd (Clinch River Environmental Studies Organization)

An Environmental Education Program Based on Research with Rattlesnakes
Matt Goode (University of Arizona)

Working with the People: Consensus Finding for Real World Solutions
Peter C. H. Pritchard (Chelonian Research Institute)

Rare Snake Workshops in the Upper Midwest
Rebecca Christoffel (Michigan State University)

Integrating Human Dimensions Insights in Snake and Turtle Conservation
Rebecca Christoffel (Michigan State University)

Strategies for Herp Societies to Encourage Reptile and Amphibian Education in Formal and Non-formal Settings
Beth Girard (Minnesota Herpetological Society)

Project SAVE (Saving Amphibian Vital Environments / Proyecto SALVA (Salva el Ambiente Vitalde los Anfibios), an International Science Education Initiative
David Wojnowski (North Carolina Department of Environment and Natural Resources)

Conserving Virginia's Vernal Pool Amphibians through Education
Michael S. Hayslett (Holiday Lake 4-H Educational Center)

Frogwatch USA: Amphibian Conservation and Public Education Through Biological Monitoring
Amy Goodstine (National Wildlife Federation)

Our GTC display board was at Trout Lake Nature Center in Eustis, Florida last summer. This fall, it was on display at the Florida Fish and Wildlife Conservation Commission's Call of the Wild program, the Florida Scrub Jay Festival held on Florida's east coast, the Gainesville Herpetological Society's Fall Symposium, Chinsegut Nature Center's Reptile and Amphibian Expo Day, the consecutively held GTC and Southeast Partners in Amphibian and Reptile Conservation annual meetings, the Florida Native Plant Society's Natural History Workshop, and the jointly held St. Petersburg Audubon Society and Florida Native Plant Society, Pinellas Chapter annual meeting. It is also scheduled to be on display at Lowry Park Zoo and at the annual conference of the League of Environmental Educators in Florida in the coming months. If you know of an event at which the GTC should be represented, please call or e-mail me. We hope to have the display board on display at the Mississippi Museum of Natural Science this summer--the first time it will be on display in Mississippi. Greyhound bus service has worked well to efficiently transport the board, so sending it out of Florida is not a problem. Lets try to get it to all 6 states in 2003!

The slide show is the other big focus for the upcoming year. Lora Smith has helped me tremendously on this

project, as well as several other GTC members. We almost have a finalized product, but are having a few officers and others give the show a trial run so we can make any final changes. By April 30th, we will have the final product to distribute free of charge to educators interested in receiving it. We will have an informational notebook that holds the script, slides or CD for PowerPoint presentation, and supplemental information. I am starting to compile a database of people, groups and institutions that may be interested in giving programs about gopher tortoises and upland ecosystems. If you would like to receive a copy, or know of someone who would put it to good use, please contact me as soon as possible. I want to have the database completed at the end of March. At this point, I do not know how much this project will cost since we do not know how many copies we will need to make. The silent auction raised \$1,386 for this project and with GTC matching the first \$500 we already have \$1,886. Probably not enough, but a tremendously encouraging start. Thanks to all of you who donated items to the auction, bid on items, and helped me with the auction. This slide show will definitely be a collaborative effort by dozens of GTC members.

Hope to see you at an upcoming festival or meeting!

Tortoise Die-off at Rock Springs Run State Reserve

Lake County, Florida

BOYD BLIHOVDE

In 2001, staff at the Rock Springs Run State Reserve discovered an unusually high number of dead tortoises in the sandhill communities near the park entrance. I invite GTC members to read a summary of what we found in the reserve in an article that is available in the Turtle and Tortoise Newsletter (www.chelonian.org/ttn/). For those of you that are already aware of the recent die-offs that have occurred in Central Florida, I would like to provide this update. Since the die-off was discovered, the park (working with the University of Florida Vet School) has collected blood samples from nearly 100 tortoises to sample for exposure to Upper Respiratory Tract Disease (URTD). Although many of the tortoises have tested positive to exposure to URTD we have also found populations in nearby areas with no positive animals. Rock Springs and the Department of Environmental Protection lands in the surrounding area will continue to be monitored and managed to maintain tortoise health. The park has been very busy conducting prescribed burns and using mechanical treatments to reduce canopy coverage in places were gopher tortoises are rare. Hopefully these techniques will keep tortoise populations on our public lands for future generations.

The Tortoise Burrow is published quarterly (March, June, September, December). Deadlines for submission of announcements and articles are the 15th of the preceeding month. Send materials to the editor: Mark Bailey, 2040 Old Federal Road, Shorter, AL 36075, telephone (334) 727-2040, fax (334) 727-1005, mab Bailey@conservationsoutheast.com. Decisions concerning publication of submitted material rest with the editor and co-chairs. Please send address changes to membership secretary Colleen Heise, Camp Shelby Field Office, CSTS-ENV, Bldg. 6678, Camp Shelby, MS 39407, or e-mail at cheise@tnc.org.

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The Gopher Tortoise Conservation Initiative: 2001-2002

RAY ASHTON

The Gopher Tortoise Conservation Initiative (GTCI) was established in 2000 by the Ashton Biodiversity Research & Preservation Institute, Inc., a non-profit 501-C3 organization. The primary goal of GTCI is to provide advice, training, and assistance to members who are stakeholders in tortoise and uplands conservation or who are decision makers for lands with tortoise habitat or other protected species. Membership fees help to pay for the activities listed below. The 300 current members receive discounts on courses, information about tortoises and issues regarding upland conservation and, in turn, help GTCI with community tortoise and conservation problems.

Staff, Volunteers, Interns and Partners

Ray and Pat Ashton and a Student Intern Coordinator make up the GTCI staff. Their efforts are supplemented by approximately 30 active volunteers and interns. In addition, regional biologists and conservation specialists are tapped to teach portions of courses and review informational documents. A few of the volunteer professionals include Joan Berish, Rebecca Smith, J.R. Hand, Brad Smith, Julie Morris, and David Gordon.

Even before the advent of the GTCI, the Institute supported a student internship program. Since 1997, this group has included 24 undergrads and recent graduates from nine countries and 14 institutions. These are students with interests in development of sustainable tourism and desires to participate in tortoise research and conservation. Interns assist in all aspects of GTCI work and learn how a small conservation organization functions. In 2001-2002, 11 students were hired to help instructors and to participate in the various educational programs described below.

GTCI cooperates on tortoise management and conservation projects with many partners including: four Florida county governments, Florida Wildlife Federation, Conservation Law Clinic, University of Florida Law School, Florida Chapter of The Nature Conservancy, Sanibel-Captiva Conservation Foundation, several local groups of Sierra Club, and local herpetological societies.

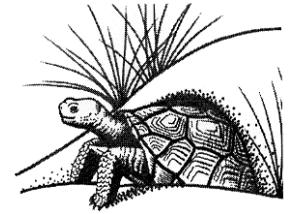
Education Programs

Several educational programs have been developed to serve professionals involved in tortoise management and conservation. Registration fees are used to cover program costs and to support non-fee generating activities. In 2001 and 2002, approximately 1400 participants attended one or more of the following workshops: Field Management Methods and Techniques, Tortoise Natural History for Animal Rehabilitators, Tortoise, Habitat, and Preserve Management and Monitoring, and Staff and Volunteer Training for Partner Organizations. GTCI has produced 16 informational sheets and pamphlets directed toward specific stakeholders in tortoise management and conservation. More than 10,000 of these handouts have been distributed to individuals across Florida.

Community Tortoise Stewardship Program

This program is GTCI's answer to the "Tortoise Wars." Volunteers work with builders and landowners to manage the tortoises on their properties. The Institute holds the relocation permit and

Gopher Tortoise Conservation Initiative (GTCI)



field teams, drawn from the 40 trained volunteers, survey, trap, handle and move tortoises to the Sugar Mill Woods Green Space (approximately 1400 acres located on property owned by the Ashton Biodiversity Research & Preservation Institute, Inc.). In the past year, there was an average of three property reviews per week and approximately 50 tortoises moved.

Gopher Tortoise Reserve Program

The GTCI Gopher Tortoise Reserve Program was developed in conjunction with the Tortoise Reserve Program (www.tortoisereserve.org), a global effort that has enrolled several hundred thousand acres of land in the U.S. and other countries for conservation of chelonians. Of these lands, GTCI has assisted with more than 20 reserves totaling nearly 68,000 acres. These reserves include public lands (e.g., Lee County, Florida), areas owned by conservation organizations (e.g., Florida Chapter of The Nature Conservancy, Sanibel-Captiva Conservation Foundation), and private land holdings. GTCI provides information on how to manage tortoise habitat and assists with development of management plans and monitoring programs on these reserves.

Advice and Assistance

GTCI provides assistance to local and county governments and individuals on issues related to development of policy, management and monitoring of lands, and seeks solutions to problems related to tortoise conservation. GTCI has worked with the South Florida Conservancy, Collier and Lee Counties in Florida, and the South Florida Water Management District, among others. In addition, GTCI made comments to the Florida Fish and Wildlife Conservation Commission regarding changes in tortoise conservation guidelines and conducted informal polls on such topics as the experience and training of professionals involved in tortoise management and how they perform projects.

The Future

At this critical time, the GTCI needs professionals to help teach programs and groups and individuals to provide assistance to the general public whose concern for the loss of habitat and tortoises is growing. For more information visit the GTCI web site (www.geocities.com/ashtonbiodiversity/gtci.html) or write to GTCI at the Ashton Biodiversity Research & Preservation Institute, Inc., 14260 W. Newberry Rd. #331, Newberry, FL 32669.

Developer Charged With Setting Gopher Tortoise Traps

According to an article in the November 9, 2002 Daytona (Florida) News-Journal, one of the owners of property in Glenwood, where a controversial rezoning was proposed, has been charged with destroying gopher tortoise habitat and setting illegal tortoise traps in an effort to facilitate development.

The News-Journal reports that the suspect, a 41-year-old man, faces the misdemeanor charge of destroying burrows of the tortoises, which are protected as a species of special concern in Florida. He is also charged with setting illegal traps. A tentative trial date is set for February 10, 2003. A Florida Fish and Wildlife Conservation Commission (FWC) officer cited the suspect in September during a rezoning battle with neighbors. The residents opposed plans by the suspect and other owners to increase the number of homes planned on a 98-acre parcel.

It is not uncommon for developers who want to avoid building delays to illegally trap and remove gopher tortoises. The suspect owns the land along with several family members. One of the rezoning opponents reportedly saw 5-gallon "bucket traps" at tortoise burrow entrances on the property and called the FWC officer, who responded and found them. When the officer returned later to make sure the suspect had removed the traps, he found the burrow entrances had been destroyed.

Florida landowners have several legal ways to deal with tortoises on sites slated for development. They can catch and relocate them to another appropriate area or hold and reintroduce them on the same site when the building is completed. Both options require a FWC permit and strict oversight by biologists and officers, which the suspect did not have.

GTC Website Gets Top WWW Search Engine Listings

Enter "gopher tortoise" at the Google, Yahoo!, or Lycos search engines and our website now appears at the top of the list!



If you haven't visited lately, we're at www.gophertortoisecouncil.org.

Announcing the 2002 J. Larry Landers Student Research Awards

The Gopher Tortoise Council annually presents the J. Larry Landers Student Research Award to the best student research project concerning the biology of the gopher tortoise or any aspect of its sandhill community. In 2002, a total of \$1,600.00 was awarded to two graduate students to partially support their projects:

Paula Kahn, a Ph.D. student at Auburn University, was awarded \$1,000.00 for her project, "Gopher Tortoise Relocation: Effects on Stress, Immunocompetence and Reproduction." Paula's research will address the effects of stress due to relocation by analyzing corticosterone levels and by looking at the turtles response to specific challenges to their immune systems.

Dana Ehret, a master's student at the University of Florida, received the second award. Dana's project is "Age and Growth of Modern *Gopherus polyphemus* and the extinct *Gopherus laticuneus* and *Styemys nebrascensis*." Dana's research will include aging tortoises using skeletochronological techniques as well as using the technique on fossil turtles.

Students interested in applying for the J. Larry Landers Student Research Award should submit a concise description of their project with a detailed budget and a brief *curriculum vitae* to Bob Herrington, Research Advisory Committee Head, Dept. of Biology, Georgia Southwestern State University, Americus, Georgia 31709. Deadline for receipt of proposals to be considered for the 2003 award(s) is August 21, 2003.

Asian Turtle Researchers Intern with Tortoise Biologists at Camp Shelby

COLLEEN HEISE

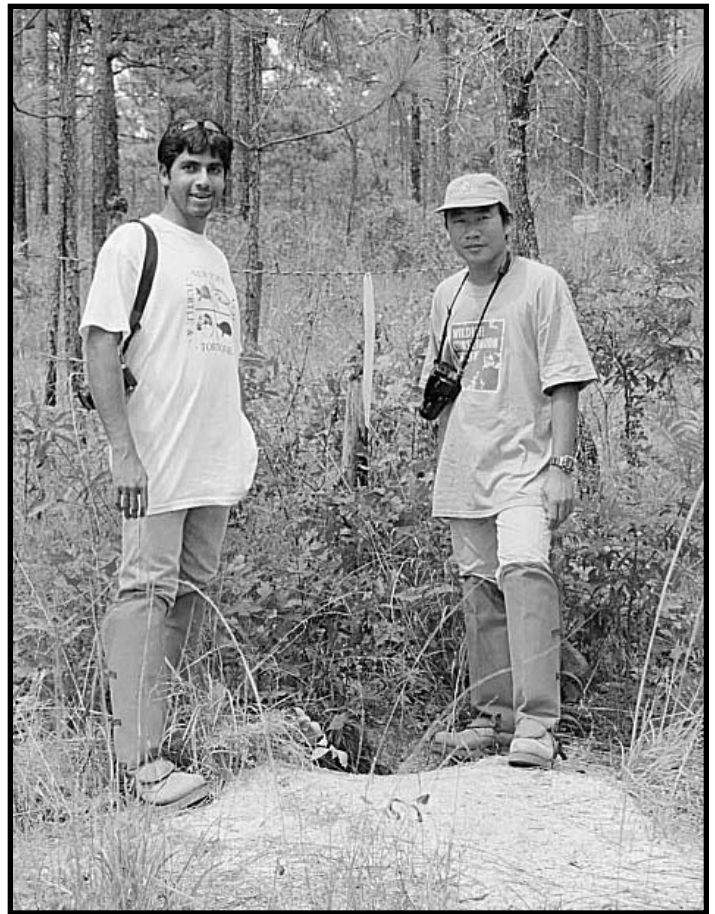
This summer the Gopher Tortoise Council initiated the Visiting Southeast Asian Turtle Researcher Project. The purpose of this project is for Asian biologists to learn scientific research techniques and build conservation skills while visiting the United States. They then take these newly learned skills back to their own countries to help preserve turtle populations. This year two researchers, Nara Heng of Phnom Penh, Cambodia and Firoz Ahmed of Guwahati, India were selected to participate. This program was a collaborative effort between GTC and the New York Turtle and Tortoise Society. The researchers first spent ten weeks participating in the Wetlands Institute's diamondback terrapin internship program in Stone Harbor, New Jersey. After their stay in New Jersey they traveled to Florida and George Heinrich drove them to Mississippi. Along the way they had the opportunity to visit the Jones Ecological Research Center and snorkel for alligator snapping turtles in Georgia.

For the Gopher Tortoise Council's part of the program, the researchers spent four weeks at Camp Shelby Training Site in southern Mississippi. While at Camp Shelby, Nara and Firoz worked with gopher tortoise biologists and learned a variety of techniques for working with tortoises. They learned how to trap and handle gopher tortoises, including taking blood samples for disease testing. They tracked tortoises using both radiotelemetry and powder tracking. They learned how to search for and protect tortoise nests and handled hatchlings. Nara and Firoz also learned techniques for surveying gopher tortoises and other rare species.

In addition to working on Camp Shelby, Nara and Firoz had an opportunity to go on several field trips. They spent two days observing sea turtle hatching on the coast of Alabama while volunteering with the U.S. Fish and Wildlife Service. Tom Mann of the Mississippi Department of Wildlife Fisheries and Parks took them to the Mississippi gopher frog pond and also snorkeling for alligator snapping turtles. They visited the Mississippi Museum of Natural Science and WRANPS, a wildlife rehabilitation center. Nara and Firoz also learned about ecological restoration when they visited the Mississippi Chapter of The Nature Conservancy's mitigation bank properties.

In Cambodia, Nara works as a field biologist for the Wildlife Conservation Society. He recently began researching and developing conservation measures for royal turtles. Firoz is a wildlife researcher for Aaranyak, a society for biodiversity conservation in northeast India. He conducts surveys for reptile and amphibian species in natural areas in that region. On their last day in Mississippi they gave a seminar at the University of Southern Mississippi about their work in Asia. Both Nara and Firoz did a terrific job. The seminar was well attended and enjoyed by the students.

Overall this project was a great success. Nara and Firoz, are bright and enthusiastic and seemed to enjoy and appreci-



Firoz Ahmed (left) and Nara Heng (right) at a gopher tortoise burrow on Camp Shelby.

ate the opportunities presented to them. I have faith that they will do great things in their home countries. Since the program was a success this year, we hope to continue it and to present this opportunity to additional Asian turtle researchers.

Special thanks go to all the people that supported this program both financially and with their time. We thank the Mississippi Army National Guard, The Nature Conservancy, and the U.S. Forest Service for allowing use of their land and personnel for this project.

Donations in response to recent fundraising efforts for this project were received from:

Jan and Dave Anschuetz
Mark and Karan Bailey
Robert E. Brechtel
Kate Caldwell
Alex Cannon and Marina Liem
Rebecca Christoffel
Marcie Clutter
Coastal Wildlife Club, Inc.
Eleanore E. Farrell
Gainesville Herpetological Society
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Patricia and Edward Ruby
Raymond A. Schlueter
John B. Smith
Lora L. Smith
Elizabeth L. Wagner
Wally Wahlquist
Linda J. Wilson

The Fort Caroline Gopher Tortoise Reserve

Mike Monlezun

(7th grade science teacher and FCGTR curator)

The Fort Caroline Gopher Tortoise Reserve (FCGTR) is an approximately 900 square foot outdoor enclosure at Fort Caroline Middle School in Jacksonville, Florida. It is home to six gopher tortoises, permitted by the Florida Fish and Wildlife Conservation Commission. These adults were captive-hatched and donated to us.

From the start, most of the 1100 students witnessed many different behaviors of the tortoises. Courtship was one of the first things seen. The male didn't waste any time, courting the five females even before their burrows were well started. Students eagerly watched the tortoises dig their burrows, flinging the sandy soil everywhere.

It didn't take long for the grass in the courtyard to disappear. Within days the surface was almost bare and food had to be brought in. The tortoises have had a steady supply of collard greens, mustard greens, with occasional watermelon, cantaloupe, strawberries and blackberries. They have also munched on hibiscus flowers and prickly pear cactus.

The FCGTR is maintained by the school's herpetology club. Several students have dedicated themselves to the tortoises and spend time feeding them and cleaning the reserve. It is the intent of this reserve to enlighten not only the herpetology club students, but ALL students and the entire community on the ecological importance of this species. With education as a primary focus, some of the club members will be conducting tours for visitors during the upcoming school year.

"Mr. Mike! One of the tortoises is laying eggs!" This event created a lot of excitement schoolwide. I immediately rushed to the reserve to see one of the females finishing her digging and preparing to lay her eggs. I escorted a few students into the reserve at a time so they could witness this event. The look on the students faces spoke countless words. I think all were impressed and touched, although maybe in different ways.

In addition to a few newsletters, we have put together a Tortoise Guide. This booklet covers various aspects of the natural history and ecology of the gopher tortoise and has many photos. It will be printed in black & white, but a color version will be made available as a .pdf and/or Pagemaker document. This guide will be available for a small donation. A copy will be given free to the leader of any group that tours the reserve.

I want to thank two GTC members for their outstanding support for the FCGTR. Joan Berish, for supplying me with a wealth of information about these fascinating animals and being patient as I constantly play 20 questions with her. Matt Dinkins came to the reserve one afternoon with his burrow camera and showed the herpetology club students how to see in the burrows. This was a great experience for them. These two people are commended for their enthusiasm and willingness to help.

We have big plans for enhancing the FCGTR. This includes completely enclosing the reserve with zoomesh and adding a webcam. If you would like to help with this effort, please contact me at school - (904) 745-4927, e-mail to: ebmaster@jaxherp.org or visit our website at www.firn.edu/schools/duval/caroline_ms/gophertortoise.htm

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Membership Dues and Annual Meeting Reminder

It is time once again to renew your membership (for those who did not do so at the October 2002 annual meeting). Membership categories and annual dues are as follows:

Student- \$10

Regular- \$15

Contributor- \$25

Corporation/Society- \$50

Sustaining- \$100

Life- \$250 (one time payment)

Please make checks payable to the Gopher
Tortoise Council and send them to:

GOPHER TORTOISE COUNCIL

c/o Florida Museum of Natural History

University of Florida

P. O. Box 117800

Gainesville, FL 32611-7800

Mark Your Calendar: 25th Annual Gopher Tortoise Council Meeting

October 3-5, 2003

Wekiwa Springs State Park, Apopka, Florida

Watch for more information in upcoming issues of The Tortoise Burrow



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