ALABAMA PARTNERS IN AMPHIBIAN AND REPTILE CONSERVATION

ALAPARC NEWSLETTER

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ALAPARC
Alabama Chapter of Partners in Amphibian and Reptile Conservation

In this issue

A note from the Co-Chairs

There are a lot of exciting things happening with ALAPARC this year as you will see throughout this issue. We had another successful meeting at the Solon Dixon Center in November, drawing a number of returning members and new members alike. There are a number of education initiatives taking place, including efforts to add new sites to the Alabama Amphibian Network, and opportunities for you to get involved. We are in need of volunteers to write species profiles for Outdoor Alabama and provide educational materials so that ALAPARC's website can become a centralized location for herp educational materials for the general public. In addition, the current newsletter contains updates on the Indigo snake reintroduction, efforts by ALAPARC and other organizations to bring awareness about the Opp, AL "Rattlesnake Rodeo," a status update about the Hellbender in Alabama, and a variety of information about the Red Hills Salamander.

As many of you already know, David Steen stepped down as co-chair in November and has been replaced by Kayla Bieser. He did an excellent job in his two years as co-chair and is now serving as a liaison for ALAPARC. Kayla attends the University of Alabama at Birmingham where her research interests are in the molecular physiology underlying Temperature Dependent Sex Determination, its potential consequences for turtle conservation, and non-lethal sexing methods for hatchling turtles. She is also an active member in the Herpetological Society at UAB, and with the Alabama Reptile Rescue Sanctuary. She looks forward to serving ALAPARC and maintaining the great standards that have already been set in place by Dave and Sean.

This year's meeting looks to bring some change. In order to keep things fresh and make the trip easier for those from northern Alabama, the location has been moved to Camp McDowell in the Bankhead National Forest. This should be a great location for herp outings during the day with presentations during the evening. And we won't forget time for socializing and beer drinking in the evening as well. To ensure good herping, the meeting date has also been changed to September 30th - October 2nd. We are still working on the cost, but we hope to keep the price within range of the previous two meetings to make it affordable for a variety of attendees, and booking will be through Camp McDowell, which should make things very convenient for ALAPARC members. Keep a look out on the ALAPARC website for details. In addition, there is a possible bid to host a joint SEPARC-ALAPARC meeting in 2012. We will continue to pursue this opportunity as the year progresses.

Finally, and as always, ALAPARC is not an institutional entity. We are simply a network of individuals interested in the same goals. Contact us and get involved in your state chapter, volunteer for co-chair, suggest a new officer position, or just let us know if you'd like to take part in our current efforts. We look forward to hearing from you.

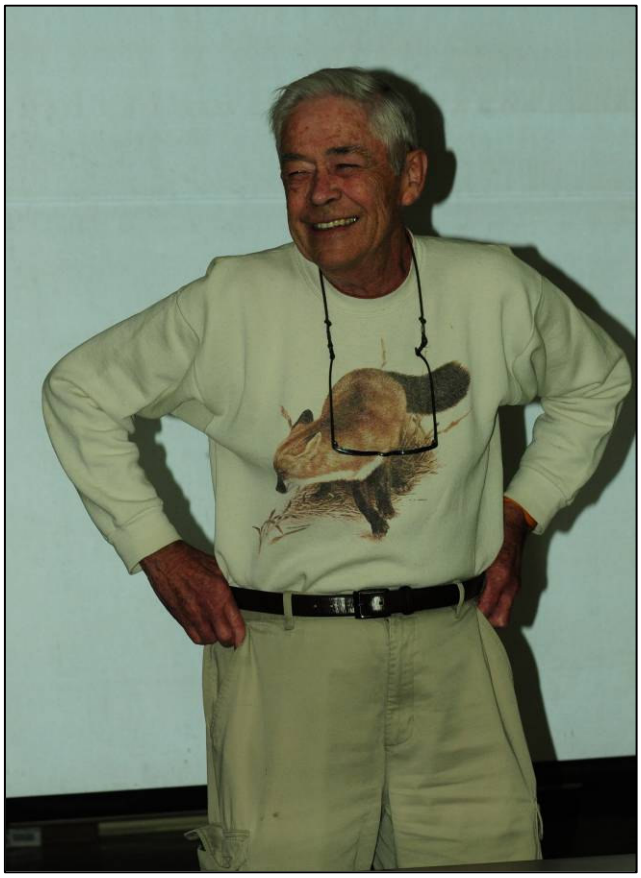
Sean Graham and Kayla Bieser
Co-Chairs, ALAPARC

2010 Meeting Summary

This year's ALAPARC meeting again witnessed excellent turnout with 57 attendees present, 8 posters, and 15 oral talks presented. Friday began with the Red Hills Salamander discussion group, an event hosted by ALAPARC for the second year in a row. J.J. Apodaca gave an exciting presentation about the distribution and status of newly discovered populations of *Phaeognathus hubrichti* in Wilcox County, Alabama.

Saturday morning talks were outstanding, with exciting updates from Alabama's Indigo Snake repatriation project. Jim Godwin presented a background of the project and outlined various organizations associated with the project, stating emphatically that, "the indigo snake is back in Alabama". Jimmy Stiles discussed radio tracking the released indigo snakes. His data so far hint that indigo snakes released by "soft" methods (snakes released into pens and allowed some time to acclimate) may stick around and survive longer. David Brothers gave a synopsis of indigo snake care at Zoo Atlanta. Day two also included a panel discussion about the potential federal listing of the Gopher Tortoise in the eastern part of its range. Since Alabama currently is the only state with both listed and non-listed Gopher Tortoises, our panel combined a unique group of people with varied perspectives and ultimately illuminated the possible outcome of this decision on the tortoise, land owners, and society. Ben Prater, an environmentalist from the petitioning organization Wild South, persuasively posited that the listing would benefit the tortoise in both public and private land. Other Saturday talks included Ken Marion's information about possible effects of the Deepwater Horizon oil spill on Alabama sea turtles, Thane Wibbel's update on Diamondback Terrapin conservation in Alabama, and ALAPARC initiative updates from Wally Smith and Sean Graham. Wally's progress on creation of an Alabama nature center educational network is excellent, and ALAPARC's search for hellbenders in Alabama unfortunately came up short.

Saturday night, ALAPARC recognized the distinguished career of Dr. Robert H. Mount. Chris Thawley and Sean Graham presented a retrospective of herpetological history from both sides of the Alabama River, with University of Alabama and Auburn University legends lauded. From the eminent Chermock and Folkerts, to the current holders of the torch Rissler and Guyer, the contributions of these herpetologists were boasted. This talk transitioned naturally to the Mount appreciation session. Former Mount Students Jim Godwin and Mark Bailey presented an often funny and sometimes poignant retrospective of the career of the father of Alabama herpetology: from his beginnings as a larval herper under the tutelage of Archie Carr, his dissertation research on mole skinks, the publication of what is now inarguably the best state herpetofauna (The Reptiles and Amphibians of Alabama), to his later efforts to list several of Alabama's rarities under the endangered species act. Highlights of the presentation included a candid phone call surreptitiously recorded by Mount's former student Ralph "Peewee" Jordan, and numerous pleasant anecdotes and Mountisms. Mount was fortunately on-hand for all of the embarrassing moments and accolades, and he was presented with a fine pen in a hand-crafted



Dr. Robert H. Mount

longleaf pine case by his former student Fletcher Scott, and an all-gold potato rake by Mark Bailey. All present found the honoring a "rich personal experience."

After this appreciation, it was time to celebrate, and as usual, kegs of beer (included in the registration fee) were the epicenter of networking and conversation. The second annual lab practical herp crossword quiz again came to a three-way tie between quiz participants, and a frog call-off was needed to award the all-out winner. Wally Smith, Helen Czech and Bill Sutton (last year's defending champions) and Kristin Bakkegard squared off, unleashing their Fowler's Toad (purportedly a narrow-mouth toad), Spring Peeper-Upland Chorus frog, and Pine Barrens Treefrog call impersonations, respectively. Bakkegard won the day, and some thought her rendition so spot-on they immediately left the kegger to search the nearby sphagnum creeks for additional calling males. Ultimately, ALAPARC was unsatisfied, and since the quiz allowed at least an hour of unfettered drinking to occur between the beginning and end of the contest, sporadic chorusing began throughout the Dixon Center, until the social degenerated into full mixed-frog choruses resembling the earth-shaking frog choruses during a warm spring rain at an Alabama swamp.

ALAPARC Sundays are for sleeping in and field trips, and numerous 'PARCkers attended an Indigo Snake telemetry hunt with trip leader Jimmy Stiles. The tracking was successful with everyone getting to see at least one Indigo.

Behind the scenes, a new co-chair was ushered into office, and Kayla Bieser did an excellent job hosting this year's meeting and serving as the moderator for talks (far better, in fact, than last year's moderation by Sean Graham). Kayla and Sean agreed that next year's meeting will be slightly different, possibly smaller, and will essentially be a herping field trip with some talks and socials. The location for next year's meeting will be held near Bankhead National Forest (Camp McDowell) to make the trip easier for folks from northern Alabama and provide some variety. Details about next year's meeting are available in this newsletter and our website. Finally, we recognize the herculean efforts of Dave Steen, the outgoing co-chair, for putting on another excellent meeting. His absence during this year's planning will undoubtedly be missed.

We'll see you next year!

Report from 2011 SEPARC Meeting

This year's Southeastern Partners in Amphibian and Reptile Conservation (SEPARC) meeting was held February 17-20 at Lake Tiak O'Khata, Mississippi. Several Alabama conservation stalwarts attended, including Mark Bailey, Jim Godwin, Jimmy and Sierra Stiles, Roger Clay, and myself (Bill Sutton, ALAPARC's Secretary, doesn't count since he recently relocated to Tennessee). If I didn't mention you, my apologies and please introduce yourself during this year's ALAPARC meeting. The meeting began with a keystone presentation by Kurt Buhlmann, who noted that while documentation of current turtle conservation issues remains important, there are considerable merits to going on the offensive to stem declines. Potential strategies along this vein include reintroduction. This concept featured heavily in Jim Godwin and Jimmy Stiles' presentations on the recent return of the Eastern Indigo Snake to Conecuh National Forest. Another presentation of interest to ALAPARC membership included, "Survival and resource selection of captive-reared Ozark Hellbenders (*Cryptobranchus alleganiensis bishopi*) translocated to the North Fork of the White River, Missouri" by Catherine Bodinof of the University of Missouri. These efforts provide a glimmer of hope that hellbenders could one day be reintroduced to Alabama's mountain streams. Another highlight was Dr. Jeff Humphries', a world-renowned authority on amphibian biology presentation of his work radio-tracking gopher frogs in North Carolina and how prescribed burns may influence mortality patterns.

During the SEPARC steering committee and officer's meeting, I mentioned ALAPARC's interest in hosting a joint meeting within the next few years. The suggestion went over well; with the possible emergence of a Florida chapter looming, we discussed the possibility of state chapters co-hosting meetings with SEPARC on a rotating basis. SEPARC co-chair Chris Jenkins noted his interest in expanding the organization to the Caribbean, which raises several enticing possibilities for future meeting locations.

This year's meeting marked the end of Gabrielle Graeter's tenure as SEPARC co-chair. In a hotly contested election for her replacement, former University of Alabama PhD student and current Florida State University post-doc, J.J. Apodoca, soundly trounced Alabama Natural Heritage Biologist, Jim Godwin. Although Jim was inconsolable, Gabrielle rightly mentioned that the two votes he received suggest there may be interest in supporting a future candidacy. Hopefully J.J. will remember his Alabama roots as he commences his reign as SEPARC co-chair.

- by David Steen, ALAPARC Liaison to Southeast PARC

Gopher Frog (*Rana capito*)
Photo courtesy David Steen

Initiative News

Alabama Hellbender Survey Results

One of the first ALAPARC action initiatives has come to a close with the submission of the results of the 2010 hellbender survey to *Herpetological Conservation and Biology*. This is a popular, online-format, peer reviewed journal that often features conservation reports and survey results. If accepted, this will be ALAPARC's first peer reviewed publication! We combined the 2010 results with data from previous surveys by ALAPARC members Eric Soehren, Sean Graham, and George Cline. Results suggest that, at best, hellbenders should be considered a relict population in Alabama (consisting of old adults with no current reproductive success), and are likely extinct in the state. The paper provides details of the last hellbenders known from Alabama, the last two of which were found dead, and outlines probable causes for the decline, including large-scale impoundment and land management practices in north Alabama. Finally, in a way, the paper breaks rank with similar conservation-oriented projects in *not* recommending further attempts to save the hellbender in Alabama. We argue that, since conservation funding is limited and northern Alabama streams are so deteriorated, conservation dollars would be better spent on other projects in Alabama or for hellbender populations that have a better chance for preservation. The status of the paper is "in review," and based upon previous experience with the journal review, revision, and final acceptance will take around eight months.

Keep your eyes peeled for: Graham, et al. 2011. Conservation Status of Hellbenders (*Cryptobranchus alleganiensis*) in Alabama, U.S.A.

Eastern Indigo Reintroduction

A total of 17 eastern indigo snakes were released in Conecuh National Forest in June 2010, each with an implanted radio transmitter. Jimmy and Sierra Stiles immediately began the process of tracking the snakes. During the warm months, snakes were tracked daily, but as temperatures decreased in the winter months, tracking decreased to about once a week. Since the release of the snakes, five have been confirmed dead and causes of mortality include avian and mammalian predation along with vehicular mortality. Transmitter signals of an additional five snakes have been lost, possibly due to battery death and/or snakes moving out of receiver range. The remaining seven snakes are known to be alive and have remained active throughout the fall and winter months. A prescribed burn was recently conducted by the U.S Forest Service in the area surrounding the snake pens where snakes were originally released. Five of the snakes were within the area burned and all survived unscathed. These seven snakes will soon have their radio transmitters replaced so that they may continue to be tracked. Approximately 30 additional snakes will be released this spring, including 20 with transmitters. Jimmy Stiles and I will present on Auburn University's indigo snake project at the ALAPARC and SEPARC annual meetings this year.

- By Jim Godwin

Education/ Outreach News

Alabama Amphibian Network

Since its launch in 2010, the Alabama Amphibian Network has involved over 5,000 K-12 students and other members of the public from across Alabama in what has become the state's largest herp-related citizen science and education effort to date. The network is a partnership between ALAPARC, the University of Alabama, Legacy Partners in Environmental Education, and seven environmental education centers from across Alabama, aimed at involving students in outreach programs that link amphibian education with basic biodiversity research. Two new additions to the network are in the early stages of development through a partnership with researchers at Samford University, with potential locations at Oak Mountain State Park and Birmingham's new Red Mountain Park. Check the ALAPARC website for details on this effort as they develop.

Barking Treefrog (*Hyla gratiosa*)
Photo courtesy Sean Graham

Outdoor Alabama Species Profiles

ALAPARC is continuing to solicit potential authors for species profiles for the *Outdoor Alabama* website through a continuing partnership with the Alabama Department of Conservation and Natural Resources. This past year, ALAPARC members contributed a variety of new profiles for reptile and amphibian species to the website, providing important information about these species to the public. However, many more species still lack profiles, and your help is needed. Browse the ALDCNR website (http://outdooralabama.com/watchable-wildlife/what/) to see which species are lacking info, and if you see a species that you would be willing to write a short profile for, contact Wally Smith at whsmith1@crimson.ua.edu.

Online Outreach Platforms

Based on feedback at the 2010 meeting and elsewhere, we're looking to enhance outreach materials and public interaction with Alabama scientists through online media in 2011. Specific ideas have included hosting an online clearinghouse of herp-related educational materials (fact sheets, brochures, etc.) in a condensed, online location for ease of access by the public. If you know of any educational materials that might be beneficial to this effort, send Wally Smith an email (whsmith1@crimson.ua.edu) with URLs of online content.

- by Wally Smith, ALAPARC Education/ Outreach Officer

Field Equipment Sterilization Protocols

This protocol was developed for the Birmingham-Southern College Biology Department. It essentially involves sterilization of all field equipment after their return from the field and before their use at a new destination.

Dunk tank sterilization

We opt to maintain a tank where we soak equipment in a bleach solution. Using the tank allows for quick sterilization of a lot of equipment at once. Our 'tank' is a rain barrel purchased locally.

Because bleach quickly evaporates from the solution, the solution in the tank needs recharging before each use. We calculated that the pH of a 1% bleach solution in a 40 gallon tank to be 10.0, and use pH as a guide to determine that the solution is at 1% bleach.

Field sterilization

When sampling multiple sites within a trip, it is usually not practical to return to the home institution for sterilization. Instead, a spray treatment may be used in the field. We are still developing this protocol but plan to use a 3-gal tank sprayer for sanitizing nets ($40 each). The solution in the tank will be a least a 1% bleach solution. A secondary 3-gal tank sprayer will be used to wash bleach off equipment prior to use in a water body. Containment of runoff from the bleach spray and rinse is an environmental concern, even with these small amounts. Care should be taken when choosing a site for sterilization in the field (e.g., far away from a waterbody). Baking soda may be used to help neutralize the bleach in the wastewater generated. Potentially, equipment could be sterilized on a tarp, and the tarp used to collect wastewater. This could then be poured into a container for transport back to the home institution for proper disposal.

For more information on field equipment sterilization, including step-by-step instructions of the Birmingham-Southern College Biology Department and SEPARC's publication on the subject, visit the ALAPARC website: http://www.alaparc.org/Initiatives/chytrid.html

Alabama Herps in the News

Raising Rattlesnake Awareness

Alabama's Eastern Diamondback Rattlesnakes are getting a lot of attention these days. Unfortunately, most of this attention may eventually lead to the peril of this magnificent snake. For the past 51 years, the city of Opp, Alabama has held a festival known as the "Rattlesnake Rodeo." Each year, rattlesnake wranglers capture wild snakes from Covington, Coffee, and Dale counties in southern Alabama and bring them back for the festival. The city then "disposes" of roughly 100 snakes each year. In previous years, captured snakes were sold to skin dealers (the skins are high demand for boots), sold as meat ($14 / $15 a pound), and were given away for venom milking and parasite studies. With fewer wranglers participating this year, the city announced in January that it would be soliciting public

participation with a bounty of $8 per foot for every "undamaged" diamondback, and a flat $100 for all snakes over 5 feet long. After receiving numerous letters of protest from groups and private individuals, the mayor rescinded the bounty in mid-February, although wild-caught rattlesnakes will still be accepted.

The ADCNR Division of Wildlife and Freshwater Fisheries ranks all native wildlife species on a scale of 1 to 5, with 5 being the lowest conservation concern and 1 being the highest. The Priority 1 designation is reserved for the most critically imperiled or even extirpated taxa, such as the Southern Hognose Snake, Hellbender, Flatwoods Salamander, and Eastern Indigo Snake. The Eastern Diamondback has been designated a Priority 2 species since 2002, the same designation as the federally protected Red Hills Salamander, Flattened Musk Turtle, and Gopher Tortoise. However, the Eastern Diamondback can still be legally taken in Alabama with no regulation, and is the state's only "Priority 2" species that receives no protection.

The 2011 Opp Rattlesnake Rodeo is scheduled for April 1-2. For more information about the event you may call the city at (334) 493-4572.

Information for this article came from articles in the Andalusia Star News:

Rodeo Sets Bounty for Rattlers
http://www.andalusiastarnews.com/2011/01/25/rodeo-sets-bounty-for-rattlers/

City of Opp Retracts Bounty on Snakes
http://www.andalusiastarnews.com/2011/02/14/city-of-opp-retracts-bounty-on-snakes/

For additional information on the impacts of rattlesnake rodeos, you may access this paper: http://www.herpconbio.org/Volume_4/Issue_2/Means_2009.pdf

- By Bill Sutton and Mark Bailey

Protecting the Red Hills Salamander: A Legacy of Alabama's Rich Natural Heritage

Prepared by Jodie Smithem, USFWS biologist in Daphne AL

Deep within the woods of south Alabama a salamander pokes its head out of a burrow. The burrow is located on a steep slope covered with leaves from the mature hardwood trees overhead. It is dusk, and the salamander is looking for food. Should a spider or cricket happen to walk by, it would likely become the amphibian's next meal. The salamander will remain this way for hours, barely moving, waiting for dinner. Along this hillside are many other similar burrows, but they are hard to see unless you are looking for them.

The salamanders on this hillside are the Red Hills salamander, and they live nowhere else in the world. The Red Hills of Alabama are the only place where you will find these creatures. Specifically, they will be on steep slopes with mature mixed hardwoods located between the Alabama River to the west and the Conecuh River to the east. The salamanders do not have lungs and breathe through their skin, so the moisture of these forests is essential to their survival.

The Red Hills salamander is the state amphibian of Alabama and is federally listed as

a threatened species. Its conservation and recovery are a top priority for the U.S. Fish and Wildlife Service's Alabama Field Office. Recently, the office sent a letter that included a fact sheet on the salamander to landowners in the Red Hills. Approximately 98% of the salamander's habitat is in private ownership, so working with individual landowners to protect this species is crucial to its long-term survival. The purpose of the letter was to increase knowledge about the salamander and highlight several opportunities available to private landowners who are interested in protecting this unique species and its habitat. These opportunities are discussed below.

Land Management

The simplest, yet possibly most effective, tool for protecting the Red Hills salamander and its habitat is land management. Protecting the hardwood-dominated slopes where the salamander lives is critical for conserving the species. Maintaining a naturally-vegetated 50-foot to100-foot buffer between the slope forests and adjacent ridgetops and floodplains can offer significant protection to the habitat elements essential to the salamander's survival. Red Hills salamanders will not persist in areas where the tree canopy has been removed or significantly reduced, since those areas no longer provide the shade and moisture required by the animal, or in areas where adjacent land management actions have caused severe soil disturbance along the steep slopes. Placing an adequate buffer adjacent to the hardwood slopes will offer significant protection from soil disturbance and allow ample shade for the salamander, thus protecting this unique species.

Conservation Easements

Another opportunity available to landowners is conservation easements. A conservation easement is a legal agreement between a landowner (easement donor) and a qualified conservation organization or public entity (easement holder), in which the owner voluntarily agrees to restrict the type and amount of development that can occur on the land. A conservation easement allows the landowner to preserve the property's conservation and historic values by keeping it in an undeveloped state, while also preserving traditional land use patterns such as timber operations and hunting. A significant benefit of conservation easements is that the landowner maintains ownership of the property, retains the right to use the property for profit and recreation, and retains the right to sell, deed, or gift the property to another (such as heirs). In addition, a conservation easement donation can reduce property, income, and estate taxes for the landowner.

With the recent federal tax incentive renewal, conservation-minded landowners now have until December 31, 2011, to take advantage of a significant tax deduction for donating a conservation agreement to permanently protect important natural or historic resources on their land. The enhanced incentive applies to a landowner's federal income tax. It:

- Raises the deduction a donor can take for donating a voluntary conservation agreement from 30 percent of their income in any year to 50 percent;
- Allows farmers and ranchers to deduct up to 100 percent of their income; and

- Increases the number of years over which a donor can take deductions from 6 to 16 years.

Conservation easements are a great way to combine natural resource protection with landowner incentives. Private landowners who voluntarily choose to place land containing Red Hills salamander habitat in a conservation easement will not only be conserving an ecologically important species, but will also be preserving their rights to enjoy and use their property.

Habitat Conservation Plans

Habitat Conservation Plans (HCPs) integrate development and land-use activities with conservation of at-risk species through a climate of cooperation. Without a permit, it is unlawful to harm federally-listed threatened and endangered species. Engaging in land management or development activities that impact Red Hills salamander habitat may result in the death or injury of the species, which would require consultation with the U.S. Fish and Wildlife Service (Service). Landowners who develop HCPs in cooperation with the Service are able to receive incidental take permits; these permits allow landowners to conduct development or management activities without worry of legal liability while ensuring the conservation of listed species.

HCPs are an important tool in our effort to conserve the salamander and the habitat it depends on. They resolve concerns over development of land that is home to a threatened species, give assurances to landowners for conducting otherwise lawful activities, and help conserve additional species that share the same habitat as the salamander, such as wood thrush, worm-eating warblers, great horned owls, and coal skinks. By working together, private individuals, timber companies, and local, state, and federal agencies are creating effective stewardship solutions that will be recognized for years to come.

Land Acquisitions

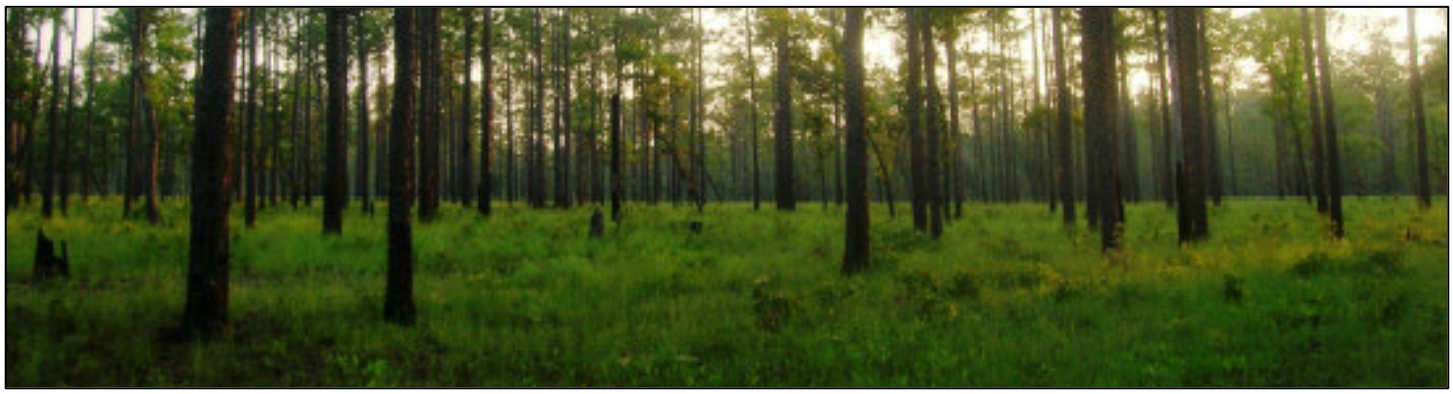
Recently, the Alabama Department of Conservation and Natural Resources acquired more than 4,300 acres containing high quality Red Hills salamander habitat in Monroe County, Alabama. This was made possible by Forever Wild funds, federal grant money, and willing sellers. Without the collaboration of local landowners and their willingness to sell property, this immensely important task would not have been accomplished. The acquisition of land by state agencies, conservation groups, or other environmental organizations is one of the best ways to ensure long-term survival of imperiled species. These lands often benefit the public as well by providing outdoor recreational opportunities such as hunting, hiking, and wildlife photography. Landowners who sell or donate property to a conservation agency can feel good knowing their decision will protect Alabama's rich biological heritage and allow future generations to enjoy the unique landscape of the Red Hills.

The Future is on Our Hands

We need the help of local landowners to protect important resources in the Red Hills and hope you will consider some of the opportunities discussed above. These opportunities exist for landowners who wish to voluntarily protect Red Hills salamander habitat, which will benefit not only the salamander, but also the many other plants

and animals that depend on the hardwood slopes of the Red Hills. For people who do not live in the Red Hills but would like to assist with salamander conservation, simply becoming knowledgeable about the species and sharing that knowledge with others is invaluable.

For more information on the salamander or any of the conservation opportunities discussed above, please do not hesitate to contact Jodie Smithem at 251-441-5842 or jodie_smithem@fws.gov.



Alabama PARC (www.alaparc.org) is chaired by Kayla Bieser and Sean Graham and is a chapter within Southeast PARC (SEPARC) co-chaired by Chris Jenkins and Gabrielle Graeter. For more information about SE PARC visit www.separc.org. For more information about PARC, visit www.parcplace.org.