

Field Notes

News from the Alabama Ecological Services Field Office



Flowing Freely: Dam Removals Improve Water Quality

The state of Alabama is one of the most aquatically diverse states in the nation. Fish, mussels, snails, and other critters utilize our unique watersheds to spawn, grow, and thrive. Unfortunately, Alabama also leads the pack when it comes to aquatic endangered species. “Many people just don’t realize that Alabama is the hub for freshwater aquatic biodiversity with more than 300 native fishes, 180 mussels, 160 snails, and 85 species of crayfish. However, nearly 80 of these species, mainly mussels and snails, are protected under the Endangered Species Act,” says Jeff Powell, Aquatic Biologist with the U.S. Fish and Wildlife Service. Why are they so endangered? Habitat loss is the main culprit. Many of these imperiled species need clean, fast-moving water to survive. “When streams and rivers are dammed-up or blocked by some other barrier, flows slow down and water quality can quickly deteriorate,” explains Powell.

One man-made structure that can prevent free-flowing water is a dam. Dams can create barriers that slow the flow of water, reduce water quality, block fish passage, and allow sediment to build up. While many dams are desired for hydroelectric power production, some are considered outdated and no longer useful. That’s why Service biologists joined up with our partners to remove two that were no longer needed. “In addition to blocking movement of fish, dams can create deep pools that fill with sediment, reduce oxygen levels, and raise the temperature of the water,” explains Partners for Fish and Wildlife Biologist Eric Spadgenske.

The first dam removal happened last October in the Upper Turkey Creek Watershed. Service biologists joined the Freshwater Land Trust to remove a dam, built in the 1920’s to form a swimming hole in Turkey Creek. Locals stopped using the swimming hole decades ago when the concrete structure proved to be dangerous. Biologists knew that removing the dam would improve the habitat for the endangered vermilion darter, a beautiful, two-inch long fish only found in Turkey Creek. It didn’t take long for a hydraulic



Goodwin’s Mill Dam is located in Big Canoe Creek, photo by Eric Spadgenske

hammer and hardworking biologists to re-open a free flowing section of Turkey Creek.

With good weather, now it was time to focus on the next project at Big Canoe Creek. There, biologists focused on Goodwin’s Mill Dam, which was constructed in the 1800’s to power a grist mill. The mill was abandoned in the 1930’s, but the dam continued to impound the water and create a fish passage barrier. “Recent surveys showed a dramatic disparity in fish species diversity above and below the dam, highlighting the dam’s impact on water quality and habitat suitability,” said Spadgenske.

Service biologists and heavy equipment crews joined The Nature Conservancy of Alabama and Friends of Big Canoe Creek to remove the dam. The goal was to restore fish passage, and benefit rare and federally protected mussels. “Big Canoe Creek is one of the hot spots in the Mobile Basin for aquatic species and is one of our target areas for restoration.” One other benefit was to halt erosion of

private land and to restore the stream bank downstream of the dam – efforts welcomed by the private landowner.

Both dam removal projects were years in the making. But it truly shows the power of partnerships, and what we can do for conservation when we work together. Today, biologists continue to monitor the effects of their efforts while searching for other opportunities to benefit our endangered river buddies.



Eric Spadgenske talks to the media at Turkey Creek Dam, photo by Denise Rowell, USFWS

Strategic Habitat Units: Working Together for Clean Water

The U.S. Fish and Wildlife Service in conjunction with the Alabama Department of Conservation and Natural Resources and the Geological Survey of Alabama have selected 51 watersheds and river segments in Alabama to focus on conservation activities for managing, protecting, restoring, and recovering populations of rare fishes, mussels, snails, and crayfishes. These Strategic Habitat Units (SHU's) and Strategic River Reach Units (SRRUs) include a substantial part of Alabama's remaining high-quality rivers and streams, and reflect the variety of small stream to large river habitats occupied by these species historically and/or currently.

The SHUs were selected based on best available information about the essential habitat components required by these aquatic species including: (1) geomorphically stable stream and river channels; (2) stream flow regimes that support normal behavior, growth, and survival of the animals; (3) acceptable water-quality conditions necessary for normal behavior, growth, and viability of all life stages of the animals; (4) a diversity of channel substrate types, with minimal amounts of fine sediment and filamentous algae; (5) for mussels, the presence of fish hosts with adequate living, foraging, and spawning areas; and (6) few or no competitive or predaceous nonnative species. The SRRUs were selected based on the historical and/or current presence of rare species and include river reaches where species restoration and recovery actions are planned for the future or are already underway.



photo by USFWS

The purpose of designating SHUs and SRRUs is to facilitate and coordinate watershed management and restoration efforts as well as to focus funding to address habitat and water quality issues. All of the SHUs currently support one or multiple federally listed species and/or critical habitat designated by the U.S. Fish and Wildlife Service.

For more information on how you can help keep our water clean, log onto <http://www.cleanwaterpartnership.org/>



photo by USFWS

Did You Know?

Did you know our biologists are monitoring 40 sites of Alabama beach mouse habitat before and after hurricane season? They are doing this to see how storms affect beach mouse recovery.

Teaching Kids Conservation

The USFWS family has had a busy year in outreach. We've traveled statewide to teach kids the value of wildlife. It's our favorite part of the job! (photos by USFWS)



Nesting Time for Coastal Birds

Gulf State Park and U.S. Fish and Wildlife Service are partnering with American Bird Conservancy this summer through funding from National Fish and Wildlife Fund Shell Marine Grant to conserve beach nesting birds in Alabama. Kat Harris, Shorebird Technician, has been hired to conduct nest monitoring surveys, coordinate post and rope for nest sites, and provide outreach to State Park visitors and others. Adding temporary signs, and post and rope help keep foot and vehicle traffic from crushing eggs and shorebird chicks. Least terns nest on open shell covered beaches from late April - early August. Posted areas are removed once the nesting birds leave for their fall migration.



Biologist Bill Lynn puts tape around a nesting area, photo by Dianne Ingram

Biologists Study Mussel Migration

Aquatic biologists Andy Ford and Jennifer Pritchett are studying the seasonal migration patterns of mussel migration through the river bottom in Conecuh County, Alabama. Sue Detwiler, a USFWS employee who is visiting the Alabama Field Office during November, joined them in the effort. A survey is performed once a month for 12 consecutive months. The results of the study will give biologists information about what mussels may be impacted by instream construction projects at specific times of the year.



Biologists Andy Ford and Jennifer Pritchett tag mussels, photo by USFWS

Sea Turtle Nesting Season in Full Swing

Biologist Dianne Ingram and volunteers with Share the Beach have had a busy summer! They've discovered 46 sea turtle nests since May. Forty-four have been loggerhead nests, and two were identified as Kemp's ridley. The eggs typically have a 55-60 day incubation period before hatching. Don't forget to turn off the lights at night if you are on the beach. Lights can confuse nesting sea turtles and hatchlings alike. Sea turtles are federally protected, and we want to recover these treasures of the Gulf. Happy nesting!



Volunteers uncover a sandy sea turtle egg. Only volunteers with a proper permit can handle these eggs, photo by Mike Reynolds

Meet the Supervisor: Bill Pearson

Bill Pearson has been the Alabama Field Office Supervisor since 2006. He has seen a lot since he's moved to the Gulf Coast, leading the office through the 2010 oil spill, the government shutdown of 2013, and numerous resource challenges like the Alabama beach mouse permitting and gopher tortoise issues. Through all of that, he was recently recognized with the Regional Director's Honor Award as a Strategic Habitat Conservation (SHC) Champion.

How did you implement Strategic Habitat Conservation in your office?

Generally speaking, implementing SHC in an Ecological Services (ES) field office is a much easier task than in other divisions of the Fish and Wildlife Service; largely because our mission is so broad and we are fortunate to work across the State under several legal authorities. As I see it, implementing SHC required more of a shift in "how" we do business in an ES office; it required a shift in thinking about "what we do", and "where we do it." As an office with a largely regulatory role, it's easy to get tied to the desk and bogged down by paperwork. Although our regulatory responsibilities require us to spend time evaluating projects, writing technical assistance letters of response or issuing stamp replies, and processing permits, we realized that there was another way to meet our technical assistance demands AND focus ourselves in on-the-ground recovery work. We do that with our "Rock Projects." The idea behind a "Rock Project" comes from the old adage that in order to stay focused on the most important tasks, one must put the big rocks in the work bucket first, not allowing the more numerous and less important smaller pebbles to take up space and not allow for the large rocks. In other words, we don't want the little things to get in the way of larger, more meaningful projects. This is especially important because Alabama leads the nation in aquatic biodiversity, and only two states in the country have more federally listed species than Alabama. With this fact in mind, we need to focus on the bigger picture of the recovery of species and not get buried in the day-to-day drill of office work at the computer. So, in order to refocus ourselves on the task of species recovery, I charged our staff to think about what might be the greatest conservation challenges, threats,

or opportunities they see on the ground when they are out in the field or performing their day-to-day activities. Not only does this "bottom up" approach make sense, I think it helps morale as well, as our biologists have a large hand in developing their workloads and feel confident that their efforts are directed toward important resource work. Once the staff has identified project ideas, they create their own project and recruit office staff to assist in its completion. The only criterion is that they must develop their project within the SHC framework. In this way, we have adjusted our thinking to one that is recovery based and supported by a "bottom up" approach to the development of recovery projects, all framed in the SHC model. I believe this is a very different way to work within an ES office, and certainly is much different than when I was a biologist in the North Dakota ES office years ago.

Where do you see the Alabama Field Office in ten years?

I see us as an ES leader in the region, fully integrated in the SHC model and working hand in hand with the Landscape Conservation Cooperatives that cover Alabama. As I look forward, I want to continue our ability to create meaningful Rock Projects to spearhead our recovery efforts. A great example of a current office Rock Project is our Strategic Habitat Units (SHU). Our SHU project focuses on 51 high priority watersheds in Alabama. These SHUs guide our aquatic recovery efforts in concert with a very strong partnership



Southeast Regional Director Cindy Dohner presents an RD award to Bill Pearson, photo by USFWS

of state, federal, and NGOs. Additionally, I would like to see a terrestrial version of the SHU project that could help to focus our terrestrial recovery efforts in the state. Furthermore, I hope that our new way of doing business will continue to provide a lot of opportunities for our biologists and encourage and stimulate even more creative ways to help recover Alabama's imperiled species.

Welcome Home Donnie

We would like to extend a warm welcome to our law enforcement officer Donnie Grace, who just returned from a 10-month deployment in Afghanistan. It sure is nice to see him sitting back at his desk again. Welcome back, Donnie, and thank you for all that you do!

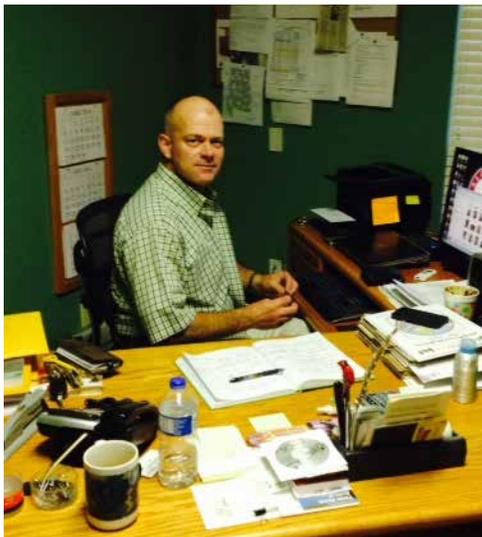


photo by Denise Rowell, USFWS

Service Responds to ESA Critics

Note: This op-ed piece was printed in the Montgomery Advertiser newspaper earlier this month.

When an environmental advocacy group recently withdrew its petition to list five crayfish species in Alabama, we in the U.S. Fish and Wildlife Service celebrated.

The Southeast Region of the U.S. Fish and Wildlife Service is working hard to make sure Alabama's unique plants and animals are conserved — not listed. For us, listing a species as threatened or endangered under the Endangered Species Act is the last line of defense, what you might call nature's emergency room. We prefer preventative medicine, or proactive conservation. That can only happen with great partnerships between the Service, the state of Alabama, private landowners, non-governmental organizations, industry and other federal agencies.

In a recent editorial titled "Work with, not against, landowners," authors Andrew P. Morriss and Brian Seasholes encouraged the Service to work with private landowners and other partners to conserve wildlife. They may not realize the Service has been reaching out to private landowners for three decades through our Partners for Fish and Wildlife Program.

Through this program and others, the Service has been working hand in hand with the Alabama Department of Conservation and Natural Resources and Geological Survey, industry and private landowners for several years to provide conservation and recovery opportunities for Alabama's imperiled species.

Through partnerships, we want to strategically target our efforts to conserve the most vulnerable plants and animals. That's why we funded survey and research work by three crayfish experts that resulted in the withdrawal of those five crayfish species. As a result, we'll be able to focus our limited resources on species that need them the most. That's good for fish and wildlife, and it's cost-effective.

Another prime example of a diverse partnership is the recently formed Alabama Rivers and Streams Network, a network of collaborators who have vowed to work together for the conservation of imperiled fish and other aquatic animals. Their goal is to work with industry, local governments, agencies, non-governmental organizations and private landowners to ensure mutual protection for the state's water resources. Not only does poor water quality affect human consumption, recreation and the economy, it also contaminates habitat for aquatic species. Critters such as mussels and snails are ecological indicators of water quality.

Recent efforts in the North River watershed near Tuscaloosa illustrate this approach. Beginning in 2010, the team, working with the Fayette County engineer and administrator, installed small detention basins along the unpaved roads that contribute the most sediment, or dirt, to the North River.



Lagniappe crayfish, photo by Susan Adams, USFWS

According to water treatment engineers in Fayette County, sediment removal costs at the county's water supply facility have decreased by more than 40 percent. Not only did this project improve water quality and aquatic habitat for Alabama's unparalleled wildlife, it also reduced water treatment costs.

We have many other successful partnerships across the Southeast working to proactively conserve and better understand imperiled or at-risk plants and animals. Since 2011, the Service and its partners have precluded the need to list nearly 40 species under the ESA. But we have a lot of work ahead.

Due to petitions and litigation from advocacy groups, this region is required to evaluate more than 400 plants and animals for possible listing within the next decade or so. Only by working closely with the state of Alabama, private landowners and many other partners, will we successfully conserve many of these unique plants and animals in a cost-effective way, and avoid the need to list them.

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