



Current Events



The Newsletter of the Arkansas Stream Team

Volume 16, Number 2

April – June 2012

News from Region I (Ozark Highlands and Boston Mountains) Stream Team Coordinator, Dave Evans...

Greetings from the Hills of Arkansas! I surely hope your spring was as pleasant as it was up here in the heart of the Ozarks. The only real problem we've had is the lack of rain. I am sorry to say that, according to some weather predictions I've seen, the next three months could be very dry. I remember the 1990's when it was extremely dry across the Ozarks. It was so dry during those years that a lot of trees around here died. The fields near here are already turning brown, not a good sign for this early in the year. So far this spring, we've only had about three inches of rain at my house, and (at this writing) we're only one week away from the start of summer. Okay folks, let's all get out and do our rain dances!

In April, I got a chance to work on the annual striper (striped bass) spawning project. Six Arkansas Game and Fish Commission (AGFC) staff members from around the state spent a week gill-netting stripers on Lake Ouachita. We would start out from the launch site around dusk and set the nets. Then, about every hour after that, we would go back out and pull them up to see what we had caught. Jon Stein and I seemed to catch a lot of sticks and logs, and not many fish. However, we did catch the biggest female striper that week...it weighed about 25 pounds. We kept getting requests from the hatchery for a certain number of fish per night, mainly females. However, the stripers were not very cooperative, and we always seemed to fall just short of our quota. Fortunately, the next two crews caught a lot more fish than we did.

A Nice Striper! ►



On a Monday afternoon in mid-April, 73 volunteers spent a total of 255 hours picking up trash along Scull Creek in Fayetteville. This group worked over a three-mile stretch of the creek through the middle of town. All told, they picked up around 440 pounds of trash. While this may not sound like much, it's really an improvement from the two previous years, in that it's not an improvement in more total weight (compared to the previous years), rather an improvement in being less trash to be picked up! In 2010, an estimated 2,000 pounds of trash was gathered. In 2011, approximately 1,000 pounds of trash was collected. So, it would appear that maybe the residents of Fayetteville are getting the word about "proper trash disposal." One can truly hope this trend will continue!

In early May, a large group of fifth-graders from Cooper Elementary School in Benton County spent the day on Tanyard Creek in Bella Vista. They visited several different sites along the creek, and learned about kayaking, area fishes, aquatic bugs and various other water issues. Everyone really seemed to enjoy *getting their feet* (and the rest of their bodies) *wet* at the AGFC macroinvertebrate identification station. This is the second year I have participated in this annual event, and it is always fun interacting with the youngsters. They always seem to come away amazed that so many aquatic bugs live in the rocks – right under their feet. Who would have known that there was that much hidden life down there?



Kids from Cooper Elementary School

This spring I got to take part in the removal of a low-water slab across Hamstring Creek, west of Fayetteville, something I've never got to participate in before now. This slab had been installed several years earlier, and was behaving like every other slab I've seen...acting as a sediment and debris dam, and the six pipes passing through it were plugged with sticks and gravel. This was the culmination of a bank restoration project that had begun last year. At least this portion of Hamstring Creek is free again to flow as an unrestricted stream. ►



Removing the Slab on Hamstring Creek

Well, the renovation of the slab at the Fred Berry Conservation Education Center on Crooked Creek, in Marion County, is finally completed. This site is known locally as *Kelly Slab*. A beautiful plunge pool is located immediately downstream of this bridge. This six-foot deep, 100-foot wide, 70-foot long hole is a very popular swimming and fishing site. I don't think I've ever been there twice when someone wasn't fishing and/or swimming.

This project involved the removal of the two pipes that passed through the slab, the lowering of the mid-portion of the slab, and the re-capping of the modified portions. This project was funded using *Stimulus monies* (from the American Recovery and Reinvestment Act), and its primary purpose was improved fish passage upstream. Two additional parts of the project were the maintenance of the swimming/fishing hole (below the slab), and improved safety for swimmers.

Fish passage was improved by the removal of the concrete tubes. The water velocities through these pipes prevented certain fishes from moving upstream. This was of critical importance during the spring spawning season. The removal of the pipes, and placement of rocks in the resulting gap, created energy breaks that fish could utilize in their upstream movement. These structures (rocks) are already being used by minnows to move up out of the plunge pool, to the channel above the slab.

By leaving the bulk of the slab in place, we were able to keep the upstream gravel bar locked in place. If a larger portion of the slab had been removed, the gravel that had been accumulating (upstream of the site), would have slurped downstream (past the slab), and filled the swimming hole. During construction, numerous people expressed their concern to me. They were worried we were going to totally remove the slab and cause the eradication of this very popular site. I assured them this was not our purpose, and the final product has proven this statement to be true.

I don't know how many times I've seen kids sliding through the pipes that were located under *Kelly Slab*. This was a very dangerous game they were playing! I have personally used the AGFC backhoe to remove logs from the pipes. If someone had slid into a pipe, and there was a log jammed partway down it, they could have easily drowned before anyone could get them out. That particular danger is now removed, and the kids still have high velocity water to play in.



Work on Kelly Slab – Filling the End with Concrete



Work on Kelly Slab – Looking Downstream at the Final Product

News from Region II (Delta) Stream Team Coordinator, Stephen O'Neal...

Sweltering heat? Oppressive humidity? Blistering sun? Bring it! Head to the creek or your favorite river and get your feet wet!! That's what a lot of our teams are doing now. Enjoy a "stay-cation" and rent a canoe or kayak with your family, and see what kind of memory you can make this summer with your family. Trust me, that memory will last a lot longer than the memento you pickup from that out-of-state destination you might be thinking about. ☺

The summer months have hit with full-force and fury, and many of our waterways are at a trickle due to the drought that has spread over the state. That has not withered the spirit of our teams who have been out there making it happen with water quality monitoring efforts and litter pickups. We have also been working on installing habitat and renovating streambanks that have been compromised in recent years, due to massive flooding. Yes, remember when it *used* to rain!

The West Magnet Elementary fourth grade class and their hard-working, dedicated and inspiring teachers have hit the Polk Bayou waterway several times. Initially, they conducted a thorough survey and litter pickup of the area along the bayou collecting 45 bags of debris, and became very familiar with the topography of the area, the waterway itself, and the riparian area that surrounds the bayou. The second time they hit the water headlong (some quite literally!), performed a macroinvertebrate sample, and came out with the highest rating I, personally, have ever seen in any of our Northeast Arkansas waters. On the third outing, the group collected water chemistry data and, as one would expect with a very high quality biological assessment, the chemistry of the system was all within normal tolerances, and all levels were conducive to finding great biological activity (high dissolved oxygen, low nitrates, low phosphorus, etc.). All the groups who tested the waters came out with this result, showing that each group performed their tests accurately. This leads one to believe that the fishery of this low-gradient stream is high quality, as well. Someday, in the near future, we will make that determination—stay tuned!



◀ *Aquatic macroinvertebrate testing is best done as a TEAM—as shown by this duo working up a good sample on Polk Bayou near Batesville.*

Part of the Fourth Grade Class in Batesville sporting their Stream Team caps and sport-bottles after a hard day's work! ►





▲ *Careful observation of the biological sample is required to accurately rate a stream—many of these organisms are very difficult to spot.*



▲ *If you can punch buttons and read directions, it is rather easy to perform a water chemistry analysis. If your team isn't involved yet—Get Your Feet Wet!*



◀ *The Batesville school group performed the testing flawlessly and was very serious about doing it correctly—a testament to their in-class training before going into the field.*

The Cabot Ecology Club continues to amass one of the Stream Teams' most impressive and long-lived water quality data sets on Big Creek in Cleburne County. This data set could prove to be very insightful in assessing the Best Management Practices (BMP's) the natural gas industry is implementing in this area, as Big Creek runs through the middle of a large area of natural gas exploration and extraction activity. The Ecology Club will publish their trend results in the next newsletter—once again, stay tuned!



▲ *Part of the Cabot Ecology Club identifies macroinvertebrates collected from Big Creek, and other team members perform a quantitative 'Physical Inventory' of the stream itself, including a depth profile and total discharge.*



◀ *C.P. Johnson receives a mini-grant for a massive habitat and bank stabilization project in northeast Arkansas. The mini-grant is simply "seed money" to help the project get off the ground, and to help partner with other entities involved. The majority stakeholder, the landowner, contributed the large majority of the funding for the project.*

A massive habitat improvement and streambank renovation project is nearly complete on the Current River in Randolph County. The quarter-mile of river frontage had moved over 140 feet in the past two years, due to flooding and a severely compromised riparian area. The area was engineered to have 10 upstream angled rock vanes and five Bendway Weirs installed in order to redirect water velocities, relieve soil-shear stress pressures during high water, and to create much needed instream habitat in this stretch of the river. The area will later be planted with native riparian vegetation for long-term soil stability, and to provide a terrestrial wildlife corridor. This is one of those projects you will want to follow as we go back next year to perform a post-work fisheries sample. You guessed it—stay tuned!



▲ *Ten upstream angled rock vanes and five Bendway Weirs were installed along over a quarter-mile of the Current River in Randolph County.*



▲ *Gin Creek in Searcy is a great place for the Ahlf Elementary students to study aquatic life, and an awesome way to finish the school year!*

The Ahlf Jr. High School students converged on Gin Creek in Searcy to perform a "bug kick" and water chemistry analysis to help drive points home they learned in the classroom taught by Mary Cook. Their preparation served them well as they collected their samples, compared their results to other groups, and discussed why certain "tolerant species" were present and other "sensitive species" were not. Based on the water chemistry, there were two parameters that were elevated. Therefore, some of the more sensitive macroinvertebrate species were absent from their results. "They go hand-in-hand—the chemistry affects the biology," one student said. Another stated, "The runoff that comes into the waterway from yards and roads affects the chemistry, which in turn affects the bugs—which I assume affects the fish, too?" I think these students are tuned in—don't you?



▲
The Booker Arts Magnet School students carefully analyze their biotic sample to rank the health of this urban stream in Little Rock.



▲
What student wouldn't enjoy a little "bug kick!" Application of knowledge acquired in the classroom to a real-world project certainly helps to reinforce the educational process. It's fun, too!

The Booker Arts Magnet Elementary School performed a macroinvertebrate test to help determine the baseline biological health of a stream that flows across the Oakland-Fraternal Cemetery property across the road from the school. This group had already performed a litter pickup earlier this spring, and will later be involved with helping to establish a functioning riparian area along this reach of the creek, after the sinuosity is restored and the channel is redesigned to better suit the natural meander of the stream—it had been straightened in years past. This, too, is a project that holds much potential for those who want to see before-and-after effects of Stream Team work. If at this point you aren't "tuned in" to what the Stream Team is all about.....go out there and get your feet wet, you'll see what all the buzz is about! If your group has been involved in a local creek/river/stream project—let us know, and stay tuned, you just might see your projects featured in this newsletter.

The Region III Stream Team Coordinator position remains vacant. The Region III news will continue once this position has been filled; however, in the absence of a coordinator for this region, Steve Filipek (Arkansas' Statewide Stream Team Coordinator), has been working to provide assistance, as needed. In addition, from time-to-time, area Stream Teams in Region III will be submitting articles. Thanks to All!

**News from Region IV (Ouachita Mountains and
Arkansas River Valley) Stream Team Coordinator,
Matthew Irvin...**

Normally, I do not have much trouble getting enthusiastic about writing my quarterly newsletter...but, with many of my favorite canoeing and fishing streams too low to float, and a 10-day forecast with no rain in sight, and an average daily high of 103° in the Arkansas River Valley, it can be difficult.

Nevertheless, I started off this quarter surveying a tributary to Gum Log Creek in Pope County, surveying part of an unnamed tributary to Crooked Creek in Saline County, hiring a summer intern, doing some maintenance work on a project in Logan County on Short Mountain Creek, and attending a GIS (Geographic Information Systems) training and team meeting in Mayflower. Later in the quarter, I spent some time checking on a few of the sites where we planted the 1,900 seedlings (last quarter) to see if they were leafing out. Along with my supervisor, Steve Filipek (Assistant Chief, Fisheries Programs), I revisited a site in Scott County on the Fourche LaFave River. In addition, I attended the Ozark Summit in Springfield, Missouri. Lately, I have been working on drafting a few streambank stabilization plans for public and private streamside landowners in the Arkansas River Valley and Ouachita Mountain eco-regions.

Most of us don't like to admit our mistakes, but our mistakes give us experience which can benefit us and others in making good judgments and better decisions. A recent lesson I learned was how deep to bury a tree used for fish habitat enhancement in a streambank. Just because one thinks they can take a giant tree (44 inches in diameter, to be exact) that's saturated in water, and bury approximately half of it in the streambank, and expect it to stay during a flood event...is not exactly true! My lesson takes place on Short Mountain Creek in Logan County, near the city of Paris. The large tree I am referring to was a dead red oak that had been struck by lightning, and was laying in Short Mountain Creek when we started the 485-foot renovation project last June. I did not want to waste this valuable tree. So, we cut a trench and buried about half of the trunk in the streambank. Most of the limbs had been removed, and we positioned the large log upstream, 30 degrees from the streambank, on a 4:1 slope similar to a rock vane, to nudge the flow of water towards the center of the channel. My goal was to keep the abrasive flow of water off of the near bank, and to provide fish habitat. However, after eight inches of rain fell within a 48-hour period, back in November, my upstream pointing log vane was now a downstream pointing log vane.

Fall of 2011- Log Pointing Upstream. ▼



*After 8" of Rain in 48 Hours -
Log Pointing Downstream. ▼*



Bye, Bye Big Boy. ▼



Rock-toe Protection and Native Shrubs Taking its Place. ▼



I learned that 75-to-80 percent of a log needs to be buried to anchor it in place for fish habitat, and I probably won't be using logs for vanes anymore. This site has now been repaired with an additional 60 feet of rock-toe protection, some fill material, coconut blanket, annual grass seed, and native shrubs.

Recently, the second lesson learned was more for streamside landowners. This pertains to the site I mentioned earlier in Scott County, on the Fourche LaFave River. A plan was written for this particular landowner in May of 2010, with a price tag of \$15,280 for renovation work. Because of financial reasons, the landowner was not able to implement the project. Less than two years later, the erosion was twice as damaging, and getting closer to his cabin. After resurveying the area, and adding today's market value to everything, it is going to cost \$43,376 to repair this streambank and keep sediment out of the river. We are all facing tough economic times, and streambank repairs aren't cheap. However, when you multiply additional floods to inflation, you can count on doubling the cost of the project later on down the road. So, if possible, don't wait on those repairs.

If only we had more money....

Indian Creek in Pope County ▼



One of many sites on the Illinois Bayou in Pope County ▼



Alum Fork Saline River in Saline County



Caddo River in Clark County



The last four pictures you just looked at have several things in common. They are all on private land, they all contain my favorite native game fish - the smallmouth bass (*Micropterus dolomieu*), they all are contributing sediment to the stream, each landowner needs financial assistance, and each landowner is willing for the work to be done. Each of these sites will take 10's of thousands of dollars to fix, but the landowners just don't have the resources to get the job done. That's where the *Arkansas Stream Team* and cooperating partners come in. A few of these funding sources are the *Arkansas Stream Team* stewardship mini-grants, Natural Resources Conservation Service (NRCS) farm bill programs, Arkansas Natural Resources Commission (ANRC) tax credit program, U.S. Fish & Wildlife Service (USFWS) partners for wildlife program, and Environmental Protection Agency (EPA) 319 grants.

In conclusion, I would like to brag on what a great job the *Atkins Middle School Stream Team* did this spring picking up trash, collecting macroinvertebrates, and testing the water quality on West Fork Point Remove Creek, at Ed Gordon Point Remove Wildlife Management Area near Rammel Marsh boat launch.

Atkins Middle School Stream Team



Alligator Snapping Turtle



We also had the great opportunity to *get up close and personal* with an alligator snapping turtle (*Macrochelys temminckii*), which we released right before putting on our waders and wading into the creek to collect our macroinvertebrates. Crazy, I know!

Stream Team Name: _____

Activity Sheet

Stream Team #: _____

[illegible]

The Process of Becoming a STREAM TEAM...

1. Express an interest and request more information.

Send your name, address, and phone number to:

ARKANSAS STREAM TEAM PROGRAM COORDINATOR
Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, AR 72205

2. Sign up. You will receive the newsletter and be counted among Arkansas' *STREAM TEAM* members. This will also get you in the network of those wanting to help out Arkansas' waterways.

3. Adopt a stream. To become more involved in the program you can adopt a stream. Select a stream that you and/or your group are particularly concerned about. For example - the creek on your land, your favorite fishing hole, or the stream you drive over everyday going to work or school.

A. Inventory your stream with help from the *STREAM TEAM* coordinators.

B. Decide what you want to do---trash pickup, habitat improvement, water quality monitoring, and/or whatever is of interest to you or your group!



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