

**Archey Fork Little Red River Stream and Riparian Restoration  
and Educational Outreach to benefit 17 Aquatic Species of Greatest Conservation Need**

Upper Little Red River Watershed, Arkansas

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**Project Summary:** The four forks of the Upper Little Red River (ULRR) flow into Greers Ferry Lake. The lake is a drinking water supply, recreationally important, and hydropower source for more than a million people annually. The rivers that feed the lake are also home to an impressive suite of aquatic animal species including thirteen considered rare or endangered. The channelized sections of the Archey and South Forks of the Little Red River remain the last connection between the four headwater streams that feed Greers Ferry Lake, all habitat for the yellowcheek darter (*Etheostoma moorei*) and speckled pocketbook (*Lampsilis streckeri*), both listed species. This project would build on two completed phases of restoration on the Archey Fork Little Red River and would focus on implementing restoration practices and educational outreach about the project on newly acquired property by both the City of Clinton and The Nature Conservancy (TNC). Restoration would include stream bank stabilization (see above picture) and tree planting, treatment of invasive species, construction of low-impact walking paths, educational signs, and an outside classroom. These measures will expand the completed restoration efforts upstream and help students to access, observe, and learn about the Archey Fork River and successful restoration practices that help to reduce sedimentation to the community's drinking water source.

**Project Partners:**

Don Richardson, Janet Miron, South Fork Nature Center, [dsrenviro@gmail.com](mailto:dsrenviro@gmail.com) [mironjanet@yahoo.com](mailto:mironjanet@yahoo.com)  
Richard McCormick, Mayor, City of Clinton, [clintonmayor@artelco.com](mailto:clintonmayor@artelco.com)

**Total Amount Requested: \$56,887      TNC/Partner Matching Funds: \$30,634**

**Total Project Cost: \$87,521**

**Need:** The Upper Little Red River (ULRR), a major tributary to the lower White River, has a watershed size of 849 square miles and is located entirely within the lower Boston Mountains. The ULRR includes 83 native fish species of which 17 are Species of Greatest Conservation Need (SGCN) (see table 2.). Of the SGCN list, 4 species are given a priority score within the Arkansas Watershed Action Plan (AWAP) of higher than 80/100. Channelization efforts that were conducted in 1986 in response to severe flooding in downtown Clinton provided an important flood protection role, but also led to instability in the river in the form of eroding stream banks and loss of land through channel widening. This ultimately increased sediment deposition for miles downstream as the river empties into Greers Ferry lake near the water intake for the City of Clinton. In 2006, a group of local interested citizens, The City of Clinton, the U.S. Fish and Wildlife Service (USFWS), and the US Army Corp of Engineers (USACE) worked to minimize in-stream maintenance activities which led to a noticeable improvement in habitat quality. It was decided by the group to investigate a long-term restoration solution for restoring the river while maintaining the current flood capacity of the channel. In 2010, The Nature Conservancy (TNC) produced a report that presented several restoration options as a result of geomorphic data analysis collected over a 12 month period. To meet the numerous goals set forth by project stakeholders, a restoration strategy based on the science of Natural Channel Design (NCD) was adopted. TNC underwent acquiring a no-rise certification hydrologic analysis and obtained permits and approval to construct the project. In the dryer months of 2013 and 2014, two of the three phases of the restoration design were built with successful results following several bankfull flood events.

**Purpose and Objectives:** The proposed project will address the Aquatic Habitat funding priority to restore, enhance, and/or maintain the integrity of aquatic habitats to benefit. In 2013, The Nature Conservancy acquired and donated an 8-acre piece of property to the City of Clinton as an addition to the Archey Fork Park. The intention for the property is to stay forested to facilitate important flood relief during higher flows. This property is located upstream of where the Archey Fork restoration project began in 2013. In 2014, The Nature Conservancy acquired a 4-acre piece of property that adjoins this addition to the park upstream to the Hwy 65 bridge. In 2014 and 2015, extensive efforts were put in place to mechanically and chemically treat the invasive species, in particular Chinese privet, on these two properties. This project would build on the past several years of restoration efforts along the Archey Fork river by completing the following tasks:

1. Work with City and business owners to move a telephone line away from an eroding bank on the newly acquired City property.
2. Slope streambank and plant the riparian area for long term sustainability and integrity of the streambank. Conduct two days of native shrub and tree plantings long the newly constructed streambank, solicit local schools and universities for assistance.
3. Maintain and expand the treatment of invasive species (Chinese privet) to other riparian lands in the Archey Fork Park.
4. Construct an erosion resistant extension to the Archey Fork Park's walking trail on the newly acquired City property. This trail will be designed to allow foot traffic and access to the restoration project without erosion that often occurs with clearing of trees and installation of impervious surfaces (concrete, asphalt, etc.). Instead we will use geocell material with gravel.

5. Construct an outdoor classroom and install four educational signs along the project that can be utilized by the public to educate students about river floodplain components, the function and purpose of floodplains, and how people can maintain a healthy floodplain for retention of flood waters and sediment reduction in the river.
6. Conduct an educational outreach day at the site once construction of park amenities is complete. Invite all neighboring schools within the county to attend the event.

**Location:** The Archey Fork Little Red River project site is located in the City of Clinton in Van Buren County, Arkansas and is part of the Upper Little Red River drainage in the Ozark Mountain ecoregion. The Archey Fork watershed is approximately 124 mi<sup>2</sup> and contains approximately 79,636 acres.

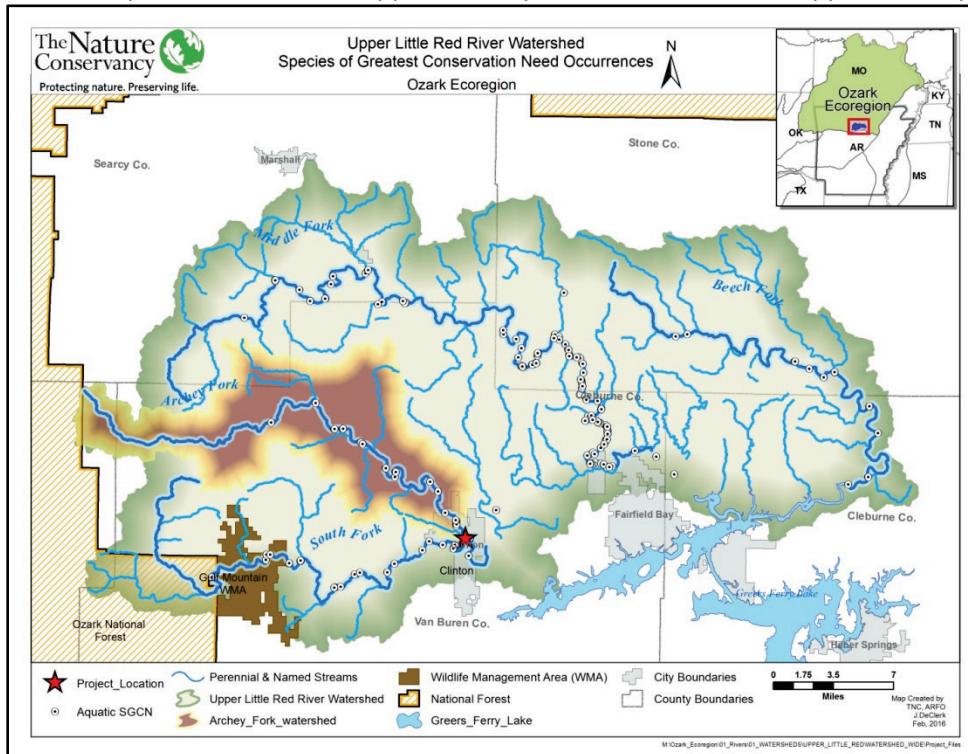


Figure 1. Map.

**Approach:** This watershed has a recent history of effective partnerships between state and local agencies, nonprofit organizations, and the local community. In 2005 the programmatic Safe Harbor Agreement for the ULRR watershed was developed to assist landowners to voluntarily adopt conservation practices on their land in support of the recovery of plants and animals listed under the Endangered Species Act. In January 2016, the Natural Resource Conservation Service (NRCS) and TNC were selected to receive a Regional Conservation Partnership Program (RCPP) grant to be used towards sediment reduction practices across riparian lands including unpaved road improvement projects, stream restoration, and reforestation efforts along the rivers and tributaries. Since the completion of the first two phases of the Archey Fork stream restoration project, representatives from the City of Clinton, the South Fork Nature Center (SFNC), the Van Buren County Conservation District, and TNC have formed an advisory group for the long term management and development of the new additions to the park, planned walking trails, educational signage, fishing and boating access, and invasive species management. This project would provide the initial funding towards accomplishing this group's goals of developing better public access, long term maintenance, and educational outreach for the project.

**Expected Results and Benefits:** Projected Outcomes for the proposed project include:

- ✓ Restoration of a degraded and eroding streambank on newly acquired park lands upstream of the Archey Fork restoration project. Relocation and protection of important communication/telephone lines that are near exposure on the eroded streambank.
- ✓ Reduction of invasive species throughout the Archey Fork Park. Expansion of native tree and shrub species planted in these areas. Educational outreach about how to control invasive species and promote a healthier riparian corridor along the river.
- ✓ An expanded trail system to better access the river and observe the restoration practices put in place to date.
- ✓ Educational signage and an outdoor classroom available to the public for use in the newly acquired park lands. Increased exposure of the benefits the restoration project has provided to the local community.

**Table 1: Estimated Budget:**

| Category              | Funds Requested | TNC Match       | Total           |
|-----------------------|-----------------|-----------------|-----------------|
| Salaries and Benefits | \$9,526         | \$9,526         | \$19,052        |
| Supplies/Materials    | \$10,270        | \$6,050         | \$16,320        |
| Equipment Rental      | \$6,038         | \$0             | \$6,038         |
| Contractual           | \$18,425        | \$9,075         | \$27,500        |
| Travel                | \$2,446         | \$0             | \$2,446         |
| Other                 | \$0             | \$500           | \$500           |
| <b>Subtotal</b>       | <b>\$46,705</b> | <b>\$25,151</b> | <b>\$71,856</b> |
| Indirect Cost 21.8%*  | \$10,182        | \$5,483         | \$15,665        |
| <b>TOTAL</b>          | <b>\$56,887</b> | <b>\$30,634</b> | <b>\$87,521</b> |

\*TNC's indirect cost rate in its FY 16 NICRA is 21.8%. TNC's indirect rate is negotiated annually, and TNC will charge indirect at the federally approved rate each year.

**Table 2. Aquatic SGCN listed for Upper Little Red River watershed from the 2015 AWAP.**

| Species, Common Name | Scientific Name                    | Global/State Status | AWAP Priority Score | Species Type |
|----------------------|------------------------------------|---------------------|---------------------|--------------|
| Yellowcheek Darter   | <i>Etheostoma moorei</i>           | G1, S1              | 100                 | F            |
| Ozark Shiner         | <i>Notropis ozarcus</i>            | G3, S2              | 38                  | i            |
| Longnose Darter      | <i>Percina nasuta</i>              | G3, S2              | 30                  | s            |
| Ozark Chub           | <i>Erimystax harryi</i>            | G3G4Q, S3S4         | 21                  | h            |
| Bowed Snowfly        | <i>Allocapnia oribata</i>          | G1, S1              | 80                  | Insect       |
| Speckled Pocketbook  | <i>Lampsilis streckeri</i>         | G1Q, S1             | 80                  |              |
| Western fanshell     | <i>Cyprogenia aberti</i>           | G2, S2              | 57                  |              |
| Purple lilliput      | <i>Toxolasma lividus</i>           | G2, S2              | 57                  |              |
| Pyramid pigtoe       | <i>Pleurobema rubrum</i>           | G2, S2              | 46                  |              |
| Rabbitsfoot          | <i>Quadrula cylindrica</i>         | G3, S2              | 38                  |              |
| Ozark Pigtoe         | <i>Fusconaia ozarkensis</i>        | G3, S3              | 27                  |              |
| Ouachita kidneyshell | <i>Ptychobranchus occidentalis</i> | G3G4, S3            | 23                  |              |
| Pondhorn             | <i>Unionerus tetralasmus</i>       | G4, S2              | 23                  |              |
| Bleedingtooth Mussel | <i>Venustaconcha pleasii</i>       | G3G4, S3            | 23                  |              |
| Black sandshell      | <i>Ligumia recta</i>               | G5, S2              | 19                  |              |
| Elktoe               | <i>Alasmidonta marginata</i>       | G4, S3              | 19                  |              |
| Butterfly            | <i>Ellipsaria lineolata</i>        | G4, S3              | 19                  |              |
| Rainbow              | <i>Villosa iris</i>                | G5, S2S3            | 17                  |              |
| Little Spectaclecase | <i>Villosa lienosa</i>             | G5, S3              | 15                  |              |
| Purple Wartyback     | <i>Cyclonaias tuberculata</i>      | G5, S3?             | 15                  |              |
| Flutedshell          | <i>Lasmigona costata</i>           | G5, S3              | 15                  |              |
| Creeper              | <i>Strophitus undulatus</i>        | G5, S3              | 15                  |              |
| Crayfish             | <i>Cambarus causeyi</i>            | G1, S1              | 80                  | Crayfish     |

**Qualifications:**

Joy DeClerk has worked for The Nature Conservancy since April 2005, first as the Ouachita Rivers Project Manager and currently as the River Conservation Program Director where she directs and coordinates all aspects of the Arkansas Field Office River Conservation Strategy. DeClerk is a 2002 graduate of Hendrix College and double-majored in Economics and Business and Environmental Studies. In her current position she has focused her work on assessing sedimentation from various land uses and applying natural channel design restoration techniques to reduce sedimentation and restore habitat. DeClerk has completed trainings in Applied Fluvial Geomorphology, River Morphology and Applications, River Assessment and Monitoring, and Natural Channel Design from Wildland Hydrology. The most recent projects include the protection of critical habitat for the endangered Arkansas Darter through restoration of the Little Osage Creek, protecting the creek from eroding into and consuming Healing Springs in northwest Arkansas. Additional projects include a 1 mile restoration project on the Archey Fork Little Red River in Clinton, Arkansas and ½ mile stream restoration project on the Middle Fork Saline River, near Jessieville, AR, all designed and constructed by DeClerk. Other projects include: Assessment and improvement projects on unpaved roads in the Middle Fork Saline Watershed, in Garland County; and Development of a trail assessment and monitoring methodology for Best Management Practices on ATV trails in the Wolf Pen Gap Area, Ouachita Headwaters Watershed near Mena, Arkansas.

The Nature Conservancy – Arkansas Field Office (ARFO) has a proven track record in leveraging limited conservation dollars through collaborations with multiple partners toward measureable conservation successes. The ARFO rivers team has completed a series of successful stream restoration projects across the state over the past ten years including the following watersheds: Middle Fork Saline River, Kings River, Little Osage Creek, Archey Fork Little Red River, Middle Fork Little Red River, Bayou Deview, and Cache River. The team has completed BEHI river stability assessments on six streams. ARFO is a signed partner in the Safe Harbor Agreement and Candidate Conservation for the Upper Saline River, Caddo River, and Ouachita River headwaters along with US Fish Wildlife, Arkansas Game & Fish Commission, and Natural Resources Conservation Service.

