Increasing Private Landowner Enrollment in the Candidate Conservation Agreement with Assurances for the Benefit of Yellowcheek Darter (*Etheostoma moorei*) and other Species of Greatest Conservation Need in the Upper Little Red River Watershed, Arkansas

Project Summary

The proposed project will directly address two 2008 AWAP implementation priorities for *Etheostoma moorei* and the upper Little Red River watershed by enrolling private land owners in the new Candidate Conservation Agreement with Assurances (CCAA) and pursuing additional funding to implement priority conservation actions on their properties The yellowcheek darter has the highest priority ranking of all aquatic species of greatest conservation need in the Boston Mountains ecoregion.

Project Leader

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The total cost of this project will be $29,520

The Nature Conservancy respectfully requests $14,760 to complete this project and will provide the remaining $14,760 as match (50%).

Background

The yellowcheek darter is an endemic species found only in the four headwater streams of the Little Red River (Middle Fork, South Fork, Archey Fork, and Turkey/Beech/Devils Fork complex) above Greer's Ferry Lake (Ecobasin: Boston Mountains – White River). The upper Little Red River watershed consists of 558,615 acres in the Arkansas counties of Cleburne, Pope, Searcy, Stone and Van Buren. There are approximately 331 individuals, corporations, or entities that collectively own approximately 87,000 acres directly adjacent to the streams.

Due to recent population declines, isolation, and fragmentation, the US Fish and Wildlife Service (USFWS) designated the yellowcheek darter (*Etheostoma moorei*) as a candidate species for addition to the Federal List of Endangered and Threatened Wildlife in 2001. The yellowcheek darter is also ranked as the number one species of greatest conservation need in the Arkansas State Wildlife Action Plan for the Boston Mountains ecoregion. The historic range included the main stem Little Red River and the four forks. The historic range has been impacted by the construction of Greer's Ferry Reservoir and channel alterations in the Archey and South Forks. Historic population sizes were estimated at 36,000 for Middle Fork, 14,000 for South Fork, 5,000 for Archey Fork, and 5,000 for the Turkey Fork, with all four drainages collectively supporting a population of about 60,000 individuals. More recent population estimates (2001) totaled approximately 10,000 individuals remaining in three streams: Middle, South, and Archey forks with no individuals collected from the Turkey Fork.

Based on a 2004/2005 threats assessment conducted by the USFWS and several recent studies, gravel mining, unrestricted cattle access into streams, water withdrawal for agricultural and recreational purposes such as golf courses, lack of adequate riparian buffers, construction and maintenance of county roads, and non-point source pollution arising from a broad array of activities appear to be degrading suitable habitat for the species. Channelization of the lower Archey and South Forks has degraded habitat downstream and upstream of the project area. Further, the construction of Greer's Ferry Reservoir has resulted in the permanent loss of habitat due to inundation and cold-water releases from the dam.

Eroding stream banks are depositing sediment in downstream reaches resulting in a reduction of habitat quantity and quality. Thirty-five eroding stream banks have been identified in the Middle Fork, 14 along the South Fork, six along Archey Fork, and one along the Beech Fork. Unrestricted cattle access in the Middle and South Forks also threatens to degrade water quality and habitat.

Current Conservation Efforts

In early 2005, a multi-agency team developed the *Conservation Strategy for the Speckled Pocketbook and Yellowcheek Darter* to aid in the implementation of proactive land conservation measures, standards, and guidelines that will help to ensure that viable populations of yellowcheek darter are maintained. This was the first step in a watershed level approach to restore stream habitat in the entire upper Little Red River watershed for yellowcheek darter. The strategy identifies eight major conservation actions, time frames, and responsible partners to undertake the actions for conservation of the yellowcheek darter. In addition to protection of the yellowcheek darter, the strategy also identified conservation measures to protect the federally endangered speckled pocketbook mussel (*Lampsilis streckeri*).

In order to implement the conservation strategy, the USFWS, Arkansas Game and Fish Commission (AGFC), The Nature Conservancy (TNC), and The Natural Resources Conservation Service (NRCS) created a joint programmatic Safe Harbor Agreement (SHA) and Candidate Conservation Agreement with Assurances (CCAA) for the upper Little Red River watershed. These agreements went into action in March of 2007. They are the first such aquatic agreements of their kind to be used by the USFWS and will serve as a national template. The purpose of the CCAA portion of this agreement is to provide a mechanism for implementing the conservation strategy through monitoring and management for

yellowcheek darter and to encourage voluntary yellowcheek darter habitat maintenance and enhancement by landowners who enroll under this CCAA.

Under the CCAA, enrolled landowners voluntarily implement conservation measures to biologically benefit the yellowcheek darter over a ten to thirty year period. An enrolled landowner will agree to maintain, restore, enhance, and increase habitat in a suitable condition for this species. This CCAA will increase the amount of habitat available and improve water quality for yellowcheek darter and the ability of the USFWS, AGFC, TNC, and NRCS to monitor yellowcheek darter populations while giving assurances to landowners that future uses of their property will not be restricted by the presence of the species.

The enrollment of property into the CCAA requires several steps to be carried out by one or more of the signatory partners (USFWS, AGFC, TNC, NRCS), as well the subject landowner. The landowner must be consulted to ensure a clear understanding of the terms and conditions of enrollment. A Property Owner Management Agreement (POMA) must be developed to identify future conservation actions that would benefit the species. Potential conservation actions include controlling livestock access to streams, and protecting or restoring terrestrial and aquatic habitats. A map and description of the baseline conditions of the property at the time of enrollment must also be produced and included in the POMA.

Due to the extensive requirements for enrollment, USFWS has enrolled only three landowners since March of 2007. These include two private landowners and the Gulf Mountain Wildlife Management Area, which total 9,369 acres. The USFWS has verbal commitments from over ten individual and corporate landowners to enroll approximately 45,000 acres of land in the CCAA. For the long-term success of the CCAA and the yellowcheek darter, increased habitat protection and conservation actions must be applied at a broad scale throughout the watershed. Enrollment of current interested parties, as well as many others, is critical.

Property enrollment into the CCAA is a critical first step of implementation for protecting the yellowcheek darter and other important species in the upper Little Red River watershed because it demonstrates a long-term conservation commitment by enrolled landowners. Without the commitment of enrollment, the investment of conservation actions could be lost.

<u>Proposed Request for Funding</u>

This pre-proposal is a request for funding to TNC to assist implementation of the CCAA by working with landowners to enroll their properties in the CCAA. TNC will:

1) Identify priority landowners through previous threat assessment mapping efforts and USFWS list of interested parties.
2) Contact potential enrollees and provide consultation regarding the benefits, terms and conditions of enrollment
3) Work with interested landowners to develop POMA documents and maps.

Enrollment in the agreement is a significant first step in implementing conservation actions to project aquatic species. But enrollment alone does not provide funding to landowners to implement the proposed conservation actions on their properties. Therefore, TNC will:

4) Work with enrolled landowners and partner agencies to identify potential funding toward implementation of conservation actions described in the POMAs. TNC will work to secure funding from programs such as Wildlife Habitat Incentives Program (WHIP), Environmental Quality Incentives Program (EQIP), Private Stewardship Grant (PSG), Partners for Fish and Wildlife (PFW), other government programs, and funding from private sources.

Specifically, TNC will assist in the enrollment of at least five properties, totaling at least 10,000 acres. TNC will also secure at least $100,000 in additional funding for implementation of conservation actions on enrolled land during the period of this project.

TNC has already secured funding from several sources to assist enrolled landowners with implementation of proposed conservation actions. This include a PSG to stabilize an eroding streambank on an enrolled property, a State Wildlife Grant (SWG) to restrict cattle access to aquatic habitats, and a PFW grant to be allocated to various projects. These projects will serve as important demonstrations of implementation of activites identified in POMAs, but much greater implementation will be required on many properties throughout the watershed.

Funding Priorities

Funding priorities addressed by this pre-proposal include efforts to 3) restore and improve riparian buffers for Etheostoma moorei, 6) manage watershed, addressing physical, chemical, biological and landuse components, to restore or sustain aquatic life in the forks of the Little Red River. This project would also integration of the Arkansas Wildlife Action Plan priorities with other land-use or natural resource planning efforts (the SHA / CCAA, current PSG and PFW projects). This effort will provide a high profile, on-the-ground stewardship and restoration project that implements the priorities of the Arkansas Wildlife Action Plan and will serve as demonstration or model that may be replicated in other places. It will also publicize and raise the profile of the Arkansas Wildlife Action Plan with elected officials, decision and policy makers, interested parties, and the general public.

According to the Arkansas Wildlife Action Plan, the yellowcheek darter ranks first in aquatic species of greatest conservation need in the Boston Mountains ecoregion. The action plan identifies several conservation action categories to address threats in the defined area with three of the top four being habitat protection, habitat restoration/improvement, and threat abatement. All of these conservation actions would be addressed by the proposed activities for funding. The proposed project is will occur over a two-year period from July 2008 to June 2010.

Proposed Budget

	Direct Cost	TNC Match	Total Cost
Salary/Benefits	$ 10,000	$ 10,000	$ 20,000
Operating Expenses	$ 2,000	$ 2,000	$ 4,000
Capital Expenses	$ 0	$ 0	$ 0
Subtotal	$ 12,000	$ 12,000	$ 24,000
Indirects (23%)	$ 2,760	2,760	$ 5,520
Total	**$ 14,760**	**$ 14,760**	**$ 29,520**

Salary/Benefits: Project management, implementation over-site.
Operating Expenses: travel, communications
Capital Expenses: none.
Indirect Costs: The Nature Conservancy has a federal negotiated indirect cost rate (NICRA) of 23%, which is accepted by USFWS.

Total project value: $ 29,520.

Qualifications

Ethan Inlander has been applying geospatial technologies and physical sciences to conservation issues for over 12 years. He received his undergraduate and master's degrees from the Department of Geography at University of California Santa Barbara, the #1 geography program in the US (NRC, phds.org). His thesis topic was "An Integrated Methodology for the Mapping and Inventory of Riparian Areas in the Upper Santa Ynez Watershed, California ". Before joining The Nature Conservancy, Ethan applied geographical information systems technology to address multiple scale conservation problems in riparian and costal habitats of California. Since joining The Nature Conservancy, Ethan has applied these same techniques to identify and reduce impacts and habitat degradation to freshwater stream ecosystems, conduct local, watershed, and regional threat assessments of subterranean environments, and prioritize and implement karst and riverine conservation actions at multiple scales.

Chris Davidson received his B.S. in Fisheries and Wildlife Biology from Arkansas Tech University in 1995 and his M. S. in Aquatic Biology from Arkansas State University in 1997. His graduate research dealt with analyzing population/community structure, habitat preferences and age-growth of freshwater mussels in the Little Missouri and Saline Rivers and Blue Mountain, Ozark, and Dardanelle Reservoirs, Arkansas. Chris began his professional career with the University of Arkansas Cooperative Extension Service working with commercial catfish farms where on-farm trials were ongoing to verify the utility of research-based extension recommendations. Following a one year tenure with the U of A CES, he went to work for five years with the Arkansas Department of Environmental Quality as a stream ecologist focused primarily on aquatic macro-invertebrate and fish community assessments to assess water quality and habitat conditions, including development of the first ecoregion based aquatic macro-invertebrate indices of biological integrity for small and medium watersheds. He began his tenure with the U. S. Fish and Wildlife Service's Arkansas Ecological Services Field Office in 2003 as endangered species coordinator for the state. In this role, he is responsible for coordinating all ESA activities including listing actions, recovery planning and implementation, and Section 7 and 10 activities in the state. He recently developed the first programmatic joint Safe Harbor/Candidate Conservation Agreement with Assurances in the nation for two aquatic species.