

**Federal Assistance**

Recovery Land Acquisition: Non-Traditional Section 6 Grant

**E-12-RL-1**

May 1, 2008 – April 30, 2011

**Gray Bat and Niangua Darter Land Acquisition  
in Camden County, Missouri (Becker Property)**

Missouri Department of Conservation

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## WORK PLAN

### PLANNED ACTIVITIES

Acquire approximately 330 acres of the Becker property along the Little Niangua River in Camden County for the intended purpose of protecting and managing grey bat and Niangua darter habitat.

- 1) Complete Yellow Book Appraisal and Certified Appraisal Review
- 2) Approval by the MO Dept of Conservation Commission
- 3) Finalize contract and sale with landowner
- 4) Sale of house and ~34 adjacent acres
- 5) Establish boundary signs, conduct surveys
- 6) Development of Management Plan
- 7) Draft final report

### SCHEDULE

	May 2008- April 2009	May 2009- April 2010	May 2010- April 2011
Complete Yellow Book Appraisal and Review	X		
Approval by the MDC Commission	X		
Finalize Contract with landowner	X		
Sale of House and acres	X		
Establish Boundary Signs/conduct surveys	X	X	
Development of Management Plan		X	X
Complete Final Report			X

### ESTIMATED COSTS

Total Estimated Acquisition Cost (without the house and acres): \$610,000

FWS Match: \$223,940  
MDC Match: \$386,060

The only costs to be claimed will be the actual cost of purchase. No pre-agreement, realty, or management costs or staff time will be claimed under this grant. Entire state match is obtained from state budgeted land acquisition funds.

### ESTIMATED COSTS BY FAIMS CATEGORY

**FAIMS 3111** (ES Land Acquisition, Fee Title, Non-Wetland): \$610,000

## PROJECT STATEMENT

### NEED

A 364-acre property in Camden County (known as the Becker Property, Figure 1), where gray bats and Niangua darters are known to occur, has been offered to the Missouri Department of Conservation (MDC) for purchase. Unfortunately, the MDC Land Acquisition Budget has been drastically reduced these last few years, and is unlikely to increase in the foreseeable future; thereby making it difficult to purchase this property to protect these 2 state/federally listed species.

This tract has about 1 mile of frontage along the Little Niangua River (occupied Niangua darter habitat), and it also has two caves, one of which is an occupied Priority 2 gray bat maternity colony (Lower Burnt Mill Cave). The tract is between Fiery Fork Conservation Area and Mule Shoe Conservation Area (Figure 2), and within the Niangua Basin of the Fiery Fork Conservation Opportunity Area (as defined and identified in the Missouri Comprehensive Wildlife Strategy).

MDC has been monitoring the gray bat population in this cave and Niangua darters in this river for many years, and both habitats are high quality. Bat surveys conducted between 1978 and 2002 indicated an average estimate of 12,050 gray bats using the cave. A peak number of 30,600 gray bats were estimated to be using the cave in 1981. A survey conducted in May 2007, however, showed a drastic decline in the number of emerging bats. It is suspected this was due to vandalism and disturbance of the roost, since a recent fire and litter was evidenced in the cave. Because of this threat, construction of a bat gate to protect Lower Burnt Mill Cave has begun and is expected to be completed by April 30, 2008.

In addition to the gray bat cave, the area along the Little Niangua River supports one of the largest, and perhaps most secure, remaining populations of the Niangua darter. In 1998, five Niangua darters were found in and near the property boundary during a survey. Results of the June 2007 survey concluded that this stretch of the river has some of the highest densities and quality habitat on this river. Fifty-four individuals, some of them young of the year, were counted in two stream reaches totaling 462 m within the property boundary.

In addition to these species, some limited cave fauna and stream surveys have been conducted, and other state species of conservation concern are present, such as least darter (S2) and northern myotis (S3). A plant community survey conducted in July 2007 noted several high quality dolomite glades worthy of designation as Natural Areas, as well as two exceptional scenic views on top of the steep bluffs overlooking the Little Niangua River and valley.

Figure 3 is a map of the property depicting the location of these species and communities of conservation concern.

Maintaining this property in public ownership will ensure these unique and important features will be protected in perpetuity and directly contribute to the recovery of two federally listed species. Funds from the Recovery Land Acquisition Section 6 grant will ensure this protection.

## Gray Bat Recovery

The gray bat (*Myotis grisescens*) was one of the first species federally listed as endangered under the ESA in 1974. **Its federal Recovery Priority is 8** and it is also listed as state endangered. Human disturbance and vandalism are likely the primary reason for the decline. The gray bat is the only bat in Missouri that is cave dependent during all of its life cycles. Although it can range throughout much of Missouri, it is most common in the central and southern portions where caves are concentrated (Figure 4). While some individuals of this species may use the same cave throughout the year, many spend the winter in the caves found in the extreme southern part of Missouri but move as much as 200 miles north to caves in the spring.

The federal *Gray Bat Recovery Plan* (1982) lists protecting caves as the primary recovery action as stated on pg 20: "...Because gray bats roost almost exclusively in caves, a substantial measure of protection can be afforded the population if all or at least the more important of these caves are protected from adverse human disturbance or modification. In the majority of caves, this means that various governmental agencies and possibly private conservation organizations as well, must first acquire some degree of control over the cave...." There are two additional objectives in the federal recovery plan that specifically addresses cave and habitat protection as a primary objective to recovery: Objective 1.2.2.1: *Gain Control of Roost Site* (pg 17), and Objective 2.2: *Prevent Adverse Modifications to Foraging Areas and Travel Corridors* (pg 20).

Under the federal recovery plan, gray bats will be downlisted to threatened when there is documentation of permanent protection for 90% of the Priority 1 caves and delisted when 25% of the Priority 2 caves are permanently protected. In addition, populations must be stable or increasing in 25% of these caves. USFWS Region 3 has been assigned the task to review the status of the gray bat and potentially delist it in the next 2 years. **MDC's acquisition of Lower Burnt Mill Cave and the entire Becker Tract will contribute directly to each of these recovery objectives and the delisting of gray bats, as defined in the federal recovery plan, in the next 2 to 5 years.**

In addition to the federal recovery plan, the *Management Plan for the Indiana Bat and Gray Bat in Missouri* (1992) calls for seven additional gray bat caves to be acquired or leased by 2002. During this past ten year time period, only three caves were purchased and none were leased. The reason for not meeting the goals in the Missouri management plan has been lack of funds or lack of caves available for acquisition/lease/cooperative agreements.

## Niangua Darter Recovery

Niangua darters (*Etheostoma nianguae*) are endemic to eight watersheds in west central Missouri (Figure 5), and were listed as threatened in 1985 by the U.S. Fish and Wildlife Service (FWS) due to reservoir construction, increased sedimentation and nutrient enrichment from conversion of woodlands to pasture, and in-stream disturbances such as gravel mining and channelization. **Its federal Recovery Priority is 8** and it is listed as state endangered. Federal critical habitat has been designated, and although this tract is not directly within this designated area, it is downstream about 15 river miles. However, the property is within "state designated critical habitat that extends downstream to Fiery Fork.

In 1989, *A Recovery Plan for the Niangua Darter* (Pflieger 1989) was completed and the recovery team was assembled in 1991. MDC has been very active in the recovery team and recovery planning, with the Recovery Team Leader being an MDC staff member. In addition to our commitment to recovery planning, about 10 miles of occupied stream habitat is currently under the direct management of MDC. MDC has also worked with private landowners for more than a decade to restore streams by providing technical assistance and cost-share grants to stabilize streambanks, exclude livestock from streams, establish or enhance riparian corridors and provide alternative livestock watering systems.

The federal recovery plan calls for the eight known populations of Niangua darters to be stabilized and viable populations to be discovered or established in four additional stream drainages before the species can be delisted. To date, portions of six populations are protected under MDC's authority (including temporary contracts with landowners), but in order to reach the recovery goal, more restoration will be required. **Purchase of the Becker Property will protect one of the strongest populations in the Little Niangua River, thereby contributing directly to federal recovery goals for this Missouri endemic species**

Efforts toward recovery of gray bats and Niangua darters are listed as high priorities in the MDC FY08 Direction Statements for Fisheries and Wildlife divisions. Because MDC's current land acquisition budget is limited, the availability of the Recovery Land Acquisition Funds is very timely for the potential purchase of this land. The agency will not likely be able to fulfill the recovery objectives of these species unless outside funding is secured.

## **OBJECTIVE**

To acquire approximately 330 acres along the Little Niangua River in Camden County for the intended purpose of protecting and managing grey bat and Niangua darter habitat.

## **EXPECTED RESULTS OR BENEFITS**

### **Gray Bat**

The project will benefit gray bats by protecting a Priority 2 maternity cave. Recent declines of gray bats in caves from historic high numbers have been attributed to illegal trespass or other human disturbances in caves detrimental to bats. **By restricting or limiting public access to the cave, the population is expected to stabilize or even increase.**

By purchasing this tract, MDC will be able to not only protect the gray bats from human disturbance, but also manage much of the watershed above the cave system. This will ensure protection against surface runoff that could negatively affect the environmental condition and health of the cave. By reducing threats to the bats and their habitat, it is likely that the population will stabilize and hopefully increase, thereby addressing the recovery plan priorities concerning threats.

### **Niangua Darter**

The project will improve the status of Niangua darters and other native fishes by further protecting and enhancing a stable stream reach on the Little Niangua River. Within the stream

reach of the proposed land acquisition, riffle/pool complexes will become well established and change very little over long periods of time. Channels will become well-defined resulting in improved water flow and depth. Riffles will become stable and deter gravel deposition, particularly in critical spawning locations. This project will also benefit other important stream species. Therefore, **the end point will be a fully functional riparian corridor (at least 100 feet wide) with stabilized streambanks and gravel bars with established vegetation, thereby implementing Objective 3.4 in the Niangua Darter Recovery Plan: Enhance habitat on publicly controlled lands.** In addition, the project will impact wildlife resources, including gray bats, through improved habitat management on associated lands.

The Little Niangua River watershed is also the focus of related efforts to enhance stream habitats and protect populations of the Niangua darter and related stream fishes by replacing low water road/stream crossings with clear span structures to improve fish passage and reduce population fragmentation. Most recently, this includes a cooperative effort between Hickory County, FWS and MDC to re-establish fish passage through the replacement of the low-water crossing at Hickory County Road 96 on the Little Niangua River adjacent to Mule Shoe Conservation Area; and a second cooperative effort between Dallas County, FWS, FEMA, MDC and the Missouri Conservation Heritage Foundation to replace a low-water crossing on Thomas Creek, a major tributary to the Little Niangua River. Additionally, there is a third cooperative project between Hickory County, FWS, MDC and the Missouri Conservation Heritage Foundation currently in progress to replace another low-water crossing on Hickory County Road 200 on the Little Niangua River. Furthermore, a project to inventory and assess all low-water crossings within the Little Niangua River watershed is nearing completion. Information gained from this inventory has indicated there are three low-water crossings upstream of the Becker Property and one downstream (all in Camden County) that have some level of fish passage barriers associated with them. Therefore, replacement of these low-water crossings will be of high priority in the future. Since the recent 2007 Niangua darter surveys indicate relatively high densities along the Becker Property this fragmented or meta-population may be of crucial importance as a source to re-colonize suitable habitat after low-water crossing replacement projects have been completed.

### **Additional Ecosystem Benefits**

The Becker Property lies between two other properties owned by MDC, Fiery Fork Conservation Area and Mule Shoe Conservation Area (Figure 2). In addition, the property is within the Niangua Basin of Fiery Fork Conservation Opportunity Area, as defined in the MDC Comprehensive Wildlife Strategy.

Therefore, **permanent protection of this property further links these two existing public lands and contributes to biodiversity and ecosystem management in a high priority focus area, thereby ensuring protection of relatively large blocks of land from future development or subdivision. Working with landowners along the Little Niangua River to further secure land and promote best management practices will result in further protection of these species and connectivity between properties.**

## **APPROACH**

The focus of this grant will be acquisition of the Becker Property. The Department intends to acquire the entire property, including an established house and outbuildings; however, the house and some portion of the land (e.g., 34 acres) will be severed and sold separately, and the remaining acreage (approximately 330 acres without the house) will be the portion for which we will request reimbursement through this grant (Figure 6).

The Becker Property was originally purchased in 1975 by the current owners as an investment, hobby farm, and recreational partnership of several couples. They built a 2100 sq ft home in 1989 that has been occupied since; most recently by a renter. In addition, a small barn and 3 other outbuildings are clustered around the home. Approximately 40 acres are in improved pasture and 40 acres in old or current crop fields. The pasture has been lightly grazed by cattle but no spraying or chemicals have been allowed since purchased. The remaining 280 acres is forested, including about 40 acres (1/2 mile) of bottomland forests along the riparian area of the Little Niangua River. No timber has been cut except deadfalls. There are a few medium quality forest glades on the property, totaling less than 10 acres. The area to be sold by the Department is mostly the improved pasture and cropland.

Land acquisition activities will follow established state and federal policies and procedures. The property will be appraised following the Uniform Appraisal Standards for Federal Land Acquisitions. A negotiated contract describing terms and conditions of the sale will be developed and signed with the added contingency that Conservation Commission approval is required before the sale can be completed. The name of the property will be recommended during the Commission approval process, and after final approval, the entire property will be purchased using state land acquisition funds and the house and acreage will be surveyed and sold. Once the sale of the house and small acreage is complete, the remaining property will be encumbered with a federal interest as identified in the award letter and then recorded onto the deed. This property will be recorded as part of the Department's Lands Database.

Although not part of this grant, MDC will spend the next 2 years signing the boundaries of the property, and conducting detailed cave, stream, riparian corridor, and forest inventories to fully assess the natural resources of the property. It is possible that portions of the area will be considered for designation as a Natural Area. The need for and feasibility of public access to the property will be assessed and provided where it has no negative impact with the management of the gray bat and Niangua darter. We will begin drafting and implementing a long-term area plan that will include cave and stream restoration, glade restoration, and riparian corridor and forest management to improve the watershed. We will also begin developing partnerships with neighboring landowners, providing them with Best Management Plans for the target species as well as other resources, and offering technical assistance for management of their properties. The area management plan will be provided as part of the final report.

This property will be managed by the Central Region Forestry Division with assistance from other Divisions when appropriate. Cave management will be determined by MDC's Resource Science Division and eroding streambanks and gravel bars will be stabilized as recommended by MDC's Fisheries Division. Forest management and establishment or enhancement of riparian corridors will be implemented by MDC's Forestry Division. Any access development will be

coordinated by MDC's Design and Development Division.

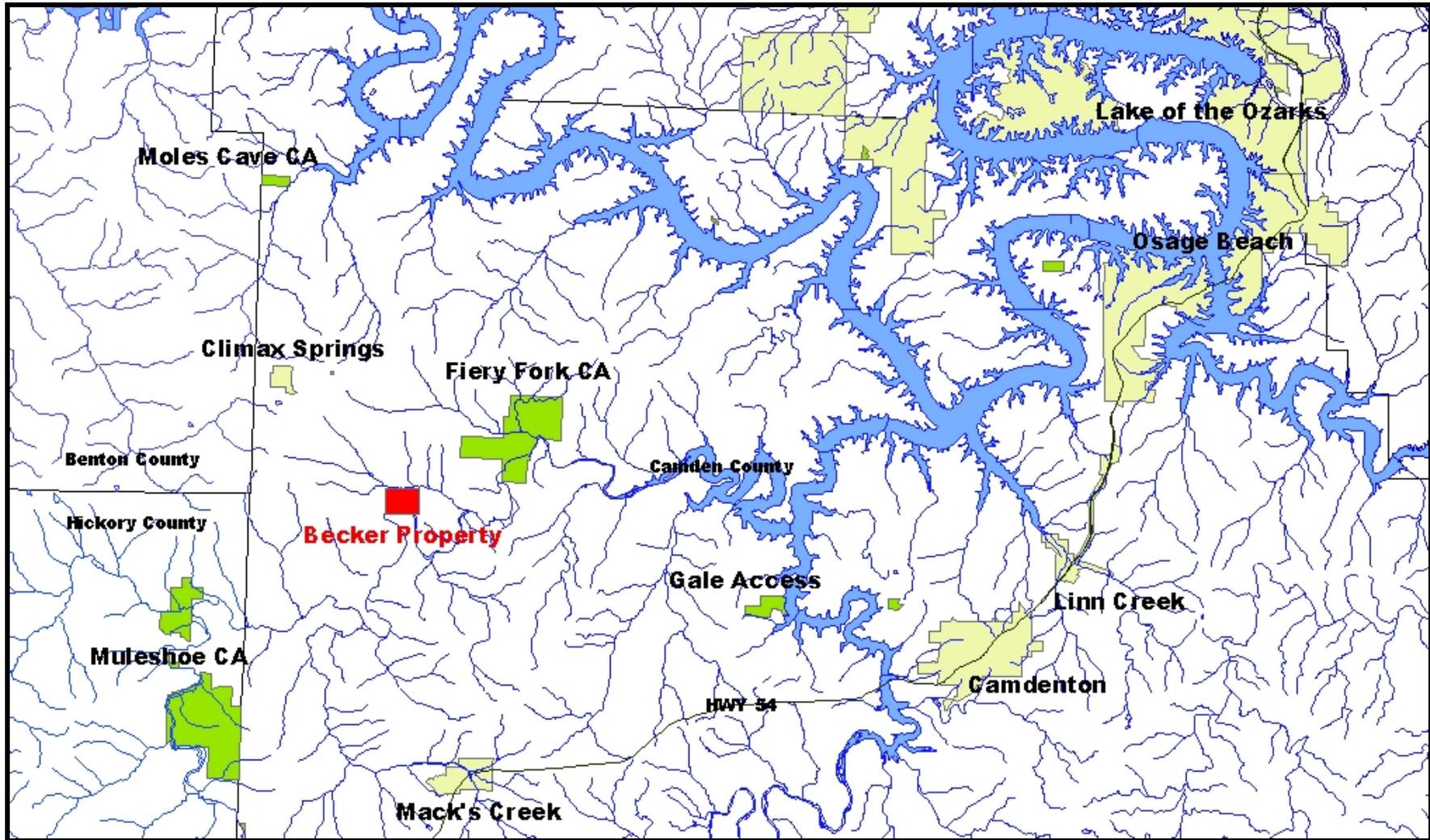
## **LOCATION AND DESCRIPTION**

The Becker Property is approximately 3 miles southeast of Climax Springs, Missouri (Figure 1) on County Road 7-23 along the Little Niangua River in Camden County, Missouri (T38N, R19W, Sec 3 and 10). The tract contains a total of approximately 364 acres, Upper Burnt Mill Cave, Lower Burnt Mill Cave and spring (landowner described a discharge of 1 million gallons per day), dolomite glades and associated dry chert woodlands, and 1.0 and 0.5 miles of stream frontage on Little Niangua River and Kolb Branch, respectively.

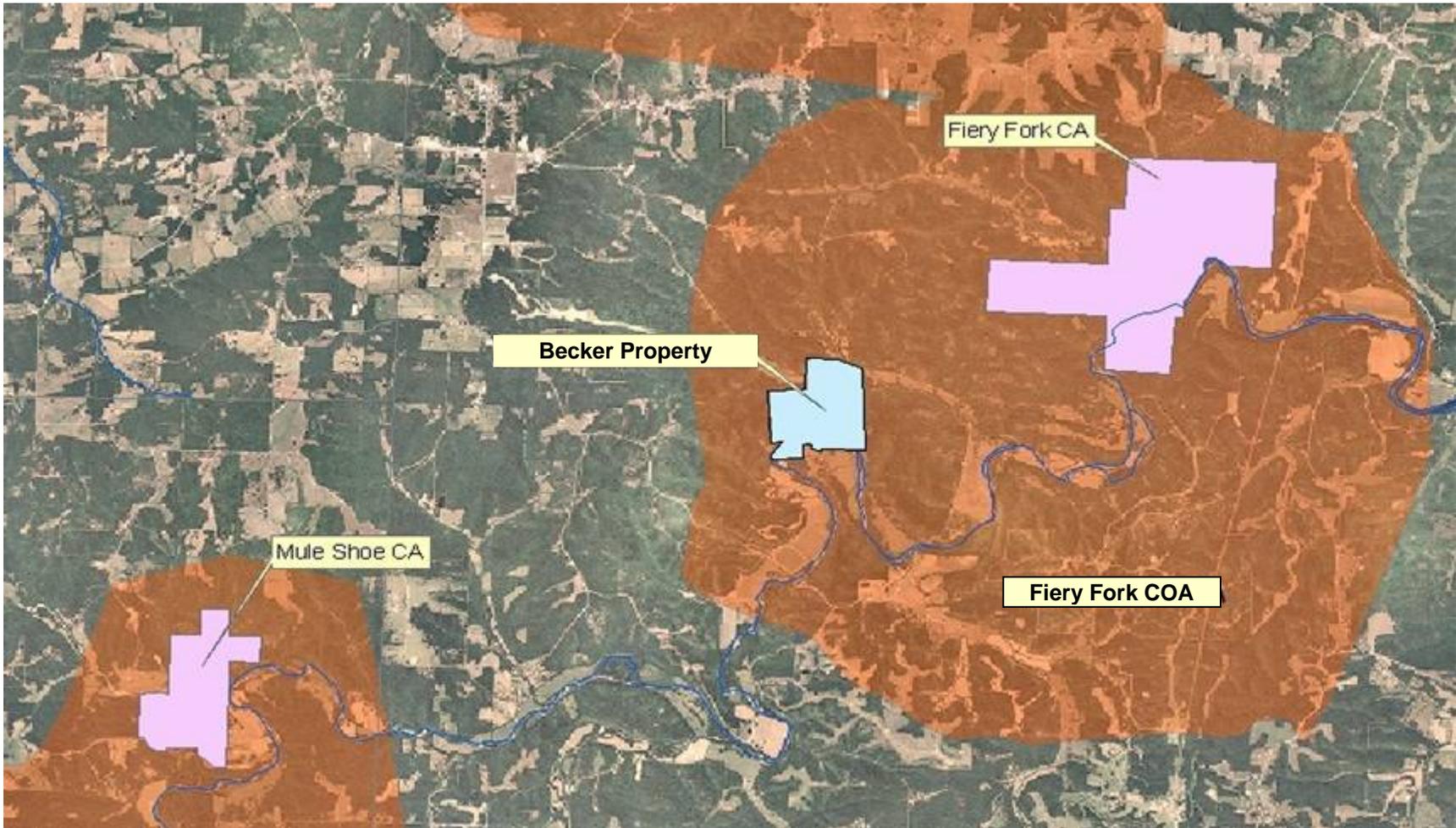
The northeastern part of the property also contains a house and four outbuildings. These structures and a small amount of acreage around it will be sold prior to reimbursement by Federal Assistance funds.



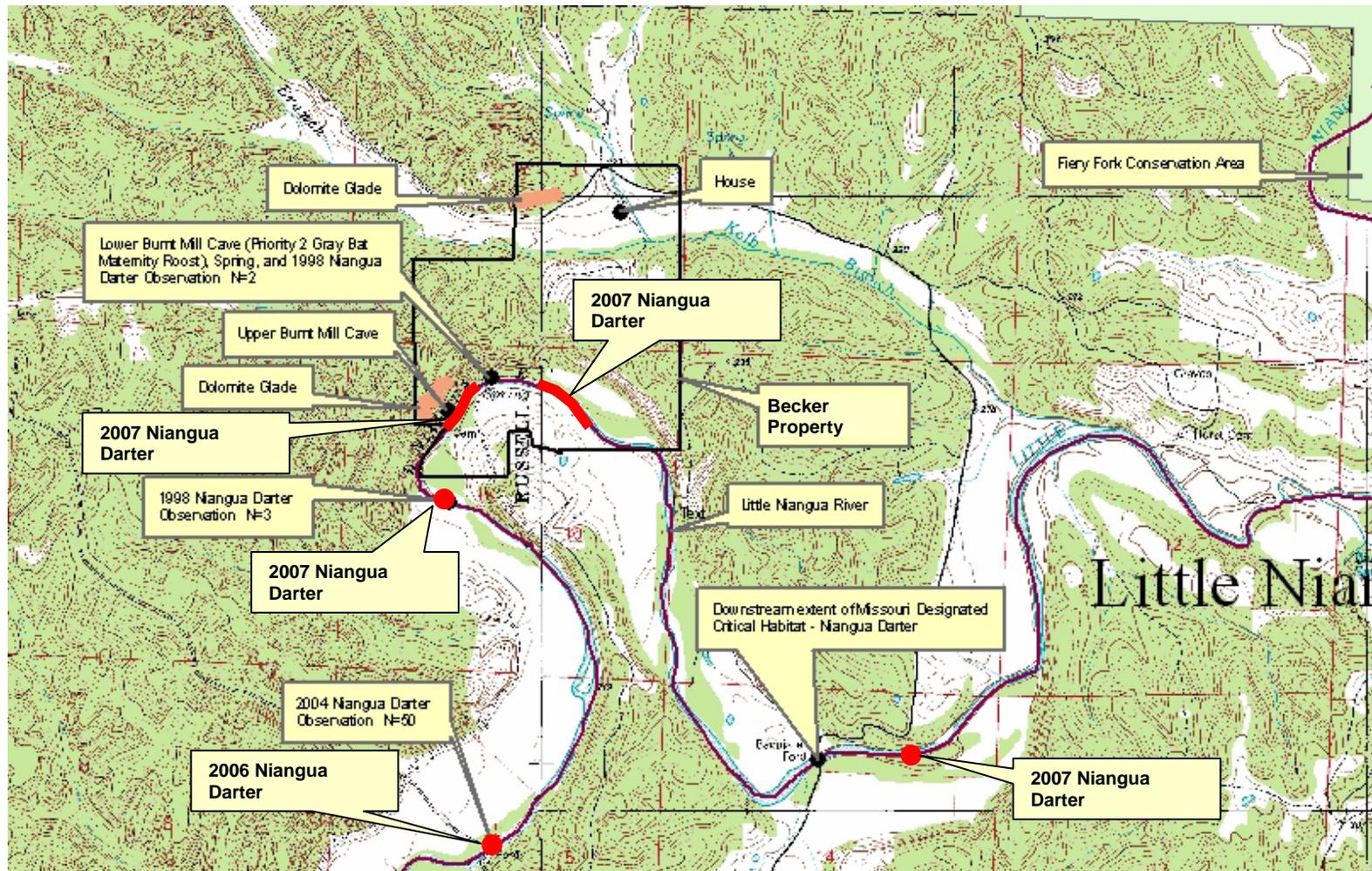
**Figure 1:** Location of Becker Property within Camden Co, Missouri



**Figure 2:** Becker Property in relation to MDC Conservation Areas (CA) and Conservation Opportunity Areas (COA)

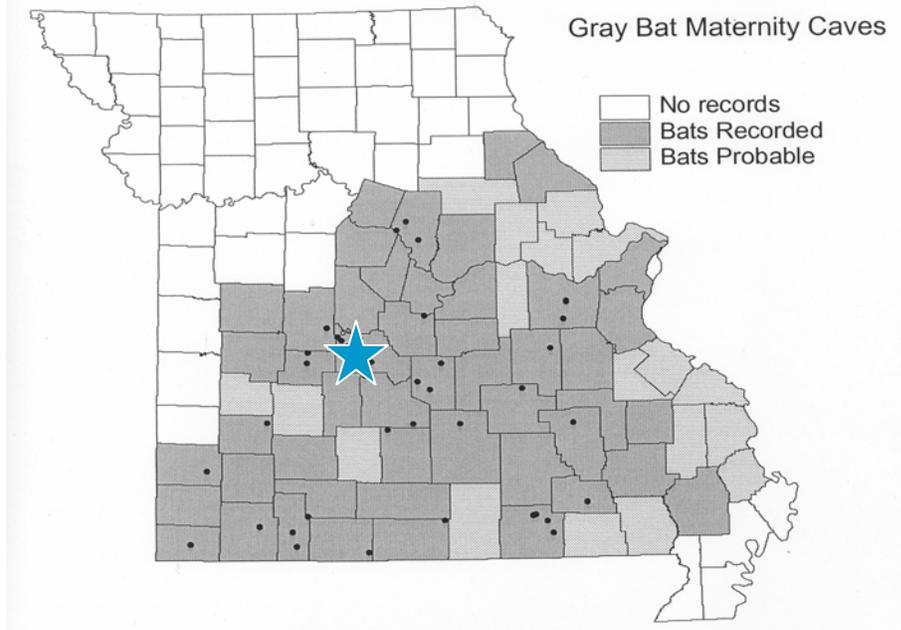


**Figure 3:** Locations of species and communities of special concern on the Becker Property

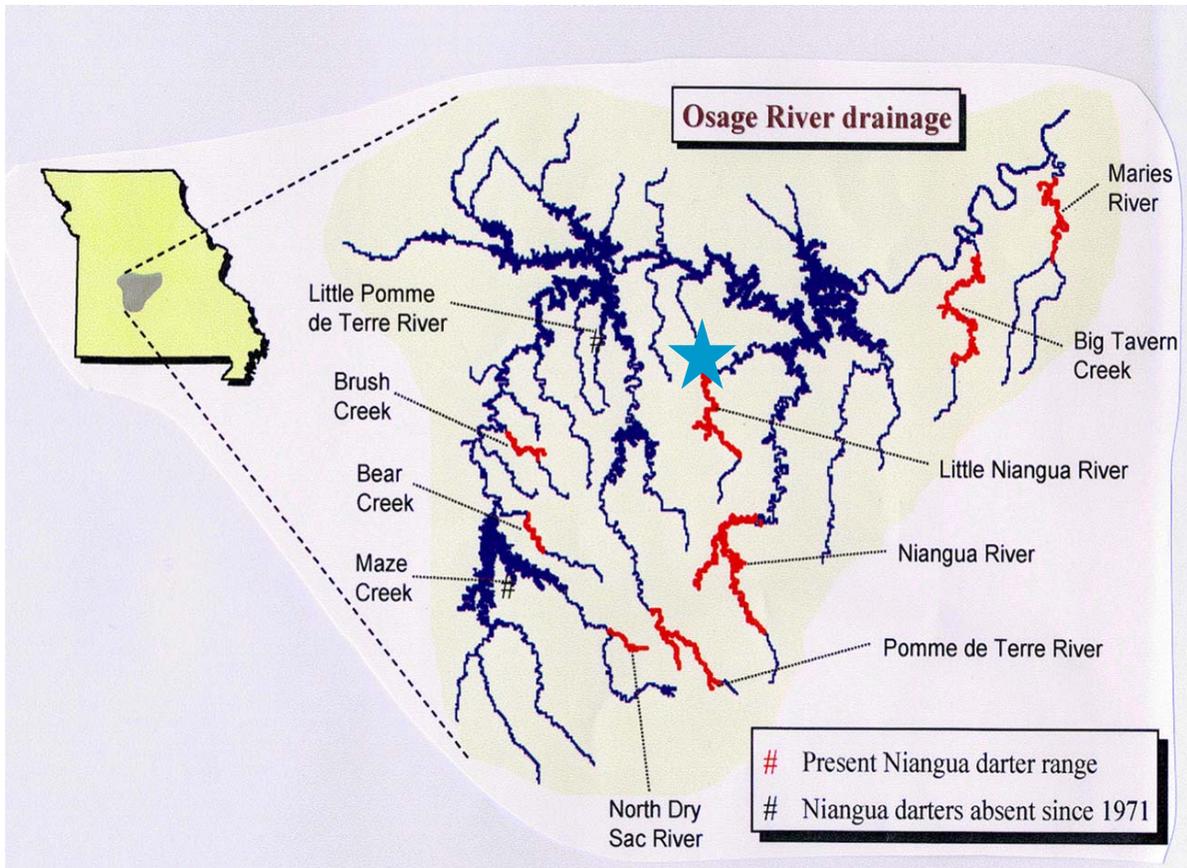


**Figure 4.** Gray bat maternity caves in Missouri.

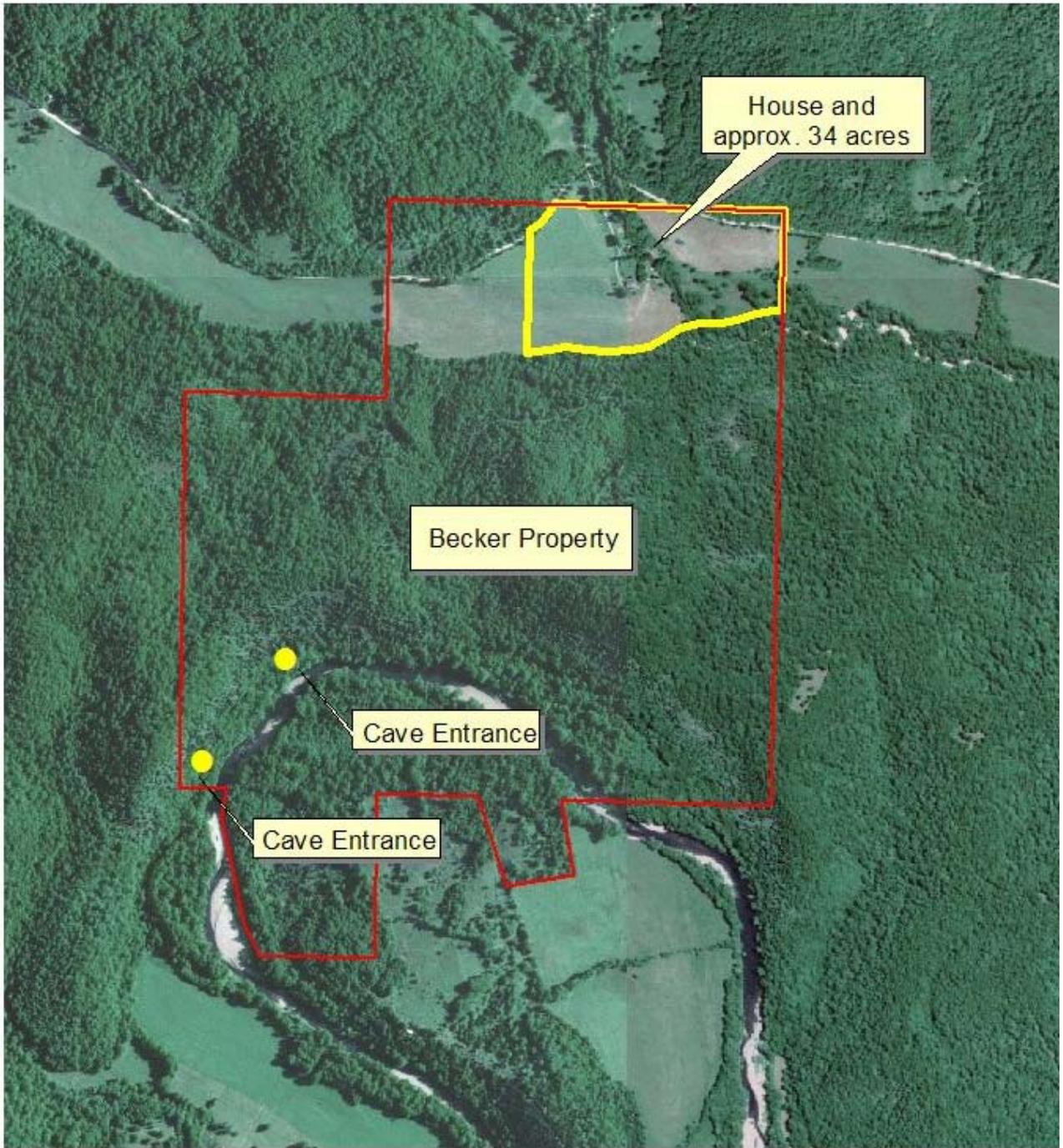
★ Becker Property



**Figure 5.** Niangua darter range in the Osage River Basin, Missouri.



**Figure 6:** Becker Property showing habitat structure and portion to be sold separately prior to encumbering this property under a federal interest.



0.3 0 0.3 0.6 Miles