



Environmental Assessment For Barber Quartz Prospecting Permit

Responsible Agency:
U.S. Forest Service
Ouachita National Forest
Mena Oden Ranger District

Responsible Official:
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INTRODUCTION

Purpose and Need for Action

The purpose of this action is to allow the extraction of quartz from the leased area as required by 43 CFR 3500 and the Reorganization Plan No. 3 of 1946. According to the Mining and Minerals Policy Act of 1970, it is the continuing policy of the federal government to foster and encourage private enterprises in the exploration, development and production of domestic mineral and energy resources. This action is needed because the permittee seeks approval for exploration activities and subsequent mining operations to remove quartz crystal from the tract.

Proposed Action

The Forest Service proposes to allow vegetation and soil removal for the purpose of quartz exploration and mining on a 21-acre, ten-year quartz preference rights lease in Section 7, T1N, R23W in Yell County, Arkansas.

Issues

The Forest Service identified two (internal) issues during scoping:

- Mining activities may reduce lands suitable for timber production.
- Mining activities resulting in top soil removal and stock piling may compromise soil productivity.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternatives

Alternative 1

The Proposed Action

The Forest Service proposes to allow vegetation and soil removal for the purpose of quartz exploration and mining on a 21-acre, ten-year quartz preference rights lease in Section 7, T1N, R23W in Yell County, Arkansas. Timber impacted by mining operation would be sold using the most appropriate method of disposal. Reclamation would include topsoil reapplication, reshaping the area to the natural contours of the surrounding terrain, fertilizing and revegetating with site-specific seed mixture, and replanting with seedlings until adequately stocked. Access would be provided via road extending off Hwy 27.

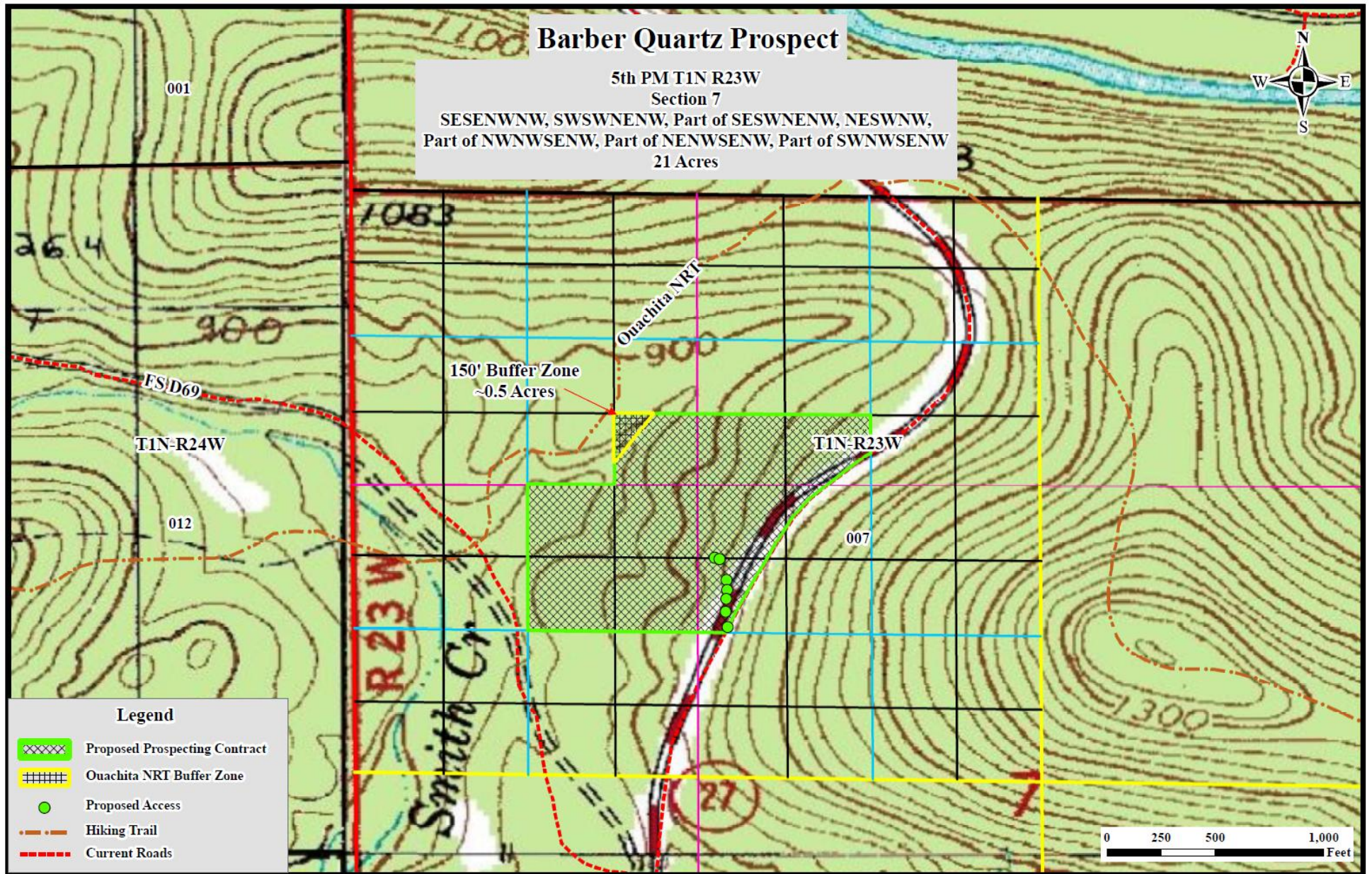


Figure 1. Proposed Action.

Project Design Criteria

The following measures are incorporated in the proposed action to reduce or avoid project-related impacts.

Management Area 9. Water and Riparian Communities Design Criteria

9.15: Common variety minerals operations (quartz minerals, gravel and building /landscaping stone) must be designed and implemented so that no mining or mining-related activity takes place within water and riparian areas (MA 9).

Appendix B – Minerals

Require appropriate mitigation and reclamation of environmental disturbance for all mineral exploration and development proposals to achieve the planned uses specified in the Forest Plan, when those lands are no longer needed for mineral operations. Reduce environmental effects from past mineral-related activity. (Revised Forest Plan, p. 155)

ENVIRONMENTAL CONSEQUENCES

Project Issue Effects

Issue: Mining activities may reduce lands suitable for timber production.

The 21-acre lease area is comprised of mature shortleaf pine forest type with an approximate 102 basal area per acre, totaling approximately 500 ccf of timber volume. This lease may be renewed every ten years into perpetuity, taking this area out of timber production. The NFS Land Class would be changed to 240, an unsuitable land class; this acreage would no longer be part of the suitable land base; it would be reduced by 21 acres.

Issue: Mining activities resulting in top soil removal and stockpiling may compromise soil productivity.

The depth of the stockpile and the length of time it is stored affect the quality of the soil at replacement (Strohmayr, 1999). In order to retain soil productivity, topsoil should be stockpiled for as short a time period as possible, and topsoil piles should be as shallow as possible. Since the contracted area would be classified as unsuitable, soil productivity would no longer be a concern for timber production.

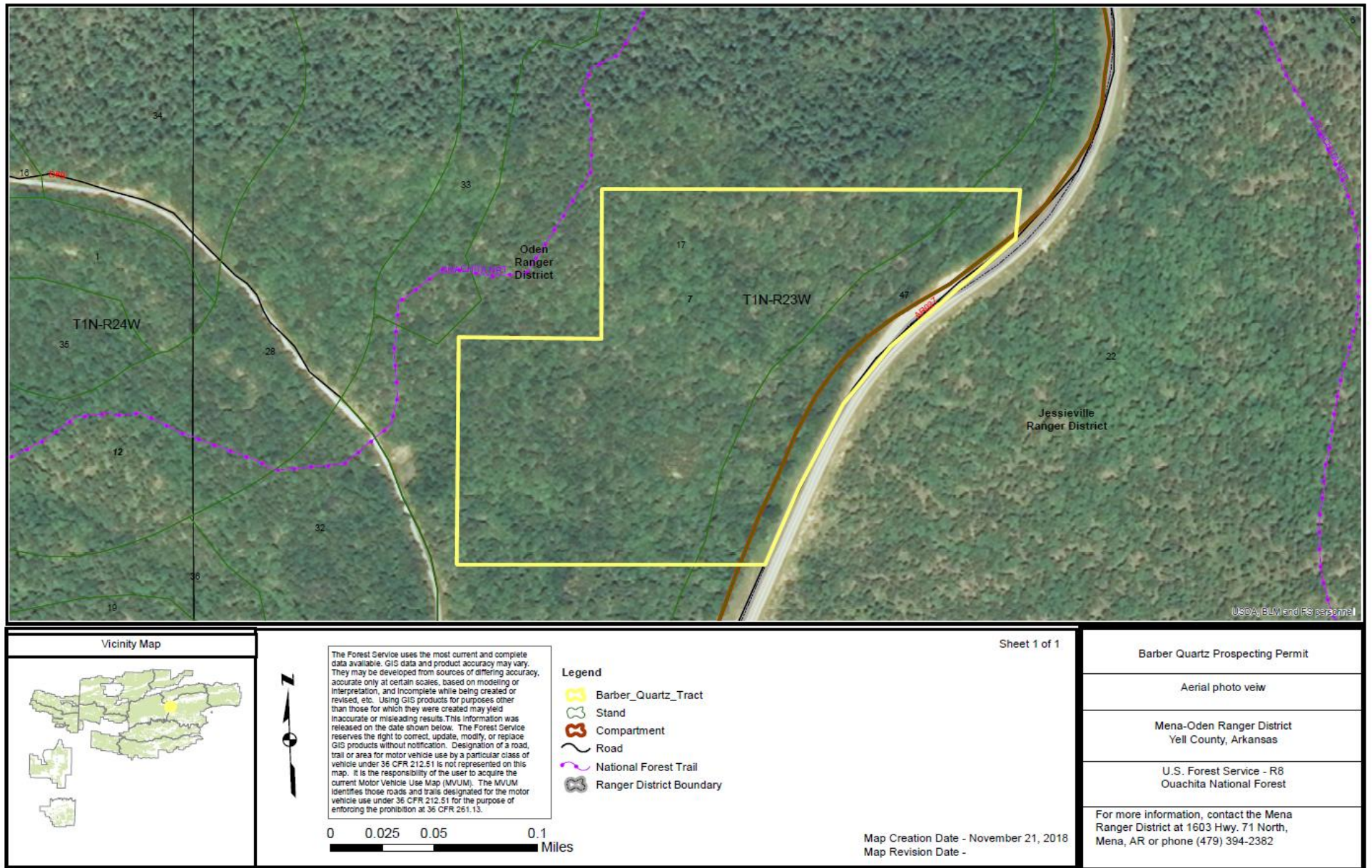


Figure 2. Aerial view of lease area showing mining activity and forest vegetation.

Cultural and Historical Resources

A total area of 21 acres was surveyed leading to the identification of one archeological site. The proposed action would have no effect on historic properties or cause loss or destruction of cultural resources.

Public Health or Safety

Public health and safety lease stipulations would be adhered to by the lessee, including installation of fencing material and hazard warning signs around vertical walls (“high-walls”) to block free access to the edge of hazardous working faces.

Management Indicator Species (MIS) and Habitat

The entire list of 24 MIS was reviewed and a subset of 12 was selected for this project as shown in the table below.

| Life Form | Scientific Name | Common Name | Primary Reason for Selection <i>To help indicate effects of management</i> |
|------------------|-------------------------------|----------------------|--|
| Mammal | <i>Odocoileus virginianus</i> | White-tailed deer | Meeting public hunting demand |
| Bird | <i>Colinus virginianus</i> | Northern Bobwhite | Meeting public hunting demand, and the pine-oak woodland community |
| Bird | <i>Dendroica discolor</i> | Prairie Warbler | The early successional component of forest communities |
| Bird | <i>Meleagris gallopavo</i> | Eastern Wild Turkey | Meeting public hunting demand |
| Bird | <i>Dryocopus pileatus</i> | Pileated Woodpecker | Snags and snag-dependent species |
| Bird | <i>Piranga olivacea</i> | Scarlet Tanager | Mature forest communities |
| Fish | <i>Campostoma spadiceum</i> | Highland stoneroller | Aquatic habitat and water quality in streams within the Ouachita Mountain Ecoregion |
| Fish | <i>Etheostoma radiosum</i> | Orangebelly darter | |
| Fish | <i>Fundulus catenatus</i> | Northern studfish | |
| Fish | <i>Lepomis cyanellus</i> | Green sunfish | |
| Fish | <i>Lepomis megalotis</i> | Longear sunfish | |
| Fish | <i>Luxilus chrysocephalus</i> | Striped shiner | |

All species of mammals and birds that occur within the project area during activities would be disturbed. If activities take place during nesting season, nests could be destroyed.

Removing the timber for the mine site would result in a loss of mature forest habitat but an increase of the same in early seral habitat, through obliteration/reclamation of the mining area. This change in habitat would negatively impact the Pileated Woodpecker and Scarlet Tanager via reduction of mature growth; however, it would positively impact habitat for white-tailed deer, Northern Bobwhite, Prairie Warbler, and Eastern Wild Turkey via early seral habitat. Disturbance from noise and general human activity would impact the species during mining activities.

During the implementation phase of the project, sediment could enter the stream, negatively impacting water quality and aquatic habitat for fish species; however Revised Forest Plan design criteria for Management Area 9 would be applied, and no mining would occur within at least 30 feet from the streams.

Once the mining and reclamation is completed, erosion from the access road and mine would be reduced, lessening potential adverse impacts to water quality, and aquatic habitat would be improved. Natural vegetation would begin and continue, in various stages of succession.

Proposed, Threatened, Endangered, and Sensitive Species

Five species were evaluated in a Biological Assessment/Biological Evaluation for this project (BA/BE, December 14, 2018) and are listed in the table below.

| Life Form | Scientific Name | Common Name | Status |
|----------------|--|-------------------------|------------|
| Mammal | <i>Myotis septentrionalis</i> | Northern long-eared bat | Threatened |
| Mammal | <i>Perimyotis subflavus</i> | Tricoloured bat | Sensitive |
| Insect | <i>Danaus plexippus</i> | Monarch butterfly | Sensitive |
| Vascular Plant | <i>Castanea pumila</i> var. <i>ozarkensis</i> | Ozark chinquapin | Sensitive |

This project is likely to adversely affect the northern long-eared bat; however, there are no effects beyond those previously disclosed in the programmatic biological opinion on implementing the final 4(d) rule dated January 5, 2016, signed by Lynn Lewis. Any taking that may occur incidental to this project is not prohibited under the final 4(d) rule (50 CFR §17.40(o)). This project is consistent with the forest plan, the description of the proposed action in the programmatic biological opinion, and activities that do not require special exemption from taking prohibitions applicable to the northern long-eared bat; therefore, the programmatic biological opinion satisfies the Forest Service's responsibilities under ESA section 7 (a)(2) relative to the northern long-eared bat for this project (Biological Evaluation, pages 9 and 10).

This project may impact individuals, but is not likely to cause a trend to federal listing or loss of viability for the sensitive tricoloured bat, Monarch butterfly and Ozark chinquapin (Biological Evaluation pages 9 and 10).

Unique Characteristics of the Geographic Area

There are no park lands, prime farmlands, wetlands, roadless areas, wild and scenic rivers, wilderness, or ecologically critical areas to be affected. The closest wild and scenic river is approximately nine miles to the southwest. The closest wilderness area is approximately 21 miles to the northwest. The closest inventoried roadless area is approximately 27 miles to the east. The effects on historic and cultural resources are disclosed on page three.

Quality of the Human Environment

The effects of the proposed activities are not known to be controversial in the scientific community.

Uncertainty

There are no effects that are highly uncertain or involve unique or unknown risks. The project is not unique or unusual. The Forest Service has experience implementing similar actions in similar areas. The environmental effects to the human environment are analyzed in this EA.

Precedent for Future Actions

This project neither establishes a precedent nor represents a subsequent decision in principle about future actions. Road reconstruction has been occurring for many years. A decision to construct an access road would not limit later resource management decisions.

Cumulative Effects

The spatial bounds of effects from this project are the 21-acres of ground impacted by quartz exploration and mining activities, and the area abutting the lease impacted by other projects. Past and reasonably foreseeable future (approved) actions include ecosystem prescribed burns and timber harvests authorized under the West Chula Environmental Assessment (November 2017) and the East Chula Environmental Assessment (September 2018). Wildlife habitat restoration activities are planned as part of the Muddy Creek Stewardship (November 2018). Connected ongoing and future actions include site preparation, seedling release, and pre-commercial thinning.

The effects from prescribed burning and timber harvest authorized under the Chula decisions would be the same as those described for this project and would be additive. For example, the seed tree regeneration harvest would change 40 acres of mature forest to early seral habitat; smoke from prescribed burning and disturb wildlife present in the area; heavy equipment used during operations could disturb or destroy nests.

Federal, State, or Local Laws

The proposed actions would not violate any known Federal, State, or local law or requirement imposed for the protection of the environment. They are consistent with the Revised Forest Plan and applicable policies and programs.

CONSULTATION AND COORDINATION

Coordination

| | |
|-----------------------|---------------------------|
| Andrew McCormick | Forest Geologist |
| Russell Standingwater | Other Resources Assistant |
| Jade Ryles | Natural Resource Manager |
| Rusty Olgesby | Engineering Technician |
| Mitzi Cole | Wildlife Biologist |
| Morgan Issacs | Archeologist |
| Jody Whitaker | Archeological Technician |
| Ed Spence | Timber Sale Administrator |
| Chris Morgan | Silviculturist |

Consultation

US Fish & Wildlife Service
State Historic Preservation Office
Quapaw Tribe of Oklahoma
Caddo Nation of Oklahoma
The Osage Nation
The Choctaw Nation of Oklahoma
The Chickasaw Nation