



National Park Service  
U.S. Department of the Interior  
**Buffalo National River**  
Harrison, Arkansas

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## **Plant Gathering for Traditional Purposes**

### **Environmental Assessment**

**DRAFT June 11, 2019**

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## PURPOSE AND NEED

### Purpose and Need for Action

The National Park Service (NPS) is proposing to enter into an agreement with the Cherokee Nation to approve the gathering of plant parts, to include plants and plant parts from 76 species (Appendix A), herein after referred to as “target species,” per 36 CFR 2.6, *Gathering of Certain Plants or Plant Parts by Federally Recognized Indian Tribes for Traditional Purposes*. The NPS has a long-standing and unique relationship with the Cherokee Nation and other affiliated federally recognized Indian tribes through a shared commitment to stewardship of the land and resources. Many American Indian tribes have traditional associations with lands that predate the establishment of NPS units. These associations are through customary activities rooted in the traditions and history of the tribe and important to tribes’ distinct culture. Some traditional associations include gathering or harvesting plants or plant parts for traditional purposes.

The August 2016 NPS rule, *Gathering of Certain Plants or Plant Parts by Federally Recognized Indian Tribes for Traditional Purposes* (36 CFR 2.6) has provided clarification on this issue. This rule indicates that removing or disturbing plants or plant parts is prohibited, except when an established management framework for gathering certain plants or plant parts by federally recognized tribes for traditional purposes has been fully analyzed. The rule explicitly prohibits all plant gathering unless specifically authorized by federal statute, treaty rights, existing CFR, or the terms and conditions of an agreement and permit issued under this rule.

To align with the rule, the Cherokee Nation has requested to begin traditional harvesting of plant materials (Appendix B) under an agreement with Buffalo National River (BNR). The rule requires the activities to be outlined in an agreement and analyzed in an Environmental Assessment (EA). This EA details the anticipated impacts of traditional gathering activities on park resources.

The rule stipulates that American Indian Tribes must formally request access for gathering plant materials. The request must contain three elements:

- 1) An explanation of the traditional association and how it predates the park;
- 2) An explanation of the traditional purposes to which the gathering activity will relate;
- 3) A description of the gathering activity the tribe wants to conduct.

The Cherokee Nation’s formal request to begin the traditional harvest of target species, under an agreement, includes sufficient information to meet the NPS rule’s requirements. The impacts of these proposed activities are analyzed within this EA.

WITH REDACTIONS

REDACTED

**Figure 1.** Map showing plant collection areas within Buffalo National River.

### Traditional Plant Harvest Activity Description

The preliminary draft report, “BUFF Ethnobotany and Traditional Ecological Knowledge at Buffalo National River, Arkansas” (Stouffle 2017) describes in detail the historical association of the Cherokee Nation with the Buffalo River area and provides summaries of scoping visits to the park, as well as a comprehensive discussion of target species, including relevant plants, plant parts, and projected quantities to be collected. At that time two potential collections sites were under consideration: [REDACTED]. Since that time two additional areas, [REDACTED], have been added to both provide more opportunities for collection and to disperse collection throughout the park (Figure 1).

Chapter Five (Stouffle 2017) details the topics of seasonality of collection, collection volume (handful, bucket full, bushel basket, more), plant use and volume, craft production, plant parts collected, and plant sustainability.

### Relationship to Other Plans and Policies

Current plans and policy related to the management of park resources are consistent with the activities outlined in this document including:

- **NPS Organic Act of 1916 (Title 16 of U.S. Code, Ch. 1)** states: *“The service thus established shall promote and regulate the use of the Federal areas, known as national parks, monuments, and reservations....by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.”* The Act was reaffirmed by Congress in 1970 in 16 USC 1a-1 “General Authorities Act,” which added specific guidance, particularly regarding leaving park resources unimpaired.
- **NPS Management Policies –**
  - **5.3.5.3.2 - Sacred Sites** states: *“The National Park Service acknowledges that American Indian tribes, including Native Alaskans, treat specific places containing certain natural and cultural resources as sacred places having established religious meaning and as locales of private ceremonial activities. Consistent with Executive Order 13007 (Indian Sacred Sites), the Service will, to the extent practicable, accommodate access to and ceremonial use of Indian sacred sites by religious practitioners from recognized American Indian tribes and Alaska Natives, and avoid adversely affecting the physical integrity of such sacred sites.”*
  - **8.5 - Use by American Indians and Other Traditionally Associated Groups** states: *“The National Park Service will develop and implement its programs in a manner that reflects knowledge of and respect for the cultures of American Indian tribes or groups with demonstrated ancestral ties to particular resources in parks.”*

**WITH REDACTIONS**

- **8.8 - Collecting Natural Products** states: *“The collection of natural products for personal use or consumption is governed by NPS general regulations contained in 36 CFR 2.1 and 36 CFR Part 13. A superintendent may designate certain fruits, berries, nuts, or unoccupied seashells that can be gathered by hand for personal use or consumption upon a written determination by the superintendent that such an activity will not adversely affect park wildlife or the reproductive potential of a plant species or otherwise adversely affect park resources.”*
- **36 CFR 2.1 Preservation of natural, cultural, and archeological resources (c)(1)** states: *“The superintendent may designate certain fruits, berries, nuts, or unoccupied seashells which may be gathered by hand for personal use or consumption upon a written determination that the gathering or consumption will not adversely affect park wildlife, the reproductive potential of a plant species, or otherwise adversely affect park resources.”*

Buffalo National River Superintendent’s Compendium (2017) cites 36 CFR 2.1(c)(1), (c)(2) and states: **The following fruits, nuts, berries or unoccupied seashells may be gathered by hand for personal use or consumption, in accordance with the noted size, quantity, collection sites and/or use or consumption restrictions:**

- Edible species of fruits, nuts, mushrooms, and berries may be gathered by hand for daily personal consumption. Collection for commercial purposes is prohibited.

*The Superintendent has determined reasonable quantities of fruits, berries, or nuts of all edible species may be gathered for personal use or consumption. Based on professional judgment and available information, the Superintendent has determined that gathering the fruits, nuts, mushrooms, or berries of edible plants within Buffalo National River boundaries for personal use will not adversely affect park wildlife, the reproductive potential of any of those species, or otherwise adversely affect park resources. It is not expected that large numbers of people will gather edible fruits, nuts, mushrooms, and berries in the park. In addition, there are many open and forested areas adjacent to the park which has better access and in some cases, more abundant edible plants. No rare, threatened or endangered plants are included in this listing.*

### **Impact Topics Retained for Further Analysis**

Impact topics are the resources or issues of concern that could be impacted by the range of alternatives. NPS specialists used federal laws, regulations, management policies, and scoping results to identify the impact topics retained for further analysis. Impact topics are organized to facilitate the analysis of environmental consequences and allow for a standard comparison between alternatives based on the most relevant information. One topic is carried forward for further analysis in this EA: Collection of target species.

**WITH REDACTIONS****Impact Topics Dismissed from Further Analysis**

The following topics are dismissed from further analysis in this EA:

**Archeological Resources and Cultural Landscapes**

BNR's archeological resources reflect the region's long history of human presence, and reveal the changing human relationship with the landscape. Approximately 25% of BNR has been formally surveyed for archeological sites, and 423 sites (both prehistoric and historic) have been recorded. Archeological sites found in BNR can be broadly categorized as prehistoric or historic. The cultural sequence of this region spans a wide range of time from the earliest occupation to the time of European settlement in the early nineteenth century. This sequence is divided into two areas: prehistoric and historic. The prehistoric period is divided into smaller periods: Paleoindian, Dalton, Archaic, Woodland, Mississippian, and Protohistoric or Contact. Historic resources are found dating from the mid nineteenth century up to the time the park was created. These primarily reflect early homesteading and mining.

All four collection areas are considered part of historic landscapes. Sixty-eight sites have been recorded in the four collection areas; fifty-four of them are possibly eligible or listed on the National Register of Historic Places.

[REDACTED]

[REDACTED]

WITH REDACTIONS



Figure 2. [REDACTED] Plant Collection Area.



Figure 3. [REDACTED] Plant Collection Area.



**WITH REDACTIONS**

Foot traffic associated with plant gathering is expected to cause minimal damage to archeological materials on the ground surface. These materials may include ceramic, stone, glass, and metal objects. While harvesters could inadvertently step on items that could cause permanent damage or breakage, the likelihood of this occurring is low due to the restricted group sizes (i.e. less than twenty people), infrequent use, and the avoidance of cultural sites. Archeological material could be encountered by harvesters. Any potential disturbances to archeological resources are not expected to exceed negligible levels.



Figure 4. [REDACTED] Plant Collection Area.





Figure 5.  Plant Collection Area.

### **Ethnographic Resources**

Ethnographic resources are defined by the NPS as “Objects and places, including sites, structures, landscapes, and natural resources, with traditional cultural meaning and value to associated peoples (Management Policies 2016: 157).). The continued access to plant materials as ethnographic resources is the central focus of this EA.

American Indian tribes traditionally associated with BNR include the Absentee Shawnee Tribe, The Caddo Nation of Oklahoma, the Cherokee Nation, The Eastern Shawnee Tribe of Oklahoma, the Osage Nation, the Quapaw Tribe of Oklahoma, the Shawnee Tribe, the Tunica-Biloxi Tribe of Louisiana, the United Keetoowah Band of Cherokee Indians, and the Wichita and Affiliated Tribes. The Cherokee Nation is the only affiliated tribe which has requested to harvest plant materials within BNR.

The No Action Alternative would have no impact on the current status of ethnographic resources. Harvesting plants is a key component of the cultural identity of the Cherokee Nation but it has not been undertaken on Buffalo National River. The Proposed Action would allow Cherokee Nation members to exercise traditional practices which connect them to ethnographic resources on their ancestral lands. This alternative would be beneficial to ethnographic resources while ensuring that other resources are protected; therefore this topic is not further analyzed within this EA.

**WITH REDACTIONS****Environmental Justice**

Executive Order 12898: General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations require all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

Newton, Search, and Marion counties contain both minority and low-income populations. Activities proposed in this analysis would not have disproportionate negative health or environmental effects on any communities, including minority or low-income populations because access to target species would continue to be available to all populations as specified in the Superintendent's Compendium (2017). The activity would benefit minority and low-income tribal members through supplemental sources of traditional foods, medicines, and economic resources; therefore, environmental justice is not analyzed in further detail as an impact topic in this document.

**Indian Trust Resources and Sacred Sites**

Indian trust resources are those natural resources reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by fiduciary obligation on the part of the United States (NPS 2006). The federal Indian Trust responsibility is a legally enforceable fiduciary obligation on the part of the U.S. to protect tribal lands, assets, resources and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

No park lands or resources identified in the project area are held in trust by the Secretary of the Interior for the benefit of American Indians. No locations within BNR have been formally identified as having sacred significance to American Indians. No sacred sites have been communicated to BNR by affiliated tribes. However, all sites that contain, or are reported to have contained human remains, and all rock art sites, are treated as sacred sites.

**Socioeconomics**

Socioeconomics encompass both social and economic features that characterize the individual or group within the social structure. BNR supports the NPS mission by providing opportunities to park visitors, the non-visiting public, and nearby communities to gain increased understanding through interactions with park resources.

This topic also relates to local and regional businesses and residents, and local and regional economies. The local economy and many businesses in neighboring communities rely on construction, recreation, transportation, tourism, services, and educational research. The regional economy is strongly influenced by tourist activities focused on the cultural diversity of the area. Activities proposed in this analysis would not deter people from visiting BNR or neighboring communities. Activities proposed in this analysis would further enhance recognition of the cultural heritage of the area which supports both social and economic features; therefore, socioeconomics are not addressed as an impact topic in this document.

**Visitor Use and Experience**

Annual recreational visitation to the park has averaged over 1million visitors over the past decade. The typical peak visitation period is March through October. The months with the lowest visitation levels are July and August. Visitation is focused on float trips on the Buffalo River with hiking and horseback riding in the cooler months. Hunting is allowed per Arkansas Game & Fish Commission regulations. The activities being examined in this EA would generally occur in locations also utilized by day-use visitors for hiking opportunities, occurring in view of the public along roads and trails.

Development of interpretive displays and media and interactions with tribal members, traditional use of plant materials could have an enriching, positive impact on visitors and is specifically identified in the park's Long Range Interpretive Plan; therefore, Visitor Use and Experience are not addressed as an impact topic in this document.

**Wilderness**

Since no areas within designated or proposed wilderness are involved in this plan, wilderness is dismissed as a topic for further analysis.

**Wildlife and Special Status Species**

Buffalo National River is home to four species of bats and two species of mussel listed as threatened (T) or Endangered (E) by the U.S. Fish and Wildlife Service. The Indiana bat (*Myotis sodalis*) (E), Gray bat (*Myotis grisescens*) (E), Northern Long-eared bat (*Myotis septentrionalis*) (T), and the Ozark Big-ear bat (*Corynorhinus townsendii ingens*) (E) are all cave dwelling bats. The Indiana and Northern Long-eared bats roost in trees during the summer months, the other two species roost in caves year-round. The Snuffbox mussel (*Epioblasma triquetra*) (E) and the Rabbitsfoot mussel (*Quadrula cylindrica cylindrica*) (T) are known from the Buffalo River. The Buffalo River from the Cove (Cecil) Creek confluence (Erbe low water crossing) downstream to U.S. Highway 65 (Grinder's Ferry) and from Arkansas route 14 (Dillard's Ferry) downstream to the Leatherwood Creek confluence in the Lower Buffalo Wilderness was designated Critical Habitat for the Rabbitsfoot mussel in 2015 (70 FR 24691-24774).

Within the proposed plant gathering areas are two caves and three mines which provide habitat to one or more of the Gray bat, Indiana bat, and Ozark Big-ear bat. All of the mines have closures on their portals. One of the caves has a gate on its entrance. The remaining cave has a sign advising park visitors to stay out to conserve the bats. Trees within the plant gathering areas likely provide foraging and summer habitats for Indiana and Northern Long-eared bats.

**WITH REDACTIONS**

The proposed [REDACTED] plant gathering area are adjacent to Designated Critical Habitat for the Rabbitsfoot mussel. A historic Rabbitsfoot mussel bed is adjacent to the [REDACTED] plant gathering area, but the species has not been found there in a long time. No Snuffbox mussel beds are adjacent to any of the plant gathering areas. According to the USFWS IPAC printout from 7/26/2018, the Missouri Bladderpod (*Physaria filiformis*) is found within one of the plant gathering areas.

A substantial number of plant species tracked by Arkansas Natural Heritage Commission are found within the plant gathering areas.

[REDACTED] plant gathering area has populations of:

- Carrion-flower (*Smilax ecirrata*)
- Tassel Flower (*Brickellia grandiflora*)
- Sand Phlox (*Phlox bifida*)
- Brand Phacelia (*Phacelia gilioides*)
- Ozark Chinquapin (*Castanea pumila* var. *ozarkensis*)
- Ozark Spiderwort (*Tradescantia ozarkana*)
- Ozark Least Trillium (*Trillium pusillum* var. *ozarkanum*)
- A ground beetle (*Scaphinotus inflectus*)

[REDACTED] plant gathering area has populations of:

- Illinois Tick-treefoil (*Desmodium illinoense*)
- Moore's Larkspur (*Delphinium newtonianum*)
- Purple Beardtongue (*Penstemon cobaea*)
- Ozark Cornsalad (*Valerianella ozarkana*)
- Ozark Chinquapin

[REDACTED] plant gathering area has populations of:

- Rough Hawkweed (*Hieracium scabrum*)
- Wood Stonecrop (*Sedum ternatum*)
- Short's Rock Cress (*Arabis shortii* var. *shortii*)
- Sand Phlox
- Ozark Chinquapin
- A beetle (*Derops divalis*)
- Ozark Shiner (*Notropis ozarcanus*)

[REDACTED] plant gathering area has populations of:

- Midland Sedge (*Carex mesochorea*)
- Ozark Chinquapin

## ALTERNATIVES

Two alternatives, a No Action and a Proposed Action (the NPS Preferred Alternative), were considered and are carried forward for evaluation in this EA.

### **No Action Alternative – Alternative A**

Under the No Action Alternative, plant harvesting activities would not be permitted for Native American traditional purposes. A small amount of on-site consumption would be available to anyone from the public as specified in the Superintendent's Compendium (BNR, 2018). Any harvest of plant materials in excess of this amount by anyone from the public, to include members of the Cherokee Nation, would not be lawful and would be subject to law enforcement action.

### **Plant Gathering for Traditional Purposes Alternative – Alternative B (NPS Proposed Action and Preferred Alternative)**

Removal of target species as an ethnographic resource is the primary action considered in this EA. These species would be harvested at different times of year as the plant parts of focus reach their optimal time for harvest.

Under Alternative B, the Cherokee Nation would carry out plant harvesting activities to include target species in the quantities during the optimal collection seasons outlined in Stouffle (2017). This activity would take place under terms specified in an agreement signed by BNR's Superintendent and the Cherokee Nation's Chairperson, and have the written concurrence of the NPS Midwest Regional Director. Harvest of these species by Cherokee Nation members would follow traditional techniques. These general parameters would be followed to reduce impacts to natural and cultural resources, and would be specified in an agreement:

- Group sizes would be limited to a maximum of twenty people to reduce impacts to vegetation, soils and archeological materials. The party will split into smaller groups to harvest in areas at least 50 yards apart to reduce the concentration of impacts.
- No mechanized equipment would be authorized for use during harvest activities, except for transportation purposes along public roads. Collection tools will be limited to hand tools, such as trowels, clippers, spades, etc., consistent with CFR 32:2.6.
- The intent of the harvest would be for traditional purposes, not for commercial purposes.
- Use of the park for harvesting activities would be limited to daytime hours.
- Non-tribal members could only participate for educational purposes, with prior notification given to BNR's designated point of contact. Gathering of plants or plant parts by non-tribal members is prohibited.

**WITH REDACTIONS**

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All target species would be collected from the ground.

BNR and Cherokee Nation representatives would consult annually to identify any emerging issues or improvements that could be made to the agreement to optimize protection of park resources while allowing for traditional harvest activities to occur. During annual consultation, anticipated demand and specific areas desired for harvesting would be discussed. Per the NPS rule, the agreement automatically expires after five years. Prior to the approval of a renewed agreement, this agreement will be reviewed by the Cherokee Nation and BNR to identify any potential areas for improvement.

Alternative B has been identified by the park as the Preferred Alternative because it would best accomplish the Purpose and Need by establishing a framework for allowing tribal members to harvest plant materials while considering the full environmental impacts; bring BNR management of plant harvest activities into alignment with 36 CFR 2.6; and maintain collaborative relationships between BNR and the Cherokee Nation that enriches public appreciation of the Cherokee Nation's cultural heritage along with BNR's resources and historical uses.

**Mitigation Measures**

These additional mitigation measures would decrease the degree and/or extent of adverse impacts and would be implemented during the project:

**Invasive Plant Species**

- Seeds from invasive plants could be inadvertently spread during plant harvest activities on harvesters' clothing and tools. Information about known and relevant invasive plants and how to prevent their spread would be included in annual consultation materials provided to the Cherokee Nation.

**Visitor Use and Experience**

- Visitor Center staff would be briefed about the activities and given training for providing informed responses to any public inquiries about observed harvest activities.

**Wildlife & Special Status Species**

- No caves or mines will be entered by plant collectors during plant collection activities. This eliminates impacts to roosting Gray and Ozark Big-ear bats year-round and hibernating Indiana and Northern Long-eared bats during the period of August 15 through May 15 each year.
- Collection of bark from hardwood trees greater than 6" in diameter will not occur between March 15 and October 15 each year. This eliminates impacts to Northern Long-eared and Indiana bats during their pup rearing and foraging period.

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- No vegetative material from Missouri Bladderpod will be collected as part of this project, nor will any Missouri Bladderpod be damaged by plant collectors. This eliminates impacts to this species.
- Collection of plant material from species which are tracked by Arkansas Natural Heritage Commission will not occur as part of this project. Accurate identification of greenbrier, trillium, and spiderwort species will be ensured before any of these are collected.
- Potential impacts to all federally-designated threatened or endangered species or species of concern would be re-assessed if any change in listing status occurs and during the five-year agreement renewals to ensure that gathering activities are not impacting species listed after the completion of this EA.
- Potential impacts to all Arkansas listed or tracked species of conservation concern would be re-assessed if any change in listing status occurs and during the five-year agreement renewals to ensure that gathering activities are not impacting species listed after the completion of this EA.
- Participants would be provided an orientation and/or otherwise advised about sensitive species and their habitats to ensure those species and habitats can be avoided.

So long as these mitigation measures are complied with the project is classified as “No Effect” to federally listed species, and will not affect Arkansas species of conservation concern.



## AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment (existing setting or baseline conditions) and analyzes the potential environmental consequences (impacts or effects) that would occur as a result of implementing the Proposed Action. Cumulative effects are analyzed for each resource topic carried forward.

### Vegetation Composition of the Four Plant Gathering Areas

The four plant gathering areas are discussed below by vegetation map class. Each map class represented in each plant gathering area is noted, with the number of acres within that plant gathering area.

plant gathering area, the following plant communities occur:

- Chinquapin Oak – Ash/Little Bluestem Woodland, 20 acres, 0.4%
- Mixed Oak – Hardwood Dry Forest, 106 acres, 0.2%
- Ozark Ashe's Juniper Woodland, 20 acres, 0.6%
- Ozark Red-cedar Hardwood Forest, 3 acres, 0.2%
- Riparian Hardwood Forest, 11 acres, 0.3%
- Ozark Rich Beech – Mixed Hardwood Forest, 14 acres, 1.1%
- Ruderal Eastern Red-cedar – (Pine) Forest, 1 acre,
- White Oak – Red Oak – Sugar Maple Mesic Forest, 12 acres
- Developed area (mowed area, parking lot, trail, etc.), 1 acre

plant gathering area, the following plant communities occur:

- Chinquapin Oak – Ash/Little Bluestem Woodland, 8 acres
- Box-elder Floodplain Forest, 11 acres
- Floodplain Canebrake, 2 acres
- Mixed Oak – Hardwood Dry Forest, 512 acres
- Mixed Oak Dry Woodland, 10 acres
- Ozark Ashe's Juniper Woodland, 34 acres
- Ozark Red-cedar Hardwood Forest, 3 acres
- Riparian Hardwood Forest, 65 acres
- Riverine Gravel Bar Shrubland, 23 acres
- Ruderal Eastern Red-cedar – (Pine) Forest, 43 acres
- Ruderal Hardwood Forest, 27 acres
- Ruderal Herbaceous Field, 69 acres
- Ruderal Shrubland, 11 acres
- Shortleaf Pine – Oak Forest, 15 acres
- Shortleaf Pine Forest, 7 acres
- White Oak – Red Oak – Sugar Maple Mesic Forest, 24 acres
- Developed (mowed area, parking lot, trail, etc.), 57 acres



**WITH REDACTIONS**

plant gathering area contains the following plant communities:

- Chinquapin Oak – Ash/Little Bluestem Woodland, 126 acres
- Floodplain Canebrake, 3 acres
- Herbaceous Calcareous Glade, 7 acres
- Mixed Oak – Hardwood Dry Forest, 1,209 acres
- Mixed Oak Dry Woodland, 55 acres
- Ozark Ashe's Juniper Woodland, 98 acres
- Ozark Red-cedar Hardwood Forest, 28 acres
- Ozark Riverine Gravel Flats, 3 acres
- Ozark/Ouachita Shortleaf Pine – Oak Dry Woodland, 3 acres
- Pine Plantation Forest, 3 acres
- Riparian Hardwood Forest, 69 acres
- Riverine Gravel Bar Shrubland, 4 acres
- Ruderal Eastern Red-cedar – (Pine) Forest, 11 acres
- Ruderal Hardwood Forest, 7 acres
- Ruderal Herbaceous Field, 11 acres
- Shortleaf Pine – Oak Forest, 476 acres
- Shortleaf Pine Forest, 13 acres
- White Oak – Red Oak – Sugar Maple Mesic Forest, 45 acres
- Developed (mowed area, parking lot, trail, etc.), 97 acres

plant gathering area contains the following plant communities:

- Chinquapin Oak – Ash/Little Bluestem Woodland, 78 acres
- Mixed Oak – Hardwood Dry Forest, 141 acres
- Mixed Oak Dry Woodland, 33 acres
- Ozark Ashe's Juniper Woodland, 72 acres
- Ozark Red-cedar Hardwood Forest, 2 acres
- Riparian Hardwood Forest, 16 acres
- Ruderal Eastern Red-cedar – (Pine) Forest, 14 acres
- Ruderal Hardwood Forest, 3 acres
- Ruderal Herbaceous Field, 3 acres
- Ruderal Shrubland, 2 acres
- Shortleaf Pine – Oak Forest, 493 acres
- Shortleaf Pine Forest, 12 acres
- White Oak – Red Oak – Sugar Maple Mesic Forest, 6 acres
- Developed (mowed area, parking lot, trail, etc.), 12 acres

The species which CHN proposes to collect plant material from are generally common in this area of the Ozarks, and common within the national river. The four plant gathering areas account for:

- 5% of the Box-elder Floodplain Forest

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- 5% of the Chinquapin Oak – Ash/Little Bluestem Woodland
- 17% of the Developed Area
- 3% of the Floodplain Canebrake
- 5% of the Herbaceous Calcareous Glade
- 4% of the Mixed Oak – Hardwood Dry Forest
- 5% of the Mixed Oak Dry Woodland
- 7% of the Ozark Ashe's Juniper Woodland
- 3% of the Ozark Red-cedar – Hardwood Forest
- 1% of the Ozark Riverine Gravel Flats
- 2% of the Ozark/Ouachita Shortleaf Pine/Oak Dry Woodland
- 37% of the Pine Plantation Forest
- 4% of the Riparian Hardwood Forest
- 3% of the Riverine Gravel Bar Shrubland
- 2% of the Ruderal Eastern Red-cedar – (Pine) Forest
- 1% of the Ruderal Hardwood Forest
- 2% of the Ruderal Herbaceous Field
- 3% of the Ruderal Shrubland
- 23% of the Shortleaf Pine – Oak Forest
- 3% of the Shortleaf Pine Forest
- 2% of the White Oak – Red Oak – Sugar Maple Mesic Forest

These percentages indicate that non-sensitive plants which would be gathered at the four plant gathering areas can be expected to be widespread throughout the national river.

**Impacts of Alternative A—No Action**

The No Action alternative would prevent traditional plant harvesting activities from occurring. Under this alternative, there would be no potential impacts to vegetation.

***Cumulative Effects***

There would be no direct/indirect impacts on vegetation under Alternative A; therefore, there would be no cumulative effects.

***Conclusion***

The No Action alternative would preclude plant harvesting activities from occurring. Under this alternative, there would be no potential impacts to vegetation.

**Impacts of Alternative B — (Proposed Action and NPS Preferred Alternative)**

Removal of vegetation (target species) is the primary action considered in this EA.

Traditional harvesting techniques, rotational harvesting, and plant biology limit the total amount of material that may be harvested from a single plant or group of plants in a given year. The vegetation classes which are represented within the four plant gathering areas are

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widespread throughout the national river and adjacent national forest and private lands. The target species of vegetation are expected to be widespread in other areas of the park (i.e. outside of the plant gathering areas.)

Individual members of a plant community may be removed, but there will be enough remaining seed or root stock in the plant gathering areas to replenish the loss of a small number of individual plants. Outside of the plant gathering areas, there is an abundance of seed and root stock available. Impacts are expected to be short-term and negligible as new seeds germinate or fresh shoots emerge.

**Cumulative Effects**

No detrimental adverse impacts from the historical plant harvesting activities spanning centuries have been identified within BNR. While the Superintendent's Compendium allows the general public to harvest small amounts of fruits, nuts, and berries, this provision is not known to be utilized intensively; therefore, impacts are considered negligible. The anticipated low demand, reproductive characteristics of the plants, low impact traditional harvesting methods, rotational harvest areas, and broad geographic area of habitat within the park make it unlikely that impacts would exceed negligible levels. When the effects of the Proposed Action are combined with the other past and present impacts, the total cumulative impact on the target species would continue to be negligible. The incremental impacts of the Proposed Action would contribute slightly to, but would not substantially change the impacts that are already occurring.

**Conclusion**

The Proposed Action may result in limited impacts to some target species. However, the anticipated low demand, reproductive characteristics of the plants, low impact traditional harvesting methods, rotational harvest areas, and broad geographic area of habitat within the park make it unlikely that impacts would exceed negligible levels. Harvesting is not expected to have an effect on target species' population levels.

**Wildlife and Special Status Species****Affected Environment**

Buffalo National River is home to four species of bats and two species of mussel listed as threatened (T) or Endangered (E) by the U.S. Fish and Wildlife Service. The Indiana bat (*Myotis sodalis*) (E), Gray bat (*Myotis grisescens*) (E), Northern Long-eared bat (*Myotis septentrionalis*) (T), and the Ozark Big-ear bat (*Corynorhinus townsendii ingens*) (E) are all cave dwelling bats. The Indiana and Northern Long-eared bats roost in trees during the summer months, the other two species roost in caves year-round. The Snuffbox mussel (*Epioblasma triquetra*) (E) and the Rabbitsfoot mussel (*Quadrula cylindrica cylindrica*) (T) are known from the Buffalo River. The Buffalo River from the Cove (Cecil) Creek confluence (Erbie low water crossing) downstream to U.S. Highway 65 (Grinder's Ferry) and from Arkansas route 14 (Dillard's Ferry) downstream to

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the Leatherwood Creek confluence in the Lower Buffalo Wilderness was designated Critical Habitat for the Rabbitsfoot mussel in 2015 (70 FR 24691-24774).

Within the proposed plant gathering areas are two caves and three mines which provide habitat to one or more of the Gray bat, Indiana bat, and Ozark Big-ear bat. All of the mines have closures on their portals. One of the caves has a gate on its entrance. The remaining cave has a sign advising park visitors to stay out to conserve the bats. Trees within the plant gathering areas likely provide foraging and summer habitats for Indiana and Northern Long-eared bats.

The proposed [REDACTED], [REDACTED], and [REDACTED] plant gathering areas are adjacent to Designated Critical Habitat for the Rabbitsfoot mussel. A historic Rabbitsfoot mussel bed is adjacent to the [REDACTED] plant gathering area, but the species has not been found there in a long time. No Snuffbox mussel beds are adjacent to any of the plant gathering areas.

According to the USFWS IPAC printout from 7/26/2018, the Missouri Bladderpod (*Physaria filiformis*) is found within one of the plant gathering areas.

A substantial number of species tracked by Arkansas Natural Heritage Commission are found within the plant gathering areas.

[REDACTED] plant gathering area has populations of:

- Carrion-flower (*Smilax ecirrata*)
- Tassel Flower (*Brickellia grandiflora*)
- Sand Phlox (*Phlox bifida*)
- Brand Phacelia (*Phacelia gilioides*)
- Ozark Chinquapin (*Castanea pumila* var. *ozarkensis*)
- Ozark Spiderwort (*Tradescantia ozarkana*)
- Ozark Least Trillium (*Trillium pusillum* var. *ozarkanum*)
- A ground beetle (*Scaphinotus inflectus*)

[REDACTED] plant gathering area has populations of:

- Illinois Tick-treefoil (*Desmodium illinoense*)
- Moore's Larkspur (*Delphinium newtonianum*)
- Purple Beardtongue (*Penstemon cobaea*)
- Ozark Cornsalad (*Valerianella ozarkana*)
- Ozark Chinquapin

[REDACTED] plant gathering area has populations of:

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- Rough Hawkweed (*Hieracium scabrum*)
- Wood Stonecrop (*Sedum ternatum*)
- Short's Rock Cress (*Arabis shortii* var. *shortii*)
- Sand Phlox
- Ozark Chinquapin
- A beetle (*Derops divalis*)
- Ozark Shiner (*Notropis ozarcanus*)

plant gathering area has populations of:

- Midland Sedge (*Carex mesochorea*)
- Ozark Chinquapin

**Impacts of Alternative A—No Action**

The No Action alternative would prevent traditional plant harvesting activities from occurring. Under this alternative, there would be no potential impacts to wildlife and special status species

**Cumulative Effects**

There would be no direct/indirect impacts on wildlife and special status species under Alternative A; therefore, there would be no cumulative effects.

**Conclusion**

The No Action alternative would preclude plant harvesting activities from occurring. Under this alternative, there would be no potential impacts to wildlife and special status species.

**Impacts of Alternative B — (Proposed Action and NPS Preferred Alternative)**

Removal of vegetation (target species) has the potential to have direct, indirect, and cumulative impacts upon wildlife and special status species.

There would be no impact to mussels and other aquatic fauna as the plant gathering would not occur within streams. There would be no impact to cave roosts for bats as there would be no plant gathering occurring within caves as there is a distinct lack of light and photosynthesis in caves. It is possible that some trees being used by cave bats for summer day roosts could be disturbed. The Special Use Permit (Under Gathering Agreement, Article III, C) will stipulate that no cutting of trees greater than 6" dbh is to occur, so it is unlikely that any roost trees will be lost by this activity. Some of the target species share a genus with special status plant species. Special care will be required, and mitigation methods followed to ensure that none of the special status plants are gathered.

**Mitigation Measures**

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- No caves or mines will be entered by plant collectors during plant collection activities. This eliminates impacts to roosting Gray and Ozark Big-ear bats year-round and hibernating Indiana and Northern Long-eared bats during the period of August 15 through May 15 each year.
- Collection of bark from hardwood trees greater than 6" in diameter will not occur between March 15 and October 15 each year. This eliminates impacts to Northern Long-eared and Indiana bats during their pup rearing and foraging period.
- No vegetative material from Missouri Bladderpod will be collected as part of this project, nor will any Missouri Bladderpod be damaged by plant collectors. This eliminates impacts to this species.
- Collection of plant material from species which are tracked by Arkansas Natural Heritage Commission will not occur as part of this project. Accurate identification of greenbrier, trillium, and spiderwort species will be ensured before any of these are collected.
- Potential impacts to all federally-designated threatened or endangered species or species of concern would be re-assessed if any change in listing status occurs and during the five-year agreement renewals to ensure that gathering activities are not impacting species listed after the completion of this EA.
- Potential impacts to all Arkansas listed or tracked species of conservation concern would be re-assessed if any change in listing status occurs and during the five-year agreement renewals to ensure that gathering activities are not impacting species listed after the completion of this EA.
- Participants would be provided an orientation and/or otherwise advised about sensitive species and their habitats to ensure those species and habitats can be avoided.

Direct and indirect impacts to wildlife and special status species are expected to be negligible and short-term.

***Cumulative Effects***

No detrimental adverse impacts from the historical plant harvesting activities spanning centuries have been identified within BNR. While the Superintendent's Compendium allows the general public to harvest small amounts of fruits, nuts, and berries, this provision is not known to be utilized intensively; therefore, impacts are considered negligible. The anticipated low demand, reproductive characteristics of the plants, low impact traditional harvesting methods, rotational harvest areas, and broad geographic area of habitat within the park make it unlikely that impacts would exceed negligible levels. When the effects of the Proposed Action are combined with the other past and present impacts, the total cumulative impact on the target species would continue to be negligible. The incremental impacts of the Proposed Action would contribute slightly to, but would not substantially change the impacts that are already occurring.

***Conclusion***

**WITH REDACTIONS**

The Proposed Action may result in limited impacts to wildlife and special status species. However, the broad geographic area of wildlife habitat within the park make it unlikely that impacts would exceed negligible levels. Harvesting is not expected to have an effect on target species' population levels.

**LIST OF AGENCIES AND PERSONS CONTACTED**

<b>Affiliation</b>	<b>Name</b>	<b>Title</b>
Cherokee Nation		Chairman
		Tribal Historic Preservation Officer
		Acting Deputy Attorney General
National Park Service		Acting Chief, Environmental Quality Midwest Region
		NEPA Specialist, Environmental Quality Division, Midwest Region
	Michael Evans	Cultural Anthropologist Midwest Region
	Reed Robinson	Tribal Liaison Midwest Region
	Mark Foust	Superintendent, Buffalo National River
	Charles Bitting	Natural Resources Program Manager, Buffalo National River
	Suika Rivett	Archeologist, Buffalo National River
State Historic Preservation Office		State Historic Preservation Officer
U.S. Fish and Wildlife Service		Supervisory Fish and Wildlife Biologist



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## REFERENCES

36 CFR § 2.6. 2016. Gathering of plants or plant parts by federally recognized Indian tribes.

Buffalo National River. 2018. Superintendent's Compendium.

Stouffle, Richard 2017. BUFF Ethnobotany and Traditional Ecological Knowledge at Buffalo National River, Arkansas, Preliminary Draft. Bureau of Applied Research in Anthropology, University of Arizona, Tucson.

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## APPENDIX A

### PLANTS IDENTIFIED FOR COLLECTION

All special status species have been removed from the list. Spiderwort and Trillium remain; however, Tradescantia ssp. T. ozarkana and Trillium ssp. T. pusillum var. ozarkanum are EXCLUDED from collection.

### PLANTS IDENTIFIED FOR COLLECTION

	Scientific Name	Common Name(s)
<div>REDACTED</div>		

WITH REDACTIONS

REDACTED

REDACTED

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WITH REDACTIONS

## APPENDIX B

### Plant Harvest Request from the Cherokee Nation



June 4, 2018



Office of the Chief

 Bill John Baker  
*Principal Chief*  
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 S. Joe Crittenden  
*Deputy Principal Chief*  
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Re: Cherokee Nation and NPS Partnership

Ms. Laura Miller  
 Acting Superintendent  
 Buffalo National River  
 402 N. Walnut Street, Suite 136  
 Harrison, AR 72601-1173

Dear Superintendent Miller,

As you are likely aware, several members of the Cherokee Nation, including our Medicine Keepers and their staff, have been involved in a project involving the National Park Service (NPS), the University of Arizona and the University of Colorado. This project involved plant gathering and preservation, including the development of a plant gathering agreement between the Cherokee Nation and NPS pursuant to NPS rule 36 CFR §2.6. All four of these organizations were onsite at the Buffalo National River during the time frame of May 18-19, 2017. At the time, I believe all parties felt the time spent in the park was very productive and the Nation's Medicine Keepers felt a strong connection to the area. It was and is our desire to continue this project.

Occasionally, changes in staff and shifting priorities will leave even the best projects relegated to the 'back burner'. This project has been idle for some time now, but I know the Nation, the University of Colorado, and the University of Arizona desire to see this project continue. With this correspondence, I hope to learn how best re-engage with you and your staff on this important matter.

A gathering agreement such as this with Buffalo National River would not only culturally re-engage our people with the park lands, but would also serve as a tool for your staff in the stewardship of park resources. This may even include management collaborations in the future aimed at encouraging plant growth and overall ecosystem health. Please note that a list of the plants and plant parts that tribal members wish to gather, and the methods by which they would be gathered, has been drafted by the University of Arizona and the University of Colorado. The Cherokee Nation's ethnobotanist and member of my staff is working on this project, and he can assist you with any inquiries you may have going forward. His contact information is as follows:

Pat Gwin, Senior Director of Environmental Resources

WITH REDACTIONS

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918-453-5704  
pgwin@cherokee.org

Thank you again for your consideration of collaborating with the Cherokee Nation on this project. We hope an agreement can be developed. If you have any questions or require further information, please don't hesitate to contact my office at 918-453-5000, or by email at sara-hill@cherokee.org.

Sincerely,

*Sara Hill*

Sara Hill  
Secretary of Natural Resources  
Cherokee Nation

cc:

Cameron H. Sholly  
Regional Director  
US Department of the Interior  
National Park Service, Midwest Region  
601 Riverfront Drive  
Omaha, NE 68102-4226

Dr. Michael J. Evans  
Chief, Ethnography Program and Senior Cultural Anthropologist  
Midwest Region, National Park Service  
P.O. Box 9337  
Moscow, Idaho 83843

## APPENDIX C

### Plant Gathering Agreement – Buffalo National River & Cherokee Nation, 2019

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## MEMORANDUM OF AGREEMENT

Between  
The United States Department of the Interior  
National Park Service  
Buffalo National River

And

THE CHEROKEE NATION

### ARTICLE I – PURPOSE, OBJECTIVES, AND AUTHORITY

- A. General Purpose. This Memorandum of Agreement (“MOA”) is entered into by and between the National Park Service (hereinafter referred to as NPS or “the Park”), United States Department of the Interior, acting through the Superintendent of Buffalo National River, and the Cherokee Nation for the purpose of establishing a mutual framework governing the respective responsibilities of the parties in managing the gathering of plants and plant parts from the Park for traditional purposes, in accordance with the regulation at 36 CFR 2.6.
- B. Cherokee Nation’s Objectives. The Cherokee Nation desires to enter into this government-to-government MOA in order to take advantage of the opportunity for enrolled members of the Cherokee Nation to gather plants or plant parts needed for traditional purposes.
- C. NPS Objectives. NPS desires to enter into this government-to-government MOA to facilitate the gathering of plants and plant parts needed for traditional purposes by enrolled members of the Cherokee Nation, and to support Tribal interests. NPS adheres to principals of respect for Tribal governments and honors the United States’ trust responsibility to Indian Tribes.
- D. Cherokee Nation’s Eligibility. The Cherokee Nation’s traditional association to the area of the Buffalo River dates back to the early eighteenth century when Cherokee people were migrating westward due to increasing encroachments upon their southeastern homelands by Euro-American settlers. This group of Cherokees, often referred to as the Old Settlers, sought to avoid conflict with Euro-American people by establishing new settlements west of the Mississippi River. During this time, Cherokees continued ways of life that included the use of wild plants for food, tools, utilities, and medicine. Due to the similarity of the Ozarks to their southeastern homelands, Cherokee people were able to use many of the same plants they had previously known and cherished. Today, Cherokee people use these plants to sustain our connection to the land and to perpetuate cultural lifeways that are inseparable from the natural world. These uses include food from wild greens, nuts, and berries; crafts from bushes, trees, and cane; and medicine from the many leaves, barks, and roots of the forests and fields.



- E. Authority. This MOA is entered into pursuant to 36 CFR 2.6 (“Gathering of Certain Plants or Plant Parts by Federally Recognized Indian Tribes for Traditional Purposes”), and pursuant to the authority of the Cherokee Nation to operate as a federally recognized Indian Tribe and to exercise its inherent sovereign rights not inconsistent with federal law.

## ARTICLE II – SCOPE

- A. Types of Plants and Plant Parts that Can Be Gathered. This MOA is limited to the gathering of vascular plants or parts thereof only. The species authorized to be gathered for traditional purposes are included in Article III of this agreement. In addition, any plant species listed on national or state lists of threatened or endangered species lists are excluded from this MOA.
- B. Plant Gatherer Limitations. This MOA is limited to the gathering of plants or plant parts by enrolled members of the Cherokee Nation who have been designated by the Cherokee Nation as having authorization for plant gathering at Buffalo National River. The members currently designated are the members comprising the Medicine Keepers of the Cherokee Nation. Individuals will be added or deleted from the list via written communication from the Cherokee Nation to the Park.
- C. Plant Gatherer Identification. The Cherokee Nation will provide the names of those enrolled members authorized to gather plants or plant parts to the Park prior to any gathering activity. These authorized plant gatherers will be identified on the annual Special Use Permit issued by the Park for the gathering activity. During gathering activities, authorized gatherers will be identified by tribal ID issued by the Cherokee Nation, accompanied by a copy of the Special Use Permit issued by BUFF and received by the Cherokee Nation.

## ARTICLE III – AGREEMENT SPECIFICS

- A. Plant Species Authorized for Gathering. The list of plants or plant parts authorized with this MOA and the accompanying Special Use Permit(s) is included in Attachment A. Gathering of plants or plant parts not included in this MOA is not authorized. All plants or plant parts authorized in this MOA will only be gathered by hand or using unpowered hand tools, such as clippers, garden knife, garden spade, or similar instruments.
- B. Locales authorized for gathering. The locations for gathering plants listed in this MOA are [REDACTED]. These locales are indicated on the Attachment B. Gathering outside of these locales is not authorized.
- C. Special Use Permit. All gathering of plants or plant parts will be conducted in accordance with the provisions of an annual Special Use Permit issued by the Park to the Tribe. The Special Use Permit will list the names of the tribal members allowed to gather plants or plant parts, the locations where gathering will occur, and any special considerations required by the Tribe or the Park. The Special Use Permit may be renewed annually following consultation between the Tribe and the Park.

- D. No sale or commercial use of plants or plant parts within the park. The sale or commercial use of plants or plant parts within the park is prohibited except where products are sold through the park's cooperating association.
- E. Protocols for monitoring the effects of gathering activities. Monitoring of species and gathering activity will be accomplished with two methods. The Cherokee Nation will develop a form that will be completed by the authorized gatherers that lists the plant or plant parts, amount collected, where it was collected, and date of collection. This information will be shared with the Park. The second monitoring method will be an annual survey jointly conducted by the Park and the Cherokee Nation at the gathering locales. The purpose of the survey will be to compare the Cherokee Nation's information with the current condition of the plant species at each gathering locale, taking note of any new environmental conditions that may necessitate changing species, amounts, or locations of gathering, and noting any visible impacts of the gathering on the species' health, viability, and population. The annual survey will also note any visible ecological and physical impacts of the gathering activity on the gathering locations themselves. All information collected during monitoring may be shared with both parties.
- F. Key Officials. List of key officials for this MOA:
- Cherokee Nation Officials -
- Senior Director of Environmental Resources
- GIS Analyst
- Special Projects Officer
- Cultural Biologist
- National Park Service Officials -
- Superintendent, Buffalo National River

#### **ARTICLE IV – INTERAGENCY COMMUNICATIONS**

To provide for consistent and effective communication between BUFF and the Cherokee Nation, each party shall appoint a Principal Representative to serve as its central point of contact on matters relating to this MOA, and shall notify the other party in writing as to the identity of such Principal Representative.

#### **ARTICLE V - RESPONSIBILITIES OF THE PARTIES**

##### **A. Responsibilities of BUFF**

1. Convene the annual meeting.
2. Maintain confidentiality
3. Identify and keep current the Point of Contact for the park.

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4. Assist, where possible and as staffing permits, in facilitating access to gathering areas for members of the Cherokee Nation who need it.
5. Issue annual Special Use Permit to cover gathering activities.

### **B. Responsibilities of the Cherokee Nation**

1. Establish parameters for authorizing individuals approved to gather and maintaining accurate and current lists.
2. Establish method for proper identification of authorized gatherers.
3. Attend annual meeting.
4. Keep records as agreed upon and provide to the Park.

### **ARTICLE VI - FUNDING**

The Cherokee Nation shall pay all applicable costs associated with the Cherokee Nation's responsibilities under this MOA, including any Cherokee Nation responsibilities associated with the required monitoring.

The Park shall pay all applicable costs associated with the NPS responsibilities under this MOA, including completion of the required environmental assessment (EA) and Park-related monitoring activity.

### **ARTICLE VII - DISPUTE RESOLUTION**

The parties agree that, in the event of a dispute between the parties, the Cherokee Nation and the Park shall use their best efforts to resolve that dispute in an informal fashion through consultation and communication, or other forms of non-binding alternative dispute resolution mutually acceptable to the parties. The parties agree that, in the event such measures fail to resolve the dispute, they shall refer it for resolution to a mutually agreed on entity.

### **ARTICLE VIII - AMENDMENT, MODIFICATION AND TERMINATION**

This MOA may be modified or amended only by written, mutual agreement of the parties. Either party may terminate this MOA by providing written notice to the other party. The termination shall be effective upon the sixtieth calendar day following notice, unless a later date is set forth.

### **ARTICLE XIV- EFFECTIVE DATE**

This MOA shall become effective when signed by both the duly authorized representatives of the Cherokee Nation and NPS. This agreement will end five years after the effective date, and can be renewed.

Accordingly the parties do meet in agreement and do witness the same by the setting of their hands hereto on the dates appearing below.

WITH REDACTIONS

CHEROKEE NATION

By: \_\_\_\_\_

Principal Chief

Date

Principal Chief, Cherokee Nation

Attest by: \_\_\_\_\_

Date

NATIONAL PARK SERVICE

By: \_\_\_\_\_

Superintendent, Buffalo National River

Date

CONCURRED:

By: \_\_\_\_\_

Regional Director, Midwest Region, Date

National Park Service

Attachment A

PLANTS IDENTIFIED FOR COLLECTION

PLANTS IDENTIFIED FOR COLLECTION

	Scientific Name	Common Name(s)
REDACTED		

REDACTED

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**Attachment B**  
**Plant Collection Areas**



**Buffalo National River showing four plant collection areas.**

REDACTED

Plant Collection Area.

REDACTED

Plant Collection Area.



REDACTED

Plant Collection Area.

REDACTED

Plant Collection Area.