

Appendix A



Gannett Fleming

GANNETT FLEMING WEST, INC.
460 St. Michael's Drive
Suite 1202
Santa Fe, New Mexico 87505

Office (505) 820-7020
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June 26, 2010

R. Mark Sattelberg
Field Supervisor
Arkansas Ecological Services Field Office
U.S. Fish and Wildlife Service
110 S. Amity Road, Suite 300
Conway, Arkansas 72032

Subject: Facilities Improvements Environmental Assessment, Buffalo National River, Arkansas

Dear Mr. Sattelberg:

The National Park Service (NPS) has initiated work on an Environmental Assessment (EA) and is seeking public and agency input for the proposed Facilities Improvements project at Buffalo National River (BNR) to determine if the project could potentially result in any significant impacts to the natural or human environment. The EA will evaluate potential impacts to the natural, cultural, and human environment from construction and operations activities related to the proposed action and will be available for public review in the summer 2010. The NPS is seeking comments from the public, government agencies, and tribes to help identify issues and concerns for the planning process and the EA analysis.

The purpose of the project is to improve vehicle and pedestrian access to the river at Rush and Hasty Landings, provide parking space at the Spring Creek Trailhead, and improvements to the Lost Valley Trail for hiker safety and to ensure compliance with standards set by the Americans with Disabilities Act (ADA). The locations of these facilities are shown in Figure 1.

At Rush Landing, trees and brush would be cleared along the side of the ramp exit road and a pedestrian trail would be constructed up the hill so that foot and vehicular traffic would not have to use the same roadway. A drainage culvert would be installed at the top and bottom of the ramp exit road. The road along the river that leads to Clabber Creek and the Bowman Tract past Rush Landing would be widened where needed to allow for proper traffic flow and a turnaround would be constructed approximately 75 to 100 yards down the road using the old power line right of way. This would allow vehicles waiting to use the landing to line up in a location that does not block traffic coming into and leaving the landing area. The power line to the Bowman Tract would be removed and additional parking spaces for concessionaire buses would be created in the right-of-way.

Ozark Highland Trail extension crosses Spring Creek Road just inside the Buffalo National River boundary. Hikers use this location as an access point for the trail. NPS proposes to construct a parking area that would accommodate up to four vehicles adjacent to the road just inside the BNR boundary, to alleviate hikers parking along busy Route 99/Spring Creek Road.

At Hasty Landing a canoe walkway will be constructed to alleviate social trailing, which will in turn reduce bank destabilization at the launch site. Area of social trailing would be restored and devices would be installed to direct foot traffic down canoe walkway. Two large trees in the parking area would be removed to improve vehicle maneuvering and increase parking space. The parking area would be slightly expanded and re-graded to improve control of stormwater runoff. A modern bathroom facility would be installed slightly uphill from the existing facility, out of the floodplain, and a pedestrian trail would be constructed in the woods beside the entrance road to facilitate easy access without impeding vehicular traffic coming into and out of the landing area.

The Lost Valley Trail to Eden Falls and Eden Falls Cave is currently only accessible by foot. The existing trail has inadequate drainage crossings and safety hazards. Safety hazards include rock slides, sloping and uneven footing, loose, broken and missing native stone steps, and deteriorated rock retaining walls. NPS proposes to upgrade a section of the lower trail to make it compliant with standards set by the Americans with Disabilities Act (ADA).

The remaining trail, which leads beyond the falls to the cave and the return trail from the cave would be improved and stabilized. Stone steps would be secured and trip hazards such as rocks and roots would be removed. Drainage crossings would be improved by the use of buried pipes or stone culverts.

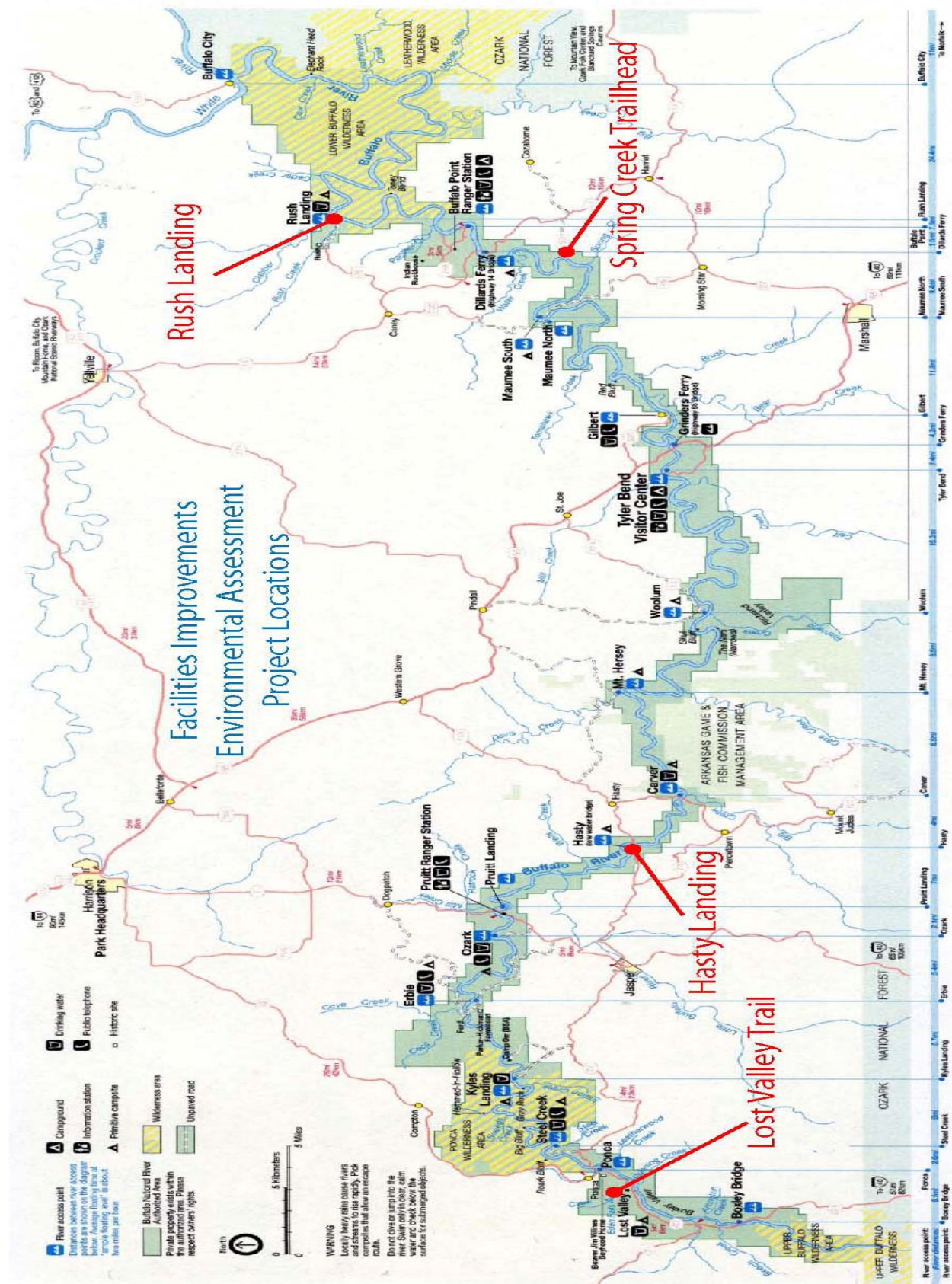
At this time, we are requesting input from your agency to identify any issues or concerns you may have with the proposed project so that they may be appropriately considered in the EA. Additional information may be found online at: <http://parkplanning.nps.gov/buff>. Comments may be mailed to the following address:

Facilities Improvements EA
Gannett Fleming West, Inc.
Attn: Devin Kennemore
PO Box 231
Rowe, New Mexico 87562-0231

Best regards,
Gannett Fleming West, Inc.

A handwritten signature in blue ink, appearing to read "Devin Kennemore", with a stylized, flowing script.

Devin Kennemore
Environmental Project Manager





IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

110 S. Amity Road, Suite 300
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480



August 12, 2010

Reference: TA0846

Gannett Fleming
Attn: Devin Kennemore
460 St. Michael's Drive
Suite 1202
Santa Fe, New Mexico 87505

Dear Mr. Kennemore,

The Fish and Wildlife Service has reviewed the information supplied in your letter dated June 26, 2010, regarding the proposed vehicle and pedestrian trail improvements for the Buffalo National River in Newton, Marion, and Searcy Counties, Arkansas. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.)

The following endangered species are known to occur in Newton County: Gray bat (*Myotis grisescens*) and Indiana Bat (*Myotis sodalis*). The Ozark Big-Eared Bat (*Corynorhinus townsendii ingens*), Pink Mucket (*Lampsilis abrupta*), and Scaleshell (*Leptodea leptodon*) are found in Marion County. The Speckled Pocketbook (*Lampsilis streckeri*) and the candidate species Yellowcheek Darter (*Etheostoma moorei*) occur in Searcy County. The proposed project is not expected to adversely affect these listed species so long as the following recommendations are strictly adhered to.

Erosion and Sediment Control

BMPs should be implemented for all construction projects within karst landscapes. BMPs should include filter fences, straw bales, interceptor dikes and swales, sediment traps, ditch checks, detention basins, mulching, seeding, and/or revegetation as appropriate. Mats or netting should be applied on steep slopes and stream banks. Erosion and sediment control measures should be sized to handle at least the 25 year flood and 24-hour storm event. Erosion and sediment control BMP's should be implemented to prevent sediment and contaminants from entering groundwater.

It is important that construction plans reduce erosion and sedimentation into streams and karst features by:

- Identifying areas with potential for erosion problems prior to construction initiation.

- Avoiding wetlands and low lying areas.
- Restoring steep embankments with seed, mulch, fertilizer, and implementing erosion control measures such as silt fences, straw bales, matting, and sediment traps. Soil stabilization immediately after earth work is complete is critical.
- Restoring steep approaches to stream crossings by seeding, mulching, fertilizing, and implementing erosion control measures such as silt filter fences, ditch checks, straw bales, matting, and sediment traps. It is critical that restoration be implemented immediately after construction.
- On approaches to stream crossings, drainage control structures should be located at the top and base of the slope/bank. Runoff should be routed to stable slopes on either side of the right of way, or routed via temporary conveyance structures to the base of the approach slope where it can infiltrate into the stream bank and eventually seep back to the channel.

1. Silt Fence and Straw Bales

Silt fence or a combination of silt fence and straw bales, should be installed to prevent or minimize sediment from steep slopes and disturbed areas leaving the construction site and entering streams or karst features. Sediment detention structures should be used in areas with moderate to high erosion potential. Silt fence are useful to intercept and retain small amounts of sediment under sheet flow conditions and should be placed along the borders of water bodies wherever disturbance or construction occurs. Silt fences should be installed immediately adjacent to disturbed soils and a minimum of 10 feet from the ordinary high water mark of wetlands, streams, and rivers. Natural vegetation should be retained within the 10 foot buffer zone. Silt fence should be used in areas subject to erosion where the drainage area is one acre or less, but for larger areas a sediment basin should be also used. Silt fences should be used on slopes no greater than 1:1. The maximum flow path to each fence should be no more than 100 feet. Concentrated flows should not be directed toward any fence. Silt fence should be trenched up slope from the barrier and supported by posts spaced a maximum of six feet apart.

Straw bales are one of the most common sediment control methods. Straw bales should be used in areas subject to sheet flow and erosion where the drainage area is no greater than 1/4 acre per 100 foot of barrier length and the maximum slope behind the barrier is 50 percent (2:1). In most cases, bales should be placed in single rows along contours with ends tightly butted together. To discourage underflow, bale barriers should be entrenched. The back side of the bale should be an undisturbed natural area. If the area behind the barrier has been disturbed or is naturally subject to erosion, the barrier should be back filled. All bales should be tied and staked. Silt fence and straw bales should be maintained throughout the construction period and inspected daily during prolonged rainfall and immediately after each rainfall event.

2. Sediment Traps

Sediment traps are small temporary ponds used to detain stormwater runoff and allow sediment deposition, thereby minimizing the quantity of sediment entering water bodies. Sizing considerations for traps include inflow and sediment load, but traps are generally used for small drainage areas less than three acres. Because sediment traps filter out all but the finest sediments, silt fence is necessary at the outfall to retain silt and clay-size particles.

Sediment traps should be located to intercept runoff from disturbed areas and should be located away from stream channels. A sufficient number of traps should be constructed to intercept runoff from disturbed areas and have adequate capacity for potential storm events and accumulated sediment. Sediment traps should be designed for the specific site, for bare soil, and typically for a 75 percent removal efficiency. Sediment traps should consist of check dams located within an enlarged section of the interception ditch on stable ground. Stable ground is identified as areas with well drained soils and/or where vegetation remains in place providing sufficient root strength to prevent sliding. In areas where stable ground is not available, several check dams should be used to prevent buildup of excess water. Traps should have both a low-flow outlet and an emergency overflow. Rock should be placed at the outlet and overflow to prevent erosion where the water enters the downstream drainage way. The outlet pipe, if needed, should be sized to pass runoff from a 25 year flood and/or 24-hour storm event. Traps should not be constructed on fill material.

3. Mulch and Revegetation

Mulch and prompt revegetation should be used to minimize erosion of exposed soils. Vegetation should be re-established as soon as possible on all disturbed ground, including access roads and trench backfill. Vegetation (use native vegetation when possible) should be planted in the same growing season as construction or immediately following construction, or if not possible disturbed areas should be covered with straw, mats, or some other erosion control material in the interim. At most locations, broadcast seeding and the replacement of saplings should be the predominant method of revegetation. Seed should be planted by hydroseed method or by a mulch covering. A grass and forb mixture recommended by the Natural Resource Conservation Service (NRCS) and the Service should be used to reseed slopes and fertilized where suitable (do not over fertilize). Where terrain or other conditions combine to cause a high risk of erosion, the revegetation method should be to drill/plant grasses or hydroseed over steep slopes then cover with straw or mats.

4. Permanent Stabilization

Material pushed aside to make temporary level working areas should be replaced onto disturbed areas. Original contours should be restored as closely as possible. Equipment access crossings should be removed and stabilized. After contours have re-established, topsoil previously segregated should be redistributed across the surface. Water bars

should be graded horizontally across the slope to aid in gully and erosion prevention. Areas compacted by construction equipment should be chiseled and disc-plowed to loosen compacted soil. Following final grading, the disturbed area should be stabilized by replanting with non-invasive plant species. Forest and shrub areas impacted by construction not requiring maintenance as part of the right-of-way access road should be replanted with suitable native tree and shrub species. Within floodplains, ground stabilization should include rooted or anchored features, used to slow runoff velocity and erosion until vegetation is re-established. Steep slopes may require the use of mats to help stabilize soil while new vegetation is established. Disturbed stream banks should be stabilized using appropriate vegetation (native if possible). Wetlands should be stabilized by replacing the original subsoil and topsoil, replacing vegetation, and returning the topography and hydrologic characteristics of the wetland as closely as possible to their original form. Disturbed wetland buffers should be stabilized by replanting appropriate vegetation.

Construction in Sensitive Areas

As the true extent of the underground environment is difficult to clearly delineate, undiscovered karst features; such as cave openings, sinkholes, and underground passages may occur on or near a project site, even in previously developed areas. Therefore, the Service recommends the following precautionary measures be taken to avoid impacts to groundwater and sensitive or endangered species which may inhabit karst features not previously surveyed.

1. Survey existing and any new right-of-ways for karst features such as caves, sinkholes, losing streams, and springs.
2. Establish a natural area of 300 feet or greater around any cave, sinkhole, losing stream, or spring found during the survey (or during any aspect of project implementation). The Service should be contacted for further evaluation to determine if caves are used by sensitive or federally listed species.
3. If a cave is used by sensitive or federally listed species, the Service may request that the cave be mapped to determine if additional openings or passages may be affected by the project. The Service may recommend modifications of the proposed project to allow natural areas to be established. Incorporation of natural areas may be necessary to avoid impacts.
4. If caves or other openings are encountered during construction, the Service requests that work efforts cease within 300 feet of the opening. The opening should be adequately marked and protected from work activities, and the Service should be contacted immediately. No fill materials should be placed into the opening until Service or Service approved personnel have the opportunity to inventory the site.
5. The Service should assess caves located prior to or during construction for sensitive/endangered species and provide recommendations before activities proceed.

6. No blasting should be permitted in the vicinity of any known karst feature without previous consultation.

Additional measures may be required for construction near sensitive areas including stream channels and karst features. Care should be taken when working around streams and karst features to prevent unnecessary damage to or removal of vegetation. If a cave or fracture is breeched or surface water is rerouted into a karst feature, all activities should cease and the Service should be contacted to assess the situation and provide further consultation before proceeding.

Staging areas should be at least 300 feet away from streams, wetlands, and karst features. All streams, wetlands, and karst features adjacent to disturbed areas should be protected by the use of silt fence, straw bales, and other BMPs necessary to prevent sediment from entering water bodies. A combination of several measures may be necessary to decrease damage at stream crossings. In streams with enough flow, temporary in-stream settling ponds should be used to catch sediment generated by construction. Sediment should be removed as soon as construction is completed. For smaller streams or where appropriate, water could be bypassed through construction areas by the use of flume pipes, pumps, or coffer dams. Stream can be bypassed using directional drilling techniques, as discussed later.

Streams and karst areas should be restored and stabilized immediately following construction activities. Native plants, mats, netting, and other BMPs should be used to stabilize banks. Instream deflectors and anchored logs should be used in high velocity streams to protect vulnerable banks and allow for reestablishment of vegetation. Riprap revetment should also be used, if necessary, to help stabilize slopes in areas of high velocity stream flows. The use of riprap should, however, be minimized. Rock typical of the local geology should be used if available. Monitoring of BMP performance in critical areas, particularly at sensitive stream crossings and stream approach slopes should be conducted and documented on a routine basis prior to and after storms during construction and operation. Based on monitoring, additional BMPs or other improvements may be necessary to insure minimization of impact.

All efforts should be made to minimize stream alterations which could impact water quality and fish and wildlife resources. Construction along streams should not take place during fish spawning seasons if possible.

Vehicle Maintenance, Petroleum, and Chemicals

To prevent petroleum products from contaminating soils and water bodies, the following BMPs should be implemented:

- Construction equipment and vehicles should be properly maintained to prevent leakage of petroleum products.
- Staging areas for equipment maintenance and chemical storage should be established 300 feet or more away from wetlands, streams, or karst features.

- Drip pans and tarps or other containment systems should be used when changing oil or other vehicle/equipment fluids.
- Any contaminated soils or materials should be disposed of off-site in proper receptacles at an approved disposal facility.
- Vehicle and equipment fueling should be attended at all times by site personnel. Spill cleanup materials should be stored on site and employees should be trained in spill control procedures.
- Vehicle washing should not occur on the project site, but at an area with appropriate wash facilities to manage contaminated wash water. Wash water should never be discharged directly into water bodies or karst features.
- Petroleum products and other chemicals should be properly stored in appropriately labeled containers under sheltered areas. Storage shelters should be designed with an impermeable floor area.
- Materials for cleaning up spills should be kept on site. Spills should be cleaned up immediately in accordance with state and federal regulations.

Stream Crossings/Pipelines

Use directional drilling methods for proposed pipeline crossings of losing streams, perennial streams, and wetlands. Prior to directional drilling, a geotechnical investigation using the least intrusive means possible (e.g. ground penetrating radar, minimal exploratory bore hole drilling, seismic refraction and reflections, cave radio, resistivity, magnetometry, etc.) should be conducted to determine subsurface/geologic conditions encountered along the drill path to ensure that a directional drill pipeline at the location would be feasible and not result in unnecessary damage to a sensitive area, such as a karst void. All drilling fluids should be captured and accounted for during drilling activities.

Stream channel disturbance using directional drilling is greatly reduced compared to trenching. Prevent runoff and contaminants from staging areas on either side of the crossing from entering the stream. This should require construction of secondary containment structures (i.e. berms and filter fences) along with runoff dispersion and sediment traps to prevent any runoff generated in the staging areas from reaching the stream. Additionally, equipment should not be run through stream channels.

Where excavation involves native or established wetland/riparian vegetation, the top 6-12 inches or more of vegetation and topsoil including the vegetation and root mass should be carefully removed and stockpiled separately into a dedicated deposition area. After completion of site disturbance this vegetated material and its associated soils should be placed as the surface material.

Wells located should be evaluated for closure methodology and potential biological inventories. Wells should be documented and evaluated for future monitoring opportunities. If wells are located which require closure, coordination with the USFWS should occur prior to closure.

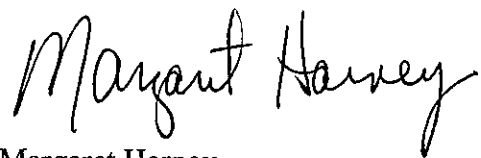
Stormwater

Stormwater concerns occur during construction and after the site is developed and stabilized. Threats to groundwater shift from sediment and fuel/oil/grease, to lawn chemicals, oil and grease from personal vehicles, brake dust, chip seals, roof tar, and other household contaminants. Plans should be made to address post construction stormwater contaminants.

The Arkansas Department of Environmental Quality and the Environmental Protection Agency oversee and permit stormwater runoff. In 2003, the Northwest Arkansas Regional Planning Commission developed the Northwest Arkansas Stormwater Quality Best Management Practices Preliminary Guide Manual for community use. The manual was developed with six control measures including public education and outreach, public participation and involvement, illicit discharge, detection and elimination, construction site runoff control, post-construction runoff control, pollution prevention, and good housekeeping. When open land is developed the hydrology of the site completely changes. Possible contaminants associated with development include sediment, nutrients, microbes, organic matter, toxic contaminants, trash, and debris. Each of these together or separately can pollute groundwater. Once contaminants leave the site and enter drainage within a groundwater recharge zone, whatever the water was carrying is now contributing to groundwater contamination threatens rare and endangered karst animals.

We appreciate your interest in the conservation of endangered species. If you have any questions, please call David Kampwerth at (501) 513-4477 or Sarah Pavan at (501) 513-4487.

Sincerely,

A handwritten signature in black ink that reads "Margaret Harney". The script is fluid and cursive, with the first name and last name clearly distinguishable.

Margaret Harney
Environmental Coordinator



Gannett Fleming

GANNETT FLEMING WEST, INC.
460 St. Michael's Drive
Suite 1202
Santa Fe, New Mexico 87505

Office (505) 820-7020
Facsimile (505) 820-7109

June 26, 2010

Loren Hitchcock
Interim Director
Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, Arkansas 72205

Subject: Facilities Improvements Environmental Assessment, Buffalo National River, Arkansas

Dear Mr. Hitchcock:

The National Park Service (NPS) has initiated work on an Environmental Assessment (EA) and is seeking public and agency input for the proposed Facilities Improvements project at Buffalo National River (BNR) to determine if the project could potentially result in any significant impacts to the natural or human environment. The EA will evaluate potential impacts to the natural, cultural, and human environment from construction and operations activities related to the proposed action and will be available for public review in the summer 2010. The NPS is seeking comments from the public, government agencies, and tribes to help identify issues and concerns for the planning process and the EA analysis.

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At Rush Landing, trees and brush would be cleared along the side of the ramp exit road and a pedestrian trail would be constructed up the hill so that foot and vehicular traffic would not have to use the same roadway. A drainage culvert would be installed at the top and bottom of the ramp exit road. The road along the river that leads to Clabber Creek and the Bowman Tract past Rush Landing would be widened where needed to allow for proper traffic flow and a turnaround would be constructed approximately 75 to 100 yards down the road using the old power line right of way. This would allow vehicles waiting to use the landing to line up in a location that does not block traffic coming into and leaving the landing area. The power line to the Bowman Tract would be removed and additional parking spaces for concessionaire buses would be created in the right-of-way.

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and stabilized. Stone steps would be secured and trip hazards such as rocks and roots would be removed. Drainage crossings would be improved by the use of buried pipes or stone culverts.

At this time, we are requesting input from your agency to identify any issues or concerns you may have with the proposed project so that they may be appropriately considered in the EA. Additional information may be found online at: <http://parkplanning.nps.gov/buff>. Comments may be mailed to the following address:

Facilities Improvements EA
Gannett Fleming West, Inc.
Attn: Devin Kennemore
PO Box 231
Rowe, New Mexico 87562-0231

Best regards,
Gannett Fleming West, Inc.

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Devin Kennemore
Environmental Project Manager

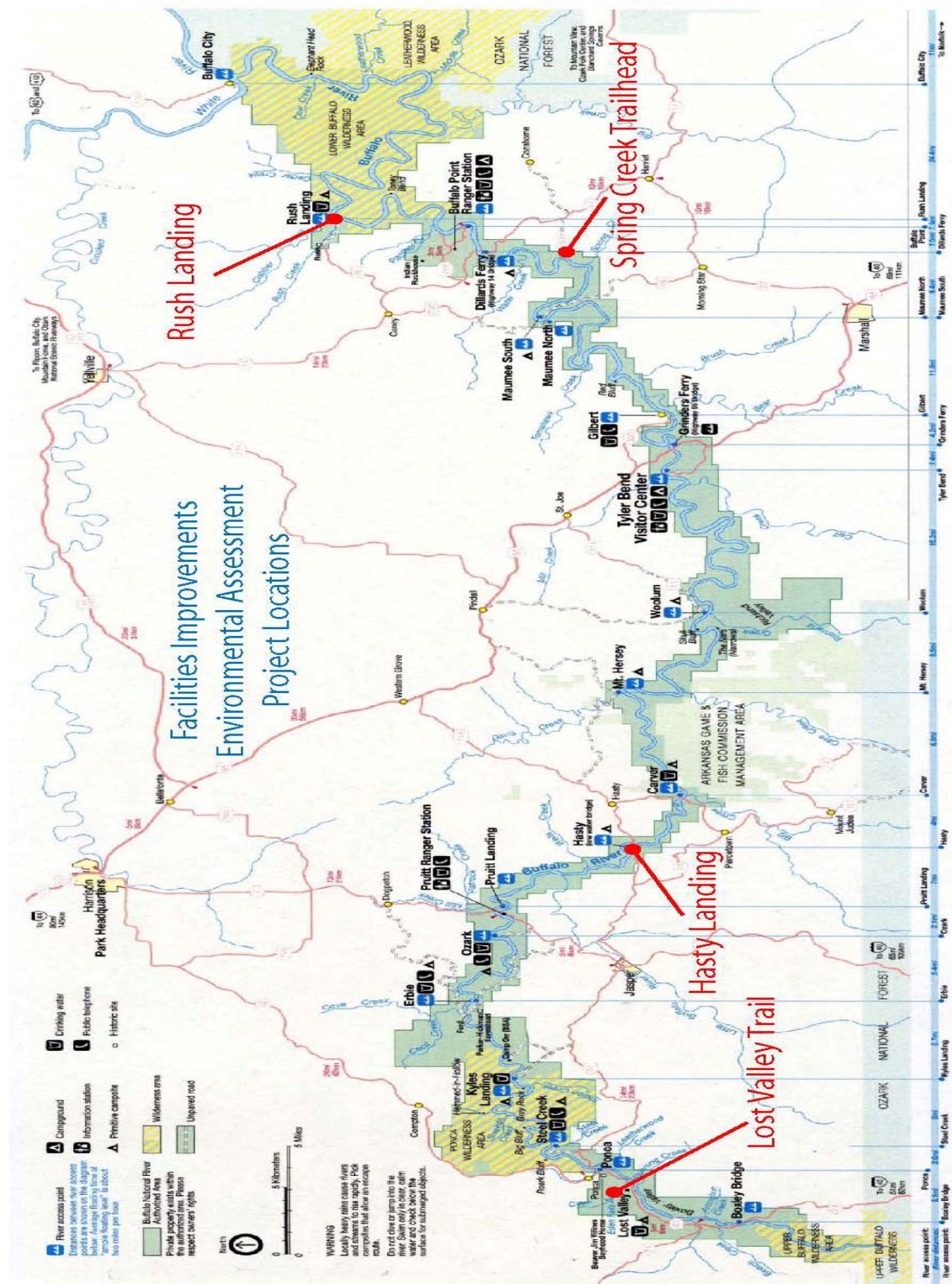


Figure 1. Map showing the locations of the proposed facilities improvements projects.

Scott Henderson
Director



Keeping the Natural State natural.

Arkansas Game and Fish Commission

Loren Hitchcock
Deputy Director
Mike Armstrong
Assistant Director

July 13, 2010

Mr. Devin Kennemore
Facilities Improvements EA
Gannett Fleming West, Inc.
PO Box 231
Rowe, New Mexico 87562-0231

Re: Facilities Improvements EA, Buffalo National River, Arkansas

Dear Mr. Kennemore:

Your letter regarding the above referenced subject has been referred to me for reply.

Biologists from our agency have reviewed the proposed project and we anticipate insignificant adverse impacts to fish and wildlife resources associated with this proposed activity.

We appreciate the opportunity to review this project proposal. If our agency can be of further assistance with the proposed project, don't hesitate to contact us.

Sincerely,

Robert K. Leonard, Biologist
Ecological & Engineering Services

RKL/kah

Cc: David Goad
Mark Oliver

2 Natural Resources Drive • Little Rock, AR 72205 • www.agfc.com
Phone (800) 364-4263 • (501) 223-6300 • Fax (501) 223-6448

The mission of the Arkansas Game and Fish Commission is to wisely manage all the fish and wildlife resources of Arkansas while providing maximum enjoyment for the people.

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
<u>Carex stricta</u> (tussock sedge)	-	INV	G5	S3
<u>Carex suberecta</u> (a caric sedge)	-	INV	G4	S2
<u>Carex timida</u> (a caric sedge)	-	INV	G2G3	S2S3
<u>Castanea pumila</u> var. <u>ozarkensis</u> (Ozark chinquapin)	-	INV	G5T3	S3S4
<u>Delphinium treleasei</u> (Trelease's larkspur)	-	INV	G3	S3
<u>Desmodium illinoense</u> (Illinois tick trefoil)	-	INV	G5	S2
<u>Euonymus obovatus</u> (running strawberry bush)	-	INV	G5	S3
<u>Juglans cinerea</u> (butternut)	-	INV	G4	S3
<u>Leavenworthia uniflora</u> (glade cress)	-	INV	G4	S3
<u>Lithospermum incisum</u> (fringed puccoon)	-	INV	G5	S2S3
<u>Pediomelum esculentum</u> (prairie turnip)	-	INV	G5	S2
<u>Penstemon cobaea</u> (showy beard-tongue)	-	INV	G4	S3
<u>Perideridia americana</u> (American squaw-root)	-	INV	G4	S2
<u>Philadelphus hirsutus</u> (mock orange)	-	INV	G5	S2S3
<u>Phlox bifida</u> (sand phlox)	-	INV	G5?	S3
<u>Rhynchospora capillacea</u> (capillary beakrush)	-	INV	G4	S2
<u>Ribes cynosbati</u> (prickly gooseberry)	-	INV	G5	S2S3
<u>Silene regia</u> (royal catchfly)	-	ST	G3	S2
<u>Spiranthes lucida</u> (shining ladies'-tresses)	-	INV	G5	S2
<u>Stylophorum diphyllum</u> (celandine poppy)	-	INV	G5	S3
<u>Symphyotrichum sericeum</u> (silky aster)	-	INV	G5	S2
<u>Tradescantia ozarkana</u> (Ozark spiderwort)	-	INV	G3	S3
<u>Valerianella ozarkana</u> (Ozark cornsalad)	-	INV	G3	S3
<u>Waldsteinia fragarioides</u> (barren strawberry)	-	INV	G5	S1
Special Elements - Natural Communities				
Central Interior Highlands Calcareous Glade and Barrens	-	INV	GNR	SNR
Ozark-Ouachita Dry Oak Woodland	-	INV	GNR	SNR
Ozark-Ouachita Fen	-	INV	GNR	SNR

Newton

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
Animals - Invertebrates				
<u>Alasmidonta marginata</u> (elktoe)	-	INV	G4	S3
<u>Alasmidonta viridis</u> (slippershell mussel)	-	INV	G4G5	S1
<u>Arrhopalites clarus</u> (a springtail)	-	INV	G4	S1S2
<u>Caecidotea ancyla</u> (an isopod)	-	INV	G3G4	S1?
<u>Caecidotea macropropoda</u> (bat cave isopod)	-	INV	G2G3	S1
<u>Caecidotea stiladactyla</u> (an isopod)	-	INV	G3G4	S1?
<u>Cambarus causeyi</u> (a crayfish)	-	INV	G1	S1
<u>Cicindela unipunctata</u> (woodland tiger beetle)	-	INV	G4	S2

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
<u>Crosbyella distincta</u> (a cave obligate harvestman)	-	INV	G1G2	S1
<u>Cyclonaias tuberculata</u> (purple wartyback)	-	INV	G5	S3?
<u>Cyprogenia aberti</u> (western fanshell)	-	INV	G2G3Q	S2
<u>Heterosternuta phoebeae</u> (a predaceous diving beetle)	-	INV	GNR	S2
<u>Lasmigona costata</u> (flutedshell)	-	INV	G5	S3
<u>Lirceus bicuspidatus</u> (an isopod)	-	INV	G3Q	S3
<u>Pseudactium ursum</u> (Ozark pseudactium)	-	INV	GNR	S1
<u>Ptychobranchus occidentalis</u> (Ouachita kidneyshell)	-	INV	G3G4	S3
<u>Quadrula cylindrica</u> (rabbitsfoot)	-	INV	G3G4	S2
<u>Scaphinotus inflectus</u> (a ground beetle)	-	INV	GNR	S1
<u>Toxolasma lividus</u> (purple lilliput)	-	INV	G2	S2
<u>Trigenotyla parca</u> (a cave obligate millipede)	-	INV	G1G2	S1
<u>Venustaconcha pleasii</u> (bleedingtooth mussel)	-	INV	G3G4	S3
<u>Villosa iris</u> (rainbow)	-	INV	G5Q	S2S3
<u>Villosa lienosa</u> (little spectaclecase)	-	INV	G5	S3
Animals - Vertebrates				
<u>Accipiter striatus</u> (Sharp-shinned Hawk)	-	INV	G5	S1S2B
<u>Corynorhinus townsendii ingens</u> (Ozark big-eared bat)	LE	INV	G4T1	S1
<u>Dendroica cerulea</u> (Cerulean Warbler)	-	INV	G4	S4B
<u>Erimystax harryi</u> (Ozark chub)	-	INV	G3G4Q	S3S4
<u>Eurycea spelaea</u> (grotto salamander)	-	INV	G4	S3
<u>Lampetra aepyptera</u> (least brook lamprey)	-	INV	G5	S2?
<u>Lampetra appendix</u> (American brook lamprey)	-	INV	G4	S2?
<u>Limnothlypis swainsonii</u> (Swainson's Warbler)	-	INV	G4	S3B
<u>Myotis grisescens</u> (gray myotis)	LE	INV	G3	S2S3
<u>Myotis leibii</u> (eastern small-footed bat)	-	INV	G3	S1
<u>Myotis sodalis</u> (Indiana bat)	LE	INV	G2	S1
<u>Notropis ozarcanus</u> (Ozark shiner)	-	INV	G3	S2
<u>Rana sylvatica</u> (wood frog)	-	INV	G5	S3
<u>Thryomanes bewickii</u> (Bewick's Wren)	-	INV	G5	S2B,S3N
Plants - Vascular				
<u>Abutilon incanum</u> (Texas Indian mallow)	-	INV	G5?	S1S2
<u>Arnoglossum reniforme</u> (great Indian plantain)	-	INV	G4	S2
<u>Brickellia grandiflora</u> (tassel flower)	-	INV	G5	S2
<u>Carex careyana</u> (Carey's caric sedge)	-	INV	G4G5	S3
<u>Carex hitchcockiana</u> (Hitchcock's caric sedge)	-	INV	G5	S1S2
<u>Carex shortiana</u> (Short's caric sedge)	-	INV	G5	S2
<u>Castanea pumila</u> var. <u>ozarkensis</u> (Ozark chinquapin)	-	INV	G5T3	S3S4
<u>Caulophyllum thalictroides</u> (blue cohosh)	-	INV	G4G5	S2
<u>Collinsia verna</u> (blue-eyed Mary)	-	INV	G5	S1
<u>Cypripedium kentuckiense</u> (Kentucky lady's-slipper)	-	INV	G3	S3
<u>Delphinium newtonianum</u> (Moore's larkspur)	-	INV	G3	S3
<u>Diphasiastrum digitatum</u> (southern running-pine)	-	INV	G5	S1S2

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
<u>Dodecatheon frenchii</u> (French's shooting star)	-	ST	G3	S2
<u>Elymus churchii</u> (Church's wild rye)	-	INV	G2G3	S2?
<u>Heuchera villosa</u> var. <u>arkansana</u> (Arkansas alumroot)	-	INV	G5T3Q	S3
<u>Hieracium scabrum</u> (rough hawkweed)	-	INV	G5	S2
<u>Huperzia lucidula</u> (shining club-moss)	-	INV	G5	S2S3
<u>Juglans cinerea</u> (butternut)	-	INV	G4	S3
<u>Leavenworthia uniflora</u> (glade cress)	-	INV	G4	S3
<u>Lilium superbum</u> (turk's-cap lily)	-	INV	G5	S1
<u>Melanthium woodii</u> (false hellebore)	-	INV	G5	S3
<u>Mimulus floribundus</u> (yellow monkey flower)	-	INV	G5	S2S3
<u>Muhlenbergia bushii</u> (nodding muhly)	-	INV	G5	S2
<u>Nemastylis nuttallii</u> (Nuttall's pleat-leaf)	-	INV	G4	S2
<u>Neviusia alabamensis</u> (Alabama snow wreath)	-	ST	G2	S1S2
<u>Osmorhiza claytonii</u> (Clayton's sweet cicely)	-	INV	G5	S1S3
<u>Phacelia gilioides</u> (hairy scorpionweed)	-	INV	G5	S2S3
<u>Philadelphus hirsutus</u> (mock orange)	-	INV	G5	S2S3
<u>Phlox bifida</u> (sand phlox)	-	INV	G5?	S3
<u>Prosartes lanuginosa</u> (yellow mandarin)	-	INV	G5	S2
<u>Silene ovata</u> (ovate-leaved catchfly)	-	ST	G3	S3
<u>Silene regia</u> (royal catchfly)	-	ST	G3	S2
<u>Smilax ecirrata</u> (carrion-flower)	-	INV	G5?	SH
<u>Stachys iltisii</u> (hedgenettle)	-	INV	GNR	S3
<u>Stylophorum diphyllum</u> (celandine poppy)	-	INV	G5	S3
<u>Symphyotrichum sericeum</u> (silky aster)	-	INV	G5	S2
<u>Tradescantia ozarkana</u> (Ozark spiderwort)	-	INV	G3	S3
<u>Trichomanes petersii</u> (dwarf bristle fern)	-	ST	G4G5	S2
<u>Trillium pusillum</u> var. <u>ozarkanum</u> (Ozark least trillium)	-	INV	G3T3	S3
<u>Viola canadensis</u> var. <u>canadensis</u> (Canada violet)	-	INV	G5T5	S2
Special Elements - Natural Communities				
Central Interior Highlands & Appalach.Sinkhole & Depres.Pond	-	INV	GNR	SNR
Ozark-Ouachita Mesic Hardwood Forest	-	INV	GNR	SNR
Upland Headwater Stream-Ozark Mountains	-	INV	GNR	SNR
Upland River-Ozark Mountains	-	INV	GNR	SNR
Upland Stream-Ozark Mountains	-	INV	GNR	SNR
Special Elements - Other				
Colonial nesting site, water birds	-	INV	GNR	SNR
Geological feature	-	INV	GNR	SNR

Searcy

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
Animals - Invertebrates				
<u>Arrhopalites clarus</u> (a springtail)	-	INV	G4	S1S2
<u>Caecidotea dimorpha</u> (an isopod)	-	INV	G2G3	S1?
<u>Cambarus causeyi</u> (a crayfish)	-	INV	G1	S1
<u>Cyclonaias tuberculata</u> (purple wartyback)	-	INV	G5	S3?
<u>Heterosternuta phoebeae</u> (a predaceous diving beetle)	-	INV	GNR	S2
<u>Lampsilis siliquoidea</u> (fatmucket)	-	INV	G5	S3
<u>Lampsilis streckeri</u> (speckled pocketbook)	LE	INV	G1Q	S1
<u>Lasmigona costata</u> (flutedshell)	-	INV	G5	S3
<u>Lirceus bicuspidatus</u> (an isopod)	-	INV	G3Q	S3
<u>Millerelix peregrina</u> (white liptooth)	-	INV	G2	SNR
<u>Patera clenchi</u> (Calico Rock oval)	-	INV	G1	SNR
<u>Ptychobranchus occidentalis</u> (Ouachita kidneyshell)	-	INV	G3G4	S3
<u>Quadrula cylindrica</u> (rabbitsfoot)	-	INV	G3G4	S2
<u>Toxolasma lividus</u> (purple lilliput)	-	INV	G2	S2
<u>Venustaconcha pleasii</u> (bleedingtooth mussel)	-	INV	G3G4	S3
<u>Villosa iris</u> (rainbow)	-	INV	G5Q	S2S3
<u>Villosa lienosa</u> (little spectaclecase)	-	INV	G5	S3
Animals - Vertebrates				
<u>Erimystax harryi</u> (Ozark chub)	-	INV	G3G4Q	S3S4
<u>Etheostoma moorei</u> (yellowcheek darter)	C	INV	G1	S1
<u>Eurycea spelaea</u> (grotto salamander)	-	INV	G4	S3
<u>Lampetra appendix</u> (American brook lamprey)	-	INV	G4	S2?
<u>Moxostoma pisolabrum</u> (pealip redhorse)	-	INV	G5	S2?
<u>Myotis grisescens</u> (gray myotis)	LE	INV	G3	S2S3
<u>Myotis leibii</u> (eastern small-footed bat)	-	INV	G3	S1
<u>Myotis sodalis</u> (Indiana bat)	LE	INV	G2	S1
<u>Notropis ozarcanus</u> (Ozark shiner)	-	INV	G3	S2
<u>Percina nasuta</u> (longnose darter)	-	INV	G3	S2
Plants - Vascular				
<u>Arabis shortii</u> var. <u>shortii</u> (Short's rockcress)	-	INV	G5T5	S1
<u>Asplenium pinnatifidum</u> (lobed spleenwort)	-	INV	G4	S3
<u>Brickellia grandiflora</u> (tassel flower)	-	INV	G5	S2
<u>Carex radiata</u> (a caric sedge)	-	INV	G4	S1
<u>Castanea pumila</u> var. <u>ozarkensis</u> (Ozark chinquapin)	-	INV	G5T3	S3S4
<u>Delphinium newtonianum</u> (Moore's larkspur)	-	INV	G3	S3
<u>Delphinium treleasei</u> (Trelease's larkspur)	-	INV	G3	S3
<u>Desmodium illinoense</u> (Illinois tick trefoil)	-	INV	G5	S2
<u>Fothergilla major</u> (witch alder)	-	INV	G3	S1
<u>Juglans cinerea</u> (butternut)	-	INV	G4	S3

Name	Status		Rank	
	<u>Federal</u>	<u>State</u>	<u>Global</u>	<u>State</u>
<u>Mimulus floribundus</u> (yellow monkey flower)	-	INV	G5	S2S3
<u>Neviusia alabamensis</u> (Alabama snow wreath)	-	ST	G2	S1S2
<u>Penstemon cobaea</u> (showy beard-tongue)	-	INV	G4	S3
<u>Phlox bifida</u> (sand phlox)	-	INV	G5?	S3
<u>Silene regia</u> (royal catchfly)	-	ST	G3	S2
<u>Stylophorum diphyllum</u> (celandine poppy)	-	INV	G5	S3
<u>Valerianella ozarkana</u> (Ozark cornsalad)	-	INV	G3	S3
Special Elements - Natural Communities				
Ozark-Ouachita Dry-Mesic Oak Forest	-	INV	GNR	SNR
Ozark-Ouachita Mesic Hardwood Forest	-	INV	GNR	SNR
Special Elements - Other				
Colonial nesting site, water birds	-	INV	GNR	SNR

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United States Department of the Interior
NATIONAL PARK SERVICE

Buffalo National River
402 N. Walnut, Suite 136
Harrison, AR 72601

IN REPLY REFER TO:

H4217 (BUFF-ICR)

May 25, 2010

Frances McSwain, Deputy State Historic Preservation Officer
Arkansas Historic Preservation Program
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

Dear Ms. McSwain:

The National Park Service (NPS) has initiated work on an Environmental Assessment (EA) and is seeking public and agency input for the proposed Facilities Improvements project to determine if the project could potentially result in any significant impacts to the natural or human environment. The EA will evaluate potential impacts to the natural, cultural, and human environment from construction and operations activities related to the proposed action and will be available for public review in the summer 2010. The NPS is seeking comments from the public, government agencies, and tribes to help identify issues and concerns for the planning process and the EA analysis.

The purpose of the project is to improve vehicle and pedestrian access to the river at Rush and Hasty Landings, provide parking space at the Spring Creek Trailhead, and improvements to the Lost Valley Trail for hiker safety and to ensure compliance with standards set by the Americans with Disabilities Act (ADA).

Specifically, at Rush Landing, trees and brush would be cleared along the side of the ramp exit road and a pedestrian trail would be constructed up the hill so that foot and vehicular traffic would not have to use the same roadway. A drainage culvert would be installed at the top and bottom of the ramp exit road. The road along the river that leads to Clabber Creek and the Bowman Tract past Rush Landing would be widened where needed to allow for proper traffic flow and a turnaround would be constructed approximately 75 to 100 yards down the road using the old power line right of way. This would allow vehicles waiting to use the landing to line up in a location that does not block traffic coming into and leaving the landing area. The power line to the Bowman Tract would be removed and additional parking spaces for concessionaire buses would be created in the right-of-way. Consultations regarding the archeological investigations were communicated to you on June 3, 2009.

Ozark Highland Trail extension crosses Spring Creek Road just inside the Buffalo National River boundary. Hikers use this location as an access point for the trail. NPS proposes to construct a parking area that would accommodate up to four vehicles adjacent to the road just inside the boundary, to alleviate hikers parking along Spring Creek Road. This location contains no archeological resources.

At Hasty Landing a canoe walkway will be constructed to alleviate social trailing, which will in turn reduce bank destabilization at the launch site. Area of social trailing would be restored and devices



**The Department of
Arkansas
Heritage**

Mike Beebe
Governor

Cathie Matthews
Director

Arkansas Arts Council

Arkansas Natural Heritage
Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum



**Arkansas Historic
Preservation Program**

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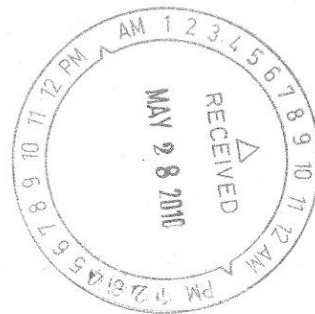
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May 26, 2010

Facilities Improvement EA
Buffalo National River
402 North Walnut, Suite 136
Harrison, Arkansas 72601

RE: Multi County - General
Section 106 Review - NPS
Environmental Assessment to Improve Visitor Facilities at Buffalo
National River
AHPP Tracking No: 72632



Dear :

This letter is written in response to your inquiry regarding properties of architectural, historical, or archeological significance in the area of the referenced project.

For the Arkansas Historic Preservation Program to complete its review of the proposed project, we will need the additional information checked below:

- ☒ A 1:24,000 scale USGS topographic map clearly delineating the project boundary.
- ☐ A project description detailing all aspects of the proposed project
- ☐ The location, age and photographs of structures to be renovated, removed, demolished, or abandoned as a result of this project.
- ☐ Photographs of any structures on property directly adjacent to the project area.

Once we have received the above information, we will complete our review as expeditiously as possible. If you have any questions, please contact me at (501) 324-9880.

Sincerely,

Steven M. Imhoff
Staff Archeologist





United States Department of the Interior
NATIONAL PARK SERVICE

Buffalo National River
402 N. Walnut, Suite 136
Harrison, AR 72601

IN REPLY REFER TO:

H4217(BUFF-ICR)

August 27, 2010

COPY

Frances McSwain, Deputy State Historic Preservation Officer
Arkansas Historic Preservation Program
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

Dear Ms. McSwain:

Buffalo National River sent you notification of an Assessment of Effect (EA) on May 25, 2010 that involves four separate projects (Rush Landing, Spring Creek Trailhead, Hasty Landing, and Lost Valley Trail) in four separate areas of the park. In a letter dated May 26, 2010 your office requested a 7.5' scale map showing the project areas. This information as well as complete section 106 documentation will be sent to your office for each of the four projects included in the EA when the field documentation and internal review process is completed.

Please address any questions or comments to Dr. Caven Clark at 870/365-2792 or caven_clark@nps.gov.

Sincerely,

Kevin G. Cheri
Superintendent

Cc: Midwest Region; Attn. Chief, History and National Register Programs