National Park Service
U.S. Department of the Interior

Mammoth Cave National Park
Kentucky

HOUCHIN FERRY SITE: DEVELOPMENT CONCEPT PLAN

Finding of No Significant Impact
October 2020

Recommended: BRUCE POWELL Digitally signed by BRUCE POWELL Date: 2020.10.08 16:02:19 -05'00' 10/8/20

Bruce M. Powell
Acting Superintendent, Mammoth Cave National Park

Date

Approved: KAREN CUCURULLO Digitally signed by KAREN CUCURULLO Date: 2020.10.21 17:45:25 -04'00'

For Stan Austin
Regional Director, Interior Region 2, South Atlantic – Gulf
National Park Service

Date

Introduction

The Department of the Interior, National Park Service (NPS) has prepared this Finding of No Significant Impact (FONSI) for the Environmental Assessment (EA) of the Development Concept Plan, Houchin Ferry Site, Mammoth Cave National Park (park). This FONSI has been prepared in accordance with the requirements of the National Environmental Policy Act of 1969, as amended (NEPA), its implementing regulations (40 CFR 1500-1508), the Department of the Interior NEPA regulations (43 CFR 46), and NPS Director's Order 12, Conservation Planning, Environmental Impact Analysis and Decision-Making and accompanying handbook.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below.

Background

In compliance with NEPA, the NPS prepared an EA to examine alternative actions and environmental impacts associated with a proposed development concept plan for the Houchin Ferry recreation site at the park. Existing site facilities are aging and need improvements and river conditions have substantially changed in recent years with the failure and subsequent removal of Lock and Dam No. 6 just downstream from the site. Conditions may change again with the possible removal of Lock and Dam No. 5. The plan aims to re-establish the Houchin Ferry site as a destination dedicated to a variety of user groups and recreational activities for both day and overnight use along with safe access to the river. The plan is needed because the catastrophic failure of Lock and Dam No. 6 in November 2016 and its subsequent removal in 2017 caused a river elevation drop of approximately 8 to 10 feet at this location. Both the north and south side concrete ramps at Houchin Ferry no longer reach the river. Lock and Dam No. 5 is slated for removal as well, which will result in a projected loss of an additional 3 to 5 feet of river elevation at the site. The park needs to provide new, safe river access at Houchin Ferry for visitors and staff, as well as upgrade aging facilities for enhanced visitor use and enjoyment.

Selected Alternative and Rationale for the Decision

Selected Alternative. After review of the alternatives and consideration of comments received from the public, various agencies, and interested stakeholders, the NPS has identified alternative C (Balance Day and Overnight Use, with Enhanced Level of Facility Improvements) as the selected alternative ("selected alternative"). Alternative C was the preferred alternative and proposed action in the EA. Under the selected alternative, the NPS will balance day and overnight use, but with a greater level of development than Alternative B. Camping will be reconfigured, picnicking opportunities will be expanded, and river access will be provided via canoe/kayak launches on either side of the river. A pedestrian suspension bridge will link the south and north sides of the river. More specifically:

<u>South Side of Green River</u>
The south-side campground will have 12 camping sites, each with a fire ring and picnic table. Of the 12 sites, 8 will be tent-only spaces (1 accessible) at the west end of the campground, and 4

spaces will have water and electric hookups for vehicles 20-feet long or less. An additional RV campsite with water and power will be provided to serve a campground host. A dump station with holding tank will be available for vehicles. There will be one accessible group picnic shelter holding about 7-8 picnic tables for group activities, plus about 6-8 accessible picnic tables for individual or family gatherings. At least half of the individual/family picnic tables will have shelters. Water and electric hookups will be provided in the picnic area, together with a composting toilet.

Steps to the river's edge will be constructed in the day use area, away from the campground.

The number of parking spaces will be increased to 25, to include 2 accessible spaces (1 car, 1 van). Up to seven of the spaces will be located in front of a portable toilet station (accessible) near the eastern edge of the campground. In addition, there will be 6 trailer spaces (1 accessible). Vehicular circulation will be improved by adding a turnaround to the east end of the site, which will include a livery staging loop for two vans with trailers. This turnaround will also provide access to an emergency boat launch. A canoe/kayak launch will be provided at the river, with two rails. This launch will require removing the former ferry ramp. Also included is an accessible trail to an overlook (accessible) which will allow dramatic views of the river from above.

North Side of Green River

The north side will be open primarily for river users and hikers seeking primitive riverside camping but will have limited vehicle access.

Alternative C will provide a simple turnaround for vehicles. Three parking spaces will be provided. One of these spaces will be accessible and one will be for park staff. More walking paths will be provided than under Alternative B. An accessible trail will lead to a north-side overlook above the river. This trail will also serve three to four accessible picnic tables. There will be about 6-9 primitive tent campsites, 3 to 5 of which will be reservable, with the rest being first come, first served. Boaters paddling the Green and Nolin Rivers could use the campsites as a stopover on a multi-day floating trip. The campsites will have fire rings and picnic tables. There will be a canoe/kayak launch similar to the one on the south side, but about 50% smaller and without a rail. No water will be provided at the site. (Note: The future use of Ollie-Houchin Ferry Road will be assessed in a future update to the Park's Trail Management Plan.)

Alternative C will also provide a pedestrian suspension bridge over the Green River to connect recreational facilities on the south and north sides of the river. The bridge will have a deck elevation of around 450 feet above sea level and will be reached either by stairs or ramps extending from the ground surface to the bridge deck. The bridge will be approximately 370 feet in length, with the actual distance depending on whether the bridge was served by stairs or ramps. The principal bridge supports will be located on the benches above the riverbanks, thereby eliminating obstructions at the river's edge.

The estimated net cost of Alternative C is projected to be $5.7 Million (2019). This cost does not factor in various other additional cost requirements such as design development and construction management which could add another 30-35% to the net cost.

Rationale. The NPS has selected alternative C for implementation because it accomplishes the project need with minimal impacts to natural or cultural resources. Of all the alternatives considered, alternative C provides the greatest increase in recreational opportunities. Alternative C develops the north side of the river in a way that can absorb anticipated future use. It likewise augments, upgrades, and reconfigures visitor use opportunities on the south side of the river in line with anticipated future visitor demand. In addition, alternative C restores connectivity between the two sides of the river via a proposed pedestrian bridge. The environmental impact of the planned development is minimal because the great majority of the development will occur in previously disturbed areas.

Other Alternatives Considered

In addition to the selected alternative, a "No-Action" alternative and a second action alternative were fully analyzed in the EA.

Under the No-Action alternative (Alternative A), current use patterns would continue on the south side of the river. The north side would remain essentially undeveloped and have only the existing vehicular turn-around space. River access would remain in a very poor state, with river-access challenges related to the river level and a steep, muddy bank on the north side.

Under Alternative B, NPS would balance day and overnight use of the site while providing moderate facility improvements. The south side of the river would have a limited amount of new and upgraded facilities, while the north side would be newly developed with primitive visitor use facilities. River access would be improved via new canoe/kayak launches on either side of the river. There would be no pedestrian bridge linking the two sides of the river.

Mitigation Measures

For the selected alternative, best management practices and mitigation measures will be used to prevent or minimize potential adverse impacts associated with this project. These practices and measures will be incorporated into the project construction documents and plans.

Resource protection measures undertaken during project implementation will include, but will not be limited to, those listed in the table below.

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Mitigation Measures and Best Management Practices

Potential Adverse Effect on:	Mitigation Measure or Best Management Practice
Historic Properties	To minimize ground disturbance, all staging areas, materials stockpiling, vehicle storage, and other construction-related facilities and areas would be located in a previously disturbed area or on hardened surfaces such as the existing parking areas. Ground-disturbing activities would be carefully planned because some areas may harbor presently unknown archeological resources. Special care must be taken in areas where excavation will be one meter or more below ground surface, as archeological resources may exist below this horizon. Construction documents would include stop-work provisions should archeological resources be uncovered, and the contractor would be apprised of these protective measures during the pre-construction conference. Work limits would be established and clearly marked to protect resources, and all protection measures would be clearly stated in the construction specifications. Workers would be instructed to avoid conducting activities beyond the construction zone and their compliance monitored by the project Contracting Officer's Technical Representative. Archeological monitoring of ground disturbance in currently inaccessible paved areas or areas beneath and adjacent to existing structures (walkways, steps, flooring, etc.) would help ensure that all cultural resources were identified and documented during the construction process. If previously unknown archeological resources were discovered, work would be stopped in the area of any discovery, protective measures would be implemented, and procedures outlined in 36 *CFR* 800.13 would be followed. Resources would be evaluated for their National Register of Historic Places significance, and adequate mitigation of project impacts (in consultation with appropriate agencies) and adjustment of the project design would take place to avoid or limit the adverse effects on resources. To reduce unauthorized collecting, construction personnel would be educated about cultural resources in general and the need to protect any cultural resources encountered. Work crews would be instructed regarding the illegality of collecting artifacts on federal lands to avoid any potential Archeological Resources Protection Act violations. This would include instructions for notifying appropriate personnel if human remains were discovered.

Construction-related effects on soils	Standard best management practices to limit erosion and control sediment release would be employed. Such measures include use of silt fencing, limiting the area of vegetative disturbance, use of erosion mats, and covering banked soils to protect them until they are reused.
Public Health and Safety	An accident prevention program would be a required submittal. This plan would include job hazard analyses associated with each major phase of the proposed project and would emphasize both worker and public safety. It would include planning for emergency situations, including fires, tornados, building collapse, explosions, power outages, rainstorms, and flooding. The plan would also take into consideration the nature of the construction, site conditions, including seasonal weather conditions and the degree of risk or exposure associated with the proposed activity. Regular project inspections and safety meetings would ensure the safety of the premises both to construction staff and visitors. A defined work area perimeter would be maintained to keep all construction-related impacts within the affected area. All paved areas that are subject to vehicular and pedestrian traffic would be kept clean of construction debris and soils. Sweeping of these areas would be implemented as necessary. Visitor safety would be ensured both day and night by fencing of the construction limits of the proposed action. Areas not safe for public entry would be marked and signed for avoidance. Unsafe conditions would be inspected for and corrected as soon as practicable to minimize the potential for staff or visitor injury. To the degree possible, impacts would be mitigated by the use of best management practices to reduce generation of dust and by limits on the types of chemicals (e.g., ones with high Volatile Organic Compound ratings) used in new construction and the rehabilitation.
Visitor Experience	Specific provisions would ensure that the majority of material deliveries were made during the week, rather than on weekends or holidays. By the same token, most of the disruptive work would not occur on weekends or holidays. Disruptive early morning or late evening deliveries would be minimized to the extent possible. The contractor would be encouraged to deliver the majority of materials in the early morning hours, before 10:00 a.m. All construction equipment would be equipped with mufflers kept in proper operating conditions, and when possible, equipment would be shut-off rather than allowed to idle. Standard noise abatement measures would include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive areas, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive public use areas as possible.

Sustainability and Conservation Potential	Shipment of materials in full loads would be encouraged, and vehicles and equipment would be maintained to minimize pollution generation. All new buildings would incorporate energy efficient and sustainable design to minimize energy consumption.

Finding of No Significant Impact

The Council on Environmental Quality regulations at 40 CFR section 1508.27 define significance with regard to context and intensity and identify considerations for determining whether the intensity of actions in the selected alternative will result in a significant effect on the human environment. The NPS planning team reviewed each of these criteria and determined that there will be no significant direct, indirect, or cumulative impacts resulting from the selected action. Furthermore, based on the professional judgment of NPS staff, implementation of the selected action will have a minimal effect on park resources. Five impact topics were analyzed in the EA and are discussed below: soils, vegetation, wetlands and floodplains, visitor use and experience, and public health and safety. The impact topics "special status species" and "historic properties" were dismissed from detailed analysis in the EA; these topics are likewise discussed below.

Soils

Implementing the selected alternative will have no significant impact on soils. Construction of the proposed canoe/kayak launch and other new/updated recreational facilities would result in localized disturbance to soils within the existing recreational area. Disturbance would result from both excavation activities (associated with installing foundations, etc.) and soil compaction (resulting from the operation of heavy equipment on exposed soils). For the most part, soil disturbance would take place on flat ground and would result in minimal erosion, especially in light of the silt fences and other best management practices required by the "Mitigation Measures" portion of the EA. Soil functions would be lost under the footprint of all new buildings and parking areas. On balance, impacts to soils would be limited because of the small area affected and the fact that much of the soil in the recreational area is already disturbed and compacted. The selected alternative would add to the ongoing loss of soils at the local and regional level resulting from human land disturbing activities and projected increases in visitation to the park as a result of local and regional recreation initiatives. The contribution of the selected alternative to such ongoing soil loss would be minimal due to the small amount of land affected.

Vegetation

Replacing the maintenance building and related structures will have no significant impact on vegetation. The selected alternative would generate new impacts to vegetation due to construction of the proposed canoe/kayak launch and other new/updated recreational facilities. Vegetation would be lost outright (removed and replaced with hardened surfaces) in the case of the new structures and new parking areas. However, the amount of vegetation to be

removed is small and would consist mostly of grasses (including non-native species) and some individual trees. Virtually all of the areas affected would be considered already disturbed. Heavy equipment may cause temporary disturbance in adjacent areas beyond the footprint of the construction sites. There would also be localized vegetation disturbance from foot traffic during vegetation clearing and construction activities. Repeated disturbance of vegetation (i.e., due to vehicle passes or foot traffic) during construction in areas where plants are not cleared would cause damage to plants and disturbance to ground cover.

Exotic plants or seeds could be brought to the site with fill material or on construction machinery. However, mitigation to ensure that imported material does not contain exotic plant material would be implemented, and contractual documents would require that heavy equipment should be cleaned so that it is weed-free before entering the project area.

Federal or State-listed plant species, or their habitats, would not be impacted as none occur in the vicinity of the project areas.

The selected alternative would add to the ongoing loss of vegetation at the local and regional level resulting from human land disturbing activities and projected increases in visitation to the park as a result of local and regional recreation initiatives. The contribution of the selected alternative to such ongoing loss of vegetation would be minimal due to the small amount of land affected. The selected alternative would thus contribute only minimally to ongoing cumulative adverse impacts to vegetation.

Wetlands and Floodplains

The selected alternative will have no significant impact on wetlands and floodplains. The only part of this project to be constructed in wetlands are the canoe/kayak launches on the south and north banks of the Green River. These launches would be constructed within the footprint of the existing ferry ramps using concrete and riprap for site stabilization. Together the launches would impact less than 1/10-acre of wetlands. Due to the small extent of impact, this project is exempt from the requirement to prepare a Wetland Statement of Findings under Executive Order 11990 (Protection of Wetlands). NPS Procedural Manual 77-1 provides that small boat ramps/launches, piers, or docks with total long-term wetland impact for the entire project (both onsite and offsite) of 0.1 acre or less are exempt from the requirement to prepare a Wetland Statement of Findings.

Under the selected alternative, the existing recreational facilities on the four-acre site south side of the river would remain in place or be upgraded. In addition, some new facilities would be added on the south side, and the one-acre site on the north side of the river would be newly developed. Facilities would consist of additional parking, new picnic tables, canoe/kayak launch, emergency boat launch, short walking trails, overlook, portable and composting toilets. All facilities, current and new, would be in the 100-year floodplain. The facilities cannot be moved out of the 100-year floodplain because (a) they support park functions often located near water for the enjoyment of visitors, and (b) the steep adjacent topography prevents moving the facilities farther up-slope.

The nature of the facilities, old and new, is such that they would not impede flood waters to any appreciable extent. The additional pavement and structures called for by this alternative are unlikely to negatively affect flood storage or groundwater recharge to a measurable degree, or to degrade overall riparian services, because (a) the paving footprint would still be small even after expansion, (b) the proposed boat launch would be designed so as to minimally impede floodwaters, and (c) the portable toilets could be removed from the 100-year floodplain during flood events. Those facilities that could not be moved could be subject to flood damage, but here again, the nature of the facilities is such that any damage would likely be minor.

The biggest impact to floodplains posed by the selected alternative would come from the proposed suspension bridge. No piers supporting the bridge would be placed in the active river channel or along the riverbanks, but the bridge supports, although constructed on existing contoured bluffs/benches above the river, would nevertheless be within the 100-year floodplain. Likewise, the bridge's proposed elevation of 450 feet above sea level is less than the 100-year flood elevation of 459 feet. The bridge would thus be subject to damage during the 20-year flood events (since flooding has occurred multiple times above the 445-450 elevation in the past 100 years and damage from fast floating large trees is of concern). Also, the proposed bridge could marginally affect river flow during such events.

The NPS manages floodplains in parks in accordance with Executive Order 11988 (Floodplain Management). NPS Procedural Manual 77-2 provides that when floodplain sites are used for overnight occupation, including camping, the NPS must take various steps to protect life, property, and park resources. Specifically, flood conditions and associated hazards must be quantified; appropriate actions (an alternative site, or effective mitigation and/or warning and/or evacuation planning) must be taken to manage floodplain conditions and flood hazards; and a formal Statement of Findings must be prepared. A Floodplain Statement of Findings is attached to this FONSI as Appendix C.

Cumulative impacts to wetlands and floodplains would be minimal due to the very limited amount of upstream development within and adjacent to floodplains in the park.

Visitor Use and Experience

The selected alternative will have no significant adverse impact on visitor use and experience. Visitor experience will be enhanced under this alternative. Day use visitors using the south side will have access to more parking spaces (25 vs. the 12 that currently exist), 2 of which would be built to ABAAS standards. There will also be 6 parking spaces for trailers, and a standing loop area for the commercial canoe and kayak companies to utilize when picking up or dropping off customers. In addition to the group picnic shelter, there will be additional individual picnic tables, with and without shelters, for visitors to use. A permanent canoe and kayak ramp (with two rails to place boats on top) will be built to improve the experience of launching and taking out a boat. An ABAAS trail leading to an overlook will be built on each side of the river and will allow visitors to view the river from above.

The campground will have 12 total sites (as it currently does) and 8 of those will be kept for tent-only camping. Four sites will be equipped with water and electric hookups, for use by vehicles

20 ft or less. This will be a beneficial impact to visitors who are looking for a less primitive camping experience. On the north side, there will be 6-9 camp sites for 4 people or less, with half of the sites available on a first come, first serve basis, and the other half available by reservation. This arrangement will allow visitors to either plan ahead and reserve a site, or to pick an available site when they arrive.

The addition of a pedestrian foot bridge connecting the north and south sides will have both beneficial and adverse impacts on the visitor experience. Visitors will be able to walk between the north and south sides of the river, thereby experiencing a connectivity that is otherwise only available by driving approximately 15 miles to the east via the Green River Ferry Crossing in the park or by driving across the Brownsville bridge 4 miles away. The bridge (and overlooks) will provide a more dramatic view of the river from above. The bridge could also have an adverse impact on river users and the river viewshed with the addition of a new man-made feature within the river corridor. However, because the bridge will be constructed in a previously developed and long-used recreation area, any adverse impacts will not be significant.

Public Health and Safety

Under the selected alternative, threats to public health and safety will be lessened due to improved facilities. The new and updated facilities in the selected alternative include limited new plumbing and electrical availability on the south side of the river. These modifications would increase visitor safety at the site to a minor degree. All new facilities, structures, and installations would comply with applicable building and safety codes/standards, thereby improving safety for park visitors and staff. Overall impacts to public health and safety would be beneficial.

However, the proposed suspension bridge will pose risks of injury. Experience at other parks has shown that the bridges, if not designed properly, could entice people to jump into the river, at great risk to themselves and possibly others. Accordingly, the suspension bridge will be designed specifically to minimize this risk, though some risk would likely remain. Furthermore, the bridge would be at risk of failure if the river level reaches 450 feet even if it is designed to minimize damage with its design. Finally, though rare, the river is still used at high river levels, so the suspension bridge could pose a small level of risk in these instances. These risks are not significant because the risk of injury can be avoided or minimized with proper design and management measures.

Special Status Species

During the assessment process, the park determined that the proposed action “may affect, but is not likely to adversely affect,” fourteen (14) federally-listed special status species. Therefore, the impact topic “Special Status Species” was not carried forward for detailed analysis in the EA. The United States Fish and Wildlife Service concurred with the park’s determination on June 17, 2020.

Historic Properties

For this project, the park completed consultation under Section 106 of the National Historic Preservation Act independently of the EA process. After internal review, the park determined

that the proposed action would not have an adverse effect on historic properties. Therefore, the impact topic "Historic properties" was not carried forward for detailed analysis in the EA. The Kentucky Heritage Council, acting as the state historic preservation office (SHPO), concurred with the park's determination on October 5, 2020.

Public Involvement

The EA was released for public review on June 1, 2020. The document remained available for review until June 30, 2020. The availability of the EA was announced through the park's web page, through social media, and through the NPS Planning, Environment, and Public Comment (PEPC) website at http://parkplanning.nps.gov/maca. No public meeting was held due to the coronavirus epidemic. Instead, a Powerpoint presentation summarizing the plan and requesting public comment was uploaded to Youtube.

A total of 17 correspondences, with 24 individual comments, was received from the public (via PEPC) during the EA comment period. None of the comments were substantive. The bulk of the comments expressed support for Alternative C, the selected alternative.

By letter dated June 17, 2020, the USFWS concurred with the park's determination that the project may affect, but is not likely to adversely affect, fourteen (14) federally-listed species. Similarly, on October 5, 2020 the Kentucky SHPO concurred with the park's determination that the project would not have an adverse effect on historic properties. Copies of the USFWS and Kentucky SHPO letters are attached in Appendix A.

Conclusion

The selected alternative does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS). The selected alternative will not have a significant effect on the human environment. Some long-term adverse environmental impacts will likely occur, but these will be limited in extent and partially offset by management activities designed to minimize impacts. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects or elements of precedent were identified. Implementation of the selected alternative will not violate any Federal, State or local environmental protection laws.

Based on the forgoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

APPENDIX A

CORRESPONDENCE

KENTUCKY HERITAGE COUNCIL

and

UNITED STATES FISH AND WILDLIFE SERVICE

ANDY BESHEAR
GOVERNOR

JACQUELINE COLEMAN
LT. GOVERNOR

TOURISM, ARTS AND HERITAGE CABINET
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MICHAEL E. BERRY
SECRETARY

CRAIG A. POTTS
EXECUTIVE DIRECTOR &
STATE HISTORIC
PRESERVATION OFFICER

October 5, 2020

Mr. Edward Jakaitis
Mammoth Cave National Park
P. O. Box 7
Mammoth Cave, KY 42259-0007

Re: Additional Information for Rehabilitation of Houchin River Ferry Crossing Site (PEPC #70636)

Dear Mr. Jakaitis:

Thank you for your email and attached documentation containing additional information concerning the above-mentioned project.

We understand that Mammoth Cave National Park proposes to redevelop the Houchin Ferry crossing of the Green River. Proposed activities will affect both the north and south sides of the river at the crossing. On the south side of the river, we understand that the Park proposes to reconfigure the camping area, expand the picnic area, increase parking, construct a vehicle turnaround and livery staging loop, and construct a canoe/kayak launch. Additionally, the concrete ramp leading to the former ferry launch would be removed. A trail would also be constructed to provide views of the river, and a pedestrian bridge would be constructed across the river to the north bank. On the north side of the river, proposed activities include construction of a vehicle turnaround, walking paths, picnic tables, primitive camping sites, and a canoe/kayak launch.

In our previous review of the project, dated July 29, 2020, we requested that the archaeological assessment of the proposed project area be submitted in a report format in order to complete the administrative record of the project. We received a memorandum describing the archaeological work, a copy of the KHC survey form for ED-181, and an updated determination of effect on August 13, 2020. For the aboveground portion of the review for this project, we had also requested on July 29 that Mammoth Cave evaluate Houchin Ferry/ED-181 as an individual site in addition to a cultural landscape. We also requested a better description of the character-defining features of Houchin Ferry and which of those features remain as well as a description of how any of the historic character-defining features of Houchin Ferry would be impacted by the proposed undertaking. We received this additional information on August 13 and followed up to request additional information on why the ferry cables were indicated as non-contributing as well as whether plans were available for the proposed pedestrian bridge that is a part of this undertaking. We received additional information regarding the integrity of the ferry cables and an explanation that the pedestrian bridge is currently in the conceptual phase on September 15, 2020.

After review of the memorandum describing the archaeological reconnaissance of the proposed project area, we understand that no archaeological sites or artifacts were identified.

(Continued on Next Page)

Based on our review of the aboveground portion of this project, we understand from the additional information provided that Mammoth Cave re-evaluated Houchin Ferry Crossing (ED-181) as an individual site and determined it Eligible for the National Register of Historic Places (NRHP), under Criterion A for its significance under the theme of transportation with a period of significance spanning from 1906 to 2013. We understand that Mammoth Cave also determined that the ferry ramps, comprised of the cut terrace landform, and the 4 steel frame cable towers (excluding the cables) are contributing features to the site. Finally, Mammoth Cave determined that the ferry cables, campground with its associated tent pads, tables, lantern hooks and drives, parking spaces, brick picnic pavilion, and park benches do not contribute to the site. We understand that the Houchin Ferry Operator [House] was built in 1996 and the Houchin Ferry Storage [Shed] was built in 1998, are less than 50 years of age, and are currently Not Eligible based on previous consultation with our office.

Based on our review, we concur with Mammoth Cave's official determination that Houchin Ferry Crossing (ED-181) is Eligible for listing on the NRHP under Criterion A inclusive of its contributing elements/character-defining features: the ferry ramps (cut terrace landform) and the four steel frame cable towers (excluding the cables). We concur that the ferry cables themselves are non-contributing as they are non-historic replacements (Ed Jakaitis to Jennifer Ryall via e-mail, 9-15-2020). We concur that the known proposed project elements should not impact the historic integrity of the NRHP-Eligible Houchin Ferry Crossing or other aboveground historic resources, and we appreciate that the ferry cable towers will remain in place without the cables and serve as an interpretive piece relating to the historical use of the site.

As such, we concur with Mammoth Cave's official determination of No Adverse Effect for this project conditional on the following:

- Submission of plans for the pedestrian bridge for our review and comment once they are available.
- Receipt of a report of the archaeological investigation for this project suitable for submission to the Office of State Archaeology. Please refer to our *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2017) for reporting requirements. Please also note that we must receive three bound archival copies of the report to complete the administrative record of this consultation.

  Our *Specifications*... may be found here: https://heritage.ky.gov/Documents/FieldworkCRspecs.pdf

We look forward to continuing consultation on this project. Should you have any questions concerning archaeological resources, feel free to contact Chris Gunn of my staff at (502) 892-3615 or chris.gunn@ky.gov. Questions concerning above-ground resources can be directed to Jennifer Ryall at (502) 892-3619 or jennifer.ryall@ky.gov.

Sincerely,

Craig A. Potts,
Executive Director and
State Historic Preservation Officer

CP:cmg, jr KHC # 58698, 59522, 59812

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
330 West Broadway, Suite 265
Frankfort, Kentucky 40601
(502) 695-0468

June 17, 2020

Mr. Rick Toomey
Mammoth Cave National Park
P.O. Box 7
Mammoth Cave, Kentucky 42259

Subject: FWS 2020-B-0430; Houchin Ferry Project; Mammoth Cave National Park

Dear Mr. Toomey:

The U.S. Fish and Wildlife Service's Kentucky Field Office (KFO) has reviewed the above-referenced project information and request for concurrence. Mammoth Cave National Park (MACA) is proposing a minor enlargement of an existing four-acre recreation facility on the south side of the Green River and a one-acre recreation facility on the north side of the Green River. The project area is located within the former Houchin Ferry facility site and consists of mowed lawns, minimal tree cover, and graveled and paved surfaces. A pedestrian suspension bridge will connect the two sides and canoe/kayak launches will be constructed on both sides within the footprint of the old ferry ramps. The KFO offers the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Federally Listed Species
MACA has determined that the proposed project will have "no effect" on the Kentucky cave shrimp *(Palaemonias ganteri*) or designated critical habitat. The nearest groundwater basin for the Kentucky cave shrimp is five miles from the proposed project area and no designated critical habitat will be impacted by the proposed project. There is no statutory requirement to request concurrence with a "no effect" determination; however, the KFO acknowledges this determination and has no additional comments or concerns regarding this species or designated critical habitat.

MACA has also determined that the proposed project has the potential to affect the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), gray bat (*Myotis grisescens*), and 11 federally listed mussels. Mussel species include the clubshell (*Pleurobema clava*), fanshell (*Cyprogenia stegaria*), northern rifflefleshell (*Epioblasma rangiana*), pink mucket (*Lampsilis abrupta*), purple cat's paw (*Epioblasma obliquata*), ring pink (*Obovaria retusa*), rough pigtoe (*Pleurobema plenum*), sheepnose (*Plethobasus cyphyus*), snuffbox (*Epioblasma triquetra*), and spectaclecase (*Margartifera monodonta*).

Federally Listed Bat Species

Tree removal will follow the guidelines included in MACA's programmatic vegetation removal program. Our office concurred that tree removal associated with this program "may affect, but is not likely to adversely affect" federally listed bat species in 2012 (FWS 2012-I-0052). In addition, the proposed project will have no impact on caves or cave-like features that could be used by these species. Construction activities will take place during the winter when bats are not expected to be present on the landscape; therefore, any effects associated with noise are expected to be discountable. Consequently, we concur that the proposed action "may affect, but is not likely to adversely affect" the Indiana bat, gray bat, and northern long-eared bat.

Federally Listed Mussels

The nearest suitable habitat for federally listed mussels occurs approximately four miles upstream of the project area. Habitat within the project area is impounded by Green River Lock and Dam 5 and is unlikely to support federally listed mussels. Further, in-stream impacts are limited to the placement of a small amount of concrete to secure the canoe/kayak launches. Best management practices will be implemented to control sediment and erosion during construction activities. Therefore, we concur with your determination that the proposed project "may affect, but is not likely to adversely affect" the above-listed mussels.

Summary

The KFO concurs that the proposed project "may affect, but is not likely to adversely affect" the Indiana bat, northern long-eared bat, gray bat, and 11 federally listed mussels. The requirements of section 7 have been fulfilled as they relate to federally listed species. Your obligations under section 7 must be reconsidered, however, if: (1) new information reveals that the proposed project may affect listed species or designated critical habitat in a manner or to an extent not previously considered, (2) the proposed project is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed project.

Thank you for the opportunity to comment on this proposed action. If you have any questions, please contact Carrie Allison at 502-695-0468, extension 46103.

Sincerely,

JENNIFER GARLAND Digitally signed by JENNIFER GARLAND Date: 2020.06.17 09:41:21 -04'00'

for Virgil Lee Andrews, Jr.
Field Supervisor

APPENDIX B

NON-IMPAIRMENT DETERMINATION

NON- IMPAIRMENT DETERMINATION

The Prohibition on Impairment of Park Resources and Values

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

> While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the Nation Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

What is Impairment?

NPS *Management Policies 2006*, Section 1.4.5, *What Constitutes Impairment of Park Resources and Values*, and Section 1.4.6, *What Constitutes Park Resources and Values*, provide an explanation of impairment.

> Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Section 1.4.5 of *Management Policies 2006* states:

An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Per Section 1.4.6 of *Management Policies 2006*, park resources and values that may be impaired include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

How is an Impairment Determination Made?

Section 1.4.7 of *Management Policies 2006* states, "[i]n making a determination of whether there would be an impairment, an NPS decision-maker must use his or her professional judgment. This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.

Management Policies 2006 further defines "professional judgment" as "a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker's education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities relative to the decision.

Impairment Determination for the Selected Alternative

This determination on impairment has been prepared for the selected alternative described in Chapter 2 of the environmental assessment entitled "Houchin Ferry Site: Development Concept Plan and Environmental Assessment." An impairment determination is made for all resource impact

topics analyzed for the selected alternative. An impairment determination is not made for "Visitor Use and Experience" because this impact area is not generally considered to be a park resource or value under the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Findings on Impairment for Soils

Upgrading and augmenting facilities at the Houchin Ferry site will have no substantial impact on park soil resources. Some soil functions will be lost under the footprint of all new structures and parking areas. However, impacts to soils will be limited because of the small area affected (total site size is five acres) and the fact that much of the soil at the site is already disturbed and compacted. The protection measures set forth in the selected alternative will ensure that impacts to soils adjacent to the immediate construction zone are minimized. Overall, the area of affected soils is small and previously disturbed. Therefore, the selected alternative will **not impair** soils.

Findings on Impairment for Vegetation

Upgrading and augmenting Houchin Ferry facilities will not result in extensive injury or mortality to park vegetation. The selected alternative will generate some new impacts to vegetation due to construction of new recreational structures and paved areas (e.g., picnic shelters, boat ramps, overlooks, parking spaces). Vegetation will be lost outright (removed and replaced with hardened surfaces) in the case of the new structures and new parking areas. However, the amount of vegetation to be removed is small and will consist mostly of grasses (including non-native species) and some individual trees. Heavy equipment may cause temporary disturbance in adjacent areas beyond the footprint of the construction sites.

There will also be localized vegetation disturbance from foot traffic during vegetation clearing and construction activities. Repeated disturbance of vegetation (i.e., due to vehicle passes or foot traffic) during construction in areas where plants are not cleared will cause some localized, temporary damage to plants and disturbance to ground cover. Virtually all of the areas affected would be considered already disturbed.

Exotic plants or seeds could be brought to the site with fill material or on construction machinery. New introductions could allow for exotic plants to become established and spread, especially in areas where the ground is disturbed by construction activities, and their proximity to native vegetation communities will represent a new threat to native habitats. Exotic plants currently growing in the area can also become established and spread on newly disturbed substrates. However, mitigation to ensure that imported material does not contain exotic plant material will be implemented, and contractual documents will require that heavy equipment should be cleaned so that it is weed-free before entering the project area.

The protection measures set forth in the selected alternative will ensure that vegetation impacts are minimal and occur in a previously disturbed area, away from the main, more intact vegetation resources of the park. Vegetation in the park as a whole will not be affected. Therefore, the selected alternative will **not impair** vegetation.

APPENDIX C

FLOODPLAIN STATEMENT OF FINDINGS