

Appendix D: Threatened and Endangered Species



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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Consultation Code: 03E14000-2016-SLI-0993

September 08, 2016

Event Code: 03E14000-2016-E-02103

Project Name: Shannon Co Route 19 J9P0438 Bridge Replacement and removal of temporary bridge

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system in order to provide information on natural resources that could be affected by your project. The response is provided by the U.S. Fish and Wildlife Service (Service) under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact our office if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. **Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular

intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, please visit species profiles at <http://www.fws.gov/midwest/endangered/section7/s7process/lifehistory.html>. Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

Gray bats - Gray bats roost in caves or mines year-round and use forest riparian areas for foraging. If your project will impact caves or mines or will involve tree removal around these areas (particularly within stream corridors, riparian areas, or associated upland woodlots), gray bats could be affected.

Indiana and northern long-eared bats - These species hibernate in caves or mines only during the winter. The rest of the year they roost under loose tree bark in tree crevices or cavities during the day and forage around tree canopies of floodplain, riparian, and upland forests at night. Trees which should be considered potential roosting habitat include those exhibiting loose or shaggy bark, crevices, or hollows. Tree species often include, but are not limited to: shellbark or shagbark hickory, white oak, cottonwood, and maple. If your project will impact caves or mines or will involve clearing forested habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected. If your project will involve removal of over 5 acres of forested habitat, you may wish to complete a Summer Habitat Assessment prior to contacting our office in order to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the Range-wide Indiana Bat Summer Survey Guidelines, located at www.fws.gov/midwest/Endangered/mammals/inba/ under the heading Summer Survey Guidance.

If no suitable habitat for any federally-listed, candidate, or proposed species is present, and no species or their critical habitat will be affected, then no further consultation or coordination is required. However, if any of the following apply, please contact our office for further consultation:

1. Designated critical habitat is present within the project area,
2. Suitable habitat for listed, candidate, or proposed species is present within the project area (see above for habitat descriptions for bat species), or
3. You determine that project activities may affect these species or their critical habitat (e.g., project occurs upstream or within a distance such that the species or habitat could be affected).

The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. For additional conservation measures that may benefit species identified in the enclosed list, please contact our office.

Other Considerations

Bald and Golden Eagles - Although the bald eagle has recently been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside of the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts and these can be found at <http://www.fws.gov/habitatconservation/communicationtowers.html>.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. In order to minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee's and the Service at http://www.aplic.org/uploads/files/2634/APPguidelines_final-draft_Apr12005.pdf. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas known to support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow guidelines located at <http://www.fws.gov/windenergy>. In addition, please refer to the Service's Eagle Conservation Plan Guidance, located at http://www.fws.gov/windenergy/eagle_guidance.html, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Next Steps

Should you determine that project activities may impact any of the natural resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species and please feel free to

contact our office with questions or for additional information.

Amy Salveter

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Co Route 19 J9P0438 Bridge Replacement and removal of temporary bridge

Official Species List

Provided by:

Columbia Ecological Services Field Office
101 PARK DEVILLE DRIVE
SUITE A
COLUMBIA, MO 65203
(573) 234-2132

Consultation Code: 03E14000-2016-SLI-0993

Event Code: 03E14000-2016-E-02103

Project Type: TRANSPORTATION

Project Name: Shannon Co Route 19 J9P0438 Bridge Replacement and removal of temporary bridge

Project Description: This project is being scoped for the removal of the temporary bridge, constructed in May 2015, and possible construction of new bridge on new or existing alignment. Total project impacts should be limited to 9 ac of ground disturbance and less than 5 ac of tree removal. There will be temporary stream impacts for demolition and possible construction of new bridge.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Co Route 19 J9P0438 Bridge Replacement and removal of temporary bridge

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-91.41390781151131 37.305187222382344, -91.41354796724045 37.30530481938091, -91.4121221046662 37.304451424281176, -91.41185517117263 37.30362259773153, -91.41292097468977 37.30176794560454, -91.41411273463744 37.301435959979486, -91.41357414497179 37.30285264760541, -91.41341922120773 37.30427323412047, -91.41390781151131 37.305187222382344)))

Project Counties: Shannon, MO



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Co Route 19 J9P0438 Bridge Replacement and removal of temporary bridge

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
Ozark Hellbender (<i>Cryptobranchus alleganiensis bishopi</i>) Population: Entire	Endangered		
Birds			
Red-Cockaded woodpecker (<i>Picoides borealis</i>) Population: Entire	Endangered		
Flowering Plants			
Virginia sneezeweed (<i>Helenium virginicum</i>)	Threatened		
Mammals			
Gray bat (<i>Myotis grisescens</i>) Population: Entire	Endangered		
Indiana bat (<i>Myotis sodalis</i>) Population: Entire	Endangered		
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



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Critical habitats that lie within your project area

There are no critical habitats within your project area.



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Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.



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Appendix B: NWI Wetlands

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of



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this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

The following NWI Wetland types intersect your project area in one or more locations. To understand the NWI Classification Code, see <https://ecos.fws.gov/ipac/wetlands/decoder>. To view the National Wetlands Inventory on a map go to <http://www.fws.gov/wetlands/Data/Mapper.html>.

Wetland Types	NWI Classification Code
Riverine	R3UBH
Riverine	R3USA



Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Foreword: Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this website is to provide information to federal, state and local agencies, organizations, municipalities, corporations and consultants regarding sensitive fish, wildlife, plants, natural communities and habitats to assist in planning, designing and permitting stages of projects.

PROJECT INFORMATION

Project Name and ID Number: Shannon Co Rt 19 Sinking Cr Bridge replacement J9P0438 #590

User Project Number: J9P0438

Project Description: Sinking Creek, 800 feet upstream of the Current River, Route 19 in Shannon County Mo

Project Type: Transportation, Structures and Bridges, New Bridge construction on new alignment, Span

Contact Person: Bree McMurray

Contact Information: Bree.McMurray@modot.mo.gov or 573-526-0606

Disclaimer: The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, Reports include information about records near but not necessarily on the project site.

The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.



U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination: Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. The information within this report is not intended to replace Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit the USFWS Information for Planning and Conservation (IPaC) website at <https://ecos.fws.gov/ipac/> for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

Transportation Projects: If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or www.modot.mo.gov/ehp/index.htm for additional information on recommendations.

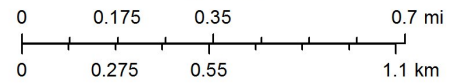
Shannon Co Rt 19 Sinking Cr Bridge replacement J9P0438



March 1, 2016

-  Project Boundary
-  Buffered Project Boundary

1:20,206



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Species or Communities of Conservation Concern within the Area:

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

MDC Natural Heritage Review
Resource Science Division
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Jefferson City, MO
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U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
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Other Special Search Results:

The project occurs on public land, Current River State Park, OZAR, Pioneer Forest, SUNKLANDS CA, please contact DNR, NPS, L/A/D, MDC.

Project Type Recommendations:

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - Indiana bats (*Myotis sodalis*, federal- and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats, especially from September to April. **If any trees need to be removed for your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132) for further coordination.**

The project location submitted and evaluated is within the range of the Gray Myotis (i.e., Gray Bat) in Missouri. Depending on habitat conditions of your project's location, Gray Myotis (*Myotis grisescens*, federal and state-listed endangered) could occur within the project area, as they forage over streams, rivers, lakes, and reservoirs. Avoid entry or disturbance of any cave inhabited by Gray Myotis and when possible retain forest vegetation along the stream and from the cave opening to the stream. See <http://mdc.mo.gov/104> for best management recommendations.

The project site submitted and evaluated is on or near Sensitive Aquatic Species Waters Current River, an important stream for freshwater mussel and amphibian populations. These streams were so designated because they have highly diverse mussel communities and mussel and amphibian species identified as Species of Conservation Concern. These streams are important to maintaining, restoring, or avoiding future listing of Species of Conservation Concern. Impacts to these aquatic species and habitats can be reduced by avoiding or minimizing activities that disturb the stream substrate, including rock placement, dredging, trenching, and wetted gravel bar disturbance; and avoid introducing heavy sediment loads, chemical or organic pollutants. These streams also are included as a Missouri Nationwide Permit Regional Condition (Number 7) that must be considered if working under if working under a Clean Water Act Section 404 Permit issued by the U.S. Army Corps of Engineers (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermit...>). A list of all streams designated under this Condition is available at <http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/nationwidepermi...>

The project site submitted and evaluated is on or near Fish Spawning Stream Reaches Current River, one of 138 state-designated fish spawning stream segments. These stream reaches were so designated because they have highly diverse fish communities, fish Species of Conservation Concern present, and because they are important to maintaining, restoring, or avoiding future listing of Species of Conservation Concern. These stream reaches also are included as a Missouri Nationwide Permit Regional Condition (Number 2) that must be considered if working under a Clean Water Act Section 404 Permit issued by the U.S. Army Corps of Engineers (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermit...>). A list of all stream reaches is available at <http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/nationwidepermi...>. Activities that alter or destabilize stream bottoms or banks should be avoided during the important fish spawning period for that stream, in order to not disrupt fish spawning (i.e., laying and fertilizing fish eggs.) The sensitive spawning period for this stream is March 15th to June 15th. At all times, avoid habitat destruction or introducing heavy sediment loads, chemical or organic pollutants.

Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See <http://mdc.mo.gov/9633> for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (?140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

Streams and Wetlands – Clean Water Act Permits: Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx>) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (<http://dnr.mo.gov/env/wpp/401/index.html>), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit <http://dnr.mo.gov/env/wpp/permits/index.html> for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below.

MDC Natural Heritage Review
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Ecological Service
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Miscellaneous Information

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 10-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

Additional information on Missouri's sensitive species may be found at <http://mdc.mo.gov/discover-nature/field-guide/endangered-species> . Detailed information about the animals and some plants mentioned may be accessed at http://mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx . If you would like printed copies of best management practices cited as internet URLs, please contact the Missouri Department of Conservation.

United States Department of the Interior



FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, Missouri 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181



April 20, 2015

Bree McMurray
Missouri Department of Transportation
105 West Capitol Avenue
P.O. Box 270
Jefferson City, Missouri 65102

Dear Ms. McMurray:

This letter is in response to your April 15, 2015, request for concurrence that activities associated with the Shannon County Route 19 Temporary Bridge are not likely to adversely affect federally listed threatened or endangered species. This response is provided by the U.S. Fish and Wildlife Service (Service) under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327), the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543), and the Migratory Bird Treaty Act (16 U.S.C. 703-712).

According to information provided in your April 15, 2015, biological assessment (BA), the Missouri Department of Transportation (MoDOT), acting as the representative of the Federal Highway Administration (FHWA), is planning to construct a temporary bridge on Route 19 across Sinking Creek in Shannon County, Missouri. Due to deterioration of the existing bridge, MoDOT has placed a weight restriction on the bridge and the detour route for all overweight vehicles is 50 miles. The proposed temporary bridge will be located immediately downstream of the existing Route 19 bridge. As proposed, the bridge will be 360 feet (ft) in length, 28 ft wide and constructed on drilled shaft piers set 40 ft apart. Minimum roadwork will be undertaken to connect the temporary bridge to Route 19, with less than one acre of forested habitat proposed for removal.

Federally Listed Species

Federally endangered, threatened, proposed, or candidate species which could occur within the project area include the gray bat (*Myotis grisescens*; Endangered), Indiana bat (*Myotis sodalis*; Endangered), northern long-eared bat (*Myotis septentrionalis*; Threatened), and Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*; Endangered). Although the project area is also within the range of the Virginia sneezeweed (*Helenium virginicum*; Threatened) and Hine's emerald dragonfly (*Somatochlora hineana*; Endangered), you indicated in your April 15, 2015,

letter that no suitable habitat for any of these species occurs within the project area. Therefore, the Service concurs with your determination that project activities will have no effect on the Virginia sneezeweed or Hine's emerald dragonfly. The red-cockaded woodpecker (*Picoides borealis*; Endangered) was listed as potentially present on the official species list generated through the Service's Information, Planning, and Conservation (IPaC) system. However, the species is considered extirpated in Missouri; thus, there should be no effect from project activities.

Gray bat (*Myotis grisescens*), Endangered

The gray bat occupies a limited geographic range in limestone karst areas of the southeastern United States, including Missouri. With rare exceptions, the gray bat roosts in caves year-round. In winter most gray bats hibernate in vertical (pit) caves with cool, stable temperatures below 10 degrees Celsius. Summer caves, especially those used by maternity colonies, are nearly always located within a kilometer (0.6 mile) of rivers or reservoirs over which bats feed.

Gray bats likely occur within the project area given the proximity to several caves used by gray bats as hibernacula (Bat Cave Shannon County, Moser Prater Cave, Round Spring Cave). In addition, 53 gray bats were captured during mist netting surveys at Camp Zoe, which is within one mile east of the proposed bridge location.

Although the gray bat likely occurs within the project area, we do not anticipate impacts to the species given the following considerations: 1) the project will have no impact on caves, 2) impacts to foraging habitat are unlikely given the minimal amount of tree removal within the riparian corridor, and 3) impacts to the prey base are unlikely based on the anticipated amount of sediment entering the river from portions of the project occurring in-stream. **Therefore, we concur with your determination that project activities may affect, but are not likely to adversely affect the gray bat.**

Indiana bat (*Myotis sodalis*), Endangered

From late fall through winter Indiana bats in Missouri hibernate in caves in the Ozarks and Ozark Border Natural Divisions. During the spring and summer, Indiana bats utilize living, injured (e.g., split trunks and broken limbs from lightning strikes or wind), dead or dying trees with exfoliating bark or cracks and crevices for roosting throughout the state.

The Indiana bat is likely present within the project area given the proximity to hibernacula (see above) and presence of the species within the Camp Zoe area. During surveys conducted in 2014, one male Indiana bat was captured during mist netting surveys; while the species was detected acoustically at two additional sites. As noted above, Camp Zoe is less than one mile from the project area.

In order to avoid direct impacts to the species, you stated that MoDOT will conduct emergence surveys at each potential roost within the acre of forested habitat proposed for removal. These surveys should adhere to guidelines outlined in Appendix E of the 2015 Range-wide Indiana Bat Summer Survey Guidelines. If no bats are observed using a potential roost tree, it should be removed within 24 hours of the emergence survey. However, if any bats are observed using a roost tree, please contact our office for further coordination. **With implementation of the**

measures outlined above, we concur with your determination that project activities may affect, but are not likely to adversely affect the Indiana bat.

Northern long-eared bat (*Myotis septentrionalis*), Proposed Endangered

The northern long-eared bat occurs throughout Missouri and similar to the Indiana bat, roosts in caves (or habitats similar to caves) during the winter and under loose tree bark or in tree cracks or crevices during the summer.

The northern long-eared bat has been documented in two caves within 2.5 miles of the project area. In addition, surveys conducted at Camp Zoe in 2014 resulted in the capture of five individuals and acoustic detection at five of seven sites. One of the captured individuals was a pregnant female and two maternity roost trees were located immediately east of Camp Zoe using radio telemetry.

As noted previously, approximately one acre of forest habitat will be cleared as part of project activities, and MoDOT intends to conduct emergence surveys at each potential roost. These surveys should be conducted according to guidelines outlined in Appendix E of the 2015 Range-wide Indiana Bat Summer Survey Guidelines. If no bats are observed using a potential roost tree, it should be removed within 24 hours of the emergence survey. However, if any bats are observed using a roost tree, please contact our office for further coordination. **With implementation of these measures, we concur with your determination that project activities may affect, but are not likely to adversely affect the northern long-eared bat.**

Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*), Endangered

The Ozark Hellbender is a large, aquatic salamander inhabiting cool, fast-flowing streams and rivers in the Ozark Highlands. The species can be affected by direct disturbance to cover rocks or from degraded water quality, including excessive sedimentation.

Although the Ozark Hellbender is not known to occur within the immediate project area, the species has been documented in the Current River within 2.5 miles downstream of Sinking Creek. Suitable Ozark Hellbender habitat is also present immediately downstream of the confluence.

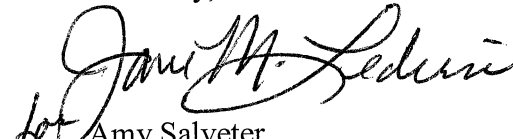
Because the project area is upstream of occupied Ozark Hellbender sites, Trisha Crabill, of my staff, participated in an April 14, 2015, site visit to discuss project plans and assess potential impacts to the Ozark Hellbender. As described during the site visit and in the BA you submitted, construction of the bridge will involve installation of four piers, and the bridge will be 360 ft in length and 28 ft wide. A temporary crossing will be constructed in the stream channel to accommodate equipment used to install the bridge piers. During the site visit, it was determined that the size and number of pipe culverts in the temporary crossing was sufficient to allow normal flow of Sinking Creek during construction of the bridge. Therefore, we do not expect streambed aggradation to occur upstream or for degradation to occur downstream of the project site (which could result in sedimentation at Ozark Hellbender sites).

Because a patch of suitable Ozark Hellbender habitat occurs immediately downstream of the confluence of Sinking Creek with the Current River, we recommend that a survey be conducted

to determine if the species is present. Jeff Briggler, Missouri Department of Conservation herpetologist, has agreed to survey the site during the week of April 20 before project activities are initiated. If any individuals are located during the survey, please contact our office for further coordination. **With implementation of this measure and because we do not anticipate that a substantial amount of sedimentation will reach sites on the Current River known to be occupied by Ozark Hellbenders, we concur with your determination that project activities may affect, but are not likely to adversely affect the Ozark Hellbender.**

Thank you for the opportunity to provide comments on the proposed project. Should you have questions, or if we can be of further assistance, please contact Trisha Crabill at 573-234-2132, extension 121.

Sincerely,



Amy Salveter
Field Supervisor

Cc: FHWA, Jefferson City, MO (Raegan Ball)
USACE, Walnut Ridge, AR (Louis Clarke)
ONSR, Van Buren, MO (Victoria Grant, Eric Daniels, Joe Strenfel)
MDC, Jefferson City, MO (Audrey Beres, John Fantz, Jeff Briggler)



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Columbia Ecological Services Field Office
101 PARK DEVILLE DRIVE, SUITE A
COLUMBIA, MO 65203
PHONE: (573)234-2132 FAX: (573)234-2181

Consultation Code: 03E14000-2015-SLI-0471

April 10, 2015

Event Code: 03E14000-2015-E-00257

Project Name: Shannon Rt 19 Temporary Bridge Sinking Creek

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system in order to provide information on natural resources that could be affected by your project. The response is provided by the U.S. Fish and Wildlife Service (Service) under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact our office if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. **Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, please visit species profiles at <http://www.fws.gov/midwest/endangered/section7/s7process/lifehistory.html>. Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

Gray bats - Gray bats roost in caves or mines year-round and use forest riparian areas for foraging. If your project will impact caves or mines or will involve tree removal around these areas (particularly within stream corridors, riparian areas, or associated upland woodlots), gray bats could be affected.

Indiana and northern long-eared bats - These species hibernate in caves or mines only during the winter. The rest of the year they roost under loose tree bark in tree crevices or cavities during the day and forage around tree canopies of floodplain, riparian, and upland forests at night. Trees which should be considered potential roosting habitat include those exhibiting loose or shaggy bark, crevices, or hollows. Tree species often include, but are not limited to: shellbark or shagbark hickory, white oak, cottonwood, and maple. If your project will impact caves or mines or will involve clearing forested habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected. If your project will involve removal of over 5 acres of forested habitat, you may wish to complete a Summer Habitat Assessment prior to contacting our office in order to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the Range-wide Indiana Bat Summer Survey Guidelines, located at www.fws.gov/midwest/Endangered/mammals/inba/ under the heading Summer Survey Guidance.

If no suitable habitat for any federally-listed, candidate, or proposed species is present, and no species or their critical habitat will be affected, then no further consultation or coordination is required. However, if any of the following apply, please contact our office for further consultation:

1. Designated critical habitat is present within the project area,
2. Suitable habitat for listed, candidate, or proposed species is present within the project area (see above for habitat descriptions for bat species), or
3. You determine that project activities may affect these species or their critical habitat (e.g., project occurs upstream or within a distance such that the species or habitat could be affected).

The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. For additional conservation measures that may benefit species identified in the enclosed list, please contact our office.

Other Considerations

Bald and Golden Eagles - Although the bald eagle has recently been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden

Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside of the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts and these can be found at <http://www.fws.gov/habitatconservation/communicationtowers.html>.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. In order to minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee's and the Service at http://www.aplic.org/uploads/files/2634/APPguidelines_final-draft_Apr12005.pdf. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas known to support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow guidelines located at <http://www.fws.gov/windenergy>. In addition, please refer to the Service's Eagle Conservation Plan Guidance, located at http://www.fws.gov/windenergy/eagle_guidance.html, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Next Steps

Should you determine that project activities may impact any of the natural resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species and please feel free to contact our office with questions or for additional information.

Amy Salveter

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Official Species List

Provided by:

Columbia Ecological Services Field Office
101 PARK DEVILLE DRIVE
SUITE A
COLUMBIA, MO 65203
(573) 234-2132

Consultation Code: 03E14000-2015-SLI-0471

Event Code: 03E14000-2015-E-00257

Project Type: Bridge Construction / Maintenance

Project Name: Shannon Rt 19 Temporary Bridge Sinking Creek

Project Description: Construction of a temporary bridge, estimated service 2-5 years, for all traffic on Rt 19 in Shannon County. Project included temporary instream structures for installation of long-term temporary bridge. This does not include the removal of the existing Rt 19 bridge at this location. installation of piers inside of the stream banks and fill material outside of the stream banks.

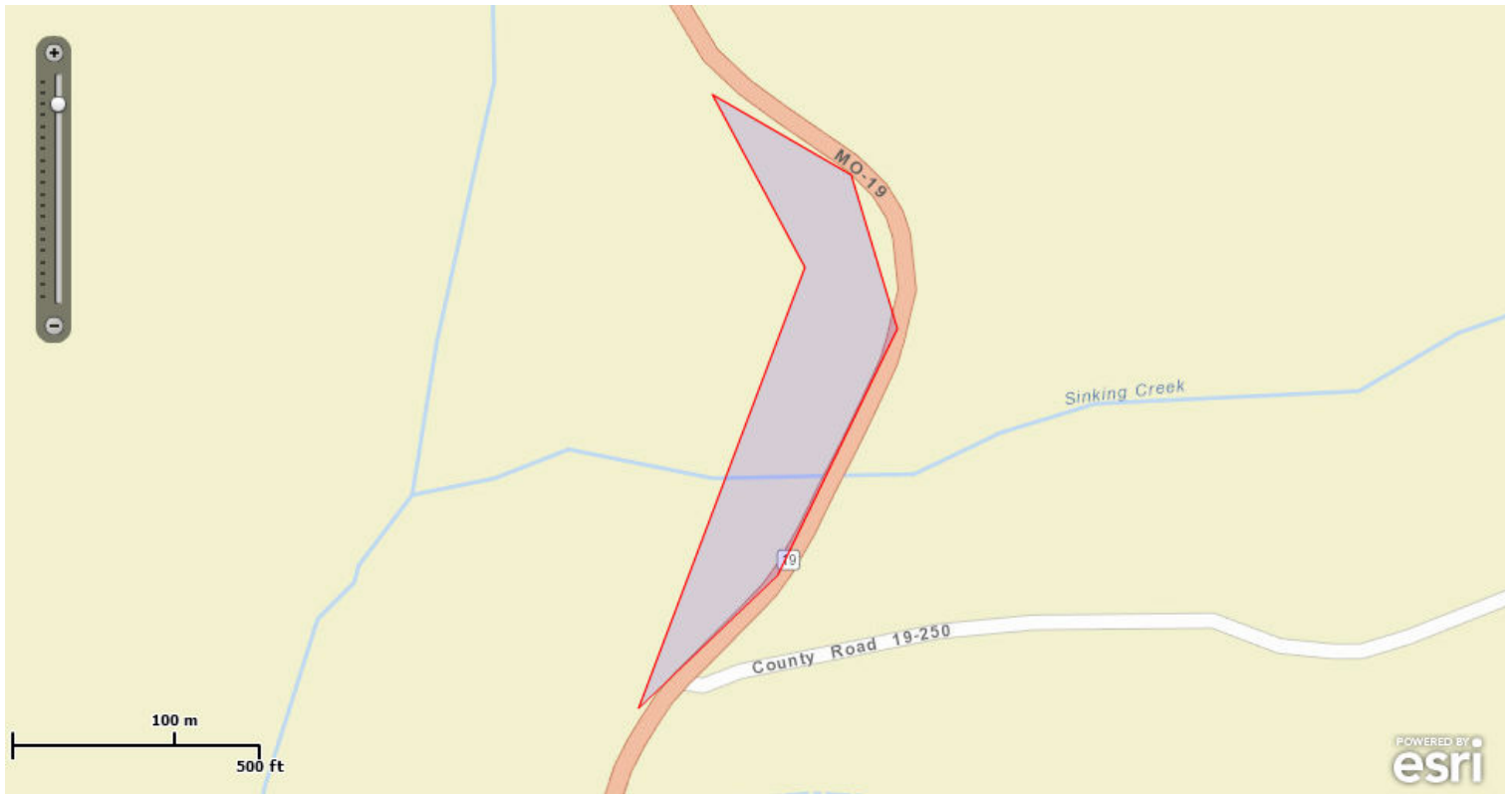
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-91.4135427 37.3047892, -91.4125771 37.3043454, -91.4122552 37.3034946, -91.4130899 37.3021282, -91.4140577 37.3013934, -91.412899 37.3038334, -91.4135427 37.3047892)))

Project Counties: Shannon, MO



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Endangered Species Act Species List

There are a total of 7 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
Ozark Hellbender (<i>Cryptobranchus alleganiensis bishopi</i>) Population: Entire	Endangered		
Birds			
Red-Cockaded woodpecker (<i>Picoides borealis</i>) Population: Entire	Endangered		
Flowering Plants			
Virginia sneezeweed (<i>Helenium virginicum</i>)	Threatened		
Insects			
Hine's Emerald dragonfly (<i>Somatochlora hineana</i>)	Endangered	Final designated	
Mammals			
Gray bat (<i>Myotis grisescens</i>) Population: Entire	Endangered		
Indiana bat (<i>Myotis sodalis</i>)	Endangered		



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Population: Entire			
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Appendix A: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

Migratory birds of concern that may be affected by your project:

There are 18 birds on your Migratory birds of concern list.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
Blue-winged Warbler (<i>Vermivora pinus</i>)	Yes	Breeding
Loggerhead Shrike (<i>Lanius</i>)	Yes	Year-round



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

<i>ludovicianus</i>)		
cerulean warbler (<i>Dendroica cerulea</i>)	Yes	Breeding
Bell's Vireo (<i>Vireo bellii</i>)	Yes	Breeding
Prairie Warbler (<i>Dendroica discolor</i>)	Yes	Breeding
Worm eating Warbler (<i>Helmitheros vermivorum</i>)	Yes	Breeding
Prothonotary Warbler (<i>Protonotaria citrea</i>)	Yes	Breeding
Least Bittern (<i>Ixobrychus exilis</i>)	Yes	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Yes	Wintering
Sedge Wren (<i>Cistothorus platensis</i>)	Yes	Migrating
Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	Year-round
Dickcissel (<i>Spiza americana</i>)	Yes	Breeding
Fox Sparrow (<i>Passerella iliaca</i>)	Yes	Wintering
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Yes	Year-round
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	Yes	Year-round



United States Department of Interior
Fish and Wildlife Service

Project name: Shannon Rt 19 Temporary Bridge Sinking Creek

Kentucky Warbler (<i>Oporornis formosus</i>)	Yes	Breeding
Rusty Blackbird (<i>Euphagus carolinus</i>)	Yes	Wintering

United States Department of the Interior



FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, Missouri 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181



September 8, 2014

Rick Gundlach
SCI Engineering, Inc.
47 St. Andrews Drive
Union, Missouri 63084

Dear Mr. Gundlach:

This letter is in regards to potential impacts to federally listed species from the proposed Camp Zoe project in Shannon County, Missouri. This letter is provided by the U.S. Fish and Wildlife Service (Service) under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327), the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543), and the Migratory Bird Treaty Act (16 U.S.C. 703-712).

According to information you provided in your April 29, 2014 letter, the State of Missouri is proposing to create a state park on the property previously referred to as Camp Zoe. The site is 407 acres and is located along Sinking Creek, approximately 0.3 miles from the confluence with the Current River. Current project plans include construction of a lodge, cabins, general store, new septic system, and realignment of roads within the existing campground. Through subsequent discussions with my staff, you indicated that the project will also involve expansion of existing utility corridor rights of way (ROW) and construction of a vehicular bridge and a pedestrian bridge across Sinking Creek.

Federally endangered, threatened, proposed, or candidate species which could occur within the project area and be impacted by project activities include the Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*), gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and northern long-eared bat (*Myotis septentrionalis*). Although the Hine's emerald dragonfly (*Somatochlora hineana*) and Virginia sneezeweed (*Helenium virginicum*) are known from Shannon County, no suitable habitat exists within the project area.

Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*), Endangered

The Ozark Hellbender is a large, aquatic salamander inhabiting cool, fast-flowing streams and rivers in the Ozark Highlands. Based on information you provided on the August 28, 2014 interagency conference call, the substrate within Sinking Creek consists of gravel and does not contain habitat suitable for the Ozark Hellbender.

Although Ozark Hellbenders do not occur within the immediate project area, individuals downstream of the project site in the Current River could be impacted by project activities if pollutants from equipment (e.g., oil, fuel, and other fluids) and/or excessive sediment are allowed to enter the stream during project activities. Therefore, we recommend that you incorporate the enclosed Best Management Practices for Construction Projects Affecting Missouri Streams and Rivers. Of particular importance, is implementing a structural design for the bridge across Sinking Creek which avoids impacts to the stream's natural flow pattern. Clearing of vegetation for bridge construction should be avoided or minimized for erosion and flood damage control purposes. We also recommend that you continue to coordinate waste water disposal plans with the Water Pollution Control Branch of the Missouri Department Natural Resources to ensure that contamination of groundwater or of Sinking Creek is avoided.

Gray bat (*Myotis grisescens*), Endangered

The gray bat occupies a limited geographic range in limestone karst areas of the southeastern United States, including Missouri. With rare exception, the gray bat roosts in caves year-round. In winter, most gray bats hibernate in vertical (pit) caves with cool, stable temperatures below 10 degrees Celsius. Summer caves, especially those used by maternity colonies, are nearly always located within a kilometer (0.6 mile) of rivers or reservoirs over which bats feed.

According to the Bat Survey Report you provided on August 6, 2014, acoustic and mist netting surveys were conducted at the Camp Zoe and utility corridor project sites from May 24th to May 30th, 2014 by a team led by Dr. Lynn Robins. Fifty-three gray bats were captured during mist netting surveys, all of which were males. Per the cave report you provided on August 28, 2014, two caves within the project area were surveyed on May 3, 2014 by the Cave Research Foundation, and neither were found to harbor gray bats or provide suitable habitat for the species. However, other caves are present on the site, and these caves should be assessed to determine whether gray bats may be present (during any time of year).

Gray bats could be impacted if the prey base within foraging habitat is substantially reduced (e.g., by extensive pesticide application or removal of forested habitat within the riparian corridor) or if the connectivity of habitat between foraging and roosting sites is not maintained as gray bats primarily use forested corridors to travel between these areas. We recommend that pesticide use be avoided or minimized near water bodies or areas of karst topography and that removal of forested habitat within 100 feet of streams be avoided. Should gray bats be detected in caves on site, impacts to these caves should also be avoided.

Indiana bat (*Myotis sodalis*), Endangered

From late fall through winter, Indiana bats in Missouri hibernate in caves or habitats resembling caves. Indiana bats roost in trees during the day and forage for flying insects in and around the tree canopy at night during the active season (April 1- November 1). A variety of upland and wetland habitats are used as foraging areas, including a variety of forest habitats, pastures, clearings with early successional vegetation, cropland borders, and wooded fencerows. Roosting habitat requirements for the species are not well defined but the following are considered important:

- 1) Live or overly-mature trees and snags with peeling or exfoliating bark, split tree trunks, or cavities, which may be used as maternity or bachelor roosts;
- 2) Tree species including shellbark or shagbark hickory, white oak, cottonwood, and maple;
- 3) Stream corridors, riparian areas, and upland woodlots that provide foraging habitat

According to the Bat Survey Report conducted by Dr. Lynn Robbins, Indiana bats were detected acoustically at 2 of the 5 survey sites within the Camp Zoe area and at 1 of the 4 sites within the utility corridor. A male Indiana bat was also captured during mist netting at one of the Camp Zoe sites where Indiana bat calls were detected. Although this individual was equipped with a radio transmitter, it could not be relocated on or near the project area and it was possibly roosting in a cave. Per the cave report you provided on August 28, 2014, two caves within the project area were surveyed on May 3, 2014 by the Cave Research Foundation, and neither were found to harbor Indiana bats or provide suitable habitat for the species. However, other caves are present on the site, and these caves should be assessed to determine whether Indiana bats may be present (during any time of year).

Project activities could adversely affect the Indiana bat if (1) the prey base within foraging habitat is substantially reduced (e.g., by improper use of pesticides that would diminish the prey base, removal of vegetation used for feeding, breeding, or sheltering, etc.), (2) trees are removed while occupied by roosting bats, (3) maternity roosting trees are removed, (4) the removal of forested habitat other than maternity roosts disrupts a maternity colony's roosting dynamics¹, or (5) caves supporting hibernating Indiana bats are impacted.

In order to avoid or minimize impacts to the Indiana bat from project activities, we recommend avoiding any activities that could substantially reduce the prey base. We also recommend minimizing the amount of forest habitat removal and removing trees between November 1 and April 1. Although the Indiana bat captured during mist netting was a male, Indiana bat calls were detected at two other sites and these calls could have been emitted by one or more females. Therefore, removal of large-diameter trees which could serve as maternity roost trees should be avoided. Should Indiana bats be detected in caves on site, impacts to these caves should also be avoided.

Northern long-eared bat (*Myotis septentrionalis*), Proposed Endangered

The northern long-eared bat occurs throughout Missouri and similar to the Indiana bat, roosts in caves (or habitats resembling caves) during the winter and under loose tree bark or in tree cracks or crevices during the summer. The species has been proposed for listing as endangered and a final listing determination by the Service is expected by April 2, 2015. Because project activities are not likely to be completed before the northern long-eared bat final listing decision, we recommend considering the species in your threatened and endangered species evaluations.

According to the Bat Survey Report, northern long-eared bats were detected acoustically at all 5 of the survey sites within the Camp Zoe project area and at 2 of the survey sites within the utility corridor. A pregnant female was also captured at one of the mist netting sites within the Camp Zoe project area. The female was tracked for 5 days to 3 different roosts. Two roosts were identified as maternity roosts based on the number of bats observed during emergence counts, and all three occur outside of the project area. Nonetheless, results of survey efforts provide evidence that the species utilizes habitats within the project area for foraging or the temporary use of alternate roosts. Per the cave report you provided on August 28, 2014, two caves within the project area were surveyed on May 3, 2014 by the Cave Research Foundation, and neither were found to harbor northern long-eared

¹ Disruption of social dynamics could occur if a substantial amount of forested habitat within the roosting range of a maternity colony is removed.

bats or provide suitable habitat for the species. However, other caves are present on the site, and these caves should be assessed to determine whether northern long-eared bats may be present (during any time of year).

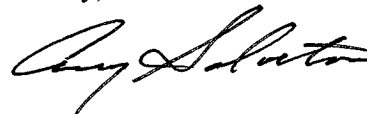
Similar to the Indiana bat, project activities could adversely affect the northern long-eared bat if (1) the prey base within foraging habitat is substantially reduced (e.g., by improper use of pesticides that would diminish the prey base, removal of vegetation used for feeding, breeding, or sheltering, etc.), (2) trees are removed while occupied by roosting bats, (3) maternity roosting trees are removed, (4) the removal of forested habitat other than maternity roosts disrupts a maternity colony's roosting dynamics², or (5) caves supporting hibernating northern long-eared bats are impacted.

In order to avoid or minimize impacts to the northern long-eared bat from project activities, we recommend avoiding any activities that could substantially reduce the prey base. We also recommend minimizing the amount of forest habitat removal and removing trees between November 1 and April 1. Tree removal and other disturbance should be avoided or minimized within the vicinity of the northern long-eared bat roosting area southeast of the project area. Removing or impacting trees which could serve as maternity roost trees should also be avoided as other maternity colonies may be roosting within the project site given the size of the area. In addition, impacts to any caves supporting northern long-eared bats should be avoided.

Due to the presence of several federally listed species within the project area, we anticipate that additional discussions with the Service will be necessary to determine if potential adverse effects of the proposed project activities have been adequately avoided or minimized. Pertinent to these discussions and the overall planning process will be a detailed project description with photos and a map indicating all suitable Indiana, gray, and northern long-eared bat roosting and foraging forest habitat within the project area slated for disturbance or removal. It will also be necessary to identify the lead Federal agency for the project.

We appreciate the opportunity to provide comments on the proposed development of the Missouri State Park at Camp Zoe. If you have questions or need additional information, please contact Trisha Crabill of my staff at 573-234-2132, extension 121.

Sincerely,



Amy Salveter
Field Supervisor

Enclosures

Cc: MODNR, Jefferson City, MO (Attn: Ken McCarty)
USACE, Regulatory Branch, Little Rock, AR (Attn: Louis Clarke)
FHWA, Jefferson City, MO (Attn: Raegan Ball)
MODOT, Jefferson City, MO (Attn: Gayle Unruh)
MDC, Jefferson City, MO (Attn: Emily Clancy)

² Disruption of social dynamics could occur if a substantial amount of forested habitat within the roosting range of a maternity colony is removed.