



Preliminary Environmental Review

Russellville Connected Trail System

RAISE Grant Application 2023

The City of Russellville is proposing to construct approximately 13.5 miles of a new multi-use trail system to connect the existing 14.3 miles of multi-use trails within the community. The new trail alignment will run primarily north to south following the existing rights of way with the exception of the new alignment proposed along Whig Creek, and an east to west segment running the length of Prairie Creek. This will nearly double the trail system within the City.

Portions of this project include adding stream crossings, where needed, and crossing I-40 (a major physical barrier between north Russellville and south Russellville), state highways, and major arterials through town. There will be an addition of five trailheads with one being a primary gateway entrance into the historic downtown shopping and entertainment district. Additional amenities will be located along the trail corridor including new equipment at City Park, which will establish it as the premier park within the community, a Mural Wall located behind City Mall to “hide” the trash enclosures, and aesthetic improvements with native vegetation being proposed as part of the streambank stabilization and riparian repair.

Alternately, if this project were not to occur, pedestrians would still be at risk when using active transportation within the community due to a lack of “safe” connected pedestrian corridors. The physical barriers of both the Interstate and Railroads will still exist and the community would be reliant on vehicles as the primary mode of transportation. The RAISE Grant opportunity seeks to encourage communities to bridge those gaps and the funding sought would allow Russellville to bridge a gap that would ultimately take 20 to 30 years to complete otherwise.

This is a preliminary environmental analysis for a potential multi-use trail project for the City of Russellville. This review is based on a compilation of reports and will serve as the basis for an Environmental Analysis Review to be completed as part of the construction phase of the RAISE Grant approval. This initial examination of the environmental and social constraints within the RAISE Grant trail alignment covers an area of approximately seven miles. The proposed project runs along a portion of both Whig Creek and Prairie Creek. An analysis was completed as part of the prairie creek US Corp of Engineers project that is widening the creek and laying back the streambanks. This project will run along the top of the bank of Prairie Creek upon completion of that project and will include some streambank stabilization and repair. The portions along Whig Creek will also be along the top of the bank and impact to the streams will be minimal with just six creek crossings for the entire project. Improvements along the trail will include some hardscaping and landscaping.

As proposed, this project may require United States Army Corps of Engineers (USACE) authorization to work within Waters of the United States (WOTUS) as well as authorization from



the State to work within wetlands and the linear waterbody. This initial environmental constraints analysis does not serve as state or federally required NEPA documentation. It is prepared as a preliminary review and should be used as a step in the process to develop any and all environmental compliance requirements.

Preliminary findings from the United States Fish and Wildlife Service found that there are no critical habitats located within the project area; however, there are potentially 12 different species that may be affected in the project area.

Biological Resources

Within the review area, there is the potential for multiple federally protected species, including: two federally listed endangered species protected under the Endangered Species Act (the Gray Bat and the Indiana Bat); five federally Threatened species protected under the Endangered Species Act (the Northern Long-eared Bat, the Eastern Black Rail, the Piping Plover, the Red Knot, and the Missouri Bladderpod); one proposed Threatened species (the Alligator Snapping Turtle); several birds protected under the Migratory Treaty Act (the American Golden-plover, the American Kestrel, the Brown-headed Nuthatch, the Chimney Swift, the Kentucky Warbler, the Lesser Yellowlegs, the Prairie Warbler, the Red-Headed Woodpecker, the Swallow-tailed Kite, and the Wood Thrush); the Bald Eagle protected under the Bald & Golden Eagle Protection Act; and lastly, the Monarch Butterfly, a candidate species under review for listing in the Endangered Species Act.

Federally Threatened and Endangered Species

Federally Threatened and Endangered Species are typically regulated through the US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and State level conservation agencies. Principally in Arkansas this is the Arkansas Natural Resources Commission (ANRC) and the Arkansas Game and Fish Commission (AGFC). Impacts to threatened and endangered species and their habitats under federal protection are typically vetted during the permitting of impacts to aquatic resources (wetlands, streams, rivers, etc.) through the USACE. If no impacts to aquatic resources exist for a project, and it is believed the project will potentially cause impacts to threatened and endangered species, or their habitats, an individual consultation through the USFWS must be instituted prior to the undertaking.

The Gray Bat (*Myotis grisescens*) is typically found in limestone karst areas, meaning a landscape marked by caves, sinkholes, springs and other features. The gray bat has long, glossy fur, light brown to brown with dark ears, usually black; longer than in any other myotis; when laid forward they extend 1/4 cm (7 mm) beyond the nose. Tragus long and thin and the calcar (heel of the foot) is keeled. In the 1970s, populations of gray bats were concentrated to a few caves in the United States and disturbance of those sites led to lower



<https://www.nps.gov/articles/000/bats-endangered-species-of-mammoth-cave.htm>



numbers, which led to the species being listed as Endangered. Fortunately, since they were listed, almost all of these critical sites have been protected, which has led to increased population numbers. A review of the terrain shows the gray bat is most likely not found within the project area.

The Indiana Bat (*Myotis Sodalis*) is typically found in semi-open to closed forested habitats with open understory, forest edges, and riparian areas. Adult males occupy similar habitats but can use a wider range of roosts compared to females. The Indiana bat is a medium-sized *Myotis*, closely resembling the little brown bat (*Myotis Lucifugus*) but differing in coloration. Its fur is a dull grayish chestnut rather than bronze, with the basal portion of the hairs on the back a dull-lead color. This bat's underparts are pinkish to cinnamon, and its hind feet are smaller and more delicate than in the little brown bat. The calcar (heel of the foot) is strongly keeled. The project is within two riparian zones, Whig Creek and Prairie Creek, so it is possible that this species could be within the project area, however, a review of USFWS species profile and range maps indicate this species is not likely found in the project area.



The Northern Long-eared Bat (*Myotis Septentrionalis*) typically uses forested areas not only for roosting, but also for foraging and commuting between summer and winter habitat. The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*, which are actually bats noted for their small ears (*Myotis* means mouse-eared). A review of USFWS species profile and range maps indicate this species is not likely found in the project area and the project area is not reflective of typical habitat conditions so this species is probably not within the project area.



The Eastern Black Rail (*Laterallus Jamaicensis Jamaicensis*) is found typically in wetland and coastal environments. One of the most elusive birds in an elusive family, the Black Rail is difficult to see. Its dark colors, broken up by white speckles, help it blend with the deep shadows of dense marshes, where it preys on small invertebrates. It's easier to hear, particularly on spring nights when males sing a repeated, amiable kick-ee-kerr. This species is identifiable by its unique red eyes, but is rarely seen due to their highly secretive nature. A review of USFWS species profile and range maps indicate this species is not likely found in the project area, and if so, is likely restricted to the aquatic/riverine transition zone away from human habitation.





The Piping Plover (*Charadrius Melodus*) is a species of shorebird found throughout central Arkansas. This species nests and feeds on sandy shores. Human encroachment to their nesting locations, especially vehicular traffic and anthropogenic land changes, can cause significant breeding disruptions and population declines. There is potential for Piping Plover in the review area, however, careful planning of the undertaking, to include not impacting any sandbars, preserving present aquatic substrate, and restricting access to sandbars would likely result in no long-term effect on this species. Consultation with USFWS regarding this species is recommended.



The Red Knot (*Calidris Canutus*) is a migratory shorebird that overwinters in Arkansas during their non-breeding season. Breeding is accomplished principally in the Canadian Arctic. Non-breeding season populations in the southeast US are typically concentrated along the Gulf and Atlantic Coasts with some inland populations. Juveniles may or may not migrate and some evidence exists to show that juveniles can spend up to two years in non-breeding habitats, which includes the project area. The Red Knot utilizes both high-energy ocean & bay environments as well as low-energy tidal flats and estuaries, and according to USFWS, seems to prefer saline habitats over fresh-water habitats. There is some evidence that small populations of Red Knot use manmade impoundments along inland flyways during migration. There is potential for Red Knot within the project area, however much like the Piping Plover, prudent planning to minimize impacts to the aquatic transition zone and any sandbar environments would likely result in no long-term effect to this species. Consultation with USFWS regarding this species is recommended.



The Alligator Snapping Turtle (*Macrochelys Temminckii*) Snapping Turtles are found in aquatic ecosystems all over the eastern portion of North America. Their ability to withstand winter temperatures allows them to be successful across this wide geography. They like shallow areas of rivers, streams, and lakes with muddy, plant-covered bottoms that allow them to hide. A review of USFWS species profile and range maps indicate this species is not likely found in the project area, and if so, is likely restricted to the bottom of the creek channels and along the sides allowing them to hide.



The Missouri bladderpod (*Physaria Filiformis*) This species' historical range included southern Missouri and northern Arkansas. Missouri bladderpods grow mostly in open limestone glades, but have also been found on one dolomite glade in Arkansas. Glades are naturally dry, treeless areas with shallow, loose soil and areas of exposed rock. Glades are described by the underlying rock, for example limestone or dolomite.





Sometimes the bladderpod is found where mowing and grazing have kept the area open. A review of the USFWS species profile and range maps indicate that this species is not likely found in the project area, however, due to the potential growing locations consultation on this species is recommended.

Migratory Bird Act

Impacts to species and their habitats protected under the Migratory Bird Act (MBA) are regulated by the USFWS and typically consist of individual and programmatic assessment tools that are vetted during federal permitting, principally by the USACE. Projects specifically impacting species and their habitats under the MBA require input from the USFWS. Restrictions enacted may include temporal restrictions for breeding/nesting season and restrictions on specific habitat impacts. Additionally, in 2021, the USFWS began utilizing Bird of Conservation Concern Regions (BCCRs) to draw additional attention to migratory birds of concern that do not meet the criteria of Federal threatened and endangered Species Listing. Coordination for potential impacts to the following species would be accomplished concurrently with threatened and endangered coordination.

The American Golden-plover (*Pluvialis Dominica*) is a medium-sized shorebird with a rather large head, slim neck, long, pointed wings, and relatively long legs. The bill is short, slender, and straight. Burned, plowed, and harvested agricultural fields, pastureland, sod farms, estuaries, mudflats, and prairie areas are the most likely areas where these birds are found. This is a Bird of Conservation Concern (BCC) throughout its range; however, as noted in the unofficial USFWS resource list for the project area, this bird breeds elsewhere in the continental United States and Alaska.

https://www.allaboutbirds.org/guide/American_Golden-Plover/id#



https://www.allaboutbirds.org/guide/American_Golden-Plover/id#

The American Kestrel (*Falco Sparverius*) is North America's smallest and most widespread falcon, and while this species is migratory, it is present throughout Arkansas year-round. This species prefers to nest in tree cavities as well as rock and building crevices. The Kestrel prefers to hunt from locations of prominence including tall trees, fence posts, telephone poles, utility lines, etc. This species is likely found within the review area and care should be taken to not reduce habitat opportunities, which would include disturbing mature and cavedated trees when necessary.

Additionally, this species is known to occupy nesting boxes. The inclusion of nesting boxes to the project could partially mitigate impacts to this species current habitat within the project area. Consultation with USFWS regarding this species is recommended. This species breeds from April 1st through August 31st.



<https://birdsoftheworld.org/bow/species/amekes/cur/introduction>

Brown-headed Nuthatch (*Sitta Pusilla*) is restricted to mature pine forests of the southeastern states where it is considered a species of concern. This small, charismatic bird is known for



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climbing headfirst down tree trunks. Although tool use in birds is rare, this species will hold a small piece of bark in its bill and use it as a lever to pry up bark while searching for insects. It may carry the bark tool from tree to tree and use it to cover a seed cache. Although this species is found in Arkansas, the project area does not have a mature pine forest. Even though it is known to breed between March 1st and July 15th, this project should not impact this species.



<https://ebird.org/species/bnhnut>

The Chimney Swift (*Chaetura Pelagica*) is best identified by silhouette. The smudge-gray Chimney Swift nimbly maneuvers over rooftops, fields, and rivers to catch insects. Its tiny body, curving wings, and stiff, shallow wingbeats give it a flight style as distinctive as its fluid, chattering call. This enigmatic little bird spends almost its entire life airborne. When it lands, it can't perch—it clings to vertical walls inside chimneys or in hollow trees or caves. Chimney Swifts breed in urban and suburban habitats across the eastern half of the United States and southern Canada. They are most common in areas with a large concentration of chimneys for nest sites and roosts. In rural areas they may still nest in hollow trees, tree cavities, or caves. Chimney Swifts forage mostly over open terrain but also over forests, ponds, and residential areas. They breed from March 15th to August 25th and are identified as breeding in Arkansas. Consultation with USFWS regarding this species is recommended.



https://www.inaturalist.org/guide_taxa/290853

The Kentucky Warblers' (*Oporornis Formosus*) loud, rolling song rings out from dense forest understories, where these hard-to-see warblers hunt for arthropods on or near the ground. Kentucky Warblers are brilliant yellow below and rich olive above, with a black cap and cheek and bold yellow "spectacles" that don't quite wrap around the eyes. They spend winters in Mexico and Central America where they forage near ground level and often follow army ant swarms to catch fleeing insects. Arkansas is identified as within their breeding range and they breed between April 20th and August 20th. Consultation with USFWS regarding this species is recommended.



https://www.allaboutbirds.org/guide/Kentucky_Warbler/overview

The Lesser Yellowlegs (*Tringa Flavipes*) is a dainty and alert "marshpiper" that is found in shallow, weedy wetlands and flooded fields across North America during migration. It's smaller with a shorter, more needlelike bill than the Greater Yellowlegs, but otherwise looks very similar. It breeds in the meadows and open woodlands of boreal Canada. Like many other shorebirds, the Lesser Yellowlegs rebounded from hunting in the early 20th century but has declined again from



https://www.allaboutbirds.org/guide/Prairie_Warbler/overview



losses of wetland habitats. This species most likely is not within the project area and should not be affected by this project.

The Prairie Warbler (*Dendroica Discolor*) is a lively resident not of prairies, but of scrubby second-growth forests and young stands of pine. Slender and elegant, with a constantly flicking tail, the Prairie Warbler likely benefited from the mass clearing of eastern forests following European colonization of the Americas. The species has declined in some parts of its range as forests have regenerated. The *All About Birds* website indicates that this species may breed within this area and the Fish and Wildlife Service indicates that their breeding period is from May 1st to July 31st. However, the project area does not include second-growth forests or young stands of pine so this species is most likely not impacted by the project.



https://www.allaboutbirds.org/guide/Lesser_Yellowlegs/overview

The Prothonotary Warbler (*Protonotaria Citrea*) is a medium-sized migratory warbler that overwinters in central to eastern Arkansas and has been found within the Arkansas River watershed. This species prefers to nest in caved trees, specifically within bottomland forests in river valleys. The Mississippi River Valley is of significant concern to this species. This species is likely found within the review area and care to maintain and preserve any hardwood bottomland forest land within the project should be taken to decrease habitat loss. They breed in Arkansas from April 1st to July 31st. Consultation with USFWS regarding this species is recommended.



https://www.allaboutbirds.org/guide/Prothonotary_Warbler/id

The Red-Headed Woodpecker (*Melanerpes Erythrocephalus*) is a medium sized migratory woodpecker that lives in Arkansas year-round and breeds from May 10th to September 10th. This species prefers bottomland forests, dead and dying trees, orchards, and recently cleared areas. They prefer deciduous oak-communities during winter months. This species is likely found within the review area and care should be taken to not reduce habitat opportunities, including minimizing impacts to mature deciduous trees and caved trees when at all possible. Consultation with USFWS regarding this species is recommended.



https://www.allaboutbirds.org/guide/Red-headed_Woodpecker/id

The Swallow-tailed Kite (*Elanoides Forficatus*) has been called “the coolest bird on the planet.” With its deeply forked tail and bold black-and-white plumage, it is unmistakable in the summer skies above swamps of the southeast. Flying with barely a wingbeat and maneuvering with twists of its incredible tail, it chases dragonflies or



https://www.allaboutbirds.org/guide/Swallow-tailed_Kite/id



plucks frogs, lizards, snakes, and nestling birds from tree branches. After rearing its young in a treetop nest, the kite migrates to wintering grounds in South America. According to the Fish and Wildlife Service, this is a bird of conservation concern; however, it does not appear that this project will impact their nesting or breeding areas as the River Valley is not identified as a breeding area.

The Wood Thrush's (Hylocichla Mustelina) loud, flute-clear ee-oh-lay song rings through the deciduous forests of the eastern U.S. in summer. This reclusive bird's cinnamon brown upperparts are good camouflage as it scrabbles for leaf-litter invertebrates deep in the forest, though it pops upright frequently to peer about, revealing a boldly spotted white breast. Though still numerous, its rapidly declining numbers may be due in part to cowbird nest parasitism at the edges of fragmenting habitat and to acid rain's depletion of its invertebrate prey. They are known to breed in Arkansas from May 10th to August 31st. Consultation with USFWS regarding this species is recommended.



https://www.allaboutbirds.org/guide/Wood_Thrush/id

Bald & Golden Eagle Act

The Eagle Act protects Bald Eagles (*Haliaeetus Leucocephalus*) and Golden Eagles (*Aquila Chrysaetos*) from the purposeful take of the species, with "take" being defined by USFWS as any activity that harasses, kills, maims, destroys nests, etc. The act also prohibits the transport, sale, or trade of live or dead animals, their parts, nests, and eggs. The Eagle Act does include a permitting instrument for minor scale incidental (accidental) take of animals due to specific scientific, energy, and transportation projects, as well as exhibition purposes (licensed zoos and wildlife preserves).

This project does not fall under the scope or purpose of the Eagle Act, therefore any impacts to federally protected Eagles should be minimized to the greatest ability to follow federal law. Following general avian conservation practices should meet the obligations of the Eagle Act.

The Bald Eagle (Haliaeetus Leucocephalus) The Bald Eagle has been the national emblem of the United States since 1782 and a spiritual symbol for native people for far longer than that. These regal birds aren't really bald, but their white-feathered heads gleam in contrast to their chocolate-brown body and wings. Look for them soaring in solitude, chasing other birds for their food, or gathering by the hundreds in winter. Once endangered by hunting and pesticides, Bald Eagles have flourished under protection. Many Bald Eagles call Lake Dardanelle and the Arkansas River home and may be found within the project area. Care should be taken to minimize impacts to the population; however, Bald Eagles should not be impacted by the project.



https://www.allaboutbirds.org/guide/Bald_Eagle/id



Monarch Butterflies

Monarch Butterflies (*Danaus Plexippus*) are not protected under state or federal mandates at this time; however, this species is of concern for potential future Endangered Species Act listing, and likely exists within the project area during at least a portion of its life cycle. It is recommended that the project include native flowering plants to provide native pollinators, including the Monarch Butterfly, habitat and food.



<https://www.fws.gov/species/monarch-danaus-plexippus>

Aquatic Resources & Wetlands

The project site is immediately adjacent to Whig Creek, a tributary to the Arkansas River and Prairie Creek, a tributary to Lake Dardanelle. Both are under the jurisdiction of the US Army Corps of Engineers, therefore Whig Creek and Prairie Creek are regulated by the USACE as well. Whig creek has signs of active Beaver populations as well as several Beaver Dams on the stream.

The American Beaver (*Castor Canadensis*) is not currently listed as Threatened or Endangered; however, it plays an incredibly important role in our world, helping to alter and shape the landscape. As nature's "engineers," they build dams that provide deep water that protects them from predators, gives them access to plentiful food, and provides underwater entrances to their dens. Their tree-felling and dam-building activities create wetlands that provide homes for many other fish and wildlife species. Wetlands support almost half of the species on earth and nearly 50% of North America's threatened or endangered species rely upon these aquatic environments for their survival.



<https://www.fws.gov/sites/default/files/documents/BRG%20v.1.0%20final%20reduced.pdf>

Beavers mitigate the impacts of climate change, helping conserve water during periods of drought and enhance wetland carbon storage. They are one of the most cost effective and sustainable solutions for ecological restoration and climate change resilience. Care should be taken to avoid disturbance of the dam and associated wetland. This will be a great addition to the trail system, just a five minute walk from the high school for an environmental science and outdoor classroom area.

The undertaking, as proposed, contains potential impacts to Waters of the United States, including placing fill material consisting of pavement, asphalt, or another trail building material within wetlands along the path of the trail, as well as potential impacts to increase the aesthetic value and sustainability of Prairie Creek along a portion of the stream adjacent to heavier commercial uses, i.e. City Mall and the Historic Downtown Trailhead location.

Improvements being proposed include bank stabilization and riparian repair. Proceeding with this project will require a delineation of waters within the review area and a Clean Water Act



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(CWA) Section 404 Permit. The US Army Corps of Engineers will most likely serve as the lead permitting agency and therefore impacts to waters will be at the forefront of the regulators' analysis. This construction of the trail will occur at the conclusion of the US Army Corp of Engineers flood reduction project and they will be very familiar with the project and any impacts that placing a trail along top of the streambank and repair and stabilization will add to the long term success of both the flood reduction project and the overall success of the multi-use trail system.

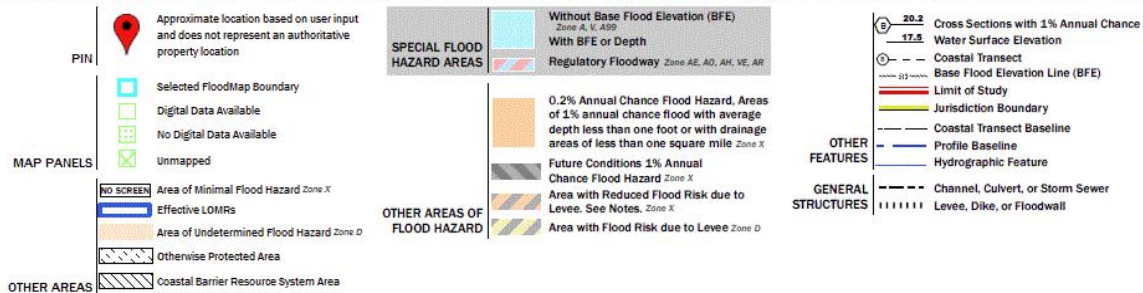
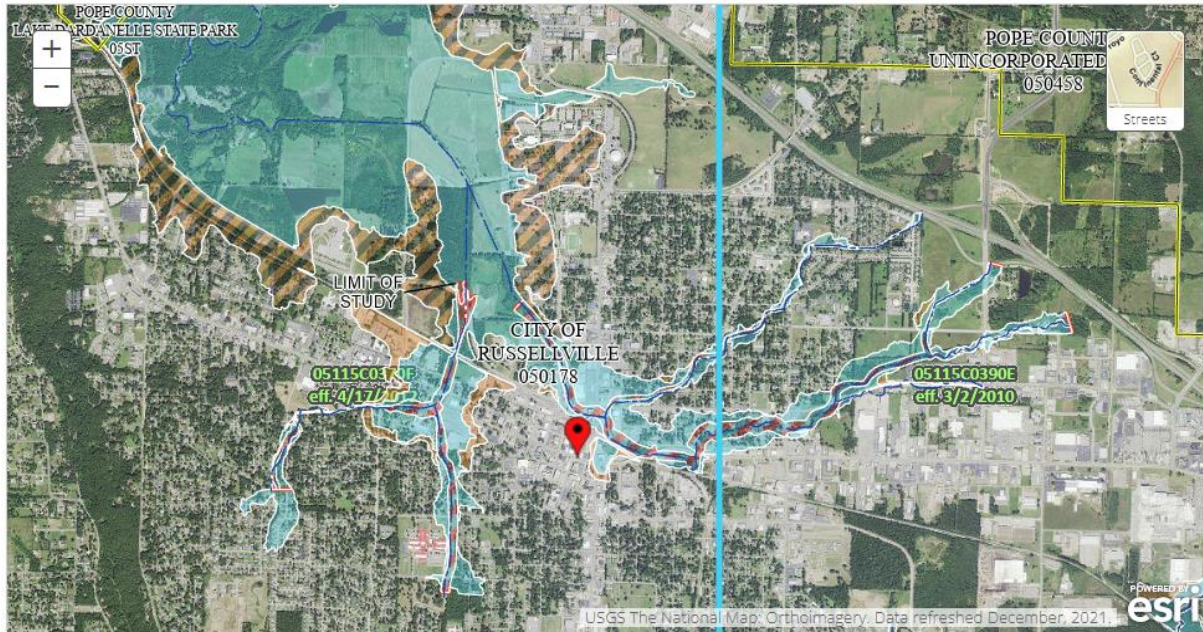
It should be noted that the only regulated resources within the review area known as of this point, are the surface water of Whig Creek, Prairie Creek, and potential Threatened and Endangered species within the project area. The cutting of vegetation is not typically restricted by the USACE outside of areas preserved under a covenant or other preservation instrument; however, due to the potential presence of endangered species the USFWS or State wildlife officials may impose restrictions on vegetation removal or introduction.

It is believed that the trail portion of this project, including the trail crossings through any potential wetlands, would likely qualify for a USACE Nationwide Permit 42 – Recreational Activities. This permit has a limit of 0.50 acre total impacts within waters and the standard mitigation thresholds, which are >0.10 acres of impacts to wetlands and ponds, and > 0.03 acres of impacts to linear waterbodies.

Potential comments from regulators will likely clarify the beneficial elements of the proposed stabilization and repair work, as well as potentially requesting additional detail regarding the amount of vegetation clearing adjacent to the waterbody due to endangered species concerns. The clearing of mature and dead trees along the tributary could result in loss of habitat for federally threatened and endangered species.

Floodplains

At least a portion of this project is within a mapped Special Flood Hazard Area (SFHA) Zone AE, with a Base Flood Elevation. Coordination with the Federal Emergency Management Agency (FEMA) and a floodplain permit is likely required for the undertaking.



Historic & Cultural Resources

Potential impacts to historical and cultural resources as well as impacts to tribal lands or artifacts are analyzed by the Arkansas Historical Preservation Program (AHPP) and / or Tribal Officers, either during the USACE permit review process or during an individual consultation, (referred to as the 106 Process), when needed. Improvements within the review area contain pre-disturbed environments, including roads, a shopping center, the area along the Dardanelle Russellville Railroad, commercial businesses and private residences, or along undisturbed uplands immediately adjacent to Whig Creek, Prairie Creek, and along existing rights-of-way.

The trail system passes by and provides access to the Latimore Tourist Home and the James School Neighborhood, and is the only green book listed site between Little Rock and Fort Smith where people of color were permitted to stay. The Latimore Tourist Home is on the National Register and is currently being restored by the Friends of the Latimore Tourist Home. The group concurs that this project will not have an impact on the Home, but will increase accessibility to the structure providing an even greater opportunity for those passing by to learn about the rich history of this structure and the larger James School Neighborhood, a predominantly black community within the City of Russellville.



The project site does not contain federally-recognized tribal land, has no structures or cultural resources believed to meet the requirements for listing on the National Register, and is not proposing to demolish any structures currently listed on the National Register.

Hazardous Materials

The project site consists primarily of unimproved land that is not utilized for hazardous material storage or use. Adjacent to the project site are a few isolated sites registered with the State to store or utilize hazardous materials, including the Airgas USA, LLC, AmeriGas Propane, Centurylink Russellville, Lowes, City Corporation Wasterwater Treatment Plant, and Taber Extrusions. This project is not expected to utilize or incidentally release hazardous materials.

Equitable Development & Societal Factors

Development within this urbanized area is growing and waterside parks provide long-term protection, monitoring, and in some cases preservation of riverine environments for the benefit of citizens and wildlife. Bicycle and pedestrian trails provide alternative transportation options for all citizens and promote health, wellness, and recreational opportunities. Reducing dependency on automobile transportation helps alleviate climate change impacts from urban areas and reduces the economic cost of automobile ownership, use, and maintenance for area citizens.

Environmental justice, as defined by the EPA, is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This project is not expected to cause any environmental justice concerns. It is expected to increase equity and access to recreational and alternative transportation amenities. This project should not cause an inequitable decrease in public health, nor should it result in encroachments to low-income housing or public services (including utilities, hospitals, parks, etc.). Additionally, the project will not result in the development of structures or land use features that will significantly change housing values.

Construction Impacts

Air Quality

This project is not expected to result in any long-term adverse impacts to air quality in the region. There are no new permanent stationary or mobile sources associated with the project. With greater access to off-street alternative transportation routes, the possibility for reduction in vehicle miles traveled within the City exists. Short-term air quality impacts are expected to be limited to dust generated from grading and other construction activities; exhaust emissions from combustion of gasoline and/or diesel in construction equipment; and minimal emissions from paving and/or striping of the trail.



Stormwater Runoff and Water Quality

Standard erosion control and pollution prevention measures required of construction sites should address potential impacts created during construction of the trail. There are no long term impacts beyond the scope of construction. During construction there is a potential to increase sediment in Stormwater runoff and an increase to sediment load to both Whig Creek and Prairie Creek that could negatively affect water quality. Petroleum products used in construction equipment could be accidentally released and measures should be taken to prevent contamination.

Noise

Noise levels may exceed normal levels during construction. Typical construction practices should be utilized to avoid disturbance in residential areas.

Recommendations

This project, as proposed, involves only minor clearing of vegetation and the placing of hardscaping and landscaping along portions of the riverine corridor along with improvements with the rights-of-way and in commercial and residential areas of the community. The majority of activities taking place along the streams are believed to only cause minor impacts to the local ecology. Stream bank stabilization and Riparian Repair activities are expected to provide long-term ecological benefit by increasing streambank stability and improving habitat.

Environmental recommendations include minimizing impacts to mature and large dead trees, avoiding impacts and fill actions within the creek itself to the most practicable ability, avoiding any fill or encroachment actions within sandbars, and utilizing locally grown native plants for landscaping to decrease maintenance requirements and provide a habitat for pollinating insects and animals. It is believed with the above recommendations this project will be acceptable to state and federal regulators regarding impacts to biological, aquatic, and cultural resources.

REFERENCES

All About Birds. Available online at the following links:

The American Kestrel. https://www.allaboutbirds.org/guide/American_Kestrel/overview

The Kentucky Warbler. https://www.allaboutbirds.org/guide/Kentucky_Warbler/overview

The Lesser Yellowlegs. https://www.allaboutbirds.org/guide/Lesser_Yellowlegs/overview

The Chimney Swift. https://www.allaboutbirds.org/guide/Chimney_Swift/overview

The Prairie Warbler. https://www.allaboutbirds.org/guide/Prairie_Warbler/overview

The Prothonotary Warbler. https://www.allaboutbirds.org/guide/Prothonotary_Warbler/id

The Red-headed Woodpecker. https://www.allaboutbirds.org/guide/Red-headed_Woodpecker/id

The Wood Thrush. https://www.allaboutbirds.org/guide/Wood_Thrush/overview

The Bald Eagle. https://www.allaboutbirds.org/guide/Bald_Eagle/overview



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The Swallow-tailed Kite. https://www.allaboutbirds.org/guide/Swallow-tailed_Kite/overview

The Black Rail. https://www.allaboutbirds.org/guide/Black_Rail/overview

Defenders.org website The American Beaver. Available online at the following link:

<https://defenders.org/wildlife/beaver>

New Hampshire PBS Natureworks, Available online at the following links:

The Red Knot. <https://nhpbs.org/natureworks/redknot.htm>

The Piping Plover. <https://nhpbs.org/natureworks/pipingplover.htm>

Wikipdeia Alligator Snapping Turtle Image. Available online at the following link:

https://en.wikipedia.org/wiki/Alligator_snapping_turtle

Avian Conservation & Ecology. Volume 13, Issue 2, Article 5. Prothonotary Warbler demography and nest site selection in natural and artificial cavities in bottomland forests of Arkansas, USA. Available online at the following link: <https://arbirds.org/trust/Papers/6.pdf>

Federal Emergency Management Agency (FEMA) Flood Map Service Center. Available online at the following link: <https://msc.fema.gov/portal/home>

Kentucky Department of Fish and Wildlife Resources. Prothonotary Warbler. Available online at the following link: <https://fw.ky.gov/Wildlife/Pages/Prothonotary-Warbler.aspx>

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