



BIOLOGICAL RESOURCES REPORT

MILL CREEK CANYON ROAD IMPROVEMENTS PROJECT

FHWA Project No. UT FLAP SLA 10(1)



June 2023

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1. INTRODUCTION

The Federal Highway Administration Central Federal Lands Highway Division (FHWA-CFLHD), in coordination with Salt Lake County, the City of Millcreek, and the U.S. Department of Agriculture, Forest Service (USFS), is proposing road improvements to a section of Mill Creek Canyon Road in Salt Lake County, Utah, to enhance access and safety for motorists and recreationists visiting federal lands in upper Mill Creek Canyon on the Uinta-Wasatch-Cache National Forest. The proposed improvements extend along 4.6 miles of upper Mill Creek Canyon Road from the Winter Gate to the Upper Big Water Trailhead (Figure 1). FHWA-CFLHD is contributing funding through its Federal Lands Access Program with Salt Lake County contributing a portion of the funds.

The project is in the preliminary design phase, and proposed improvements include roadway widening, modifications or relocation of trailhead and informal parking areas, establishment of an uphill bicycle lane from the Winter Gate to the Elbow Fork Trailhead, drainage improvements, and associated improvements, such as retaining walls, new signs, and pavement striping. Standard construction practices that would be part of the project are defined in the *Standard Specifications for the Construction of Roads and Bridges on Federal Highway Projects (FP-14)*, which is FHWA-CFLHD's guide for all construction projects. Pending completion of the environmental review process and receipt of necessary approvals and permits, construction of the improvements is anticipated to begin in summer 2025.

The project area was developed to include all areas within the construction limits and potentially subject to disturbance. It includes approximately 70 acres and is a 100-foot corridor centered on the existing roadway alignment (Figure 1). The project area includes extensions beyond the 100-foot corridor where potential parking improvements and drainage improvements are proposed.

This report presents an overview of the biological resources in the project area, anticipated resource issues associated with the proposed project, and FHWA-CFLHD's approach to assess effects and ensure compliance with applicable regulations. Biological resources discussed include vegetation and vegetation communities, terrestrial and aquatic wildlife, U.S. Forest Service (USFS) and U.S. Fish and Wildlife Service (USFWS) special status species, and migratory birds. The project and this report incorporate the following regulatory framework:

- National Environmental Policy Act, which is an overarching regulation that requires federal agencies to consider the effects of their actions on the environment;
- 2003 Wasatch-Cache Revised Forest Plan (Forest Plan), which provides USFS guidance to manage resources, such as Sensitive species and riparian areas, on its lands;
- Endangered Species Act, which protects threatened and endangered species; and

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- Migratory Bird Treaty Act, which protects migratory birds, their parts, and their nests.

The purpose of this report is to share information with the public as part of the environmental process. Information contained in this report is expected to be incorporated into an environmental assessment, which will also be made available for public review in the near future. Information presented on the affected environment in this report is based on a biological resources study and corresponding reports, titled *Mill Creek Canyon Road Biological Resources Existing Conditions Report* (HDR 2023a) and *Mill Creek Canyon Road UT FLAP SLA 10(1) Riparian Habitat Conservation Area Assessment Memo* (HDR 2023b). Preparation of those reports entailed literature reviews, coordination with resource agency personnel, review of aerial photographs and maps, and reconnaissance-level field surveys.

Anticipated resource issues were identified based on the affected environment and current preliminary design, which is being refined based on input received at previous public meetings, agency meetings and coordination, and field visits. The potential need for project-specific avoidance and minimization measures will continue to be further refined as part of the environmental and design process.

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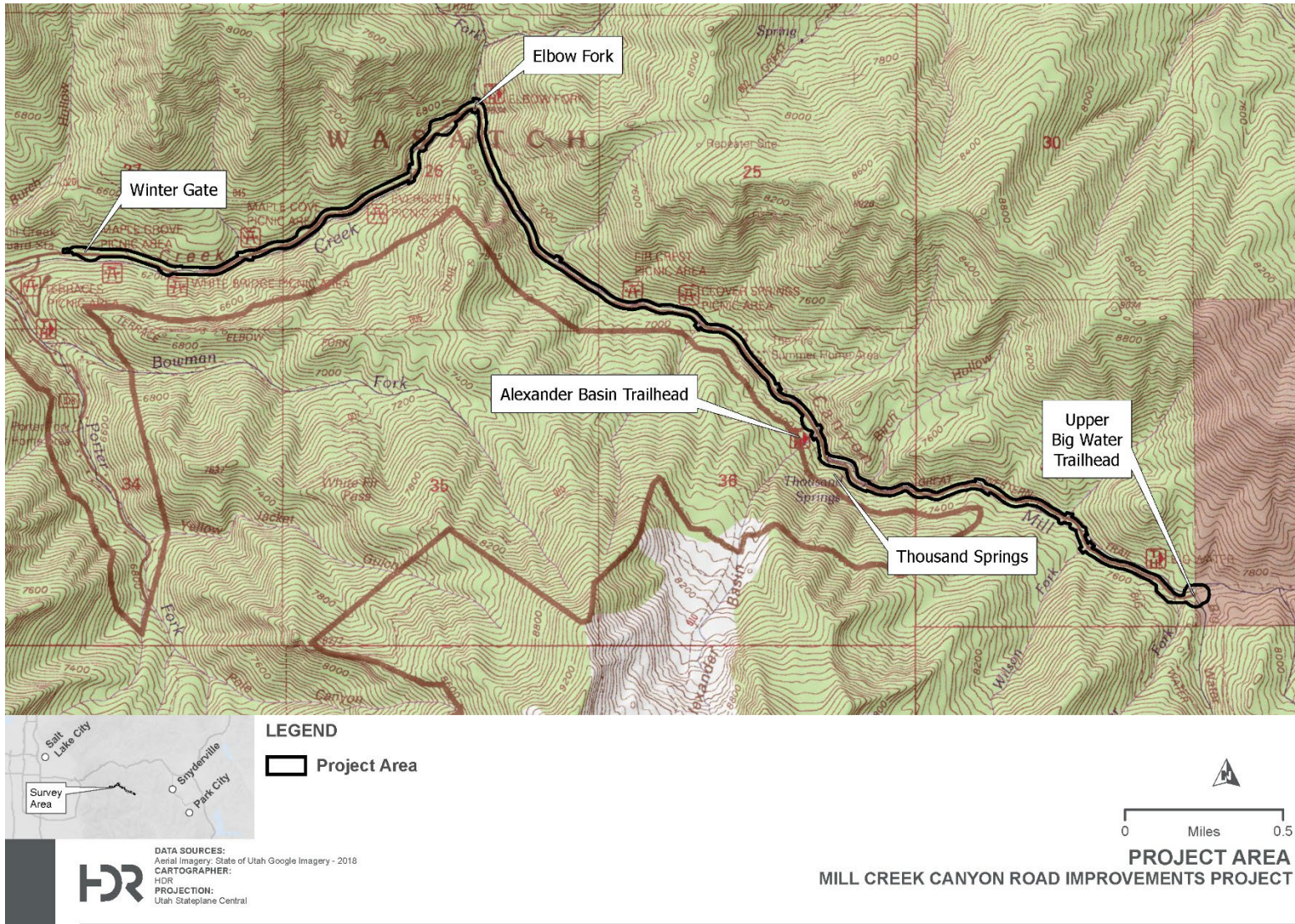


Figure 1. Project Area

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2. VEGETATION

2.1 Affected Environment

Vegetation found in the project area is common to the Wasatch Mountains. Communities consist primarily of forests, riparian areas, and wetland areas. Below is an overview of the vegetation communities found in the project area, which includes a discussion of general vegetation, riparian vegetation, invasive plants, and USFS Sensitive species that have potential to occur in the project area. No USFWS listed threatened, endangered, or candidate plant species have potential to occur in the project area.

2.1.1 Vegetation Communities

The forest community is well represented in the Mill Creek corridor and is found on steep slopes within the project area. The forest community is also found on rock outcrops that extend to the southern edge of the existing road, especially in the eastern portion of the project area. Forests are also associated with small inclusions of isolated upland shrubby areas and clearings with gaps in canopy cover. The largest of these clearings is a small (less than one acre) grassy meadow on the easternmost end of the project area, adjacent to the Great Western Trailhead. The forests in the project area contain a dense overstory of trees, primarily Rocky Mountain maple (*Acer glabrum*), bigtooth maple (*Acer grandidentatum*), Gambel oak (*Quercus gambelii*), Douglas-fir (*Pseudotsuga menziesii*), quaking aspen (*Populus tremuloides*), and boxelder (*Acer negundo*). The understory of these forests, which serve as its own mountain-brush community, is composed primarily of shrubby species, including common snowberry (*Symphoricarpos albus*), Oregon boxleaf (*Paxistima myrsinites*), and blue elderberry (*Sambucas nigra* ssp. *cerulea*). Much of the forest community provides low quality habitat immediately adjacent to the roadway because it has already been disturbed by past road construction, current informal roadside parking, and stormwater and snowmelt runoff. The USFS manages forested areas under its Forest Plan and provides goals, objectives, and desired conditions for minimizing impacts to and maintaining the resource.

Riparian areas are dispersed and intertwined throughout the project area. These riparian areas follow and are adjacent to Mill Creek, which parallels and crosses Mill Creek Canyon Road in the project area. Riparian areas in the project area are generally a mix of trees and shrubs—common riparian plant species in the project area include redosier dogwood (*Cornus sericea*), Utah honeysuckle (*Lonicera utahensis*), watercress (*Nasturtium officinale*), northern black currant (*Ribes hudsonianum*), Bebb willow (*Salix bebbiana*), blue elderberry, narrowleaf willow (*Salix exigua*), water birch (*Betula occidentalis*), and narrowleaf cottonwood (*Populus angustifolia*). The USFS manages riparian areas as riparian habitat conservation areas (RHCA) under its Forest Plan and provides goals for minimizing impacts to the resource.

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Wetlands are limited to three isolated areas, two of which are associated with Mill Creek, and one of which is associated with Thousand Springs, a complex of springs that serves as a tributary to Mill Creek. These three wetlands are approximately 1.25 miles down canyon from Upper Big Water Trailhead. Hydrophytic vegetation associated with these wetlands include narrowleaf willow, redtop (*Agrostis gigantea*), common threesquare (*Schoenoplectus pungens*), watercress, and western goldentop (*Euthamia occidentalis*). The USFS manages wetland areas as riparian habitat conservation areas under its Forest Plan and provides goals for minimizing impacts to the resource. Wetlands are described in additional detail in the associated *Mill Creek Canyon Road Improvements Project Other Resources Report* (HDR 2023c).

Invasive plant species are known to occur in the project area and have potential to occur in all vegetation communities discussed above. White top (*Lepidium draba*), wand mullein (*Verbascum virgatum*), lesser burdock (*Arctium minus*), gypsy flower (*Cynoglossum officinale*), field sowthistle (*Sonchus arvensis*), field bindweed (*Convolvulus arvensis*), dalmatian toadflax (*Linaria dalmatica*), Canada thistle (*Cirsium arvense*), and bull thistle (*Cirsium vulgare*) occur in the lower part of the project area near the Winter Gate (Kovel 2021). Additional invasive species scattered along the length of the project area include common mullein (*Verbascum thapsus*), common dandelion (*Taraxacum officinale*), prostrate knotweed (*Polygonum aviculare*), annual ragweed (*Ambrosia artemisiifolia*), and black medic (*Medicago lupulina*). These latter species occur in individual, isolated instances rather than continuous, large patches.

2.1.2 USFS Sensitive Species

The USFS manages Sensitive plants on National Forest System lands as part of its Forest Plan. These Sensitive species are designated by the USFS in part because their habitats or populations are trending downward and are managed to prevent them from becoming federally listed. Based on the biology study, suitable habitat is present in the project area for 10 Sensitive species, as described below, although none of the plants were specifically identified during the fieldwork for this project.

- **Slender moonwort (*Botrychium lineare*)**. The preferred habitat of slender moonwort is highly variable, occurring in both meadows and roadsides. Potentially suitable habitat exists throughout the project area along roadsides and in clearings.
- **Wasatch draba (*Draba brachystylis*)**. The preferred habitat of Wasatch draba includes moist locations on rocky slopes in montane vegetation communities. Suitable habitat exists in select locations, primarily on the south side of the roadway in the upper portion of the canyon, where rocky slopes are present in forested areas.
- **Wasatch fitweed (*Corydalis caseana* ssp. *Brachycarpa*)**. Wasatch fitweed grows in or along streams. Suitable habitat exists in and surrounding the wetland areas and within

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riparian areas along Mill Creek throughout the project area. USFS has documented occurrences in the project area.

- **Wasatch jamesia (*Jamesia americana* var. *macrocalyx*)**. Wasatch jamesia grows in cracks and crevices of rocky slopes within mountain brush and spruce-fir communities. Suitable habitat exists in the shrubby understory of the forests in the project area, primarily on the south side of the roadway in the upper portion of the canyon where substrate in the forest tends to be rockier.
- **Wasatch pepperwort (*Lepidium montanum* var. *alpinum*)**. Wasatch pepperwort is typically found in damp crevices of cliffs and ledges within mountain brush and spruce-fir communities. Suitable habitat exists in the shrubby understory of the forests in the project area, primarily on the south side of the roadway where it is shaded and tends to be damper.
- **Wasatch shooting star (*Dodecatheon dentatum* ssp. *Utahense*)**. Wasatch shooting star prefers shady, moist, mossy places in cracks and crevices where water is seeping or flowing. Suitable habitat exists throughout the riparian area along Mill Creek and within the wetland area associated with Thousand Springs.
- **Wheeler's angelica (*Angelica wheeleri*)**. Wheeler's angelica prefers wet areas of riparian communities or in seeps and springs. Suitable habitat exists at Thousand Springs and adjacent to Mill Creek throughout the project area.
- **Broadleaf beardtongue (*Penstemon platyphyllus*)**. Broadleaf beardtongue grows in open, rocky sites within mountain brush communities. Suitable habitat exists throughout the project area where gaps in canopy cover occur within the forested areas. USFS has a documented occurrence in Mill Creek Canyon but outside of the project area.
- **Sand fleabane (*Erigeron arenarioides*)**. Sand fleabane grows in crevices of rock outcrops in the Wasatch Mountains. Suitable habitat exists in rocky crevices found intermittently throughout the project area. USFS has documented occurrences in Mill Creek Canyon but outside of the project area.
- **Tower rockcress (*Arabis glabra* var. *furcatipilis*)**. Tower rockcress grows in mountain brush, pinyon-juniper, aspen, aspen/maple, and spruce-fir communities. Suitable habitat exists throughout the project area where gaps in the forest overstory occur and where aspen and maple are the dominant overstory of forested areas.

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2.2 Anticipated Resource Issues

Based on the biology study and a preliminary review of the proposed road improvements, FHWA-CFLHD anticipates evaluating the following issues in more detail in the environmental assessment:

- Road widening would disturb forested, riparian, and wetland habitat and the vegetation associated with those communities. Impacts to these habitats are being minimized through design considerations, such as applying an arrow typical section to the roadway profile and using retaining walls to minimize disturbance to slopes adjacent to the road and parking areas.
- Ground disturbance from construction activity in forested, riparian, and wetland habitat could disturb or remove Sensitive plants or habitat. Specific project activities that could affect the plants are:
 - Drainage improvements along Mill Creek’s riparian area could affect Wasatch fitweed, Wasatch shooting star, and Wheeler’s angelica.
 - Retaining wall construction and roadway improvements along steep slopes could affect Wasatch draba, Wasatch jamesia, Wasatch pepperwort, and sand fleabane.
 - In forested areas, roadway widening, parking lot improvements, and retaining wall construction could affect slender moonwort, broadleaf beardtongue, and tower rockcress.
- Ground disturbance and use of equipment in multiple areas could result in the introduction or spread of invasive plant species. Invasive plants present in the project area could spread into other areas affected by grading and excavation activities.

FHWA-CFLHD does not anticipate consulting with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act because no federally listed species have potential to occur in the project area and none would be affected. FHWA-CFLHD will coordinate with the USFS to identify specific measures to minimize impacts on Sensitive plants and riparian habitat conservation areas, including riparian management objectives, and to prevent the spread of invasive plants, as appropriate. The USFS anticipates conducting a botanical survey in the summer of 2023 to collect data on Sensitive plant populations in the canyon, and results of that survey may be used to identify species-specific measures. The preliminary design is already incorporating context-sensitive design considerations, such as minimizing roadway widening to reduce the need for vegetation removal and applying standard construction practices to limit disturbance and prevent or minimize the spread of invasive plants. In addition, FHWA-CFLHD may consider identifying environmentally sensitive areas (e.g., sensitive habitats, known plant

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populations) on design plans to ensure avoidance during construction. Potential impacts to wetlands are described in the *Mill Creek Canyon Road Improvements Project Other Resources Report* (HDR 2023c).

3. TERRESTRIAL AND AQUATIC WILDLIFE

3.1 Affected Environment

The project area includes several different habitats that are home to a variety of wildlife species. These habitats consist broadly of riparian, forested, and wetland areas as discussed above in the vegetation section. Within the forest community, habitats can be further broken out into areas that are considered upland, rocky, moist, dry, cliffy, or open areas that create microhabitats and provide habitat requirements for wildlife. Within the riparian and wetland community in the project area, niche habitats include springs, seeps, cliffs, and pond areas.

High visitor use in the canyon causes noise and visual disturbance as part of the baseline conditions; however, wildlife sightings are common. Below is an overview of the terrestrial and aquatic species found in the project area, which includes general terrestrial and aquatic species, USFS Sensitive species, and migratory birds. No USFWS listed threatened or endangered species have potential to occur in the project area. However, one candidate species may be found in the project area, the monarch butterfly.

3.1.1 General Terrestrial and Aquatic Wildlife

Large mammals found in Mill Creek Canyon include mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), moose (*Alces alces*), coyotes (*Canis latrans*), cougars (*Felis concolor*), bobcats (*Lynx rufus*), and black bear (*Ursus americanus*). Smaller animals include raccoons, skunks, marmots, voles, shrews, muskrats, pikas, porcupines, beavers, rattlesnakes, lizards, rabbits, squirrels, bats, rats, and a variety of birds. Many of these species are habitat generalists and found throughout the project area, using forested, riparian, wetland, and open areas.

Mill Creek in and near the project area is home to long-nosed dace and mountain sucker. These native species were reintroduced by the USFS as part of an effort to remove non-native species and aid in the recovery of Bonneville cutthroat trout (discussed below).

The monarch butterfly (*Danaus plexippus*) relies on its host plant, the milkweed, which is used for laying eggs and feeding. Monarchs are most common in the Wasatch Mountains starting in May and reside there until September. While monarchs feed on the nectar from many plants, milkweed is the sole host plant for this species. Common places where milkweed grows include roadsides, wetlands, and riparian areas, all of which are dispersed throughout the project area. The USFS has documented milkweed occurrence in the project area (USFS 2022).

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3.1.2 USFS Sensitive Species

The USFS manages Sensitive wildlife on National Forest System lands as part of its Forest Plan. These Sensitive species are determined in part because their habitats or populations are trending downward and are managed to prevent them from becoming federally listed. Based on the biology study, suitable habitat is present in the project area for six USFS Sensitive species, described below.

- **Boreal toad (*Bufo boreas*)**. Boreal toad habitat includes mountain wetlands and upland habitats near slow-moving rivers and streams. Suitable habitat exists in the project area adjacent to Mill Creek, Thousand Springs, and several pond areas.
- **Columbia spotted frog (*Rana luteiventris*)**. The Columbia spotted frog usually lives at the grass and sedge margins of streams, lakes, ponds, springs, and marshes. Suitable habitat exists in the project area adjacent to Mill Creek, Thousand Springs, and several ponded areas.
- **American three-toed woodpecker (*Picoides dorsalis*)**. The three-toed woodpecker prefers coniferous forests with abundant insect-infested snags (dead, upright trees). Suitable breeding and nesting habitat exists in the forested areas throughout the project area, and the woodpecker has been observed in and near the project area (eBird 2021).
- **Flammulated owl (*Psiloscops flammeolus*)**. The flammulated owl breeds in dry, relatively open, mature mountain forests of ponderosa pine or other large coniferous trees. Suitable habitat exists in the forested areas throughout the project area, and the owl has been observed near the project area (eBird 2021).
- **Northern goshawk (*Accipiter gentilis*)**. The northern goshawk nests in coniferous and mixed forests. Suitable breeding and nesting habitat exists in the forested areas throughout the project area, and individuals have been observed throughout the canyon and near the project area (eBird 2021).
- **Bonneville cutthroat trout (*Oncorhynchus clarkii utah*)**. Habitat for this fish ranges from high-elevation streams with coniferous and deciduous riparian trees to low-elevation streams in sage-steppe grasslands containing herbaceous riparian zones. Because of successful reintroduction efforts, this species is present in Mill Creek throughout the project area.

3.1.3 Migratory Birds

The project area includes forest tree cover associated with both upland and riparian habitats, as well as an abundance of shrubs and ground cover—all of which provide nesting habitat for migratory birds. In the Wasatch Mountains and in the project area, migratory birds are most

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common from February through August. Common birds in the area include violet-green swallow (*Tachycineta thalassina*), American robin (*Turdus migratorius*), cedar waxwing (*Bombycilla cedrorum*), and evening grosbeak (*Coccothraustes vespertinus*). In the project area, birds would most likely use trees, shrubs, and open ground for nest sites. These nests would more likely be built further from Mill Creek Canyon Road rather than in close proximity to vehicle and recreation uses.

3.2 Anticipated Resource Issues

Impacts to terrestrial and aquatic wildlife can result from habitat removal or alteration because of roadway widening, modification of parking areas, and in-stream work. Based on the biology study and a preliminary review of the proposed road improvements, FHWA-CFLHD anticipates evaluating the following issues in more detail in the environmental assessment:

- Temporary construction impacts to terrestrial wildlife and USFS Sensitive wildlife species could result from noise and human presence, temporarily altering foraging or movement behavior in the project area.
- Temporary increases in sedimentation from culvert replacement, bridge replacement, and installation of new culverts could injure or displace native and USFS Sensitive fish species.
- Permanent removal of trees and shrubs could potentially reduce foraging and hiding cover for terrestrial wildlife and USFS Sensitive species. The small overall design footprint is expected to reduce the amount of vegetation that requires removal.
- Removal of milkweed could prevent monarch butterfly from using the area and reduce available breeding habitat.
- Vegetation removal during the breeding period for migratory birds could disrupt nesting activities and remove potential nest sites.

FHWA-CFLHD does not anticipate consulting with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act because no federally listed species have potential to occur in the project area and none would be affected. The preliminary design is already incorporating context-sensitive design considerations, such as minimizing roadway widening, designing culverts to allow for fish passage and to mimic natural habitat, and using clear water diversions during in-stream work. FHWA-CFLHD will continue to coordinate with the USFS to identify specific measures to minimize impacts to Sensitive wildlife as appropriate.

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FHWA-CFLHD will also coordinate with the USFS on applicable measures to avoid nesting bird impacts, such as:

- Schedule vegetation removal outside of the nesting season (February 1-August 31).
- Conduct preconstruction surveys for active migratory bird nests if vegetation removal will occur between February 1 and August 31.
- Establish no-disturbance buffers around active nest sites and monitor the nest activity.

4. REFERENCES

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