

3.7 Threatened, Endangered, and Sensitive Species

The area of analysis for special status species encompasses the Project Area. As required by the Endangered Species Act (ESA), a Biological Assessment (BA) has been prepared under separate cover and is on file at the Fishlake National Forest Office and the BLM Richfield Field Office in Richfield, Utah. The BA evaluates the potential effects of a Proposed Action on Federally listed threatened, endangered, proposed and candidate species, and determines whether any such species and habitat are likely to be adversely affected by the action. The species accounts and discussion of potential impacts on these species resulting from the Proposed Action and alternatives, as discussed below, are taken from the BA.

The USFS requires a Biological Evaluation (BE) for the assessment/summary of the effects of a Proposed Action on USFS Sensitive Species. The information presented below has been utilized by the USFS for preparing a BE of the Proposed Action and alternatives.

In the case of species which occur or may occur in the Project Area, and species which may be directly or indirectly affected by the Proposed Action or alternatives, a further evaluation of potential impacts was prepared.

THREATENED, ENDANGERED, AND CANDIDATE SPECIES

A total of 10 Federally protected plant and animal species and one candidate species were listed by the USFWS as having the potential to occur within Emery and Sevier Counties and are shown in **Table 3.7-1**. The following discussion evaluates the likelihood for these species to occur in the area, based on habitats present, known occurrences, and the results of dedicated surveys for these species. If a species is known to occur in the area or has the potential to occur, the potential impacts resulting from the Project on that species are discussed.

A literature search reviewed the preferred habitats, elevational ranges, and occurrence records for each of these species. Based upon this information, a determination was made regarding the potential for each species to occur within the Project Area, or to be directly or indirectly affected by the Proposed Action or alternatives (i.e. for the species to occur within the Action Area). The basis for these determinations is presented in the following discussion. In the case of species that clearly do not occur in the Project Area and have no potential to be directly or indirectly impacted by the Proposed Action or alternatives (e.g. plant species occurring only at high elevations), a "No Effect" determination was made.

In the case of species that occur or may occur in the Project Area and species that may be directly or indirectly affected by the Proposed Action or alternatives, a further evaluation of potential impacts was prepared.

Table 3.7-1 Federally Listed and Candidate Species Potentially Occurring within the Project Area

Common Name	Specific Name	Federal Status
Jones Cycladenia	<i>Cycladenis humilis</i> var. <i>jonesii</i>	Threatened
Maquire Daisy	<i>Erigeron maguirei</i>	Threatened
Last Chance Townsendia	<i>Townsendia aprica</i>	Threatened
Barneby Reed-Mustard	<i>Schoenocrambe barnebyi</i>	Endangered

Common Name	Specific Name	Federal Status
San Rafael Cactus (Despain Footcactus)	<i>Pediocactus despainii</i>	Endangered
Winkler Cactus (Winkler Footcactus)	<i>Pediocactus winkleri</i>	Threatened
Wright Fishhook Cactus	<i>Sclerocactus wrightae</i>	Endangered
Heliotrope Milkvetch	<i>Astragalus montii</i>	Threatened
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Threatened
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Threatened
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	Candidate

THREATENED AND ENDANGERED PLANTS

Several of the listed plant species which have the potential to occur in the Project Area are restricted to, or most commonly occur on, particular soil or geological formation types. Soils in the area are generally derived by deposits of Quaternary alluvium and gravel deposits. The Project Area cuts through numerous sedimentary geologic formations that include the Mesaverde Group and the Mancos Shale.

Jones Cycladenia (*Cycladenia humilis* var. *jonesii*) - Threatened

Welsh et al. (1987) refer to this species as a "gypsophile" (occurring on gypsum-derived soils), found on "semibarren tracts on geological formations with poor water relationships." The species occurs in Eriogonum-Ephedra mixed desert shrub, and juniper communities at 4,400 to 6,000 feet AMSL. As Welsh suggests, the species is found in gypsiferous, saline soils of the Cutler, Summerville and Chinle formations. Flowering occurs in May and June.

This species occurs at lower elevations than those found in the Project Area (4,400 to 6,000 feet vs. 6,000 to 7,600 feet in the Project Area) and on formations and soil types which do not occur in the area. Therefore, this species would not be expected to occur in the Project Area.

Maguire Daisy (*Erigeron maguirei*) - Threatened

This perennial daisy grows in canyon bottoms in Wingate and Navajo formations, at elevations of 5,380 to 5,700 feet (Welsh et al., 1987). Atwood et al. (1991) cite a higher elevational range, of between 5,600 and 7,200 feet. Cronquist et al. (1994) states that the species grows in cliff crevices and the sandy bottoms of washes. Flowering occurs in June and July. The species also occurs in cool, moist mesic wash bottoms and dry, partially shaded slopes of eroded sandstone cliffs in the Wingate, Chinle, and Navajo sandstone formation or in dry, rocky, sandy canyon bottoms in the Navajo and Wingate Sandstone formations (Atwood et al., 1991).

The upper elevational range of this species, as reported by Atwood et al. (1991), is within the elevations of the Project Area and suitable habitat for this species (cliff crevices and the sandy bottoms of washes) does occur within the Project Area, but the geologic formations from which the species has been reported (Wingate, Chinle, and Navajo sandstone formations) are not found in the area. Therefore, this species is believed to be absent from the Project Area.

Last Chance Townsendia (*Townsendia aprica*) - Threatened

This species grows in salt desert shrub and pinyon-juniper habitats on clay or clay-silt exposures of the Arapien and the Blue Gate member of the Mancos Shale, at elevations between 6,100 to 8,000 feet

(Welsh et al., 1987; Atwood et al., 1991). Flowering occurs in April and May. This species is known from locations near the Project Area (Section 13 of Township 22 South, Range 5 East) and habitat exists in portions of the project corridor. Field surveys in May 1999 and May 2003, however, did not find any occurrence of this species within the project corridor.

San Rafael Cactus (*Pediocactus despainii*) – Endangered

This species is generally solitary, though it may occur in colonies. Habitat for this cactus is open pinyon-juniper communities on limestone gravels, at an elevation of approximately 6,000 to 6,200 feet (Welsh et al., 1987; Atwood et al., 1991). Flowering occurs from late April to early May. The species occurs at elevations within those found in the Project Area (6,000 to 6,200 feet compared to 6,000 to 7,600 feet in the Project Area). Conversations with the Botanist for the BLM's Richfield Field Office, indicate that this species has the potential to occur within the Project Area (Armstrong, personal communication June 15, 1999); however, none were located during a May 1999 field visit.

Winkler Cactus (*Pediocactus winkleri*) – Threatened

This diminutive species, also known as the Winkler footcactus, is usually solitary. The species occurs in salt desert shrub communities at 4,800 to 5,200 feet AMSL, in fine textured, poor-quality saline substrates (Welsh et al., 1987). Flowering occurs in late March to mid-May.

The Winkler cactus generally occurs at elevations below that found in the Project Area. Although this species may be found near the lower boundary of the Project Area (Armstrong, personal communication June 15, 1999), a May 1999 field survey confirmed none were located within the Project Area.

Heliotrope Milkvetch (*Astragalus montii*) - Threatened

Welsh et al. (1987) states that the heliotrope milkvetch is known only from the Flagstaff Limestone on the Wasatch Plateau, at an elevation of approximately 11,000 feet. Atwood et al. (1991) cites the habitat for this species as being alpine areas in a mixed grass-forb community on windblown ridges and snowdrift sites, at elevations of 10,500 to 11,000 feet. Flowering occurs July to August. The heliotrope milkvetch would not be expected to occur in the Project Area, where elevations reach only about 7,600 feet.

Barneby Reed-Mustard (*Schoenocrambe barnebyi*) - Endangered

Welsh et al. (1987) report that the Barneby reed-mustard occurs in mixed shadscale, *Eriogonum* and *Ephedra* communities in the Chinle Formation between approximately 5,600 and 5,700 feet AMSL. Flowering occurs in May.

This species occurs at elevations below those found in the Project Area and on soils derived from the Chinle Formation, which does not occur in the Project Area. The species is thus not expected to occur within the Project Area.

Wright Fishhook Cactus (*Sclerocactus wrightae*) - Endangered

Habitat for this species is salt desert shrub and shrub-grass to juniper communities on the Mancos Shale (Blue Gate, Tununk, Emery and Ferron members), Dakota, Morrison, Summerville, and Entrada formations, at elevations of between 4,800 to 6,100 feet (Welsh et al., 1987). Flowering occurs in April to May.

The small yellowish (to pink or white dorsally) flowers and short spines are diagnostic. Recorded locations of this plant in the project vicinity are south of I-70 and east of the Project Area on the San Rafael Swell, but not west of SR-10. Intermediates with Whipple fishhook (*S. whipplei*) occur occasionally in Emery County near the Sevier County line at the boundary between shale and sandstone members of the Mancos Shale Formation. This species has been found in soils not in the Project Area, but at elevations that coincide with the Project Area elevation (4,800 to 6,100 feet vs. 6,000 to 7,600 feet in the Project Area). However, the Wright fishhook cactus was not observed during a May 1999 field survey.

THREATENED AND ENDANGERED WILDLIFE

Only three Federally listed wildlife species were identified by the USFWS as having the potential to occur within the Project Area. All three species are birds. They include: the bald eagle, Mexican spotted owl, and western yellow-billed cuckoo.

Bald Eagle (*Haliaeetus leucocephalus*) - Threatened

The bald eagle is also known as the American eagle, black eagle, fishing eagle, gray eagle, Washington eagle, white-headed eagle, and white-headed sea eagle (Terres, 1980). During their breeding season, bald eagles are closely associated with water occurring along coasts, lakeshores, or riverbanks, where they feed primarily on fish. Bald eagles typically nest in large trees, primarily cottonwoods (*Populus* sp.) and conifers, although they have also been known to nest on projections or ledges of cliff faces (Call, 1978). Due to the large size of their nests, bald eagles usually build these structures in a tree which is the largest or stoutest in the immediate vicinity (Call, 1978). Two characteristics common to most nesting sites are a clear flight path to at least one side of the nest and excellent visibility, often with an unobstructed view of water. Most nests are in the top third of a living tree, with live foliage above the nest providing shade and protection during poor weather (Green, 1985). Breeding territories, including the nest tree and favored nearby perches, are defended against other eagles. Alternate nests are also common within the territory. Breeding territories are typically 250 to 500 acres in size (Swenson et al., 1986).

No bald eagle nests are known to occur within or in the general vicinity of the Project Area. Most sightings have been made in the Joes Valley Reservoir and Huntington Canyon areas, the closest of which (Joes Valley Reservoir) is approximately 20 miles north of the Project Area (USDA-USFS, 2000). A bald eagle nest has been reported in the vicinity of Castle Dale, approximately 20 miles northeast of the Project Area boundary. No roost sites have been found in the Project Area, and bald eagles are not expected to occur in the area except as transient birds, most commonly occurring in the winter months.

Mexican Spotted Owl (*Strix occidentalis lucida*) - Threatened

The Mexican spotted owl (MSO) is the only subspecies of spotted owl that occurs in Utah. The owl is known to nest only in steep-walled canyons of the Colorado Plateau eco-region and adjacent portions of the Utah Mountains eco-region. The closest known nest site to the area is located approximately 40 miles east, at the north end of Capitol Reef National Park.

According to the 14 August 2002 federally protected species by county list for Utah, MSOs are not listed in Sevier County, but are listed in Emery County. Potentially suitable habitat does occur within portions of the Project Area within Sevier County, but not within the portions of the Project Area within Emery County. Nonetheless, dedicated surveys for the MSO were conducted according to USFWS protocol, a total of four times in May and June of 2002. No MSOs were detected during these surveys.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*) - Candidate

In Utah, the yellow-billed cuckoo was historically uncommon to rare. Habitat for this species in Utah typically consists of large blocks (20+ acres) of riparian habitat that includes cottonwood trees below an elevation of 6,000 feet (personal communication between Fishlake National Forest and USFWS on

September 5, 2001). Two recent breeding records in Utah have been documented: one on the Green River in 1992 and the second within the Matheson Wetland Preserve near Moab in 1994 (USFWS 12-month petition finding July 25, 2001). Three yellow-billed cuckoos were also recorded during an intensive survey effort conducted throughout the Salt Lake Valley prior to 1988. Dedicated surveys for the yellow-billed cuckoo were not required because habitat for this species is essentially nonexistent within the area. There are no 20+ acre blocks of riparian deciduous forest in or near the Project Area. Subsequently, the yellow-billed cuckoo is not expected to occur in the Project Area or general vicinity.

SENSITIVE SPECIES

Each land management agency maintains their own region-specific sensitive species lists. The purpose of the listings for sensitive species is to identify those species in the managed area that are the most vulnerable to population or habitat loss. Typically, the conservation strategies recommend that proposed developments avoid sensitive species and their habitat so as not to render the species potentially threatened or endangered species under the ESA. The sensitive listed species are not afforded protection required under the ESA for Federally listed threatened or endangered species. Based upon agency consultation, it has been determined that the sensitive species shown in **Table 3.7-2** have the potential to occur within the Project Area.

Under Policy Number W2AQ-4, the UDWR also develops and maintains a list of sensitive species. Designated as the Utah Sensitive Species List, it identifies sensitive species as belonging to one of the following defined categories: extinct, extirpated, State-endangered, State-threatened, of special concern, or conservation species.

In addition, the Utah Natural Heritage Program maintains a list of “rare” species. Several of the listed rare species are also land management agency sensitive species and are addressed below. However, those species that are not sensitive are not afforded protection under the ESA or any land management agency conservation strategy and are, therefore, not discussed further.

Table 3.7-2 USFS, BLM, & UDWR State Sensitive Species Potentially Occurring in the Project Area

Common Name	Specific Name
Fishlake National Forest Sensitive Species	
Elsinore Buckwheat	<i>Eriogonum batemanii var. ostundii</i>
Ward Beardtongue	<i>Penstemon wardii</i>
Sevier Townsendia	<i>Townsendia jonesii var. lutea</i>
Rabbit Valley Gilia	<i>Gilia caespitosa</i>
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>
Spotted Bat	<i>Euderma maculatum</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Northern Goshawk	<i>Accipiter gentiles</i>
Flammulated Owl	<i>Otus flammeolus</i>
Northern Three-toed Woodpecker	<i>Picoides tridactylus</i>

Common Name	Specific Name
Fishlake National Forest Sensitive Species	
Elsinore Buckwheat	<i>Eriogonum batemanii</i> var. <i>ostundii</i>
Colorado Cutthroat Trout	<i>Oncorhynchus clarki</i> var. <i>pleuriticus</i>
BLM Richfield Field Office Sensitive Species	
Basalt Milkvetch	<i>Astragalus subcinereus</i> var. <i>basalticus</i>
Flannelmouth sucker	<i>Catostomus latipinnis</i>
Leatherside chub	<i>Gila copei</i>
UDWR State Sensitive Species	
Bluehead sucker	<i>Catostomus discobolus</i>
Flannelmouth sucker	<i>Catostomus latipinnis</i>

FISHLAKE NATIONAL FOREST SENSITIVE SPECIES

Elsinore Buckwheat (*Eriogonum batemanii* var. *ostundii*)

Elsinore buckwheat, endemic to Piute and Sevier Counties, is known to occur within shadscale, mixed desert shrub, sagebrush, juniper, and ponderosa pine communities (Atwood et al., 1991). This species usually occurs on igneous gravels between 5,495 to 6,512 feet in elevation. Flowering occurs from July to September.

No igneous gravels occur within the general vicinity and therefore, this species is believed to be absent from the area.

Ward Beardtongue (*Penstemon wardii*)

Ward beardtongue, endemic to Sanpete, Millard, and Sevier Counties, is known to occur within desert shrub, pinyon-juniper, shadscale, sagebrush, and greasewood communities on the Bald Knoll and Arapien Shale formations (Atwood et al., 1991). This species usually occurs between 5,495 to 6,810 feet in elevation. Flowering occurs from May to July.

Neither of the two formations on which this species is usually found occurs within the area; thus it is believed to be absent from the area.

Sevier Townsendia (*Townsendia jonesii* var. *lutea*)

Sevier townsendia, endemic to the Great Basin, is known to occur within desert shrub and juniper communities on Arapien shale and clays in volcanic rubble (Atwood et al., 1991). This species usually occurs between 5,500 to 6,000 feet in elevation. Flowering occurs from May to June.

Arapien shale and clays in volcanic rubble do not occur in the Project Area, therefore the species is not expected to occur within it.

Rabbit Valley Gilia (*Gilia caespitosa*)

Rabbit Valley gilia, endemic to Utah in Wayne County, is known to occur within pinyon-juniper communities on the Carmel and Navajo formations (Atwood et al., 1991). This species usually occurs between 5,200 to 8,515 feet in elevation. Flowering occurs from June to July.

The Carmel and Navajo formations do not occur in the Project Area. In addition, the Project Area does

not occur within Wayne County, the only county in which this species has been discovered to date. Therefore, this species is not expected to occur within the Project Area.

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

The Townsend's big-eared bat is also known as Western big-eared bat, western long-nosed bat, and western lump-nosed bat (Kunz and Martin, 1982). This species ranges throughout North America from British Columbia to central Mexico, with isolated populations reaching the Ozarks and Appalachia (Pierson et al., 1991). This bat occurs in juniper-pine forests, shrub-steppe grasslands, deciduous forests, and mixed coniferous forests from sea level to 10,000 feet in elevation (USDA-USFS, 1991). Although this species occurs in a variety of habitats and appears to be an adaptable forager, it is generally thought to be a moth specialist (Kunz and Martin, 1982). Townsend's big-eared bats are considered to be so sensitive to human disturbance that simple entry into a nursery roost can induce site abandonment by a colony (Humphrey and Kunz, 1976). According to Pierson et al. (1991) and Brown and Berry (1991), mine shafts/adits are the most important roosting habitat for Townsend's big-eared bats and other sensitive bat species, and should be protected from human disturbance where possible.

In 1992, Townsend big-eared bats were found using inactive coal mines as hibernacula on the Ferron Ranger District. They have also been found roosting in buildings of the Ferron/Price Ranger District in the town of Ferron during late summer of 1992. In the summer of 1997, bat surveys were conducted by Genwal Resources Incorporated in areas within Huntington Canyon (Crandall Canyon, Biddlecome Hollow, Tie Fork, Huntington Canyon, Mill Fork, and Bear Creek Canyon), approximately 25 to 30 miles north of the Project Area. No Townsend's Big-eared bats were located in those areas (Johansson et al., 1997).

Dedicated bat surveys in Quitchupah Creek have not been conducted; however, surveys in 1997 in Link Canyon (Perkins and Peterson, 1997) detected no big-eared bat use of the area. Perkins and Peterson concluded potential for the occurrence of big-eared bats in the area was low, and suitable big-eared bat habitat was not present.

Spotted Bat (*Euderma maculatum*)

This species is also known as the pinto bat (Watkins, 1977). Spotted bats occur in a variety of habitats including open ponderosa pine (*Pinus ponderosa*), desert scrub, pinyon-juniper, and open pasture and hay fields (Leonard and Fenton, 1983). Most often, they are found in dry, rough desert terrain (Watkins, 1977). Spotted bats roost alone in rock crevices high up on steep cliff faces. They have been recorded from 187 feet below sea level to the high transition zone of Yosemite National Park (Goodwin and Holloway, 1972). Critical roosting sites are cracks and crevices from 0.8 to 2.2 inches in width in limestone or sandstone cliffs (USDA-USFS, 1991). Spotted bat populations may be limited by the availability of suitable roosting sites. Generally, spotted bats are found in relatively remote, undisturbed areas, suggesting that they may be sensitive to human disturbance (USDA-USFS, 1991).

In the summer of 1997, surveys conducted by Genwal Resources Incorporated detected spotted bats utilizing habitats within Mill Fork Canyon, Crandall Canyon, Biddlecome Hollow, Tie Fork, Huntington Canyon, and Bear Creek Canyon, approximately 25 to 30 miles north of the Project Area. Foraging areas were located at relatively low elevation sites associated with riparian vegetation within Huntington Canyon. Specific individual roost sites were not located, but general roosting areas were identified on the cliff faces/rock outcrops in Crandall and Mill Fork Canyons. Additional roosting areas were identified throughout the Huntington Canyon drainage among sizeable cliff faces (Johansson et al., 1997).

Other known observations of spotted bats on the Ferron/Price Ranger District have been at Joes Valley Reservoir and at Emerald Lake. Surveys by Perkins and Peterson (1997) documented spotted bat use in

Link Canyon; however, no surveys have been conducted within the Project Area.

Peregrine Falcon (*Falco peregrinus*)

The peregrine falcon is a wide ranging species which utilizes a variety of habitats. Peregrines usually nest on large rock cliffs in open country; preferred sites overlook water and allow an extensive view of the surrounding terrain (Herron et al., 1985). In the Rocky Mountain southwest, the walls of canyons and gorges are often used for nest sites (Call, 1978). Reintroduced birds regularly nest on man-made structures such as towers and high-rise buildings (USDA-USFS, 1991). Peregrine falcons use riparian areas for hunting (McCarthy et al., 1986) and often hunt birds that frequent undergrowth or occupy coniferous forest habitats (Craig, 1986). The most frequently used nesting cliffs exceed 100 feet in height, are often at the top of a high talus slope, and have ledges or caves with gravelly or sandy floors. Peregrines nest directly on this material in a shallow depression or scrape (Call, 1978).

The closest known peregrine falcon eyrie, located in Link Canyon approximately five miles to the north, was found active in 1997; however, the eyrie has not been active since that time based upon surveys conducted by UDWR in 1998 and 1999.

Northern Goshawk (*Accipiter gentilis*)

In most areas, the northern goshawk occupies montane forests in spring and summer, with some altitudinal migration into foothills and valleys in the winter (Terres, 1980). Nest trees of this species are commonly located on benches or basins surrounded by much steeper slopes (Call, 1978). The goshawk usually nests on a horizontal branch next to the trunk of mature conifers, aspen (*Populus tremuloides*), cottonwood, or other deciduous stream bottom trees (Call, 1978), about 20 to 60 feet up in the tree canopy (Terres, 1980). Reynolds (1983) found nests in Oregon were generally located in multi-layered, mature, or old-growth coniferous forest. Nests were usually located near water, on areas of moderate slope, often with a northerly aspect. Forest openings were generally located nearby. The same nest may be used for several seasons, but alternate nests are common within a single territory. Adjacent understory is usually fairly open (Call, 1978). This large accipiter usually requires an extensive home range (Johnsgard, 1990). Goshawks are very protective of their young in the nest and loudly defend them against intruders. They are very sensitive to human disturbance and have abandoned nests and young due to human activities that take place too close to their nest (Kennedy and Stahlecker, 1989; Hennessey, 1978). Goshawks are not known to nest within the Quitchupah Creek canyon or Water Hollow Project Areas; dedicated surveys were deemed unnecessary because of limited suitable habitat. However, goshawks could occasionally use portions of the Project Area for foraging opportunities.

Flammulated Owl (*Otus flammeolus*)

This diminutive owl, approximately six inches in length, inhabits the montane coniferous forests of North and Central America, ranging from southern British Columbia to Guatemala (Ryser, 1985). In most areas, this owl occurs in close association with ponderosa pine (*Pinus ponderosa*) and Jeffery pine (*Pinus jefferyi*), though it has been recorded less commonly in other forest types (Johnsgard, 1988). This small and secretive owl is a cavity nester, and thus requires natural or woodpecker-excavated cavities as a component of its habitat. Flammulated owls are almost exclusively insectivorous, preying on small to medium sized moths, beetles, caterpillars, and crickets (Reynolds and Linkhart, 1987; Johnsgard, 1988; Bull et al., 1990). Like most insectivores, but unlike most owls, flammulated owls are migratory (Winter, 1974; Balda et al., 1975; Collins et al., 1986; Gaines, 1988).

Flammulated owls have been found in the Quitchupah Creek drainage on the Old Woman Plateau, located at the upper, western end of the Project Area. Suitable habitat, although limited, does occur within and adjacent to the Project Area.

Three-toed Woodpecker (*Picoides tridactylus*)

The three-toed woodpecker is a permanent resident of the taiga or circumboreal forests of Eurasia and North America, ranging southward into the continental United States (Ryser, 1985). The species is found in northern coniferous and mixed forest types up to 9,000 feet elevation. Forests containing spruce, grand fir, ponderosa pine, tamarack and lodgepole pine are used. Nests may be found in spruce, tamarack, pine, cedar, and aspen trees. Three-toed woodpeckers forage mainly on dead trees, although they will feed in live trees. About 75 percent of their diet is woodboring insect larvae, mostly beetles, but they also eat moth larvae. Three-toed woodpeckers are major predators of the spruce bark beetle, especially during epidemics.

Three-toed woodpeckers are known to occur in the general area from dedicated surveys conducted during 1992 through 1996 throughout suitable habitat in adjacent forested areas. Limited habitat occurs within or adjacent to the upper portions of the Project Area.

Colorado Cutthroat Trout (*Oncorhynchus clarki var. pleuriticus*)

This species requires clear, cool water. Optimum habitat consists of suitable 1:1 pool to riffle ratio and slow, deep water with vegetated streambanks for shade, bank stability, and cover. This species could also inhabit lakes. Habitat for this species is not found within the Project Area. Furthermore, electroshocking in Quitchupah and lower Water Hollow creeks provided no evidence that these species would occur in the area (JBR, 2001c).

BLM RICHFIELD FIELD OFFICE SENSITIVE SPECIES**Basalt Milkvetch (*Astragalus subcinereus var. basalticus*)**

The Basalt milkvetch is known to occur within pinyon-juniper and ponderosa pine communities between 4,520 to 7,970 feet elevation (Atwood et al., 1991). Because the appropriate habitat and the Mancos Shale formation for this species does occur within the Project Area, preconstruction surveys for this species will be conducted during appropriate flowering times in the spring/summer prior to construction activities in suitable habitat.

UDWR UTAH SENSITIVE SPECIES LIST

The UDWR Utah Sensitive Species List includes several fish species that are endemic to the Colorado River Basin in which the Project Area occurs, or whose known historical range does not exclude the Project Area. These species are: bonytail (*Gila elegans*), Colorado squawfish (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), woundfin (*Plagopterus argantissimus*), Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*), roundtail chub (*Gila robusta*), leatherside chub (*Gila copei*), flannelmouth sucker (*Catostomus latipinnus*), bluehead sucker (*Catostomus discobolus*), Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*), Bonneville cutthroat trout (*Oncorhynchus clarki utah*), Virgin spinedace (*Lepidomeda mollispinis*), and least chub (*Iotichthys phlegethontis*). The flannelmouth sucker and leatherside chub are also on the BLM sensitive species list. The bluehead sucker and flannelmouth sucker are covered under a Range-Wide Conservation Agreement (UDWR, 2004) under which several western states have agreed to work cooperatively on conservation measures to ensure the persistence of these species.

As discussed in more detail in the Final Aquatic Resources Technical Report (JBR, 2001c), two of these listed fish species were found in Quitchupah Creek during July 1999 fish sampling. At one out of five total locations that were electroshocked, 13 individual flannelmouth suckers and one leatherside chub were captured. At the other four locations, these species were absent. During 2004 surveys, flannelmouth suckers were determined as 'not present' in Quitchupah Creek (UDWR, 2005a). None of

the other fish species on the Utah Sensitive Species List were found during the fish sampling. However, the bluehead sucker was found during a separate survey by UDWR at the confluence of Quitchupah Creek with Ivie Creek.

Potential Impacts To Threatened, Endangered, And Sensitive Species

The Environmental Consequences of each Alternative, in regard to TES species, are discussed below. First, regulatory consequences are described and then potential impacts to the resource itself.

REGULATORY

The BA has been reviewed and approved by the USFWS (**Appendix F**). A Biological Opinion was not required as the determination was that none of the threatened or endangered plant or animal species or habitat would be impacted or adversely affected by the proposed project. Similar review and approval of the BE by the USFS was conducted. Appropriate environmental measures as outlined in Chapter 2 and monitoring as detailed in Monitoring Plan would be implemented if sensitive species might be impacted by the proposed project.

POTENTIAL IMPACTS TO SPECIAL STATUS SPECIES

This assessment evaluates the potential for each Special Status Species to be directly or indirectly impacted by the Alternatives. This assessment is based on a review of the species' preferred habitats and their recorded occurrence. Based upon this information, a determination can be made regarding the potential for each species to be directly or indirectly affected by the Alternatives.

In the case of species that clearly do not occur in the Project Area and have no potential to be directly or indirectly impacted by the Alternatives (plant species occurring at elevations outside that of the Project Area, for example), a "No Effect" (in the case of listed species) or "No Impact" (in the case of Sensitive Species) determination was made. In the case of species that occur or may occur in the Project Area and which may be directly or indirectly affected by the Alternatives, a further evaluation of potential impacts was prepared.

NO ACTION ALTERNATIVE - ALTERNATIVE A

Selection of the No Action Alternative would not result in any direct, indirect, or cumulative impacts to Federally listed or sensitive species occurring in the Project Area. The road would not be constructed in the Quitchupah Creek drainage or the Water Hollow Benches area, and thus related disturbances would not occur in those areas. The existing land uses and environment in the Quitchupah Creek drainage would continue for the near future.

QUITCHUPAH CREEK ROAD ALIGNMENT - ALTERNATIVE B

Threatened, Endangered, and Candidate Species

Table 3.7-3, developed from the BA, summarizes the occurrence and effects analysis for threatened, endangered, and candidate species potentially occurring in the Project Area. This table includes the rationale for the determinations shown.

Dedicated surveys for the Mexican spotted owl, following USFWS protocol, were conducted within the Project Area in May and June of 2002 (JBR, 2002 Technical Addendum). Surveys were conducted in suitable nesting habitat on Alternatives B and D. No Mexican spotted owls were detected or observed during these surveys.

Wintering bald eagles may utilize the roadway for the scavenging of big game road kill. This would lead

to potential collisions of bald eagles with coal trucks. As outlined the Applicant-Committed Environmental Protection Measures in Section 2.2, all animal carcasses would be removed daily from the roadway to minimize the potential of bald eagle collisions with coal trucks.

Sensitive Species

Table 3.7-4 summarizes the occurrence and effects analysis for Sensitive Species potentially occurring in the Project Area. The table also includes the rationale for the determinations shown.

Limited suitable habitat for the northern goshawk, flammulated owl, and three-toed woodpecker would be impacted. In addition, approximately 1.0 acre of riparian habitat and .33 acres of wetlands, potential foraging habitat for spotted bats, northern goshawks, and flammulated owls that would be disturbed during construction would be replaced. Blasting during road construction activities could also temporarily impact spotted bats (if present) as potential roosting sites could be destroyed or disturbed. Dedicated surveys for these species were not requested by the Fishlake National Forest as little suitable habitat was in or adjacent to the Project Area.

Impacts to potentially suitable habitat for the Basalt milkvetch could occur. However, direct impacts to this species should not occur, as preconstruction surveys would identify the location of these species within proposed disturbance areas and appropriate mitigation measures would be implemented to avoid potential impacts.

ALTERNATE JUNCTION WITH SR-10 AND ALTERNATE DESIGN - ALTERNATIVE C

Similar impacts to Federally listed and sensitive species would occur as described for Alternative B. However, the likelihood of impacts to habitat for *Townsendia aprica* is increased.

Table 3.7-3 Potential Occurrence and Effects Analysis of Federally Listed Species - Summary of BA

Species	ALT A	ALT B	ALT C	ALT D	RATIONALE
Jones Cycladenia	NE	NE	NE	NE	Not known to occur in the Project Area; geologic formations on which this species occurs do not occur in the Project Area.
Maguire Daisy	NE	NE	NE	NE	Not known to occur in the Project Area; geologic formations on which this species occurs do not occur in the Project Area.
Last Chance Townsendia	NE	MA-NLAA	MA-NLAA	NE	Suitable habitat near Project Area, but not discovered during dedicated surveys. No critical habitat has been designated for this species.
Barneby Reed-Mustard	NE	NE	NE	NE	Not known to occur in the Project Area; geologic formations on which this species occurs are not found in the Project Area.
San Rafael Cactus	NE	MA-NLAA	MA-NLAA	MA-NLAA	Not known to occur within the Project Area. No critical habitat has been designated for this species.
Winkler Cactus	NE	NE	NE	NE	Not known to occur within the Project Area. No critical habitat has been designated for this species.
Wright Fishhook Cactus	NE	NE	NE	NE	Not known to occur within the Project Area.
Heliotrope Milkvetch	NE	NE	NE	NE	Not known to occur in the Project Area.
Bald Eagle	NE	MA-NLAA	MA-NLAA	MA-NLAA	Does not make regular use of the Project Area; construction impacts would not alter the limited use. Animal carcasses would be removed daily from the roadway but still may attract foraging eagles. No critical habitat has been designated for this species.
Mexican Spotted Owl	NE	NE	NE	NE	Suitable habitat near Project Area, but none were discovered during 2002 dedicated surveys.
Yellow-billed Cuckoo	NE	NE	NE	NE	Does not occur in Project Area.
<p>NE = No Effect MA-NLAA = May Affect -Not Likely to Adversely Affect MA-LAA = May Affect -Likely to Adversely Affect BE = Beneficial Effect</p>					

Table 3.7-4 Potential Occurrence and Effects Analysis of Sensitive Species - Summary of BE

Species	ALT A	ALT B	ALT C	ALT D	RATIONALE
Elsinore Buckwheat	NI	NI	NI	NI	Not known to occur in the Project Area; suitable habitat not present.
Ward Beardtongue	NI	NI	NI	NI	Not known to occur in the Project Area; suitable habitat not present.
Sevier Townsendia	NI	NI	NI	NI	Not known to occur in the Project Area; suitable habitat not present.
Rabbit Valley Gilia	NI	NI	NI	NI	Not known to occur in the Project Area; suitable habitat not present.
Townsend's Big-eared Bat	NI	MIIH	MIIH	MIIH	Not recorded in Project Area, but suitable roosting and habitat may be present.
Spotted Bat	NI	MIIH	MIIH	MIIH	Not recorded in Project Area, but suitable roosting and foraging habitat occurs in Project Area.
Peregrine Falcon	NI	NI	NI	NI	Known eyrie in Link Canyon area, approximately 5 miles to the north, not recorded in Project Area.
Northern Goshawk	NI	MIIH	MIIH	MIIH	Not recorded in Project Area, but suitable foraging habitat occurs in general area.
Flammulated Owl	NI	MIIH	MIIH	MIIH	Limited available habitat in area, foraging areas could be impacted.
Northern Three-toed Woodpecker	NI	MIIH	MIIH	MIIH	Known to occur in general area, available habitat could be impacted.
Colorado Cutthroat Trout	NI	NI	NI	NI	Does not occur in Project Area; historic range includes North Fork.
Basalt Milkvetch	NI	MIIH	MIIH	MIIH	Unknown to occur within the Project Area; however low potential suitable habitat does occur; preconstruction surveys would be conducted.

NI = No Impact **BI** = Beneficial Impact
MIIH = May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or of Viability to the Population or Species
WIFV = Will Impact Individuals or Habitat with a Consequence such that the Action May Contribute to a Trend Toward Federal Listing or Loss of Viability to the Population or Species

WATER HOLLOW ALTERNATE ALIGNMENT - ALTERNATIVE D

Similar impacts to Federally listed and sensitive species would occur as described for Alternative B.

MITIGATION AND MONITORING FOR BUILD ALTERNATIVES

As outlined in the Applicant Committed Measures in Chapter 2, the haul route would be patrolled daily, during daylight hours, to pick up and dispose of all animal carcasses (wild and domestic, large and small) in order to keep the road surface clear. This would reduce scavenging on the road surface by raptors and vultures.

Mitigation for the creation and enhancement of wetlands and riparian zones described in Section 2.2 would be identical for all Alternatives, and in the case of wetlands would provide additional habitat for wildlife. The agency-committed environmental protection measure of eliminating livestock grazing on 4.7 miles of stream would restore the degraded riparian zone, providing additional quality habitat for wildlife.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES AND RESIDUAL ADVERSE IMPACTS

No irreversible commitment of habitats for TES species are anticipated to occur as a result of the Alternatives. An increase in noise levels and human activity would occur within the Alternatives area as a result of vehicle travel. No residual adverse impacts were identified for TES species within the Alternatives area.

CUMULATIVE EFFECTS

Past range improvements, such as the reservoir on Saleratus Bench, has provided a water source that benefits certain TES species. Increased public access would occur as a result of the Alternatives, which would increase noise and also disturbance to TES species' habitat. Increased hunting could occur as a result of increased public access. Reasonably foreseeable activities could include federal oil and gas lease exploration and drilling. Reclamation would occur on drilling sites that do not enter into production. A producing gas field would require additional roads increasing access to lands within the watershed.

The removal of livestock grazing on 4.7 miles of stream corridor would protect the riparian plant community allowing it to reach its full potential along this stretch of Quitchupah Creek, this would provide additional habitat for many TES species including spotted bats.