

5.3.12 Special Status Wildlife Species

5.3.12.1 Affected Environment

The USFWS has designated 10 wildlife species listed under the ESA of 1973, as amended, for analysis of effects from the LPP Project (USFWS Letter 3/16/09, confirmed 8/5/10 with addition of greater sage-grouse and re-confirmed 2/14/13). In 2015, the USFWS determined that the greater sage-grouse did not warrant listing under the ESA, and therefore, it removed the greater sage-grouse's listing as an ESA candidate species. In October 2013, the USFWS determined that the western distinct population segment of the yellow-billed cuckoo (*Coccyzus americanus*) warranted threatened status under the ESA (USFWS 2014a), and in November 2014, the USFWS proposed critical habitat for this segment of the yellow-billed cuckoo (USFWS 2014b).

A total of 96 wildlife species of concern have been identified by federal or state agencies or are included in conformance with Executive Order 13186 (66 FR 3853, January 10, 2001) that mandates conservation of migratory birds designated as PIF Watch List priority species. The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703-712), prohibits hunting or take of all migratory birds, including nests and eggs outside of the framework regulations for designated hunting season and areas. The Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. 668-668d), prohibits any take of bald or golden eagles.

ESA-listed threatened, endangered and candidate species, and species of concern, including tribal wildlife species of cultural concern and federal agency sensitive species, are analyzed in separate subsections.

5.3.12.1.1 Threatened, Endangered and Candidate Wildlife Species and Designated Critical Habitats.

Table 5-107 summarizes the threatened, endangered and candidate wildlife species listed by the USFWS under the ESA for the counties affected by the Project pipeline and transmission line alignments, access roads and staging areas. Each species listing history, distribution, life history and ecology, and critical habitat, if designated, are considered separately as applicable for the species.

Table 5-107
Federally Listed Threatened, Endangered or Candidate Wildlife Species by County

Common Name	Scientific Name	Listing Status ¹	State	County
Mexican spotted owl ²	<i>Strix occidentalis lucida</i>	T	Utah Arizona	Kane, Washington Coconino, Mohave
Southwestern willow flycatcher ²	<i>Empidonax traillii extimus</i>	E	Utah Arizona	Kane, Washington Coconino, Mohave
Utah prairie dog	<i>Cynomys parvidens</i>	T	Utah	Kane, Washington
Yellow-billed cuckoo ³	<i>Coccyzus americanus</i>	T	Utah Arizona	Kane, Washington Coconino, Mohave
Mojave desert tortoise ²	<i>Gopherus agassizii</i>	T	Utah Arizona	Washington Mohave
Relict leopard frog	<i>Rana onca</i>	C	Arizona	Mohave
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	Arizona	Mohave

Notes:

¹ T = threatened, E = Endangered, Non-Essential; C = Candidate.

² Critical habitat designated for this species.

³ Critical habitat is proposed for this species.

Source:

USFWS species listing letters 3/16/2009 and 8/5/2010; USFWS IPaC 3/4/2016.

5.3.12.1.1 Mexican Spotted Owl.

Listing History and Status

The USFWS listed the Mexican spotted owl (*Strix occidentalis lucida*) on March 16, 1993 (58 FR 14248) without critical habitat, effective April 15, 1993. A final rule designating critical habitat for the Mexican spotted owl was published on June 6, 1995 (60 FR 29914). As a result of several court rulings, the USFWS removed critical habitat designation for the Mexican spotted owl on March 25, 1998 (63 FR 14378). On March 13, 2000, the USFWS was again ordered to propose critical habitat within 4 months of the court order and to complete a final designation by January 15, 2001. The USFWS designated approximately 4.6 million acres of critical habitat for the Mexican spotted owl in Arizona, Colorado, New Mexico and Utah on federal lands. (66 FR 8530, February 1, 2001). The critical habitat designation was revised with a final rule published on August 31, 2004 (69 FR 53181), effective September 30, 2004.

Distribution

Mexican spotted owls range widely across Utah, Colorado, New Mexico and Arizona and in extreme western Texas in disjunct populations (USFWS 2010b).

Life History and Ecology

Mexican spotted owls nest, roost, forage, and disperse in a diverse assemblage of biotic communities. Spotted owls nest and roost primarily in closed-canopy forests or canyons. Mixed-conifer forests are commonly used throughout most of the range, which may include Douglas-fir and/or white fir, with co-dominant species including southwestern white pine, limber pine, and ponderosa pine. The understory often contains the above coniferous species, as well as broadleaved species such as Gambel oak, maples, box elder, and/or New Mexico locust. In the northern part of the range, including southern Utah, southern Colorado, and far northern Arizona and New Mexico, owls occur primarily in rocky canyons. They nest

in these areas on cliff ledges, in stick nests built by other birds, on debris platforms in trees, and in tree cavities (USFWS 2010b). Mexican spotted owls are also found in canyon habitat dominated by vertical-walled rocky cliffs within complex watersheds including tributary side canyons (Gutierrez and Rinkevich 1991). Forests used for roosting and nesting often contain mature or old-growth stands with complex structure, are typically uneven-aged, multistoried, and have high canopy closure. A wider variety of trees are used for roosting, but Douglas-fir is the most commonly used species (USFWS 2010b). Mexican spotted owls may migrate to lower-elevation pinyon juniper habitat in winter (BNA 2010). Foraging is nocturnal; the spotted owl is a “perch and pounce” predator, taking prey from either the ground or trees (BNA 2010). Prey sources include small forest mammals, mainly woodrats, mice, voles and rabbits, but spotted owls occasionally prey on bats (BNA 2010). If prey is abundant, spotted owls will cache surplus kills for later use (BNA 2010).

Pair formation begins in February and March, with nesting and egg laying beginning in late March through April (BNA 2010). Spotted owls do not build their own nest but rather utilize naturally occurring nest sites or nests built by other animals. Nests are located in tree cavities or ledges (BNA 2010). Mexican spotted owls lay one to three eggs and may produce a second clutch if the first is lost. Incubation is about 1 month. Owlets hatch generally in early May and fledge at 4 to 5 weeks (USFWS 2010b). They forage independently by late August or early September, after which parents avoid further contact (BNA 2010).

Primary threats to Mexican spotted owls are loss of habitat from fire, logging or development. Human activity (hiking, shooting, off-road vehicles) near nesting or roosting sites may cause abandonment (USFWS 2010b).

Designated Critical Habitat

Mexican spotted owl Critical Habitat Unit CP-10 is designated in northern Arizona in the Kaibab National Forest, Grand Canyon National Park and Marble Canyon National Monument (USFWS 2016c). All of Unit CP-10 is more than 15 miles south of the Project alternative alignments. Mexican spotted owl Critical Habitat Unit CP-12 is designated in Utah in Grand Staircase-Escalante National Monument (GSENM) north of the Cockscomb; the study area is more than 2.5 miles south of Unit CP-12.

5.3.12.1.1.2 Southwestern Willow Flycatcher.

Listing History and Status

The southwestern willow flycatcher (*Empidonax traillii extimus*) is listed as endangered (60 FR 10694, February 27, 1995) with critical habitat (50 CFR 60886, October 19, 2005). A 5-year review of the species was announced in 2008 (73 FR 14995, March 20, 2008).

Distribution

The range of the southwestern willow flycatcher is primarily in Arizona, New Mexico, Nevada and southern California. The Virgin River corridor in extreme southwest Utah and northwestern Arizona is also a potential habitat area (USFWS 2010a and 2013).

Life History and Ecology

The southwestern willow flycatcher nests and forages in dense riparian habitats along streams, rivers, lakesides, and other wetlands. Some of the more common plant species used for nesting are willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, and mesquite. Nests are found in dense thickets of these and other plants species that are about 13-23 feet in height. According to the *Southwest Willow Flycatcher Recovery Plan* (USFWS 2010a), “suitable habitat conditions are generally dense, mesic riparian shrub and tree communities 0.1 hectare (10,764 square feet) or greater in size within

floodplains large enough to accommodate riparian patches at least 10 m wide (measured perpendicular to the channel).” Migration habitat is believed to primarily occur along riparian corridors. Utilized habitat occurs at elevations below 8,500 feet AMSL.

The southwestern willow flycatcher arrives on breeding grounds in late April to early May. Nesting begins in late May and early June, with fledging from late June to mid-August. It typically lays 3-4 eggs per clutch at 1-day intervals, and eggs are incubated by the female for about 12 days. Young birds fledge 12-13 days after hatching. Typically, the flycatchers only raise one brood per year; however, some pairs will raise a second brood after a nest failure (USFWS 2010a and 2013). Flycatchers are insectivores and capture their prey on the wing. Southwestern willow flycatchers winter in Mexico and Central America, migrating south from the United States by the end of September (USFWS 2010a and 2013).

Loss or degradation of dense riparian nesting habitat is the primary threat to the species (USFWS 2010a and 2013).

Designated Critical Habitat

Southwestern willow flycatcher critical habitat has been designated along the Virgin River in northwestern Arizona and southwestern Utah (Virgin Management Unit) (USFWS 2013). This habitat extends from approximately 6.9 miles north of the headwaters of Lake Mead in Nevada to a point approximately 1.4 miles north of the Washington Fields Diversion in Utah (USFWS 2010b). The Project area is proximate to the stream segments designated as critical habitat within the Virgin Management Unit of the Lower Colorado Recovery Unit and the Paria River north of Highway 89 of the Powell Management Unit (USFWS 2013). In January 2013, based on the physical or biological features and habitat characteristics required to sustain the species’ life-history processes, the USFWS determined that the primary constituent elements of southwestern willow flycatcher habitat are as follows:

1. Primary Constituent Element 1—Riparian vegetation. Riparian habitat along a dynamic river or lakeside, in a natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs (that can include Goodding’s willow, coyote willow, Geyer’s willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of:
 - a. Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 2 to 30 m (about 6 to 98 ft). Lower-stature thickets (2 to 4 m or 6 to 13 ft tall) are found at higher elevation riparian forests and tall-stature thickets are found at middle and lower-elevation riparian forests;
 - b. Areas of dense riparian foliage at least from the ground level up to approximately 4 m (13 ft) above ground or dense foliage only at the shrub or tree level as a low, dense canopy;
 - c. Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground);
 - d. Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.1 ha (0.25 ac) or as large as 70 ha (175 ac).

2. Primary Constituent Element 2—Insect prey populations. A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (Hymenoptera); dragonflies (Odonata); flies (Diptera); true bugs (Hemiptera); beetles (Coleoptera); butterflies, moths, and caterpillars (Lepidoptera); and spittlebugs (Homoptera).

5.3.12.1.1.3 Utah Prairie Dog.

Listing History and Status

The Utah prairie dog (*Cynomys parvidens*) was listed as an endangered species on June 4, 1974 (38 FR 14678). On November 5, 1979, the Utah Division of Wildlife Resources petitioned the USFWS to remove the Utah prairie dog from the U.S. List of Endangered and Threatened Wildlife. The USFWS found that this petition contained substantial data, and on May 29, 1984 (49 FR 22330), the species was reclassified from endangered to threatened, with a special rule to allow regulated take of the species on agricultural lands. The special rule was amended on June 14, 1991 (56 FR 27438) to increase the amount of regulated take throughout the species' range. On February 21, 2007, the USFWS denied a petition to reclassify the Utah prairie dog as endangered (72FR 7843) and initiated a 5-year review. There are numerous habitat conservation plans (HCPs) and agreements for the Utah prairie dog, including the Iron County HCP submitted in June 1998 (USFWS 2010g, 2010h). The Utah prairie dog is a colonial ground-dwelling rodent with a limited range in southwestern Utah, including Iron, Garfield, Beaver, Washington, Sevier and Wayne Counties (USFWS 2010i). The USFWS's Information, Planning, and Conservation (IPaC) online system (<http://ecos.fws.gov/ipac/>) was accessed on March 4, 2016, to review Utah prairie dog information for Kane and Washington Counties in Utah. The IPaC report lists the Utah prairie dog as a species that may occur or could potentially be affected by activities in Kane and Washington counties. However, no Utah prairie dog habitat or sightings were identified in the area of potential effect. The closest Utah prairie dog colonies and individuals observed were in Iron County. There is no Utah prairie dog designated critical habitat. Construction of the Proposed Action or other alternatives would have no effect on Utah prairie dogs. Therefore, the Utah prairie dog is not further analyzed for the LPP Project.

5.3.12.1.1.4 Yellow-billed Cuckoo.

Listing History and Status

The yellow-billed cuckoo (*Coccyzus americanus*) in the western United States was accorded candidate species status on July 25, 2001 (66 FR 38611). The USFWS determined that although listing was warranted, it was precluded by higher-priority listing actions. In October 2015, the USFWS determined that the western distinct population segment of the yellow-billed cuckoo warranted threatened status under the ESA and therefore implemented federal protections provided by the ESA for this segment. On August 15, 2014, the USFWS announced a proposal to designate critical habitat for this segment of the yellow-billed cuckoo under the ESA. In November 2014, the USFWS reopened the comment period of the proposed rule to allow the USFWS to accept and consider additional public comments on the proposed designation of critical habitat for the yellow-billed cuckoo. Critical habitat is currently proposed for the western distinct population segment.

Distribution

The yellow-billed cuckoo is widely but sparsely distributed across the United States west of the Rocky Mountains (USFWS 2010c and 2014a) because of its specific riparian habitat requirements. It is infrequently seen in Utah. Two remote observations are documented in the Utah Conservation Data Center (UCDC) GIS database—1939 and 1981 in Washington County near what is now Sand Hollow Reservoir (UCDC 2010a and 2010b). In Arizona, recorded occurrences are over 150 miles south of the

Project study area (AGFD 2010). Suitable habitat also exists at the Virgin River/Beaver Dam Wash confluence north of Mesquite, Nevada.

Life History and Ecology

Yellow-billed cuckoo is a medium-sized bird classified in the family Cuculidae, containing cuckoos, roadrunners and anis in North America (Sibley 2001). East of the Rocky Mountains, yellow-billed cuckoo breeding range covers most of the United States. West of the Rocky Mountains, its breeding range is spotty and restricted to riparian areas with specific habitat characteristics of a tall overstory of mature trees, particularly cottonwoods and willows, and a dense understory of shrubs and small trees (Sibley 2001; Wiggins 2005). Ideally, riparian habitat should provide a contiguous area of at least 15 acres (Wiggins 2005) to 25 acres (Sibley 2001) with overstory from 5 to 30 meters and understory of 1 to 6 meters in height. Food sources are primarily slow-moving insects and caterpillars, especially tent caterpillars in the east.

Yellow-billed cuckoos arrive at their breeding territories relatively late compared to other songbirds, generally in late May, and migrate south as early as August (Wiggins 2005). Breeding is stimulated by an abundant local food supply, and the breeding cycle is extremely rapid—17 days from egg laying to fledging (BNA 2010). Clutch size varies from 1 to 5 eggs, and cuckoos are both intraspecific and interspecific brood parasites. Yellow-billed cuckoo southern migration is to South America.

Factors of decline of the species are most closely related to loss of adequate areas of contiguous riparian habitat, although some unquantified effects from pesticides and decline of insect food sources could contribute to the species' decline (Wiggins 2005). Cuckoos appear sensitive to human disturbance and may abandon the nest during incubation if disturbed (Wiggins 2005).

Designated Critical Habitat

The USFWS proposed to designate critical habitat for the western distinct population segment of the yellow-billed cuckoo in August 2014 (79 FR No. 158, August 15, 2014) (USFWS 2014b). Critical habitat was proposed for approximately 546,335 acres for designation as critical habitat in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Texas, Utah, and Wyoming. Proposed critical habitat in Utah includes Critical Habitat Unit UT-8, which is composed of a portion of the Virgin River in Washington County. Critical Habitat Unit UT-8 within Washington County occurs within the Virgin River corridor from the Atkinville Wash confluence, extending continuously north along the river corridor, to the confluence with Mill Creek. Proposed Critical Habitat Unit UT-8 is 1,390 acres in extent and is a 13-mile-long continuous segment of the Virgin River in the vicinity of St. George in Washington County, Utah. Approximately 1,352 acres, or 97 percent, of proposed unit UT-8 are privately owned; 6 acres, or less than 1 percent, are on state-owned land managed by the Utah Division of Forestry, Fire, and State Lands; and 32 acres, or 2 percent, are on federally owned land managed by BLM. This unit has been consistently occupied by western yellow-billed cuckoos during the breeding season. The site also provides migratory stopover habitat for western yellow-billed cuckoos moving farther north. Primary constituent elements of yellow-billed cuckoo habitat that the USFWS has proposed are as follows:

1. Primary Constituent Element 1—*Riparian woodlands*. Riparian woodlands with mixed willow cottonwood vegetation, mesquite-thorn forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 ft in width and 200 acres or more in extent.
2. Primary Constituent Element 2—*Adequate prey base*. Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies)

and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.

3. Primary Constituent Element 3—*Dynamic riverine processes*. River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams).

5.3.12.1.1.5 Mojave Desert Tortoise.

Listing History and Status

The Mojave population (*Gopherus agassizii*) of the desert tortoise (all desert tortoises north and west of the Colorado River) was listed as threatened in 1990 (55 FR 12178, April 2, 1990) with critical habitat designated in 1994 (59 FR 5820, February 28, 1994). A recovery plan was adopted in June 1994 and a draft recovery plan revision was released for comment in 2008 (USFWS 2010d; USFWS 2011).

Washington County, Utah, contains the Upper Virgin River Mojave Desert Tortoise Recovery Unit. A Washington County Habitat Conservation Plan (HCP) (Washington County Commission 1995) was approved by USFWS in 1996 (USFWS 2011).

The HCP established a multi-pronged approach for habitat conservation in Washington County which serves as the primary mitigation for an estimated level of incidental take of 12,264 acres of primarily low-density habitat in the County. The HCP compensated for the lost habitat with the enhanced quality of the protected habitat combined with the proposed mitigation. All non-reserve State and private lands are included in the provisions of the HCP. The HCP identifies three categories of lands covered by its take provisions:

- Non-reserve, identified desert tortoise habitat consists of areas within the known range of the Mojave desert tortoise in Washington County where tortoises or other evidence of tortoise occupation have been found. Take is likely to occur in these areas.
- Non-reserve, potential desert tortoise habitat consists of areas that theoretically could support desert tortoises but have shown no evidence of tortoise occupation. This habitat will not count against incremental take acreage; however, if tortoises should be discovered and removed from these areas because of proposed development or other changes in land use, the removed animals would count against the incidental take total of the permit.
- Non-reserve, non-habitat areas are lands unlikely to support desert tortoises. While the probability of finding endemic tortoises in non-habitat areas is very low, these areas are included under the incidental take permit because the County recognizes that a desert tortoise may be found anywhere. This possibility exists because of the historical use of the desert tortoise as pets and the ease of transporting the animal. The take permit is therefore necessary in all non-reserve areas to resolve the potential for conflict.

Accordingly, the permit provides for incidental take of Mojave desert tortoise on an estimated 350,000 acres of private and state school trust lands in Washington County, Utah. These 350,000 acres consist of all the private and state school trust lands in the County outside of the proposed reserve and outside areas of the Beaver Dam Slope designated as Mojave desert tortoise habitat.

Federal and Indian lands are not identified for incidental take. Any actions that these agencies may undertake for these lands that may affect the Mojave desert tortoise is subject to the ESA Section 7 consultation process.

Distribution

The Mojave population of the desert tortoise occupies habitat in southern California, Nevada, Arizona and Utah. The Upper Virgin River Recovery Unit located immediately north of St. George, Utah is the northernmost occupied habitat of the desert tortoise (USFWS 2010b).

Life History and Ecology

Desert tortoises occupy a variety of habitats from flats and slopes dominated by creosotebush scrub at lower elevations to rocky slopes in blackbrush and juniper woodland ecotones at higher elevations. Desert tortoises occur from below sea level to an elevation of 2,225 meters (7,300 feet AMSL) (USFWS 2011). Throughout most of the Mojave Desert, tortoises occur most commonly on gently sloping terrain with sandy gravel soils and where there is sparse cover of low-growing shrubs, which allows for the establishment of herbaceous plants. Soils must be friable enough for desert tortoises to dig burrows but firm enough so that burrows do not collapse. Typical tortoise habitat in the Mojave Desert has been characterized as creosotebush scrub where precipitation ranges from 5 to 20 centimeters (2 to 8 inches) annually, the diversity of perennial plants is relatively high, and production of ephemerals is high (USFWS 2011).

Desert tortoises may live 50 or more years in the wild. Their diet consists primarily of wildflowers, grasses and cacti. Desert tortoises derive almost all their water intake from the plants they eat. A large urinary bladder can store over 40 percent of the tortoise's body weight in water, urea, uric acid, and nitrogenous wastes. During periods of sufficient rainfall tortoises drink from temporary rain pools. A common defensive behavior when molested or handled is to empty the bladder, leaving the tortoise at a considerable disadvantage during dry periods (USFWS 2011).

Reproduction begins between ages 12 to 20 years, with clutch sizes of 1 to 14 eggs. In years with low rainfall, females may lay few to no eggs. Females can store sperm for 5 years or longer, meaning they can reproduce for several years after mating. Nests are built and eggs are laid in late spring or early summer. The hatchlings appear in 90 to 120 days. The mother leaves the nest, so once the hatchlings appear, they must survive on their own (USFWS 2011).

Tortoises depend on bushes for shade and protection from predators such as ravens and coyotes. Many tortoises live in burrows to escape the temperatures of cold winters and very hot summers. The spring and summer burrows vary from 18 inches to 5 feet long but may only be a few inches from the surface. Winter burrows tend to be about 8 feet long and may be 2 to 3 feet from the surface. They often share burrows and may use multiple burrows scattered across the landscape. Tortoises hibernate for up to 9 months each year, becoming most active from March to June and September to October. When young, they seldom venture more than 150 feet from their burrow. As they get older, they may go as far as 0.75 mile in a day and use a network of burrows. In the most densely populated areas, there may be one tortoise per 2.5 acres; however, typically, tortoise densities are closer to one tortoise per 100 acres (USFWS 2011).

The tortoise population in the area of St. George, Utah, is at the extreme northeastern edge of the species' range and experiences long, cold winters (about 100 freezing days) and mild summers during which the tortoises are continually active. In this habitat, the animals live in a complex topography consisting of canyons, mesas, sand dunes, and sandstone outcrops where the vegetation is a transitional mixture of sagebrush scrub, creosotebush scrub and blackbrush scrub in a sandy-soil community. In this area, desert tortoises often use sandstone and lava caves instead of burrows, travel to sand dunes for egg laying, and

use still other habitats for foraging. In contrast to populations at more distant parts of the range, two or more desert tortoises often use the same burrow (USFWS 2011).

Designated Critical Habitat

The Mojave population of the desert tortoise was listed due to the effects of habitat conversion activities (e.g., urban development, mining, military activities, waste disposal sites, energy development, and road construction), habitat modification activities (e.g., off highway vehicle activities, utility corridors, grazing, changes in land use designations), predation, Upper Respiratory Disease Syndrome, collecting, or vandalism on tortoises. (55 FR 12178, 12183).

The Mojave desert tortoise Upper Virgin River Recovery Unit Critical Habitat Unit includes approximately 54,600 acres of the 62,000-acre Red Cliffs Desert Reserve that was established in 1996 by Washington County, Utah (Washington County Commission 1995). The section of the Reserve east of Interstate 15 and immediately north of the city of Hurricane, known as the Hurricane Cinder Knolls, is the area closest to Project corridors (USFWS 2010b). LPP Project surveys for Mojave desert tortoise were performed on private land, SITLA land, and federally-administered land. Surveys on private land were performed on 2,035 acres of occupied habitat and 2,140 acres of unoccupied habitat. Un-surveyed habitat considered consisted of 2 acres in Red Cliffs Desert Reserve and 3,230 acres of private land. Surveys on SITLA land were performed on 75 acres in Take Area 10, 102 acres of occupied habitat and 716 acres of unoccupied habitat. Un-surveyed habitat considered consisted of 351 acres of SITLA land. Surveys of federally-administered land were performed on 2,765 acres of occupied habitat and 4,770 acres of unoccupied habitat. Un-surveyed habitat considered consisted of 9 acres in Red Cliffs Desert Reserve and 1 acre of federally-administered land.

The HCP has defined “incidental take areas” that are designated Mojave desert tortoise habitat outside of the Reserve boundaries; any development or habitat disturbance within an incidental take area must be coordinated with the Desert Reserve administration (Red Cliffs 2011a). Take Area 10, South Hurricane, consists of 87 acres on Utah SITLA-administered land and covers part of the proposed Hurricane Cliffs afterbay (Red Cliffs 2011b). The incidental take permit is a county-wide take permit for desert tortoises, so take may occur anywhere in Washington County outside the reserve (excluding the Beaver Dam Slope) on unincorporated county land and where a city has passed the HCP Impact Fees Ordinance. The HCP process has identified areas where incidental take is most likely to occur, totaling 12,264 acres.

5.3.12.1.1.6 Relict Leopard Frog.

Listing History and Status

The relict leopard frog is a candidate species under the ESA (67 FR 40657; June 13, 2002).

Distribution

Relict leopard frog distribution has historically been characterized as springs, streams, and wetlands within the Virgin River drainage from the vicinity of Hurricane, Utah to the Overton Arm of what is now Lake Mead, Nevada, and along the Muddy River in Nevada. The species may have once been present on the main stem Colorado River. Populations in Utah appear to have been extinct since the 1950s. Recent surveys have revealed extant populations at seven sites in four general areas: Surprise Canyon in lower Grand Canyon, Arizona, Sycamore Spring, Arizona (Mohave County); springs near the Overton Arm of Lake Mead, Nevada; and springs in Black Canyon below Hoover Dam, Nevada. The population at the smallest known site, Corral Spring, went extinct in 1995. Frogs were last seen at a wetland near Littlefield, Arizona in 1998. The species was introduced to Sycamore Spring, Arizona in 2003 (USFWS 2010e).

Life History and Ecology

Relict leopard frogs inhabit permanent streams, springs and spring-fed wetlands below approximately elevation 1,968 feet MSL. Adults may prefer relatively open shorelines where dense vegetation does not dominate. Breeding habitat includes pools or slow moving side areas of streams, with or without emergent vegetation (USFWS 2010e).

Threats to this species include elimination or dramatic alteration of aquatic habitat because of dams, agriculture, marsh draining, and water development and the spread of predator and nonnative bullfrogs, crayfish, and predaceous fishes. A fungal disease, chytridiomycosis, is an additional threat (USFWS 2010e).

Designated Critical Habitat

There is no designated critical habitat for the relict leopard frog.

5.3.12.1.1.7 Yuma Clapper Rail.

Listing History and Status

The Yuma clapper rail is listed as endangered without critical habitat (32 FR 4001, March 11, 1967). A [Draft Revised Recovery Plan for the Yuma Clapper Rail](#) was issued by the USFWS in 2010 (USFWS 2010g).

Distribution

Clapper rail (*Rallus longirostris*) is found from North America to South America and are classified into three groups: *obsoletus*, *crepitans*, and *longirostris*. Yuma clapper rail (*Rallus longirostris yumanensis*) is one of four subspecies of the *obsoletus* group. Yuma clapper rail occurs along the Colorado River (Yuma, La Paz, and Mohave Counties, Arizona), from Lake Mead to Mexico; on the Gila and Salt Rivers upstream to the area of the Verde confluence (Maricopa and Pinal Counties, Arizona); at Picacho Reservoir (Pinal County, Arizona); and on the Tonto Creek arm of Roosevelt Lake (Gila County, Arizona). It may be expanding into other suitable marsh habitats in western and central Arizona and northern Arizona (USFWS 2010g). Yuma clapper rail has been observed at the confluence of Beaver Dam Wash with the Virgin River (BLM 2007). It could potentially occur along the Virgin River in southern Washington County (USFWS 2010f); however, suitable habitat has not been identified near the LPP Project study area.

Life History and Ecology

Yuma clapper rail inhabits freshwater or brackish stream-sides and marshlands under elevation 4,500 feet MSL. It is associated with dense riparian and marsh vegetation and requires a wet substrate, such as a mudflat, sandbar, or slough bottom that supports cattail and bulrush stands of moderate to high density adjacent to shorelines (USFWS 2010g).

Designated Critical Habitat

There is no designated critical habitat for the Yuma clapper rail (32 FR 4001, March 11, 1967).

5.3.12.1.2 Listed Nonessential Experimental Population Species.

5.3.12.1.2.1 California Condor.

Listing History and Status

The California condor (*Gymnogyps californianus*) is listed as endangered (32 FR 4001, March 11, 1967) with critical habitat (41 FR 41914, September 24, 1976), except in northern Arizona and southern Utah, where it is designated as nonessential experimental with no critical habitat designation (61 FR 54044, October 16, 1996). The nonessential experimental population will be managed in accordance with the provisions of a Memorandum of Understanding (MOU) among the cooperators (noted in the regulation), an Agreement between the Service and a coalition of county and local governments in the California condor experimental population area, and the final rule. If legal actions or other circumstances compel a change in this nonessential experimental population's legal status to essential, threatened, or endangered, or compel the Service to designate critical habitat for the California condors within the experimental population area defined in the rule, then, unless the parties to the MOU and Agreement existing at that time agree that the birds should remain in the wild, all California condors will be removed from such area and this experimental population rule will be revoked. 61 FR 54044, 54051. By definition, a "nonessential experimental population" is not essential to the continued existence of the species. Therefore, no proposed action affecting this population could lead to a jeopardy determination for the entire species. According to the FWS handbook, a conference is required only when the proposed action is likely to jeopardize the existence of a species. Nevertheless, this report discusses potential consequences to the California condor.

Distribution

Severe condor population declines prompted captive breeding programs in the late 1970s. The species' range was restricted to chaparral, coniferous forests, and oak savannah habitats in southern and central California. By 1982, only 22 birds survived (Peregrine Fund 2010) and all remaining wild birds were brought into captivity in 1987. As captive breeding programs developed adequate numbers of young condors, reintroduction programs were initiated with one site located on the Vermilion Cliffs in northern Arizona approximately 20 miles southeast of the Project corridor. Early in the reintroduction program, young condors were released on the Hurricane Cliffs, but that site was terminated (USFWS 2007). About 300 condors now exist in the world, with half of them flying free. By the end of 2010, the total condor population in Arizona and southern Utah numbered 76, including eight birds fledged in the wild (USFWS 2010a; Peregrine fund 2010). Condors released in Arizona are radio and GPS monitored. In the past several years, condors have regularly traveled to the Kolob Plateau region of Utah in Zion National Park, crossing the LPP Project alignment alternatives (Peregrine Fund 2010). The current population estimate for condors in Arizona and Utah is 80 individuals (<http://www.fws.gov/cno/es/pdf%20files/Ca-Condor-Recovery-Prog2015PopulationStatus.pdf>). The establishment of the experimental non-essential population in Arizona and Utah provided that if circumstances compel a change in this nonessential experimental population's legal status to essential, threatened, or endangered, or compel the Service to designate critical habitat for the California condors within the experimental population area, all California condors will be removed from the area and the experimental population rule will be revoked. (61 FR 54044 54058, 1996 October 16).

Life History and Ecology

Condors are a cavity-nesting species with sites ranging from overhung ledges on cliffs to crevices in boulder piles, potholes, caves and (rarely) tree cavities in giant sequoias. Condors prefer sites that are at least partly sheltered from weather and on a cliff or steep slope or a tall tree to allow for easy approach from the air (BNA 2010). Nests are simple scrapes, and condors do not bring nesting materials to the nest site. High perches are necessary for roosting as well, to create the strong updrafts required for lift into

flight. California condors reach sexual maturity between 5 and 7 years of age. Survival has been estimated to be up to 40 years in the wild (USFWS 2010a). Pairing begins in late fall and may last for several years; lifetime mating is uncertain (BNA 2010). Females lay a single egg, usually in January or February (BNA 2010) and may produce a replacement egg in 4 to 5 weeks if the first one is lost. Chicks hatch after 54 to 58 days of incubation (USFWS 2010a); chicks have white down at hatching and their eyes are open (BNA 2010). Fledging occurs at about 6 months. Chicks remain dependent on their parents for up to 2 years as they learn to forage in the wild. Because of this, pairs do not breed every year (BNA 2010). All condors are now descended from only 14 founders. There are 3 distinct clans, but within each clan there is extreme inbreeding (San Diego Zoo 2010).

Open grasslands or savannahs are important to condors while searching for food (AGFD 2010). Condors are strictly carrion eaters and tend to prefer larger mammals (USFWS 2010a), but they will also seek food near human habitation (Sibley 2001). Condors may travel up to 150 miles per day while foraging (USFWS 2010a). Foraging occurs mostly in grasslands, including potreros (a paddock or pasture for horses or cattle) within chaparral areas, or in oak savannahs (USFWS 2010a).

Potential threats to condors in the wild include illegal poaching, lead poisoning from eating contaminated hunting carcasses, collisions with electrical transmission lines and habituation to humans and dependence on human sources of food (USFWS 2010a). The lead poisoning has partly been managed by regular blood testing and chelation treatment of poisoned birds, but mortality continues (BNA 2010). Since 2005, the AGFD has provided free non-lead ammunition to big game hunters in the areas condors frequent most during the hunting season; this effort has helped to reduce lead exposure for condors in Arizona (http://www.azgfd.gov/w_c/california_condor_lead.shtml).

Designated Critical Habitat

Critical habitat has been designated for the California condor in California, but there is no critical habitat designated in Arizona and Utah (USFWS 2016b).

5.3.12.1.3 Sensitive Species and Wildlife Species of Concern.

Table 5-108 summarizes state and agency wildlife species of concern with ranges that encompass the LPP Project South Alternative, Existing Highway Alternative, Southeast Corner Alternative and transmission line alignments or have been recorded in counties crossed by proposed LPP Project features. In conformance with Executive Order 13186 (66 FR 3853, January 10, 2001) mandating conservation of migratory birds, PIF Watch List priority species that may potentially nest in southwestern Utah and northwestern Arizona are included. Wildlife species of special concern with a potential project nexus are highlighted in Table 5-108. The wildlife species of concern that are not highlighted in Table 5-108 represent species that do not have a potential project nexus; these species are briefly addressed as to why the LPP Project would not affect them.

Table 5-108
Federal, State and Agency Wildlife Species of Concern

Page 1 of 2

Common Name	Scientific Name	Status ¹
Mammals		
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	USPC BLM-S, NPS
Big free-tailed bat	<i>Nyctinomops macrotis</i>	USPC, AGFD-WSC, NPS
Dwarf shrew	<i>Sorex nanus</i>	AGFD-WSC, NPS
Fringed myotis	<i>Myotis thysanodes</i>	USPC, NPS
Greater western mastiff bat	<i>Eumops perotii scalaricus</i>	AGFD-WSC, BLM-S
Kit fox	<i>Vulpes macrotis</i>	USPC, NPS
Long-eared myotis	<i>Myotis evotis</i>	BLM-S, NPS
Pygmy rabbit	<i>Brachylagus idahoensis</i>	USPC
Small-footed myotis	<i>Myotis ciliolabrum</i>	AGFD-WSC, NPS
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	USPC
Cave myotis	<i>Myotis velifer</i>	BLM-S
Arizona myotis	<i>Myotis occultus</i>	BLM-S
Western red bat	<i>Lasiurus blossevillii</i>	USPC
Birds		
Abert's towhee	<i>Pipilo aberti</i>	PIF
Bald eagle	<i>Haliaeetus leucocephalus</i>	FWS, BLM-S, NPS
Bell's vireo	<i>Vireo bellii</i>	BCC, NPS
Belted kingfisher	<i>Ceryle alcyon</i>	AGFD-WSC, NPS
Bendire's thrasher	<i>Toxostoma bendirei</i>	BCC
Black-chinned sparrow	<i>Spizella atrogularis</i>	BCC, PIF, NPS
Black-throated gray warbler	<i>Dendroica nigrescens</i>	BCC, NPS
Brewer's sparrow	<i>Spizella breweri</i>	BCC, NPS,
Burrowing owl	<i>Athene cunicularia</i>	USPC, BCC, BLM-S, NPS
Cassin's finch	<i>Carpodacus cassini</i>	BCC, NPS
Costa's hummingbird	<i>Calypte costae</i>	BCC, NPS
Crissal thrasher	<i>Toxostoma crissale</i>	BCC, NPS
Ferruginous hawk	<i>Buteo regalis</i>	USPC, BCC, BLM-S, NPS
Flammulated owl	<i>Otus flammmeolus</i>	BCC
Golden eagle	<i>Aquila chrysaetos</i>	BCC, BLM-S, NPS
Gray vireo	<i>Vireo vicinior</i>	BCC, NPS
Green-tailed towhee	<i>Pipilo chlorurus</i>	BCC, NPS
Juniper titmouse	<i>Baeolophus ridgwayi</i>	BCC, NPS
Lewis's woodpecker	<i>Melanerpes lewis</i>	USPC, BCC, NPS
Loggerhead shrike	<i>Lanius ludovicianus</i>	BLM-S, BCC, NPS
Long-billed curlew	<i>Numenius americanus</i>	USPC, BCC, NPS
Lucy's warbler	<i>Vermivora luciae</i>	PIF, NPS

Table 5-108
Federal, State and Agency Wildlife Species of Concern

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Common Name	Scientific Name	Status ¹
Northern goshawk	<i>Accipiter gentilis</i>	CS, BLM-S, NPS
Northern harrier	<i>Circus cyaneus</i>	BCC, NPS
Peregrine falcon	<i>Falco peregrinus anatum</i>	FWS, BLM-S, NPS
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	BCC, BLM-S, NPS
Prairie falcon	<i>Falco mexicanus</i>	BCC, NPS
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	AGFD-WSC, NPS
Sagebrush sparrow	<i>Amphispiza belli</i>	BCC , NPS
Sage thrasher	<i>Oreoscoptes montanus</i>	AGFD-WSC, NPS
Short-eared owl	<i>Asio flammeus</i>	USPC, BCC
Swainson's hawk	<i>Buteo swainsoni</i>	BCC , NPS
Virginia's warbler	<i>Vermivora virginiae</i>	BCC, NPS
White-throated swift	<i>Aeronautes saxatalis</i>	PIF, NPS
Wilson's phalarope	<i>Phalaropus tricolor</i>	BCC, NPS
Reptiles		
Common chuckwalla	<i>Sauromalus ater</i>	USPC
Gila monster	<i>Heloderma suspectum</i>	USPC
Sidewinder	<i>Crotalus cerastes</i>	USPC
Utah milk Snake	<i>Lampropeltis triangulum taylori</i>	AGFD-WSC
Western banded gecko	<i>Coleonyx variegatus</i>	USPC, NPS
Western threadsnake	<i>Leptotyphlops humilis</i>	USPC
Zebra-tailed lizard	<i>Callisaurus draconoides</i>	USPC
Amphibians		
Arizona toad	<i>Bufo microscaphus</i>	USPC
Great plains toad	<i>Bufo cognatus</i>	USPC, NPS
Northern leopard frog	<i>Lithobates pipiens</i>	BLM-S, NPS
Notes:		
1 USPC = Utah Division of Wildlife Resources Comprehensive Wildlife Conservation Strategy, Utah Species of Concern; CS = Species with Conservation Agreements; AFGD – WSC = Arizona Fish and Game Department Wildlife Species of Concern; BLM-S = BLM Sensitive Species; BCC = USFWS Birds of Conservation Concern; PIF = Partners in Flight Watch List; FWS = Fish and Wildlife Service; NPS = National Park Service.		
Sources:		
Utah Conservation Data; Bureau of Land Management, Instruction Memorandum No.AZ-2011-005, issued December 22, 2010, Arizona Strip Field Office Proposed Plan/FEIS, 2007; USFWS Birds of Conservation Concern, 2002; Arizona Game and Fish Department Natural Heritage Program and Comprehensive Wildlife Conservation Strategy; Partners in Flight (PIF 2008); US Fish and Wildlife Service. NPS Glen Canyon National Recreation Area		
Wildlife species highlighted in this table have a potential nexus with the LPP Project.		

5.3.12.1.3.1 Sensitive Species and Wildlife Species of Concern Without LPP Project Nexus.

Table 5-109 summarizes those wildlife species of concern without project nexus with a brief description of preferred habitats and reasons why they would not have ecological effects from LPP Project construction or operation and maintenance.

Table 5-109
Sensitive Species and Wildlife Species of Concern

Page 1 of 5

Species Name	Status ^a	Habitat Requirements	Potential for Presence in Project Area
Mammals			
California Leaf-nosed Bat <i>Macrotus californicus</i>	BLM-S, AGFD-WSC	The California leaf-nosed bat occurs widely throughout the southern half of Arizona, with one occurrence recorded in the northwestern corner of Mohave County. Mostly found in the Sonoran desert scrub; its primary summer and winter range are essentially the same. It primarily roosts in mines, caves, and rock shelters.	No – although foraging is possible, there are no roosting habitats in the Project area
Dark kangaroo mouse <i>Microdipodops megacephalus</i>	USPC	The dark kangaroo mouse inhabits the West Desert of Utah, but potential habitat is not recorded in southwestern Utah counties through which the Project alignments pass.	No – habitat is not within the Project area
House Rock Valley Chisel-toothed kangaroo rat <i>Dipodomys microps leucotis</i>	USPC	This kangaroo rat has been recorded only within House Rock Valley of Coconino County, Arizona, south and east of the Project alternative alignments.	No – habitat is not within the Project area
Spotted bat <i>Euderma maculatum</i>	USPC	Spotted bats may be found in a variety of habitats, ranging from deserts to forested mountains; they roost and hibernate in caves and rock crevices.	No – although foraging is possible, there are no roosting habitats in the Project area
Pygmy rabbit <i>Brachylagus idahoensis</i>	USPC	The pygmy rabbit prefers areas with tall dense sagebrush and loose soils.	No – not known from the Project area; soils are not conducive to burrowing
Birds			
American avocet <i>Recurvirostra americana</i>	BCC	The American avocet is a ground-nesting marsh foraging shorebird that nests in northern Utah and is only transient in the rest of the state.	No – transient only
American bittern <i>Botaurus lentiginosus</i>	AGFD-WSC	The bittern is associated with dense tall stands of cattails. The species has not been recorded as nesting in Arizona and is considered a rare transient through the state; the bittern is considered uncommon in Utah.	No
American three-toed woodpecker <i>Picoides tridactylus</i>	USPC	In Utah, the three-toed woodpecker nests and winters in coniferous forests, generally above 8,000 feet AMSL elevation; preferred habitats are Engelmann spruce, subalpine fir, Douglas-fir, grand fir, ponderosa pine, tamarack, aspen, and lodgepole pine forests.	No – Project would not be constructed at the elevation and in the habitats of this species
American white pelican <i>Pelecanus erythrorhynchos</i>	USPC	White pelicans are found on lakes and large rivers with shallow areas where they fish from the surface in flocks.	No – Project area does not include pelican habitat

Table 5-109
Sensitive Species and Wildlife Species of Concern

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Species Name	Status ^a	Habitat Requirements	Potential for Presence in Project Area
Band-tailed pigeon <i>Patagioenas fasciata</i>	PIF	Band-tailed pigeons nest in ponderosa pine and mixed conifer habitats; typical habitat is coniferous forests. Main nesting concentrations in Utah are in the southern pine forests from the Pine Valley Mountains in the west to the La Sal and Blue Mountains in the east. The band-tailed pigeon is migratory, and only limited breeding populations occur in southern Utah. In Arizona, band-tailed pigeons nest in higher elevations of the Kaibab Plateau. Project facilities would not be constructed in band-tailed pigeon breeding habitats.	No – minor potential foraging areas along Ash Creek corridor
Black rosy finch <i>Leucosticte atrata</i>	BCCa	The rosy finch breeds in alpine areas, usually near rock piles and cliffs. It winters in open country, including mountain meadows, high deserts, valleys, and plains.	No habitat is not within the Project area
Black swift <i>Cypseloides niger</i>	USPC, BCC	The black swift nests in steep mountain canyons and prefers sites behind or adjacent to waterfalls (UCDC 2010a and 2010b).	No –no breeding habitat for black swifts or recorded nesting occurrence in or near the Project corridors
Bobolink <i>Dolichonyx oryzivorus</i>	USPC, BCC	Bobolinks do not breed in most of Utah. They occur in low abundance and in isolated patches primarily in the northern half of the state.	No –Project would not cross the known breeding range of bobolink in Utah
Blue grouse <i>Dendragapus obscurus</i>	PIF	The blue grouse prefers stands of conifer or aspen with an understory of brush. Blue grouses spend the winter in dense fir trees, usually at higher elevations. In spring, birds move to lower meadow, brush, or open-timber stands for mating. Blue grouse are found in most mountainous areas of Utah; however, the greatest densities occur in the northern Wasatch Range. In Arizona, blue grouse inhabit higher elevations on the Kaibab Plateau. Project facilities would not be constructed in dusky grouse habitats.	No
Chestnut-collared longspur <i>Calcarius ornatus</i>	BLM-S, BCC	The chestnut-collared longspur nests in native prairies away from trees and shrubs. It is found in moderately grazed prairie; in grazed, hayed, or mowed mixed-grass prairies; or in other areas with short, sparse vegetation and little or no litter accumulation.	Accidental – outside species distribution
Calliope hummingbird <i>Stellula calliope</i>	PIF	The calliope hummingbird nests in montane forests and is an uncommon summer resident in Utah. Project facilities would not be constructed in calliope hummingbird nesting habitat.	No
Eared grebe <i>Podiceps nigricollis</i>	BCC	Aquatic riparian habitat obligate species, open lake habitats, favored nesting areas are lakes or large ponds with extensive marshy borders.	No
Elf owl <i>Micrathrene whitneyi</i>	BCC	Elf owls nest in natural tree cavities and abandoned woodpecker holes that can be found in giant cacti, oak trees, and sycamores. The nests are about 15 to 35 feet	No

Table 5-109
Sensitive Species and Wildlife Species of Concern

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Species Name	Status ^a	Habitat Requirements	Potential for Presence in Project Area
Flammulated owl <i>Otus flammeolus</i>	BCC	The flammulated owl nests in ponderosa pine and subalpine forests; Project facilities would not be constructed in this habitat.	No
Grasshopper sparrow (western) <i>Ammodramus savannarum</i>	BCC	The grasshopper sparrow is transient in grassland, hayfields, and prairies and breeds in rather dry fields and prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. It also nests in overgrown pastures and hayfields and sometimes in fields of other crops.	Limited occurrence in Project area, outside normal range
Green-tailed towhee <i>Pipilo chlorurus</i>	BCC, NPS	Green-tailed towhee is associated with brushy mountain slopes, low chaparral, open pines, sage, riverine woods. Breeds in a variety of semi-open habitats, mostly in mountains; typically where there is dense low cover of sagebrush. Uncommon breeding in LPP Project study area.	Limited potential occurrence in Project area
Gunnison sage-grouse <i>Centrocercus minimus</i>	BCC	The Gunnison sage-grouse is associated with sagebrush habitats. Its primary range is in Colorado; in Utah it has been recorded only in San Juan County.	No
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC	Accidental in arid and open woodlands chaparral or other brushy areas with tall annual weed fields; and a water source such as a stream, small lake, or farm pond.	Limited occurrence in Project area, outside normal range
Least Bittern <i>Ixobrychus exilis</i>	BCC	Aquatic riparian obligate, accidental occurrences in Washington County breeds in freshwater and brackish marshes with dense, tall growths of aquatic or semiaquatic vegetation interspersed with clumps of woody vegetation and open water.	No
Leconte's thrasher <i>Toxostoma lecontei</i>	BLM-S USPC	This thrasher only occurs in Utah in the Beaver Dam Wash/Slope area.	No – occurrence is not in study area
Lewis's woodpecker <i>Melanerpes lewis</i>	USPC, BCC	The major breeding habitat for Lewis's woodpecker consists of open park-like ponderosa pine forests. Lewis's woodpecker is attracted to burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but it is also found in the fringes of pine and juniper stands and in deciduous forests, especially riparian cottonwoods. Areas with a good understory of grasses and shrubs to support insect prey populations are preferred.	No – no nesting habitat in the Project area
Marbled godwit <i>Limosa fedoa</i>	BCC	The marbled godwit is a large long-billed shorebird. It is a migrant in Utah but is not recorded as nesting in the Project area.	No

Table 5-109
Sensitive Species and Wildlife Species of Concern

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Species Name	Status ^a	Habitat Requirements	Potential for Presence in Project Area
Mountain plover <i>Charadrius montanus</i>	USPC	The mountain plover is typically associated with short-grass prairie habitat, composed primarily of blue grama and buffalo grass. In Utah it has been recorded as a casual migrant in Box Elder, Weber, Salt Lake, and Daggett Counties. There are six documented historical sightings in the Uinta Basin. There were three remote recordings in Washington County in 1965–1966, but none in that area since.	No – historical occurrence only
Red knot <i>Calidris canutus</i>	BCC	Coastal shore recorded as accidental in Washington County breeds in the high Arctic on dry upland tundra with scattered willows, is strictly coastal, frequenting tidal mudflats or sandflats, sandy beaches.	No
Veery <i>Catharus fuscescens</i>	BCC	Accidental status in Washington County with few records of occurrence. Prefers damp deciduous woods with dense understory and leafy low growth in riparian corridors.	No
White-faced ibis <i>Plegadis chihi</i>	BLM-S	The white-faced ibis is a marsh bird that is considered as a migratory transient only. In Utah, there are large breeding concentrations around the Great Salt Lake, and the species is found along the Colorado River and other large waterbodies, but there is no suitable habitat in or near the Project alignments in southern Utah. In Arizona, breeding has not been recorded on the Arizona Strip.	No – transient only
Whimbrel <i>Numenius phaeopus</i>	BCC	The whimbrel is a spring and fall migrant in Washington County. During migration, whimbrel use wetlands; dry, short grasslands; farmland (especially plowed fields); and rocky shores. During winter, they are mostly found in coastal areas, on exposed reefs, on sandy or rocky beaches, in estuaries, and especially in mudflats.	No
Williamson's sapsucker <i>Sphyrapicus thyroideus</i>	BCC	Williamson's sapsucker nests in subalpine conifer or aspen forests; Project facilities would not be constructed in this habitat.	No
Wilson's phalarope <i>Phalaropus tricolor</i>	BCC, NPS	Wilson's phalarope habitat is shallow prairie lakes, fresh marshes, mudflats; in migration, also salt marshes. Nests mostly at shallow fresh-water marshes in open country. LPP Project area is outside of species range.	No

Table 5-109
Sensitive Species and Wildlife Species of Concern

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Species Name	Status ^a	Habitat Requirements	Potential for Presence in Project Area
Reptiles			
Desert iguana <i>Dipsosaurus dorsalis</i>	USPC	The desert iguana occurs in southeastern California, southern Nevada, southwestern Utah, and western and south-central Arizona. The range of the desert iguana is largely contained within the range of creosotebush. The distribution in Nevada is the Amargosa Desert and the vicinity of the Virgin River and Colorado River. This lizard is most common in dry, sandy areas dominated by creosotebush. It can also be found in rocky streambeds up to 4000 feet.	Project area is outside species known range
Desert night lizard <i>Xantusia vigilis</i>	USPC	This lizard typically shelters beneath the debris of any dead and fallen vegetation that provides sufficiently dense cover. Typical retreats include dead or fallen yuccas, agaves, saguaros or nolina, and occasionally woodrat nests, trash or the bark of fallen trees. This lizard also shelters in rock crevices and boulders.	Project area is outside species known range
Mojave rattlesnake <i>Crotalus scutulatus</i>	USPC	In Utah this rattlesnake is only found on the Beaver Dam Slope in Washington County. In Arizona, it occurs south and west of the Mogollon Rim.	No
Speckled rattlesnake <i>Crotalus mitchellii</i>	USPC	This species is generally associated with rocky washes, outcrops, hills and mountain slopes. In Utah, it is found west of Castle Rock on the Beaver Dam Slope, including Beaver Dam Wash. In Arizona, it occurs eastward to the Phoenix area in the Salt River basin.	No
Amphibians			
Western toad <i>Bufo boreas</i>	USPC	The western toad inhabits high montane habitats. However, GAP analysis mapping does not show any predicted habitat in the LPP Project area.	No
Notes:			
^a USPC = Utah Species of Concern; CS = Species with Conservation Agreements; AGFD – WSC = Arizona Fish and Game Department Wildlife Species of Concern; BLM-S = BLM Sensitive Species; BCC = USFWS Birds of Conservation Concern; PIF = Partners in Flight Watch List; FWS = Fish and Wildlife Service; NPS = National Park Service			
Sources: Utah Conservation Data Center; Bureau of Land Management, Instruction Memorandum No. AZ-2011-005, issued December 22, 2010; USFWS Birds of Conservation Concern, 2002; Arizona Game and Fish Department Natural Heritage Program and Comprehensive Wildlife Conservation Strategy; Partners in Flight (PIF 2008); US Fish and Wildlife Service.			

5.3.12.1.3.2 Sensitive Species and Wildlife Species of Concern With Potential LPP Project Nexus.

The following sections briefly describe wildlife species of concern with a potential LPP Project nexus with their agency designation, preferred habitats, distribution and potential occurrence in the area of potential effect.

Allen's Big-eared Bat

Allen's big-eared bat is a Utah species of concern in Kane County and a BLM sensitive species on the Arizona Strip. Preferred habitats for the species include rocky and riparian areas in woodland and scrubland regions. Little is known about the breeding activity of the species, but females have been found with single young during the late spring and early summer (UCDC 2010a and 2010b). It has been recorded in Arizona in northern Coconino and Mohave Counties (AGFD 2010). Most Arizona specimens have been taken from the southern Colorado Plateau, the Mogollon Rim and adjacent mountain ranges (AGFD 2010). Utah GAP analysis mapping shows substantial value habitat scattered throughout Washington and Kane Counties (UCDC 2010b). This bat may roost in or near the LPP Project study area.

Big Free-tailed Bat

The big free-tailed bat is a Utah species of concern in Washington and Kane Counties. The big free-tailed bat prefers rocky and woodland habitats, where roosting occurs in caves, mines, old buildings, and rock crevices in Utah (UCDC 2010a and 2010b). Arizona habitats are primarily rugged, rocky country and riparian areas (AGFD 2010). It has been recorded in northern Coconino and Mohave Counties. Utah GAP analysis mapping shows substantial value habitat scattered throughout Washington and Kane Counties (UCDC 2010b). This bat may roost in or near the LPP Project study area.

Dwarf Shrew

The dwarf shrew is an AGFD wildlife species of concern (Category 1b). It lives throughout the southern and central Rocky Mountains and adjacent plains in habitats from alpine tundra to arid short-grass prairie (Smithsonian 2008) and pinyon-juniper woodlands (NatureServe 2010). Specific data on locality of occurrence, habitat and biology are lacking because field trapping has been limited by the small size of this shrew—too small and light to trigger many traps used in surveys (Smithsonian 2008). In Utah, although potential habitat is widespread, including southwestern Kane County, it is known from only two locations: the Uinta Mountains and Abajo Mountains (UCDC 2010a and 2010b); neither is close to the LPP Project study area. USGS GAP mapping (USGS 2010a) shows predicted dwarf shrew habitat on both sides of Highway 89 west of the Cockscomb to the point where the Proposed Action and Southeast Corner Alternative leave the highway. From that point west to Kanab on the Existing Highway Alternative alignment, GAP mapping shows potential habitat on the north side of the Project corridor (USGS 2010a). In northern Arizona, GAP mapping shows potential habitat only on upper elevations of the Kaibab Plateau (USGS 2010a). The shrew could occur along the Highway 89 construction corridor in Utah.

Fringed Myotis

Fringed myotis is a Utah species of concern in Kane and Washington Counties. Fringed myotis occur primarily in middle-elevation habitats ranging from deserts, grasslands, and woodlands. The species is most frequently captured in oak-pinyon woodlands and other open, coniferous, middle-elevation forests but have also been captured in high-elevation habitats and at sea level in coastal areas. It has been recorded in Arizona in northern Coconino and Mohave Counties (AGFD 2010). In Arizona, roost sites have been found in caves, mine tunnels, in large snags, under exfoliating bark, and in buildings (AGFD 2010). The species is widely distributed throughout Utah but is not very common in the state; in Utah fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas (UCDC 2010a and 2010b). Utah GAP analysis mapping shows substantial to high values for habitat in Washington and Kane Counties (UCDC 2010b). Roost sites could occur in the LPP Project study area.

Greater Western Mastiff Bat

The greater western mastiff bat is an AGFD wildlife species of concern (Category 1b). These bats are found from central California into most of Arizona and some areas of Texas and New Mexico and into Mexico. Ideal habitat for this bat must have large open areas with roost sites having vertical faces. They will roost in small colonies in rock fissures in high cliff faces. Because of their large size, they need at least 20 feet of vertical drop from their roost to gain enough speed for flight. If they end on the ground, they have to climb up a vertical surface in order to gain enough height to launch into flight (ASDM 2016a). They prefer crowding into tight crevices a foot or more deep and 2 inches or more wide (AGFD 2010). The species has been found in northern Coconino County, Arizona (AGFD 2010) and may roost in or near the LPP Project study area.

Kit Fox

The kit fox is a Utah species of concern in Kane and Washington Counties. Although the species is not overly abundant in Utah, it does occur in the western, east-central, and southeastern areas of the state (UCDC 2010a and 2010b). Kit fox habitat is usually sparsely vegetated flat areas in the desert. Common range plants such as grey molly, greasewood, shadscale and seepweed are abundant in these areas (UDWR 2010). Kit foxes live in dens dug in the desert soil. Kit foxes have definite preferences and permanent ties to specific den sites. They tend to select sites in barren areas with silty, clay soil that are higher than the surrounding terrain (UDWR 2010). Utah GAP analysis mapping shows high to substantial value habitat in Washington and County (UCDC 2010b). The UCDC GIS database has two observations for kit fox—near Highway 89 about 3 miles west of the Big Water and on Highway 59 south of Hurricane. Den sites may be present in the LPP Project study area.

Long-eared Myotis

Long-eared myotis is a BLM sensitive species in the Arizona Strip. Long-eared myotis inhabit ponderosa pine or spruce-fir forests of Arizona. During the summer months these bats roost in small groups of 12 to 30 individuals in rock outcroppings, tree cavities, under peeling bark, in stumps, caves, mines, sink holes, lava tubes, or in abandoned buildings. Large-diameter trees and snags seem to be the preferred tree roost sites. During winter it is likely that they use caves and abandoned mines as hibernacula. Long-eared myotis are most often captured in mixed coniferous forests but also occur in higher elevation forests, pinyon-juniper woodlands, sagebrush steppe, and in riparian desert scrub habitats (AGFD 2010). It has been recorded from northern Coconino County, Arizona; roosting in the LPP Project study area is unlikely, but possible.

Small-footed Myotis

Small-footed myotis is an AGFD wildlife species of concern. Small-footed myotis generally inhabits desert, chaparral, western coniferous forest, badland and semiarid habitats, more mesic habitats in southern part of range. In Arizona, it is known from deserts, chaparral, riparian areas and oak-juniper forests (AGFD 2010). It hibernates in caves and old mines, summers in crevices, cracks, holes, snags, hollow trees, under rocks and in buildings. The species generally tolerates colder and drier hibernacula than other small bats. It has been recorded in northern Coconino and Mohave Counties, Arizona and may roost in the LPP Project study area (AGFD 2010).

Cave Myotis

Cave myotis is usually found in desert scrub of creosotebush, brittlebush, palo verde and cacti. They roost in caves, tunnels, and mineshafts and under bridges and sometimes in buildings within a few miles of water. There are a number of records of one or a few individuals roosting in cliff and barn swallow nests. In summer they are apparently tolerant of high temperatures and low humidity. There is one location of

cave myotis in northern Coconino County, Arizona. Cave myotis range is primarily in the southwestern half of Arizona and immediately adjacent parts of California, Nevada, New Mexico and northern third of Sonora, Mexico. Cave myotis range in Arizona is south of the Mogollon Plateau from Lake Mohave, Burro Creek, Montezuma Well, San Carlos Apache Reservation and the Chiricahua Mountains south to Mexico. However, there is one location of cave myotis in northern Coconino County (AGFD 2002). Cave myotis would be a rare occurrence in the LPP Project area.

Arizona Myotis

Arizona myotis range includes extreme southeastern California through central and eastern Arizona into New Mexico, southward through extreme west Texas into Chihuahua. There is an isolated record from the Distrito Federal of central Mexico. In Arizona most records are from the Mogollon Rim from Alpine northwest to near Flagstaff, including Mingus Mountain, Verde Valley, Sierra Ancha Mountains, and the Pinal Mountains. In summer in Arizona it is usually found in ponderosa pine and oak-pine woodland near water. However, it is also found along permanent water or in riparian forest in some desert areas such as along the lower Colorado and Verde Rivers. No hibernacula are known for Arizona. This bat is most common at higher elevations mostly between about 6,000 and 9,200 feet (1,830-2,806 m). There are also some records from much lower elevations: between 150 and 1,000 feet (46-305 m) along the lower Colorado, about 2,400 feet (732 m) at Tucson, and around 3,500 feet (1,068 m) in the vicinity of the middle Verde River (AGFD 2003). Arizona myotis would be a rare occurrence in the LPP Project area.

Townsend's Big-eared Bat

Townsend's big-eared bat is a Utah species of concern in Kane and Washington Counties and is a BLM sensitive species in the Arizona Strip. These bats are found from central California into most of Arizona and some areas of Texas and New Mexico and into Mexico. Ideal habitat for this bat must have large open area with roost sites having vertical faces. Townsend's big-eared bats utilize caves and mine shafts near forested areas for roosting and hibernation; they may also roost in abandoned buildings (UCDC 2010a and 2010b; AGFD 2010). Foraging is thought to be more gleaning from vegetation than in-air hawking; a water source near the roost site is important (Gruver and Keinath 2006). Townsend's big-eared bats occur widely in Utah and Arizona (UCDC 2010a and 2010b; AGFD 2010; ASDM 2016b) and roost sites may be present in the LPP Project study area.

Western Red Bat

Western red bat is a Utah species of concern in Washington County. The species is extremely rare in Utah, being known from only a few locations in the state. Western red bats are normally found near water, often in wooded areas (UCDC 2010a and 2010b). It usually roosts in trees during summer and avoids caves and buildings (NatureServe 2010). Utah GAP analysis mapping shows potential critical value habitat in higher-elevation areas of Kane and Washington Counties (UCDC 2010b). Although unlikely, western red bats could roost in or near the LPP Project study area.

Abert's Towhee

Abert's towhee is a PIF Watch List priority species (PIF 2010). Abert's towhee was formerly a year-round resident of the brushy under-story of cottonwood-willow riparian habitat and mesquite bosques along stream sides below 1,220 m (4,000 feet MSL) elevation. Most of this habitat has been modified or eliminated, and Abert's towhees are now found in cottonwood-willow remnants, exotic vegetation such as salt cedar, and mixed exotic/native habitat (NatureServe 2010). In Utah, Abert's towhees are found in salt cedar/willow riparian habitats and have been observed (1996) along the Virgin River drainage south of LaVerkin (UCDC 2010b). Nesting occurs low in trees or brush near water and is at its maximum in March and April (NatureServe 2010). Its breeding range includes northwestern Arizona (Audubon 2010). Rare nesting sites may be present in riparian zones in the LPP Project study area.

Bald Eagle

Bald eagle was removed from the federal list of threatened and endangered species in July 2007 (72 FR 37346, July 7, 2007). Bald eagle remains protected under the BGEPA and the MBTA and remains under post-delisting monitoring. Bald eagle is a Utah species of concern for Kane and Washington Counties, an AGFD species of wildlife concern, and a BLM sensitive species on the Arizona Strip. Bald eagles inhabit coastal areas, estuaries, unfrozen inland waters, and some arid areas of the western interior and southwestern portion of the United States. They like areas with high water-to-land edge, and areas with unimpeded views including both horizontal and vertical aspects. Areas selected for as wintering habitat will have an adequate food supply, and have open water such as river rapids, impoundments, dam spillways, lakes, and estuaries (AGFD 2010). Bald eagles are rare nesters in Utah, with none recorded in or near the LPP Project study area (UCDC 2010a and 2010b); Utah GAP analysis mapping shows potential wintering habitat in Kane and Washington Counties. Bald eagle populations use Washington County from November to April. Important bald eagle habitat includes Leeds Creek, Quail Creek, Quail Creek Reservoir, the Santa Clara and Virgin Rivers, and the Hurricane City sewer lagoons (UDOT 2008). Occurrences recorded in Arizona are generally in the central region of the state (AGFD 2010), although some have been observed on the Arizona Strip in winter. The area of potential effect does not approach suitable waterbodies that would provide foraging habitat for bald eagles; however transient eagles could roost near the study area.

Bell's Vireo

Bell's vireo is a USFWS bird of conservation concern. Bell's vireos are generally a riparian-nesting species (NatureServe 2010) and have been recorded nesting in small numbers in northern Arizona and southern Washington County in Utah (Birds of Utah 2010). Breeding period is April and May; young fledge 14 days after hatching. Nests may be present in riparian zones of the LPP Project study area.

Belted Kingfisher

Belted kingfisher is an AGFD wildlife species of concern (Category 1b). Belted kingfishers are primarily piscivores (fish eaters), although they will also take small amphibians and invertebrates (Sibley 2001); because of this, their habitat is dependent on perennial water. Kingfishers nest in burrows excavated from vertical sandy banks (Sibley 2001). Nesting is May through June and young leave nest after about 30 days (NatureServe 2010). They could occur on streams supporting fish populations crossed by LPP Project features, especially on the Virgin River.

Bendire's Thrasher

Bendire's thrasher is a USFWS bird of conservation concern. Bendire's thrasher nests in low desert scrub habitat in Utah and has been observed in Washington County near Sand Hollow Reservoir (Birds of Utah 2010), where nesting is possible.

Black-chinned Sparrow

Black-chinned sparrow is a PIF Watch List priority species (PIF 2008). Black-chinned sparrow inhabits and nests in arid brushlands, such as sagebrush and chaparral, at lower elevations on rugged mountain slopes (NatureServe 2010). Migratory populations utilize similar habitats, but often at even lower elevations (UCDC 2010a and 2010b). Breeding survey maps show small populations on both sides of the Utah-Arizona border in the LPP Project study area (Birds of Utah 2010).

Black-throated Gray Warbler

Black-throated gray warbler is a USFWS bird of conservation concern. Black-throated gray warblers nest in pinyon-juniper and mountain shrub habitats and are found in both southern Utah and northern Arizona in the Project study area (Birds of Utah 2010); nesting is possible in the LPP Project study area.

Brewer's Sparrow

Brewer's sparrow is a USFWS bird of conservation concern. The Brewer's sparrow nests in shrub-steppe and high desert scrub habitats on both sides of the Utah-Arizona border in the area of potential effect. The nesting period is April and May (NatureServe 2010).

Burrowing Owl

The burrowing owl is a Utah species of concern for Kane and Washington Counties, a USFWS bird of conservation concern and a BLM sensitive species on the Arizona Strip. In Utah, it is uncommon during summer in proper habitat throughout the state. Its habitats are open grassland and prairies, but it also utilizes other open situations, such as golf courses, cemeteries, and airports. The nest is in a mammal burrow, usually that of a prairie dog, ground squirrel or badger; if a mammal burrow is not available the owls will sometimes excavate their own nest burrow (UCDC 2010a and 2010b). Utah GAP analysis mapping shows critical value habitat throughout much of the state (UCDC 2010b). The UCDC GIS database contains several records for the 1980's and 1999 in Washington County between the Hurricane Cliffs afterbay and the Sand Hollow Reservoir area (UCDC 2010a). In Arizona, it has been reported in northern Coconino and Mohave Counties (AGFD 2010). Burrowing owl burrows may be present in the LPP Project study area.

Cassin's Finch

Cassin's finch occupies a variety of coniferous forest types over a broad elevational range. Often found in mature forests of ponderosa pine. Winter range is similar to breeding habitat but with the bulk of populations at somewhat lower elevations. Nests have a foundation of fine twigs, rootlets and coarse weed stems and often are lined with lichens; they are sometimes described as rather loose and frail in overall construction. While no detailed studies of the finch's diet have been conducted, available information indicates this species is predominantly vegetarian, feeding heavily on tree buds, including staminate buds of quaking aspen. In Utah is a common summer resident in the mountains throughout the state in aspen-coniferous forest. In the lower Colorado River Valley is a casual fall and winter visitor. Cassin's finch prefers open coniferous forest, also deciduous woodland in winter and is reported as a permanent resident in Washington County. It is also in northern Arizona at breeding time in ponderosa pine communities with an herbaceous understory of grasses. GAP mapping shows potential habitat in portions of Washington and Kane Counties, Utah (USGS 2010). Cassin's finch may be present in juniper woodland habitat where this vegetation association occurs within the LPP Project area.

Costa's Hummingbird

Costa's hummingbird breeds in the southwestern United States, covering the southeastern border of California, southwestern border of Arizona, and northwestern Mexico, but winters on the northern half of Mexico's west coast. Migration is geographically variable, as some populations are partial migrants and others respond to annual variation in nectar supply and weather. The Costa's hummingbird inhabits desert and semidesert, arid brushy foothills and chaparral. During migration and in winter, it also occurs in adjacent mountains and in open meadows and gardens. Nest-building responsibilities belong to the female, who commonly builds them in shrubs or trees using thin bark strips from dead trees and spider webbing. Costa's hummingbird appears less dependent on the presence of riparian areas, unlike other hummingbird species. This species occurs in open desert shrub, desert canyon and washes, and desert

grassland habitats. GAP mapping shows potential habitat in portions of Mohave County, Arizona, and Washington County, Utah (USGS 2010) and could occur within xeri-riparian areas bisecting the LPP Project construction corridor in Arizona and Utah.

Crissal Thrasher

Crissal thrasher is a USFWS bird of conservation concern. Crissal thrashers nest in low desert scrub and riparian areas (Birds of Utah 2010). Their nesting range includes Washington County, Utah, and northwestern Mohave County, Arizona; nesting territories are potential in the LPP Project study area.

Ferruginous Hawk

Ferruginous hawk is a BLM sensitive species in the Arizona Strip. The ferruginous hawk is an open-country species that inhabits grasslands, shrub steppes, and semidesert grasslands and that nests in 17 states in the United States and 3 provinces in Canada. This hawk avoids montane forests and aspen parklands. From September to April ferruginous hawks, can be seen in virtually any part of Arizona with open environs, particularly in agricultural fields and native grasslands. This hawk uses nesting substrates ranging from cliffs, trees, utility structures, and farm buildings to haystacks and relatively level ground. The primary prey of the ferruginous hawk is rabbits, ground squirrels, and prairie dogs. Hunting areas are typically open grasslands, preferably those dotted with suitable low hills or short trees which serve as perches. Aerial and ground-based raptor nest surveys were conducted within suitable raptor nesting habitat within 1 and 2 miles of the LPP Project area to provide information about potential raptor activity and occupancy. During the 3-day period of October 4-6, 2011, two ferruginous hawk nests were identified during the survey. Ferruginous hawks are known to occur in the project vicinity and may nest within 1 to 2 miles of the LPP Project alignment.

Golden Eagle

Golden eagle is a BLM sensitive species in the Arizona Strip. Golden eagle is a USFWS bird of conservation concern. Golden eagles nest on cliffs near open country (UCDC 2010) and in high desert scrub (Birds of Utah 2010). High-value habitat is located widely through southern Utah and northern Arizona (UCDC 2010a and 2010b; Birds of Utah 2010). Nesting, roosting and foraging by golden eagle occurs throughout the LPP Project area. Aerial and ground-based raptor nest surveys were conducted within suitable raptor nesting habitat to provide information on potential raptor activity and occupancy, with an emphasis on golden eagles, during the 3-day period of October 4-6, 2011. This survey was conducted in October 2011, and therefore, the species that constructed the nest or last year's occupancy and nesting success could not be determined in most cases. However, 9 adult golden eagles were observed, 4 of which were near recorded nest sites. During the survey 142 individual raptor nests were documented; 91 nests were located within the 1-mile buffer and 51 nests were found within the 1- to 2-mile buffer. The vast majority of nests were located on cliff habitats (129 nests, 91 percent of all nests); of the remaining nests documented, 9 were tree nests (6 percent of all nests) and 4 were transmission-tower nests (3 percent of all nests).

Gray Vireo

Gray vireo is a USFWS bird of conservation concern. Gray vireos nest in pinyon-juniper and oak habitats on both sides of the Utah-Arizona border (Birds of Utah 2010); therefore, nests are possible in the LPP Project study area.

Juniper Titmouse

Juniper titmouse prefers warm, dry habitats of open woodland where juniper is dominant and where large mature trees are present to provide natural cavities for nesting. The species is found in juniper or mixed

pinyon-juniper woodlands, as well as in oak or pine-oak woods. Juniper titmice are consistently present at lower elevations of 1,450-1,600 m, with primary tree species being one-seed and Emory oak (Christman 2001). The juniper titmouse is considered a permanent resident in Washington County, Utah, where it is found in areas of Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine. GAP mapping shows potential habitat throughout Mohave County, Arizona, and Washington and Kane Counties, Utah (USGS 2010b). The juniper titmouse may be present in juniper woodland habitat where this vegetation association occurs within the LPP Project area.

Lewis's Woodpecker

Lewis's woodpecker is a Utah species of concern for Washington County and a USFWS bird of conservation concern. The major breeding habitat for Lewis's woodpecker consists of open park-like ponderosa pine forests. Lewis's woodpecker is attracted to burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but is also found in the fringes of pine and juniper stands, and deciduous forests, especially riparian cottonwoods. Areas with a good under-story of grasses and shrubs to support insect prey populations are preferred. Dead trees and stumps are required for nesting. Wintering grounds are over a wide range of habitats, but oak woodlands are preferred (UCDC 2010a). High to critical value potential habitat is sparsely present in Iron and Washington counties. The area of potential effect does not contain the preferred old-growth ponderosa pine nesting habitat, but the species may nest in lower elevation riparian areas crossed by project corridors.

Loggerhead Shrike

Loggerhead shrike utilizes open country with scattered trees and shrubs, savanna, desert scrub and occasionally open woodland (AGFD 2010). Nesting period is May through June; young fledge about 36 to 40 days after eggs are laid (NatureServe 2010). Nesting is possible in desert scrub habitat in the LPP Project study area.

Long-billed Curlew

Long-billed curlew is a Utah species of concern for Washington County and a USFWS bird of conservation concern. Long-billed curlews have four essential nesting habitat requirements in the northwestern United States: (1) short grass (less than 30 cm tall), (2) bare-ground components, (3) shade, and (4) abundant vertebrate prey (UCDC 2010a). They seem to be most successful nesting in mixed fields with adequate, but not tall, grass cover and fields with elevated points. Uncultivated rangelands and pastures support most of the continental long-billed curlew breeding population (UCDC 2010a). Potential primary and secondary breeding habitat are mapped by the Utah GAP analysis in northern Washington County (UCDC 2010a). Nesting begins in early April; young fledge about 70 days after eggs are laid (NatureServe 2010). Analysis of aerial photography indicates that the only potential nesting areas in agricultural fields or grasslands would be south of Colorado City in Arizona.

Lucy's Warbler

Lucy's warbler is a PIF Watch List priority species (PIF 2008). Lucy's warbler nests in mesquite and desert brush habitats and in riparian areas with willow and cottonwoods (UCDC 2010a). Breeding survey maps show its range extending into northwestern Arizona and southwestern Utah (Birds of Utah 2010). Nesting begins in April (NatureServe 2010). Nesting is possible in the LPP Project study area.

Northern Goshawk

Northern goshawk is a Utah species of concern for Kane, and Washington Counties and an AGFD species of wildlife concern for the Arizona Strip. Northern goshawk prefers mature mountain forest and riparian zone habitats. Nests are constructed in trees in mature forests (UCDC 2010a). In Arizona, goshawks nest

most commonly in ponderosa pine forests along the Mogollon Rim and on the Kaibab Plateau and in Arizona pine and ponderosa pine forests in the southeastern mountains (AGFD 2010). Potential habitat is sparsely present in Utah; in Arizona, there are concentrations of northern goshawk observations in northwestern Coconino County. Nesting begins late March to mid-April and young become independent in about 3 months. The LPP Project study area does not include prime nesting habitat for goshawks, but they could potentially nest in riparian areas on the Paria and Virgin Rivers.

Northern Harrier

Northern harrier is a USFWS bird of conservation concern. Harriers are ground nesters in marshes, fields, grasslands and desert scrub (UCDC 2010a, Birds of Utah 2010). It is an uncommon nester in southern Utah but could potentially nest in the LPP Project study area.

Peregrine Falcon

The peregrine falcon is a BLM sensitive species in the Arizona Strip. The peregrine falcon was removed from the federal list of threatened and endangered species in August 1999 (64 FR 46542, August 25, 2999). The peregrine falcon is an AGFD species of wildlife concern for the Arizona Strip and a USFWS bird of conservation concern and remains under post-delisting monitoring. The peregrine falcon is found in Arizona wherever sufficient prey is found near cliffs. Optimum peregrine habitat is generally considered to be steep, sheer cliffs overlooking woodlands, riparian areas or other habitats supporting avian prey species in abundance. As Arizona's population grows, peregrines seem to be breeding in less optimal habitat; either small broken cliffs in ponderosa pine forest or large, sheer cliffs in very xeric areas. The presence of an open expanse is critical (AGFD 2010). Multiple occurrences are recorded for northern Coconino and Mohave Counties. Potential nesting habitat in the area of potential effect would be the Hurricane Cliffs; however, no recorded sightings of peregrine falcon have been documented in the area of potential effect at the Hurricane Cliffs. An active eyrie has been identified north of the LPP Project alignment in an area known as Flag Point in Kane County in GSENM.

Pinyon Jay

Pinyon jay is a USFWS bird of conservation concern. It is nonmigratory. Pinyon jays nest in pinyon-juniper and conifer habitats (Birds of Utah 2010); they are fairly common across southern Utah and northern Arizona in the LPP Project study area. Pinyon jays are colonial nesters, with 25 or more pairs nesting in one woodland stand. Most nests are placed in ponderosa pine, pinyon pine or junipers at heights ranging from 3 to 115 feet. Beginning in late summer, pinyon jay flocks harvest and cache pine nuts in individual sites (Corman and Wise-Gervais 2005). There is limited nesting and foraging habitat within the LPP Project area.

Prairie Falcon

Prairie falcon is a USFWS bird of conservation concern. Prairie falcons nest on cliffs in high desert scrub habitats. Nesting starts in April, young fledge about 70 days after egg laying. They are uncommon but possible in the LPP Project study area on the Hurricane Cliffs (Birds of Utah 2010).

Red-naped Sapsucker

Red-naped sapsucker is an AGFD wildlife species of concern. The red-naped sapsucker nests in coniferous or deciduous woodlands, especially aspens, and is found in Utah in summer in mid-elevation woodlands and riparian areas (UCDC 2010a, Birds of Utah 2010). Nesting and fledging period is May through July (NatureServe 2010). USGS GAP mapping shows widespread predicted species distribution across the Project area, although their primary habitat is not present in most of the LPP Project study area.

Sagebrush Sparrow

Sagebrush sparrow is a USFWS bird of conservation concern. Sagebrush sparrow nests in shrublands, grasslands and desert habitats, often on the ground (UCDC 2010a). They nest on both sides of the Utah-Arizona border in the LPP Project study area (Birds of Utah 2010).

Sage Thrasher

Sage thrasher is an AGFD wildlife species of concern (Category 1b). As their name implies, sage thrasher inhabits sagebrush communities in low deserts (UCDC 2010a). They are potential nesters throughout much of the LPP Project study area.

Short-eared Owl

Short-eared owl is a Utah species of concern for Washington County. Short-eared owl is a medium-sized owl that frequently flies during daylight, especially at dusk and dawn, as it forages for rodents. This owl is usually found in grasslands, shrublands, and other open habitats; it nests on the ground, usually under a bush or clump of grass (NatureServe 2010). Nesting may occur from March through August, as more than one brood per year is not unusual (NatureServe 2010). It is nomadic, often choosing a new breeding site each year, depending on local rodent densities (UCDC 2010a). Potential high- to critical-value habitat is mapped for Washington County (UCDC 2010).

Swainson's Hawk

Swainson's hawk is a USFWS bird of conservation concern. Swainson's hawks nest in shrub, grassland and juniper habitats (UCDC 2010a); nesting period is April and May, young fledge in about 40 days (NatureServe 2010). They would be uncommon in the Project area as nesters, but potential winter habitat is located throughout southern Utah and northern Arizona (UCDC 2010a; Birds of Utah 2010).

Virginia's Warbler

Virginia's warbler is a USFWS bird of conservation concern. Virginia's warbler nesting habitat includes chaparral and pinyon-juniper and scrub oak (UCDC 2010a); they may breed in small numbers in northwest Arizona and southwest Utah (Birds of Utah 2010) and are potential nesters in the LPP Project study area.

White-throated Swift

The white-throated swift is a PIF Watch List priority species (PIF 2010). Preferred habitats of the white-throated swift include rocky cliffs and canyons in mountainous areas (UCDC 2010a) where it nests in crevices in rock faces (NatureServe 2010). GAP analysis mapping shows predicted species occurrence in southern Utah and northern Arizona near the LPP Project alignments (USGS 2008), although the only likely nesting area would be on the Hurricane Cliffs.

Common Chuckwalla

The common chuckwalla is a Utah species of concern in Kane and Washington Counties and a BLM sensitive species in the Arizona Strip. The chuckwalla is predominantly found near cliffs, boulders or rocky slopes where they use rocks as basking sites and rock crevices for shelter. They can be found in rocky desert, lava flows, hillsides and outcrops. Creosotebush occurs throughout most of range. The common chuckwalla potential habitat range is predominantly in the far southwestern corner of Washington County and adjacent Mohave County (UCDC 2010a, AGFD 2010). The UCDC database has

records of common chuckwallas in Washington County—two observations west of Interstate 15 and one near Highway 9 about 1 mile northeast of Hurricane (UCDC 2010a).

Gila Monster

Gila monster is a Utah species of concern in Washington County and Utah BLM sensitive species. In Utah, preferred habitats for Gila monster include large rocky shelves, sandy areas, and creosotebush-sagebrush areas. Gila monsters in Utah are most active during the spring and summer months, although they do spend about 95 percent of the active season in burrows or under rocks (UCDC 2010a), making them hard to locate in surveys. In Arizona, banded gila monster occurs primarily in the Sonoran Desert and extreme western edge of the Mojave Desert, is less frequently found in desert-grassland, and is rare in oak woodland to 5,000 feet. It is most common in undulating rocky foothills, bajadas and canyons and less frequent or absent on open sandy plains (AGFD 2010). The potential habitats of Gila monster and banded gila monster are in the southwestern corner of Washington County and adjacent Mohave County (UCDC 2010b, AGFD 2010); GAP analysis mapping shows predicted habitat along the base of the Hurricane Cliffs and near Sand Hollow Reservoir. The UCDC GIS database has two occurrences between Sand Hollow Reservoir and Quail Creek Reservoir, the most recent being 1986 (UCDC 2010a). The species has been observed in Kanab City and likely occupy habitats within the proposed forebay and afterbay reservoirs, and the Sand Hollow hydro station project areas.

Sidewinder

Sidewinder is a Utah species of concern in Washington County. Sidewinders prefer sandy open terrain. They are mainly nocturnal, avoiding the extreme heat of the day, and are also inactive during cold weather. When inactive, sidewinders take refuge in the burrows of tortoises or small mammals (UCDC 2010a). Their potential habitat range is southwestern Washington County; the UCDC GIS database includes two observations in 2004 on the south side of Sand Hollow Reservoir (UCDC 2010a).

Utah Milk Snake

Utah milksnake is an AGFD wildlife species of concern (Category 1b). A subspecies of *Lampropeltis triangulum*, the Utah milk snake is found in a variety of habitats including grasslands, desert scrub, pinyon-juniper and scrub oak (Utah Herps 2010). Their potential habitat is present in the LPP Project study area.

Western Banded Gecko

Western banded gecko is a Utah species of concern in Washington County. Banded geckos are abundant in the deserts, occupying a wide range of habitats, especially rocky or sandy desert and semiarid locales into oak and pinyon-juniper woodlands up to 5,000 feet (Desert USA 2008). Their mapped critical habitat covers much of Washington County (UCDC 2010a).

Western Threadsnake

Western threadsnake is a Utah species of concern in Washington County. Western threadsnake is a secretive burrowing species, often living in moist loose soil. Because the species spends so much time under the ground, the western threadsnake's eyes are vestigial, meaning that they no longer function (UCDC 2010a). Their potential habitat range is southwestern Washington County (UCDC 2010a). The threadsnake would be a possible but unlikely resident of the LPP Project study area.

Zebra-tailed Lizard

Zebra-tailed lizard is a Utah species of concern in Washington County. Zebra-tailed lizard prefers sparsely vegetated desert areas with hard packed soils (UCDC 2010a). Their potential habitat range is southwestern Washington County and it was observed during plant field studies in the LPP Project study area.

Arizona Toad

Arizona toad is listed as a Utah species of concern in Kane and Washington Counties (UCDC 2010). This species inhabits streams, washes, irrigated crop lands, reservoirs, and uplands adjacent to water. It is inactive in cold weather, and adults are mainly nocturnal, whereas the newly metamorphosed young are active during daylight hours (UCDC 2010a). Potential habitat is sparse and scattered through southwestern Utah (UCDC 2010a). The AGFD GIS database has occurrences of Arizona toad along the LPP Project alignment at Colorado City.

Great Plains Toad

Great Plains toad is listed as a Utah species of concern for Kane County. In Utah, Great Plains toad occurs in scattered areas throughout the state, where it prefers desert, grassland, and agricultural habitats. In cold winter months, the Great Plains toad burrows underground and becomes inactive. This species breeds in shallow water after rains during spring and summer months (UCDC 2010a). Potential substantial to high-value habitat is present throughout much of Kane County (UCDC 2010a), including the LPP Project study area.

Northern Leopard Frog

Northern leopard frog is a BLM sensitive species on the Arizona Strip and is known to occur in the BLM District. It is also an AGFD species of greatest conservation need. The Utah Division of Wildlife Resources considers northern leopard frog populations in Utah to be secure (UDWR 2009:1). Northern leopard frogs breed in a variety of aquatic habitats that include slow-moving or still water along streams and rivers, wetlands, permanent or temporary pools, beaver ponds, and human-constructed habitats such as earthen stock tanks and borrow pits. Emergent vegetation, such as sedges and rushes, are important features for breeding areas, and tadpoles are most often found in backwaters and still pools. Potential habitat may occur in earthen stock tanks and streams in the LPP Project study area.

5.3.12.1.3.3 Tribal Wildlife Species of Cultural Concern.

Table 5-110 summarizes the Kaibab Band of Paiute Indians wildlife of cultural concern.

Table 5-110
Kaibab Band of Paiute Indians Wildlife of Cultural Concern

Mule Deer	Lizards	Rabbits	Gophers
Cotton Tails	Owls	Chipmunks	Mourning Doves
Coyotes	Crickets	Fox	Grasshoppers
Badgers	Bighorn sheep	Squirrels (flying and non-flying)	Buffalo
Eagles	Wood peckers	Mice/Rats	Antelope
Porcupine	Ducks	Bats	Mountain Lions
Crows/Ravens	Bobcats/Lynx	Snakes (all)	Hawks (all)
Condors	Prairie Dogs	Skunks	Frogs
Raccoons			

The Kaibab Band of Paiute Indians list of wildlife of cultural concern contains multiple general categories of wildlife, generally without specific species designation. Representatives of some of the categories of species of tribal concern are included in the species discussed in the preceding sections. Most of the categories do not contain specifically listed state or agency species of concern and they are not individually described for the purposes of this analysis. Effects are analyzed on the same basis as the described special status wildlife species in the preceding sections.

5.3.12.2 Environmental Effects

This section analyzes LPP Project effects on federally listed threatened, endangered and candidate wildlife species, sensitive species and species of concern, and tribal wildlife species of cultural concern.

5.3.12.2.1 Effects Determinations and Significance Criteria.

5.3.12.2.1.1 Federally Listed Species.

This section describes the criteria used to determine the magnitude of effects from the LPP Project alternatives. The ESA, as amended, establishes the legal criteria for determining effects on federally threatened, endangered and candidate wildlife species. The following are accepted determinations of effects on listed species:

- No Effect: no effect on the listed species or designated critical habitat
- May Affect, Not Likely to Adversely Affect: effects on the listed species or designated critical habitat are insignificant and/or discountable
- Likely to Adversely Affect: effects that would result in a short- or long-term incidental take of the listed species or designated critical habitat
- Beneficial effects are positive responses without any negative response at the individual level. If an action will have beneficial effects for the species overall, but adversely affects one or more individuals in the process, “likely to adversely affect” is the appropriate conclusion.

Adverse effects on listed species include the following:

- Taking of threatened or endangered species

- Loss or degradation of utilized or potentially utilized habitat that would exceed the estimated level necessary to maintain viable populations or sub-populations of each species
- Actions that lead to long-term disturbance in species migration and dispersal, breeding behavior or pollination that would threaten the viability of the population or sub-population

Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” (ESA, Section 3(19)). Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering” (USFWS 2010h). The BGEPA (16 U.S.C. 668-668c), Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The BGEPA, further defines “Disturb” as follows: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” Unlike under the MBTA, the removal of an unoccupied eagle nest without a permit issued by the USFWS would be a violation of the BGEPA (50 CFR 22.3.Definitions). The MBTA provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg of any such bird, unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. “Take” is defined in the regulations as ‘pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.’ The MBTA (16 U.S.C. 703-712) provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. As described above, the MBTA makes it unlawful to “take” a migratory bird (or its nest or eggs). USFWS’s rules define “take” for MBTA purposes to mean to “pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12).

Under ESA Section 7, federally listed species must be analyzed in a biological assessment (BA) and the findings submitted to the USFWS, which then makes a determination of effect and if there is an affect issues a biological opinion (BO). If there is no effect and USFWS concurs, then no BO is issued. Incidental take—take that results from a federal action but is not the purpose of the action—may be allowed when the USFWS approves it through an incidental take statement. The statement includes the amount or extent of anticipated take due to the Federal action, reasonable and prudent measures to minimize the take, and terms and conditions that must be observed when implementing those measures (USFWS 2010h).

After the USFWS issues its biological opinion, the sponsoring federal agency then decides how to proceed. If the BO determines that adverse effects would occur from the Proposed Action, the sponsoring agency can adopt the reasonable and prudent measures described in a BO incidental take statement and proceed with the project. If the USFWS makes a jeopardy determination, the Federal agency has several options (USFWS 2010h):

- implement one of the reasonable and prudent alternatives
- modify the proposed project and consult again with the USFWS
- decide not to undertake (or fund, or authorize) the project
- disagree with the opinion and proceed
- apply for an exemption

5.3.12.2.1.2 Sensitive Species and Wildlife Species of Concern.

Significance criteria for wildlife species of concern and tribal wildlife species of cultural concern would be the same as those for general wildlife:

Project activities resulting in substantial disturbance to wildlife habitat or populations. A substantial disturbance is one that destroys a large area of utilized habitat, disturbs or displaces a resident population or sub-population, or results in losses of a large number of individuals of the species within the area of potential effect. Disturbance may arise from direct construction effects on habitat or indirectly by noise or human activity that would reduce wildlife habitat values. Substantial disturbance is based on the status, population dynamics, behavior, habitat availability and quality for each species group relative to the type, intensity and duration of a specific effect. Species that are locally common or have a high reproductive potential and ability to re-colonize previously disturbed sites rapidly would have less potential effects than species with small populations, restricted to limited habitats, have low reproductive potential or limited ability to disperse out of or back into previously disturbed habitats.

Two acts of Congress impose special protections and definitions of significance criteria for birds. The Migratory Bird Treaty Act of 1918, as amended, (MBTA) (16 U.S.C. 703-712; Ch. 128; July 13, 1918) prohibits hunting or take of all migratory birds, including nests and eggs. Removal of unoccupied nests or bird mortality resulting indirectly from a project is not considered a violation of the MBTA. The Bald Eagle Protection Act (BEPA) of 1940, as amended, (16 U.S.C. §§ 668-668d, June 8, 1940) prohibits any take of bald or golden eagles. The definition of “take” in each of these Acts is the same as described in Section 5.3.12.2.1.1.

5.3.12.2.2 Proposed Action.

5.3.12.2.2.1 Threatened, Endangered and Candidate Species.

Mexican Spotted Owl

Construction Effects

Proposed Action features would not be constructed, operated or maintained in Mexican spotted owl nesting habitat. Critical habitat is located greater than 2.5 miles from the Proposed Action alignment. Owl foraging habitat includes a wide variety of forest conditions, canyon bottoms, cliff faces, tops of canyon rims, and riparian areas. Spotted owls foraged more frequently in unlogged forests containing uneven-aged stands of Douglas-fir and white fir, with a strong component of ponderosa pine, than in managed forests, but they may forage in adjacent pinyon-juniper woodlands. Due to the limited amount of foraging habitat proximate to the Proposed Action alignment, there would be no disturbance to Mexican spotted owl foraging habitat, and no individuals or populations would be at risk. Preconstruction consultation with wildlife agencies would be appropriate to determine if recent occurrences of Mexican spotted owl had been reported within or near the LPP Project study area.

Estimated maximum construction noise is estimated to be 100 dBA (UBWR 2016d) and would be considered a “point” source which would decay at 3 dBA with doubling of distance from the source (FHA 1995). Traffic noise is considered a “linear” sound source and decays at approximately 4.5 dBA per doubling of distance from the source over landscape (as opposed to paved or “hard” surfaces) (FHA 1995).

The LPP Project study area would have no permanently disturbed critical habitat. A tiny fraction of the available foraging habitat within the LPP Project study area is proximate to foraging habitat north of the

study area. Construction of the Proposed Action would not change the prey population for the spotted owl. Designated critical habitat for spotted owl occurs approximately 3.4 miles north of the Proposed Action alignment near the community of Colorado City and approximately 2.5 miles north of the Proposed Action alignment along Highway 89 at the Cockscomb. Indirect effects from the Proposed Action would not be significant.

Operation and Maintenance Effects

Inspection and maintenance activities would not occur in designated Mexican spotted owl critical habitat; therefore, no effects would occur on designated critical habitat from operation and maintenance activities.

Indirect effects from exterior lighting at pump stations and hydro stations would not be significant because they would not be located in prime spotted owl nesting, roosting or foraging habitat, and pump station lighting would be controlled using motion detectors.

Effects Summary

The Proposed Action would not adversely affect the Mexican spotted owl and would have no effect on designated critical habitat.

Southwestern Willow Flycatcher

Construction Effects

Potential southwestern willow flycatcher nesting habitat within the LPP Project study area was surveyed following USFWS defined field survey protocols during May 2010 (LSD 2010a and 2010b; see Appendices B and C). Seven potential willow flycatcher sites were evaluated. The only site meeting protocol criteria was the Paria River crossing within the LPP Project study area. No breeding southwestern willow flycatchers were detected; one transient willow flycatcher was detected, but confirmation of the southwestern subspecies was not possible. If re-survey of the Paria River crossing site is not performed prior to construction to verify absence, the construction should be conducted outside of Southwestern willow flycatcher breeding and fledging period.

The project area is proximate to the stream segments designated as critical habitat within the Virgin Management Unit of the Lower Colorado Recovery Unit and the Paria River north of Highway 89 of the Powell Management Unit (78 FR No. 278, January 3, 2013). Within the Project area, potential southwestern willow flycatcher nesting habitat was determined suitable for the species if the site provided a combination of characteristics that included standing water or moist soils with dense stands of native (e.g., cottonwood) and/or nonnative (e.g., tamarisk) riparian trees that form a closed canopy. Additionally, the level of disturbance from livestock grazing, development, and recreation were considered in evaluating potentially suitable habitat (See Section 3.3 of Final Study Report 13 – Special Status Wildlife Species).

The pipeline corridor would cause permanent disturbance to a small area of potential southwestern willow flycatcher nesting habitat; however, that habitat would be immediately adjacent to Highway 89 and likely would not be utilized for nesting in the absence of the LPP Project. The Proposed Action may affect but would not likely adversely affect the southwestern willow flycatcher.

Proposed Action construction would not materially change the foraging habitat or potential prey population of the southwestern willow flycatcher. The LPP Project features at the Paria River crossing would not change human activity in the area. Indirect effects from the Proposed Action would not be significant.

Proposed Action construction would occur proximate to designated southwestern willow flycatcher critical habitat at the Paria River. The Proposed Action may affect but would not likely adversely affect southwestern willow flycatcher critical habitat.

Operation and Maintenance Effects

Occasional maintenance at the Paria River crossing should be scheduled outside of the willow flycatcher breeding season. With this mitigation measure, operation and maintenance would not affect the southwestern willow flycatcher. Protocol surveys for the southwestern willow flycatcher should be repeated at the Paria River crossing to determine if suitable develops and sustains habitat and becomes occupied by southwestern willow flycatchers.

Project water delivery to end users would not materially affect existing or potential riparian habitat for the southwestern willow flycatcher in the LPP Project study area (UBWR 2016c). LPP Project return flows to the Virgin River via treated wastewater effluent discharges would not measurably change the Virgin River flows.

Nighttime lighting at pump stations or hydro stations would not cause indirect effects on the southwestern willow flycatcher because these facilities would not be located in or near critical habitat and the exterior lighting would be controlled by motion detectors.

Effects Determination

The Proposed Action may affect but would not adversely affect the southwestern willow flycatcher or designated critical habitat.

Yellow-billed Cuckoo

Construction Effects

Potential yellow-billed cuckoo nesting habitat within the LPP Project study area was surveyed coincident with southwestern willow flycatcher surveys (UDWRe 2016a). The Paria River crossing site was the only location that met criteria for potential cuckoo nesting habitat. Field surveys using the USFWS survey protocols were performed during May 2010. No cuckoos were detected. The habitat was considered to be inadequate for the specific habitat elements required for cuckoo nesting (UDWRe 2016a).

The USFWS proposed to designate critical habitat for the western distinct population segment of the yellow-billed cuckoo in August 2014 (79 FR 79 No.158, August 15, 2014). Proposed critical habitat in Utah includes Critical Habitat Unit 68 composed of a portion of the Virgin River in Washington County. Critical Habitat Unit 68 within Washington County occurs within the Virgin River corridor from the Atkinville Wash confluence, extending continuously north along the river corridor, to the confluence with Mill Creek. Critical habitat is currently proposed for the western distinct population segment of the yellow-billed cuckoo. The northern portion of the Proposed Action alignment at Sand Hollow Reservoir is approximately 7.5 miles east of the proposed yellow-billed cuckoo critical habitat.

Construction of the Proposed Action would not materially change the potential foraging habitat or prey base for the yellow-billed cuckoo. Indirect effects of the Proposed Action on the yellow-billed cuckoo would not be significant. Proposed Action construction would not approach or cross proposed yellow-billed cuckoo critical habitat; there would be no effect on proposed yellow-billed cuckoo critical habitat.

Operation and Maintenance Effects

Occasional maintenance at the Paria River buried pipeline crossing site would not affect yellow-billed cuckoos.

Project water delivery to end users would not materially affect existing or potential riparian habitat for the yellow-billed cuckoo in the LPP Project study area (UBWR 2016c). LPP Project return flows to the Virgin River via treated wastewater effluent discharges would not measurably change the Virgin River flows.

Effects Summary

The Proposed Action would have no effect on the yellow-billed cuckoo. The Proposed Action would have no measurable effect on proposed critical habitat along the Virgin River in the St. George metropolitan area.

Mojave Desert Tortoise

Construction Effects

The Mojave population of the Mojave desert tortoise was surveyed in Washington County, Utah. Private land surveyed included 4,156 acres. Utah SITLA land surveyed included 923 acres. Federal land surveyed included 7,564 acres. Surveys were performed according to the USFWS protocol as provided in *2010 Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*)* (UDWRe 2016a). The survey area is shown in Figure 5-155. The LPP Project corridor, whether for pipeline or transmission line construction, has a defined width of 120 feet. This construction corridor, as well as all equipment and facilities sites, and forebay and afterbay reservoirs, required 100 percent survey coverage. This coverage is achieved by one person surveying no more than a 30-foot wide belt transect. Additional transects outside of the construction corridor, referred to as buffer transects, were surveyed at 200-, 400-, and 600-meter intervals parallel to or encircling the LPP corridor and construction sites. All transect routes were surveyed to the extent possible unless precluded by private property or where impassable terrain limited access. Overall, un-surveyed lands would not be expected to provide suitable tortoise habitat, and included steep slopes adjacent to the Hurricane Cliffs; south of Highway 9 at Sheep Bridge Road, within the City of Hurricane, and adjacent to Sky Ranch Airport Community; private agricultural and ranch developments south of Highway 9 to Sand Hollow State Park, along 1500 West; and south of Highway 9 along the Honeymoon Trail (UDWRe 2016a).

Based on the presence of two live tortoises, 69 sites with tortoise sign (burrows, scats and 1 skeletal remain), the survey identified 2,785 acres of occupied habitat and 4,779 acres of unoccupied habitat on federal land. The total of 4,998 acres of occupied Mojave desert tortoise habitat and 7,135 acres of unoccupied desert scrub habitat and 4,080 acres of un-surveyed (presumed occupied) habitat is shown in Figure 5-155 within the LPP tortoise survey area. Disturbance of Mojave desert tortoise habitat includes 1,234.1 acres of permanent disturbance and 1,252.3 acres of temporary disturbance, with 923.6 acres of permanent and 11.4 acres of temporary disturbance on federal land. Temporary disturbance on federal land would occur on 8.2 acres of occupied habitat, 0 acres of un-surveyed (presumed occupied) habitat and 3.2 acres of un-occupied habitat. Permanent disturbance on federal land would occur on 399.1 acres of occupied habitat, 0 acres of un-surveyed (presumed occupied) and 524.5 acres of un-occupied Mojave desert tortoise habitat. Occupied habitat is identified as lands where tortoises or tortoise sign was observed and the lands contiguous with this area that share similar habitat features important to tortoise (e.g. topography and vegetation). Tortoise sign was not located in areas mapped as unoccupied, and these areas lacked topographic, soil characteristics, and/or vegetative features necessary to support Mojave desert tortoise. Un-surveyed lands included steep slopes adjacent to the Hurricane Cliffs; and south of Highway 9 at Sheep Bridge Road, within the city of Hurricane, and adjacent to Sky Ranch Airport

Community; private agricultural and ranch developments south of Highway 9 to Sand Hollow State Park, along 1500 West, and south of Highway 9 along the Honeymoon Trail. Locations of observed tortoise sign are shown on Figure 5-156.

The Red Cliffs Desert Reserve has defined “incidental take areas” that are designated Mojave desert tortoise habitat outside of the Reserve boundaries; any development or habitat disturbance within an incidental take area must be coordinated with the Desert Reserve administration (Red Cliffs 2011a). Take Area 10, South Hurricane, consists of 87 acres on Utah SITLA-administered land and covers part of the proposed Hurricane Cliffs afterbay (Red Cliffs 2011b). It is designated for incidental take because of its isolation. The incidental take permit is a county-wide take permit for desert tortoises, so take may occur anywhere in Washington County outside the Reserve (excluding the Beaver Dam Slope) in the unincorporated county and where a city has passed the Habitat Conservation Plan Impact Fees Ordinance. The HCP process has identified areas where incidental take is most likely to occur, totaling 12,264 acres. HCP take areas do not apply to BLM lands; however, the USFWS could “take” a tortoise within the project area and process it through the HCP. Defining take areas has been the result of balancing the conflicting needs of habitat preservation with growth and development in Washington County, without significantly affecting the desert tortoise population. Take areas are primarily low-density habitat adjacent to existing development. Most of these areas are within the boundaries of the incorporated cities of Washington County and have already been adversely affected by urban development and human activities.

Because Mojave desert tortoise are mobile, re-survey of the study area would be performed prior to construction and the Desert Tortoise Council *Guidelines for Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council 1999) and USFWS *Guidelines For Handling Desert Tortoises- Mojave Population And Their Eggs* (USFWS 2009) should be rigorously adhered to. A tortoise biologist should be present or immediately available during construction to manage any tortoises encountered during construction. Onsite precautions such as speed limits, checking under all parked vehicles before they are moved, protection of excavations and trenches, observation of excavations and trenches before backfilling, site cleanliness (to avoid trash that could attract ravens), hazardous materials management and education of all personnel should be implemented.

Filling of the forebay and afterbay reservoirs could drown Mojave desert tortoise in their dens or if they were unable to disperse rapidly enough. Burrows, tortoise scat and one live tortoise were observed in or near Take Area 10 during field surveys. All construction activity in or near Take Area 10 would require coordination with the HCP administration and compliance with HCP requirements.

Source:

This map is from the
"Draft Lake Powell Pipeline Project
Mojave Desert Tortoise Survey Report"
Prepared by Logan Simpson Design.

FERC Project Number:
12966-001

BLM Serial Numbers:
AZA-34941
UTU-85472

Lake Powell Pipeline Project

Spatial Reference: UTM Zone 12N, NAD-83

UDWRe Figure 5-155

**Mohave Desert Tortoise
Habitat Map**



Source:

This map is from the
"Draft Lake Powell Pipeline Project
Mojave Desert Tortoise Survey Report"
Prepared by Logan Simpson Design.

FERC Project Number:
12966-001

BLM Serial Numbers:
AZA-34941
UTU-85472

Lake Powell Pipeline Project

Spatial Reference: UTM Zone 12N, NAD-83

UDWRe Figure 5-156**Mohave Desert Tortoise
Sign Location Map**

Permanent clearing and access roads over the pipeline would alter a small area of potential tortoise foraging habitat and changes in vegetation may affect preferred tortoise food plant availability.

Mojave desert tortoise would not be adversely affected by actions within take areas of the HCP in compliance with the HCP because they are covered under the HCP provisions. On federal lands, to the extent that habitat would be permanently disturbed, construction of South Alternative features would likely adversely affect the Mojave desert tortoise.

No designated Mojave desert tortoise critical habitat would be disturbed by pipeline or transmission line construction. Forebay and afterbay reservoirs would not be located in designated critical habitat. There are no new access roads planned for construction in existing Mojave desert tortoise habitat.

Operation and Maintenance Effects

Proposed Action facilities would be staffed, operated and maintained in Mojave desert tortoise habitat and would increase vehicular traffic, placing tortoises at risk of vehicular mortality. Operations and maintenance activity in or near Take Area 10 should be coordinated with HCP administration. Precautions, such as outlined above should be included in all operation and maintenance plans and would help to minimize potential tortoise mortality. Adverse effects would still be possible, however.

Effects Summary

The Proposed Action would likely adversely affect the Mojave desert tortoise.

Relict Leopard Frog

Construction Effects

No known population of relict leopard frog exists within or near the Proposed Action study area. There would be no construction effects on relict leopard frog.

Operation and Maintenance Effects

No Proposed Action facilities would be operated in primary relict leopard frog habitat. There would be no operation or maintenance effects.

Effects Summary

The Proposed Action would have no effect on the relict leopard frog.

Yuma Clapper Rail

Construction Effects

There have been no recorded occurrences of the Yuma clapper rail within or near the South Alternative study area. Potential habitat may occur along the Virgin River in far southwestern Washington County. Actions associated with constructing the Proposed Action would not affect Yuma clapper rail breeding or foraging habitat or change its prey base. Primary Yuma clapper rail habitat would not be affected by the Proposed Action, and the Proposed Action would not cause direct or indirect effects on the Yuma clapper rail.

Operation Effects

Operation or maintenance of South Alternative facilities would not affect primary Yuma clapper rail habitat. Project water delivery to end users would not materially affect existing or potential riparian habitat for the Yuma clapper rail in the LPP Project study area (UBWR 2011c). LPP Project return flows to the Virgin River via treated wastewater effluent discharges would not measurably change the Virgin River flows.

Operation and maintenance of the South Alternative would not affect the Yuma clapper rail.

Effects Summary

The Proposed Action would have no effect on the Yuma clapper rail.

5.3.12.2.2 Listed Nonessential Experimental Population Species.

California Condor

Construction Effects

California condor does not nest in and are not reintroduced in the LPP Project study area, although they regularly fly over the study area. Condors were not observed or recorded during vegetation mapping and wildlife field surveys. Foraging condors would not normally be at risk of direct LPP Project construction mortality. Construction of Proposed Action features at the top of the Hurricane Cliffs could affect potential condor roosting in that area, although use of this area by condors is not known and has not been recorded.

Condors that are attracted to construction sites during foraging could become habituated to human garbage and then could alight in construction zones where they could be injured or killed by construction equipment. Although this occurrence would be unlikely, construction managers and environmental supervisors should be alert to this possibility and should coordinate with the condor reintroduction team to monitor condor locations and to follow established procedures if condors begin to utilize LPP Project sites. Strict waste control and hazardous or toxic substance spill prevention and remediation would be implemented in all construction areas.

Project construction would not jeopardize condor reintroduction sites or nesting habitat.

There would be no effect on designated critical habitat for the California condor.

Construction would permanently disturb 1,452 acres of habitat within the LPP Project study area, but this would not be a significant effect because of the vast area available to condors for foraging in the region surrounding the study area. The Proposed Action would not change the available food sources for condors. Indirect effects of construction would not be significant.

Operation and Maintenance Effects

There would be no direct effects on California condors from operations and maintenance or LPP Project facilities. Environmental hygiene should be maintained to prevent condors from seeking garbage as a food source near Project facilities. Consultation from the condor reintroduction team should be initiated if condors begin to frequent any LPP Project facility site.

Indirect effects such as increased garbage and toxic spills could occur from off-highway vehicles utilizing pipeline ROWs or access roads; access controls should be employed to limit access to authorized personnel who have been trained in environmental hygiene.

Effects Summary

The Proposed Action is not likely to jeopardize the non-essential experimental California condor population.

5.3.12.2.2.3 Sensitive Species and Species of Concern.

Wildlife species of concern are discussed as a group in each class: mammals, birds, reptiles, amphibians and by order (bats) as appropriate because effects would be similar for members of a given class and order of wildlife. If certain species have particular characteristics that could make them particularly vulnerable to effects, these species are analyzed individually.

Mammals

Construction Effects

Generally, adult mammals included in the wildlife species of concern would not be vulnerable to direct mortality effects from construction of Proposed Action features. They would have sufficient mobility to disperse from construction areas. Subterranean and ground denning species such as kit fox could be vulnerable to den destruction and loss of young still in the den. Construction of pipeline segments across open terrain away from highway ROWs should be scheduled outside of the denning season of these species (February through June) if possible. Dwarf shrew may occur along the Highway 89 pipeline corridor west of the Cockscomb and could be subject to construction mortality, although the projected number of shrews killed cannot be estimated. Free-flying bats would not be affected by construction of Proposed Action features, but roost sites and hibernacula could be temporarily disrupted by construction disturbance and noise. Direct construction effects on mammal species of concern is not likely to exceed the significance criteria.

Overall permanent disturbance of potential wildlife habitat, 1,888.0 acres (UDWRe 2016a) would not be sufficient to place any species at risk because of the large area of equivalent habitats surrounding the LPP Project study area. Construction disturbance of foraging areas and home ranges would be temporary and unlikely to place any species at risk.

Direct and indirect effects from LPP Project construction would not place any mammal species at risk or exceed the significance criteria for wildlife sensitive species and wildlife species of concern.

Operation and Maintenance Effects

Mammals would be at minimal risk of effects from operations and maintenance activities; mainly from potential road kills on access roads. Enforcement of speed limits on access roads would minimize these effects. Effects from operation and maintenance would not place any special status mammal species at risk or exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Proposed Action would not cause significant effects on mammalian sensitive species or species of concern.

Birds

Construction Effects

Adult birds would not be at risk of direct mortality from construction of Proposed Action features. Nests with eggs or nestlings could be destroyed by construction; construction corridors, including riparian zones, should be cleared of vegetation outside of the nesting season (typically March through July) thus preventing nesting prior to or during subsequent active construction. Raptor nests and roost sites should be surveyed and monitored, and no construction activity should be performed within spatial and seasonal buffers identified in the Utah Raptor Guidelines (Romin and Muck 2002), which includes a 0.5-mile buffer around the nests of most raptors species and a 1-mile buffer around bald eagle nests. Ground-nesting species, such as burrowing owl, long-billed curlew, western grasshopper sparrow, northern harrier, sagebrush sparrow and short-eared owl, would be at risk from vehicles and construction equipment; therefore, construction should be scheduled outside of these species' nesting periods to avoid potential effects on sensitive birds and wildlife species of concern. These measures would ensure conformance with the MBTA and the BGEPA, and therefore, effects on bird wildlife species of concern would be minimal and would not exceed the significance criteria.

Appropriate protection and mitigation of jurisdictional waters and wetlands and their associated habitats would be required under the applicable permitting procedures.

Permanent habitat loss of 1,888.0 acres of potential habitat would not be sufficient to place any species survival at risk because of the large area of equivalent habitat surrounding the LPP Project study area.

Operation and Maintenance Effects

Occasional inspection and maintenance activity along Proposed Action pipeline corridors would take place on established roads or access ways that would not affect bird nesting habitat. To ensure protection of migratory birds and eagles, this activity should take place outside the nesting season or winter roosting season, if possible. Access to pump stations or hydro stations would be on permanently surfaced roads and would not affect birds. Effects from operation and maintenance of the Proposed Action would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Proposed Action would not cause significant effects on avian sensitive species or species of concern.

Reptiles

Construction Effects

Reptiles would be vulnerable to construction mortality by crushing under vehicles and construction equipment. Reptile densities are not be expected to be high in the LPP Project study area because most of the alternative features would be constructed in previously disturbed habitat. Construction mortality could be mitigated by capture and relocation of reptiles immediately in the path of construction activities, removal and relocation of any reptiles observed in trenches before backfilling and searching for reptiles under parked vehicles and equipment before they are moved. The permanent disturbance of 1,888.0 acres of potential habitat would not be sufficient to place any species at risk and effects would not exceed the significance criteria.

Operation and Maintenance Effects

Vehicular traffic on access roads could cause vehicular mortality of reptiles during operations and maintenance activity. The magnitude of this mortality is not quantifiable; however, it is unlikely that it would place any population at risk, or exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Proposed Action would not have significant effects on reptilian sensitive species or species of concern.

Amphibians

Construction Effects

Amphibians, like reptiles, would be at risk of construction mortality by crushing under vehicles and construction equipment. Mitigation measures similar to those described for reptiles would limit direct construction mortality. With appropriate protection and mitigation of effects on potential jurisdictional waters and wetlands, loss of habitat would not likely place any population at risk. Construction effects would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects on amphibians and mitigation from operation and maintenance activities would be the same as described for reptiles, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Proposed Action would not have significant effects on amphibian sensitive species and species of concern.

5.3.12.2.2.4 Tribal Wildlife Species of Cultural Concern.

Wildlife species listed under the ESA, sensitive species, and wildlife species of concern include a number of individual species included in the wildlife categories of tribal cultural concern. Habitat and species assessments and field studies for sensitive wildlife species and wildlife species of concern have been described in previous sections of this study report. The Final Wildlife Resources Study Report (UBWR 2016a) analyzes effects on wildlife species of tribal cultural concern that are not federally listed, considered sensitive, or considered species of concern by the federal government or state agencies. Measures to protect wildlife species in general and to minimize effects on wildlife, including wildlife species of tribal cultural concern, from LPP Project construction, operation and maintenance are described in the Final Wildlife Resources Study Report (UDWRe 2016b). The Proposed Action would not be constructed within Kaibab-Paiute Indian Reservation lands.

Construction Effects

There would be potential mortality of individuals of tribal wildlife species of cultural concern from construction of the Proposed Action, only to wildlife that would move from or to Kaibab-Paiute Indian Reservation lands crossing the LPP construction area. Habitat for these species would be not be permanently disturbed on Kaibab-Paiute Indian Reservation lands. It is unlikely that any species would be placed at risk because of mortality and effects would not exceed the significance criteria.

Operation and Maintenance Effects

There would be potential mortality of individuals of tribal wildlife species of cultural concern, only to wildlife that would move from or to Kaibab-Paiute Indian Reservation lands crossing LPP access and maintenance roads, but that mortality would not likely place any species at risk, and effects would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Proposed Action would not have significant effects on tribal wildlife species of cultural concern.

5.3.12.2.3 Existing Highway Alternative.

5.3.12.2.3.1 Threatened, Endangered and Candidate Species.

Mexican Spotted Owl

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative would not adversely affect the Mexican spotted owl and would have no effect on designated critical habitat.

Southwestern Willow Flycatcher

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative may affect, but is not likely to adversely affect the southwestern willow flycatcher.

Yellow-billed Cuckoo

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative would have no effect on the yellow-billed cuckoo.

Mojave Desert Tortoise

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative would likely adversely affect the Mojave desert tortoise.

Relict Leopard Frog

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative would have no effect on the relict leopard frog.

Yuma Clapper Rail

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Existing Highway Alternative would have no effect on the Yuma clapper rail.

5.3.12.2.3.2 Listed Nonessential Experimental Population Species.

California Condor

Construction Effects

Effects would be similar to those described in Section 5.3.12.2.2.2, except that 1,762 acres would be permanently disturbed. Of this, much would occur in previously disturbed areas since the LPP Project alignment in the vicinity of the Kaibab-Paiute Indian Reservation would be sited along an existing highway rather than in previously disturbed areas south of the reservation.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.2, except for where the LPP Project alignment crosses through the Kaibab-Paiute Indian Reservation. In this area, the Existing Highway Alternative would be aligned along an existing highway rather than in more remote areas south of the reservation that receives light visitation and human disturbance. Thus, no new disturbance on wildlife from operation and maintenance activities would occur under the Existing Highway Alternative because the area receives regular traffic from cars, as well as heavy trucks and other vehicles, traveling the highway.

Effects Determination

The Existing Highway Alternative is not likely to jeopardize the nonessential experimental California condor population.

5.3.12.2.3.3 Sensitive Species and Wildlife Species of Concern

Mammals

Construction Effects

Effects would be generally the same as described for the Proposed Action in Section 5.3.12.2.2.3; except that construction of the penstock adjacent to and north of the Highway 389 ROW would be less likely to affect ground nesting or subterranean species than the overland corridor of the Proposed Action. There would be approximately 1,762 acres of permanent disturbance of potential wildlife habitat. Effects on mammals would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects on mammals from Existing Highway Alternative operations and maintenance would be the same as described for the Proposed Action in Section 5.3.12.2.2.3. These effects would be minimal and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of Existing Highway Alternative facilities could cause some mortality of individual mammals, but would not exceed the significance criteria for effects on populations of mammal wildlife species of concern. Habitat effects would be minimal and would not be significant because of the large area of equivalent habitat in the surrounding region.

Birds

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; except that construction of the penstock adjacent to and north of the Highway 389 ROW would be less likely to affect nesting birds than the overland corridor of the Proposed Action. There would be approximately 1,762 acres of permanent disturbance of potential wildlife habitat. Effects would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3 and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Existing Highway Alternative would not have significant effects on avian species and species of concern.

Reptiles

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; except that construction of the penstock adjacent to and north of the Highway 389 ROW would be less likely to affect reptiles than the overland corridor of the Proposed Action. There would be approximately 1,762 acres of permanent disturbance of potential wildlife habitat. Effects on reptiles would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects on reptiles from operational and maintenance of the Existing Highway Alternative would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Existing Highway Alternative would not have significant effects on reptile sensitive species and species of concern.

Amphibians

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; except that construction of the penstock adjacent to and north of the Highway 389 ROW would be less likely to affect amphibians than the overland corridor of the Proposed Action. There would be approximately 1,762 acres of permanent disturbance of potential wildlife habitat. Effects would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Existing Highway Alternative would not have significant effects on amphibian sensitive species and species of concern.

5.3.12.2.3.4 Tribal Wildlife Species of Cultural Concern.

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4; except that construction of the penstock adjacent to and north of the Highway 389 ROW would be less likely to affect species than the overland corridor of the Proposed Action. There would be approximately 1,762 acres of permanent disturbance of potential wildlife habitat. Effects would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.4 and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Existing Highway Alternative would not have significant effects on tribal wildlife species of cultural concern.

5.3.12.2.4 Southeast Corner Alternative.

5.3.12.2.4.1 Threatened, Endangered and Candidate Species.

Mexican Spotted Owl

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative would not adversely affect the Mexican spotted owl and would have no effect on designated critical habitat.

Southwestern Willow Flycatcher

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative may affect, but is not likely to adversely affect the southwestern willow flycatcher.

Yellow-billed Cuckoo

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative would have no effect on the yellow-billed cuckoo. The Southeast Corner Alternative would have no measurable effect on proposed critical habitat along the Virgin River in the St. George metropolitan area.

Mojave Desert Tortoise

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative would likely adversely affect the Mojave desert tortoise.

Relict Leopard Frog

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative would have no effect on the relict leopard frog.

Yuma Clapper Rail

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.1.

Effects Summary

The Southeast Corner Alternative would have no effect on the Yuma clapper rail.

5.3.12.2.4.2 Listed Nonessential Experimental Population Species.

California Condor

Construction Effects

Effects would be the same as described in Section 5.3.12.2.2.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.

Effects Summary

The Southeast Corner Alternative is not likely to jeopardize the nonessential experimental California condor population.

5.3.12.2.4.3 Sensitive Species and Wildlife Species of Concern.

Mammals

Construction Effects

Effects would generally be the same as described in Section 5.3.12.2.2.3; the Southeast Corner Alternative would permanently disturb approximately 1,877 acres of potential wildlife habitat. Effects on mammal species of concern would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Southeast Corner Alternative facilities could cause some mortality of individual mammals, but would not exceed the significance criteria for effects on populations of mammal wildlife species of concern. Habitat effects would be minimal and would not be significant because of the large area of equivalent habitat in the surrounding region.

Birds

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; the Southeast Corner Alternative would permanently disturb approximately 1,820 acres of potential wildlife habitat. Effects on avian sensitive species or species of concern would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Southeast Corner Alternative would not have significant effects on avian sensitive species or species of concern.

Reptiles

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; the Southeast Corner Alternative would permanently disturb approximately 1,393 acres of potential wildlife habitat. Effects would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Southeast Corner Alternative would not have significant effects on reptile sensitive species or species of concern.

Amphibians

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.3; the Southeast Corner Alternative would permanently disturb approximately 1,820 acres of potential wildlife habitat. Effects on amphibians would be minimal and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.3, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Southeast Corner Alternative would not have significant effects on amphibian wildlife species of concern.

5.3.12.2.4.4 Tribal Wildlife Species of Cultural Concern.

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4; the Southeast Corner Alternative would permanently disturb approximately 1,888 acres of potential habitat for tribal wildlife species of cultural concern. Effects would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be the same as described in Section 5.3.12.2.2.4, would be minimal, and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Southeast Corner Alternative would not have significant effects on tribal wildlife species of cultural concern.

5.3.12.2.5 Electrical Transmission Lines System.

5.3.12.2.5.1 Threatened, Endangered and Candidate Species.

Mexican Spotted Owl

Construction Effects

No Electrical Transmission Lines System features would be constructed in Mexican spotted owl nesting and foraging habitat.

Operation and Maintenance Effects

Injury or electrocution of spotted owls by transmission lines is a potential hazard. The Edison Electrical Institute (EEI) *Avian Protection Plan Guidelines and Suggested Practices for Avian Protection on Power Lines* (EEI 2006, 2010) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*

(APLIC 2012) and APLIC's (2012) avian protection guidelines for transmission lines should be employed on all LPP Project transmission lines. The potential for spotted owl electrocution or injury from transmission conductors or supports is probably lower than that for open-country raptors because their preferred roosting and foraging habitat is in closed-cover forests, where power lines are less frequent. Effects from operation and maintenance of the Transmission Line Alignments on the Mexican spotted owl are unlikely.

Effects Summary

The Electrical Transmission Lines System features may affect, but are unlikely to adversely affect, the Mexican spotted owl.

Southwestern Willow Flycatcher

Construction Effects

Electrical Transmission Lines System features could be constructed crossing the Paria River at approximately 3.9 miles downstream (south) from Highway 89. This transmission line crossing does not have suitable breeding habitat for southwestern willow flycatcher. Breeding southwestern willow flycatchers were not identified during field surveys of the Highway 89 crossing site, although marginal potential habitat was identified. If resurvey of the Paria River is not performed prior to transmission line construction, the construction should be conducted outside of the willow flycatcher breeding and fledging period.

Operation and Maintenance Effects

Electrocution or injury of willow flycatchers by Electrical Transmission Lines System features would be unlikely. Avian protection measures (EEI 2006, 2010; APLIC 2012) should be employed on all LPP Project transmission lines.

Effects Summary

The Electrical Transmission Lines System features may affect, but is not likely to adversely affect the southwestern willow flycatcher.

Yellow-billed Cuckoo

Construction Effects

No Electrical Transmission Lines System features would be constructed over potential yellow-billed cuckoo habitat. The only potential yellow-billed cuckoo habitat throughout the LPP Project area was surveyed on the Paria River immediately upstream of the Highway 89 crossing. No other yellow-billed cuckoo potential habitat is present in any transmission line alignments.

Operation and Maintenance Effects

Electrocution or injury of yellow-billed cuckoos by Electrical Transmission Lines System features conductors or supports is possible but highly unlikely.

Effects Summary

The Electrical Transmission Lines System features would have no effect on yellow-billed cuckoo.

Mojave Desert Tortoise

Construction Effects

Three electrical transmission lines System features would be constructed in Mojave desert tortoise habitat that was classified as “occupied” in the tortoise field survey (UDWRe 2016a). Surveyed occupied habitat totaling 19.7 acres would be permanently disturbed on private land, and surveyed occupied habitat totaling 3.7 acres would be permanently disturbed on BLM-administered land. Construction could cause adverse effects on desert tortoises. Precautionary measures outlined in Section 5.3.12.2.2.1 would be implemented to minimize potential mortality or disturbance of tortoises.

Operation and Maintenance Effects

Three electrical transmission lines would be subject to periodic inspection and maintenance in occupied Mojave desert tortoise habitat; this activity could cause adverse effects on desert tortoises due to potential increased vehicle traffic on transmission line access roads.

Effects Summary

The Electrical Transmission Lines System would likely adversely affect Mojave desert tortoise.

Relict Leopard Frog

Construction Effects

No transmission line facilities would be constructed in relict leopard frog habitat.

Operation and Maintenance Effects

No transmission line facilities would be operated or maintained in relict leopard frog habitat.

Effects Summary

The electrical transmission lines system would have no effect on relict leopard frog.

Yuma Clapper Rail

Construction Effects

No transmission line facilities would be constructed through primary Yuma clapper rail habitat.

Operation and Maintenance Effects

No transmission line facilities would be operated or maintained in primary Yuma clapper rail habitat.

Effects Summary

The Electrical Transmission Lines System would have no effect on the Yuma clapper rail.

5.3.12.2.5.2 Listed Nonessential Experimental Population Species.

California Condor

Construction Effects

Project transmission lines and associated substations, switch stations and access roads would not be constructed in or near condor reintroduction sites or primary breeding or roosting habitat. Effects would be similar to those described in Section 5.3.12.2.2.1, and the same precautions should be employed to prevent condors from being attracted to construction sites.

The Electrical Transmission Lines System construction would have no effect on California condor designated critical habitat because none is present in or near the project area.

Operation and Maintenance Effects

Injury or electrocution of condors by transmission lines is a recognized hazard (USFWS 2001), and as of 2001, seven condors have died from transmission line accidents (USFWS 2001). EEI's *Avian Protection Plan Guidelines and Suggested Practices for Avian Protection on Power Lines* (EEI 2006, 2010) and the Avian Power Line Interaction Committee's (APLIC's) *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012) should be employed on all Project transmission lines. Power line collisions and electrocutions represented a significant threat to the reintroduced population of condors during the first two years of release efforts.

Indirect effects may occur because of increased vehicle traffic on transmission line access roads and subsequent increased litter, toxic substance spills and shooting, particularly if carcasses with lead bullets are left in the field. During construction, access control measures would be employed to restrict traffic to authorized maintenance personnel.

5.3.12.2.5.3 Sensitive Species and Wildlife Species of Concern.

Mammals

Construction Effects

Some ground-nesting or ground-burrowing species could suffer individual mortality of young from construction vehicles and equipment; most adult mammals would temporarily disperse from the construction corridor. Bats would not be affected because transmission lines and substations would not be constructed in roosting areas or hibernacula. Transmission line construction would permanently disturb an estimated 122 acres of potential habitat from support-tower footings, substations and access roads. This habitat effect would not be significant because of the large area of equivalent habitat adjoining the study area. Construction effects would not place any species at risk and would not exceed the significance criteria.

Operation and Maintenance Effects

Periodic transmission line inspection and maintenance could cause some individual mammal mortality from vehicle traffic, but the number of animals lost would not place any species at risk and effects would not exceed the significance criteria.

Effects Summary

The Electrical Transmission Lines System would not cause significant effects on mammalian sensitive species or species of concern.

Birds

Construction Effects

Preconstruction clearing of planned transmission line access roads, tower support sites, switch stations and substations should be done outside of the nesting period, generally March through July. Measures to protect ground-nesting species and eagles described in Section 5.3.12.2.2.3 would be implemented.

Transmission line construction would permanently disturb an estimated 122 acres of potential habitat from support-tower footings, substations and access roads. This habitat effect would not be significant because of the large area of equivalent habitat adjoining the study area.

Operation and Maintenance Effects

Occasional transmission line inspection and maintenance would be unlikely to cause effects on birds.

Electrocution or injury by collisions with transmission line conductors or support towers could cause mortality of birds, mainly raptors. The numbers of birds killed cannot be estimated, but it would be unlikely that any species would be placed at risk. EEI's (2006, 2010) and APLIC's (2012) avian protection guidelines for transmission lines should be followed for all new aerial transmission lines.

Effects Summary

The Electrical Transmission Lines System would not have significant effects on avian sensitive species or species of concern.

Reptiles

Construction Effects

Construction vehicles and equipment could cause mortality of some individual reptiles, but it is unlikely that this mortality would place any species at risk. Electrical transmission lines system construction would have long-term effects on 122 acres of potential reptile habitat that would be permanently disturbed by support tower footings, sub-stations and access roads. This habitat effect would be minimal and not be significant because of the large area of equivalent habitat adjoining the area of potential effect.

Operation and Maintenance Effects

Occasional inspection and maintenance of transmission lines and substations could cause vehicular mortality of individual reptiles, but it is unlikely that this would place any species at risk.

Effects Summary

The Electrical Transmission Lines System would not have significant effects on reptilian sensitive species or species of concern.

Amphibians

Construction Effects

Construction vehicles and equipment could cause mortality of some individual amphibians, but it is unlikely that this mortality would place any species at risk. Potential jurisdictional waters and wetlands would be protected and mitigated under applicable procedures.

Transmission line construction would permanently disturb an estimated 122 acres of potential habitat from support-tower footings, substations and access roads. This habitat effect would not be significant because of the large area of equivalent habitat adjoining the study area.

Operation and Maintenance Effects

Occasional inspection and maintenance of transmission lines and substations could cause vehicular mortality of individual amphibians, but it is unlikely that this would place any species at risk.

Effects Summary

The Electrical Transmission Lines System would not have significant effects on amphibian sensitive species or species of concern.

5.3.12.2.5.4 Tribal Wildlife Species of Cultural Concern.

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4 and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4 and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the Electrical Transmission Lines System would not have significant effects on tribal wildlife species of cultural concern.

5.3.12.2.6 No Lake Powell Water Alternative.

5.3.12.2.6.1 Threatened, Endangered and Candidate Species.

Mexican Spotted Owl

Construction Effects

No Lake Powell Water Alternative facilities would not be constructed in or near Mexican spotted owl nesting, foraging or roosting habitat. The No Lake Powell Water Alternative would have no direct or indirect effects on the Mexican spotted owl.

The No Lake Powell Water Alternative would not be constructed in Mexican spotted owl critical habitat; the No Lake Powell Water Alternative would have no effect on Mexican spotted owl critical habitat.

Operation and Maintenance Effects

No Lake Powell Water Alternative facilities would not be operated or maintained in Mexican spotted owl habitat; operation or maintenance of the No Lake Powell Water Alternative would have no effect on the Mexican spotted owl.

Effects Summary

The No Lake Powell Water Alternative would have no effect on the Mexican spotted owl.

Southwestern Willow Flycatcher

Construction Effects

Facilities for the No Lake Powell Water Alternative would be constructed within southwestern willow flycatcher designated critical habitat. An effects determination cannot be conclusively made on southwestern willow flycatcher or its designated critical habitat for construction of the No Lake Powell Water Alternative.

Operation and Maintenance Effects

Facilities for the No Lake Powell Water Alternative would be operated or maintained within southwestern willow flycatcher designated critical habitat. An effects determination cannot be conclusively made on southwestern willow flycatcher or its designated critical habitat for operation and maintenance of the No Lake Powell Water Alternative.

Effects Summary

An effects determination cannot be conclusively made on southwestern willow flycatcher for the No Lake Powell Water Alternative.

Yellow-billed Cuckoo

Construction Effects

Facilities for the No Lake Powell Water Alternative would not be constructed in or near yellow-billed cuckoo nesting, foraging habitat or proposed critical habitat. The No Lake Powell Water Alternative would have no direct or indirect effects on the yellow-billed cuckoo.

Operation and Maintenance Effects

Facilities for the No Lake Powell Water Alternative would not be operated or maintained in yellow-billed cuckoo proposed critical habitat; operation or maintenance of the No Lake Powell Water Alternative would have no effect on the yellow-billed cuckoo.

Effects Summary

The No Lake Powell Water Alternative would have no effect on the yellow-billed cuckoo or its proposed critical habitat.

Mojave Desert Tortoise

Construction Effects

Construction footprints for the pipelines, reservoirs, RO treatment plant, and brine management facilities proposed to be constructed by the WCWCD under the No Lake Powell Water Alternative are conceptual. It is possible that some or all of these facilities would be constructed in occupied Mojave desert tortoise habitat on federal land. Direct and indirect construction effects and mitigation measures would be similar to those described in Section 5.3.12.2.2.1. An effects determination cannot be conclusively made on Mojave desert tortoise for construction of the No Lake Powell Water Alternative.

Operation and Maintenance Effects

Operation and maintenance effects of the No Lake Powell Water Alternative would be similar to those described in Section 5.3.12.2.2.1. An effects determination cannot be conclusively made on Mojave desert tortoise for operation and maintenance of the No Lake Powell Water Alternative.

Effects Summary

An effects determination cannot be conclusively made on Mojave desert tortoise for the No Lake Powell Water Alternative.

Relict Leopard Frog

Construction Effects

No Lake Powell Water Alternative facilities would not be constructed in or near relict leopard frog habitat or known populations. The No Lake Powell Water Alternative would have no direct or indirect effects on the relict leopard frog.

Operation and Maintenance Effects

No Lake Powell Water Alternative facilities would not be operated or maintained in relict leopard frog habitat; operation or maintenance of the No Lake Powell Water Alternative would have no effect on the relict leopard frog.

Effects Summary

The No Lake Powell Water Alternative would have no effect on the relict leopard frog.

Yuma Clapper Rail

Construction Effects

No Lake Powell Water Alternative facilities would not be constructed in or near Yuma clapper rail nesting or foraging habitat. The No Lake Powell Water Alternative would have no direct or indirect effects on the Yuma clapper rail.

Operation and Maintenance Effects

No Lake Powell Water Alternative facilities would not be operated or maintained in Yuma clapper rail habitat; operation or maintenance of the No Lake Powell Water Alternative would have no effect on the Yuma clapper rail.

Effects Summary

The No Lake Powell Water Alternative would have no effect on the Yuma clapper rail.

5.3.12.2.6.2 Listed Nonessential Experimental Population Species.

California Condor

Construction Effects

The facilities proposed under the No Lake Powell Water Alternative would not be constructed in primary California condor nesting, foraging or roosting habitats or near reintroduction sites. Potential facilities would be constructed in areas not normally utilized for foraging by California condors, but environmental hygiene should be maintained in all construction areas to prevent garbage collections that might attract condors and prevent harm to condors from toxic substances. The No Lake Powell Water Alternative would have no direct effect on the California condor. This alternative would not affect condor food sources and human activities associated with the constructed features would not likely cause indirect effects on the California condor because the condor is an obligate scavenger.

The No Lake Powell Water Alternative would have no effect on California condor critical habitat because none is present in or near the alternative area.

Operation and Maintenance Effects

Operation and occasional maintenance of the No Lake Powell Water Alternative facilities would not affect the California condor. California condor electrocution by electrical transmission lines in the St. George metropolitan area would be highly unlikely. The transmission lines would provide power for the RO water treatment facilities near the Washington Fields Diversion. The transmission line facilities would incorporate EEI's (2006, 2010) and APLIC's (2012) guidelines for protecting raptors.

Effects Summary

The No Lake Powell Water Alternative is not likely to jeopardize the nonessential experimental population of California condor.

5.3.12.2.6.3 Wildlife Sensitive Species and Species of Concern.

Construction Effects

Construction effects would be related to pipelines, reservoirs, RO plant, brine disposal facility and electrical transmission features. The footprint of these facilities and potential area of habitat disturbance are not well-defined at this time. Effects on all animal classes would be similar to those described in Section 5.3.12.2.2.3. Effects on tribal wildlife species of cultural concern would be similar to those described in Section 5.3.12.2.2.3. Effects of constructing the No Lake Powell Water Alternative on wildlife special status species would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be similar to those described in Section 5.3.12.2.2.3. Effects on tribal wildlife species of cultural concern would be similar to those described in Section 5.3.12.2.2.3. Effects of operating and maintaining the No Lake Powell Water Alternative on wildlife special status species would not exceed the significance criteria.

5.3.12.2.6.4 Tribal Wildlife Species of Cultural Concern.

Construction Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4 and would not exceed the significance criteria.

Operation and Maintenance Effects

Effects would be generally the same as described in Section 5.3.12.2.2.4 and would not exceed the significance criteria.

Effects Summary

Construction, operation and maintenance of the No Lake Powell Water Alternative would not have significant effects on tribal wildlife species of cultural concern.

5.3.12.2.7 No Action Alternative.

5.3.12.2.7.1 Threatened, Endangered and Candidate Species.

The No Action Alternative would have no effects on threatened, endangered and candidate wildlife species or their designated critical habitats.

5.3.12.2.7.2 Listed Nonessential Experimental Population Species.

The No Action Alternative would have no effects on listed nonessential experimental population species.

5.3.12.2.7.3 Sensitive Species and Wildlife Species of Concern

The No Action Alternative would have no effects on sensitive species and wildlife species of concern.

5.3.12.2.7.4 Tribal Wildlife Species of Cultural Concern.

The No Action Alternative would have no effects on tribal wildlife species of cultural concern.

5.3.12.3 Protection, Mitigation and Enhancement Measures

5.3.12.3.1 General Mitigation Measures.

The following measures would be applicable to all LPP Project features and facilities during construction, operation and maintenance.

- To the extent feasible, construction, operation and maintenance activities on or around special status species habitat would be scheduled to avoid the periods of greatest use, including

breeding and rearing periods. Clearing of pipeline and penstock corridors would be performed outside of the avian nesting season (generally March through July) to prevent nesting in the study area during construction.

- Vehicular speeds would be limited to safe speeds in construction zones or on construction access roads during construction, operation and maintenance of LPP Project facilities.
- The area directly ahead of trenching equipment would be monitored for small animals and, to the extent possible, any small animals observed would be gently hazed from the construction corridor by a qualified wildlife biologist, or captured and relocated to a safe distance from the construction corridor by a qualified wildlife biologist.
- Trenches would be covered, backfilled, or barriers and working lights placed along open trenches at the completion of each day and no more than 1,000 feet of trench would be open at any one location. All open trenches would be constructed with escape ramps for trapped wildlife to exit the trenches.
- Open trenches would be observed before beginning construction activities daily and small animals in the trenches should be captured if possible by a qualified wildlife biologist and relocated before active construction commences.
- Effects on wildlife resources would be avoided and minimized by following environmental hygiene and standard hazardous materials control procedures, restoration and erosion control procedures, air pollution prevention procedures, surface water protection procedures, noxious weed control procedures and wetland protection procedures.
- Construction sites would be kept free of trash, garbage and food refuse.
- New and upgraded overhead power transmission lines would be constructed to meet the most current edition of *Suggested Practices for Raptor Protection on Power Lines* (EEI 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012).
- An Avian Protection Plan should be developed following the *Avian Protection Plan (APP) Guidelines* (APLIC and USFWS 2005) prior to construction.
- To avoid take of migratory birds and minimize the loss, destruction or degradation of migratory bird habitat where appropriate incorporate strategies outlined in *Migratory Bird Conservation Actions for Projects to Reduce the Risk of Take during the Nesting Season 2014* (USFWS 2014c).
- During construction, access roads and electrical transmission line roads would have access restricted to authorized personnel who have been instructed in environmental hygiene to limit trash and toxic substances along the roads.
- Any hollow metal and/or plastic (PVC) pipes and posts used temporarily during construction or left permanently in place would be capped to prevent birds, small mammals, or reptiles from becoming entrapped.

5.3.12.3.2 Mexican Spotted Owl.

In addition to the general mitigation procedures described in Section 5.3.12.2.1, the following measures would be implemented to protect Mexican spotted owls.

5.3.12.3.2.1 Construction.

“Perch discouragers” would be incorporated into new electrical transmission lines in Mexican spotted owl critical habitat to restrict perching or nesting by competitive or predator raptors species, such as great horned owls.

5.3.12.3.2.2 Operation and Maintenance.

The EEI Avian Protection Plan Guidelines and Suggested Practices for Avian Protection on Power Lines would be employed on all LPP Project transmission lines (EEI 2005, 2006, 2010, 2012), along with guidelines within Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012).

5.3.12.3.3 Southwestern Willow Flycatcher.

In addition to the general mitigation procedures described in Section 5.3.12.2.2.1, the following measures would be implemented to protect southwestern willow flycatcher.

5.3.12.3.3.1 Construction.

- Clearing of the pipeline construction corridor through riparian areas near the Paria River would be scheduled outside of the willow flycatcher breeding and nesting season, generally May through July.
- Habitat areas determined to be unsuitable in 2009 would be evaluated for suitability based on presence of primary constituent elements. Protocol surveys would be conducted within suitable habitat prior to construction to document presence/absence of southern willow flycatcher.

5.3.12.3.3.2 Operation and Maintenance.

Occasional maintenance of the pipeline at the Paria River should be scheduled outside of the willow flycatcher breeding and nesting season, generally May through July.

5.3.12.3.4 Yellow-billed Cuckoo.

No other measures would be required because yellow-billed cuckoos were not identified during field surveys and the only potential habitat surveyed did not meet the primary nesting criteria for cuckoos.

5.3.12.3.5 Mojave Desert Tortoise.

5.3.12.3.5.1 Construction.

In addition to the general mitigation procedures described in Section 5.3.12.2.2.1, the following measures would be employed to protect Mojave desert tortoise.

- Coordination with Red Cliffs Desert Reserve administration would be performed before any construction in or near designated Take Areas 7 (Hurricane) and 10 (South Hurricane).
- On federal lands, the following measures would be employed:
- All construction personnel working in areas where Mojave desert tortoises have been identified should be given basic instruction on Mojave desert tortoise protected status, habitat requirements,

distribution, expectation of encounter in the Project area and procedures to follow if a desert tortoise is encountered.

- A qualified desert tortoise biologist would be available for all construction activities near Take Area 10. Project personnel would be instructed to take no action regarding any Mojave desert tortoise encountered in or near construction zones until authorized to do so by the tortoise biologist.
- All vehicles and construction equipment should be inspected on all sides and underneath before moving the vehicle or equipment. If a Mojave desert tortoise is under or adjacent to any vehicle or equipment, that vehicle or equipment should not be operated or moved until the tortoise biologist has personally determined how to move the vehicle or equipment safely or has relocated the tortoise to safety.
- Other detailed procedures for protecting desert tortoises are contained in the *Guidelines for Handling Desert Tortoises – Mojave Population and Their Eggs* (USFWS 2009), and a copy of this document should be available at each construction site in Mojave desert tortoise habitat.
- Equipment and supplies for safely handling, rehydrating, transporting and excluding Mojave desert tortoises, as specified in the USFWS 2009 desert tortoise guidelines should be available at each construction site in Mojave desert tortoise habitat.

5.3.12.3.5.2 Operation and Maintenance.

- All operating and maintenance personnel working in areas where Mojave desert tortoises have been identified would be provided basic instruction on Mojave desert tortoise protected status, habitat requirements, distribution, expectation of encounter in the LPP Project area and procedures to follow if a desert tortoise is encountered.
- A *Mojave Desert Tortoise Protection Plan* for operating and maintaining Project facilities and features would be developed in consultation with the HCP administration. The plan should incorporate vehicular safety measures and appropriate measures from the HCP and USFWS 2009 desert tortoise guidelines as applicable. The protection plan would be available at all facilities in Mojave desert tortoise habitat. Equipment and supplies for safely handling, rehydrating, transporting and excluding Mojave desert tortoises would be available at each operating site in Mojave desert tortoise habitat.
- All operation and maintenance personnel should be provided with contact information for appropriate resources (project biologist, USFWS biologist, Red Cliffs Preserve biologist, HCP administration, etc.) that can be contacted in case of encounters with Mojave desert tortoises during operation and maintenance activities.

5.3.12.3.6 Relict Leopard Frog.

No other measures would be required because no LPP Project features or facilities would be constructed, operated or maintained in relict leopard frog habitat or near any known population.

5.3.12.3.7 Yuma Clapper Rail.

No other measures would be required because no LPP Project features or facilities would be constructed, operated or maintained in Yuma clapper rail habitat or near any known population.

5.3.12.3.8 Listed Nonessential Experimental Population Species.

California **Condor**. In addition to the general mitigation procedures described in Section 5.3.12.2.2.1, the following measures should be employed to protect California condors.

5.3.12.3.8.1 Construction

Protocols for managing any condors that approach construction sites would be coordinated with the condor re-introduction team.

5.3.12.3.8.2 Operation and Maintenance.

Mitigation measures would be the same as described in Sections 5.3.12.2.2.1.

5.3.12.4 Cumulative Effects

5.3.12.4.1 Proposed Action.

The Proposed Action would have direct cumulative effects on special status wildlife species when combined with the effects of the Southern Corridor Highway, which crosses the Proposed Action penstock alignment near Sand Hollow Reservoir. The habitat disruption for Southern Corridor Highway would permanently remove potential special status wildlife habitat extending for miles north and south of the Proposed Action penstock crossing, with the intensity of the cumulative effects decreasing with distance from the intersection of the two projects. The direct cumulative effects on special status wildlife habitat would be minor. This portion of the LPP Project would occur on private lands covered by the HCP incidental take permit. The potential effects on Mohave desert tortoise would be minor.

The Proposed Action would have direct cumulative effects on special status wildlife species when combined with the effects of the proposed Kern River-Hurricane Natural Gas Pipeline, which would parallel the Southern Corridor Highway. The habitat disruption for Kern River-Hurricane Natural Gas Pipeline construction would permanently remove Mojave Desert Region wildlife habitat extending for miles north and south of the Proposed Action penstock crossing, with the intensity of the cumulative effects decreasing with distance from the intersection of the two projects. The Proposed Action construction effects and Kern River-Hurricane Natural Gas Pipeline construction effects would occur on Mojave desert tortoise and/or suitable habitat on private lands covered by the HCP incidental take permit. Effects on Mojave desert tortoise would be minimized by implementing the best management practices (BMPs) and general construction practices and the protection and mitigation measures in Section 5.3.12.3.

The direct cumulative effects of the Proposed Action, Southern Corridor Highway and Kern River-Hurricane Natural Gas Pipeline construction on special status wildlife species could be short-term, with the Southern Corridor Highway effects permanent and the Proposed Action and Kern River-Hurricane Natural Gas Pipeline cumulative effects occurring only during construction. Effects on Mojave desert tortoise would be minimized by implementing BMPs and general construction practices and the protection and mitigation measures in Section 5.3.12.3.

The Proposed Action would have no measurable cumulative effects on special status wildlife species when combined with the LTEMP EIS and future Record of Decision (ROD) actions. The Proposed Action effects on Glen Canyon Dam releases would not be measurable in the Colorado River downstream from Lake Powell, therefore the potential cumulative effects of the Proposed Action and LTEMP EIS and ROD actions would not be measurable.

5.3.12.4.2 Existing Highway Alternative.

The Existing Highway Alternative would have the same cumulative effects on special status wildlife species as described for the Proposed Action in Section 5.3.12.4.1, plus the following additional cumulative effects.

The Existing Highway Alternative would have minimal short-term indirect cumulative effects on special status wildlife species when combined with the permanent effects of habitat disturbance for the Jackson Flat Reservoir located in close proximity to the Existing Highway Alternative alignment.

The Existing Highway Alternative would have minimal short-term direct cumulative effects on special status wildlife species when combined with the permanent effects of the proposed Fredonia Flood Retarding Structure. The Existing Highway Alternative would be constructed under a portion of the Flood Retarding Structure embankment near Lost Spring Wash. The special status wildlife species habitat disturbed by constructing the Existing Highway Alternative would be revegetated following construction completion.

5.3.12.4.3 Southeast Corner Alternative.

The Southeast Corner Alternative would have the same cumulative effects on special status wildlife species as described for the Proposed Action in Section 5.3.12.4.1.

5.3.12.4.4 No Lake Powell Water Alternative.

The No Lake Powell Water Alternative could have long-term significant cumulative effects on special status wildlife species and habitat in the St. George metropolitan area when combined with the St. George Water Reuse Project. Riparian communities along the Virgin River could be permanently affected by the No Lake Powell Water Alternative because the reuse water would be re-purposed for use as raw water for reverse osmosis treatment. Long-term indirect cumulative effects could occur on special status wildlife species habitat in the St. George metropolitan area dependent on non-sewered return flows that would be reduced by eliminating outdoor irrigation.

5.3.12.4.5 No Action Alternative.

The No Action Alternative would have no long-term significant cumulative effects on special status wildlife species and habitat in the St. George metropolitan area.

5.3.12.5 *Unavoidable Adverse Effects*

5.3.12.5.1 Proposed Action.

The Proposed Action would have short-term unavoidable adverse effects on special status wildlife species and habitat during construction. The portions of the ROW used for access roads along the Proposed Action alignment would have long-term unavoidable adverse effects on special status wildlife species and associated habitat because the road surfaces would not be revegetated. The Proposed Action features (pump stations, regulating tank, hydro stations, forebay reservoir, afterbay reservoir, substations and switchyards) would have long-term unavoidable adverse effects on special status wildlife species and associated habitat because the footprint of these features (1,888 acres) would not be revegetated following construction. Construction-related mortality of special status wildlife species unable to disperse from the construction corridor would be an unavoidable adverse effect.

Incidental take of any listed or candidate species would be an unavoidable adverse effect. Incidental substantial disturbance of any wildlife species of concern or tribal wildlife species of cultural concern would be an unavoidable adverse effect.

5.3.12.5.2 Existing Highway Alternative.

The Existing Highway Alternative would have the same unavoidable adverse effects on special status wildlife species as described for the South Alternative in Section 5.3.12.5.1, except that the long-term unavoidable adverse effects on special status wildlife species habitat from the footprint of project features would be 1,762 acres not revegetated following construction. Construction-related mortality of special status wildlife species unable to disperse from the construction corridor would be an unavoidable adverse effect.

5.3.12.5.3 Southeast Corner Alternative.

The Southeast Corner Alternative would have the same unavoidable adverse effects on special status wildlife species as described for the Proposed Action in Section 5.3.12.5.1. Unavoidable adverse effects would be generally the same as those described in Section 5.3.12.5.1, except that there would be 11 fewer acres of permanent wildlife habitat disturbance.

5.3.12.5.4 Transmission Line Alignments.

Incidental take of any listed or candidate species would be an unavoidable adverse effect. Permanent disturbance of Mojave desert tortoise habitat would be an unavoidable adverse effect. Incidental substantial disturbance of any wildlife species of concern or tribal wildlife species of cultural concern would be an unavoidable adverse effect. Permanent disturbance of 122 acres of potential wildlife habitat would be an unavoidable adverse effect.

5.3.12.5.5 No Lake Powell Water Alternative.

The No Lake Powell Water Alternative would have long-term unavoidable adverse effects on special status wildlife species and associated habitat in the St. George metropolitan area that would no longer receive reuse water from the St. George Regional Water Reclamation Facility and from reduced non-sewered return flow to the Virgin River caused by eliminating residential outdoor irrigation. Incidental take of any listed or candidate species would be an unavoidable adverse effect. Incidental substantial disturbance of any wildlife species of concern or tribal wildlife species of cultural concern would be an unavoidable adverse effect. Permanent disturbance of potential wildlife habitat would be an unavoidable adverse effect.

5.3.12.5.6 No Action Alternative.

No water transmission, power generation or transmission facilities or features would be constructed, operated or maintained under the No Action Alternative. There would be no unavoidable adverse effects.

5.3.12.6 References

Automated Geographic Reference Center (AGRC). 2010. Utah GIS Portal. Available on the Internet at:
<http://agrc.its.state.ut.us/>. 12/12/2010.

Arizona Game and Fish Department, Natural Heritage Program Data Management System (AHDMS). 2010. Available on the Internet at: http://www.gf.state.az.us/w_c/edits/species_concern.shtml. 12/11/2010.

- Aspen. 2010. Transmission Line Noise Fact Sheet. Available on the Internet at:
ftp://ftp.cpuc.ca.gov/gopher-data/environ/tehachapi_renewables/FS7.pdf
- Audubon Society (Audubon). 2010. Watch List Species, Abert's Towhee. Available on the Internet at:
<http://www.audubon2.org/watchlist/viewSpecies.jsp?id=1>. 12/5/2010.
- Birds of North America Online (BNA). 2010. Available on the Internet at:
<https://bna.birds.cornell.edu/bna>. 12/18/2010.
- Birds of Utah. 2010. Available on the Internet at: <http://utahbirds.org/RecCom/RareBirdsIndex.html>.
11/27/2010.
- Bureau of Land Management (BLM). 2007. Arizona Strip Field Office, Proposed Plan/FEIS, Chapter 3. December 2007.
- Collier, G.D. 1975. The Utah prairie dog: Abundance, distribution, and habitat requirements. Pub. No. 75-10. Utah Division of Wildlife Resources, Salt Lake City. 94pp.
- Crocker-Bedford, D.C. and J.J. Spillett. 1981. Habitat relationships of the Utah prairie dog. Publication No. 1981-0-677-202/4. U.S. Dept. of Agric., Forest Service, Intermountain Region, Ogden, Utah. 29pp.
- Desert Tortoise Council 1999
- Desert Tortoise Council 2010 Guidelines for Construction. Available on the Internet at:
<http://www.deserttortoise.org/documents/DTChandlingguidelines99.pdf>. 12/2/2010.
- Desert USA. 2010. Western Banded Gecko. Available on the Internet at:
http://www.desertusa.com/mag98/june/papr/du_wbgecko.html. 11/30/2010.
- EEI. 2005. Edison Electrical Institute and USFWS. Avian Protection Plan Guidelines. Available on the Internet at:
<http://www.eei.org/ourissues/TheEnvironment/Land/Documents/AvianProtectionPlanGuidelines.pdf>. 12/15/2010.
- EEI. 2006. Edison Electrical Institute. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. EEI Webstore, Item #400601 (print).
- Federal Highway Administration (FHA). 1995. Highway Traffic Noise Analysis and Abatement Policy and Guidance. Available on the Internet at: <http://www.fhwa.dot.gov/environment/polguid.pdf>. 12/16/2010.
- Gruver, J.C. and D.A. Keinath. 2006. Townsend's Big-eared Bat (*Corynorhinus townsendii*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Available on the Internet at: <http://www.fs.fed.us/r2/projects/scp/assessments/townsendsbigearedbat.pdf>. 11/30/2010.
- Gutierrez, R.J. and S. E. Rinkevich. 1991. Final report: distribution and abundance of spotted owl in Zion National Park. National Park System Order No. PX-1200-9-C820.
- Logan Simpson Design (LSD). 2010a. Avian Survey Report, Lake Powell Pipeline Project. January 2010.
- _____. 2010b. Draft Lake Powell Pipeline, Avian Survey Report. September 2010.

National Geographic Society. 2006. Field Guide to the Birds of North America, Fifth Edition. Washington, D.C.

NatureServe. 2010. NatureServe Explorer Species Information. Available on the Internet at: <http://www.natureserve.org/explorer/>. 12/11/2010.

New Mexico Partners in Flight (NMPIF). 2010. Available on the Internet at: <http://nmpartnersinflight.org/grasshoppersparrow.html>. 11/30/2010

Partners in Flight (PIF). 2010. Priority Watch List Needs. Available on the Internet at: <http://www.partnersinflight.org/WatchListNeeds/default.htm>. 11/30/2010.

Peregrine Fund. 2010. California Condor Restoration – Conservation Projects. Available on the Internet at: http://www.peregrinefund.org/conserve_category.asp?category=California%20Condor%20Restoration. 12/13/2010

Player, R.L. and P.J. Urness. 1982. Habitat Manipulation for Reestablishment of Utah Prairie Dogs in Capitol Reef National Park. Great Basin Naturalist 42 (4): 517-523.

Red Cliffs Desert Reserve (Red Cliffs). 2011a. Red Cliffs Desert Reserve Frequently Asked Questions (FAQ). Available on the Internet at: <http://www.redcliffsdesertreserve.com/faq>. 1/4/2011.

_____. 2011b. Take Area Maps. Available on the Internet at: <http://www.redcliffsdesertreserve.com/take-areas>. 1/4/2011.

Ritchie, M.E. and E. Cheng. 2001. Effects of Grazing and Habitat Quality on Utah Prairie Dogs. 1998-1999 Final Report. Utah State University, Logan.

Roe, K.A. and C M. Roe. 2004. A Relocation Technique For Black-Tailed Prairie Dogs. Western North American Naturalist 64(4), pp. 445– 453. Available on the Internet at: <https://ojs.lib.byu.edu/ojs/index.php/wnan/article/viewFile/1389/1244>. 12/1/2010.

San Diego Zoo. 2010. California Condor Fact Sheet. Available on the Internet at: http://library.sandiegozoo.org/factsheets/california_condor/condor.htm. 12/16/2010.

Sibley, D.A. 2001. The Sibley Guide to Bird Life and Behavior. The National Audubon Society. Alfred A. Knopf, Inc., New York, NY.

Smithsonian Museum of Natural History (Smithsonian). 2008. Dwarf Shrew. Available on the Internet at: http://www.mnh.si.edu/mna/image_info.cfm?species_id=325. 11/24/2010.

United States Fish and Wildlife Service (USFWS). 2001. USFWS Pacific Region News Release, California Condor Found Dead After Apparent Collision with Power Line. Available on the Internet at: <http://www.fws.gov/pacific/news/2001/2001-89.htm>. 12/10/2010.

_____. 2005. 90- day finding on a petition to list the pygmy rabbit. 70 FR 29253, May 20, 2005.

_____. 2007. A Review of the Second Five Years of the California Condor Re-introduction Program in the Southwest. Available on the Internet at:

http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/CA_Condor/2nd_5YR-07_Final.pdf. 12/6/2010.

_____. 2009. Mojave Desert Tortoise Guidelines. Available on the Internet at:
http://www.fws.gov/Ventura/speciesinfo/protocols_guidelines/docs/dt/dt_fieldmanual/CHAPTER%207.pdf. 12/13/2010.

_____. 2010a. Southwestern Willow Flycatcher Recovery Plan. Available on the Internet at:
http://www.fws.gov/southwest/es/arizona/SWWF_RP.htm. 11/27/2010.

_____. 2010b. USFWS Critical Habitat GIS Portal. Available on the Internet at:
<http://criticalhabitat.fws.gov/>. 11/27/2010.

_____. 2010c. Yellow-billed Cuckoo. Available on the Internet at:
<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R>. 11/27/2010

_____. 2010d. Desert Tortoise Recovery Office. Available on the Internet at:
http://www.fws.gov/nevada/desert_tortoise/dt_life.html. 11/28/2020

_____. 2010e. Relict Leopard Frog. Available on the Internet at:
<http://www.fws.gov/southwest/es/arizona/Documents/Redbook/Relict%20Leopard%20Frog.pdf>.
11.27.2010

_____. 2010f. Clapper Rail Distribution Map. Available on the Internet at:
http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/YumaClapperRail/YUMA_CLAPPER_RAIL_RECOVERY_PLAN_Map.pdf. 11/28/2010.

_____. 2010g. Yuma Clapper Rail. Available on the Internet at:
http://www.fws.gov/southwest/es/arizona/Yuma_Rail.htm. 11/28/2010.

_____. 2010h Section 7 Facts. Available on the Internet at:
<http://www.fws.gov/midwest/endangered/section7/section7.html>. 12/2/2010.

_____. 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher; Final Rule. 50 CFR Part 17. Federal Register / Vol. 78, No. 2 / Thursday, January 3, 2013 / Rules and Regulations.

_____. 2014a. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*). Federal Register / Vol. 79, No. 192 / Friday, October 3, 2014 / Rules and Regulations.

_____. 2014b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo. Federal Register / Vol. 79, No. 158 / Friday, August 15, 2014 / Proposed Rules.

_____. 2014c. Migratory Bird Conservation Actions for Projects to Reduce the Risk of Take during the Nesting Season. U.S. Fish and Wildlife Service (USFWS) Region 6, Migratory Bird Management. June 2014.

_____. 2016a. Environmental Conservation Online System (ECOS). U.S. Threatened & Endangered Species Active Critical Habitat Report. Accessed March 2016.

- _____. 2016b. California Condor. Available on the Internet at:
<http://www.fws.gov/cno/es/CalCondor/Condor.cfm4/15/2016>.
- _____. 2016c Mexican Spotted Owl Critical Habitat. Available on the Internet at:
http://www.fws.gov/southwest/es/MSO_critical_habitat_archive.html4/15/2016.
- United States Geological Service (USGS). 2010a. Greater Sage-grouse. Available on the Internet at:
<http://sagemap.wr.usgs.gov/monograph.aspx>. 11/27/2010
- _____. 2010b Dwarf Shrew GAP Predicted Species Distribution. Available on the Internet at:
at: <http://gapmap.nbii.gov/generatemap.php?species=Sorex%20nanus>. 11/29/2010.
- Utah Conservation Data Center (UCDC). 2010a. Available on the Internet at:
<http://dwrcdc.nr.utah.gov/ucdc/>. 11/25/2010.
- Utah Conservation Data Center (UCDC). 2010b. Species Profiles and Utah GAP Analysis Maps.
Available on the Internet at: <http://dwrcdc.nr.utah.gov/rsgis2/Search/SearchVerts.asp>. 11/21/2010.
- Utah Department of Transportation (UDOT). 2008. Southern Corridor FEIS. Available on the Internet at:
<http://www.udot.utah.gov/sc/FEIS.htm>. 12/1/2010.
- Utah Division of Water Resources (UDWRe). 2008a. *Municipal and industrial water supply and uses in the Kanab Creek/Virgin River Basin (Data collected for the year 2005)*. February 2008.
- _____. 2015. Virgin River Daily Simulation Model. Virgin River Base Case and LPP return flows.
September 21, 2015.
- _____. 2016a. *Lake Powell Pipeline Project, Final Special Status Wildlife Species and Habitats Study Report*. Prepared by MWH Americas, Inc. for UDWRe. April 2016.
- _____. 2016b. *Lake Powell Pipeline Project, Final Wildlife Resources Study Report*. Prepared by MWH Americas, Inc. for UDWRe. April 2016.
- Utah Division of Wildlife Resources (UDWR). 2010. Kit fox (*Vulpes macrotis*). Available on the Internet at: http://wildlife.utah.gov/publications/pdf/2010_kit_fox.pdf. 11/29/2010.
- UtahHerps. 2008. Utah Milk Snake. Available on the Internet at:
http://utahherps.info/lampropeltis_triangulum.html. 11/24/2010.
- Washington County Commission. 1995. Habitat Conservation Plan Washington County, Utah. Submitted to the U.S. Fish & Wildlife Service, Utah Field Office, 145 East 1300 South, Suite 404, Salt Lake City, Utah. December 1995.
- Wiggins. 2005. Yellow-billed Cuckoo (*Coccyzus americanus*): A Technical Conservation Assessment. Prepared for the USDA Forest Service, Rocky Mountain Region Species Conservation Project. March 25, 2005.