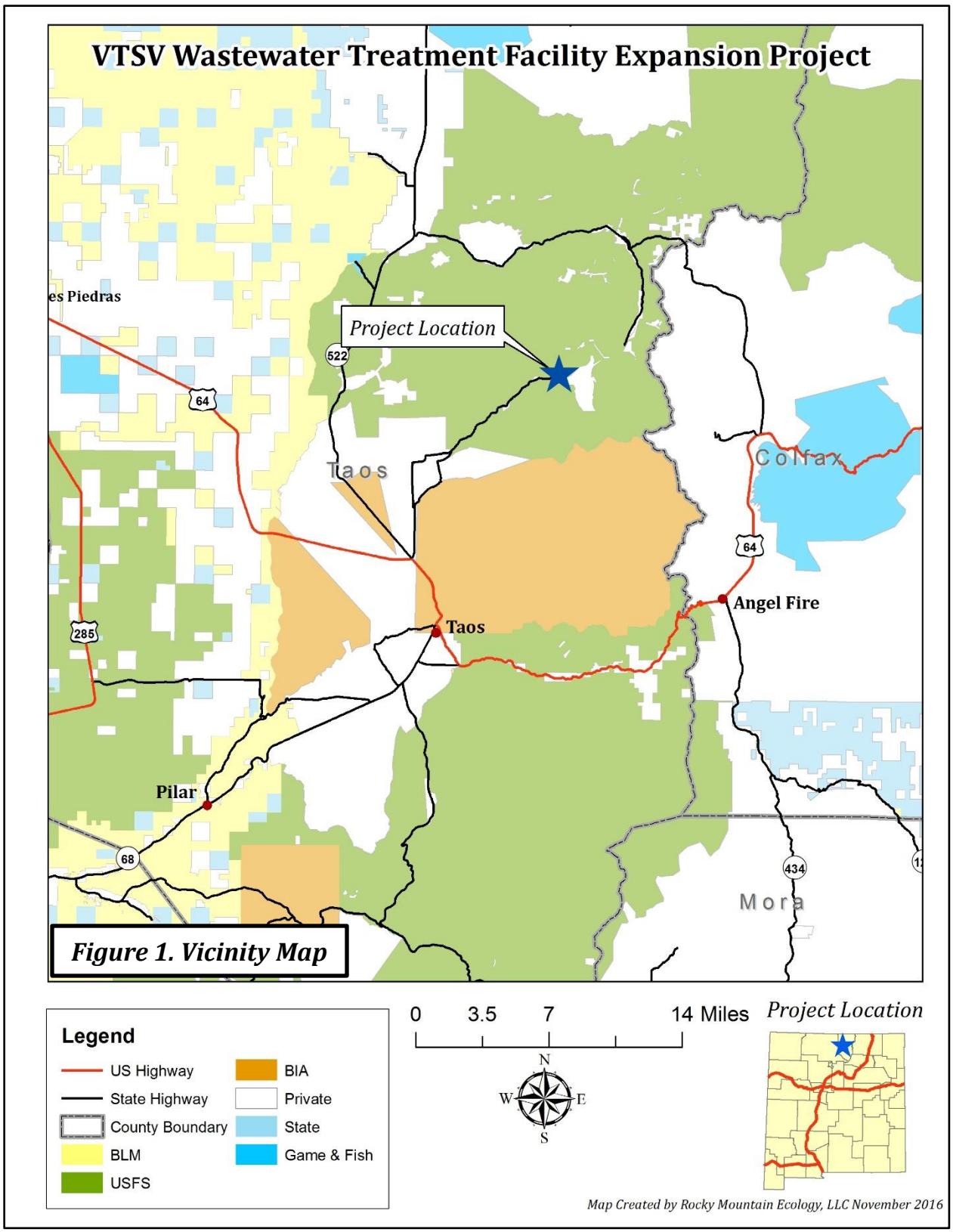

Figure 1. Vicinity Map

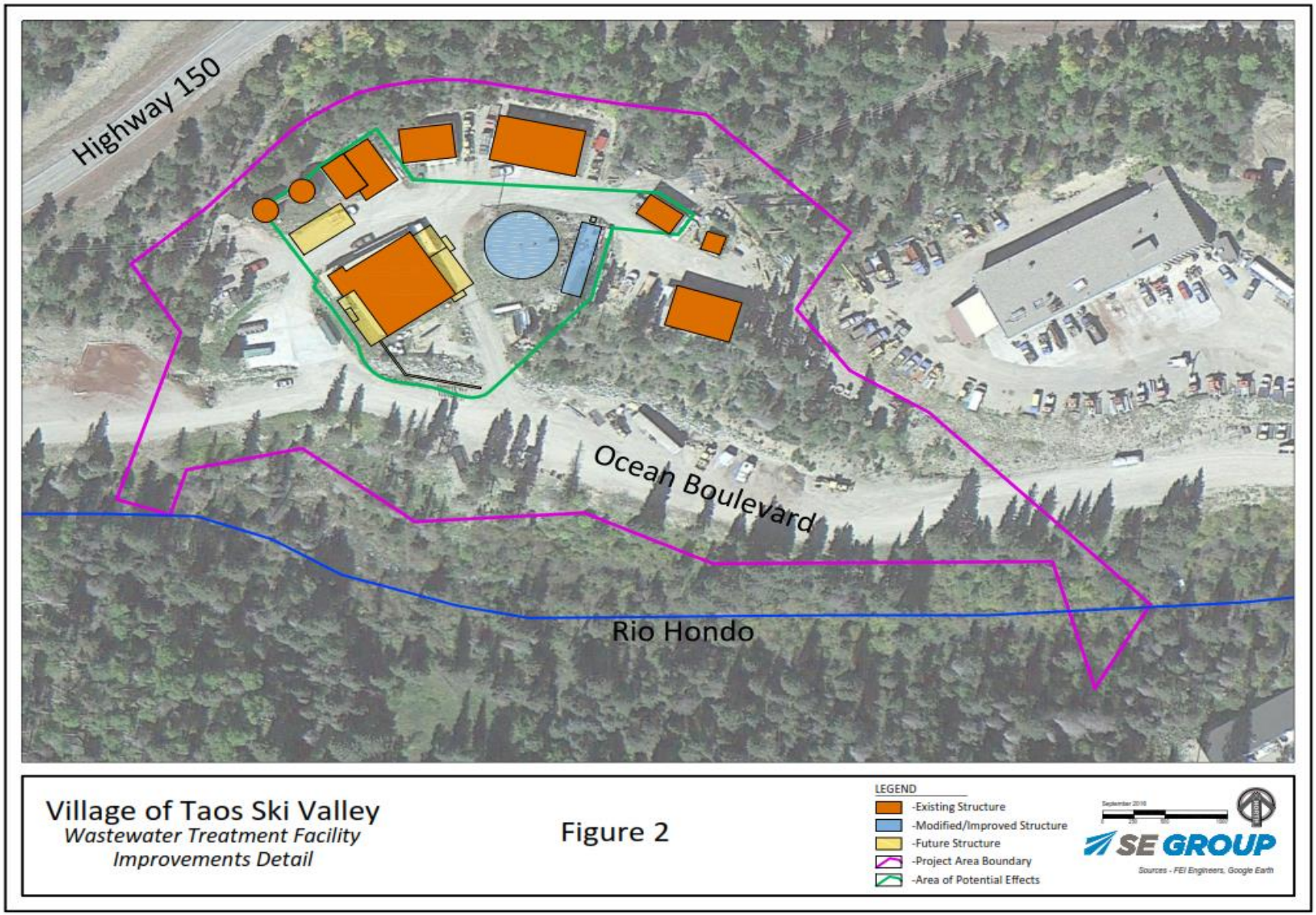

Figure 2. Aerial Map

Biological Assessment - Threatened, endangered, and proposed species being considered

Potential effects of the proposed action on threatened, endangered, and proposed species are analyzed within this section. Federally listed species (Table 1) from the proposed project area were obtained from the U.S. Fish and Wildlife Service Information, Planning, and Conservation System (Appendix A) (IPAC; USFWS 2016). The project areas do not contain proposed or designated critical habitat for any federally listed species. There are three potential options for habitat occurrence for each species: present, not present, or present but not affected.

Table 1. Federally listed species within the proposed action areas for the VTSV Wastewater Treatment Facility Improvement Project as of 17 November 2016.

Species	Legal Status	Habitat Occurrence	Comments
Birds (3)			
Mexican spotted owl (*Strix occidentalis lucida*)	Threatened	Not Present	Habitat is absent in the area of disturbance associated with the project. The site lacks primary Mexican spotted owl habitat constituents, which are: (1) old-growth component, (2) multiple canopy layers, (3) two snags >18 inches dbh/ac in pine-oak forest or five snags >18 inches dbh/ac in mixed conifer forest, and a (4) diversity of seral stages dominated by large trees > 18 inches (USFWS 2012). Very limited mixed-conifer habitat and steep slopes occur near the project area however, the habitat components cited for MSO are absent. In addition, those stands are isolated mixed conifer which are transitional vegetation to a spruce-fir type, and are of small size. This transitional mixed conifer is also adjacent to areas of high levels of human activity. Essentially, MSO habitat components are absent and the project area is not conducive to MSO occupancy. The proposed action will have no effect on this species.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Not Present	This species prefers multi-layered riparian zones, which do not occur within the Rio Hondo near the project area. It is typically found in riparian habitats along rivers, streams, or other wetlands, specifically where dense willow (*Salix* sp.) stands, tamarisk (*Tamarix* sp.), Baccharis

Species	Legal Status	Habitat Occurrence	Comments
			(*Baccharis* sp.), or arrowweeds (*Pluchea* sp.) are present. Generally, the species occurs where an overstory of cottonwood (*Populus* sp.) is present. The primary habitat requirement is for very dense twig structure at 12- to 29-ft in height, plus proximity to water. The Rio Hondo near the project area does not contain these primary habitat requirements. Moreover, the species is primarily found at elevations below 8,500 ft., which is significantly lower than that of the project area. Therefore, the proposed action will have no effect on this species.
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Not Present	This species prefers multi-layered riparian zones (BISON-M 2016). Cuckoos breed in riparian woodlands and similar habitats at 2,800-7,500-ft in elevation above sea level. The project area is above the known elevation range for this species. Therefore, the proposed action will have no effect on this species.
Mammals (2)			
Canada lynx (*Lynx canadensis*)	Threatened	Not Present	Habitat for lynx is absent within the project area. Marginal to poor habitat for the species is present within the surrounding area. Lynx are largely dependent upon snowshoe hare populations as prey. Though snowshoe hare do exist adjacent the VTSV and within the Taos Ski Valley Special Use Permit area, it is the southern extent of their range, and populations are believed to be too sparse to support sustainable populations of lynx (USFS 2012). The project area is devoid of overstory spruce-fir habitat that would support snowshoe hares. The natural vegetation for this area has already been altered due to human occupancy and establishment of a developed facility. Lynx would avoid this area if they were present in the surrounding habitat located outside the VTSV on surrounding National Forest lands. This is due to a lack of habitat security cover, an unreliable prey

Species	Legal Status	Habitat Occurrence	Comments
			base and high human occupancy. Therefore, the proposed action will have no effect on this species.
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	Endangered	Not Present	Habitat requirements for the species are characterized by tall (averaging at least 24 in.), dense herbaceous riparian vegetation composed primarily of sedges and forbs, associated with perennial flowing water (USFWS 2014). The Rio Hondo within the project area harbors perennial flowing water, however dense herbaceous vegetation are absent along the stream banks. Therefore habitat is not present in the project area. Further, the APE associated with the proposed action does not encroach upon the Rio Hondo. Therefore, the proposed action will have no effect on this species.

Potential for Effects

Due to the lack of critical habitat, general habitat, or occurrence, there was a no effect determination for the federally endangered, threatened, and proposed species (Table 1) analyzed within the Biological Assessment. Those species include: Mexican spotted owl, Southwestern willow flycatcher, yellow-billed cuckoo, Canada lynx, and New Mexico meadow jumping mouse.

Biological Evaluation - USDA Forest Service, Region 3: Forest Service Sensitive species being considered

Forest Service sensitive species for the Questa Ranger District on the Carson National Forest (Table 2) were obtained from the Regional Forester's list of sensitive plants and animals, signed September 2013 (USFS 2013). Of the 35 Forest Service sensitive species on the Carson National Forest, 25 have suitable habitat or are known to occur on the Questa Ranger District of the Carson National Forest. There are three potential options for habitat occurrence for each species: present, not present, or present but not affected.

Table 2. Forest Service sensitive species for the Questa Ranger District.

Species	Habitat Occurrence	Comments
Amphibians (1)		
Northern leopard frog (*Lithobates pipiens*)	Present but Not Affected	Marginal habitat is present within the project area (within the Rio Hondo), though high quality breeding habitat is absent. Habitat is not present within the APE. The Northern leopard frog breeds in shallow, quiet areas of permanent bodies of

Species	Habitat Occurrence	Comments
		water, in beaver ponds, and in seasonally flooded areas adjacent to or contiguous with permanent pools or streams (BISON-M 2016). This species requires ponded open water to complete its life cycle and breed. The outflow pipe from the wastewater treatment plant does drain into a small pool area, though this area has minimal aquatic vegetation. This area has low potential to support leopard frogs. No other locales within the project area contain suitable leopard frog habitat. Should any frogs be present in the Rio Hondo at the outfall, they may be impacted due to the increased volume of wastewater being released. However, this impact is discountable given the habitat is marginal, and the area impacted represents a small fraction of available habitat on the Forest. The APE contains no ponded water, and ground disturbing construction activity associated with the proposed action would not encroach upon any aquatic habitats. Therefore, the proposed action would have no effect on the species.
Birds (6)		
Bald eagle (*Haliaeetus leucocephalus*)	Not Present	Preferred habitat of large roosting trees near water and open bodies of water do not occur within the project area (BISON-M 2016). Therefore, the proposed action will have no effect on this species.
Northern goshawk (*Accipter gentilis*)	Not Present	Suitable habitat does not occur within the project area. The mixed conifer habitat in the surrounding areas could support foraging Northern goshawks (BISON-M 2016). However, the multi-storied, forested stand component that typifies Northern goshawk foraging habitat, is absent from the project area. In 2010, surveys for goshawk were conducted for the previously proposed projects in close proximity to the project area (e.g., Wild West Glades, Minnesota Glades, Adventure Center, and Mountain Bike Trails); all of which were negative (USFS 2012). Further, should accidental goshawk presence occur in the area, they would likely avoid the project area due to its developed nature and high levels of human occupancy. The proposed action would have no effect on the goshawk.
American peregrine falcon (*Falco peregrinus anatum*)	Present but Not Affected	Preferred breeding habitat of cliffs and rocky faces are not located within project area (BISON-M 2016). Marginal foraging habitat is present within the project area. However, falcons likely avoid the project area due to its developed nature and high levels of human occupancy. Should falcons occur in the project area during construction, they may be temporarily displaced due to noise from project activities. However, this impact is discountable

Species	Habitat Occurrence	Comments
		given that the project area is already subject to high levels of noise and human activity associated with WWTF operations. No increased disturbance to falcons is anticipated with implementation of the proposed action. The proposed action would have no effect on the peregrine falcon.
White-tailed ptarmigan (*Lagopus leucurus*)	Not Present	Habitat is not present within the project area. This species utilizes alpine tundra and timberline habitats, which in New Mexico are mainly above 10,500 ft (BISON-M 2016). This habitat does not occur within the project area. The proposed action would have no effect on the ptarmigan.
Burrowing owl – Western (*Athene cumicularia hypugaea*)	Not Present	Project area does not have associated burrowing mammals as required by the species. In addition, the elevation at the project site is higher than is preferred by the species (2,800-7,500 feet) (BISON-M 2016). Therefore, the proposed action will have no effect on this species.
Boreal owl (*Aegolius funereus*)	Not Present	Project areas lack mature spruce-fir habitat as preferred by the species (BISON-M 2016). Boreal owls are primarily a bird of high elevation, mature and old-growth spruce-fir forests (BISON-M 2016). They are known to occupy cool micro-sites with high canopy cover, high basal coverage, and high tree density. In 2010, surveys for boreal owls were conducted at TSV and none were located (USFS 2012). D. Stahlecker surveyed the TSV for boreal owls in 2012, and none were detected (Stahlecker, Dale – Personal Communication, 2014). The project area lacks old-growth trees, and is subject to existing development and high levels of human occupancy; therefore the proposed action will have no effect on this species.
Mammals (7)		
Cinereus (masked) shrew (*Sorex cinereus cinereus*)	Present but Not Affected	Marginal habitat is present within the project area near the Rio Hondo. No habitat is present within the APE. This species is highly associated with wet meadow/marsh habitats above 9,500 ft in elevation (BISON-M 2016). They seem to be restricted to hydrosere communities with lush vegetation. The project area occurs between 9,240 and 9,320 ft – slightly below the known elevation range for the species. However, limited streambank wetland habitat does exist adjacent to the Rio Hondo. The project area does not harbor robust wet meadow/marsh habitat. The APE contains no wetland or marsh habitat, and ground disturbing construction activity associated with the proposed action would not encroach upon any wetland

Species	Habitat Occurrence	Comments
		habitats. Therefore, the proposed action would have no effect on the species.
Water shrew (*Sorex palustris navigator*)	Present but Not Affected	Marginal habitat is present within the project area near the Rio Hondo. No habitat is present within the APE. This species typically occurs above 8,000 ft in elevation in the vicinity of montane permanent streams with dense streambank vegetation (BISON-M 2016). The project area does contain marginally dense streambank vegetation adjacent to the Rio Hondo. However it does not harbor robust wet meadow/marsh habitat. Rather, very small bands of wetland vegetation are present only in the southwest and southeast corners of the project area. The APE contains no streambank habitat, and ground disturbing construction activity associated with the proposed action would not encroach upon the Rio Hondo. Therefore, the proposed action would have no effect on the species.
Spotted bat (*Euderma maculatum*)	Present but Not Affected	Foraging habitat is present within the project area. The spotted bat prefers undisturbed roosts in cliffs (Chambers, Carol – Personal Communication, 2014). It has been hypothesized that spotted bats utilize higher elevations such as ponderosa pine and mixed-conifer forests in the warmer seasons and lower elevations during the colder months. The preferred summer habitat in New Mexico is meadows in sub-alpine coniferous forest. Roosting habitat is found in the cracks and crevices of cliffs which are near, but absent in the project area. Foraging bats would not be impacted by construction, as no work would take place at night. No impacts to habitat would occur as all work will take place within a developed setting. Therefore, the proposed action would have no effect on the species.
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	Not Present	Roosting habitat of caves or mines are not present within the project area. These bats may forage in forested habitats near the project area (BISON-M 2016), however, no forested habitats would be impacted within the APE. No impacts to foraging bats are anticipated, as no project construction would occur at night. Therefore, the proposed action would have no effect on the species.
American pika (*Ochotona princeps saxatilis*)	Not Present	Habitat does not exist within the project area. Pikas are restricted to talus slopes and boulder fields in alpine and sub-alpine habitat (BISON-M 2016), and occur at higher elevations than the project area. Talus slopes or boulder fields are not present within the project area. The proposed action would have no effect on the species.

Species	Habitat Occurrence	Comments
Gunnison's prairie dog (*Cynomys gunnisoni*)	Not Present	Project area does not contain preferred habitat of open grassland or mixed shrub (BISON-M 2016). Therefore, the proposed action will have no effect on this species.
American marten (*Martes americana origenes*)	Not Present	Habitat for the American marten is absent. Optimal habitat for the American marten appears to be dense, mature old-growth spruce-fir communities with more than 30 percent canopy cover, with a well-established understory of fallen logs and stumps, and lush shrub and forb vegetation supporting microtine and sciurid prey (BISON-M 2016). Habitat as described is not present within the project area. Additionally, the proximity to open areas (i.e. parking lots, roadways etc.) and associated human activity has likely already displaced martens from the project area. Therefore, the proposed action will have no effect on this species.
Fish (3)		
Rio Grande sucker (*Castostomus plebeius*)	Present	Analysis required.
Rio Grande chub (*Gila pandora*)	Present	Analysis required.
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)	Present	Analysis required.
Insects (1)		
Nokomis fritillary (*Speyeria nokomis nokimis*)	Present but Not Affected	Marginal habitat is present within the project area along the margins of the Rio Hondo. No habitat is present within the APE. The species is a narrow endemic. Essential habitat components include wetlands associated with flowing water (i.e. springs, seeps and wet meadows), where an abundance of their larval food plant (*Viola nephrophylla*), and availability of adult nectar sources (mostly composites) occur (Selby 2007). Some wetland habitat is present adjacent to the stream within the project area. The APE contains no streambank habitat, and ground disturbing construction activity associated with the proposed action would not encroach upon the Rio Hondo. Therefore, the proposed action would have no effect on the species.
Clams (1)		
Sangre de Cristo pea clam (*Pisidium sanguinichristi*)	Not Present	Habitat within or near the project area is absent. The Sangre de Cristo pea clam is endemic to northern New Mexico (BISON-M 2016). The species is found only in Middle Fork Lake, Sangre de Cristo

Species	Habitat Occurrence	Comments
		Mts. (Taos County), which is the key habitat area for the species. It occurs within the mud among emergent grasses, as well as in mud at the lake outlet. Therefore, the proposed action will have no effect on this species.
Plants (6)		
Ripley's milkvetch (*Astragalus ripleyii*)	Not Present	Project area does not contain sagebrush, piñon-juniper woodlands or gambel oak thickets in ponderosa forest. Therefore, the proposed action will have no effect on this species.
Yellow lady's slipper (*Cypripedium parviflorum var. pubescens*)	Present but Not Affected	Marginal habitat does exist for this species within the project area near the Rio Hondo in moist soils. No habitat is present within the APE, This species is located from sea level to 9,700 ft in elevation. In New Mexico, it has been found on east to northeast aspects. It is thought to occur in sandy loam soils that are perennially moist in spruce/fir vegetation type (NMRPTC 1999). Spruce-fir transitional habitat occurs within the project area and moist sites are located along the banks of the Rio Hondo. The APE contains no moist soil habitat, and construction activity associated with the proposed action would not impact any potential habitat for the species. Therefore, the proposed action would have no effect on the species.
Alpine larkspur (*Delphinium alpestre*)	Not Present	Habitat does not exist within the project area. This species inhabits alpine tundra and open meadows in subalpine coniferous forest; 11,500-13,000 ft (Warnock 1997). The project area occurs between 9,240 and 9,320 ft - far lower than the species elevation threshold. Therefore, the proposed action will have no effect on the species.
Robust larkspur (*Delphinium robustrum*)	Present but Not Affected	Habitat does exist for this species within the project area near the Rio Hondo. No habitat exists within the APE. This species inhabits canyon bottoms and aspen groves in lower and upper montane coniferous forest; 7,200-11,200 ft (Warnock 1997). The Rio Hondo riparian corridor within the project area does harbor habitat, however ground disturbing construction activity associated with the proposed action would not encroach upon this area. The APE is entirely disturbed and developed, removing it from potential habitat. Therefore, the proposed action will have no effect on the species.
Pecos (hairless) fleabane (*Erigeron subglaber*)	Not Present	Habitat does not exist for this species within the project area. It occurs on rocky, (generally greater than 50 percent exposed rock) open meadows in subalpine coniferous forest; 10,000-11,500 ft in elevation (NMRPTC 1999). The project area occurs between 9,240 and 9,320 ft - far lower than the

Species	Habitat Occurrence	Comments
		species elevation threshold. Therefore, the proposed action will have no effect on the species.
Arizona willow (*Salix arizonica*)	Not Present	Habitat does not exist for this species within the project area. This species occurs in sedge meadows and wet drainage ways in subalpine coniferous forest, and typically occurs between 9,560 and 11,680 feet in elevation. Species occurrence is also correlated to well developed, deep riparian wetland soils (NMRPTC 1999). The project area does contain wetland soils, but only in a few very narrow bands along the Rio Hondo margins. Further, the project occurs at an elevation lower than the species threshold. No potential habitat occurs within the APE. Therefore, the proposed action will have no effect on this species.

Potential for Effects

The following Forest Service Sensitive species located within the Questa Ranger District require further analysis:

- Rio Grande sucker (*Castostomus plebeius*)
- Rio Grande chub (*Gila pandora*)
- Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)

Rio Grande sucker (*Catostomus plebeius*), Rio Grande chub (*Gila pandora*), and Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)

Due to the similar habitat requirements and life history for the three fish species, all three were analyzed together.

Species Description

The Rio Grande sucker prefers low gradient, low velocity stream reaches (Calamusso et al. 2002). Habitat includes rocky pools, runs, riffles, backwaters, and beaver ponds (Calamusso and Rinne 1996; BISON-M 2016). Spawning is variable and is based on water temperature, steam size, and the pattern of seasonal runoff (Rinne 1995a) and usually occurs in the spring although a second spawning in fall has been suggested, although not documented (Rinne 1995a; Calamusso and Rinne 1996). The Rio Grande sucker typically spawns on the waning side of peak spring flows and terminates when normal spring runoff subsides (Rinne 1995a). This species is an omnivore and will consume algae, diatoms, detritus, and benthic invertebrates (BISON M 2016). Threats to this species include hybridization with the white sucker (*Catostomus commersoni*) and habitat modifications due to stream dewatering and raised sediment levels from a variety of management practices (BISON M 2016). The species is known to historically occur in the Rio Hondo, however without in-stream surveys, presence nor absence can be definitively inferred.

The Rio Grande chub inhabits both riverine and lacustrine habitats (Calamusso and Rinne 1999; Rees et al. 2005) and prefers cobble, gravel, sand and silt as common substrate types (Rees et al. 2005). This species is usually found in pools with overhanging banks or vegetation (Rinne 1995b;

Calamusso and Rinne 1996). The Rio Grande chub spawns in spring and early summer (Calamusso and Rinne 1996; Rees et al. 2005). This species is omnivorous and feeds on aquatic and terrestrial invertebrates, crustaceans, fish, vegetation, algae, and diatoms, although specific taxa on ingested food are not known (Rees et al. 2005; BISON-M 2016). Threats to the Rio Grande chub include competition for food and predation by with non-native species and habitat degradation, such as habitat loss, modification, or fragmentation due to impoundments, overgrazing, or other land-use practices (Rees et al. 2005). They are generally limited to elevations below 9,000 ft. The project area occurs between 9,240 and 9,320 ft, above the known range of the species, so occupancy by this species within the Rio Hondo at the project site is unlikely. However, absence can't be entirely ruled out without in-stream surveys.

The Rio Grande cutthroat trout is found in montane streams in habitats similar to other trout species (Pritchard and Cowley 2006). The Rio Grande cutthroat trout relies on a variety of habitats depending on stage within the life cycle. Well-oxygenated, gravelly areas are needed for egg development, slow-moving, shallow areas are needed for fry, and adult fish prefer higher velocity waters and pools in the main stream area (Pritchard and Cowley 2006 and references therein). This species spawns from March to July, depending on stream flow and water temperature (Sublette et al. 1990; Rinne 1995c). Rio Grande cutthroat trout primarily consume invertebrates (Pritchard and Cowley 2006). The primary threats to this species include hybridization and food competition with non-native trout and habitat loss and disturbance, population fragmentation, and whirling disease (Pritchard and Cowley 2006). This species is known to occur in the Rio Hondo.

Analysis of Effects

In general, the aquatic habitat within the project area is considered suitable for the Rio Grande sucker, the Rio Grande chub, and the Rio Grande cutthroat trout. There is likely a suitable prey base within the Rio Hondo at the project area for all three species, as overhanging vegetation and a rocky substrate is present at the project site. However, the project area is less than one percent of the habitat for all three species across the Carson National Forest.

Direct and indirect effects to the three fish species may include fish relocation and displacement, in addition to decreases or increases to prey base (i.e. aquatic invertebrates) depending on the preference/life history of specific prey species. The proposed action may impact fish over a larger area of river than current levels due to increased water temperature downstream of the WWTF outfall into the Rio Hondo. Currently, up to 0.167 MGD of treated wastewater enters the Rio Hondo. Under the proposed action, up to 0.31 MGD of treated wastewater would enter the river, an 86 percent increase. Though no sampling has taken place to measure what temperature effects the currently permitted outfall rate has on the Rio Hondo, it can be inferred that nearly doubling the outfall rate would raise the temperature of the river over a larger reach of river downstream of the outfall. This may remove a larger area of river from potential spawning and foraging habitat for the three fish species. Conversely, increased temperature over a larger reach of river may support prey base species that would not otherwise occur in the river due to temperature limitations, a positive indirect effect. No increased level of pollutants would occur as a result of the increased outfall rate, therefore no increased effects to other parameters of water quality would occur. Though potential impacts to fish habitat may occur via increased water temperature over a larger reach of river, the area impacted is less than one percent of the available habitat on the Forest. Further, suitable, unaltered habitat is widely available both up and downstream of the impacted reach of river.

Determination

Due to limited negative effects to overall habitat or individuals, and potential beneficial impacts to fishes, the proposed action may impact individuals but is not likely to cause a trend to federal listing or a loss of viability for the Rio Grande sucker, the Rio Grande chub, or the Rio Grande cutthroat trout.

State of New Mexico Threatened and Endangered Species

Habitat suitability for all state listed species protected under the New Mexico Wildlife Conservation Act (e.g., threatened and endangered) and state-listed New Mexico rare plants or their habitats are evaluated in Table 3, below. Habitat descriptions were derived from the BISON-M (2016) and NM Rare Plants (NMRPTC 1999) websites. There are three potential options for habitat occurrence for each species: present, not present, or present but not affected.

Table 3: State of New Mexico threatened and endangered species with potential to occur or to have habitat in the project area.

Species	State of NM Legal Status	Habitat Occurrence	Comments
Birds (5)			
White-tailed ptarmigan (*Lagopus leucurus*)	Endangered	Not Present	No impact. Analyzed in Table 2, above.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Not Present	No impact. Analyzed in Table 1, above.
Common black hawk (*Buteogallus anthracinus*)	Threatened	Not Present	This species prefers well developed, tall (75 -100 ft) riparian woodlands of cottonwoods and/or sycamore. In New Mexico, it is most common in the Glia, Mimbres and San Francisco River drainages. It is an occasional visitor of the middle Rio Grande valley and very rarely observed north of Albuquerque, NM (BISON-M 2016). The project area lacks tall riparian woodlands, and is likely too far north to be considered geographically relevant for the species. Therefore, presence is unlikely, and the proposed action will have no impact on the common black hawk.
Bald eagle (*Haliaeetus leucocephalus*)	Threatened	Not Present	No impact. Analyzed in Table 2, above.

Species	State of NM Legal Status	Habitat Occurrence	Comments
American peregrine falcon (*Falco peregrinus anatum*)	Threatened	Not Present	No impact. Analyzed in Table 2, above.
Mammals (2)			
Pacific marten (*Martes caurina*)	Threatened	Not Present	Habitat for the Pacific marten is absent. Optimal habitat for the this subspecies of marten appears to be dense, mature old-growth spruce-fir communities with more than 30 percent canopy cover, with a well-established understory of fallen logs and stumps, and lush shrub and forb vegetation supporting microtine and sciurid prey (BISON-M 2016). Habitat as described is not present within the project area. Additionally, the proximity to open areas (i.e. parking lots, roadways etc.) and associated human activity has likely already displaced martens from the project area. Therefore, the proposed action will have no impact on this species.
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	Endangered	Not Present	No impact. Analyzed in Table 1, above.
Insects (1)			
Sangre de Cristo pea clam (*Pisidium sanguinichristi*)	Threatened	Not Present	No impact. Analyzed in Table 2, above.

Management Indicator Species

The Carson National Forest Plan (USFS 1986) identified 11 wildlife species as indicators for ecosystem conditions. These species act as surrogates for numerous other species that share similar life-histories and habitat requirements. These species were selected as indicators because of their sensitivity to habitat alterations and other stressors. Each species is associated with one or more management areas (MA) that indicates its preferred habitat type.

The project area falls within the mixed conifer and riparian MA's for management indicator species (MIS) key habitat components. Refer to Table 4 for a list of MIS species within the project area.

Table 4: Wildlife species that serve as management indicator species on the Carson National Forest and analysis of habitat occurrence within the project area.

Management indicator species	Key habitat component	Forest Plan management area(s)	Comments
Brewer's sparrow (*Spizella breweri*)	sagebrush	MA 12 – sagebrush	Sagebrush habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Plain (juniper) titmouse (*Baeolophus ridgwai*)	piñon-juniper canopies	MA 8 – piñon-juniper	Piñon-juniper habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
White-tailed ptarmigan (*Lagopus leucurcus*)	alpine tundra and subalpine deciduous shrub	MA 9 - high elevation grassland	Analyzed in Table 2, above. Alpine tundra habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*)	alpine, subalpine tundra and mountain meadow grassland	MA 9 – high elevation grassland	High elevation grassland habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Abert's squirrel (*Sciurus aberti*)	interlocking canopies in ponderosa pine	MA 4 – ponderosa pine <40% MA 5 – mixed conifer and ponderosa pine >40% MA 7 – unsuitable timber	Ponderosa pine habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Hairy woodpecker (*Picoides villosus*)	snags	MA 1 – spruce-fir <40% MA 3 – mixed conifer <40% MA 5 – mixed conifer and ponderosa pine >40% MA 6 – aspen MA 7 – unsuitable timber MA 14 - riparian	Forested habitat with snags occurs adjacent to, but not within the project area. No trees would be cut as part of the activity associated with the proposed action, and all work would be contained to the existing WWTF developed area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Red squirrel (*Tamiasciurus hudsonicus*)	mixed conifer	MA 3 – mixed conifer <40% MA 5 – mixed conifer and ponderosa pine >40% MA 6 – aspen MA 7 – unsuitable timber	Mixed conifer habitat occurs within project area, but not within the APE. No trees would be cut as part of the activity associated with the proposed action, and all work would be contained to the existing WWTF developed area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.

Management indicator species	Key habitat component	Forest Plan management area(s)	Comments
Wild turkey (*Meleagris gallopavo*)	old growth pine	MA 3 – mixed conifer <40% MA 4 - ponderosa pine <40% MA 5 – mixed conifer and ponderosa pine >40% MA 7 – unsuitable timber	Old growth pine habitat does not occur in project area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
Rocky Mountain elk (*Cervis elaphus nelsoni*)	general forest	MA 1 – spruce-fir <40% MA 3 – mixed conifer <40% MA 4 – ponderosa pine <40% MA 5 – mixed conifer and ponderosa pine >40 MA 6 – aspen MA 8 – piñon-juniper MA 9 – high elevation grassland MA 14 - riparian	General forest habitat occurs within project area, but not within the APE. No trees would be cut as part of the activity associated with the proposed action, and all work would be contained to the existing WWTF developed area. Therefore, the proposed action will not affect forest-wide habitat and population trends for this species.
resident trout	perennial stream, riparian vegetation		Habitat present. Analysis required.
aquatic macroinvertebrates	perennial stream, riparian vegetation		Habitat present. Analysis required.

Potential for Effects

The following management indicator species require further analysis:

- Resident trout
- Aquatic macroinvertebrates

Resident trout

Species Description

Resident trout species for the Rio Hondo include rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), and Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*). Rio Grande cutthroat trout were previously analyzed in the *Biological Evaluation - USDA Forest Service, Region 3: Forest Service Sensitive species being considered* section of this document. Thus this analysis only considers effects to the other resident trout species.

All resident trout on the Carson National Forest are cool-water species and prefer perennial water with temperatures between 5°C and 18°C (USFS 2011). In general, resident trout prefer rocky substrates, adequate pools, and undercut banks or overhanging vegetation as habitat (USFS 2011) although specific habitat requirements vary by species. Both brook and brown trout spawn in fall with decreasing water temperature (Sublette et al. 1990; BISON-M 2016) whereas rainbow trout

and the Rio Grande cutthroat trout spawn in spring with increasing water temperature and streamflow (Sublette et al. 1990; Rinne 1995c; BISON M 2016). Trout are opportunistic feeders and are predominately insectivorous, although depredation on fish and crustaceans has been documented (Allan 1981; Angradi and Griffith 1990; Kelly-Quinn and Bracken 1990; Rinne 1995c). Of the four trout species considered as indicators, only the Rio Grande cutthroat trout is native. Threats to these species include disease (e.g. whirling disease), habitat loss and degradation, sedimentation, and changes in hydrology or water diversions (Calamusso and Rinne 1999; USFS 2011). In general, the population trend for resident trout species on the forest is stable (USFS 2011).

Analysis of Effects

Rainbow, brown, and brook trout all have suitable habitat within the Rio Hondo adjacent to the project area. There is likely a suitable prey base present adjacent to the project site. However, the project site is less than one percent of the habitat for all three species across the Forest.

Direct and indirect effects to the three fish species may include fish relocation and displacement, in addition to decreases or increases to prey base (i.e. aquatic invertebrates) depending on the preference/life history of specific prey species. The proposed action may impact fish over a larger area of river than current levels due to increased water temperature downstream of the WWTF outfall into the Rio Hondo. Currently, up to 0.167 MGD of treated wastewater enters the Rio Hondo. Under the proposed action, up to 0.31 MGD of treated wastewater would enter the river, an 86 percent increase. Though no sampling has taken place to measure what temperature effects the currently permitted outfall rate has on the Rio Hondo, it can be inferred that nearly doubling the outfall rate would raise the temperature of the river over a larger reach of river downstream of the outfall. This may remove a larger area of river from potential spawning and foraging habitat for the three fish species. Conversely, increased temperature over a larger reach of river may support prey base species that would not otherwise occur in the river due to temperature limitations, a positive indirect effect. No increased level of pollutants would occur as a result of the increased outfall rate, therefore no increased effects to water quality would occur. Though potential impacts to fish habitat may occur via increased water temperature over a larger reach of river, the area impacted is less than one percent of the available habitat on the Forest. Further, suitable, unaltered habitat is widely available both up and downstream of the impacted reach of river.

Determination

Due to limited negative effects to overall habitat or individuals, and potential beneficial impacts, the proposed action may impact individuals, but will not affect forest-wide habitat and population trends for the resident trout species of rainbow trout, brown trout, and brook trout.

Aquatic macroinvertebrates

Species Description

Aquatic macroinvertebrates are used as a management indicator species because they are a surrogate to overall aquatic conditions, including water quality, the quality of fisheries, and the associated riparian habitat (USFS 2011). Aquatic macroinvertebrates in the Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa are often used as indicator taxa because of their sensitivity to sedimentation and habitat degradation (Lenat and Barbour 1994; USFS 2011). Specifically, EPT taxa require cool temperatures (Haidekker and Hering 2008), low sedimentation (Lemley 1982), and high levels of dissolved oxygen (Jacobson et al. 2003). Thus threats to sensitive aquatic macroinvertebrates include climate change and land management practices that degrade water

quality by increasing sedimentation and water temperature (USFS 2011). Although baseline data collection is ongoing, the available data suggests that substrate composition, an indicator of habitat quality for macroinvertebrates, is stable on the Carson National Forest (USFS 2011). Population trends of aquatic macroinvertebrates also appear to be stable on the forest (USFS 2011). The project area consists of less than one percent of the available habitat for aquatic macroinvertebrates across the Forest.

Analysis of Effects

Direct and indirect effects to aquatic macroinvertebrates may include relocation and displacement as increased treated wastewater is released into the Rio Hondo. The proposed action may impact aquatic macroinvertebrates over a larger area of river than current levels due to increased water temperature downstream of the WWTF outfall into the Rio Hondo. Currently, up to 0.167 MGD of treated wastewater enters the Rio Hondo. Under the proposed action, up to 0.31 MGD of treated wastewater would enter the river, an 86 percent increase. Though no sampling has taken place to measure what temperature effects the currently permitted outfall rate has on the Rio Hondo, it can be inferred that nearly doubling the outfall rate would raise the temperature of the river over a larger reach of river downstream of the outfall. This may remove a larger area of river from potential habitat for aquatic macroinvertebrates. No increased level of pollutants would occur as a result of the increased outfall rate, therefore no increased effects to water quality would occur. Though potential impacts to aquatic macroinvertebrate habitat may occur via increased water temperature over a larger reach of river, the area impacted is less than one percent of the available habitat on the Forest. Further, suitable, unaltered habitat is widely available both up and downstream of the impacted reach of river, of which aquatic macroinvertebrates would be expected to utilize. As this is such a small area, the overall negative impacts to of aquatic macroinvertebrates due to the increased WWTF outfall volume is very minor.

Determination

Due to the limited negative effects on habitat or individuals, the proposed action may impact individuals, but will not affect forest-wide habitat and population trends for aquatic macroinvertebrates.

Migratory Birds

Physiographic data regarding high-priority migratory bird species have been compiled by Partners in Flight (PIF) for New Mexico (PIF 2013). Additionally, the U.S. Fish and Wildlife Service (USFWS) have determined “Birds of Conservation Concern” and outlines species of concern based on the Southern Rockies and Colorado Plateau habitat feature (USFWS 2008). These lists and the habitat type at the project site contribute to the species analyzed for this project. The APE occurs within the portions of both spruce-fir and mixed conifer habitat types, while areas near the Rio Hondo occur within the montane riparian habitat type. High-priority migratory bird species associated with those habitat types are analyzed in Table 5.

Table 5: Priority migratory bird species in the project area and analysis of effects of the proposed action.

Species of concern	Determination made by:	Considerations	Comments
Northern goshawk (*Accipiter gentilis*)	PIF	Analyzed within this document.	The proposed action will have no effect on the species. Refer to the *Biological Evaluation* section of this document.
Mexican spotted owl (*Strix occidentalis lucida*)	PIF	Analyzed within this document.	The proposed action will have no effect on the species. Refer to the *Biological Assessment* section of this document.
Williamson's sapsucker *(Sphyrapicus thyroideus)*	PIF	• Specializes in sap and phloem; breeders switch to a diet of ants during the nesting season, especially carpenter and wood ants. Wounded or scarred live conifers most frequently used for feeding • Mid- to high-elevation coniferous forests and mixed deciduous/conifer forests. Aspen is an important nesting substrate • Availability of suitable nesting sites critical component, preferring snags or cavities in live aspen. Nests in conifers infected with the fungus *Fomes igniarius*, or aspens with heart rot. Drainage bottoms preferred over ridge tops. In NM, nests have been found in ponderosa pine and spruce. Nests were from 9-48ft (3-16m) above the ground.	This species could potentially utilize the project area for foraging and breeding. Some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat. Disturbance will be limited to the existing WWTF; no trees would be cut and individual sapsuckers likely already avoid the project area due to its developed nature. Disturbance associated with the proposed action would not constitute a measurable impact to the sapsucker. This project will not result in unintentional take of the species.
Olive-sided flycatcher *(Contopus cooperi)*	PIF	• Subalpine forest with Engelmann spruce, ponderosa pine, Douglas-fir and aspen. • Need forest edges for foraging, and increases in density with a decrease in canopy cover. Needs snags or tree tops near open areas or above canopy as diet consists mainly of larger flying insects, primarily bees.	This species could occur within the project area. The limited Engelmann spruce and Douglas-fir areas could support the species. Moreover, the project area does harbor significant amounts of edge habitat, a desirable feature for this species. Some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat.

Species of concern	Determination made by:	Considerations	Comments
		• Nests in coniferous trees generally far out from the trunk.	Disturbance will be limited to the existing WWTF; no trees would be cut and individual flycatchers likely already avoid the project area due to its developed nature. Disturbance associated with the proposed action would not constitute a measurable impact to the flycatcher. This project will not result in unintentional take of the species.
Dusky flycatcher (*Empidonax oberholseri*)	PIF	• Uses mixed-conifer forest with a shrubby understory. Also occupies scrub and brushy areas and open areas with scattered trees. Shrub component appears to be critical in NM. Openings near shrubs needed for forage. • Uses early succession habitat following a disturbance, such as fire • Tends to choose shrubs with denser foliage for nesting.	The forested areas of the project area contain only a limited shrub component, and in some areas, no shrub component. Therefore only limited potential for suitable foraging habitat exists. If present, some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat. Disturbance will be limited to the existing WWTF; no trees would be cut and individual flycatchers likely already avoid the project area due to its developed nature. Disturbance associated with the proposed action would not constitute a measurable impact to the flycatcher. This project will not result in unintentional take of the species.
Blue grouse (*Dendragapus obscurus*)	PIF	• Nests in most montane forest communities with sparse canopy cover. • Most often nests on ground under shrubs, rock overhangs or logs. Sometimes nests at base of large tree with limited cover in mature forests. • Density of birds decreases as canopy cover increases. • Positive correlation of density of birds and age of dominant trees up to about 10 years post-logging.	Blue grouse habitat exists within the project area, however species occupancy of the area is unlikely due to its developed nature. If present, some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat. Disturbance will be limited to the existing WWTF; no trees would be cut and individual grouse likely already avoid the project area due to its developed nature. Disturbance associated with the proposed action would not constitute a

Species of concern	Determination made by:	Considerations	Comments
			measurable impact to the blue grouse. This project will not result in unintentional take of the species.
Boreal owl (*Aegolius funereus*)	PIF	Analyzed within this document.	The proposed action will have no effect on the species. Refer to the *Biological Evaluation* section of this document.
Black swift (*Cypseloides niger*)	PIF	• Occurs at elevations where stream conditions provide sufficient permanent water for emergent plants, or for a narrow band of deciduous trees or shrubs. • At high elevations, usually found near willow (*Salix* spp.) communities. • Forages aerially over all aquatic type systems • Nests in crevices or caves in cliffs near or over permanent water.	It is possible that black swift may utilize the Rio Hondo corridor portion of the project area for foraging. No nesting habitat occurs within the project area. If present, some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat. Disturbance will be limited to the existing WWTF; no construction activity would encroach upon the Rio Hondo river corridor. Disturbance associated with the proposed action would not constitute a measurable impact to the blue black swift. This project will not result in unintentional take of the species.
Red-naped sapsucker (*Sphyrapicus nuchalis*)	PIF	• Common, and breeds in ponderosa/oak, mixed conifer, spruce-fir, and open water/riparian habitats near ponderosa pine forest with oak understory • Nest in live or dead (i.e. snags) trees with cavities.	Marginal habitat exists within the project area in the mixed-conifer and spruce-fir. However, no significant oak understory exists. If present, some individuals may be displaced during implementation, but displaced individuals can relocate to adjacent, undisturbed habitat. Disturbance will be limited to the existing WWTF; no trees would be cut and individual sapsuckers likely already avoid the project area due to its developed nature. Disturbance associated with the proposed action would not constitute a measurable impact to the red-naped sapsucker. This project will not result in unintentional take of the species.

Species of concern	Determination made by:	Considerations	Comments
American dipper (*Cinclus mexicanus*)	PIF	• Riverine/stream habitats from 5,000 to 13,000 ft elevation. • Need clear water for prey location on stream bottoms. Diet consists primarily of insects from the Ephemeroptera, Plecoptera and Trichoptera families. Will also occasionally eat small fish. • Utilize boulders, logs and manmade structures such as bridges for nesting.	The Rio Hondo within and downstream of the project area provides suitable habitat for the American dipper. The species could nest and forage throughout the stream corridor. Increased treated wastewater could impact the dipper indirectly via a reduction in its prey base through increased water temperature. However, plentiful adjacent suitable foraging habitat exists upstream and downstream of the impacted stream reach. Construction activities associated with the proposed action would not encroach upon the Rio Hondo. The proposed action will not result in unintentional take of the species.
Veery (*Catharus fuscescens*)	PIF/USFWS	• Found in riparian woodlands, amongst evergreen (i.e. spruce-fir) or deciduous forests. • Diet consists primarily of insects during the breeding season, and fruits during late summer and fall. • Nests on the ground, but sometimes on logs or other downed structure, usually no more than 5 feet high.	The Rio Hondo within and near the project area provides suitable habitat for the veery. The species could nest and forage throughout the stream corridor. Construction activities associated with the proposed action would not encroach upon the Rio Hondo. No habitat for the species exists within the APE. Therefore, the proposed action will not result in unintentional take of the species.
Hammond's flycatcher (*Empidonax hammondii*)	PIF	• Found primarily in spruce-fir and mixed- conifer forests, but also in ponderosa pine, aspen, and alder/oak forests • Mainly aerial forager staying primarily in middle canopy, preferring shaded airways in mature stands, often found closer to water, generally with limited understory	This species could utilize the mixed-conifer and spruce-fir habitats within the project area. The close proximity of the Rio Hondo also increases the potential for use by Hammond's flycatcher. The species is not likely to utilize the APE for any significant amount of time as it is developed with existing WWTF infrastructure. Construction activities may temporarily displace the species to adjacent

Species of concern	Determination made by:	Considerations	Comments
		• Nest height above ground in one study averaged 25 ft ranging from 12-50 ft • Nests often built in large conifers; in Oregon, sites had fewer understory trees and overstory trees had well developed canopies • Stands of >25 ac of live, tall, and large-diameter trees are likely to benefit this species.	suitable habitat. The proposed action will not result in unintentional take of the species.
MacGillivray's warbler (*Geothlypis tolmiei*)	PIF	• In New Mexico, found in shrubby habitats in spruce-fir and fir forests, including riparian shrubland from 3,000 to 13,000 ft elevation. • Prefers forest edge for foraging, in addition to early successional (i.e. recently burned) habitats. • Nests on the ground, or in low shrubs. Nest usually no greater than 6 ft high. Nest site usually in dense, moist shrubland.	The Rio Hondo riparian corridor within the project area provides suitable habitat for MacGillivray's warbler. The species could utilize the forest edge habitat within and adjacent to the project area. The species is not likely to utilize the APE for any significant amount of time as it is developed with existing WWTF infrastructure. Construction activities may temporarily displace the species to adjacent suitable habitat. The proposed action will not result in unintentional take of the species.

Potential for Effects

Due to the lack of project activities that will negatively and permanently affect habitat, a determination of will not result in unintentional take was made for the high-priority migratory bird species analyzed in Table 5.

Social Considerations – Impacts to Acequia Users

Acequia communities are rural communities that rely on self-organized participatory water allocation for irrigation or other water-based uses. In North America, these communities originated with the Spanish colonization of the New World that took place towards the end of the 16th Century. Currently, functioning acequia communities in the United States are located in northern New Mexico and southern Colorado. Threats to acequia culture include prolonged drought, reduced snowpack, and upstream developments (Sabu 2014).

Downstream of the WWTF outfall, various local residents are dependent upon water from the Rio Hondo for domestic, livestock and irrigation uses. Acequias, or irrigation canals, are in place that divert water from the Rio Hondo and make it available for these uses. In 1987, the Taos Valley Acequia Association was formed to protect the water rights of acequia users in the area. The Taos

Valley Acequia System has approximately 12,000 acres under irrigation with over 7000 water right holders, which includes those that are tied to the Rio Hondo.

Analysis of Effects

The WWTF is currently permitted to discharge up to 0.167 MGD of treated wastewater directly into the Rio Hondo. Under the proposed action, up to 0.31 MGD would enter the Rio Hondo, an 86 percent increase. It can be inferred that nearly doubling the outfall rate would raise water temperature over a larger reach of river downstream of the outfall, however, this impact would not affect acequia-related uses. In fact, water temperature at the acequia diversion points would certainly be unchanged as there are approximately 7.2 river miles between the outfall and the nearest acequia; this large distance would alleviate any temperature increases caused by the increased outfall rate. No increased level of pollutants would occur as a result of the increased outfall rate, therefore no increased effects to other water quality parameters would occur. Therefore, the only element of consideration to acequia users is the increased outfall rate, which would constitute a direct beneficial effect due to increased stability in available water. During periods of drought or low snowpack, a more reliable and consistent water supply would be available for acequia users, which demonstrates a sensible application of wastewater re-use.

Determination

Due to the lack of negative effects, and the likelihood of increased water supply stability, the proposed action would have a beneficial impact for downstream acequia users.

Determination Summary

Federally endangered, threatened, and proposed species

The proposed action will have no effect on the following federally listed species: Mexican spotted owl, Southwestern willow flycatcher, yellow-billed cuckoo, Canada lynx, and New Mexico meadow jumping mouse. The reasons for this determination are: 1) the project area does not contain the necessary habitat or prey base; or 2) the analyzed species does not occur within the project area.

Forest Service Sensitive Species

Most Forest Service sensitive species have a no effect determination for the following reasons: 1) lack of habitat at the project site; or 2) the species does not occur within the project area. These species include Northern leopard frog, bald eagle, Northern goshawk, American peregrine falcon, white-tailed ptarmigan, burrowing owl, boreal owl, cinereus shrew, water shrew, pale Townsend's big-eared bat, spotted bat, Gunnison's prairie dog, American marten, Canada lynx, Nokomis fritillary, Sangre de Cristo pea clam, Ripley's milkvetch, yellow-lady's slipper, alpine larkspur, robust larkspur, Pecos fleabane, and Arizona willow.

The species that required further analysis are below:

The proposed action may effect individuals but is not likely to result in a trend toward listing or a loss of viability for the Rio Grande sucker, Rio Grande chub and Rio Grande cutthroat trout. . The reasons for this determination are as follows: 1) less than one percent of the Forest's habitat for these species is affected by the proposed action; 2) disturbance is localized and displaced individuals can relocate to adjacent undisturbed habitat; and 3) some species of the invertebrate prey base may benefit from increased stream temperature over a larger reach of stream, an indirect beneficial impact.

State of New Mexico Threatened and Endangered Species

All of the State of New Mexico threatened and endangered species with potential habitat or potential to occur in the project area have a no impact determination for the following reasons: 1) preferred habitat is not present or extremely limited at the project site; 2) the species does not occur within the project area.

Management Indicator Species

Most of the MIS species analyzed have a will not affect forest-wide habitat and population trends determination for the following reasons: 1) preferred habitat is not present or extremely limited at the project site; 2) the species does not occur within the project area.

The species that required further analysis are below:

The proposed action may impact individuals, but will not affect forest-wide habitat and population trends of resident trout. The reasons for this determination are as follows: 1) less than one percent of the Forest's habitat for these species is affected by the proposed action; 2) disturbance is localized and displaced individuals can relocate to adjacent undisturbed habitat; and 3) some species of the invertebrate prey base may benefit from increased stream temperature over a larger reach of stream, an indirect beneficial impact.

The proposed action may impact individuals, but will not affect forest-wide habitat and population trends of aquatic macroinvertebrates. The reasons for this determination are as follows: 1) less than one percent of the Forest's habitat for these species is affected by the proposed action; and 2) disturbance is localized and displaced individuals can relocate to adjacent undisturbed habitat.

Migratory Birds

The proposed action will not result in unintentional take of individuals high-priority migratory bird species for the spruce-fir, mixed conifer and montane riparian habitat types for the following reasons: 1) disturbance is temporary and localized; 2) displaced individuals can relocate to adjacent undisturbed habitat and will likely return after implementation activities have ceased; 3) bird presence and behavior is expected to return to normal after implementation is completed; 4) much of the proposed action activities occur within a developed setting where birds likely already avoid.

Acequia Users

The proposed action would result in beneficial impacts to downstream acequia users due to the increased stability and reliability of water that is available for acequia uses (i.e. domestic, agriculture and livestock).

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Appendix A. USFWS Species List/Consultation Letter