

Biological Evaluation

SSCAFCA Arroyos de los Montoyas Improvement Project Sandoval County, New Mexico

March 2013

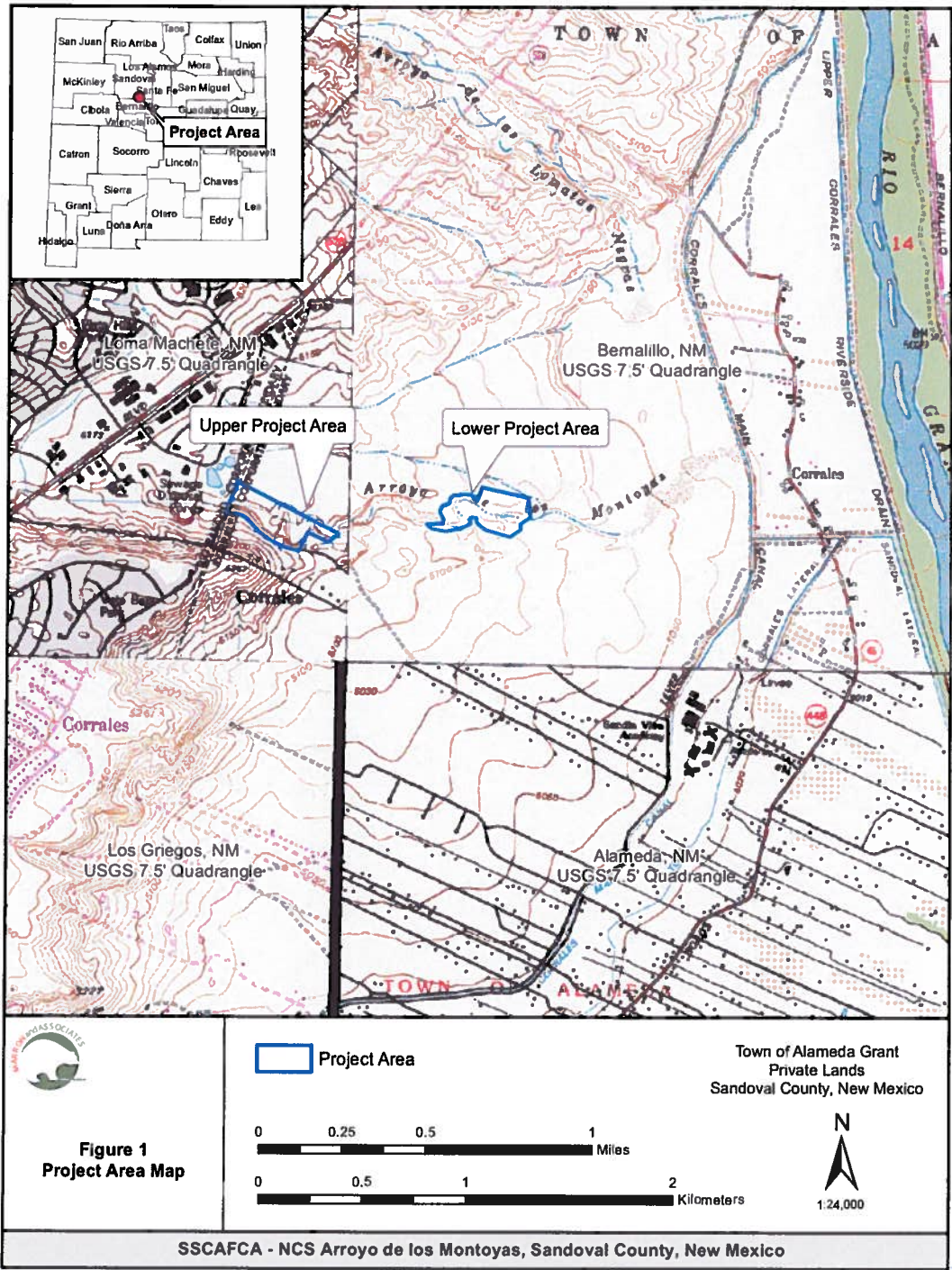
INTRODUCTION

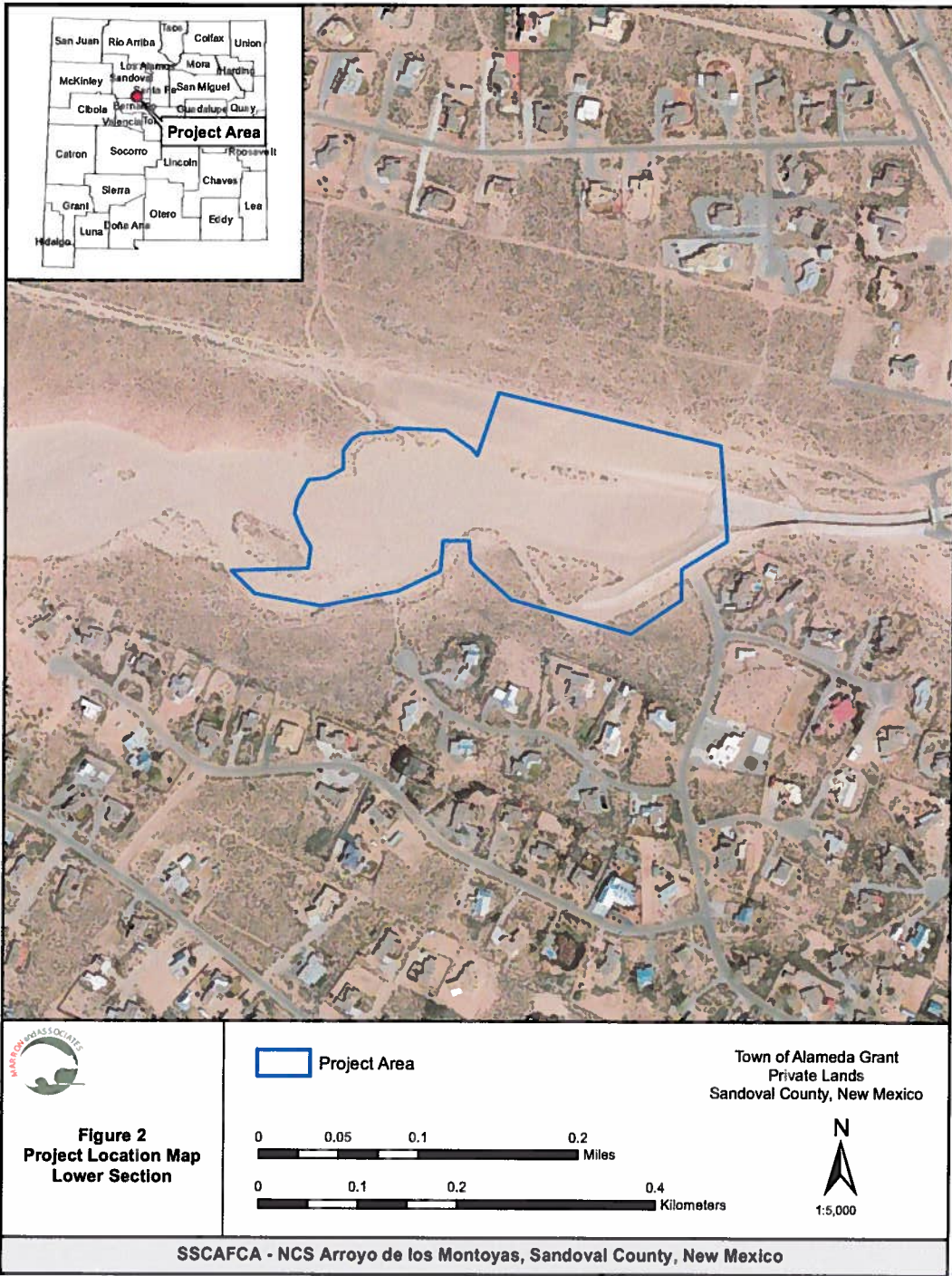
The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is proposing to construct a water quality enhancement feature within the arroyo channel at the inlet to the Harvey Jones Channel (a concrete-lined terminus to the Arroyo de los Montoyas, also known as HJC) in the Village of Corrales (Village), Sandoval County, New Mexico (Figure 1). The project area includes two segments of the channel. The footprint of construction includes not only the channel bottom but adjacent uplands. The first segment of the arroyo channel begins at the entrance to the HJC and extends up the channel to the west for a distance of approximately 1,700 feet. This parcel covers approximately 17.59 acres. The second channel segment is located approximately 1,300 feet upstream of the first parcel, and the eastern edge of this segment is located approximately 3,000 feet upstream from the entrance to the HJC. This parcel is approximately 18.77 acres in size. In total the project activities would affect approximately 36.36 acres of land. The 17.59 acres of the lower segment of the channel occur on SSSCAFCA-owned lands. The 18.77 acres of the upper channel segment occur on a mixture of SSSCAFCA and Village of Corrales-owned lands, with 14.77 acres owned by the Village of Corrales, and 4 acres of SSSCAFCA property. Both the 18.77- and 17.59-acre parcels are located on the *Sandoval*, New Mexico Quadrangle U.S. Geological Service quadrangle map (Figures 1, 2, and 3). The proposed water quality features will include grade control structures within the channel of the arroyo in both parcels and a settling pond at the mouth to the HJC inlet in the lower parcel. The grade control structures will be concrete ribbons constructed at roughly 200-foot intervals perpendicular to the direction of flow in the channel. These concrete ribbons, which will be approximately eight feet in the vertical dimension with two feet above grade, will slow the water velocity within the channel by reducing the slope of the channel floor. Each of the grade control structures will be anchored into the banks of the arroyo approximately 10 feet to ensure that stormwater flows to not circumvent the grade control structures.

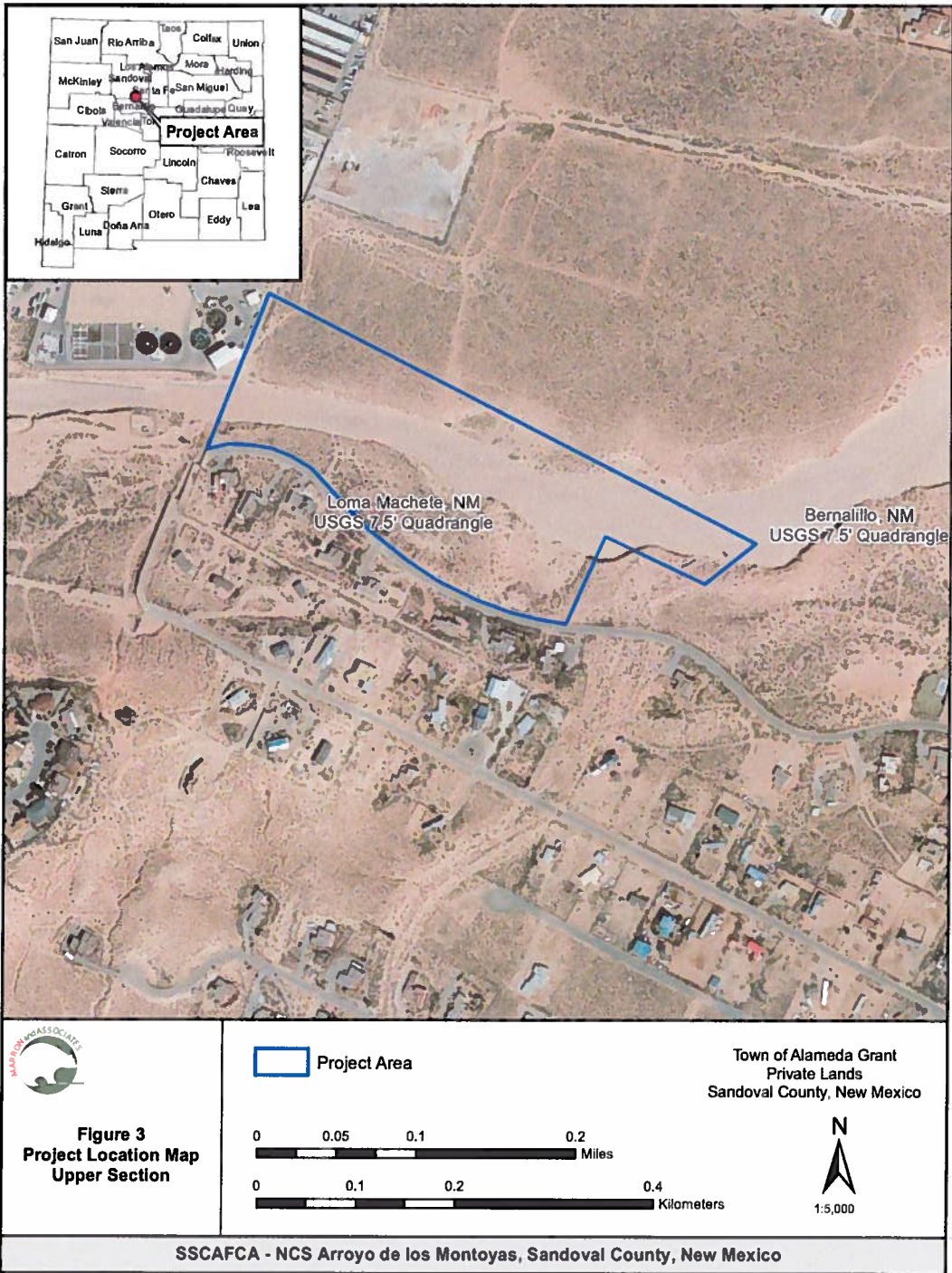
The water settling pond will be dug into the existing channel bottom to provide a location for further slowing the velocity of the water as it is transported down the arroyo to the HJC inlet. The pond location will be set within the existing channel bottom and will not include tie-ins to the arroyo banks. The concrete structure of the HJC will be altered to provide a positive "daylight" drain for the pond to evacuate water.

Additionally, SSSCAFCA is proposing that trees, shrubs, and grasses be added to both the arroyo channel bottom and the bottom of the finished pond. These plants will assist in further slowing the velocity of the water as well as provide a mechanism for the removal of floatable debris (e.g., trash) from the stormwater flows.

The Arroyo de los Montoyas flows through this site and connects to the Rio Grande via the HJC in Corrales, New Mexico. The HJC was constructed in the 1980s to provide a hard-lined channel through the Village for the conveyance of stormwater from the Arroyo de los Montoyas watershed to the Rio Grande. When the channel was constructed, the City of Rio Rancho (City) was approximately 1/3 its current size.







As the City grew and added more impermeable surface, runoff velocities and volumes grew, causing a domino effect that has impacted the ability of the HJC to convey the 100-year storm flows safely through the Village. The increased velocities of the runoff increased the amount of sediment being transported down the channel. Because of the channel's geometry, this sediment is deposited beneath the Corrales Road Bridge, causing a severe impairment to the amount of flow the channel can convey due to both plugging of the box culverts under the road and increasing of the friction coefficient.

Because of the geography of the channel and river, only minor modifications to the geometry of the channel can effectively be made. However, considering that sediment in the box culverts under Corrales Road is a prime factor in past failures of the channel, removing the sediment from the stormwater before it enters the concrete-lined HJC was seen as the best way to provide adequate stormwater capacity in the channel to pass the 100-year flood events through the Village. This project is designed to accomplish that desired outcome: remove the sediment from a location that is not critical to maintaining health and safety in the Village, and deposit the sediment in the desired location as opposed to the current condition.

The project area is gently sloping towards the east. The elevation of the project area ranges from approximately 5,070 to 5,100 feet above mean sea level. The soil mapping units within the project area are Sheppard loamy fine sand, 3- to 8-percent slopes, and Grieta-Sheppard loamy fine sand, 2- to 9-percent slopes. Both of these soil types are loamy fine sands that are well drained.

The climate in Sandoval County is semi-arid and receives approximately eight inches of precipitation annually, mostly occurring from July through October. Average maximum high temperatures reach approximately 71 degrees Fahrenheit (F). Average minimum low temperatures approach 38 degrees F (Western Regional Climate Center 2005).

BIOLOGICAL RESOURCES SURVEY

Marron and Associates (Marron) conducted biological surveys of the lower project channel segment (17.59 acres) in 2013 on January 11 and 25, 2013. Subsequently, Marron completed biological surveys of the upper channel segment on March 8, 2013. The purpose of these surveys was to identify biological resources that may be impacted by the project. Examples of such biological resources include federal or State of New Mexico protected plant and wildlife species, migratory birds, and general vegetation or wildlife concerns. References and databases containing information on biological resources in the project area were reviewed prior to the survey, including lists of federal and state-protected species. Photos of the project area appear in Figures 4, 5, and 6.

Vegetation

The Arroyo de los Montoyas project area has been subject to substantial past surface disturbance and most of the area is open and sandy with very low vegetation cover. The dominant vegetation in the upland habitats along the edges of the Arroyo de los Montoyas project area is Plains Mesa Sand Scrub (Figure 6). Overall the plant species diversity at the site was very low, with fewer than 25 vascular plant species present. Since the survey was conducted in the winter, it would not include small ephemeral spring annuals; but with the extant drought conditions, it is not likely that many spring annuals were present.





Figure 4. (Above) A view of the Arroyo de los Montoyas ponding area looking eastward.
(Below) A view of Arroyo de los Montoyas looking westward.





Figure 5. (Above) Soil profile from the ponding area just above the entrance to the HJC. (Below) A view of the HJC looking from the eastern edge of the Lower Arroyo de los Montoyas facility.





Figure 6. (Above) A view of the upper segment of the Arroyo de los Montoyas looking eastward. Note the Plain's Mesa Sand Scrub vegetation above the banks and the lack of Arroyo Riparian vegetation in the channel. (Below) A view from within the channel of the upper segment of the Arroyo de los Montoyas project area (March 8, 2013).



The dominant species observed on the site include sand sage (*Artemisia filifolia*), four-wing saltbush (*Atriplex canescens*), snakeweed (*Gutierrezia sarothrae*), and in some areas broom dalea (*Psoralea scoparius*). Associated species included spectacle pod (*Dimorphocarpa wislizeni*), ragweed (*Ambrosia acanthicarpa*), and scorpion weed (*Phacelia crenulata* var. *corrugata*). The bottom of the arroyo had been scoured by surface water flows, and little vegetation remained. The arroyo flows collect in a ponded area above the Arroyo de los Montoyas diversion structure at the entrance to the HJC. This ponded area was lined with a narrow band of vegetation dominated by Rocky Mountain bee plant (*Cleome serrulata*), clammyweed (*Polanisia dodecandra*), and grassland croton (*Croton dioicus*). There were no rare or unusual plants or plant communities within the project area.

There were no Class A or B noxious weeds present. However, two 10-foot-tall salt cedars (a Class C noxious weed) occurred within the upper portion of the project area (Figure 9). It is recommended that these plants be removed during construction.

Much of the project area is not vegetated. It is recommended that soils disturbed by project activities outside of channels be re-vegetated utilizing native, certified weed-free species to reduce soil erosion and improve habitat. Any equipment utilized in construction within the arroyo should be cleaned prior to arrival at the construction site to ensure that it is free of noxious weed seeds.

Wetlands and Waterways

Arroyo de los Montoyas is a jurisdictional waterway and, based on the presence of drift lines and cracked plated soil in the pool above the Lower Arroyo de los Montoyas retention structure, there were wetland hydrology indicators present. However, none of the plants around this pooled area were wetland indicator species [all were either not listed or facultative upland (FACU) species]. Additionally, the soils at the site ranged from a Matrix Value and Chroma of 7.5YR 3/3-7.5YR 4/3 and lacked any hydric soil indicators. Consequently, this site fails to meet the vegetation or soil criteria for a wetland.

The Arroyo de los Montoyas Channel is associated with the Rio Grande via the Harvey Jones outfall. Work within the channel [beneath the ordinary high-water mark (OHWM)] for both the proposed excavation of sediment and bank stabilization work may require coverage under Clean Water Act (CWA) Section 404 permitting for dredge or fill of waters of the United States.

The upper segment of the Arroyo de los Montoyas Channel was for the most part clearly defined by steeply cut banks with only a few areas where the OHWM leaves the low-flow channel.

Wildlife

Although the project area occurs within a rural residential environment, it is flanked to the west by a developing urban area; and this waterway provides a pocket of undeveloped land to wildlife. Arroyo systems such as the Arroyo de los Montoyas drainage provide wildlife with corridors that connect the Rio Grande with outlying undeveloped mesas west of the project area. As a result, many species that would not reside within the Arroyo de los Montoyas project area may pass through the project area.

Wildlife species diversity was low within the project area, with only nine vertebrate species present. These included (1) five species of mammals: coyote (*Canis latrans*), desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), and Ord's kangaroo rat (*Dipodomys ordii*); and (2) eight species of birds: American crow (*Corvus brachyrhynchos*), chipping sparrow (*Spizella passerina*), scaled quail (*Callipepla squamata*), canyon towhee (*Melospiza fusca*) bank swallows



(*Riparia riparia*), curved-billed thrasher (*Toxostoma curvirostre*), ash-throated flycatcher (*Myiarchus cinerascens*), and roadrunner (*Geococcyx californianus*). However, winter surveys of these shrubland habitats often produce low species diversity. Over the last 20 years, Marron has conducted a number of surveys in the Arroyo de los Montoyas drainage area during the spring and summer. Based on those surveys, additional wildlife species known to occur in the area include: white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), European house sparrow (*Passer domesticus*), Eurasian collared dove (*Streptopelia decaocto*), white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*), Say's phoebe (*Sayornis saya*), New Mexico whiptail (*Aspidoscelis neomexicana*), little striped whiptail (*Aspidoscelis inornata*), and common side-blotched lizard (*Uta stansburiana*). There were no trees suitable for migratory bird nests within the project limits. However, a probable colony of bank swallow nests was found along the south side of Arroyo de los Montoyas within the upper segment of the channel in the project area.

The proposed project activities would affect the bottom of the Arroyo de los Montoyas Channel, as well as upland areas. The wildlife habitat value in the un-vegetated channel is low. The adjacent upland does support habitat for several of the species described above. The project activities will result in a temporary loss of habitat for these species. It is recommended that, upon completion of the project, disturbed upland soils be re-vegetated to provide erosion control and restore lost wildlife habitat associated with project activities. Although no aquatic habitat occurs within the project area, the HJC (into which the Los Montoyas drainage discharges) connects directly with the Rio Grande approximately 6,000 feet downstream of the project area. The fuels, hydraulic fluid, and lubricants utilized in construction of the project have the potential to adversely impact aquatic life in the nearby Rio Grande.

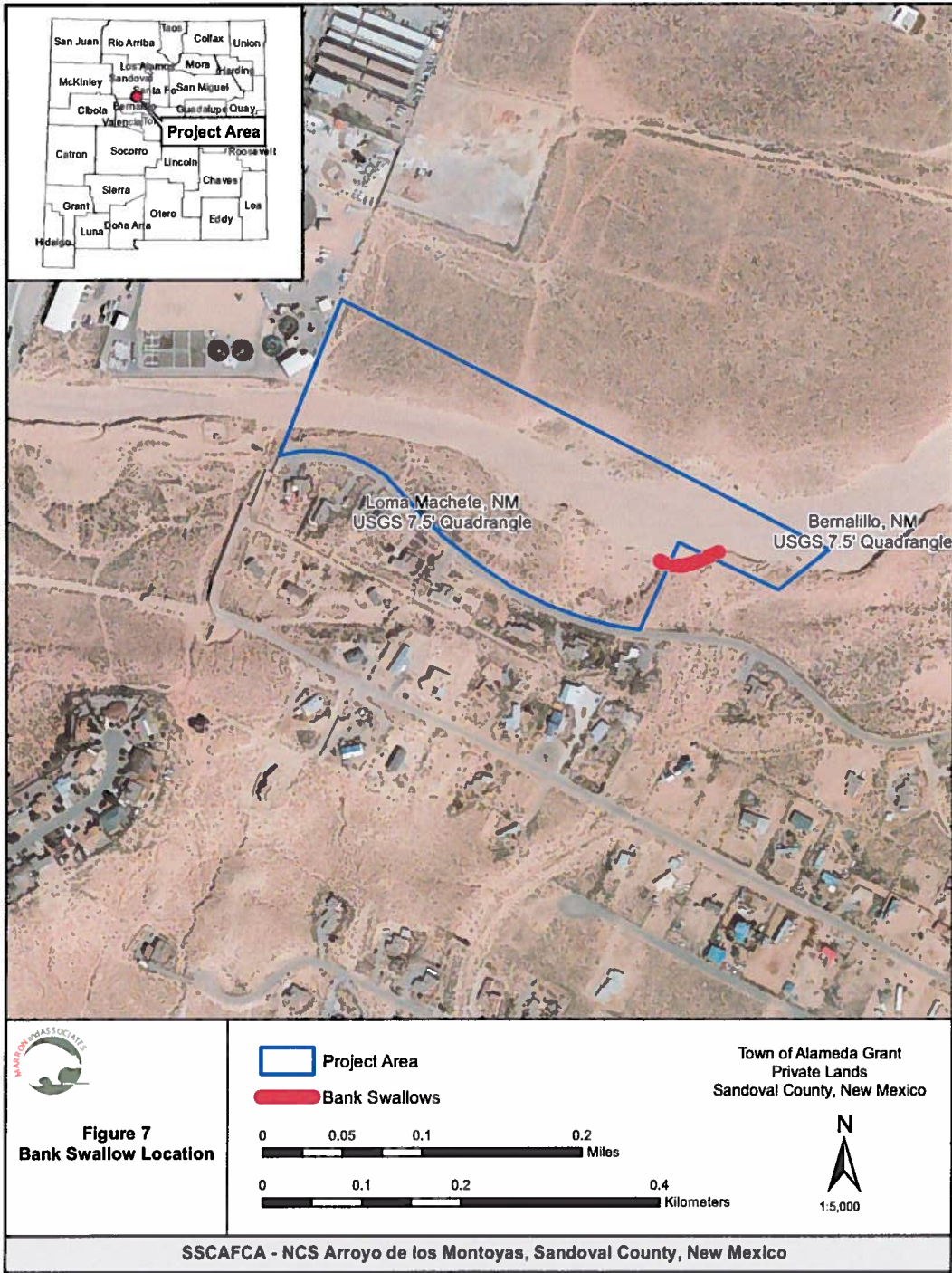
Avoidance of possible indirect effects to aquatic habitats is recommended via the prevention of fuel storage or refueling on the floodplain. Machinery working within the arroyo should be well maintained and inspected prior to construction for fuel or hydraulic line leaks.

Migratory Birds

Active migratory bird nests are protected by federal law and cannot be removed or damaged without a federal permit. Project activities will not result in the removal of trees or structures suitable for use by migratory birds. Although there were many large shrubs present in the project area that were suitable for nesting of smaller migratory birds, no migratory bird nests were on these shrubs. As previously noted, a probable colony of bank swallows was identified within the project area. This colony consists of a cluster of small burrows scattered along approximately 70 feet of vertical arroyo bank in the upper channel segment of the project area. The nests were inactive at the time of the survey, and, until they are active (later in the spring), a verification of the occupants of the nests cannot be confirmed. Specifically, this cluster of nests is situated on the south side of the channel covering about 70 feet of the bank and centered within UTM Zone 13 at approximately E351979/N3902589 NAD 83 (Figures 7 and 8). Bank swallows are not common in New Mexico. A statewide survey for this species was conducted in 2007 and only 17 active colonies were identified. The New Mexico Department of Game and Fish (NMDGF) is considering conservation and management actions for this species, and it is recommended that this colonial nesting site be left untouched by project activities.

In addition to the probable bank swallow colony, numerous larger burrows were found within the steep banks of the channel in the upper segment of the project area. Many of these burrows provide suitable habitat for not only small mammals but also the western burrowing owl. Figure 9 depicts the location of these burrows, and photos of some of these burrows appear in Figure 10.





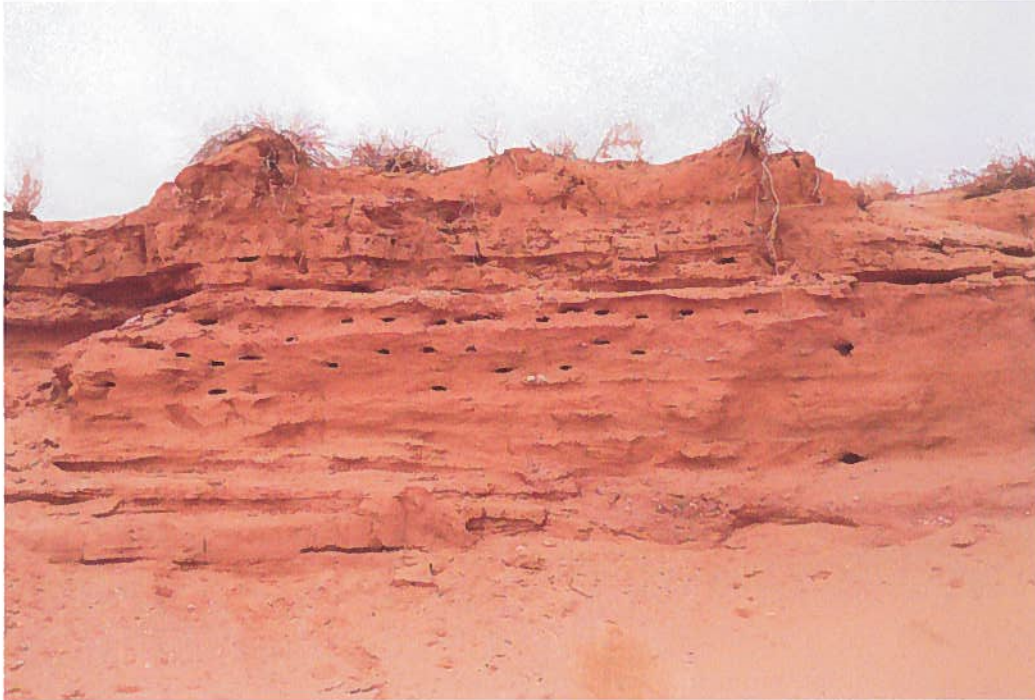


Figure 8. (Above) Photograph showing cluster of probable bank swallow burrows on the vertical bank of the arroyo. (Below) Close-up photo of burrow showing a nest, a feather on the right side of the burrow, and a portion of an egg shell on the left side of the burrow (March 8, 2013).



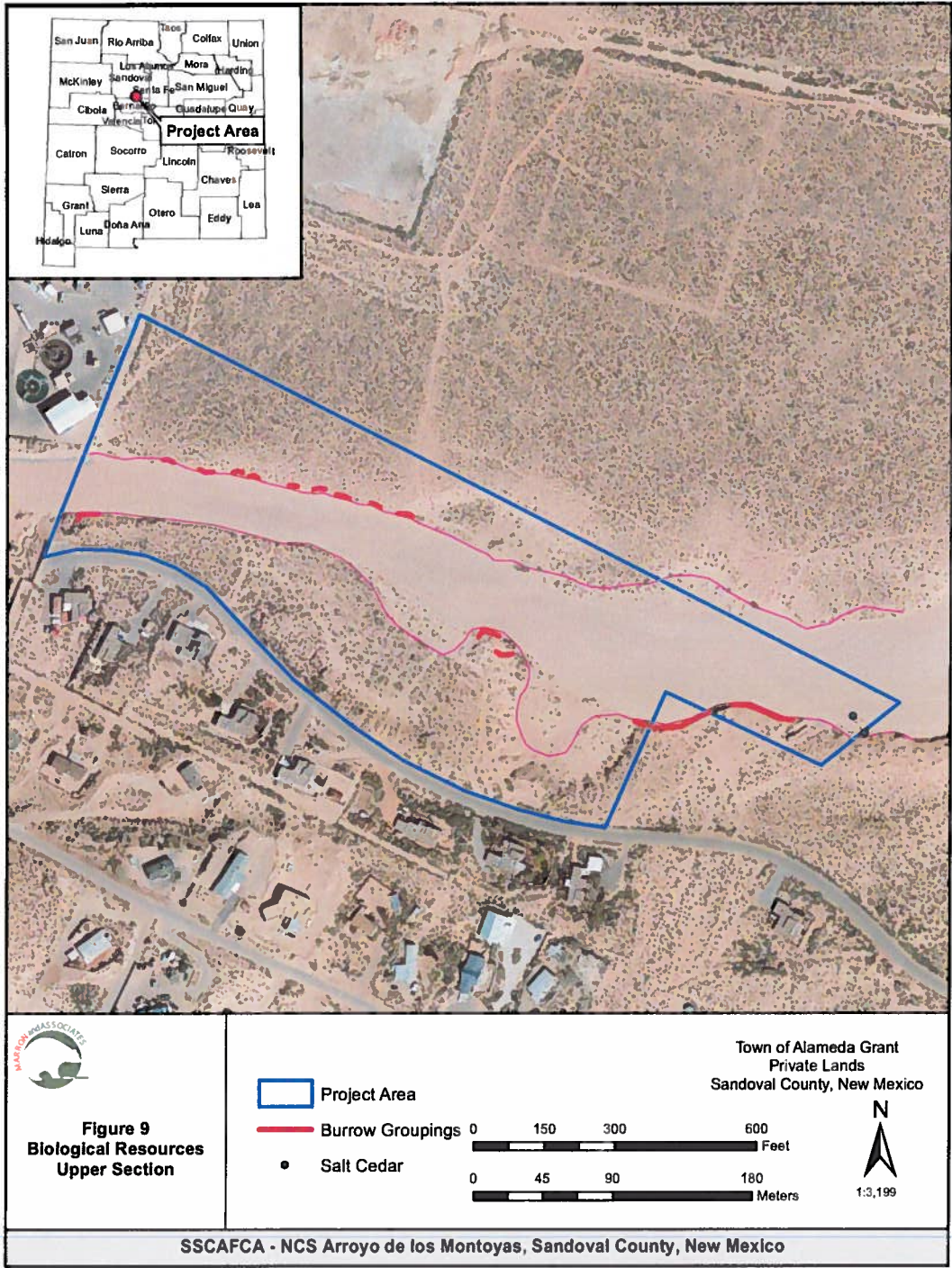




Figure 10. (Above and Below) Photographs of potential western burrowing owl sites within the cut banks of the upper segment of the Arroyo de los Montoyas project area (March 8, 2013).



However, none of these burrows were occupied at the time of the survey, which was conducted in late winter when burrowing owls may not have moved into the project area. If construction of the project is scheduled outside of the migratory bird nesting season (March 1-September 15), there would be no impact on migratory bird nesting, with the exception of the probable bank swallow colony. Removal of this bank would completely remove the suitable habitat for this species in the area. If construction occurs during the nesting season, then it should be preceded by a migratory bird nest survey to ensure that migratory bird species have not established breeding territories in the project area. If active nests are found within the project area and construction must proceed, then a U.S. Fish and Wildlife Service (USFWS) permit for removal of active migratory bird nests must be acquired before construction can be initiated.

PROTECTED AND MONITORED SPECIES

Thirty-one species with protected or monitored status are listed by the USFWS and/or the State of New Mexico in Sandoval County, 13 of which have no potential habitat either within or near the project area (American marten, Jemez Mountain salamander, gray vireo, Rio Grande cutthroat trout, Mexican spotted owl, New Mexico silverspot butterfly, northern goshawk, gypsum phacelia, gypsum townsendia, Goat Peak pika, Knight's milk-vetch, Parish's alkali grass, and the wrinkled marsh snail). Eighteen of the 31 species could potentially occur within or near the project area. Further evaluation eliminated most of these species from consideration, and possible effects to three species were evaluated.

Species Eliminated from Further Consideration

Fifteen of the 18 species that could potentially occur within the general project area were eliminated from further consideration. The following is a discussion of each of the species eliminated from further consideration.

New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) – This is a federal candidate and State of New Mexico endangered species that occurs within meadows and grasslands located near perennial water sources. This species is known to occur along irrigation and drainage systems within the Middle Rio Grande. However, the project area consists of dry uplands; therefore, no suitable habitat for this species is present. The project would have no impact upon this species.

Spotted bat (*Euderma maculatum*) – This species has been collected in Sandoval County, as well as over scattered areas in southern New Mexico. It is often collected near water and presumed to be foraging. It uses crevices in nearby cliffs and sometimes trees for roosting. The project area is located near a riparian area that could be frequented by the spotted bat. However, suitable roosting habitat is not located within the project area, and individuals present there would likely be transients. The project would have no impact upon this species.

Black-footed ferret (*Mustela nigripes*) – This federal endangered species has not been observed (with the exception of experimental animals) in New Mexico since the 1940s and is believed by many to be extirpated from the state. Furthermore, black-footed ferret relies on large prairie dog towns as a prey-base. There are no prairie dog towns in the project area and the proposed activities would have no impact upon this species.

Townsend's big eared bat (*Corynorhinus townsendii*) – This is a federal species of concern. It could forage throughout the project area because of the proximity to the river, but there are no suitable roosting



habitats for this species present either within or adjacent to the project area and the project activities would have no impact upon this species.

Southwestern willow flycatcher (*Empidonax traillii extimus*) – This flycatcher is protected as a federal and State of New Mexico endangered species. It could pass through the project area en route to suitable riparian habitat located along the Rio Grande. However, no suitable nesting or migration habitat is present within or adjacent to the project site. Construction would have no impact upon this species.

Yellow-billed cuckoo (*Coccyzus americanus*) – This is a federal candidate species within Sandoval County. It could nest near the Rio Grande, but no suitable nesting or migration habitat is present at the project area. Construction would not be expected to affect this species.

Neotropic cormorant (*Phalacrocorax brasilianus*) – The neotropic cormorant is known to breed in the Middle Rio Grande Valley, and non-breeding birds have been found as far north as Bernalillo. Although this species could potentially occur along the Rio Grande east of the project area, this habitat is more than a mile away and the project activities would have no impact on this species or its habitat.

Bald Eagle (*Haliaeetus leucocephalus*) – This is a State of New Mexico threatened species that is protected under the Bald and Golden Eagle Protection Act. It is known to winter within the Middle Rio Grande Valley, and large cottonwoods near the Rio Grande provide suitable roost habitat. It is known to fly over the general project area, but there is no suitable habitat for it within or adjacent to the project area. The only suitable habitat for this species near the project area occurs at the outfall of the HJC, which is more than one mile from the project site. Proposed construction activities are unlikely to affect the wintering habitats of this species and should have no impact upon this species.

Whooping crane (*Grus americana*) – Whooping cranes within the Rio Grande Valley were part of an experimental population. This population steadily declined and is no longer extant. Although whooping cranes from the central flyway do occasionally pass through eastern New Mexico, there are no recent reports of them along the Rio Grande. Even if whooping cranes were to visit the general area, there is no suitable habitat for this species within the project area. The proposed project activities would have no impact upon this species.

Common black-hawk (*Buteogallus anthracinus anthracinus*) – This species occurs primarily in the southwestern part of New Mexico (Ligon 1961). It utilizes mature bosque and nests high in cottonwood trees. Suitable habitat for common black-hawk occurs near the HJC outfall and along the access road to the outfall. However, no raptor nests were present at either of these areas, nor was there any other indication that common black-hawk uses the area. In addition, there are no recent records of black-hawk being present in the area. This species is likely to be rare or transient in the project area and the project activities would have no impact upon common black-hawk.

Broad billed hummingbird (*Cynanthus latirostris*) – This is a New Mexico threatened species that inhabits riparian woodlands and low wooded canyons. It rarely occurs in northern New Mexico. This species is reported from only a few historic records and is likely to be rare and transient in the project area. The proposed project activities will not directly affect woodland or forest habitat and should have no effect upon nesting habitat for this species. The proposed project activities would have no impact upon this species.



Costa's hummingbird (*Calypte costae*) – Costa's hummingbird is normally found far south of the project area in Mexico extending into southern New Mexico. However, there have been reports of vagrant birds in Sandoval County during the winter months. If Costa's hummingbird were to occur in the general area, it would most likely be found along the river and not in the treeless arid upland of the project area. The proposed project activities would have no impact on this species.

American and Arctic Peregrine Falcon (*Falco peregrinus anatum* / *Falco peregrinus tundrius*) – The peregrine falcon is protected as threatened by the State of New Mexico and the Migratory Bird Treaty Act. It is a federal species of concern. The falcon occurs in areas with rocky, steep cliffs, preferably near water, in habitats ranging from pinyon-juniper, ponderosa pine, and mixed conifer forests. Although the falcon may fly over the project area, no suitable roosting or nesting habitat occurs there and the project would have no impact on this species.

Baird's sparrow (*Ammodramus bairdii*) – Baird's sparrow is a grassland bird that nests in Canada and the northern United States but winters in northern Mexico into southern New Mexico. This species migrates through central New Mexico, and vagrant birds have been reported for Sandoval County. However, the shrubby habitat within the project area is unsuitable for Baird's sparrow, and it is unlikely that even migrant birds would be found in the project area. The project would have no impact on this species.

Brown pelican (*Pelecanus occidentalis carolinensis*) – This species breeds on sea coasts from southern California to North Carolina southward through the Gulf and Caribbean areas to South America, occurring mainly as a vagrant inland in the United States. It has occasionally been noted in the larger lakes and rivers of New Mexico and could potentially visit the Middle Rio Grande Valley. However, the project activities are located more than a mile from the river and would have no impact upon this species.

Protected or Monitored Species Potentially Impacted by the Project

Three species with agency status have the potential to be impacted by the project. These are the Rio Grande silvery minnow, western burrowing owl, and Rio Grande sucker. The following is an evaluation of the potential impacts of the project upon these species.

Rio Grande Silvery Minnow (*Hybognathus amarus*)

Species Ecology/Threats

Rio Grande silvery minnow requires shallow waters with a sandy and silty substrate that is generally associated with a meandering river (Bestgen and Platania 1991). However, physical modifications to the Rio Grande over the last century such as dam and levee construction and channelization have altered much of the habitat that is necessary for the species to persist. Channelization has straightened and shortened the river reaches; increased the velocity of the current; and altered riparian vegetation, in-stream cover, and substrate composition. In the Middle Rio Grande, the spring runoff coincides with and likely triggers the silvery minnow's spawn (USFWS 2003). However, diversion dams act as in-stream barriers and prevent silvery minnows from moving back upstream after hatching. The continued downstream displacement and decline of the silvery minnow in the Middle Rio Grande is well documented.

The current distribution of the silvery minnow is limited to the Rio Grande between Cochiti Dam and Elephant Butte Reservoir. Throughout much of its historic range, the decline of the silvery minnow has been attributed to modification of the flow regime and channel drying by dams, water diversion for



agriculture, stream channelization, interactions with non-native fish, and decreasing water quality (Bestgen and Platania 1991, USFWS 2003).

Critical Habitat

On February 19, 2003, the USFWS published a final rule establishing critical habitat for the Rio Grande silvery minnow within the remaining portion of their historic range in the Middle Rio Grande, from Cochiti Dam to the utility line crossing the Rio Grande, a permanent identified landmark in Socorro County (USFWS 2003). The USFWS determined that 212 miles of the Rio Grande should be designated as critical habitat for the silvery minnow. The width of critical habitat along the Rio Grande is defined as those areas bound by existing levees or, in areas without levees, 300 feet of the riparian zone adjacent to the bankfull stage of the river. The project area is not located within designated silvery minnow critical habitat.

Data Sources (including surveys conducted)

Information was collected from the NMDGF, the USFWS, and relevant literature. A field survey of the project area was completed in January 2013 (no in-river surveys were completed – the project area occurs upstream of the Rio Grande).

Affected Habitat Description

The project area is approximately 1.13 miles from the western bank of the Rio Grande. It is not located within the Rio Grande floodplain or within designated critical habitat for this species. However, since the project area connects to the river via the HJC, indirect effects due to potential surface water quality reduction are addressed.

Analysis of Effects

Project activities would include the creation of a large settling basin at the inlet to the HJC, and the installation of grade-control ribbon-like concrete structures built at roughly 200-foot intervals perpendicular to the direction of flow in the channel. These concrete ribbons, which will be approximately eight feet in the vertical dimension with two feet above grade, will slow the water velocity within the channel by reducing the slope of the channel floor. The installation of these structures, combined with the settling pond, should result in a water quality improvement for water discharged from the pond into the HJC. It is possible that, during the construction of this facility, there could be accidental release of petrochemical projects such as fuel, hydraulic fluid, or lubricants. This could occur if there were hydraulic line leaks, ruptures in the hydraulic lines, fuel spilled during refueling, or fuel tanks ruptured during construction. If such a release occurred, it could have an indirect effect to habitable waters within silvery minnow designated critical habitat. Any introduction of sediment or petrochemicals within the channel could result in water quality effects to the river.

Determination of Effect/Recommended Mitigation

The USFWS has determined that the HJC reach of the Rio Grande, adjacent to the project area, is inhabited by the Rio Grande silvery minnow. Therefore, water quality protection measures will be implemented to prevent possible effects to this species. Standard New Mexico water quality protective measures will be implemented and maintained at all times. The following measures are recommended:

- Require the contractor to construct during the low flow season (after monsoon flows and prior to snow melt).



- Develop and implement a sediment and erosion control plan to prevent surface water quality and turbidity impacts.
- Re-vegetate disturbed upland areas to reduce surface erosion.
- Require that equipment refueling, storage, and maintenance activities occur in designated areas outside of the Arroyo de los Montoyas floodplain.
- Clean all heavy equipment used in the project area prior to the start of the project and inspect all equipment daily for leaks. Leaking equipment must not be used in or near any watercourse.
- Report any spills immediately to the U.S. Army Corps of Engineers (USACE), USFWS, NMDGF, and the Surface Water Quality Bureau of the New Mexico Environment Department (NMED).

These measures will be implemented after approval via coordination among the USACE, USFWS, and the SSCAFCA.

Finding

- No effect on species
- May affect but is not likely to adversely affect (with implementation of protective measures)
- May affect and is likely to adversely affect
- Likely to jeopardize/adversely modify critical habitat for the species

Rio Grande Sucker (*Catostomus plebeius*)

The native range of the Rio Grande sucker includes the Rio Grande and its tributaries in northern New Mexico and southern Colorado, the Mimbres drainage in southwestern New Mexico, and streams of the Guzman Basin in northwestern Chihuahua. Rio Grande sucker is found in the Rio Grande (primarily north of the 36th parallel-north of Chimayo).

The Rio Grande sucker is a state-sensitive species typically associated with cool riffled waters. Recent fish studies have been conducted within the Rio Grande in the Albuquerque areas. Rio Grande sucker was not present in these areas (Dudley and Platania 2011). If this species is present within the Middle Rio Grande, any spills of petrochemicals within the Arroyo de los Montoyas project areas could have indirect water quality impacts that could affect the Rio Grande sucker. Construction measures to prevent or reduce such impacts recommended above for the Rio Grande silvery minnow would also apply to the Rio Grande sucker. With the implementation of these measures, the project may impact the Rio Grande sucker; however, it is not likely to adversely impact it or lead to a decline in the species.

Western Burrowing Owl (*Athene cunicularia hypugaea*)

Western burrowing owl is a brown, medium-sized owl that is often seen perched on the ground or on fence posts. Unlike many other owls, it is not found in forested areas. Its preferred habitats include plains, treeless valleys, and mesas. It is also found in sagebrush, saltbush, greasewood, and creosote shrublands in New Mexico. As the name implies, western burrowing owl nests underground. Although it generally relies on deserted burrows of small mammals such as prairie dog, ground squirrel, badger, and even kangaroo rat for its nests, it is capable of enlarging burrows of smaller species. Burrowing owls modify such burrows by digging and scraping with their beaks, wings, and feet. The burrowing owl is a federal species of concern



and is protected under the Migratory Bird Treaty Act. This species is found throughout the mid and lower elevations of New Mexico and occurs in particular abundance in the upland habitats around the Middle Rio Grande Valley. These owls occupy non-riparian habitats nearly exclusively during the breeding season. Suitable habitat for this species occurs in disturbed, de-vegetated areas within the project area. Burrowing owls have been identified in a number of drainages in Rio Rancho and into the upper portions of Corrales. Western burrowing owls have been located within about 1.5 miles of the Arroyo de los Montoyas project area.

There were no active western burrowing owl sites within the project area during the January and March surveys. However, both of these surveys were conducted in late winter before western burrowing owls normally occur. These surveys only verify that no western burrowing owls overwintered in the project area. This does not mean that burrowing owls will not be there during the growing season. Over 90 percent of the burrowing owls in the Albuquerque area migrate to the south in the winter. There were only a few burrows suitable for western burrowing owl in the lower segment of the project area near the entrance to the HJC. However, there were over fifty burrows suitable for western burrowing owl use in the upper segment of the channel project area (Figures 9 and 10). Nearly all of these were on the steeply cut banks of the channel. If construction is to proceed before the onset of burrowing owl nesting season (March 1-September 1), no other action is required. If construction is to occur in the upcoming nesting season or even the following fall or winter, a resurvey of the site should be completed before construction begins to ensure that no burrowing owls have ongoing nest sites or are wintering in the area. If western burrowing owls are detected, consultation with the USFWS will need to be initiated for guidance on how to proceed. Any owls at the site are likely to be highly localized and it may be possible to route construction activities around the site without seriously disturbing the birds. With the implementation of these measures, the proposed project activities are unlikely to adversely impact western burrowing owls.

CONCLUSIONS AND RECOMMENDATIONS

The project would affect approximately 36.36 acres of partially vegetated soils and wildlife habitat located within two segments of Arroyo de los Montoyas. Approximately 75 percent of the lower channel segment is devoid of vegetation. Approximately 40 percent of the upper channel segment is also devoid of vegetation. Both plant and wildlife diversity was very low. However, a probable colony of bank swallows was detected within the upper channel segment. There were no federal or state protected or monitored species within the project limits, but a large number of burrows suitable for use by western burrowing owl occur within the upper channel segment. Although no western burrowing owls were present at the time of the survey, these burrows could be utilized in the upcoming spring or summer. Suitable habitat for the Rio Grande silvery minnow and the Rio Grande sucker exists a little more than a mile downstream of the project area and could be indirectly affected if accidental spills of petrochemicals occurred during construction.

Marron recommends the following measures to reduce effects to biological resources:

- Require the contractor to develop and implement a sediment and erosion control plan to prevent surface water quality and turbidity impacts. Disturbed upland areas should be re-vegetated to reduce surface erosion.
- Require that equipment refueling, storage, and maintenance activities occur in designated areas outside of the Arroyo de los Montoyas floodplain.



- Clean all heavy equipment used in the project area prior to the start of the project and inspect all equipment daily for leaks. Leaking equipment must not be used in or near any watercourse.
- Report any spills immediately to the USACE, USFWS, NMDGF, and the Surface Water Quality Bureau of the NMED.
- Replant open disturbed areas with native vegetation.
- Avoid (if possible) the probable bank swallow colonial nest site in the project area upper segment.
- Construct (if possible) outside the nesting season for the Albuquerque area (March 1–September 15). If construction is delayed beyond the 2011 nesting season but may occur within future nesting seasons, additional migratory bird surveys to prevent impacts would be recommended.
- Inspect all suitable burrows for use by western burrowing owl in the project area prior to construction. This provision would extend into the winter months as a small number of western burrowing owls overwinter in the Central Rio Grande Valley.

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