

**General Biological Resources Assessment Update
Martin Ranch Property
Verdemont, San Bernardino County, California**

Prepared for:

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Executive Summary

Natural Resources Assessment, Inc. (NRA, Inc.) conducted a biological resources update for a 352.8+ acre property proposed for development and two proposed access roads. The proposed project is in an unincorporated area to the north of the Verdemont area in San Bernardino County.

The surveys were conducted by Karen Kirtland on August 27, 2003 and Philippe Vergne on February 4, 2004. The purpose of the August survey was to evaluate five proposed access roads for the project, two of which were selected for further evaluation. The purpose of the February survey was to document the impact of the October 2003 fires on the biological resources present on site, and to determine what changes have occurred to sensitive biological resources since the 1999 assessment (Planning Consultants Research 1999).

The property, the two access roads, and adjacent areas have completely burned due to the recent fire. The greatest impacts are the loss of plant communities, since this loss will have influence population recovery of wildlife for some time.

Although the property was badly burned, recovery of the plant communities is already occurring. Wildflowers and herbaceous plants were flowering in the annual grasslands and burned scrub habitats at the time of the survey, as were grass species. In scrub and woodland areas, some individual plants were either sprouting from seed and from the stumps of burned plants.

Invertebrates constitute such a large group that it is difficult to say how quickly individual species will recover. Since invertebrates generally have rapid generation times, it is likely that for the most part, most species will recover within one or two seasons.

Vertebrate wildlife populations will probably be slower to recover, with amphibians, reptiles and some small mammal species being the slowest to recover. Signs of large mammals were already observed crossing the property.

Sensitive plant species may still be present, including Orcutt's brodiaea (*Brodiaea orcuttii*), Plummer's mariposa lily (*Calochortus plummerae*), San Bernardino mountain owl's clover (*Castilleja lasiorhyncha*), and smooth tarplant (*Hemizonia pungens laevis*). NRA, Inc. recommends that focused surveys for those species be conducted during the peak flowering periods for these plants.

Protocol surveys for the California gnatcatcher were performed in June of 2002 along a proposed alternate access road (not one of the two proposed for this project) to the site. No gnatcatchers were observed within the limited survey area at that time.

Since that time, the available scrub habitat has been burned, both on the property, the two access roads, and in the immediate area. There is currently no adequate nesting or foraging habitat for the California gnatcatcher on the property. However, scrub species were already recovering both from seed and stump sprouting. Emergent scrub was observed on site, and stump sprouting was observed in several places. There are portions of the property that could recover from the effects of the wildfire over time.

Depending upon the timing of the project, NRA, Inc. recommends a follow up survey for the gnatcatcher in suitable scrub habitat on the property and along the two access roads to determine if it has colonized the site since the wildfire.

Planning Consultants Research (PCR) identified SBKR as potentially present. A 2002 protocol trapping survey for the species along a proposed alternative access road (not one of two proposed for this project) indicated that this species was not present on site (S.C. Dodd Biological Consulting 2002). The original project boundaries are outside the SBKR Critical Habitat area for this part of San Bernardino County.

The two new routes potentially cross in or near Critical Habitat areas; therefore, surveys for the SBKR are recommended for these routes. Surveys would probably be required by the U. S. Fish and Wildlife Service (USFWS) since the original surveys are not more than one year old.

Burrowing owl (*Athene cunicularia*) was identified by PCR as a sensitive species with a low potential to be present. However, it is possible that this species could be present on site, along portions of the two access roads, and in adjacent areas. NRA, Inc. recommends a burrowing owl survey following the guidelines recommended by the Burrowing Owl Consortium (1993) be conducted on the property and relevant portions of the access roads before construction.

Although badly burned, woodland habitats still exists on site that could provide potential nesting and roosting habitats for hawks and falcons. The burned grassland and scrub habitat provide excellent foraging habitat for raptor species.

If construction activity occurs during March through June, NRA, Inc. recommends a pre construction survey for nesting raptors or migratory species to determine whether individuals are nesting in the trees and woodlands on site.

Wildlife corridors still persist on site and were identified during the February survey. Tracks of deer, coyote and one bear were observed in the upper portions of the site, and within Cable Creek Canyon and its tributaries. It is likely that project development will impact wildlife movement by larger mammals across the property. This is particularly true along the northern road, which crosses Cable Creek. A road in this area would run perpendicular to wildlife movement up and down the creek, in addition to removing riparian habitat.

Impacts to mid size and smaller mammals should be negligible.

PCR also addressed the potential presence of Waters of the U. S. and Waters of California that may require permitting from the U. S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (CDFG). The proposed project contains Corps and CDFG jurisdictional drainages, and wetlands, including Cable Creek. The northern access road will cross and therefore impact Cable Creek. The southern access road may require improvements to Cable Creek to control flooding, and will therefore also impact the creek.

Although these wetlands and drainages, including the seeps and riparian corridors, have been degraded as a result of the wildfire, these areas still come under Corps and CDFG jurisdiction. In addition, these areas still supply water and, as a result of the fire, have increased in value for local wildlife use and even wildlife from farther away.

1.0 Introduction

Natural Resources Assessment, Inc. was contacted by Lilburn Corporation to conduct an update review of the proposed Martin Ranch development site (Figure 1). The update was needed in part because of wildfires in October 2003 that burned through the area, and because two new access roads were added to the project. The update is intended to document the changes in plant and wildlife resources, as well as habitat composition, resulting from the fires.

2.0 Methods

As part of our evaluation update, we reviewed the reports prepared by PCR and others to compare the site conditions prior to the October fire to current conditions. Following our review, we conducted two surveys, including a site walkover focused on documenting the loss of resources as well as the potential for recovery.

3.0 Findings

3.1 Martin Ranch 1999

The property was previously assessed in 1998 by Planning Consultants Research (PCR), which prepared a biological assessment of the biological resources of the property. The work included a review of existing literature and previous documentation, "comprehensive field investigations, and focused sensitive species surveys performed in the spring, summer, and falls seasons of 1998" (PCR 1999).

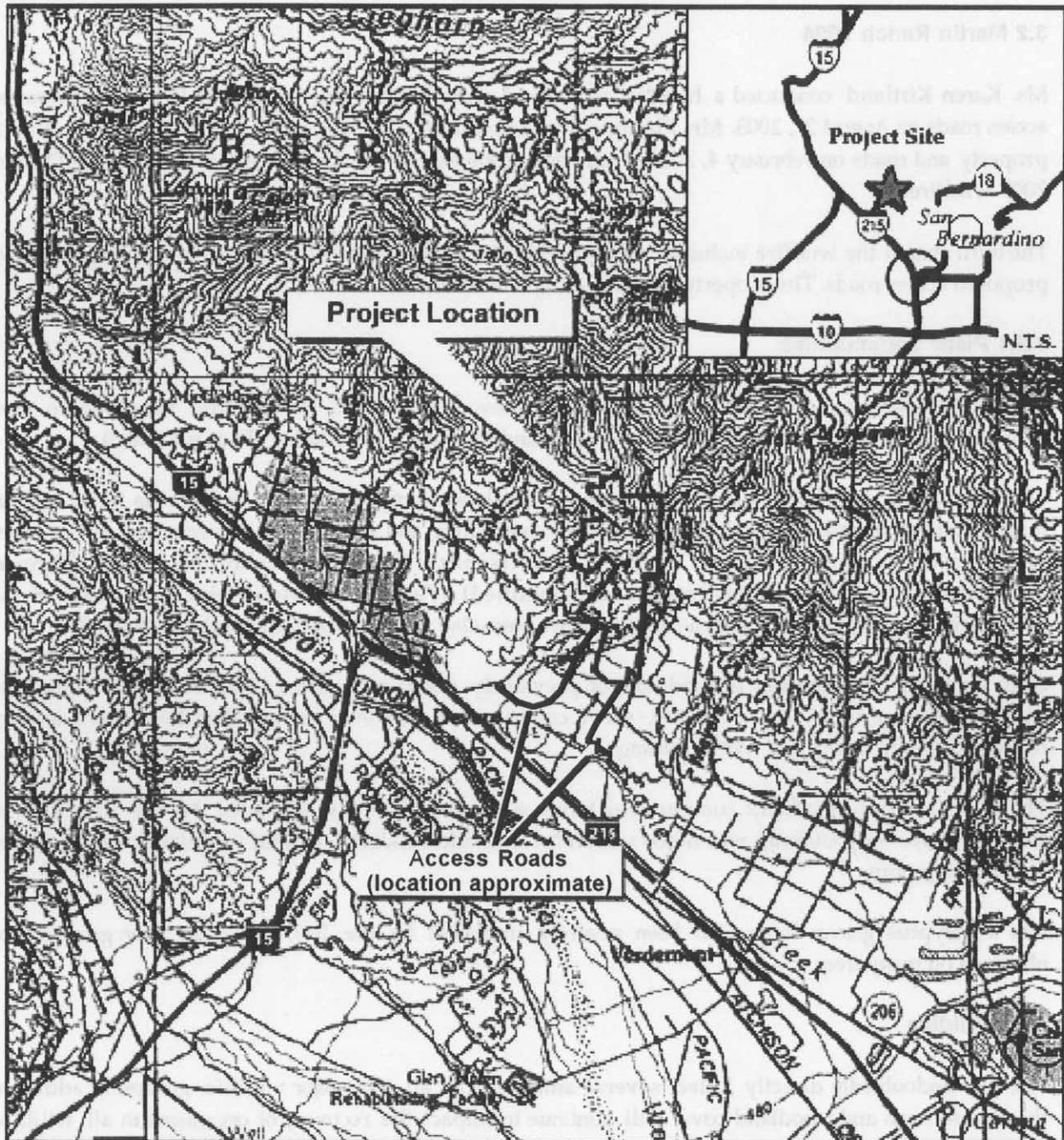
PCR identified chaparral, Riversidian sage scrub, California walnut woodland, southern willow scrub, sycamore alluvial woodland and southern sycamore alder riparian woodland as the dominant habitat on site. Other plant communities include live oak woodland, non-native grasslands and cultivated communities such as eucalyptus groves.

Sensitive species observed on site included the Southern California rufous-crowned sparrow (*Aimophila ruficeps canesens*), Bell's sage sparrow (*Amphispiza bellii bellii*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). Other species identified as potentially present include both plant and additional animal species (PCR 1999).

PCR identified the Riversidian sage scrub, riparian woodlands and riparian scrub plant communities as sensitive habitats.

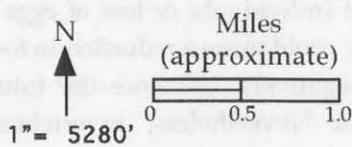
PCR also identified the presence of U. S. Army Corps and California Department of Fish and Game jurisdictional drainages and wetlands along Cable Creek and Meyers Canyon. They include a low flow crossing and two small seeps as jurisdictional. The location of the crossing and the seeps were not identified.

They do not identify Martin Canyon Creek as being a jurisdictional drainage or having jurisdictional wetlands.



Map Source: Planning Consultants Research 1998
Map Base: Devore 1988 and San Bernardino North
1988 7.5' USGS topographic quadrangles

Figure 1 Regional Vicinity
and Project Site Map



Martin Ranch
San Bernardino County, California

3.2 Martin Ranch 2004

Ms. Karen Kirtland conducted a habitat assessment with Lilburn Corporation staff of five proposed access roads on August 27, 2003. Mr. Philippe Vergne conducted a walkover survey of the Martin Ranch property and roads on February 4, 2004, documenting the extent and damage intensity from the October 2003 wildfire.

The burn area of the wildfire included all of the Martin Ranch property (Photos 1, 2 and 3) and the two proposed access roads. The property has been completely burned.

3.2.1 Plant Communities

All of the plant communities on site have been severely affected by the fire. However, in most habitats, annuals were emerging and burned scrub and trees were resprouting (Photos 4 and 5).

The non native grasslands have been replaced (at least temporarily) by herbaceous forbs such as lupines, mustards and filarees. In both this plant community and in the scrub communities, native plant species such as stinging lupine (*Lupinus hirsutissimus*) (Photo 6), California peony (*Paeonia californica*) (Photo 7) and ferns (species not identified) (Photo 8) are flourishing as a result of the burnoff of dense cover. In some areas, grass species were also returning in high numbers (Photo 9).

Only emergent and remnant individuals of previously dominant species could be found within the Riversidian sage scrub, and chaparral plant communities. However, as noted earlier, there is some recovery through stump and root sprouting.

The riparian and woodland communities have all been adversely impacted by the fire. Loss of individual trees or groupings was noted within the live oak woodland, walnut woodlands and sycamore woodlands groups.

The eucalyptus groves have also been severely impacted by the fire, however, new growth was observed on many trees.

3.2.2 Wildlife

The fire undoubtedly directly killed several animals from all the major wildlife groups. In addition, the loss of scrub and woodland cover will continue to impact the recovery of organisms in all wildlife groups.

3.2.2.1 Invertebrates

Most of invertebrates were probably directly affected either by loss of individuals or loss of eggs or larvae in the process of development. In addition, the loss of plant cover could mean a reduction in food sources for the emerging young of this spring season, and may also negatively influence the future breeding success of adults dependent upon scrub and woodland plants. Nevertheless, invertebrate populations will probably rebound quickly once vegetative cover returns.



Photo 1. Former scrub habitat. Looking north.



Photo 2. Former scrub and woodland habitat. Looking north.



Photo 3. Former chaparral habitat. Looking northwest.



Photo 4. Shrub sprouting. Species unknown.



Photo 5. Tree stump sprouting (species unknown).

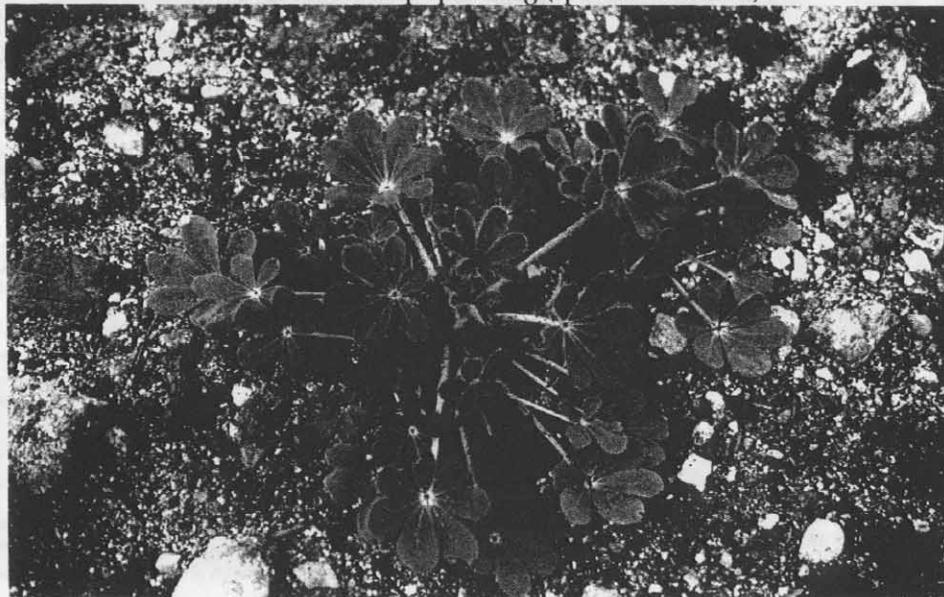


Photo 6. Lupine seedling (probably stinging lupine)



Photo 7. California peony.



Photo 8. Fern shoots.



Photo 9. Grasses (probably brome) and ferns.

3.2.2.2 Amphibians

Amphibians were probably most directly affected, since as a group they are highly susceptible to air pollution (such as smoke), water pollution through ash, duff and mud runoff. They are also susceptible to the burn-off of protective vegetative cover and subsequent drying out of their habitats. Nevertheless, it is likely that most of the species that were present prior to the fire will persist albeit at lower densities, until their micro-habitat recovers.

3.2.2.3 Reptiles

Reptiles were also probably severely affected, both by the direct loss of individuals as well as the removal of cover. Remains of snakes were observed during the surveys, and many species, such as the San Diego horned lizard, may also have been directly killed by heat and smoke. Other species, such as the ringneck snake (*Diadophis punctatus*) would be also indirectly affected by the loss of moist cover.

Species such as the California whiptail (*Cnemidophorus tigris mundus*) and the California whipsnake (*Masticophis lateralis*) may recover more quickly, since they prefer open scrub and grasslands habitats and are less common in areas with dense cover.

3.2.2.4 Birds

Birds were probably most directly affected by habitat loss. Most of the birds resident on the property probably flew off when the wildfire approached. Some individuals may have been caught and burned,

but the loss of animals was probably less than for the amphibians and reptiles. Because the wildfire occurred in October, no nests, eggs, or nestlings were lost.

However, the complete loss of scrub cover and most woodland cover will result in the absence or reduced use of the site by nesting scrub and woodland species for some time to come. Foraging by soaring raptors such as the red-tailed hawk (*Buteo jamaicensis*) and seed eaters such as sparrows and finches may continue, but for the most part, these and other species will be forced to seek nesting habitat elsewhere. Insect feeders such as swallows and swifts that capture prey on the wing may continue to forage over the burn site, particularly if insect populations recover quickly. Insect feeders on foliage, such as warblers, and fruit eaters, such as orioles, may be absent from the site for much longer.

3.2.2.5 Mammals

Small mammals such as deer mice were probably directly affected to a large degree by the loss of individuals to fire. Larger mammals such as bobcat (*Lynx rufus*) and coyote (*Canis latrans*) probably lost fewer individuals, since they are more likely to escape by leaving the property. The loss of scrub and woodland plant communities will have a greater affect on small mammals dependent upon seeds and small prey (such as invertebrates) that have been lost to the fire.

Larger mammals, having larger foraging areas, will probably expand back into the property more quickly than the smaller mammals at first. However, since juvenile recruitment is greater in small mammals, this group will probably recover in just a few years.

3.2.3 Sensitive Biological Resources

3.2.3.1 Sensitive Plant Species

No sensitive plant species were found on site during the course of the survey. PCR noted the potential for a number of sensitive plant species, and there is still a potential for the occurrence of Orcutt's brodiaea (*Brodiaea orcuttii*), Plummer's mariposa lily (*Calochortus plummerae*), San Bernardino mountain owl's clover (*Castilleja lasiorhyncha*), and smooth tarplant (*Hemizonia pungens laevis*). NRA, Inc. recommends that focused surveys for those species be conducted during the peak flowering periods for these plants. The likelihood of occurrence for these species is possibly higher than when the site was assessed by PCR, due to the removal of dense grass and shrub cover by the wildfire.

3.2.3.2 California Gnatcatcher

A protocol survey for the California gnatcatcher was performed in June of 2002 (White and Leatherman Bioservices) for the alternate access road to the site. No gnatcatchers were observed within the limited survey area at that time.

All the available scrub habitat has been burned, both on the property and in the immediate area. There is currently no adequate nesting or foraging habitat for the California gnatcatcher on the property or along the access roads. However, scrub species were already recovering both from seed and

stump sprouting. Emergent scrub was observed on site, and stump sprouting was observed in several places. There are portions of the property that could recover from the effects of the wildfire over time.

Depending upon the timing of the project, NRA, Inc. recommends a follow up survey for the gnatcatcher on the property and along the access roads to determine if it has colonized the site since the wildfire.

3.2.3.3 San Bernardino Kangaroo Rat

PCR determined that the site had limited potential habitat for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) in 1998. A 2002 protocol trapping survey along a single access road (not one of the two proposed roads) indicated that this species was not present on site (S.C. Dodd Biological Consulting 2002). It is unlikely that the area trapped could have been colonized since that survey.

Although the original project boundaries are outside the Critical Habitat area for this part of San Bernardino County, the revised project includes two new access roads. These roads could potentially cross in or near Critical Habitat areas; therefore, surveys for the SBKR are recommended for these routes. Surveys would probably be required by the U. S. Fish and Wildlife Service (USFWS) since the original surveys are not more than one year old.

Several other sensitive species were captured as part of the 2002 trapping effort. It is likely that the Los Angeles pocket mouse, northwestern San Diego pocket mouse and San Diego desert woodrat still occur on site and along the access roads. Impact to these species could be considered as significant under CEQA.

3.2.3.4 White-tailed Kite

The white-tailed kite (*Elanus leucurus*) prefers woodlands in open areas. It nests in trees, but prefers to forage over open grasslands, meadows and fields. Since many of the trees that were killed or fire damaged on the property are still standing (Photo 10), they could function as snags for nesting raptors such as the white-tailed kite. It is possible that this species may nest and forage on site.

3.2.3.5 Burrowing Owl

Burrowing owl (*Athene cunicularia*) prefers large open space areas for foraging and nesting. This species is a ground dweller, nesting in holes in the ground, and forages low over grasslands and sparsely vegetated areas for insect prey. Because of the recent fire, the property has potentially increased in habitat quality for burrowing owl.

No burrows or sign of burrowing owl was found on site; however, a protocol survey for this species was not performed. This species could be present on site, along portions of the two access roads, and in adjacent areas. If individuals are present on site or nearby, they could potentially forage on the property, particularly if insect populations increase rapidly this year. NRA, Inc. recommends a burrowing owl survey following the guidelines recommended by the Burrowing Owl Consortium (1993) be conducted on the property and relevant portions of the access roads before construction.



Photo 10. Eucalyptus trees burned by fire.

3.2.3 6 Other Sensitive Species

There were no sensitive invertebrate species identified by PCR as potentially present on site.

It is difficult to determine whether sensitive amphibian and reptile species such as the arroyo toad (*Bufo microscaphus californicus*), red-legged frog (*Rana aurora draytoni*), and southern rubber boa (*Charia bottae umbratica*) will colonize the property. These species were not observed by PCR, and they believe that the likelihood is low to very low due to the lack of suitable habitat. However, PCR does not dismiss the possibility of this site by used by these and sensitive reptiles.

Most of the sensitive scrub bird species identified by PCR (other than those discussed above) will probably not be present for at least a year. These include the Southern California rufous-crowned sparrow (*Aimophila ruficeps canesens*) and Bell's sage sparrow (*Amphispiza bellii bellii*). Woodland species such as the yellow-breasted chat (*Icteria virens*) may return sooner, depending upon how quickly the woodland habitat recovers.

As noted above, sensitive mammal species other than the SBKR that are potentially present include Los Angeles pocket mouse, San Diego desert woodrat and northwestern San Diego pocket mouse.

3.2.4 Raptors, Migratory Birds and Habitat

Although badly burned, woodland habitats still exists on site that could provide potential nesting and roosting habitats for hawks and falcons. The burned grassland and scrub habitat provide excellent foraging habitat for raptor species.

A pre construction survey for nesting raptors (if construction activity occurs during March through June) is recommended to determine whether individuals are nesting in the trees and woodlands on site.

3.2.5 Wildlife Movement

Wildlife corridors still persist on site and were identified during the February survey. Tracks of deer, coyote and one bear were observed in the upper portions of the site, and within Cable Creek Canyon and its tributaries. It is likely that project development will impact wildlife movement by larger mammals across the property. This is particularly true along the northern road, which crosses Cable Creek. A road in this area would run perpendicular to wildlife movement up and down the creek, in addition to removing riparian habitat.

Impacts to mid size and smaller mammals should be negligible.

3.2.6 Jurisdictional Drainages and Wetlands

PCR also addressed the potential presence of Waters of the U. S. and Waters of California that may require permitting from the U. S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (CDFG). The proposed project contains Corps and CDFG jurisdictional drainages, and wetlands, including Cable Creek. The northern access road will cross and therefore impact Cable Creek. The southern access road may require improvements to Cable Creek to control flooding, and will therefore also impact the creek.

Although these wetlands and drainages, including the seeps and riparian corridors, have been degraded as a result of the wildfire, these areas still come under Corps and CDFG jurisdiction. In addition, these areas still supply water and, as a result of the fire, have increased in value for local wildlife use and even wildlife from farther away.

4.0 References

Planning Consultants Research, 1999. *Biological Resources Assessment and Report*. Prepared for the Martin Ranch Property, San Bernardino County, California.

S.C. Dodd Biological Consulting, 2002. Letter report on the "Results of a live-trapping survey for the federally listed endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*) on the secondary access route for the proposed Martin Ranch project, located near Devore in San Bernardino County, California" Prepared for White & Leatherman BioServices, Upland, California.

Woldruff, Deborah, 1997. *Initial Study, Martin Ranch Project*. Prepared for the City of San Bernardino.