

Supplemental Environmental Assessment

Conejo Fire Mitigation

Conejo Recreation and Park District

HMGP #1498-98-36

March 2006



FEMA

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Supplemental Environmental Assessment to the Programmatic Environmental Assessment (PEA) for Typical Recurring Actions Resulting From Flood, Earthquake, Fire, Rain, and Wind Disasters in California as Proposed by the Federal Emergency Management Agency

Conejo Recreation and Park District

Fire Mitigation in Conejo Valley

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1. INTRODUCTION

The Conejo Recreation and Park District (CRPD) has applied for funds from the Federal Emergency Management Agency (FEMA), through the State of California Governor's Office of Emergency Services (OES), to conduct vegetation management on public property managed by the Conejo Open Space Conservation Agency (COSCA) in the City of Thousand Oaks, Ventura County, California (Figure 1, Appendix A). FEMA is proposing to fund the project through the Hazard Mitigation Grant Program (HMGP) under a presidential disaster declaration (FEMA-1498-DR-CA) for the southern California wildfires of October 2003.

The Simi Fire, which was one of several wildfires declared as FEMA-1498-DR-CA, started around October 25, 2003, in the area of Simi Valley and Moorpark. Pushed by Santa Ana Winds, the Simi Fire initially advanced at a rate of 20 miles per day as California Department of Forestry and Fire Protection (CDF) and Ventura County fire crews labored to block its path. As the fire advanced, authorities feared that blowing embers would spread the fire to Thousand Oaks, but weather conditions improved and firefighters managed to contain the Simi Fire on November 1, 2003, after burning 108,204 acres, destroying 37 homes, and causing 21 injuries.

1.1 SCOPE OF DOCUMENT

FEMA has prepared the Final Programmatic Environmental Assessment for Typical Recurring Actions Resulting From Flood, Earthquake, Fire, Rain, and Wind Disasters in California (PEA), which assesses common impacts of the action alternatives that are under consideration at the proposed project site (FEMA 2003). The PEA adequately assesses impacts from the action alternatives for some resource areas, but for the specific actions of this particular project, some resources are not fully assessed in the PEA. Therefore, for this specific project to comply with the National Environmental Policy Act (NEPA), this Supplemental Environmental Assessment (SEA) has been prepared to tier from the PEA and fully assess the additional impacts to resources that are not adequately addressed in the PEA. This SEA hereby incorporates the PEA by reference, in accordance with Title 40 of the Code of Federal Regulations (40 CFR) Part 1508.28.

1.2 PURPOSE OF AND NEED FOR ACTION

The objective of FEMA's HMGP is to reduce the loss of life and property due to natural disasters and to enable long-term hazard mitigation measures to be implemented during the immediate recovery from a disaster. Through this program, FEMA provides grants to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Therefore, the purpose of this project is to provide HMGP funding to CRPD.

COSCA was created in 1977 by a joint powers agreement between the City of Thousand Oaks and CRPD to preserve, protect, and manage open space resources in the Conejo Valley. COSCA manages approximately 16,000 acres of open space in a community service area of 140,000 people. Much of COSCA lands contain dense fuel loads, steep slopes, and limited access. Because of historic and recent development, these lands are also located adjacent to heavily populated areas. These conditions create a high risk for hazardous wildfires to occur throughout COSCA lands. Using aerial photographs and field experience, CRPD has identified several areas especially vulnerable to wildfire with severe consequences to public safety and property loss. These areas include the perimeters of Wildwood Regional Park, Oakbrook Regional Park, Hillcrest Open Space, Dos Vientos Open Space, and North Ranch Open Space. A major wildfire in any one of these areas could destroy 300 homes and over 8000 acres. Therefore, action is needed to reduce the risk of wildfires on public property managed by COSCA.

Ventura County Fire Protection District (VCFPD) Ordinance 24 and the California Public Resources Code 4291 require land owners to clear brush, flammable vegetation, or combustible growth within 100 feet from structures or property lines. Therefore, in addition to its responsibility as a steward of protected natural areas, COSCA has a legal obligation to conduct vegetation management in areas where the 100-foot buffer around structures encompasses its property.

2. DESCRIPTION OF THE PROPOSED ACTIONS AND ALTERNATIVES

CRPD evaluated a range of alternatives to meet the project purpose and need. The alternatives described in this section include one alternative that CRPD has considered but dismissed and two alternatives that will be evaluated in detail in this SEA.

2.1 ALTERNATIVES NOT CARRIED FORWARD

CRPD considered using prescribed fires to treat vegetation in the project area. A prescribed fire is controlled to burn at a lower temperature than a wildfire and within a designated area. However, the relatively narrow fuelbreaks required for treatment to comply with state and local laws are too close to residences for prescribed fires to be implemented safely. Further, defensible spaces must be created before prescribed fires are carried out. This would require the mechanical treatment of most of the area proposed for burning and would make the actual burning somewhat superfluous. Finally, air quality and other meteorological requirements

necessary for safe burn days are difficult to meet. For these reasons, CRPD dismissed this alternative from further consideration.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative would involve no treatment of vegetation within the project area. The existing fire hazard to residents and structures surrounding COSCA property would remain under the No Action Alternative. No fuelbreaks would be created to allow firefighters areas of defensible space. Economic losses from fire damage would occur in addition to the threat to public health and safety posed by a wildland fire. Loss of native flora and fauna and their associated habitats would occur in the event of a wildfire, along with loss of topsoil due to erosion and sedimentation of local streams. In addition, VCFPD is responsible for enforcing the applicable codes and ordinances, and CRPD may incur fines for not complying with VCFPD Ordinance 24 and the California Public Resources Code 4291. Therefore, in addition to issues of public health, safety, and welfare, taking no action has financial ramifications for CRPD and is in violation with state and local law.

2.3 PROPOSED ACTION ALTERNATIVE

The objective of the proposed action is to create a fire fuelbreak within COSCA lands that are adjacent to residential buildings, other structures, and roadways within the City of Thousand Oaks. The proposed action would reduce dense fuel loads by implementing the regulations mandated in VCFPD Ordinance 24.

The proposed action would consist of the selective removal of vegetation within 100 feet of structures and 10 feet of roadways, including access roads. The proposed action would not include treatment of private property, for which vegetation clearance is the responsibility of the property owner. The distance between a structure and the corresponding property boundary varies from residence to residence, but on average in the action area this distance is approximately 60 feet. Therefore, the proposed action would involve creating a fuelbreak approximately 40 feet wide bordering residences and 10 feet wide bordering roadways on approximately 21.5 linear miles throughout COSCA lands. The proposed action would encompass approximately 83 acres. Equipment staging areas would consist of public streets, parking lots, and other areas where the ground surface has already been disturbed. Thus, no vegetation clearing would occur for equipment staging, and these areas are not included in the estimate of the number of acres proposed for treatment.

Treatment of vegetation would occur approximately between April 1 and May 31, 2006, or April 1 and May 31, 2007, except in areas with coastal sage scrub (CSS), which would be treated between September 1, 2006, and February 1, 2007. Some equipment mobilization activities could take place outside of this period. VCFPD performs inspections for compliance with Ordinance 24 in June so all vegetation treatment associated with the proposed action would be concluded on or about June 1, 2007, except for areas of CSS. Every year for the last 10 years, CRPD has completed the required vegetation clearing in the action area. Therefore, most of the action area has already been treated in previously years.

In areas that have not been treated recently, CRPD would remove approximately 90 percent of the existing vegetation. In areas that have been treated recently, CRPD would remove approximately 20 percent of existing vegetation. The removal of vegetation would not apply to landmark or heritage trees, stands of protected species, ornamental shrubbery, or ornamental plants used as ground covers, provided that they do not form a means of rapidly transmitting a fire to any building. In particular, oak trees are protected by a City of Thousand Oaks ordinance so they would not be removed. In addition, sycamore, black walnut, and California bay would not be targeted for removal. CRPD would also avoid areas where maritime succulent scrub (cacti) is the dominant vegetation community. In areas where CSS or chaparral is the dominant vegetation type, CRPD may not clear the entire area but instead may selectively thin the vegetation in a random, or mosaic, pattern. Vegetation less than 18 inches high would be maintained in areas sensitive to erosion, such as steep slopes, to protect the soil. Trees would be limbed up so that vertical clearances (ladder-fields) would be no less than 13.5 feet.

CRPD would utilize the services of CDF, the California Conservation Corps, in-house labor, and private contractors to implement the proposed action. Work crews would range in size from 2 to 12 people.

Hand crews would utilize weed eaters, chain saws, and walk-behind tracked mowers to remove vegetation. Figures 2a-2e show the method of treatment that would occur for each portion of the proposed fuelbreak. Once cut, vegetation would be left in place, disked into the soil using a tractor-driven device, or hauled off site to a permitted disposal facility, depending on slope, vegetation type, and soil conditions. The decision regarding disposition of cut vegetation would be made by the COSCA Supervising Park Ranger on a site-specific basis during project implementation. CRPD would not conduct any vegetation removal activities within a 50-foot-wide buffer zone around riparian areas, wetlands, and ephemeral or perennial streams. This buffer zone would be measured from the outermost portion of riparian or wetland vegetation—not from stream banks or other high-watermark boundaries.

Long-term maintenance of the action area would include annual inspections by CRPD to determine whether selective limbing of trees or other maintenance treatment would be required. CRPD plans on the action area not requiring a treatment similar to the proposed action for 20 years. Based on the annual inspections, a more frequent treatment schedule would be initiated if necessary.

2.4 OTHER ACTION ALTERNATIVES

Other alternatives to the proposed project are adequately addressed in Section 2 of the PEA.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The PEA has adequately described the affected environment and impacts of the proposed action for all resource areas, except for geology and soils, air quality, water resources, biological resources, cultural resources, public services and recreation, noise, and visual

resources. Therefore, the affected environment and environmental consequences for those resources are described in this section, which is intended to supplement the information contained in the PEA. Necessary avoidance and minimization measures, either stipulated in the PEA, or based on the results of the impact analysis in the SEA, that are appropriate for the proposed action, are discussed in Section 4.

3.1 GEOLOGY AND SOILS

The project area is located within the El Conejo Mountains, which are part of the Santa Monica Range that bisects the City of Los Angeles and is part of the larger Transverse Ranges Province (USGS 2005). The fault zones underlying the project vicinity run in an east-west direction and are part of the fault system that runs from Santa Barbara south to Los Angeles. The Big Pine Fault and the Garlock Fault bisect the San Andreas Fault just north of the project area (CGS 2002). The underlying bedrock of the project vicinity is mainly comprised of Cenozoic marine sedimentary rock, Late Mesozoic shelf and slope sedimentary rocks, and Cenozoic volcanic rocks. The average elevation of the project area is approximately 900 feet.

The project area encompasses a wide variety of soil types because the treatment units are spread across a range of parent materials, slope inclinations, and vegetation types. Generally, the soils are located in an area of upland soils developed in volcanic and metamorphic rock, are located on ridges and side slopes (0 to 20%), and typically consist of loam textures (USDA 2006). Many of the soils in the project area are shallow to bedrock, and have moderate to severe erosion hazard ratings for susceptibility to water erosion when disturbed. Unstable soils and geologic conditions have historically resulted from vegetation removal associated with wildfires, timber harvesting, mining, and grading as part of road building and site development. Depending on local topographic, geologic, and hydrological conditions, significant precipitation can result in high rates of erosion and exacerbate unstable conditions, resulting in landslides and mudslides.

The proposed action would result in minimal soil-disturbing activities including the use of mowing machinery, tractor-driven disking devices, and human foot traffic over the ground surface. All vegetation removal would be above ground, with root structures remaining intact for the purpose of erosion control. Grasses would be cut within two inches of grade, except on steep slopes (greater than 30%) where vegetation would be left within 18 inches of grade. The vegetation removal, as proposed, would prevent the potential for erosion and sedimentation activities to occur.

FEMA has determined that implementation of the proposed action would not exacerbate current erosion levels or result in impacts to geology with implementation of the avoidance and minimization measures described in Sections 4.1 and 4.3 of the SEA. Therefore, the proposed action would not result in adverse impacts to geology and soils.

3.2 AIR QUALITY

The project site is located in the Ventura County Air Quality Management District. Ventura County does not attain the state or Federal standards for ozone and does not attain the state

standards for particulate matter. The emission thresholds for General Conformity Rule Applicability [40 CFR Part 51.583(b)] are 10 tons per year for ozone precursors, 70 tons per year for particulate matter, and 100 tons per year for all pollutants for which the area is in attainment of Federal standards.

Implementation of the proposed action would result in a temporary deterioration of air quality. The project-related effects to air quality would include short-term increases of fugitive dust and equipment combustion emissions that would be created by weed eaters, chain saws, walk-behind tracked mowers, tractor-driven disking devices, and other vehicles. Emission estimates for PM₁₀ (particulate matter size of 10 micrometers), nitrogen oxides, carbon monoxide, sulfur dioxide, and hydrocarbons fall below the threshold levels of the General Conformity Rule. Assuming an 80-day project duration, the proposed action would create approximately 0.5 ton per year of emissions for all pollutants.

Therefore, the proposed action qualifies as a General Conformity Rule exemption, and no further analysis is required to establish conformity with the State Implementation Plan. To mitigate against localized air quality impacts, CRPD would implement the avoidance and minimization measures described in Section 4.2 of the SEA.

3.3 WATER RESOURCES

The major surface water bodies within the project area include Arroyo Conejo Creek and its tributaries, which drain many unnamed ephemeral streams and smaller creeks within the action area. Arroyo Conejo Creek joins Conejo Creek northwest of the project area, which drains into Calleguas Creek that flows into the Pacific Ocean. There are no ponds or wetlands within the action area, but riparian areas exist along many of the unnamed ephemeral drainages.

With implementation of avoidance and minimization measures, such as Best Management Practices (BMPs) for erosion and sediment control and the use of buffers around any surface water body and riparian area, where no project activities may occur, as described in Sections 4.1 and 4.3 of the SEA, impacts to water resources would be minimal for the proposed action. Buffers adjacent to ephemeral and perennial streams would be used to reduce sediment entering the waterway, reduce erosion along banks, and provide for infiltration during precipitation events that would reduce peak flows and protect riparian habitat. Wildfires are known contributors to deterioration of water quality by increased erosion, sedimentation, and ash input. Implementation of the proposed action would result in a long-term benefit to water quality by creating a fuelbreak that may prevent a wildfire from spreading across the landscape.

3.4 BIOLOGICAL RESOURCES

A habitat assessment survey of the action area was conducted from July 11 to 15, 2005. The action area encompasses nine vegetation communities: ruderal vegetation, CSS, grassland (native and non-native), ornamental landscape, maritime succulent scrub, oak woodland, chaparral, riparian woodland, and coyote brush scrub (Holland 1986). All the vegetation communities occur adjacent to developed areas. These vegetation descriptions are based on

conditions after the area was cleared during the spring of 2005 for fire maintenance. Since CRPD has been conducting vegetation clearing in the action area for the last 10 years, most of the action area has already been treated to comply with the fire clearance required for 2005. Therefore, this section does not constitute a complete description of the species that occur in the action area, but a snapshot of the existing conditions during the survey from July 11 to 15, 2005.

Ruderal vegetation occurs mostly in the areas that have been regularly cleared for fire maintenance. Native and non-native grasslands are also typically found within the cleared areas. Cleared areas are typically approximately 50 feet from the edge of the residential property line. Native habitats typically occur 50 feet beyond the cleared areas, but are sometimes scattered within the 50-foot-wide buffer adjacent to the property line. Small patches of CSS and chaparral are often scattered within these areas. CRPD makes an effort to preserve native shrubs and trees within the 50-foot-wide buffer by trimming trees or shrubs several feet off the ground to reduce fuel load; however, some native vegetation is still removed in these areas, especially annual species. On average, clearing would not occur beyond 40 feet from property lines, so many of the native habitats in these areas would not be impacted by fire maintenance. Because maritime succulent scrub has a low fire incidence, it would not be cleared. Table 1 (Appendix A) presents a summary of the total acreages for the terrestrial vegetation types found in the action area.

FEMA obtained information concerning species listed as endangered, threatened, proposed for listing as endangered or threatened, or candidates for listing as endangered or threatened under the federal Endangered Species Act (ESA) that may occur in the action area. A list of special status plant and wildlife species with potential to occur in the vicinity of the action area were identified from the following sources:

- U.S. Fish and Wildlife Service (USFWS) Ventura Field Office website for Ventura County, and
- The California Department of Fish and Game's (CDFG's) California Natural Diversity Database (CNDDDB) was searched for known occurrences of listed, proposed, or candidate species within nine USGS 7.5-minute quadrangles: Thousand Oaks, Newbury Park, Moorpark, Simi Valley West, Simi Valley East, Calabasas, Malibu Beach, Point Dume, and Triunfo Pass (CDFG 2005).

These two searches identified 20 special status wildlife and 12 special status plant species with potential to occur in the action area (Table 2, Appendix A). FEMA conducted a literature review to identify habitat requirements and distribution of these special status species. Species identified in Table 2 with no potential or low potential to occur in the action area are not discussed further.

As a result of the habitat assessment and background review, FEMA determined that the action area could provide habitat suitable to support three Federally listed bird species and nine federally listed plant species under USFWS' jurisdiction, which are listed below:

- Coastal California gnatcatcher (*Polioptila californica californica*),
- Southwestern willow flycatcher (*Empidonax traillii extimus*),

- Least Bell's vireo (*Vireo bellii pusillus*),
- Braunton's milkvetch (*Astragalus brauntonii*),
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*),
- Slender-horned spineflower (*Dodecahema leptoceras*),
- Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*),
- Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*),
- Santa Monica Mountains dudleya (*Dudleya cymosa* ssp. *ovatifolia*),
- Conejo dudleya (*Dudleya parva*),
- Verity's dudleya (*Dudleya verityi*), and
- Lyon's pentachaeta (*Pentachaeta lyonii*).

FEMA submitted a Biological Assessment (BA) for the proposed action to the USFWS on November 7, 2005. FEMA determined that the proposed action is not likely to adversely affect, directly or indirectly, the coastal California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, Braunton's milkvetch, San Fernando Valley spineflower, slender-horned spineflower, Agoura Hills dudleya, Marcescent dudleya, Santa Monica Mountains dudleya, Conejo dudleya, Verity's dudleya, and Lyon's pentachaeta. On November 10, 2005, USFWS proposed critical habitat for Braunton's milkvetch and Lyon's pentachaeta (USFWS 2005). After reviewing the newly proposed critical habitat for these two species, FEMA determined that a small portion of the action area overlaps Unit 2 of the proposed critical habitat for Braunton's milkvetch and Unit 2 of the proposed critical habitat for Lyon's pentachaeta. On February 16, 2006, FEMA responded to questions provided by the USFWS and determined that the proposed action would not destroy or adversely modify the proposed critical habitats for these two species. The USFWS issued a letter of concurrence with FEMA's determination (with the exception of the candidate species, San Fernando Valley spineflower) on March 6, 2006, that includes a list of avoidance and minimization measures that would be implemented by CRPD and which are listed in Section 4.4 of the SEA. A copy of this letter is provided in Appendix B.

CRPD is responsible for compliance with the Migratory Bird Treaty Act.

3.5 CULTURAL RESOURCES

Cultural resource investigations were undertaken to identify both previously recorded sites and previously undiscovered sites within the action area in compliance with Section 106 of the National Historic Preservation Act (NHPA) and the 2003 Programmatic Agreement (PA) among FEMA, the California State Historic Preservation Office (SHPO), the OES, and the Advisory Council on Historic Preservation. FEMA archaeologists conducted a pedestrian survey on July 14 and 15, 2005. The results of the archaeological survey were negative for cultural resources within all areas surveyed.

FEMA contacted the California Native American Heritage Commission (NAHC) on April 19, 2005, to request a review of its Sacred Lands File and to receive a list of the individuals and groups that the NAHC believes should be contacted regarding information or concerns related to the project areas. The NAHC responded on May 11, 2005, with negative results for its search of the Sacred Lands File. On July 28, 2005, FEMA transmitted an informational letter to the 17 potentially interested parties identified by the NAHC. To date, one response to the informational letter has been received.

A cultural resources literature review was performed at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (File No. 5424.2762) on May 31, 2005. Seventy-nine prehistoric archaeological sites are documented within a half-mile radius of the action area. As reported by the SCCIC there are no sites listed, or eligible for listing, in the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the California Register of Historic Places (CRHP), the California State Historic Resources Inventory (HRI), the City of Los Angeles Historic-Cultural Monuments, nor on the National Register of Historic Places (NRHP).

FEMA transmitted a letter along with the cultural resources technical report to the SHPO on November 8, 2005. The letter analyzed the potential adverse effects to cultural resources, presented measures to reduce adverse effects (described in Section 4.5 of the SEA), and made a determination of “no historic properties affected.” The SHPO issued concurrence with FEMA’s determination on November 30, 2005. A copy of this letter is provided in Appendix C.

3.6 PUBLIC SERVICES AND RECREATION

Some of the work sites for the proposed action would be within open space preserves that allow public recreational uses, such as hiking. The proposed action would include utilization of some of the public access points of the open space preserves to access the work sites. These access points would also be used as staging areas. The public access points that would be near to or adjacent to work sites would be temporarily closed to the public while vegetation management activities would be taking place. In addition, all areas where work would be occurring would be temporarily closed to the public. The short-term impacts associated with the proposed action would be less substantial than the short- and long-term impacts to public recreation in these open space preserves as a result of a wildfire. CRPD would notify the public of temporary closures as described in Section 4.6.

3.7 NOISE

The action area is generally quiet, consisting primarily of natural noises (e.g., bird calls, wind rustling leaves in trees), vehicular traffic noise, and activities occurring within private residences. Noise-sensitive receptors within and near the action area include residences and pedestrians adjacent to the action area. Noise associated with the proposed action would include human voices, and the operation of weed eaters, chain saws, walk-behind tracked mowers, tractor-driven disking devices, and other vehicles, which generate noise levels ranging from about 70 to 95 dB at 50 feet from the source.

Noise associated with project activities would move throughout the project area, and no single residence or noise-sensitive receptor would be subject to project-related noise levels for more than a few days. Therefore, with implementation of the avoidance and minimization measures described in Section 4.7, impacts to noise-sensitive receptors would be minimal. CRPD would be responsible for complying with city noise ordinances and state and federal standards and guidelines.

3.8 VISUAL RESOURCES

The scenic qualities of the landscape within the action areas mainly consist of a vegetated environment with grasses, shrubs, and landscaped trees, punctuated with low-density residential housing. Because the proposed action does not include the complete removal of established trees, the visual context and visual quality of the treatment areas would not change. No new viewsheds would be created and existing views of the action areas would not be deteriorated. Short-term impacts to views within the action area would occur during vegetation clearing when crews are working within the action areas. Through CRPD's long-term maintenance of the treatment areas, the visual resources of the action areas would not change once the proposed action has been implemented. In addition, implementation of the proposed action would create a more beneficial viewshed than what may occur if the landscape were to sustain a wildfire that could remove most of the existing vegetation.

3.9 CUMULATIVE IMPACTS

No other projects are planned in the project vicinity or in nearby areas. Therefore, no adverse cumulative impacts are expected to occur with implementation of the proposed action.

4. MINIMIZATION AND AVOIDANCE MEASURES

The following minimization and avoidance measures have been extracted from the PEA Section 4, or from measures developed for this SEA based on site specific impacts, and are applicable for the proposed action.

4.1 GEOLOGY AND SOILS

CRPD would be responsible for implementing erosion protection measures including BMPs to minimize soil loss and sedimentation, including but not limited to:

- Vegetation less than 18 inches high would be maintained in areas sensitive to erosion including steep slopes (greater than 30%) and areas where the majority of cleared vegetation would be removed completely off-site.

4.2 AIR QUALITY

CRPD would be responsible for reducing potential air quality impacts from vegetation clearing activities and employing minimization measures to limit fugitive dust and emissions.

These measures include but are not limited to watering disturbed areas, scheduling the siting of staging areas to minimize fugitive dust, and keeping vehicles and chain saws tuned properly.

4.3 WATER RESOURCES

CRPD would be responsible for complying with the Clean Water Act by implementing BMPs to reduce potential impacts to water resources including:

- Designating vehicle parking areas on paved surfaces where possible,
- Leaving shredded/cut material on-site to the extent possible to prevent erosion, and
- Using 50-foot buffers to protect surface water bodies (as designated in Section 4.4 of the SEA).

CRPD would also ensure that large amounts of vegetation, large limbs, soil, and other debris are not allowed to fall into or near a waterway that could potentially create a blockage when flow is present.

4.4 BIOLOGICAL RESOURCES

CRPD would be responsible for minimizing impacts to biological resources including implementing the following measures within the USFWS concurrence letter dated March 6, 2006 (Appendix B):

- Pre-project plant surveys would be conducted in all areas that have habitat suitable to support any of the federally listed plant species described in Section 3.4 of the SEA. The surveys would be conducted at the appropriate time of the year during the blooming periods for each species to the extent practicable while allowing the project to be completed prior to the June 1 target completion date. If any plant species resembling a listed species are found that are not flowering, such that a positive identification is not possible, they would be avoided. Listed plant species found in project areas would be fenced off and protected from clearing activities. Additionally, CRPD would notify USFWS and obtain guidance on how to further protect any listed plants observed. Special attention would be given to project areas bordering Wildwood Park, where observations of Conejo dudleya have been reported.
- Vegetation would not be removed within a 50-foot buffer zone around riparian areas, wetlands, and ephemeral or perennial streams. The buffer zone would be measured from the outermost portion of riparian or wetland vegetation.
- Pre-project surveys for coastal California gnatcatchers would be conducted prior to any thinning activities in areas supporting CSS. These surveys would be conducted by a qualified biologist.

- If any coastal California gnatcatchers are observed within the project area, no clearing activities would be conducted within 150 feet from CSS occupied by the species. Additionally, CRPD would notify USFWS and FEMA and obtain guidance on how to further protect the individuals observed.
- To avoid disturbing any nesting southwestern willow flycatchers or least Bell's vireos, no vegetation would be cleared within 300 feet of any riparian habitat from mid-May through September.

In addition, CRPD would flag or otherwise temporarily mark trees with occupied nests of birds protected under the Migratory Bird Treaty Act so that these trees would be avoided by clearing activities.

4.5 CULTURAL RESOURCES

CRPD would be responsible for implementing the following minimization and avoidance measure:

- Should previously unidentified archaeological resources be discovered during project implementation, CRPD would stop work in the vicinity of the discovery, notify FEMA, and fully comply with the steps outlined in Stipulation X of the PA.

4.6 PUBLIC SERVICES AND RECREATION

CRPD would be responsible for notifying the public prior to implementation of the proposed action. Ways to notify the public might include the posting of fliers at information centers and public restroom facilities in local parks and open spaces and in the City of Thousand Oaks.

4.7 NOISE

CRPD would be responsible for implementation of the following mitigation measures to reduce noise levels associated with the operation equipment for proposed action activities:

- Project activity creating noise levels would not be conducted between 9:00 p.m. and 7:00 a.m. and not on Sundays or Federal holidays.
- All noise-producing project equipment and vehicles using internal combustion engines would be equipped with properly operating mufflers and air inlet silencers, where appropriate, that meet or exceed original factory specification. This measure would assure that noise emissions from vehicles and other equipment are limited to the minimum feasible levels.

4.8 VISUAL RESOURCES

No mitigation measures would be required to reduce impacts to visual resources.

4.9 CUMULATIVE IMPACTS

No mitigation measures would be required to reduce cumulative impacts.

5. REFERENCES

- California Department of Fish and Game (CDFG). 2005. Rarefind 3, a program created by the California Department of Fish and Game, allowing access to the California Natural Diversity Database (CNDDDB). April 2005 version.
- California Geological Survey (CGS). 2002. Geologic Map of California. California Department of Conservation.
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- U.S. Fish and Wildlife Service (USFWS). 2005. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Astragalus brauntonii* and *Pentachaeta lyonii*. Proposed Rule. November 10.
- U.S. Geological Survey (USGS). 2005. Geologic Setting of the Transverse Ranges Province. Southern California Area Mapping Project (SCAMP). Website located at http://www.scamp.wr.usgs.gov/scamp/html/scg_prov_trans.html.

Appendix A – Tables and Figures

Table 1	Total Acreages for the Vegetation Communities Identified in the Action Area and Its Vicinity
Table 2	Federally Listed Species With Potential to Occur in the Vicinity of Conejo Valley
Figure 1	Location of Action Areas
Figure 2A	Treatment Type in the Action Area Map 1/5
Figure 2B	Treatment Type in the Action Area Map 2/5
Figure 2C	Treatment Type in the Action Area Map 3/5
Figure 2D	Treatment Type in the Action Area Map 4/5
Figure 2E	Treatment Type in the Action Area Map 5/5

Table 1
Total Acreages for the Vegetation Communities
Identified in the Action Area and Its Vicinity

Vegetation Types	Action Area (acres)	Buffer (acres)
Ruderal vegetation	47.30	23.48
Coastal sage scrub	11.28	32.13
Grassland (native and non-native)	9.07	10.75
Ornamental	5.82	5.75
Maritime succulent scrub	4.53	13.70
Oak woodland	2.74	2.81
Chaparral	1.23	9.70
Riparian woodland	0.84	3.42
Coyote brush scrub	0.001	1.02
Total	82.73	102.78

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
Amphibians				
<i>Bufo californicus</i>	Arroyo toad	E	Semi-arid regions near washes or intermittent stream channels, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Not likely to occur. The action area does not include washes or intermittent stream channels. The closest known occurrence is located approximately 9.1 miles east of the action area (CDFG 2005).
<i>Rana aurora draytonii</i>	California red-legged frog	T	Dense, shrubby riparian vegetation associated with deep (≥ 0.7 m), still or slow-moving water. Found in or near permanent sources of water with dense, shrubby, or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Most have access to aestivation habitat.	Not likely to occur. The action area contains a small amount of riparian vegetation, but no vegetation will be cleared in the riparian channels, or within 50 feet of riparian areas. There are a few creeks just outside of the action area with still or slow-moving water. Frogs may use riparian corridors adjacent to the action area for migration since they are known to travel up to a mile on dry land; however, most of the action area occurs on steep upland slopes where migration is unlikely. The closest known occurrence is located approximately 5.1 miles east of the action area (CDFG 2005).
Reptiles				

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Gambelia silius</i>	Blunt-nosed leopard lizard	E	Scarce resident of sparsely vegetated alkali and desert scrub habitats. Currently occurs at scattered sites in the San Joaquin Valley and adjacent foothills. Found on alkali flats, large washes, arroyos, canyons, and low foothills from elevations of 30 to 900 m (100 to 3,000 ft).	Not likely to occur. The action area does not include alkali and desert scrub habitats.
<i>Xantusia riversiana</i>	Island night lizard	T	Presently known from three of the Channel Islands off the coast of southern California: San Clemente, Santa Barbara and San Nicolas. Habitat includes coastal strand and sand dunes to chaparral and woodlands.	Not likely to occur. The action area is not located near the Channel Islands.
Birds				
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	T	Sandy beaches, salt pond levees and shores of large alkali lakes; needs sandy, gravelly or friable soils for nesting. Federal listing applies only to the Pacific coastal population.	Not likely to occur. The action area does not include sandy beaches.

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Coccyzus americanus</i>	Yellow-billed cuckoo	C	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Now, this species is likely found only along the upper Sacramento Valley portion of the Sacramento River, the Feather River in Sutter County, the south fork of the Kern River in Kern County, and along the Santa Ana, Amargosa, and lower Colorado rivers.	Not likely to occur. The action area contains a small amount of riparian vegetation, but no vegetation will be cleared in the riparian channels, or within 50 feet from riparian areas. This species is extirpated from the vicinity of southern California. Any birds seen on site would be expected to be migrants. This species needs very large spans of cottonwood-willow woodland, which does not occur in the action area.
<i>Empidonax traillii eximius</i>	Southwestern willow flycatcher	E	Nests in dense riparian habitats in proximity to water or very saturated soil; vegetation dominated by dense growths of willows or other shrubs and medium-size trees, possibly with an overstory of cottonwood, tamarisk, or other large trees.	Low potential to occur. The action area contains a small amount of riparian vegetation. This species requires large stands of dense willow woodland, which is only found within a very small portion of the action area. It is a rare occurrence outside the action area and its current distribution is not known within the immediate vicinity of the action area.

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Gymnogyps californianus</i>	California condor	E	Permanent resident of the semi-arid, rugged mountain ranges surrounding the southern San Joaquin Valley, including the Coast Ranges from Santa Clara Co. south to Los Angeles Co., the Transverse Ranges, Tehachapi Mts., and southern Sierra Nevada. Forages over wide areas of open rangelands, roosts on cliffs and in large trees and snags.	Not likely to occur. The action area is not located within the known range of this species.
<i>Haliaeetus leucocephalus</i>	Bald eagle	T	Winters throughout most of California at lakes, reservoirs, river systems, and some rangelands and coastal wetlands on protected cliffs and ledges. Also nests on bridges and buildings in urban areas. Nests are normally built in the upper canopy of large trees, usually conifers.	Not likely to occur. The action area is not located near lakes, reservoirs, river systems, and coastal wetlands with cliffs.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	E	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. In northern California, fairly common to uncommon June to November. Usually rests on water or inaccessible rocks (either offshore or on mainland), but also uses mudflats, sandy beaches, wharfs, and jetties.	Not likely to occur. The action area does not include estuarine, marine subtidal, and marine pelagic waters.

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Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	T	Obligate, permanent resident of coastal sage scrub below an elevation of 2,500 feet AMSL in southern California. Low, coastal sage scrub in arid washes, on mesas and slopes; not all areas classified as coastal sage scrub are occupied.	Potential to occur. The action area includes coastal sage scrub. The closest known occurrence is located approximately 1.4 miles north of the action area (CDFG 2005).
<i>Sterna antillarum browni</i>	California least tern	E	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sandy beaches, alkali flats, or paved areas.	Not likely to occur. The action area does not include sandy beaches.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	E	Summer resident (nesting) of southern California in low riparian in vicinity of water or in dry river bottoms; below an elevation of 2,000 feet AMSL. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite.	Low potential to occur. The action area contains a small amount of riparian vegetation. The action area is mostly located at the top of steep canyons; however, there are a few locations where riparian vegetation is directly downslope of the action area. The closest known occurrence is located approximately 1.5 miles north of the action area (CDFG 2005).
Mammals				
<i>Enhydra lutris nereis</i>	Southern sea otter	T	Preferred habitat is kelp beds; live in narrow band along the coast, and rarely venture much more than about 1 1/2 miles (3km) offshore.	Not likely to occur. The action area does not include kelp beds.

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
Fish				
<i>Catostomus santaanae</i>	Santa Ana sucker	T	Endemic to Los Angeles Basin south coastal streams. Habitat generalist, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	No potential because the action area does not include coastal streams. The closest known occurrence is located approximately 8.1 miles northwest of the action area (CDFG 2005).
<i>Eucyclogobius newberryi</i>	Tidewater goby	E	Brackish water habitats along the California coast from Agua Hedionda Lagoon in San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, need fairly still but not stagnant water and high oxygen levels.	No potential because the action area does not include brackish shallow lagoons and lower stream reaches. The closest known occurrence is located approximately 9.1 miles southeast of the action area (CDFG 2005).
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine stickleback	E	Currently restricted to the upper Santa Clara River drainage in Los Angeles and Ventura counties, San Antonio Creek on Vandenberg Air Force Base, San Luis Obispo County, and an isolated population in San Felipe Creek in San Diego County. A remnant population of stickleback exists in Shay Creek, San Bernardino County.	No potential because the action area does not include any perennial stream channels. The known range of this species is not within the project vicinity.

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Oncorhynchus mykiss</i>	Southern California steelhead	E	Pacific Ocean, spawns in coastal streams and rivers, over gravel beds. Pool depth, volume, amount of cover, and proximity to gravel for spawning play key roles. Federal listing includes populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	No potential because the action area does not include coastal streams. The closest known occurrence is located approximately 1.23 miles south of the action area (CDFG 2005).
Invertebrates				
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	T	Vernal pools.	Not likely to occur. The action area does not include vernal pools.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	E	Endemic to west Riverside, Orange, and San Diego Counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabits seasonally astatic pools filled by winter and spring rains. Hatch in warm water later in the season.	Not likely to occur. The action area does not include swales/earth slump basins in grassland or in coastal sage scrub. There is one occurrence of this species in the City of Thousand Oaks (CDFG 2005).
Plants				
<i>Astragalus brauntonii</i>	Braunton's milkvetch	E	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland. Found in recent burns or disturbed areas. Elevation ranges from 4 – 640 m.	Known to occur in the action area. This species was observed at three locations within the action area during vegetation surveys in July 2005. There are also two CNDDB occurrences in the action area (CDFG 2005).

**Table 2
Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Astragalus pycnostachyus</i> <i>var. lanosissimus</i>	Ventura marsh milkvetch	E	Coastal dunes, coastal scrub, and brackish marshes and swamps.	Not likely to occur. The action area does not include the vegetation communities to support this plant species.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	C	Coastal scrub; formerly known from southern California; sandy soils; 3 – 1,035 m AMSL.	Low potential to occur. This species has a highly restricted distribution and it was not observed in the action area. The closest known occurrence is located approximately 5.5 miles east of the action area (CDFG 2005).
<i>Cordylanthus maritimus</i> <i>ssp. maritimus</i>	Salt marsh bird's-beak	E	Coastal salt marsh, coastal dunes; limited to the higher zones of the salt marsh habitat at elevation of 0 – 30 m AMSL.	Not likely to occur. The action area does not include the vegetation communities to support this plant species.
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	E	Chaparral, cismontane woodlands, and coastal scrub.	Low potential to occur. The action area does contain chaparral and coastal scrub habitat, but the range of this species is restricted to certain areas and it is not known to occur in the action area.
<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	Agoura Hills dudleya	T	Chaparral and cismontane woodland. Rocky, volcanic Breccia. Elevation ranges from 200 – 500 m AMSL.	Potential to occur in the buffer. There are five CNDDDB occurrences of this species in the City of Thousand Oaks (CDFG 2005).

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Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Dudleya cymosa ssp. marcescens</i>	Marcescent dudleya	T	Chaparral, on sheer rock surfaces and rocky volcanic cliffs. Elevation ranges from 180 – 520 m AMSL.	Potential to occur in the buffer. There is one CNDDDB occurrence of this species in the City of Thousand Oaks (CDFG 2005).
<i>Dudleya cymosa ssp. ovatifolia</i>	Santa Monica Mountains dudleya	T	Chaparral and coastal scrub. Found in canyons on sedimentary conglomerates, primarily on north-facing slopes. Elevation ranges from 210 – 500 m AMSL.	Potential to occur in the buffer. The closest known occurrence is located approximately 1.8 miles south of the action area (CDFG 2005).
<i>Dudleya. parva</i>	Conejo dudleya	T	Coastal scrub, valley and foothill grassland. Endemic to Ventura County. Found in clayey or volcanic soils on rocky slopes and grassy hillsides. Elevation ranges from 60 – 450 m AMSL.	Potential to occur in the buffer. There are 10 CNDDDB occurrences of this species in the City of Thousand Oaks (CDFG 2005).
<i>Dudleya verityi</i>	Verity's dudleya	T	Chaparral, cismontane woodland, coastal scrub. Endemic to Ventura County. Found on volcanic outcrops in the Santa Monica Mountains. Elevation ranges from 60 – 120 m AMSL.	Potential to occur in the buffer. There is one CNDDDB occurrence of this species in the City of Thousand Oaks (CDFG 2005).
<i>Orcuttia californica</i>	California Orcutt grass	E	Vernal pools. Known only from southern California and Baja. Elevation ranges from 15 – 660 m AMSL.	Not likely to occur. The action area does not include any vernal pools to support this plant species. There are two CNDDDB occurrences of this species in the City of Thousand Oaks (CDFG 2005).

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Federally Listed, Proposed, and Candidate Species With Potential to Occur in the Vicinity of Conejo Valley**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in the Action Area
<i>Pentachaeta lyonii</i>	Lyon's Pentachaeta	E	Chaparral, valley and foothill grassland. Found in edges of clearing in chaparral, usually at the ecotone between grassland and chaparral, or edges of firebreaks. Elevation ranges from 30 – 630 m AMSL.	Potential to occur. The action area includes the vegetation communities to support this plant species. There are 22 CNDDDB occurrences of this species in the City of Thousand Oaks (CDFG 2005).

Federal Endangered Species Act

E – Endangered

T- Threatened

C- Candidate for listing status

PT - Proposed for listing as Threatened

D – Delisted

Source: USFWS species list for Ventura County and CNDDDB search for the nine USGS 7.5-minute quadrangles surrounding the action area.

Figure 1

Figure 2A

Figure 2B

Figure 2C

Figure 2D

Figure 2E

Appendix B – USFWS Concurrence Letter

Insert USFWS concurrence letter here

Appendix C – SHPO Concurrence

Insert SHPO Concurrence Here