Riparian Conservation Area Report

I. Purpose/Introduction

This Riparian Conservation Area (RCA) Report is used by the USDA Forest Service (Forest Service), Angeles National Forest (ANF), as the primary site-specific information source regarding the number and type of RCAs affected by the Tehachapi Renewable Transmission Project (TRTP or proposed Project) proposed by Southern California Edison (SCE). This document addresses Forest Service policy to consider impacts to RCAs resulting from project activities (FSH 2509.22; USDA Forest Service Land Management Plan, 2005). Thus, the analysis will only occur on National Forest Lands and not for the entire project area.

The goal at each RCA is to maintain or improve conditions of these riparian-dependent resources. According to FSH 2509.22 and the LMP, activities within RCAs should be (a) neutral, (b) move the area closer towards the riparian area desired condition, or (c) move towards the riparian management objectives defined in the forest plans. If these criteria cannot be met, an amendment to the USDA Forest Service Land Management Plan (Plan or Land Management Plan) is required.

This report identifies the RCAs potentially affected by project activities, those RCAs not conforming to the Plan as a result of project activities, and mitigation that would be implemented to reduce project effects to RCAs.

Surveys were conducted by Aspen Environmental Group (Aspen) and Forest Service biologists across the project area within the ANF in the summer of 2008 to identify RCAs in the field and gather data at each RCA. Appendix A of this report is comprised of a series of maps that illustrate all RCA locations identified during surveys. Appendix B consists of tabular data listing all road crossing RCAs identified in the proposed Project area as well as those RCAs not conforming to the Forest Plan and Appendix C contains individual data sheets for each road crossing RCA identified in the proposed Project area.

In total, 268 RCAs were identified during field assessments in the Project area. These RCAs fall within the transmission line ROW or along access roads that would be used and upgraded during construction of the proposed Project. A total of 96 RCAs occur where the transmission line crosses a substantial stream or drainage. RCAs crossed only by the transmission lines were identified by aerial photography but were not ground-truthed due to inaccessibility. These 96 RCAs were not included in the analysis as they would be spanned by the lines and project activities would be designed to avoid impacts to these areas (SCE, 2007). One hundred and seventy one RCAs occur where access or spur roads cross ephemeral, intermittent, or perennial drainages. Of the RCAs that occur along access or spur roads, 95 do not conform to the Forest Plan because project activities would not be consistent with Forest Service Guidelines for the management of RCAs. Mitigation is recommended to reduce impacts to RCAs and associated species. This mitigation is presented in Section VII.4 of this report.

II. Goals, Objectives, and Standards of the Forest Land Management Plan

II.1 Goals

Goals applicable to the conservation of riparian areas are described in Part I of the Forest Land Management Plan (R5-MB-075) and include:

- **Goal 5.2 – Riparian Condition – Improve riparian conditions.** The desired condition is that watercourses are functioning properly and support healthy populations of native and desired nonnative riparian-dependent species. Riparian vegetation consists mainly of native species, with minimal or no presence of invasive nonnative plants. Nuisance nonnative aquatic animals are absent or rare in streams and lakes. Riparian and aquatic ecosystems (including vegetation, channel stability, water quality, and habitat for aquatic and riparian-dependent species) are resilient and able to recover after natural events, such as floods and wildland fires.
- **Goal 6.2 – Biological Resource Condition – Provide ecological conditions to sustain viable populations of native and desired nonnative species.** The desired condition is that habitats for federally listed species are conserved, and listed species are recovered or are moving toward recovery. Habitats for sensitive species and other species of concern are managed to prevent downward trends in populations or habitat capability, and to prevent federal listing. Flow regimes in streams that provide habitat for threatened, endangered, proposed, candidate, and/or sensitive aquatic and riparian-dependent species are sufficient to allow the species to persist and complete all phases of their life cycles.

  Habitat conditions sustain healthy populations of native and desired nonnative fish and game species. Wildlife habitat functions are maintained or improved, including primary feeding areas, winter ranges, breeding areas, birthing areas, rearing areas, migration corridors, and landscape linkages. Fish habitat functions are maintained or improved, including spawning areas, rearing areas, and upstream and downstream migration, where possible.

  Vegetation condition is managed toward the desired conditions identified for each habitat grouping listed under Forest Goal 1.2 – Restoration of Forest Health.

  Riparian and aquatic habitat conditions are managed toward the desired conditions identified under Goal 5.2 – Riparian Condition and Goal 5.1 – Watershed Function.

II.2 Forest Plan Objectives

Objectives applicable to actions occurring in RCAs are described in Part II of the Forest Land Management Plan (R5-MB-076) and include:

- **WAT 1 – Watershed Function.** Protect, maintain, and restore natural watershed functions including slope processes, surface water and groundwater flow and retention, and riparian area sustainability:
  - Assess impacts of proposed groundwater extraction proposals to assure that developments will not adversely affect aquatic, riparian, or upland ecosystems.

- Restore, maintain, and improve watershed conditions. Assure approved and funded rehabilitation and emergency watershed treatments are implemented in an effective and timely manner.
- Maintain or restore soil properties and productivity to ensure ecosystem health (soil microbiota and vegetation growth), soil hydrologic function, and biological buffering capacity.
- Manage Riparian Conservation Areas (RCAs) to maintain or improve conditions for riparian-dependent resources. RCAs include aquatic and terrestrial ecosystems and lands adjacent to perennial, intermittent, and ephemeral streams, as well as around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps and springs, and other bodies of water. Riparian-dependent resources are those natural resources that owe their existence to the properties of the area, such as fish, amphibians, reptiles, fairy shrimp, aquatic invertebrates, plants, birds, mammals, soil, and water quality.
- Achieve and maintain natural stream channel conductivity, connectivity, and function.
- Assess and manage geologic resources and hazards to integrate earth science principles and relationships into ecosystem management, reduce risks to people and resources, and interpret and protect unique values.
- Identify, prioritize (based on risk), and mitigate impacts of abandoned and inactive landfills on water, soil, and other resources. Stabilize and reclaim abandoned and inactive landfills where necessary to maintain proper watershed function, public safety, and resource benefit.
- Inventory, analyze, and prioritize (based on risk) abandoned mines to identify chemical and physical hazards, historic significance, and biological resources prior to reclamation. Mitigate safety hazards and adverse environmental impacts, conduct reclamation as needed, and assure that water quality standards are met.
- Maintain watershed integrity by disposing of displaced soil and rock debris in approved placement sites.
- Develop direction and policy (southern California, national forest, or place-wide as appropriate) for protecting, collecting, curating, and distributing paleontologic resources.

- **WAT 2 – Water Management.** Manage groundwater and surface water to maintain or improve water quality and water quantity in ways that minimize adverse effects:
  - Assess impacts of proposed groundwater and surface water extraction proposals to assure that developments will not adversely affect aquatic, riparian, or upland ecosystems and other uses, resources, or rights (e.g., tribal water rights).
  - Assess impacts of existing surface water extraction on critical habitats or when authorizations are issued or re-issued.
  - Promote water conservation at all national forest administrative and authorized facilities. Protect and improve water quality by implementing best management practices and other project-specific water quality protection measures for all national forest and authorized activities. When reviewing non-forest water-related projects that may affect national

forest resources, include appropriate conservation and water quality mitigation measures in the review response.

- Conserve and protect high-quality water sources in quantities adequate to meet national forest needs.
- Take corrective actions to eliminate the conditions leading to California State listing of 303(d) impaired waters on National Forest System land. For those waters that are both on and off National Forest System land, ensure that Forest Service management does not contribute to listed water quality degradation.
- Actively pursue water rights and water allocation processes to secure in-stream flows and groundwater resources for current and future needs sufficient to sustain native riparian-dependent resources and other national forest resources and uses.
- Identify the need for and encourage the establishment of water releases, for current and future use, to maintain in-stream flow needs including channel maintenance, and to protect and eliminate impacts on riparian-dependent resources.
- Participate in all Federal Energy Regulatory Commission licensing and re-licensing efforts on National Forest System land to ensure sufficient consideration and protection is provided for riparian-dependent resources. Incorporate in-stream flow, riparian, and other natural resource management requirements into 4(e) license conditions.
- Monitor water development projects to ensure that in-stream flows are meeting riparian-dependent resource needs.
- Maintain or improve habitat containing threatened, endangered, proposed, candidate, and sensitive species. Coordinate activities with CDF&G, NOAA Fisheries, USFWS, State Water Resource Control Board, and other appropriate agencies involved in recommending in-stream flow and surface water requirements for waterways.
- Cooperate with federal, tribal, State, and local governments and private entities to secure the in-stream flow needed to maintain, recover, and restore riparian-dependent resources, channel conditions, and aquatic habitat.

II.3 Forest Plan Standards

Standard practices and procedures applicable to activities occurring within RCAs are described in Part III of the Forest Land Management Plan (R5-MB-080) and include:

- **S11:** When occupied or suitable habitat for a threatened, endangered, proposed, candidate, or sensitive (TEPCS) species is present on an ongoing or proposed project site, consider species guidance documents (see Appendix H of the Land Management Plan) to develop project-specific or activity specific design criteria. This guidance is intended to provide a range of possible conservation measures that may be selectively applied during site-specific planning to avoid, minimize, or mitigate negative long-term effects on threatened, endangered, proposed, candidate, or sensitive species and habitat. Involve appropriate resource specialists in the identification of relevant design criteria. Include review of species guidance documents in fire suppression or other emergency actions when and to the extent practicable.

- **S12:** When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices (see Appendix H of the Land Management Plan) so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives.
- **S15:** Within riparian conservation areas, retain snags and downed logs unless they are identified as a threat to life, property, or sustainability of the riparian conservation area.
- **S17:** In areas outside of Wildland/Urban Interface Defense Zones and fuel-breaks, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impediment to operability.
- **S18:** Protect known active and inactive raptor nest areas. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from the time of nest-site selection to fledging.
- **S25:** Conduct road and trail maintenance activities during the season of year that would have the least impact on threatened, endangered, and proposed wildlife species in occupied habitats, except as provided by site-specific consultation.
- **S47:** When designing new projects in riparian areas, apply the Five-Step Project Screening Process for Riparian Conservation Areas described in Appendix E of the Land Management Plan.

III. Forest Service Handbook Direction

Angeles National Forests' Handbook Supplement FSH 2509.22 (Soil and Water Conservation Practices Handbook) provides guidance for field personnel who manage streams and riparian resources at the site-specific project level. Information contained within the supplement is to be used together with the goals, objectives, and standards identified above to effectively manage riparian resources. RCAs should be managed to protect, maintain, or improve water quality, site productivity, channel stability, riparian vegetation, and riparian-dependent species and habitat including threatened, endangered, proposed, candidate, and sensitive species as well as many non-federally listed fish, wildlife, and plants.

The following is a list of protective measures that are to be implemented during activities conducted within RCAs. This is a partial list, containing only those elements applicable to the proposed TRTP project area.

Stream Protection Measures General to All Management Activities:

1. All applicable Best Management Practices (BMPs) (USDA, 2000) should be identified and followed in all ground-disturbing forest management action plans, including in all contracts, operating plans, and work orders.
2. Prevent or limit activities that could cause channel aggradations or disaggradations (incisions).
4. Limit any chemical applications in or near RCAs and use containment methods that minimize risk of entry to surface and groundwater.

5. Limit disturbance on incised slopes, meadows, streams, and rehabilitate damage caused by the activity to restore or improve riparian areas.

7. Existing uses, activities, or occupancy within RCAs should be evaluated for risks or impacts and mitigated during special use renewal or re-issuance. If mitigation measures are not effective, reassess with the option to modify or eliminate the use, activity, or occupancy when impacts are unacceptable.

8. Living native woody riparian vegetation should not be cut or removed, except during road, trail, or facility maintenance and where riparian management objectives can be met.

9. Maintain vegetation where practicable to provide adequate shade to meet riparian objectives (based on the potential of the site).

Road Construction and Maintenance:

Road Construction and Maintenance Guidelines (including designing, constructing, and maintaining forest system roads and road crossings):

1. When new or existing routes through RCAs (including meadows) negatively affect riparian-dependent resources, repair, re-route, remove, or redesign them to the greatest extent possible.

2. Design routes to minimize the use of berms, in-sloping, and ditches in order to reduce sources of erosion and sediment contribution to RCAs.

3. Keep road construction to the minimum necessary for approved operating plans or contracts. Construct and maintain roads to minimize damage to riparian and aquatic resources. Roads in and adjacent to RCAs should receive priority for analysis of continued use. When determined that a road is no longer needed through NEPA analysis, decommission, obliterate, stabilize, restore, and barricade as necessary (FSH 7709).

4. New culverts, bridges, and other stream crossing structures should be designed to accommodate at least a 50-year flood event, including associated bedload and debris movement. Temporary roads (scheduled for less than one year of use) do not need to meet this standard, but should follow FSH 7709 regarding a schedule for removal procedures. Priority for upgrading existing structures should be based on the potential impact to and the ecological value of the riparian/aquatic resources affected. Crossings should be designed and maintained to prevent diversion of streamflow out of channel. Structures should be designed and maintained to accommodate aquatic species passage (for example: fish, amphibians, and reptiles).

5. Access to work sites should be via pre-existing routes to the greatest extent possible. If new temporary routes are needed, these routes should be reviewed by an earth scientist or biologist prior to approval. All new ground disturbances should be held to the minimal amount necessary to accomplish the job.

6. Minimize the removal of existing willows or other native woody riparian species within the project site. After temporary road construction and use is terminated, the site should be returned to pre-existing contours and revegetated where deemed appropriate by the earth scientist or biologist.

7. The Forest Service or contractor(s) should develop a Water Pollution Control plan. This plan should specify details related to sediment and hazardous materials control, dewatering or

diversion structures, fueling and equipment management practices, and other factors determined by the forest project engineer and earth scientist or biologist.

8. Designate debris/sediment disposal sites in advance and follow procedures outlined by the earth scientist.

9. Equipment storage, fueling, and staging areas should be located on upland sites and use spill containment measures that result in minimal risks of direct drainage into RCAs.

10. Erodible fill material should not be deposited into actively flowing water unless completely unavoidable. Appropriate diversion or sediment control measures should be used to minimize sedimentation of surface water.

11. Equipment or temporarily stored materials should be removed from the stream channel following daily completion of work.

12. Brush, loose soils, or other similar debris material should not be stockpile within the stream channel or on its banks where it may impact federally listed (threatened, endangered, proposed, or candidate) species or wash into the stream.

13. All vehicles and equipment operated within active streams should be inspected daily to insure they are free of any leaks of fuel, cooling, or lubricating fluids.

14. When needed, diversions of stream flows should be conducted using sandbags or other methods requiring minimal instream disturbance. Silt fencing or other sediment trapping materials should be installed at the downstream end of construction activity to minimize the transport of sediment off-site. Settling ponds, where sediment is collected, should be cleaned out with the sediment deposited on upland areas to prevent the sediment from entering the stream with the onset of the rainy season. Care should be exercised while removing silt fences, to the extent feasible, to prevent debris or sediment from entering the stream.

15. Hazardous materials should be stored at safe distances from RCAs in a designated location designed to contain any spills. All refueling of vehicles should be conducted at designated sites outlined in the project spill plan to prevent any spillage from entering the stream. Cleanup of all project related spills of hazardous materials should follow the Forest Hazardous Materials Response Plan. Spills of hazardous materials should be cleaned up immediately and contaminated soils removed to approved disposal areas.

16. Asphalt or cement equipment should not be rinsed in, or excess products dumped into any creek or other waterway. Asphalt or concrete effluent should not be allowed to enter into wetted stream or RCAs. Remove effluents from standing water before diverting the streambed back to its natural channel. Take all necessary precautions to prevent release of asphalt, cement, or other toxic substances into surface waters. Where work is contracted, refer to Cal Trans, Storm Water Quality Handbooks for guidance and specifications (Cal Trans, 2003).

Special considerations and actions regarding threatened, endangered, proposed, or candidate species are as follows:

1. Prior to initiation of work and where required by a biological opinion, site surveys for the presence of all federally listed species potentially present in the project area(s) should be conducted by biologists using U.S. Fish and Wildlife Service/NOAA Fisheries approved protocols. The final site survey(s) should be conducted as close to initiation of work as possible to

ensure detection and possible relocation of species. If any federally listed species are found in the project area during pre-work surveys, additional surveys should be conducted weekly throughout the duration of the project. This should ensure that these species are not re-entering the work area where they may be harmed. If species are found on these subsequent surveys, they should be relocated to nearby suitable habitat. In addition, these newly located emphasis species should be promptly reported to the U.S. Fish and Wildlife Service or NOAA Fisheries by the project biologist. Include information covering the date, time of capture or movement, specific location, habitat type occupied, approximate size, age, sex, and apparent health of the species, and a description of the relocation site(s) used.

2. Prior to any construction activities covered by a biological opinion, in projects that would require Endangered Species Act (ESA) section 7 consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries, a biologist should conduct a briefing session for agency and construction personnel involved in projects. At a minimum, this briefing should cover:

   a. Species and habitat identification,

   b. Protective measures relating to the ESA: the necessity for adhering to the terms and conditions of the consultation, and the penalties associated with violating the ESA,

   c. Identifying, in the field, the clearly marked boundaries of the project acceptable for disturbance (including clearly defined upstream and downstream limits and lateral limits on either side of the stream, reviewed by the biologist),

   d. Discuss response procedures if a listed species is encountered during work activity.

3. The Forest should submit the name(s) and credentials of all biologists who should handle the listed species to the U.S. Fish and Wildlife Service or NOAA Fisheries, at least 15 days prior to the onset of project work. Under exceptional circumstances, when the qualified biologist is absent and imminent threat exists to a federally listed species, any agency employee may move listed species from danger to a suitable habitat out of the project impact zone.

4. Upon initiation of work, if any listed species are observed in the project area, the biologist or designee should be notified immediately. The biologist should safely move, or capture and relocate the listed species to a predetermined relocation site outside of the influence of the project work area.

5. The biologist, or approved designee, should visit the site(s) periodically throughout the duration of the project(s). These inspections would insure all feasible measures are being employed to minimize disturbance of stream habitat and any federally listed species. The biologist, or designee, working through the contracting officer may halt work activity if necessary to avoid loss of listed species.

6. Project-related vehicle travel should be minimized to avoid or reduce impacts to aquatic species and RCAs. Project planning and implementation should include daylight or seasonal restrictions concerning vehicle travel specific to species requirements (night travel should be avoided for the protection of some species).

7. If high flows occur during project activities, an earth scientist, biologist, or designee should be consulted to determine appropriate actions for the protection of federally listed species and suitable habitat.

8. Pets of project personnel and employees should not be allowed on site where they may come into contact with any federally listed species.

9. Plans to replace or alter structures should be reviewed by a biologist to ensure they are consistent with biological needs of federally listed species. If project plans change to affect the environment in a different manner, notify the district or forest biologist to re-evaluate impacts before any physical work occurs.

10. A biologist, or designee, should be present when heavy equipment is used in a flowing channel. The contracting officer/inspector must notify the biologist at least three days prior to initiation of construction activities to allow adequate time for site visits and surveys.

11. Implement all applicable Best Management Practices (BMPs) (see Section 3.21 of FSH 2509.22 – Soil and Water Conservation Practices Handbook), especially:

    a. Post-storm inspections and maintenance

    b. Identification and correction of serious road drainage problems that may contribute to the degradation of RCAs. Riparian resources should receive high priority in road operations and maintenance.

    c. Regulation of traffic during wet periods to prevent damage to riparian resources (wet weather closures). Establish and document the purpose of each road within the forest road management system.

12. Monitor these actions and use monitoring results to bring operations into compliance with conservation objectives and the forest plans standards. Monitoring would verify the implementation and effectiveness of the above actions to ensure they comply with management objectives.

IV. Description of the Project Alternatives

IV.1 Alternative 2 (SCE's Proposed Project)

SCE proposed the TRTP to meet the State of California's Renewable Portfolio Standards requirements. The TRTP would provide transmission infrastructure from 17 new facilities or upgrades for the distribution of wind-generated electricity. This project is anticipated to begin in 2009 and is expected to be transmitting electricity within a period of five years. Wind energy development in the Tehachapi area of Kern County can provide a substantial amount of renewable energy for Southern California consumers. However, a lack of transmission capacity between Tehachapi and Southern California currently limits new wind energy installations.

Upon completion, the TRTP will include a series of new and upgraded high-voltage transmission lines capable of delivering 4,500 megawatts of electricity from wind farms and other generating companies that are proposed for northern Los Angeles and eastern Kern counties. Due to the large expanse of the proposed Project and the diversity of habitats within the geographic area, the project was divided according to dominant habitat characteristics.

- **Northern Region**. This region includes all portions of the proposed Project located between the Windhub Substation south of Tehachapi in southern Kern County and the northern boundary of the ANF, located in northern Los Angeles County. This region includes Segments 4, 5, and 10, northern portions of 6 and 11, substation construction (Whirlwind), and substation improvements (Antelope and Vincent).

- **Central Region**. This region includes all portions of the proposed Project located in the ANF, including Segment 6 and the majority of Segment 11. Only the Central Region will be considered in this report as the other areas of the proposed Project are not under the jurisdiction of the USDA Forest Service.
- **Southern Region**. This region includes all portions of the proposed Project located south of the ANF within Los Angeles County and San Bernardino County. This region includes Segments 7 and 8, southern portions of Segment 11, and all associated substation improvements (Gould, Mesa, and Mira Loma).

SCE has proposed constructing the TRTP in seven pre-defined segments (Segments 4 through 8, 10, and 11) to coincide with the development of independently owned wind farms. This report provides an assessment of two project segments (Segments 6 and 11) under the proposed Project and Alternative 6 (Maximum Helicopter Construction in the ANF) that traverse the ANF. Other alternatives to the TRTP are not addressed in this report as they do not occur on the ANF.

Construction activities for the proposed Project on NFS lands would include establishment of marshalling yards for staging of materials and equipment, and development of access roads and spur roads to reach construction sites. Following this, or in parallel, crews would remove existing transmission lines as specified for Segments 6 and 11, and also begin installation of new transmission structures. Construction of new transmission towers would include clearing of footing work locations, installation of foundations, tower assembly, and tower erection. Approximately 33 structures are expected to be constructed utilizing heavy helicopters, which would require the creation of 13 helicopter staging and landing areas. After towers are in place, crews would proceed with stringing of conductor and overhead ground wires. Construction would be completed with clean-up of construction sites and demobilization of personnel and equipment. The exact method for construction employed and the sequence with which construction tasks occur would be dependent on final engineering, contract award, conditions of permits, and contractor preference.

As mentioned above, this alternative would require 13 helicopter staging and landing areas averaging roughly four acres and ranging in size from 1.85 acres (Site 6A) to 8.00 acres (Site 10). With the exceptions of Sites 2 and 3, all of the locations identified as helicopter staging areas have existing access roads leading to them and should be accessible for the delivery and staging of materials, equipment, and personnel. Improvements at each of the staging and landing areas would be required and would include clearing of vegetation, grading, and potential cut and fill activities. Sites 2 and 3 would require the construction of new access roads which could potentially impact RCAs. The removal of cultivated, plantation pine trees of various age classes may be necessary in order to facilitate helicopter operations at some of the sites.

IV.2 Alternative 6 – Maximum Helicopter Construction on the ANF

Alternative 6 includes the maximum amount of helicopter construction on the ANF (Segments 6 and 11). This alternative follows the same route for the transmission line as the proposed Project, impacting similar habitats, but comprising a slight decrease in the size and magnitude of direct and indirect impacts to riparian habitat as a result of the increased helicopter construction and related decrease in the amount of access road improvements. However, impacts to riparian habitat on the ANF, including RCAs would still occur as a result of necessary access road construction and/or improvements and creation and construction of Helicopter Staging Sites 3 and 6.

This alternative would require thirteen helicopter staging and landing areas averaging roughly four acres and ranging in size from less than one acre (Sites 12 and 13) to approximately eight acres (Site 8). With the exceptions of Sites 5 and 6, all of the locations identified as helicopter staging areas have existing

access roads leading to them and should be accessible for the delivery and staging of materials, equipment, and personnel. Improvements at each of the staging and landing areas would be required and would include clearing of vegetation, grading, and potential cut and fill activities. Sites 5 and 6 would require the construction of new access roads that could potentially result in impacts to RCAs. The removal of cultivated, plantation pine trees of various age classes would be necessary in order to facilitate helicopter operations at several of the sites. Most of the sites are characterized as dry, upland areas with disturbed and weedy vegetation or chaparral.

The construction and/or improvements to most access and spur roads associated with these tower locations that would be required under SCE's proposed Project would not occur. However, upgrades to access roads leading to stringing/pulling sites would still be required under this alternative.

V. Description of Project Area on NFS Lands

The TRTP passes through the City of Lancaster, the City of Palmdale, and the Antelope Valley in the western Mojave Desert, spans the Sierra Pelona and San Gabriel mountains within the ANF, and extends through the San Gabriel Valley to the City of Ontario. For the purposes of this RCA report the project area is limited to the Central Region (defined above) within the ANF.

The Central Region of the TRTP consists of Segments 6 and 11 and lies north of the Los Angeles Basin and south of the Vincent substation near Forest Ridge Road (Figure 1). Within the Central Region, the San Gabriel Mountains (part of the Transverse Ranges), lie on an east-west axis. These mountains are characterized by steep, rugged terrain and deep canyons, as well as numerous creeks, streams, and rivers. Segments 6 and 11 cross rugged portions of these mountains. Elevations rise from 3,200 feet near Kentucky Springs and the northern portions of the ANF to 5,600 feet near Mount Gleason Road before descending to 1,500 feet in the southern portion of the ANF. This region receives an average of 25 inches of annual rainfall and annual temperatures average 57°F. Conditions become drier on the northern end of the region due to the rain-shadow effect of the San Gabriel Mountains. Rivers and creeks within these mountainous watersheds, including Big Tujunga Creek, the San Gabriel River, and Arroyo Seco, create deep canyons and washes that cross the proposed Project area.

Within the Central Region, the proposed Project would be located primarily within existing SCE rights-of-way (ROWs). For analysis purposes, the project area is defined by the existing SCE ROWs (between 200 and 500-feet wide) and a 100-foot buffer along the proposed transmission line route centerlines as well as all access and spur roads to be used, improved, and constructed within the ANF. Transmission line routes within the ANF reach a peak elevation of 5,620 feet near the intersection of Segment 11 and Mount Gleason Road. This report assesses the potential impacts of new towers, lines, and related infrastructure (i.e., access roads, pulling stations) to RCAs within the ANF. For a detailed project description see the EIR/EIS (Aspen, 2008).

On the ANF, the proposed Project would include the construction, operation, and maintenance of two 500-kV transmission lines that would be constructed in existing transmission corridors. These two routes are Segments 6 and most of Segment 11 of the TRTP. In addition to construction of 500-kV towers, removal of 220-kV towers, and construction of stringing and pulling locations, staging areas (including helicopter staging areas), and marshaling yards; many access roads within the ANF would require improvement and widening in order to accommodate construction vehicles and equipment. In addition, a total of 1.4 miles of spur roads would be constructed for access to individual towers. Road construction would be the primary source of impacts to RCAs, as riparian areas would be spanned by the transmission

lines and no towers would be situated within riparian areas (SCE, 2007). However, some tower locations may occur within the footprint of RCAs that have extended buffer areas (i.e. one mile for arroyo toad).

V. 1 Biological Resources

The 2005 Forest Land Management Plan indicates the mountains and foothills of southern California are home to approximately nine native species of fish, 18 amphibians, 61 reptiles, 299 birds, 104 mammals, 2,900 vascular plants and an unknown number of species of invertebrate animals and non-vascular plants. Many of the 3,000-plus species have a large proportion of their distribution on National Forest System land, including the ANF. Some of these species are endemic to the national forests, and some have special status as federally listed threatened, endangered, proposed, candidate, or Forest Service Sensitive species. Other species have wide geographic ranges and are found elsewhere in California, Mexico, the West or the Southwest, but are rare in southern California.

The project alignment crosses many areas that provide suitable habitat for a variety of special-status wildlife species, including Forest Service Sensitive species, such as spotted owl (*Strix occidentalis occidentalis*) and pallid bat (*Antrozous pallidus*), and the federally endangered arroyo toad (*Bufo californicus*). As the project traverses large peaks it is possible to find federally endangered California condor (*Gymnogyps californianus*), eagles, and other raptor species. Near Vetter Peak and Charlton Flat, the proposed alignment occurs close to the San Gabriel Wilderness area.

Within the ANF, the structure of the vegetation communities associated with riparian habitats provides cover and nesting habitat for songbirds and smaller birds of prey. These areas also serve important functions for wildlife movement and dispersal. The linear configuration of riparian areas creates corridors for local animal movement including travel to and from different habitat types. While riparian habitat occurs as linear strips through various vegetation types, the adjacent upland habitat is often different. The edges where riparian habitat meets with upland habitat are known as ecotones, or transitional habitats. Numerous studies have shown that transitional habitats are crucial for many animal species. The variety in vegetative structure and species composition associated with riparian areas is critical for breeding birds, small mammals, reptiles, and amphibian species which have a terrestrial stage in their life history. Vehicle traffic would disrupt wildlife usage in these areas. Human disturbance near riparian areas could also limit access to critical water features in select portions of the ANF. Terrestrial wildlife species rely upon these areas for year-round water supply, particularly during the hot and dry summer season.

Wide-ranging mammals, including black bear (*Ursus americanus*), mountain lion (*Puma concolor*), and mule deer (*Odocoileus hemionus*) utilize a variety of habitats throughout the ANF for breeding, denning, and foraging. Other mammals that occur on the ANF include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), California ground squirrel (*Spermophilus beecheyi*), western gray squirrel (*Sciurus griseus*), and Botta's pocket gopher (*Thomomys bottae*).

Several mammals that range in the ANF are Forest Service Sensitive and/or California Department of Fish and Game Species of Special Concern. These include Nelson's bighorn sheep (*Ovis canadensis nelsoni*), American badger (*Taxidea taxus*), pallid bat, Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis*), western red bat (*Lasiurus blossevillii*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), Tehachapi pocket mouse (*Perognathus alticolus inexpectatus*), southern grasshopper mouse (*Onychomys torridus ramona*), and Tulare grasshopper mouse (*Onychomys torridus tularensis*).

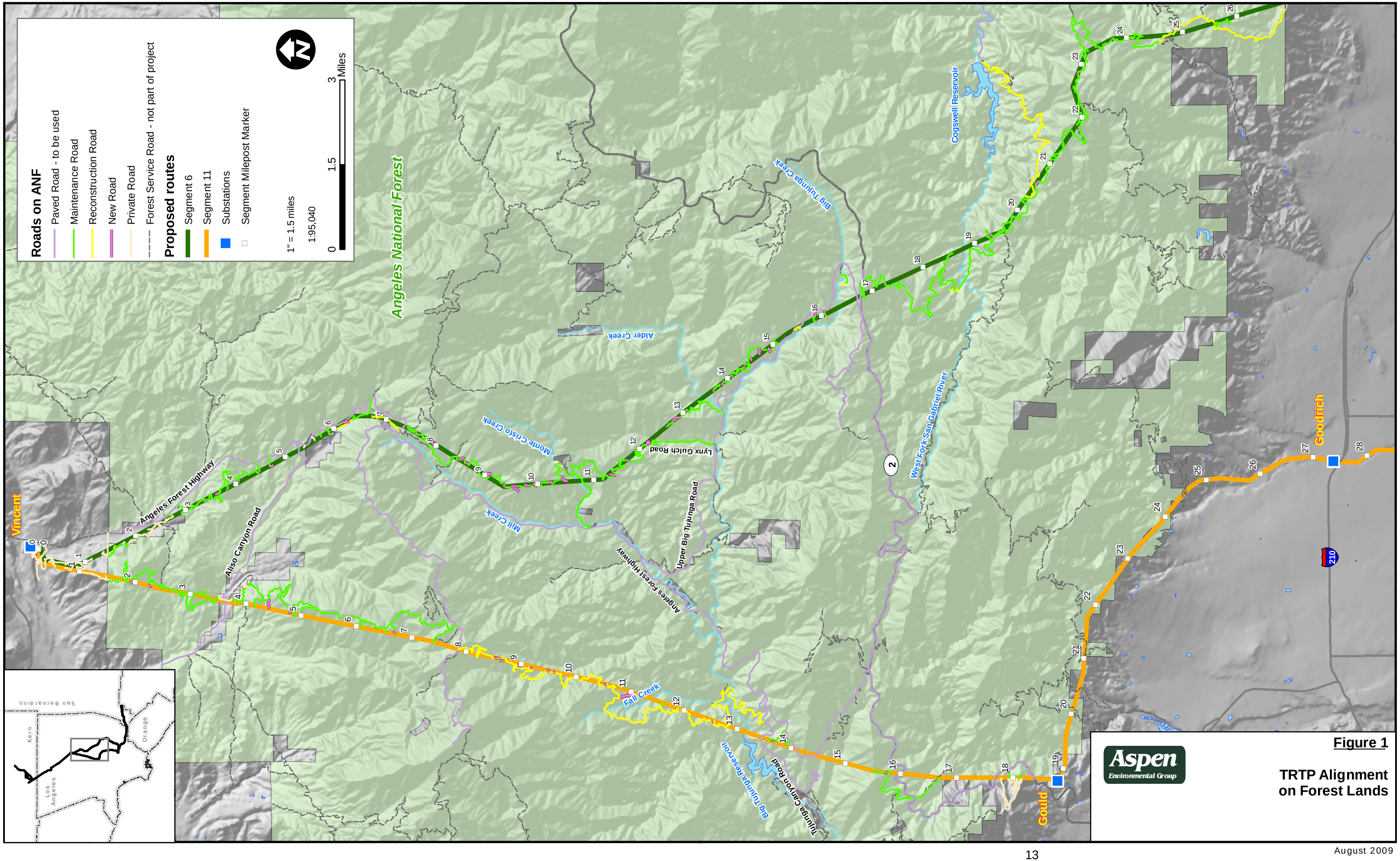

Figure 1

TRTP Alignment on Forest Lands

Reptile species commonly occurring on the ANF include side-blotched lizard (*Uta stansburiana*), sagebrush lizard (*Sceloporus graciosus*), western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata*), western skink (*Eumeces skiltonianus*), Gilbert skink (*Eumeces gilberti*), western whiptail lizard (*Aspidoscelis tigris*), western rattlesnake (*Crotalis viridis*), southern Pacific rattlesnake (*Crotalis viridis helleri*), and San Diego gopher snake (*Pituophis catenifer annectens*). Several reptile species known from the ANF that are Forest Service Sensitive and/or Species of Special Concern include two-striped garter snake (*Thamnophus hammondii*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), San Bernardino mountain kingsnake (*Lampropeltis zonata parvirubra*), coastal rosy boa (*Charina trivirgata roseofusca*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), northern red-diamond rattlesnake (*Crotalis ruber ruber*), silvery legless lizard (*Anniella pulchra pulchra*), orange-throated whiptail (*Aspidoscelis hyperythra*), San Diego horned lizard (*Phrynosoma coronatum blainvillii*), California horned lizard (*Phrynosoma coronatum frontale*), and southwestern pond turtle (*Actinemys (=Emys) marmorata pallida*).

The diverse assemblage of vegetation communities on the ANF provides suitable breeding, nesting, and foraging habitat for an exhaustive number of bird species, including Steller's jay (*Cyanocitta stelleri*), wrentit (*Chamaea fasciata*), mountain chickadee (*Poecile gambeli*), acorn woodpecker (*Melanerpes formicivorus*), dark-eyed junco (*Junco hyemalis*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), turkey vulture (*Cathartes aura*), and Cooper's hawk (*Accipiter cooperii*). Avian species that are Forest Service Sensitive and/or Species of Special Concern include golden eagle (*Aquila chrysaetos*), California spotted owl (*Strix occidentalis occidentalis*), western burrowing owl (*Athene cunicularia hypugea*), and northern goshawk (*Accipiter gentilis*). In the foothills of the San Gabriel Mountains within the ANF, suitable habitat exists for the federally threatened California gnatcatcher (*Polioptila californica californica*), and the federally endangered least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Episonax traillii extimus*).

Several drainages within the ANF and the project area hold perennial water and may support populations of aquatic species that are Forest Service Sensitive, including arroyo chub (*Gila orcutti*) and speckled dace (*Rhinichthys osculus ssp.*), in addition to the federally threatened Santa Ana sucker (*Catostomus santaanae*), and the federally endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). Aquatic habitats in the ANF may also include ephemeral pools or seeps. Such ephemeral pools provide critical breeding habitat for amphibians. These ephemeral sources of water generally remain only a few months and only occur during years when sufficient precipitation occurs. Such water sources allow wildlife to disperse during the breeding season without making it necessary to travel long distances to water. Many perennial and intermittent drainages that occur on the ANF provide suitable breeding habitat for several amphibian species, including Pacific tree frog (*Pseudacris regilla*), California tree frog (*P.cadaverina*), and Monterey ensatina (*Ensatina eschscholzia eschscholzia*). Amphibians within the ANF that are Forest Service sensitive and/or Species of Special Concern include coast range newt (*Taricha torosa torosa*), San Gabriel Mountains slender salamander (*Batrachoseps gabrieli*), and western spadefoot toad (*Spea hammondii*).

The federally endangered arroyo toad is known from several of the delineated RCA locations and was observed at Lynx Gulch, Alder Creek and is assumed to be present in adjacent Big Tujunga Creek which runs between these two drainages and also at Monte Cristo Campground along Mill Creek. Access and spur roads that are proposed to be widened and used for construction activities run adjacent to these occupied creeks. Suitable habitat for the arroyo toad is present at several additional RCAs as well. The federally threatened California red-legged frog (*Rana draytonii*) and the endangered mountain yellow-

legged frog (*R. muscosa*) have known populations in several drainages that are adjacent to or feed into the project area and numerous historical records of these species are known throughout the forest.

Riparian Habitat

Riparian habitat contains vegetation and habitat communities that are associated with bodies of water, though water need not be present some or even most of the time. Riparian habitat includes the vegetation along the waterway and ecotones between aquatic and upland habitats, as well as the upland vegetation associated with these areas. Plant communities that are phreatophytic (needing to obtain water from shallow groundwater sources) are generally found in the bottomlands of riparian habitat while it is not unusual to have more xeric species in the immediate adjacent uplands. Ecotones between the mesic and xeric environments can range from very broad to very abrupt within riparian areas. In semi-arid environments these transitions tend to be more abrupt (Briggs, 1996). Although riparian zones naturally account for a low percentage of the total landscape (often less than one percent), they typically accommodate a disproportionately high number of species and provide a larger degree of ecological function than surrounding upland areas (Fischer and Fischenich, 2000). In arid regions such as Southern California, riparian habitats play a particularly crucial role in maintaining biodiversity because up to 80 percent of vertebrate species rely on them for at least part of their lifecycle (Knopf et al., 1988), and because of the central role riparian habitats play in a variety of ecological functions (Fischer and Fischenich, 2000; Rottenborn, 1999). Many aquatic, semi-aquatic and riparian obligate species rely on adjacent terrestrial habitats to complete their life cycles (Semlitsch and Bodie, 2003; Spinks et al.; 2003; Burke and Gibbons, 1995) and riparian vegetation provides necessary foraging and nesting habitat for many bird species (Rottenborn, 1999; Bolger et al., 1997). Linkages and corridors facilitate regional animal movement and are generally centered around waterways and riparian habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for dispersal of young individuals. Additionally, the quality of riparian habitats directly affects water quality (as reviewed in Fischer and Fischenich, 2000). In California more than 95 percent of riparian habitats that were present prior to European settlement have been severely degraded or destroyed (Smith ,1977; Katibah, 1984).

Riparian Conservation Areas (RCAs)

While riparian areas are considered on both National Forest Service (NFS) lands and non NFS lands, RCAs for this report are defined only for the ANF as required by the Forest Land Management Plan. An RCA is defined as “an area delineated next to water features requiring special management practices to maintain and/or improve watershed and riparian-dependent resource conditions” (USDA, 2005a). Therefore, any areas having important biological and/or hydrologic riparian characteristics within the project area were identified by the Forest Service as RCAs using the Five-Step Project Screening Process for Riparian Conservation Areas (described below). In general, RCAs include areas containing both aquatic and terrestrial components, and serve as the interface between land and water. Specifically, RCAs can include lands adjacent to perennial, intermittent, or ephemeral streams as well as in and around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps, springs, and other water bodies. The size of an RCA can vary greatly because it is determined by characteristics such as topography, species present, and connectivity to other RCAs.

These areas are especially important as they are where terrestrial and aquatic systems interact and slope and fluvial processes are tightly interconnected. Because water is a limited resource, especially in the semi-arid setting of southern California, RCAs are unique areas that support a high diversity of plant and

animal species and typically have a high degree of endemism including threatened and endangered species (Briggs, 1996). The variety of wildlife species associated with RCAs use these areas for breeding, aestivation, foraging, refugia, and as movement corridors (USDA, 2005a). To accommodate species that use riparian areas, each RCA has a buffer area of associated upland habitat which corresponds to the biology of the species. Within the project area many RCAs have the potential to support threatened and endangered species. Even small drainages that may have water for only a short period of time can be crucial resources for breeding (i.e., amphibians and birds), foraging, and wildlife movement corridors.

Water that flows through all RCAs eventually becomes a source for human consumption. Quality and quantity of water provided from the upper watershed is crucial for maintaining high standards and yields for the highly urbanized areas surrounding the ANF.

VI. Methods

Any areas having important biological and/or hydrologic riparian characteristics within the project area were identified as RCAs using several methods of determination as follows: (1) use of aerial photography and preliminary field work to examine basic hydrology; (2) application of the Forest Service Five-Step Project Screening Process for Riparian Conservation Areas; and (3) application of a series of ground-truthing methods. Following RCA determination in the field, GIS software was used to delineate and illustrate RCA locations. Buffers were applied around each RCA according to the Five-Step Screening Process for RCAs. Finally, each RCA was revisited and evaluated in the field for potential impacts from the proposed Project and a determination was made on conformity to the Forest Plan.

Aerial photography and preliminary field work:

Aerial photographs were used to examine basic hydrology throughout the forest along the access roads that would be potentially impacted by the Project. In conjunction with analysis of aerial photographs, all potential access and spur roads were driven or walked in the field to better identify which road crossings would qualify as RCAs. During this process, some stream crossings that were high ephemeral drainages having no riparian vegetation were determined not to be RCAs and were eliminated. In general, if a road crossed a drainage that contained riparian vegetation and/or showed evidence of at least occasional water flow, such as scour lines, banks, or rills, the crossing was determined to be an RCA.

A GPS location was recorded for each crossing point that was determined to be an RCA using a Trimble Geo XT GPS unit. The drainage was then determined to be perennial, intermittent, or ephemeral at each crossing. This determination was based on the US Geological Survey's National Hydrography Dataset (NHD) (USGS, 2007), which was used as a general guide, and verified on the ground by the presence or evidence (scouring and hydrophilic vegetation) of recent flow. Soil classifications at each crossing were also noted. A preliminary map of RCA locations was generated from the GPS coordinates collected in the field. In addition, all points where the proposed transmission line crossed NHD-mapped drainages were identified in GIS and added to the RCA maps. These points were not ground-truthed as they were generally inaccessible due to steep terrain and other obstacles, and the proposed Project would span those drainages.

Additionally, sediment modeling was analyzed to determine the effects of project activities to downstream RCA locations. The results of this analysis are documented in Appendix A (GIS-Based Soils Erosion & Sedimentation Analysis Report) of the Hydrology and Water Quality Specialist Report for the TRTP, and, indicate little to no sediment impacting downstream RCAs from construction of the proposed Project or alternatives.

Five-Step Project Screening Process for Riparian Conservation Areas:

A five-step process was developed by the Forest Service to standardize how and when to define a location as being a Riparian Conservation Area and to impose protective measures to these areas that may be impacted by projects. RCAs are delineated by an interdisciplinary team utilizing this Five-Step Project Screening Process. This process is used to assist in ensuring that RCAs are recognized, emphasized, and managed appropriately during new project planning and implementation (USDA, 2005b). Part 2, Appendix B of the Forest Land Management Plan directs that the Forest Service manage RCAs to maintain or improve conditions for riparian-dependent resources. As described above, RCAs include aquatic and terrestrial ecosystems and lands adjacent to perennial, intermittent, and ephemeral streams, as well as around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps, and springs and other bodies of water. At these aquatic resources, the Five-Step Project Screening Process describes the methods used to identify the appropriate width of each RCA. RCA widths vary depending on the type of stream. In Step 1 of the Process, the RCA for perennial streams is identified as 328 feet (100 meters) on each side of the stream and 98 feet (30 meters) for seasonally flowing or intermittent streams on each side of the stream. In Step 2, if sensitive biological resources are identified this 100-meter width can be expanded based on the natural history and biological requirements of the particular species in the area. In Step 3, the project must be evaluated against the riparian and aquatic desired conditions as well as recovery plans for federally listed riparian species to determine if the project impacts are either neutral or will move the area closer towards the desired conditions. At this point, the project may move forward to Step 4 (if impacts are neutral or beneficial) or be denied, modified, or require the completion of a Land Management Plan amendment (if impacts are adverse). If the project moves to Step 4, the project is screened against the Land Management Plan riparian management objectives to ensure the project incorporates one or more of the listed strategies for maintenance or improvement of the site. A major component of this is to evaluate physical and biological characteristics of the stream, and to evaluate the ability of the existing environment to provide the necessary habitat for the species expected to be present. In Step 5, the project references the Forest Service Handbook for specific guidance regarding the management tactics to apply when conducting activities within RCAs.

The Five-Step Project Screening Process was applied to areas having important biological and/or hydrologic riparian characteristics based on the aerial photography or known hydrologic information from the USFS. This Five-Step Process was applied in conjunction with ground-truthing the locations to verify the presence of specific features and characteristics that would constitute RCA status.

Ground-truthing and data collection:

RCAs that were identified during preliminary field and aerial photography investigations were revisited in August 2008 to collect detailed data. The potential access and spur roads were driven and walked by Aspen biologists. At each RCA, the road crossing and area within the buffer established by the Five-Step Screening Process for RCAs were assessed for various habitat characteristics. Specific elements evaluated included verification of stream type (ephemeral, intermittent, perennial), general habitat communities and plant species present in and adjacent to the drainage, and evidence (habitat or sign) of special-status species. The average road width at each RCA was measured and recorded. The habitat communities present in both the drainage and adjacent upland habitat were characterized, dominant plant species were recorded, and exotic plant species (e.g., arundo, brome grasses) were noted. Also recorded were the number, type, and categorized size or diameter-at-breast-heigth (DBH) of trees within five feet of the road

which could be subject to trimming and/or removal during road widening and improvement. Each RCA was photographed and visually assessed for potential impacts to riparian vegetation and mature trees.

Geographic Information Systems Data:

GIS mapping was used to clearly identify and illustrate access and spur roads, stream crossings, basic hydrology, and RCA boundaries. Roads were re-digitized because the previously existing data were inaccurate at the scale at which habitat was evaluated. Buffer zones were added to the GIS layer in accordance with the Five-Step Process and any special-status species present, including a buffer zone of one mile applied to specific areas where arroyo toads are known to occur.

Locations not conforming to the Forest Plan:

After data collection and delineation of RCAs, Step 3 of the Five Step Screening Process was implemented determine which RCAs would be affected such that they would require an amendment to the Forest Service Land Management Plan. Determination thresholds were established based on project-related activities, and subsequent results, that would be expected to occur in affected areas, particularly road widening and ground disturbance. RCAs were determined not to conform to the Forest Plan if project activities would result in one or more of the following:

1) *Removal and/or trimming of riparian vegetation*. For example, in many areas the road would need to be widened to allow construction equipment to safely navigate through. Road widening activities in some cases would require the removal and cutting of riparian vegetation.
2) *Removal and/or trimming of more than 25 percent of the canopy of mature trees*. Road widening activities would often require the removal and/or trimming of some mature trees to allow access for construction vehicles and equipment.
3) *Disruption or diversion of flowing water or the disruption of ponded water*. In some RCAs water flows or ponds across the road either perennially or intermittently. Driving through water can increase sediment loads flowing downstream and could potentially change the water chemistry, making it unsuitable for species that rely on that water source. Sediment modeling will document any downstream impacts.

VII. RCAs in the Project Area

VII. 1 Proposed Project

Table VII.1a, below, provides a summary of the RCAs that were evaluated within the proposed Project area. These include RCAs that are crossed by access roads and by the transmission line alignment.

There are 267 RCAs identified within the project area. Of these, 171 RCAs are access road or spur road crossings and 96 are transmission line ROW crossings. Transmission line ROW crossings would be spanned by the proposed Project and thus are not evaluated further. In total, 91.1 miles of access and spur road construction would be required under the proposed Project. RCAs that are crossed by roads would be subject to disturbance from the proposed Project. Of these, five RCAs contain perennial water sources, while water sources at 65 RCAs are intermittent and 101 are ephemeral. For reasons described above, non-conformity to the Forest Service Land Management Plan is anticipated at a total of 95 RCAs, including five perennial, 45 intermittent, and 45 ephemeral RCAs.

The RCAs within the proposed Project area traverse several geographical and ecological zones. All of the RCAs delineated herein fall along the ROWs or along access roads that would be used and upgraded

during construction of the proposed Project. Several major waterways evaluated throughout the ROWs include West Fork San Gabriel River, Big Tujunga Creek, and Cogswell Reservoir. Other major waterways and their tributaries on the ANF that were encountered along the ROWs and access roads include Mill Creek, Monte Cristo Creek, Alder Creek, Fall Creek, and Arroyo Seco. Habitat at RCAs within the project area ranges from high watershed ephemeral drainages with little or no water during most of the year and steep chaparral banks, to perennial streams of multi-story riparian forest with mature trees. Sediment modeling, documented in Appendix A (GIS-Based Soils Erosion & Sedimentation Analysis Report) of the Hydrology and Water Quality Specialist Report for the TRTP, shows little to no sediment impacting downstream RCAs.

TABLE VII.1a. RCA Crossing Points Summary – Proposed Project

Drainage Type	Crossing Type	Total	Non-conformity to Forest Plan
ROAD CROSSINGS			
Perennial	Arizona	2	2
	Paved Arizona	2	2
	Washout – No Crossing	1	1
Intermittent	Arizona	44	35
	Paved Arizona	8	3
	CMP	12	6
	Concrete Culvert	1	1
Ephemeral	Arizona	84	38
	Paved Arizona	4	2
	CMP	12	5
	Concrete Culvert	1	0
	Subtotal	171	95
LINE CROSSINGS*			
Perennial	N/A	7	0
Intermittent	N/A	63	0
Ephemeral	N/A	26	0
	Subtotal	96	0
	Total	267	95

*Line crossings were determined by aerial photography.

VII.2 Alternative 6

Table VII.2a, below, provides a summary of the RCAs that were evaluated for Alternative 6. These include RCAs that are crossed by access roads and by the transmission line alignment. Since this alternative occurs along the exact alignment and utilizes the same access roads, to a lesser extent, no additional RCAs related to roads or the transmission line alignment were identified for Alternative 6.

In total, approximately 48.6 miles of access and spur road construction would be required under this alternative, 42.5 miles fewer than the proposed Project. A total of 86 road crossing RCAs would be impacted by activities associated with road improvements and upgrades, including two perennial, 24 intermittent, and 60 ephemeral. Of those, 57 would not conform to the Land Management Plan, including two perennial, 22 intermittent, and 33 ephemeral. Under the proposed Project, 171 road crossing RCAs would be impacted by activities associated with road improvements and upgrades and 95 would not conform to the Forest Plan. These numbers do not reflect the additional 96 RCAs that would be spanned by the transmission line, and are applicable to the proposed Project and Alternative 6. Mitigation

recommended for the proposed Project (Section 12) would also be recommended to reduce impacts to RCAs under Alternative 6. No additional mitigation is required. Sediment modeling, documented in Appendix A (GIS-Based Soils Erosion & Sedimentation Analysis Report) of the Hydrology and Water Quality Specialist Report for the TRTP, shows little to no sediment impacting downstream RCAs.

TABLE VII.2a. RCA Crossing Points Summary – Alternative 6

Drainage Type	Crossing Type	Total	Non-conformity to Forest Plan
ROAD CROSSINGS			
Perennial	Paved Arizona	2	2
Intermittent	Arizona	18	16
	Paved Arizona	1	1
	CMP	4	4
	Concrete Culvert	1	1
Ephemeral	Arizona	51	27
	Paved Arizona	2	2
	CMP	7	4
	Subtotal	86	57
LINE CROSSINGS*			
Perennial	N/A	7	0
Intermittent	N/A	63	0
Ephemeral	N/A	26	0
	Subtotal	96	0
HELICOPTER STAGING AREAS			
Perennial	N/A	1	1
	Subtotal	1	1
	Total	183	58

*Line crossings were determined by aerial photography.

VII.3 Potential Effects to RCAs

Impacts to RCAs would occur primarily during the construction phase of the proposed Project. The single largest impact to RCAs from the proposed Project would occur from the widening of the access roads to 16 feet and the construction of new spur roads. Additional impacts would result from ground disturbance associated with the removal of old towers and the construction of new towers, stringing/pulling locations, marshalling yards, staging areas, and helicopter landing sites. The use of access roads by heavy equipment and vehicles would result in potential impacts such as mechanical crushing of vegetation and wildlife, accidental spills of chemicals into an RCA, or increased sedimentation and turbidity (where wet crossings occur).

Widening of access roads and the construction of new spur roads would remove riparian vegetation at some locations, including mature oak trees, alders and other trees that occur in RCAs. In some areas only limited riparian vegetation would be removed where an RCA supports only ephemeral or intermittent flows such as portions of Mill or Alder Creeks. At many RCAs mature trees would not be removed directly, but large portions (greater than 25 percent) of the crown would be removed to allow the vertical clearance necessary for heavy equipment passage. This action could potentially remove the tree as this amount of crown loss can stress trees and make them vulnerable to disease or mortality.

Although road expansion could also result in the mobilization of large quantities of sediment that could enter nearby or adjacent RCAs, sediment modeling, documented in Appendix A (GIS-Based Soils Erosion & Sedimentation Analysis Report) of the Hydrology and Water Quality Specialist Report for the TRTP, shows that sedimentation impacts would be primarily localized. These impacts would continue to occur throughout the construction phase of the proposed Project, as the dirt access roads that would be utilized are often adjacent to scree-covered slopes that drop debris across the road, are blocked by fallen trees, or are subject to landslides that occlude access. Therefore, road maintenance, including periodic grading, would occur throughout construction. As RCAs consist of riparian areas and their adjacent upland habitats, these areas support a wide variety of both sensitive and common plants and wildlife.

Ground disturbance associated with tower removal and replacement, staging areas, etc. could also lead to erosion and sedimentation in nearby RCAs, especially if conducted during the rainy season. Sedimentation into RCAs could disrupt the physiology of aquatic organisms, alter the hydrology of the RCA, and choke out vegetation. Ground disturbance would also result in the permanent or temporary removal of riparian vegetation within RCAs. Mechanical crushing of wildlife such as the federally listed arroyo toad could also occur during earth-moving activities.

The use of access roads by heavy equipment and vehicles could result in the accidental spill of toxic chemicals such as petroleum-based fluids, hydraulic fluid, or other chemicals into an RCA. This contamination would be especially detrimental to RCAs that contained water at the time of the spill or leak, as aquatic organisms are particularly vulnerable to changes in water quality. This type of spill or leak could result in direct mortality to aquatic organisms, aquatic and adjacent vegetation, and terrestrial animals utilizing the contaminated water as a drinking source. In addition, sublethal effects such as reproductive harm, skin and eye irritation, and interference with cutaneous respiration (in amphibians) could occur.

VII.4 Mitigation to Reduce Effects to RCAs

The following mitigation measure has been recommended to reduce the project related effects to RCAs in the Tehachapi Renewable Transmission Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Aspen, 2009). This measure would be implemented to specifically address compliance with the Forest Land Management Plan. According to Appendix E (Five-Step Screening Process for Riparian Conservation Areas) of the Land Management Plan the completion of a project-driven land management plan amendment is required for projects that would result in impacts that are neither neutral nor would move the area closer to desired conditions (as defined by the Land Management Plan). As part of the TRTP, the Forest Service has requested SCE to prepare a site-specific treatment plan for each RCA in the project area. These treatment plans would include timing restrictions for vehicle or equipment passage, restrictions on the types of activities allowed, monitoring requirements, seasonal restrictions, and restoration requirements.

B-2 **Implement RCA Treatment Plan.** SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat without the appropriate permits from regulatory agencies. SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat on NFS lands in Riparian Conservation Areas (RCAs) without the authorization of the FS. Vegetation removal or road construction shall not occur in RCAs during the breeding season for nesting birds (February 1-August 15) unless otherwise approved by the FS. SCE shall prepare and implement a FS RCA Treatment Plan for the Project. This Plan shall include the specific activities that will occur at each of the RCA points crossed by the Project including the amount and type of vegetation to be cleared, the type of road crossing or improvement allowed for wet

and dry crossings, and the methods that would be employed to reduce the effects of the Project on water quality. The Plan shall include timing restrictions for vehicle or equipment passage, restrictions on what activities may occur such as grading, vegetation removal or tree trimming, monitoring requirements, seasonal restrictions, and restoration requirements. This Plan shall be submitted to the FS for approval prior to construction or the grading of any access road. The Plan shall also be submitted to the CPUC for review.

In addition to Mitigation Measure B-2, which specifically addresses compliance with the Forest Land Management Plan, the following mitigation measures have also been recommended in the TRTP EIR/EIS (Aspen, 2009) to reduce or avoid potential impacts to biological and hydrological resources. Full details can be found in the TRTP EIR/EIS (Aspen, 2009). Implementation of these measures would also minimize impacts to RCAs.

B-1a **Provide restoration/compensation for impacts to native vegetation communities.** The intent of this mitigation measure is to require SCE to restore disturbed sites to pre-construction conditions or the desired future conditions per the Angeles National Forest (ANF), Land Management Plan (LMP). Prior to construction SCE shall have a qualified biologist, where concurrence on the biologist has been provided by the CPUC and FS, document the community type and acreage of vegetation that would be subject to project disturbance. Impacts to all oaks and native trees (with >3 inch diameter at breast height [DBH]) will be documented by identifying the species, number, location, and DBH. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance. Tree removal shall not be permitted until replacement trees have been planted or transplanting sites are approved.

For NFS lands, the FS shall prepare a Habitat Restoration and Revegetation Plan in discussion with SCE for the Project, which shall include plans for restoration, enhancement/re-vegetation and/or mitigation banking. For non-Federal lands SCE shall prepare the Habitat Restoration and Revegetation Plan. Both plans shall include at minimum: (a) the location of the mitigation site (off site mitigation may be required); (b) locations and details for top soil storage (c) the plant species to be used; (d) seed and cutting collecting guidelines; (d) a schematic depicting the mitigation area; (e) time of year that the planting will occur and the methodology of the planting; (f) a description of the irrigation methodology for container, bareroot or other planting needing irrigation; (g) measures to control exotic vegetation on site; (h) success criteria; (i) a detailed monitoring program; j) locations and impacts to all oaks and native trees (over 3 inches DBH); (k) locations of temporary or permanent gates, barricades, or other means to control unauthorized vehicle access on access and spur roads as deemed necessary by the FS (NFS lands only).

SCE shall utilize a CPUC/FS/USACE/State Parks (for Alternative 4 only)-approved locally collected seed mix, locally collected cuttings, bare-root stock, etc. to revegetate areas disturbed by construction activities. All habitats dominated by non-native species prior to Project disturbance shall be revegetated using appropriate native species. FS approval is required for seeding on NFS land. The seed mix shall consist of native, locally occurring species collected from local seed sources. Cuttings and bare-root stock shall be of local origin. Restoration shall include the revegetation of stripped or exposed work sites and/or areas to be mitigated with vegetation native to the area. No commercially purchased seeds, stock, etc will be accepted without the approval of the FS on NFS lands and must be certified to be free of noxious weeds. Revegetation shall include ground cover, grass, shrub, and tree species in order to match disturbed areas to surrounding conditions and to restore or improve wildlife habitat quality to pre-project or higher levels. The Habitat Restoration and Revegetation Plan shall also include a

monitoring element. Post seeding and planting monitoring will be yearly from years one to five and every other year from years six to ten, or until the success criteria are met. SCE shall restore temporarily disturbed areas, including existing tower locations that are to be removed by the Project, to pre-construction conditions or the desired future conditions per the LMP. If the survival and cover requirements have not been met, SCE is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements as previously mentioned.

The FS will conduct a preconstruction evaluation of the probable impacts to all oaks and native trees in all construction-related disturbance areas. This evaluation shall be incorporated into the Habitat Restoration Plan and shall include the species and number of individuals, their DBH, location and potential impact type. Construction within the driplines of all native trees and oak trees/shrubs, and incidental trimming or damage to trees along the proposed access/spur routes shall not occur until the trees are evaluated by an FS botanist or qualified arborist. This person shall identify appropriate measures to minimize tree loss, such as the placement of fence around the dripline, padding vehicles, minimizing soil removal or addition around driplines, and the placement of matting under the existing dripline during construction activities. On the ANF, if a tree must have any construction-related activities such as equipment or soil staging within the drip zone, root pruning, or excessive branch pruning (greater than 25% in one year), then the tree must be monitored for five years for tree mortality. If any of these identified trees dies during the monitoring period, then the tree must be mitigated at the rate appropriate to the DBH.

The replacement ratios (using rooted plants in liners or direct planting of acorns [for oaks]) for native trees or any oaks which are to be removed shall be as follows: trees from 3 to 5 inches DBH shall be replaced at 3:1; trees from 5 to 12 inches shall be replaced at 5:1; trees from 12 to 24 inches shall be replaced at 10:1; trees from 24 to 36 inches shall be replaced at 15:1; and all oaks greater than 36 inches shall be replanted at a ratio of 20:1. The replacement ratio for damaged trees shall be 2:1 for trees with DBH less than 12 inches and a 5:1 ratio for trees with DBH greater than 12 inches. The DBHs for scrub oaks will be measured following DFG guidelines. On the ANF any oak or native tree which must be removed or killed as a result of construction or other Project-related activities shall be replaced in kind or mitigated at a comparable value. Compliance shall be evaluated annually for years one to five and bi-annually for years six to ten (years after tree planting). Trees shall be planted at locations acceptable to the landowner or managing agency. All planting locations, procedures, and results shall be evaluated by a qualified arborist and FS botanist. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance.

Permanent impacts on federal lands shall be determined by the appropriate federal manager (FS and USACE) and on non-federal lands shall be determined by the CPUC at the ratios stated below or at a comparable value. On NFS lands impacts will be considered permanent if they are not likely to recover after ten years post-disturbance. Where onsite restoration is planned for mitigation of temporary impacts to vegetation communities, SCE shall identify a Habitat Restoration Specialist, where concurrence has been provided by the CPUC/FS, to implement the method of restoration outlined by the FS in the Habitat Restoration Plan.

The creation or restoration of habitat shall be monitored annually for years one to five on both FS lands and private/State/USACE lands and bi-annually for years six to ten on FS lands, or until the success criteria are met, after mitigation site construction to assess progress and identify potential problems with the restoration site. Remediation activities (e.g. additional planting, removal of non-native invasive species, or erosion control) shall be taken during the

ten-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the ten-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the ten-year period until the criteria are met or unless otherwise specified by the CPUC/FS/USACE/State Parks (as appropriate). If a fire occurs in a revegetation area within the ten year monitoring period, SCE shall be responsible for a one-time replacement. If a second fire occurs, no replanting is required, unless the fire is caused by SCE activity. Off-site mitigation for NFS and non-NFS lands may be required if mitigation rates exceed what can be achieved on NFS land. This may be in the form of funding for land purchase for inclusion into the Angeles National Forest, mitigation banking, removing existing structures, or comparable restoration efforts.

During and after construction, FS-identified entrances to access roads on NFS lands shall be gated or blockaded in some manner and maintained to prevent the unauthorized use of these roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.

Table 1. Mitigation Ratios for Impacts to Vegetation Communities

Vegetation Community	Mitigation Ratios – Non-NFS Lands		Mitigation Ratios – NFS/Federal Lands	
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Woodland Vegetation				
Bigcone Douglas Fir-Canyon Oak Forest	1:1	2:1	2:1	5:1
Canyon Oak Forest	-	-	1:1	5:1
California Bay Forest	1:1	2:1	1:1	5:1
California Walnut Woodland	1:1	1.5:1	-	-
Coast Live Oak Woodland	1:1	1.5:1	1:1	5:1
Coulter Pine Forest	-	-	1:1	3:1
Joshua Tree Woodland	1:1	2:1	-	-
Mojavean Pinyon Woodland	1:1	2:1	2:1	5:1
Non-native Woodland	1:1*	1:1*	1:1*	1:1*
Yellow Pine Forest (Plantation)	-	-	1:1	3:1
Shrub-dominated Vegetation				
Big Sagebrush Scrub	1:1	1:1	1:1	3:1
Coastal Sage Scrub	1:1	1.5:1	2:1	5:1
Desert Saltbush Scrub	1:1	1:1	-	-
Chamise Chaparral	-	-	1:1	3:1
Mixed Chaparral	1:1	1:1	1:1	3:1
Scrub Oak Chaparral	-	-	1:1	5:1
Interior Live Oak Scrub	-	-	1:1	5:1
Mojave Creosote Bush Scrub	1:1	1:1	-	-
Mojave Mixed Woody Scrub	1:1	1:1	-	-
Mojavean Juniper Woodland and Scrub	1:1	1.5:1	2:1	5:1
Mojavean Pinyon and Juniper Woodland, Recently Burned	-	-	2:1	5:1
Mulefat Scrub	1:1	3:1	2:1	5:1
Rabbitbrush Scrub	1:1	1:1	-	-
Restoration – California Buckwheat Scrub	-	-	1:1	1:1
Riversidean Alluvial Fan Sage Scrub	1:1	3:1	2:1	5:1

Table 1. Mitigation Ratios for Impacts to Vegetation Communities

Vegetation Community	Mitigation Ratios – Non-NFS Lands		Mitigation Ratios – NFS/Federal Lands	
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Riparian Vegetation				
Desert Wash	1:1	3:1	2:1	5:1
Ruderal Wetland	1:1*	1:1*	-	-
Exotic-Giant Reed	1:1*	1:1*	1:1*	1:1*
Southern Arroyo Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Coast Live Oak Riparian Forest	1:1	3:1	2:1	5:1
Southern Cottonwood Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Sycamore-Alder Riparian Forest	1:1	3:1	2:1	5:1
Southern Willow Scrub	1:1	3:1	2:1	5:1
Sparsely Vegetated Streambed	1:1	3:1	2:1	5:1
Herbaceous Vegetation				
Bunchgrass Grassland	1:1	1.5:1	-	-
California Annual Grassland	1:1	1:1	1:1	3:1
Deerweed and Chia Herbaceous Field, Recently Burned	1:1	1:1	2:1	3:1
Desert Bunchgrass Grassland	1:1	1.5:1	-	-
Wildflower Field	1:1	1:1	2:1	3:1
Anthropogenic Vegetation				
Agriculture	0:1	0:1	-	-
Barren/developed	1:1*	1:1*	1:1*	1:1*
Ruderal Grassland	1:1*	1:1*	1:1*	1:1*

Ratios on Non NFS Lands may be adjusted based on existing site conditions and disturbance levels with approval of the CPUC. Ratios could range from 0.5 to maximum noted in Table 1 based on site evaluation.

*Non-native habitats will be reseeded with a native seed mix. Barren areas will be mitigated at a 1:1 ratio if they are determined to support sensitive wildlife (i.e. burrowing owls, etc.)

B-1c **Treat cut tree stumps with Sporax.** All stumps of trees (conifers and hardwoods) 3 inches DBH or greater resulting from activities associated with construction of the Project shall be treated with Sporax according to product directions to prevent the spread of annosus root disease. Only licensed applicators shall apply Sporax. Sporax shall not be used during rain events unless otherwise approved by the CPUC/FS/USACE.

B-3a **Prepare and implement a Weed Control Plan.** SCE shall prepare and implement a comprehensive, adaptive Weed Control Plan on NFS lands for pre-construction and construction invasive weed abatement. The long term Weed Control Plan, including monitoring and eradication, will be defined as part of the 50 year Operations and Maintenance Permit. On the ROW easement lands administered by the FS, the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the FS for final authorization of weed control methods, practices, and timing prior to implementation of the Weed Control Plan on public lands. ROW easements located on private lands shall include adaptive provisions such as wheel and equipment washing for the implementation of the Weed Control Plan. The Weed Control Plan shall include the following:

- A pre-construction weed inventory shall be conducted by surveying all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new or improved access and spur roads. Weed populations that: (1) are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006); and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusa head); and (3) are considered by the FS as species of priority (for NFS lands only) shall be mapped and described according to density and area covered. In areas subject to ground disturbance, weed infestations shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the FS. The Weed Control Plan shall be updated and utilized for eradication and monitoring post construction.
- Weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods applied with the authorization of the FS. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the CPUC/FS, and implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Herbicides shall not be used within Riparian Conservation Areas (RCAs) on the ANF without approval of the FS. In riparian areas only water-safe herbicides shall be used. Herbicides shall not be applied when wind velocities exceed 6 mph. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the FS. The timing of the weed control treatment shall be determined for each plant species in consultation with the FS with the goal of controlling populations before they start producing seeds.

For the preconstruction and construction of the Project, measures to control the introduction and spread of noxious weeds in the Project work area shall be taken as follows.

- On the ANF, from the time construction begins until ten years after construction is complete, surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required at all sites impacted by construction (tower pads, staging areas, landing zones, etc.), including access/spur roads disturbed during the Project. Surveying and monitoring for weed infestations shall occur annually for years one to five and bi-annually for years six to ten. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or resprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.
- During Project preconstruction and construction, all seeds and straw materials shall be weed-free rice straw, and all gravel and fill material shall be certified weed free by the county Agriculture Commissioners' Offices. Any deviation from this will be approved by a FS botanist. All plant materials used during restoration shall be native, certified weed-free, and approved by the CPUC and FS.
- During Project preconstruction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering FS identified areas. On non-NFS lands vehicles and equipment shall be washed prior to commencing work in off road areas. Vehicles shall be cleaned at existing construction yards or legally operating car washes. SCE shall document that all vehicles have been washed prior to commencing project work. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all Project work areas. All washing

shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill, unless otherwise approved by the FS. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the CPUC and FS for inspection at any time and shall be submitted to the CPUC and FS on a monthly basis.

- During Project operation and maintenance activities, clear and dispose of weeds in assembly yards, helicopter landing areas, tower pads, spur roads, staging areas, and any other disturbance areas in a FS-approved method.

B-3b **Remove weed seed sources from construction access routes.** Prior to construction, SCE shall initiate invasive species eradication identified in the following Table. These populations were identified as small and isolated but having the potential to spread aggressively during construction. Post construction, these isolated populations will be included and treated according to the restoration plan. Per the FSM 2080 BMP guideline, SCE shall also remove or reduce sources of weed seed along the travel routes associated with Project construction identified in Figures A-2 through A-4 of Appendix A of the *Biological Specialist Report* (Aspen, 2008) to prevent the introduction or control the spread of noxious weeds by mowing or other control methods to substantially reduce seed production in these infestations during Project construction. Following Project approval and during the time of year when weed species can be observed and identified, SCE shall identify, using a qualified plant ecologist, any other weed seed sources that could contribute to Project-related weed spread on the ANF. The following weed populations, and any other target infestations identified by Project surveys, should be controlled prior to construction. SCE shall initiate eradication of the following weed populations and any other isolated, target infestations discovered during pre-construction surveys along construction routes.

Weed Populations Along Construction Routes*

ANF Road Location	Noxious Weeds Identified
4N41	Isolated patch of Spanish broom
3N20	Isolated patches of Spanish broom, Scotch broom, and rockrose
3N23	Giant reed population in creek adjacent to road
2N23	Scattered Spanish broom infestations of a range of population sizes and densities. Some of the large populations along these routes observed during project surveys had been recently brushed for weed control by SCE contractors, but these populations should be rechecked and control efforts reapplied as necessary. Also isolated patches of tree tobacco, rockrose, horehound, and tocalote
2N24	Scattered, isolated patches of Spanish broom and rockrose
2N25.2	Scattered, isolated patches of Spanish broom, rosemary, rockrose, and horehound
2N30.1	One isolated patch of Spanish broom
2N30.2	Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, eupatory, horehound, smilo grass, and tree tobacco infestations of a range of populations sizes and densities
3N27 north of Big Tujunga Creek to Mt. Gleason Rd	Scattered, isolated patches of Spanish broom
2N45	Moderate patch of giant reed and tree of heaven
2N65.1	Moderate infestation of tree spurge
2N65.2	Moderate infestation of Spanish broom and thoroughwort
2N66	Moderate patch of Spanish broom and tree of heaven
2N75	Moderate patch of Spanish broom
2N79	Isolated patch of Spanish broom

Weed Populations Along Construction Routes*	
ANF Road Location	Noxious Weeds Identified
1N36	Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, Canadian thistle, hairy vetch, smilo grass, and tree tobacco infestations of a range of population sizes and densities.
Road west out of Shortcut Station	Isolated patches of Spanish broom
*Specific locations are found in Figures A-2 through A-4 of Appendix A of the Biological Specialist Report Noxious Weed Assessment. [Aspen, 2008]	

B-3c **Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads.** Prior to construction and during each year of use for construction at all assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads within the ANF, weed infested areas should be mowed and/or treated as appropriate for the individual weed species under the guidance of a qualified plant ecologist or restoration ecologist, where concurrence on the ecologist has been provided by the FS. Unless otherwise authorized by the FS, weed control efforts in these areas shall be timed annually to reduce shortpod mustard, tocalote, and other noxious weed seed production, by mowing or weed-whacking infestations when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at a FS/CPUC-approved location. Weed control efforts shall commence in early spring (February – March), as indicated annually by a qualified plant ecologist or restoration ecologist in coordination with a FS botanist or Forest Weed Specialist.

B-5 **Conduct pre-construction surveys and monitoring for breeding birds.** SCE shall conduct pre-construction surveys for nesting birds if construction and removal activities are scheduled to occur during the breeding season. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access/spur road locations. Surveys for birds shall be conducted for all areas from February 1 to August 15. The required survey dates may be modified based on local conditions (i.e., high altitude locations) with the approval of the CPUC, California Department of Fish and Game (CDFG), USACE, and/or FS. SCE shall be responsible for designating qualified biologists who can conduct pre-construction surveys and monitoring for breeding birds. The resume of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to ground disturbance. On NFS lands, the FS shall apply the FS Land Management Plan Standard S18 (Part 3 of the Land Management Plan), which states "Protect known active and inactive raptor nest areas. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from nest-site selection to fledging." On both NFS and non-NFS lands, if breeding birds with active nests are found, a biological monitor shall establish a 300-foot buffer around the nest for ground-based construction activities and a one-mile buffer for helicopter use if helicopters are flying below 300 feet, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. If nesting bald or golden eagles are identified a 660-foot no activity buffer will be implemented. The 300-foot (660 eagle and one-mile helicopter) buffer may be adjusted to reflect existing conditions including ambient noise, topography, and disturbance with the approval of the U.S. Fish and Wildlife Service (FWS), CPUC, USACE, CDFG, or FS, as appropriate. On NFS lands, the FS shall have the authority to define/redefine such buffers. The biological monitors shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitors shall be responsible for documenting the results of the

surveys and the ongoing monitoring and will provide a copy of the monitoring reports for impact areas to the respective agencies (e.g., On NFS lands documentation will be provided to the Forest Biologist). If for any reason a bird nest must be removed during the nesting season, SCE shall provide written documentation providing concurrence from the FWS and CDFG authorizing the nest relocation. On NFS lands, this will include coordination and written approval from the FS. On USACE lands, this will include coordination and written approval by the USACE. SCE shall provide a written report documenting the relocation efforts. The report shall include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and whether the birds were accepted by the adopted parent.

B-7 **Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.** SCE shall conduct pre-construction surveys for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist according to protocols established by the FWS, CDFG, FS, and California Native Plant Society (CNPS). The resume of the proposed biologists will be provided to the CPUC and FS for concurrence prior to ground disturbance. All listed plant species found shall be marked and avoided. If a federally listed plant species cannot be avoided on private land, consultation with FWS will occur.

Prior to site grading, any populations of listed plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, edaphic physical and chemical characteristics) that are identified by a qualified plant ecologist and/or Forest botanist. At minimum, the buffer shrub species shall be equal to twice the drip line (i.e., two times the distance from the trunk to the canopy edge) in order to protect and preserve the root systems of the plant. The buffer for herbaceous species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the FWS, CDFG, FS, USACE and CPUC. If impacts to listed plants are determined to be unavoidable, the FWS shall be consulted for authorization, through the context of a Biological Opinion. Additional mitigation measures to protect or restore listed plant species or their habitat may be required by the FWS before impacts are authorized, whichever is appropriate.

B-8a **Conduct protocol surveys for California red-legged frogs and implement avoidance measures.** SCE shall conduct Fish and Wildlife Service (FWS)-approved protocol surveys for California red-legged frogs if suitable habitat is present near the proposed construction sites at the Amargosa Creek, Monte Cristo Creek, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River within the Central Region. If surveys have been conducted to protocol within two years of start of construction and no red-legged frogs were identified, surveys would not need to be repeated prior to start of construction. Surveys will continue at least every two years until construction is complete in the identified potential habitat. The

resumes of the proposed biologists will be provided to the CPUC and FS for concurrence prior to conducting the surveys.

- Prior to the onset of construction activities, SCE shall provide the following information to all personnel who will be present within work areas or adjacent to the project area :
  - A detailed description of the red-legged frog including color photographs;
  - The protection the red-legged frog receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
  - The protective measures being implemented to conserve red-legged frogs and other species during construction activities associated with the Project; and
  - A point of contact if red-legged frogs are observed.
- All trash that may attract predators of the red-legged frogs will be removed from work sites or completely secured at the end of each work day. If California red-legged frogs are detected in or adjacent to the Project, the following shall apply:
  - Between 1 November and 31 March, no work will be authorized within one mile of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized. The one-mile buffer distance may be reduced based on the topography of the site with the approval of the FWS, FS, and CPUC.
  - Between April 1 to 31 October, no work will be authorized within 500 feet of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized.
  - If present, SCE shall monitor all related construction activities and develop and implement a monitoring plan that includes the following measures in consultation with the FWS and FS.
  - Prior to the onset of any construction activities, SCE shall meet on-site with the CPUC/FS-approved biologist (authorized biologist). The authorized biologist shall hold a current red-legged frog permit from FWS. SCE shall provide information on the general location of construction activities within habitat of the red-legged frog and the actions taken to reduce impacts to this species. Because red-legged frogs may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on red-legged frogs.
  - Where construction can occur in habitat where red-legged frogs are widely distributed, work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/FS/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas.
  - The authorized biologist will direct the installation of the fence and conduct a minimum of three nocturnal surveys to move any red-legged frogs from within the fenced area to suitable habitat outside of the fence. If red-legged frogs are observed on the final survey or during subsequent checks, the authorized biologist will conduct additional nocturnal surveys if he or she determines that they are necessary in concurrence with the FWS/CDFG/FS/CPUC.
  - Fencing to exclude red-legged frogs will be at least 24 inches in height.

- Construction activities that may occur immediately adjacent to breeding pools or other areas where large numbers of red-legged frogs may congregate will be conducted during times of the year (winter) when individuals have dispersed from these areas or the species is dormant, unless otherwise authorized by CPUC, FS, and FWS. The authorized biologist will assist SCE in scheduling its work activities accordingly.
- If red-legged frogs are found within an area that has been fenced to exclude red-legged frogs, activities will cease until the authorized biologist moves the red-legged frogs.
- If red-legged frogs are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the red-legged frogs. The authorized biologist in consultation with FWS/CDFG/ FS/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
- Any red-legged frogs found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when red-legged frogs may be present on the access road. Traffic speed should be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by California red-legged frogs.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc) in areas that may contain California red-legged or mountain yellow-legged frogs will be reported to the FS, FWS, and CPUC within one hour.

B-8b **Conduct biological monitoring.** SCE shall provide a qualified biologist with demonstrated expertise with the listed wildlife species likely to occur in the Project area. This person(s) shall monitor all construction activities daily within suitable habitat for listed or sensitive wildlife. The resumes of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to the onset of ground-disturbing activities.

B-9 **Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas.** In areas known to support arroyo toads (Lynx Gulch, Monte Cristo Creek, and Alder Creek) the following avoidance measures shall be implemented.

- SCE shall avoid ground disturbing activities (i.e. grading, stream crossing upgrades, parking) along access roads within the one mile buffer for arroyo toads during the activity period for arroyo toads (March-November). This date and buffer may be modified based on the existing temperature regime and habitat conditions with FS and FWS approval.

- SCE shall limit use of the access roads in this area within the one-mile arroyo toad buffer area to daylight hours only during the activity period for arroyo toads (generally March-November), unless otherwise approved by the FS (on NFS land), FWS, and/or the CPUC (on private land). Use of these roadways during rain events shall not occur during the activity period for arroyo toads. Vehicle speeds shall be limited to 15 MPH and no parking or loitering shall occur along the access roads.
- SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat. The monitor shall inspect the roadway and work sites throughout the day and log the time and weather conditions in the area. If adult or juvenile arroyo toads are found on the roadway vehicle access shall be restricted until the animal has moved off the road or is relocated by a permitted arroyo toad biologist in accordance with the Biological Opinion.

SCE shall conduct Fish and Wildlife Service-approved protocol surveys for arroyo toad at the following locations if suitable habitat is present near the proposed construction sites: Kentucky Wash, Aliso Canyon, and Big Tujunga Creek (Segment 6/11) within two years to the start of construction. If arroyo toads are detected, further surveys within the area will not be required and the avoidance measures detailed below will be followed. If no arroyo toads are detected, habitat assessments will be conducted every year until construction is completed. If the habitat assessment determines that suitable habitat exists, protocol surveys shall be conducted.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
  a. A detailed description of the arroyo toad including color photographs;
  b. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
  c. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the Project; and
  d. A point of contact if arroyo toads are observed.
- For all areas in which this species has been documented SCE shall develop and implement a monitoring plan that includes the following measures in consultation with the FWS and Forest Service.
  - SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of arroyo toad.
  - All trash that may attract predators of the arroyo toad will be removed from work sites or completely secured at the end of each work day. Prior to the onset of any construction activities, SCE shall meet on-site with staff from the FS and the authorized biologist. SCE shall provide information on the general location of construction activities within habitat of the arroyo toad and the actions taken to reduce impacts to this species. Because arroyo toads may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists

will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on arroyo toads.

- Any arroyo toads found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- SCE shall restrict work to daylight hours, except during an emergency, or unless otherwise authorized by the FS (on NFS land) or the CPUC (on private land) in order to avoid nighttime activities when arroyo toads may be present on the access roads. Traffic speed shall be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by arroyo toads.
- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc) in areas that may contain arroyo toads will be reported to the FS, FWS, and CPUC within one hour.

B-12 **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** On or near the West Fork Cogswell road, SCE shall pre-stage a complete Hazardous Material Spill kit(s) capable of containing the largest potential vehicle spill of gasoline, diesel, or other hazardous materials. The kit(s) shall be located and maintained in areas accessible to crews in the event a bridge or other road blockage has occurred. Contents of the kit(s) shall be approved by the FS. A biological monitor with knowledge of the special-status fishes known to occur in the area shall inspect the roadway a minimum of three times a day from October 1 to April 30 and one time a day from May 1 through September 30 (unless otherwise approved by the FS) during construction to inspect for leaks, spills, or other debris that may enter the San Gabriel River. Spills on the roadway will be logged and reported to the FS and CPUC monitor weekly and cleaned up immediately. Any spills along this road will be reported to the FS and CPUC within one hour.

No loitering, maintenance, refueling, or equipment staging shall occur on the West Fork Cogswell road. Prior to vehicle access metal plates, bridges, or other FS-approved structures shall be placed above all wet crossings, if deemed necessary by the FWS or the FS.

Prior to any work in the San Gabriel River, Big Tujunga River, or their tributaries where flowing or ponded water is present SCE shall conduct surveys for fish and other special-status aquatic organisms. The species noted in the project area shall be reported to the FS. No work shall be conducted in the flowing portion of the stream and water shall be diverted around the work area in a manner that does not restrict the movement of aquatic organisms unless authorized by the FS. Block nets or other barriers may be required if deemed necessary by the FWS or the FS, and if fish or other special-status species are present. Block nets will not be

used in areas supporting Santa Ana suckers. All activities that occur within ponded or flowing water shall be coordinated with the FS on NFS lands. Quarterly for duration of construction work in the San Gabriel and Big Tujunga Rivers, SCE shall prepare a report documenting the type and number of species located and any actions taken to relocate or exclude the species. This shall be reported to the FS and CPUC no later than 30 days following the completion of work at the San Gabriel or Big Tujunga Rivers.

If Santa Ana suckers occur in portions of the creek where construction activities are scheduled to occur, SCE shall retain a qualified biologist with a FWS permit for the Santa Ana sucker to monitor all construction activities in occupied Santa Ana sucker habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

B-14 **Monitor construction in condor habitat and remove trash and micro-trash from the work area daily.** SCE shall retain a qualified biologist with demonstrated knowledge of California condor identification to monitor all construction activities within the Project area and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologist(s) will be provided to the CPUC and FS for concurrence. This biologist(s) will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within known condor-occupied areas. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed. If condors are observed in helicopter construction areas, SCE shall avoid further helicopter use until the animals have left the area. The authorized biologist will have radio contact with the project foreman, who will be in radio contact with the helicopter pilot. The biologist will provide information to SCE to avoid conflicts with condors. All condor sightings in the Project area will be reported to the FWS and FS (on NFS lands). SCE will coordinate with FWS on the construction schedule and helicopter work areas to determine if any condors have been tracked or observed in the vicinity of the Project area. If condors are observed in helicopter construction areas, then SCE shall avoid further helicopter use until the animals have left the area and the FWS will be notified immediately. Should condors be found roosting within 0.5 miles of the construction area, no construction activity shall occur between 1 hour before sunset to 1 hour after sunrise, or until the condors leave the area. Should condors be found nesting within 1.5 miles of the construction area, no construction activity will occur until further authorization from the FWS and FS on NFS lands.

Microtrash. All trash is required to be disposed of as written in the Proper Disposal of Construction Waste Plan for the Project. Additional language has been added to this Plan to address the disposal of microtrash. Workers will be trained on the issue of microtrash – what it is, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area will occur to collect and remove trash in locations with the potential for California condors to occur.

Worker Education. SCE will develop a flier that will be distributed to all workers on the project concerning information on the California condor. Information to be included consists of the following: species description with photos and/or drawings indicating how to identify the California condor and how to distinguish condors from turkey vultures and golden eagles; protective status and penalties for violation of the ESA; avoidance measures being implemented on the Project; and contact information for communicating condor sightings.

Reporting. All California condor sightings in the Project area will be reported directly to the FWS, FS, and CPUC. Prior to the commencement of helicopter activity, SCE will coordinate with a FWS condor biologist to determine if any condors have been tracked or observed in the vicinity of the Project area.

B-15 **Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat.** If construction activities occur during the breeding season at the Whittier Narrows Recreation Area, Whittier Narrows Nature Center, Puente Hills Landfill Native Habitat Preservation Authority lands, and/or the Rio Hondo, or other areas including the ANF that have the potential to support listed riparian species, a qualified ornithologist shall conduct protocol surveys of the Project and adjacent areas within 500 feet. Fish and Wildlife Service (FWS) protocol surveys will be conducted for southwestern willow flycatcher, and least Bell's vireo. In known occupied habitat for listed riparian birds, SCE shall only conduct focused surveys of the Project and adjacent areas within 500 feet. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.

Protocol or focused surveys, as appropriate, should be conducted, within one year of start of construction and will continue annually until completion of construction activities. However, on NFS lands, annual surveys in suitable habitat may be required during construction. These surveys may be modified through the coordination with the FWS, CDFG, FS, USACE, State Parks (under Alternative 4), and the CPUC based on the condition of habitat, the observation of the species, or avoidance of riparian areas during the breeding season.

If a territory or nest is confirmed in a previously unoccupied area, the FWS and CDFG shall be notified immediately. On NFS lands, USACE lands, or State Park (under Alternative 4) lands, these agencies would be notified immediately. In coordination with the FWS and CDFG, a 500-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted provided noise levels do not exceed 60 dB(A)hourly Leq at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. No construction or vehicle traffic shall occur within this buffer during the breeding season for these species.

B-23 **Preserve off-site habitat/management of existing populations of special-status plants.** SCE shall conduct rare plant surveys, and implement avoidance/minimization/compensation strategies. SCE shall conduct surveys according to established and accepted protocol during the floristic period appropriate for each of the rare plant species identified with the potential to occur within the Project ROW and within 100 feet of all surface-disturbing activities. The completion of these surveys shall be coordinated with the CPUC and federal land manager. Populations of rare plants shall be flagged and mapped prior to construction. If rare plants are located during the focused surveys, then modification of the placement of structures, access roads, laydown areas, and other ground-disturbing activities would be implemented in order to avoid the plants, if feasible. A report of special-status plants observed shall be prepared and submitted to the CPUC, State Parks (for activities in CHSP associated with Alternative 4), and

the federal land manager (FS and USACE). Impacts to non-listed plant species (i.e., FS Sensitive, CNPS List 1,2 and 4 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding (with locally collected seed stock), or other FS, USACE, and CPUC approved methods. If Project activities will result in loss of more than 10 percent of the known individuals within an existing population of FS Sensitive, and/or special-status plant species SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted). On federal lands, this ratio may be reduced at the discretion of the federal land manager. The CPUC may reduce this ratio depending on the sensitivity of the plant on non-federal lands. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified plant ecologist.

All special-status plant species impacted by Project activities shall be documented in an annual report and submitted to the CPUC and federal land manager (FS and USACE). Where reseeding has occurred, SCE shall track the success of the plants during the course of the annual restoration monitoring. This information shall be submitted as part of the annual report to the CPUC and federal land manager (FS and USACE).

B-24 **Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for southwestern pond turtle in the area of Project crossings, including access and spur roads, at Amargosa Creek, Big Tujunga Creek (Segment 6), Alder Creek, Rio Hondo Substation, Whittier Narrows Recreation Area, Aliso Creek, and Tonner Creek. Since Southwestern pond turtles were observed at the San Gabriel River (Segments 6 and 7 and West Fork/Cogswell Road) and Brea Canyon during reconnaissance surveys conducted in September 2007, the species shall be assumed present at these locations. The resume of the proposed biologists will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall also occur on access and spur roads where road crossings could affect suitable habitat for this species. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 June. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE, as appropriate, to reflect the existing weather or stream conditions. If southwestern pond turtles are detected in or adjacent to the Project, nesting surveys shall be conducted.

Focused surveys for evidence of southwestern pond turtle nesting shall be conducted in, or adjacent to, the Project when suitable nesting habitat exists within 1,300 feet of occupied habitat in an area where Project-related ground disturbance will occur (i.e., tower sites, access/spur roads, wire setup sites, marshalling yards). If both of those conditions are met, a qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 1,300 feet of occupied habitat in which Project-related ground disturbance will occur. This area may be adjusted based on the existing topographical features on a case-by-case basis with the approval of the CPUC, FS, and/or USACE, as appropriate. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, SCE shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG, CPUC, FS (on NFS lands), and

USACE (on Army Corps lands) to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without the written authorization from the CDFG and FS (on NFS lands).

A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present or assumed present. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles. If the installation of fencing is deemed necessary by the authorized biologist, one clearance survey for southwestern pond turtles shall be conducted at the time of the fence installation. Clearance surveys for southwestern pond turtles shall be conducted by the authorized biologist prior to the initiation of construction each day.

B-25 **Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for two-striped garter snakes (both on and off NFS lands) and south coast garter snakes (non-NFS lands only) where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. The resume of the proposed biologists will be provided to the CPUC, FS and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE to reflect the existing weather or stream conditions. If either species is detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, the following minimization measures will be required. SCE shall retain a qualified herpetologist with demonstrated expertise with garter snakes to monitor construction activities. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake and/or south coast garter snake. Clearance surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of construction each day. Any snakes found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.

B-27 **Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna.** A qualified biologist with demonstrated expertise with special-status terrestrial herpetofauna shall monitor all construction activities and assist SCE in the implementation of the monitoring efforts. The resume of the proposed biologist will be provided to the CPUC, USACE, and FS (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of the special-status terrestrial herpetofauna. Any special-status terrestrial herpetofauna found within a Project impact area shall be salvaged by the authorized biologist and relocated to suitable habitat outside the impact area. If the installation of exclusion fencing is deemed necessary by the authorized biologist, the authorized biologist will direct the installation of the fence. Clearance surveys for special-status herpetofauna shall be conducted by the authorized biologist prior to the initiation of construction each day.

B-30 **Conduct pre- and during construction nest surveys for spotted owls.** Prior to tree removal or construction activities within suitable habitat, SCE shall have a qualified biologist conduct FS protocol surveys for the California spotted owl to establish or confirm the location of nests within the Project. The resumes of the proposed biologists shall be provided to the FS and CPUC for concurrence. If nests or breeding pairs are found during the surveys, the limited operating period (LOP) will be applied according to the Forest Plan (Standard 20 – Part 3). No project-related activities will be allowed within these dates (February 1-August 15) or until chicks have fledged. Where a biological evaluation by a qualified ornithologist determines that a nest site would be shielded from planned activities by topographic or other features that would minimize disturbance, the buffer distance may be reduced upon approval of the FS on NFS lands. In addition, no helicopter construction will be allowed within 0.5 mile of breeding spotted owl territories. No helicopter overflights shall be authorized without FS approval. If approved minimum altitudes will be 300 feet above a territory at an altitude designated by the FS. This buffer may be adjusted through consultation with the FS and CPUC.

B-33a **Maternity colony or hibernaculum surveys for roosting bats.** SCE shall conduct a pre-activity (e.g., vegetation removal, grading) survey for roosting bats within 200 feet of project activities within 15 days prior to any grading of rocky outcrops or removal of towers or trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities).

SCE shall also conduct surveys for roosting bats during the maternity season (1 March to 31 July) within 300 feet of project activities. Trees and rocky outcrops shall be surveyed by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). Surveys shall include a minimum of one day and one evening. The resume of the biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities.

If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the Project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFG/FS/USACE approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of the CDFG, FS, USACE (as appropriate), and CPUC that there are alternative roost sites used by the maternity colony and young are not present then no further action is required, and it will not be necessary to provide alternate roosting habitat (i.e., Mitigation Measure B-33b would not apply although Mitigation Measure B-33c would still apply). However, if there are no alternative roosts sites used by the maternity colony, Mitigation Measure B-33b is required. If no active roosts are found, then no further action is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then Mitigation Measure B-33b is not necessary, but Mitigation Measure B-33c is required.

B-33b **Provision of substitute roosting bat habitat.** If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats requirements in coordination with CDFG and the FS. By making the roosting habitat available prior to eviction (Mitigation Measure B-33c), the colony will have a better chance of finding and using the roost. Large concrete walls (e.g., on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted

colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

B-33c **Exclude bats prior to demolition of roosts.** If non-breeding bat hibernacula are found in towers or trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). The resume of the bat biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities. In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

If an active maternity roost is located in an area to be impacted by the Project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

AQ-1a **Implement Construction Fugitive Dust Control Plan.** SCE shall develop a Fugitive Dust Emission Control Plan (FDECP) for construction work. The Plan shall be completed prior to construction and approved by the CPUC and FS. This Plan is in addition to any fugitive dust control plan required by the South Coast Air Quality Management District (SCAQMD). Measures to be incorporated into the plan shall include, but are not limited to the following:

- Non-toxic soil binders, equivalent or better in efficiencies than the CARB approved soil binders, shall be applied per manufacturer recommendations to active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction to reduce fugitive dust emissions. On NFS lands, SCE shall obtain FS approval of any soil binders to be used.
- Unpaved road travel will be limited to the extent possible, by limiting the travel of heavy equipment in and out of the unpaved areas (move from construction site to construction site rather than back to marshalling or staging areas daily) and through carpooling/busing construction workers to the maximum feasible extent ;and by developing travel routes to each construction site that minimize unpaved road travel to the extent possible, according to FS or other regulatory agency road use restriction. The FDECP will include a road travel plan applicable for construction sites with unpaved access greater than one mile.
- Water the disturbed areas of the active construction sites at least three times per day and more often if uncontrolled fugitive dust is noted.
- Enclose, cover, water twice daily, and/or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content.
- Maintain unpaved road vehicle travel to the lowest practical speeds, and no greater than 15 miles per hour (mph), to reduce fugitive dust emissions.
- All vehicle tires shall be inspected, are to be free or dirt, and washed as necessary prior to entering paved roadways.
- Install wheel washers or wash the wheels of trucks and other heavy equipment where vehicles exit unpaved access to the construction sites.
- Cover all trucks hauling soil and other loose material, or require at least two feet of freeboard.

- Establish a vegetative ground cover (in compliance with biological resources impact mitigation measures) or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, if water is used as a soil binder for disturbed surfaces, or implement other additional fugitive dust mitigation measures, to all active disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 mph.

SCAQMD Rule 403 Best Available Control Measures (BACM) are required to be proposed in the FDECP and implemented when and if the BACM are as strict, or stricter, than the control measures listed above. Additionally, mitigation measures provided on the SCAQMD CEQA website Tables XI-A through XI-E (http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.htmlor as updated by SCAQMD) must be implemented in the FDECP where applicable. This mitigation measure covers construction work performed within all three local air quality jurisdictions.

H-1a **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** SCE shall develop and submit to the CPUC and FS for approval 30 days prior to construction an Erosion Control Plan, and implement Best Management Practices (BMPs), as described below. (Note: The Erosion Control Plan may be part of the same document as the Stormwater Pollution Prevention Plan.) Within the Erosion Control Plan, the applicant shall identify the location of all soil-disturbing activities, including but not limited to new and/or improved access and spur roads, the location of all streams and drainage structures that would be directly affected by soil-disturbing activities (such as stream crossings by access roads), and the location and type of all BMPs that would be installed to protect aquatic resources. The Erosion Control Plan shall include a proposed schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details. As part of the Erosion Control Plan, SCE shall maintain a logbook of all precipitation events within the Project area that produce more than one inch of precipitation within a 24-hour period. The logbook shall contain the date of the precipitation event, the approximate duration of the event, and the amount of precipitation (measured as the largest amount recorded by a rain gage or weather station within one mile of the Project). Additionally, the logbook shall include a narrative evaluation (and/or a numerical evaluation, if required by the FS or other jurisdictional agency) of the erosion-prevention effectiveness of the existing BMPs, as well as a description of any post-storm modifications to those BMPs. The logbook shall be submitted to the CPUC and FS for review within 30 days following the first storm event (after construction has begun) that produces greater than one inch of precipitation within a 24-hour period. SCE shall re-submit the logbook annually after the first storm of the rainy season that produces more than one inch of precipitation within a 24-hour period. The logbook shall be retired 5 years after completion of construction. In addition to the Erosion Control Plan, the applicant shall submit to the CPUC and the FS evidence of possession of all required permits before engaging in soil-disturbing construction/demolition activities, before entering flowing or ponded water, or before constructing a crossing at flowing or ponded water. Such permits may include, but are not limited to, a Streambed Alteration Agreement from the California Department of Fish and Game, a Clean Water Act (CWA) Section 404 permit from the USACE, a CWA Section 402 NPDES General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) from the applicable Regional Water Quality Control Board(s) (RWQCBs), and/or a CWA Section 401 certification from the applicable RWQCBs. In addition, if construction-related excavation activities on National Forest System (NFS) lands encounter perched groundwater, triggering the need for dewatering activities to occur in compliance with Applicant-Proposed Measure HYD-6 (Drilling and Construction Site Dewatering Management), SCE shall notify the Forest Service at the onset of

dewatering and, upon the completion of dewatering activities at the affected site(s), SCE shall submit to the Forest Service written description of all executed dewatering activities, including steps taken to return encountered groundwater to the subsurface.

H-1b **Dry weather construction.** Any construction activities within the ANF and/or Chino Hills State Park (CHSP) [CHSP is only included as part of this measure for Alternative 4 (Routes A through D)] shall be scheduled to avoid anticipated precipitation events that are predicted to produce more than one inch of precipitation over a 24-hour period, unless expressly authorized by the FS and/or California Department of Parks and Recreation (State Parks). If an unexpected precipitation event occurs while construction activities are already underway, SCE shall contact the FS and/or State Parks for guidance. The FS and/or State Parks may require cessation of construction activities within their jurisdiction during any precipitation event in order to prevent excessive erosion and to protect aquatic resources. On NFS lands, SCE shall also observe any criteria promulgated by the FS regarding construction during precipitation events. SCE shall provide documentation to the CPUC monitor of all wet-weather coordination with the FS and/or State Parks.

VIII. References

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