



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-LA-14B0243-15F0556

October 4, 2016
Sent by Email

Pamela Kostka
Regulatory Project Manager
U.S. Army Corps of Engineers – Los Angeles District
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3409

Attention: Corps File No. SPL-2015-00113-PKK

Subject: Section 7 Consultation for the Mount San Antonio College West Parcel Solar Project, Los Angeles County, California

Dear Ms. Kostka:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the Mount San Antonio College (Mt. SAC) West Parcel Solar project (project) in the City of Walnut, Los Angeles County, California, and its effects on the federally threatened coastal California gnatcatcher (*Poliptila californica californica*; gnatcatcher), in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

We have reviewed information contained in our office files and information provided to us, including the: 1) U.S. Army Corps (Corps) request for consultation, dated June 16, 2015; 2) *Habitat Mitigation Plan* (HMP), dated August 2016 [HELIX Environmental Planning, Inc. (Helix) 2016]; and 3) other sources of information. The complete project file for this consultation is maintained at the Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

On June 16, 2015, we received your request to initiate consultation based on your determination that the project may adversely affect the gnatcatcher. On July 20, 2015, we acknowledged your request for consultation and identified additional information needed to assist us in determining the full extent of the direct and indirect effects of the project.

Between July 2015 and April 2016, we communicated by telephone, email, and in person to clarify details of the project, including proposed avoidance and minimization measures. In particular, we requested information on September 16, 2015, regarding Mt. SAC's proposed approach for conserving and managing onsite habitat for the gnatcatcher. Mt. SAC provided

some information but did not provide all of the information, and on April 26, 2016, the Corps withdrew Mt. SAC's application due to inactivity.

On June 23, 2016, Mt. SAC provided us with the information requested in September 2015, and the Corps reinitiated consultation. Between June 2016 and September 2016, we communicated by telephone, email, and in person to finalize information regarding project details and conservation measures.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Corps proposes to issue a permit to Mt. SAC, under section 404 of the Clean Water Act, to place fill into two ephemeral streams during the construction of the 2-megawatt photovoltaic West Parcel Solar project. The project will be developed on the 27.65-acre West Parcel located west of Grand Avenue and south of Temple Avenue. The property is undeveloped and adjacent to single-family residences to the west and south. Habitat on site primarily consists of Venturan coastal sage scrub (CSS) and non-native grassland. An approximately 10.6-acre pad will be graded, on which an 8.9-acre solar array will be installed (Lindmark 2015) (Figure 1).

The project will impact 0.06 acre of mulefat scrub, 8.36 acres of CSS, 8.78 acres of non-native grassland, and 0.02 acre of developed land (i.e., 17.22 total acres of impact). To offset the loss of gnatcatcher habitat resulting from the project, Mt. SAC will restore and preserve¹ 2 acres of CSS for every 1 acre of impact. Thus, Mt. SAC will conserve a total of 16.72 acres of CSS (Table 1). CSS will be conserved in two areas: 1) the West Parcel and 2) in an expanded area of the existing wildlife sanctuary on the Mt. SAC campus (conservation lands) (Figure 2). On the West Parcel, 5.07 acres of existing CSS will be preserved, and 3.03 acres will be restored. In the expanded wildlife sanctuary, 3.51 acres of CSS will be preserved, and 8.14 acres will be restored. The conservation lands will be set aside in perpetuity by a restrictive covenant and managed by a Service-approved Habitat Management Plan (Helix 2016).

Table 1. CSS Conservation. Helix 2016

Conservation Type	Acre(s)
<i>Preservation</i>	
West Parcel	5.07
Expanded Wildlife Sanctuary	3.51
subtotal	8.58
<i>Restoration</i>	
West Parcel	3.03
Expanded Wildlife Sanctuary	5.11
<i>subtotal</i>	8.14
TOTAL	16.72

¹ Areas that are "restored" will be restored with CSS and conserved; areas that are "preserved" consist of existing CSS that will be conserved.

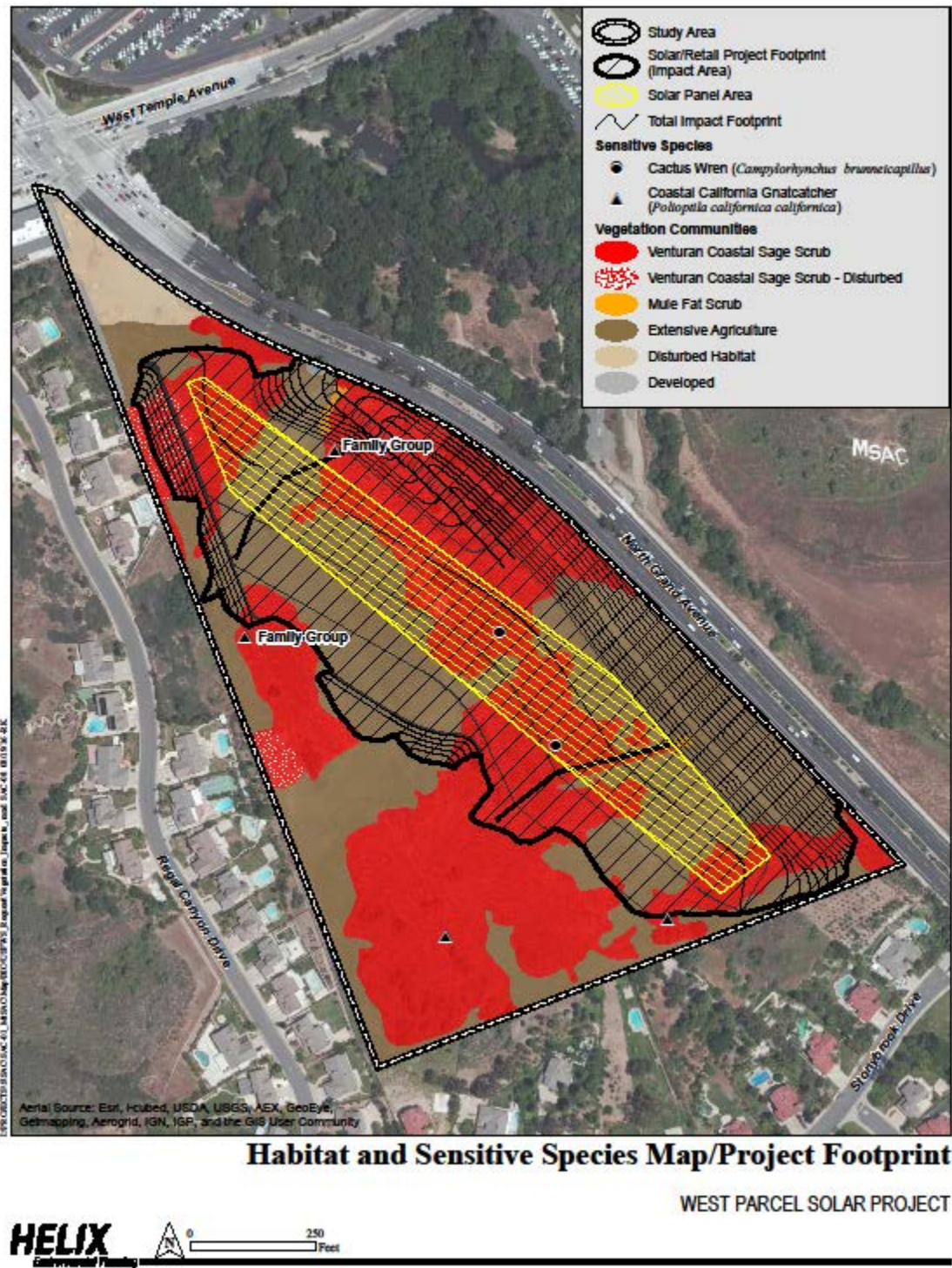


Figure 1. Project Description. Source: Helix 2016. Map depicts project footprint overlay on vegetation communities and gnatcatcher observations in 2015 (Kidd Biological Consulting 2015).



Figure 2. Restoration and Preservation Areas. Source: Helix 2016. Map depicts restoration and preservation areas, as an overlay on vegetation communities and gnatcatcher observations from 2015 (Kidd Biological Consulting 2015).

Conservation Measures

Mt. SAC will implement the following conservation measures (CM) to avoid, minimize, and offset project-related adverse effects to the gnatcatcher (Osmundson 2016, pers. comm.):

- CM 1. To offset impacts to a total of 8.36 acres of CSS occupied by gnatcatchers, Mt. SAC will implement the following:
 - a. Preserve 8.58 acres and restore 8.14 acres on the West Parcel and expanded wildlife sanctuary;
 - b. Manage the areas identified in 1(a) according to the HMP in perpetuity:
 - i. Mt. SAC will submit to the Service, for review and approval, the HMP and construction documents; modifications to the implementation, monitoring, and maintenance of the HMP; and annual reports. Habitat restoration activities will begin prior to construction and are expected to take about 10 months, from September 2016 through June 2017. This will be followed by a 120-day plant establishment period through December 2017;
 - ii. Mt. SAC will be responsible for all costs associated with the restoration, preservation, and long-term management of the habitat identified in CM 1(a), as described in the HMP. Financial assurances for the restoration and short-term maintenance (e.g., through the first 5 years of the HMP) will be provided through a surety bond prior to project construction. The long-term management plan will be funded with a dedicated line item in Mt. SAC's general fund prior to construction. The amount of funding in the line item will be based on the estimated cost in the HMP and will increase 3 percent per year to account for inflation. The annual funding amount may be decreased only after a financial review and with approval from the Service; and
 - iii. Mt. SAC will designate a campus preserve management team, as approved by the Service, to oversee the implementation of the HMP.
 - c. Protect the areas identified in CM 1(a) according to a Declaration of Restrictive Covenants in perpetuity. The Declaration of Restrictive Covenants will be recorded no later than April 1, 2017, unless the Service agrees in writing to an extension.
 - i. Mt. SAC will install permanent fencing and signs around the perimeter of the conservation lands where they interface with areas that are readily viewed and accessible by the public. Signs will be posted every 100

feet in these areas identifying the sensitivity of the habitat and restricted activities.

- CM 2. Vegetation removal will occur outside the gnatcatcher breeding season (i.e., outside the period of February 15 through September 1).
- CM 3. A biologist approved by the Service will be on site during: (1) initial vegetation clearing; and (2) project construction within 500 feet of gnatcatcher habitat to be avoided to ensure compliance with all CMs. The contract of the project biologist will allow direct communication with the Service at any time regarding the proposed project. The project biologist will be provided with a copy of this biological opinion. The project biologist will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the resident engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. The project biologist will perform the following duties:
- a. For construction outside the gnatcatcher breeding season, perform pre-construction surveys immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the project impact footprint, the project biologist will direct workers to begin initial vegetation clearing in an area away from the gnatcatchers. In addition, the project biologist will passively flush birds toward areas of appropriate vegetation that will be avoided. It will be the responsibility of the project biologist to ensure gnatcatchers will not be injured or killed by initial vegetation clearing/grubbing. The project biologist will record the number and map the location of gnatcatchers disturbed by initial vegetation clearing/grubbing or construction and report these numbers and locations to the Service within 24 hours;
 - b. For construction during gnatcatcher breeding season, perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation activities, or brood rearing activities within 500 feet of construction. The surveys will begin a maximum of 7 days prior to project construction, and one survey will be conducted the day immediately prior to the initiation of work. Mt. SAC will notify the Service at least 7 days prior to the initiation of the breeding season surveys. The project biologist will record the number and map the location of gnatcatchers observed during the breeding season surveys and report these numbers and locations to the Service within 24 hours. Thereafter, surveys will be done once a week during project construction in the gnatcatcher breeding season. These weekly surveys may be suspended as approved by the Service;

- c. Construction activities will not occur within 500 feet of an active gnatcatcher nest unless they are conducted consistent with a Service-approved plan to avoid disturbing nesting gnatcatchers (e.g., constructing sound walls, monitoring noise levels to ensure that they are less than 60 dBA, and nest monitoring);
- d. Oversee installation of and inspect temporary fencing and erosion control measures within or up-slope of avoided and/or preserved areas a minimum of once per week during installation and daily during all rain events until established to ensure that any breaks in the fence or erosion control measures are repaired immediately;
- e. Train all contractors and construction personnel a maximum of 14 days prior to project construction on the biological resources associated with the projects and ensure that training is implemented by construction personnel. At a minimum, training will include: (1) the purpose for resource protection; (2) a description of the gnatcatcher and its habitat; (3) the CMs given in the biological opinion that should be implemented during project construction to conserve the sensitive resource, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field; (4) the protocol to resolve conflicts that may arise at any time during the construction process; and (5) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with noncompliance with the Act;
- f. Halt work, if necessary, and confer with the Service to ensure the proper implementation of species and habitat protection measures. The project biologist will report any noncompliance issue to the Service within 24 hours of its occurrence;
- g. Submit monthly reports (including photographs of impact areas) via regular mail or email to the Service during initial clearing of gnatcatcher habitat. In addition, the project biologist will submit monthly reports during construction within the breeding season. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the duration of gnatcatcher monitoring, the location of construction activities, and the type of construction that occurred. These reports will specify numbers, locations, and sex of gnatcatchers (if present), observed gnatcatcher behavior (especially in relation to construction activities), and remedial measures employed to avoid, minimize, and mitigate impacts to gnatcatchers. Raw field notes should be available upon request by the Service; and

- h. Submit a final report to the Service within 60 days of project completion that includes: (1) as-built construction drawings with an overlay of habitat that was impacted and avoided; (2) photographs of habitat areas that were to be avoided; and (3) other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conditions of this biological opinion was achieved.

- CM 4. Mt. SAC will temporarily fence (including downslope silt barriers) the limits of project impacts (including construction staging areas and access routes) and install other appropriate sediment trapping devices to prevent additional impacts to gnatcatcher habitat and the spread of silt from the construction zone into habitat to be avoided. Fencing and sediment trapping devices will be installed in a manner that does not impact habitat to be avoided. Temporary construction fencing and sediment trapping devices will be removed upon project completion.

- CM 5. There will be no night lighting on site during the construction or operation of the project.

- CM 6. Any planting stock to be brought onto the project site for habitat restoration will be first inspected by a Service-approved biologist to ensure the stock is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Linepithema humile*), fire ants (*Solenopsis invicta*), and other insect pests. Any planting stock found to be infested with such pests will not be allowed on the project site or within 300 feet of natural habitats unless documentation is provided to the Service that these pests already occur in natural areas around the project site. The stock will be quarantined, treated, or disposed of according to best management practices by experts in a manner that precludes invasions into natural habitats. Mt. SAC will ensure that all temporary irrigation will be for the shortest duration possible and that no permanent irrigation will be used for habitat restoration/enhancement.

- CM 7. Mt. SAC will ensure that the following best management practices are implemented during project construction in order to minimize potential impacts to the gnatcatcher:
 - a. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint;
 - b. To avoid attracting predators of the gnatcatcher, the project site will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site;
 - c. Pets of project personnel will not be allowed on the project site;

- d. Disposal or temporary placement of excess fill, brush or other debris will not be allowed in waters of the United States or their banks;
- e. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will occur in designated areas outside of waters of the United States within the fenced project impact limits. These designated areas will be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering waters of the United States and will be shown on the construction plans. Fueling of equipment will take place within areas greater than 100 feet from waters of the United States. Contractor equipment will be checked for leaks prior to operation and repaired as necessary. “No-fueling zones” will be designated on construction plans; and
- f. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

Action Area

According to 50 CFR § 402.02 pursuant to section 7 of the Act, the “action area” means all areas to be affected directly or indirectly by the Federal action. Areas directly impacted include all areas within the project footprint, including construction vehicle access routes, staging areas, and grading areas. Because habitat within the conservation lands may be impacted by construction or restoration activities, the conservation lands are included in the action area. The project site and conservation lands are almost completely surrounded by existing development. Therefore, we do not anticipate any appreciable impacts to extend beyond the project footprint and conservation lands.

Thus, the action area includes the 27.65-acre West Parcel and 10.14-acre expansion of the existing wildlife sanctuary. The action area includes all areas that will be directly impacted by vegetation clearing and grading, and construction activities; areas where habitat restoration, maintenance and monitoring activities will occur; and areas within the West Parcel and conservation lands that will be exposed to indirect effects such as increased noise, dust levels and human activity during and after project construction. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

STATUS OF THE SPECIES

The status of the gnatcatcher was described at listing and has been updated in the 5-year review for this species (Service 1993, 2010). Please refer to these documents for detailed information on the gnatcatcher’s biology and ecology and the threats and conservation needs of the species. For convenience, we have included a brief summary of the status and distribution of the gnatcatcher.

Status and Distribution

Gnatcatchers occur in coastal sage scrub and associated habitats from southern Ventura County to Baja California, Mexico. Gnatcatchers are non-migratory and exhibit strong site tenacity (Atwood 1990). In 1993, the Service estimated that about 2,562 gnatcatcher pairs remained in the United States, with the highest densities occurring in Orange and San Diego counties (Service 1993). In a study using more rigorous sampling techniques, Winchell and Doherty (2008) estimated there were 1,324 (95 percent confidence interval: 976–1,673) gnatcatcher pairs over an 111,006-acre area on public and quasi-public lands in Orange and San Diego counties. Their sampling frame covered only a portion of the United States range, focusing on the coast, and was limited to 1 year. Winchell and Doherty (2008) estimated nearly as many gnatcatchers in the portion of the United States range sampled in their study as was originally estimated for the entire United States range. Although it is not valid to extrapolate beyond the sampling frame, especially in light of known differences in population densities across the range of the gnatcatcher (Atwood 1992), and based on Winchell and Doherty (2008), it is likely there are more gnatcatchers in the United States portion of the range than was suggested by earlier estimates. We are not aware of any recent estimates of gnatcatcher populations in Baja California.

Gnatcatcher home range size varies seasonally and geographically, with winter season home range being larger than breeding season ranges (Bontrager 1991), and inland populations having larger home ranges than coastal populations (Atwood and Bontrager 2001). However, on average, gnatcatcher breeding season territories range in size from less than 2.5 acres to greater than 25 acres depending on their distance from the coast (Atwood *et al.* 1998; Preston *et al.* 1998a).

Threats

Although declines in numbers and distribution of the gnatcatcher have resulted from numerous factors, the current significant threats to the gnatcatcher include habitat fragmentation and degradation, which can lead to type conversion (Service 2010). Several stressors, including livestock grazing, anthropogenic atmospheric pollutants, and wildland fire, can lead to type conversion of gnatcatcher habitat. Refer to the 5-year review (Service 2010) and recent 12-month finding on a petition to delist the coastal California gnatcatcher (Service 2016; 12-month finding) for detailed information on the current threats to the gnatcatcher.

The threat of wildland fire was most recently discussed in the Service's 12-month finding. Wildland fire can result in the direct loss of the coastal sage scrub plants that the gnatcatcher uses for foraging, breeding, and sheltering. In our 2010 5-year review, we noted that, absent other disturbances, CSS can re-grow in some post-wildland fire areas in as little as approximately 3 to 5 years (Service 2010). However, new information suggests that the process needed for CSS vegetation to recover sufficiently to provide suitable habitat for the gnatcatcher is more complex. Winchell and Doherty (2014) examined gnatcatcher recolonization rates after the wildland fires of 2003 in San Diego County; they found that gnatcatchers will recolonize burned areas, but it can take more than 5 years post-burn for populations to reach pre-burn occupancy levels, even in

higher-quality habitat areas. In total, from 2003 to 2015, approximately 289,822 acres or about 45 percent of modeled gnatcatcher habitat burned (Service 2016).

The frequency of wildland fire has risen due to an increase in rates of ignition along the urban-wildland interface and controlled burning practices in Mexico (Service 2010). The greater number of fires, many of which have burned large areas of CSS, has resulted in more areas of young growth CSS vegetation that do not provide suitable gnatcatcher habitat.

Wildland fire, and how often it reoccurs in an area, is a major contributor to vegetation type conversion from CSS to annual grassland, a vegetation type that does not support the breeding, feeding, or sheltering needs of the gnatcatcher. In conjunction with several other stressors, wildland fires promote the growth of nonnative plant species, which can outcompete and displace native plant species. This occurrence results in the modification and, ultimately, the loss of CSS habitat. Furthermore, the senescence of these annual nonnative annual plants creates higher fuel loads than are found in native coastal scrub habitat, accelerating the effects of the wildland fire-type conversion feedback loop.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation and the impacts of State and private actions that are contemporaneous with the consultation in progress.

Site Characteristics and Surrounding Land Uses

The 27.65-acre West Parcel is currently undeveloped and is surrounded by residential development to the south and west and by roadways to the north and east. The wildlife sanctuary and proposed conservation land occurs 100 feet across Grand Avenue to the northeast of the West Parcel. The action area was previously used for cattle grazing, and the habitat is now characterized by rolling hills and intervening swales, with CSS and non-native grassland vegetation.

The CSS community within the action area is dominated by California sagebrush (*Artemisia californica*) and interspersed with large patches of prickly pear (*Opuntia littoralis*). Other native species within this habitat include deerweed (*Acmispon glaber*), laurel sumac (*Malosma laurina*), coyote bush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), our Lords' candle (*Hesperoyucca whipplei*), and Mexican elderberry (*Sambucus mexicana*). The understory species found within the CSS vegetation are primarily non-native. The non-native grassland community within the action area is heavily disturbed due to cattle grazing. As a result, the majority of this plant community contains bare ground within sparse vegetation. The non-native grassland is dominated by non-native species such as short-podded mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), bindweed (*Convolvulus arvensis*), red stemmed filaree

(*Erodium cicutarium*), slender oats (*Avena barbata*), red brome (*Bromus rubens*), rig-gut brome (*Bromus diandrus*), tree tobacco (*Nicotiana glauca*) and fennel (*Foeniculum vulgare*).

Overall, the West Parcel contains high quality gnatcatcher habitat. No brown-headed cowbirds (*Molothrus ater*), considered to be nest parasites for gnatcatchers, were observed or otherwise detected during gnatcatcher surveys in 2015 (Kidd Biological Consulting 2015).

Status of the Gnatcatcher within the Action Area

During the 2015 breeding season, one gnatcatcher pair was observed on West Parcel with three juveniles (Kidd Biological Consulting 2015). After June 10, 2015, the pair continued to be observed during the breeding season while the juveniles were presumed to have dispersed. A single male was also observed in the southern portion of the West Parcel. Although this male appeared to be unpaired during the 2015 season, the site likely supports sufficient habitat to support a second breeding pair. The results of the 2015 breeding season surveys were consistent with surveys conducted in 2008, when a pair and a single male were observed (Helix 2008). In the expanded wildlife sanctuary, a single pair of gnatcatchers was detected in 2012 (Helix 2012).

The project occurs in an area informally known as the Covina Hills-South metapopulation (including Walnut Hills and the former BKK Landfill). This metapopulation connects to the Covina Hills-North metapopulation to the northeast (including Forest Lawn Memorial Park and Bonelli Park) and to isolated occurrences in the cities of Diamond Bar and Industry Hills. The nearest suitable gnatcatcher habitat to the action area is located about 1 mile to the north on the California State Polytechnic University, Pomona campus, City of Pomona, California.

To understand the size of the gnatcatcher population within the action area within the context of the larger metapopulation, we estimated a combined total of 21 gnatcatcher pairs within the Covina Hills-South and Covina Hills-North metapopulations in 2002 (Service 2002). While residential and commercial development has removed some occupied CSS habitat within these metapopulations since 2002, we believe numbers remain about the same as our 2002 estimate. Thus, the gnatcatcher individuals within the action area represent about 10 to 15 percent of the overall Covina Hills metapopulations.

Looking more broadly, approximately 170 pairs of gnatcatchers are known to occur in the nearby Puente/Chino Hills metapopulation, which includes the Montebello Hills (NRC 2008), Puente and Chino Hills (derived from Service 2007; PCR 2002), West Coyote Hills (Bonterra Consulting 2005; PCR 2005) and East Coyote Hills (Center for Natural Lands Management 2008) (Figure 3). In addition, ongoing coastal sage scrub restoration projects in Chino Hills State Park and the Puente Hills Native Habitat Authority property are anticipated to support additional pairs of gnatcatchers within the Puente/Chino Hills metapopulation in the future. The gnatcatcher individuals within the action area do not represent a substantial portion (i.e., about 1 to 2 percent) of populations occurring in southeast Los Angeles County, including the Covina Hills and Puente/Chino Hills metapopulations. However, the action area is located between these metapopulations and may serve as a connection between the metapopulations.

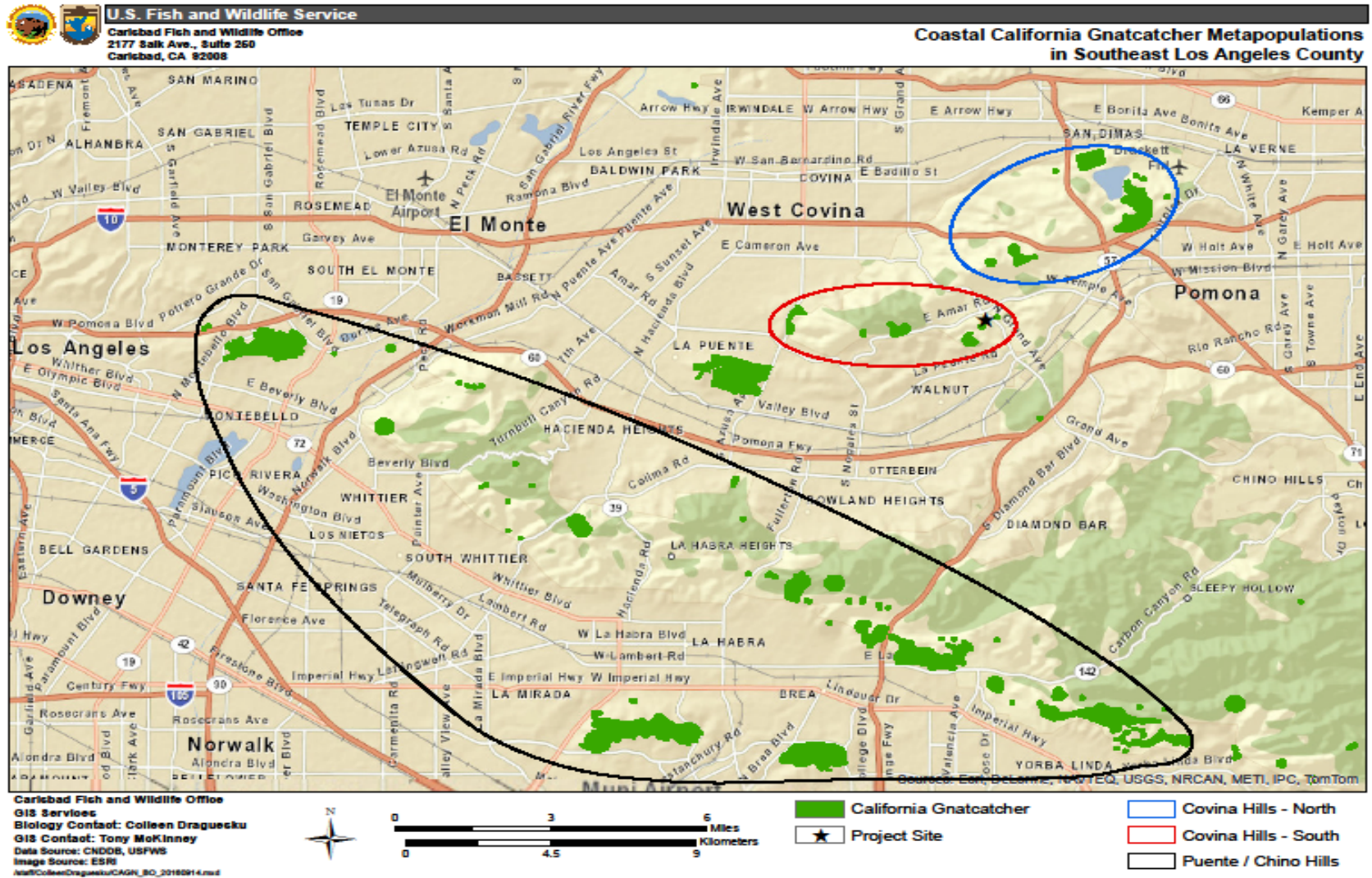


Figure 3. Coastal California gnatcatcher metapopulations in southeast Los Angeles County

Populations in southeastern Los Angeles County and Northwestern Orange County provide the closest connection to the southern slope of the San Gabriel Mountains, which is thought to connect gnatcatcher populations of Ventura, western Los Angeles, San Bernardino and Riverside counties. Surveys in this area suggest that gnatcatchers are sparsely distributed in this portion of their range. As such, the action area is within a potential stepping stone of habitats for the ongoing dispersal and genetic exchange of gnatcatchers throughout the northern extent of their known distribution.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

Habitat Loss

On the West Parcel, the project will impact 8.36 acres and restore 3.03 acres of CSS (Table 1). Therefore, the project will result in a net loss of 5.33 acres of CSS on the West Parcel. Gnatcatchers are non-migratory territorial birds, and removal of a substantial portion of a gnatcatcher pair's breeding territory will force the pair to adjust their existing territory or establish a new territory, particularly during the breeding season, when territorial boundaries are better defined (Preston *et al.* 1998a). Gnatcatchers have been observed within the impact area, and it is likely that displaced gnatcatchers will be forced to compete with resident gnatcatchers when attempting to expand an existing territory or establish a new territory. If displaced birds cannot find suitable habitat to forage and shelter in, we anticipate they will be more vulnerable to predation and otherwise may die or be injured. Gnatcatchers that successfully establish territories in adjacent habitat are expected to experience reduced productivity (e.g., delayed initiation or prevention of nest building, fewer nesting attempts per season, and/or overall reduction in reproductive output) due to reduced availability of foraging and breeding habitat and increased territorial interactions.

The West Parcel was known to support one pair of gnatcatchers and one unpaired male in 2015. Thus, the West Parcel supports up to two gnatcatcher territories. After restoration and preservation of existing CSS, the West Parcel will have a total of 8.1 acres of CSS. As described in the Status of the Species section, gnatcatcher territories range in size from less than 2.5 acres to greater than 25 acres depending on their distance from the coast (Atwood *et al.* 1998; Preston *et al.* 1998a). The project site is about 25 miles from the coast; therefore, we expect gnatcatcher territory sizes within the action area to be on the larger end of the territory size estimates. We believe that the West Parcel will only support one pair of gnatcatchers after the project, when there are just 8.1 acres of available CSS. Therefore, we expect up to one gnatcatcher pair on the West Parcel will be

harmful, including potential mortality and/or reduced reproduction due to significant loss of primary breeding, feeding, and sheltering habitat.

Mt. SAC will restore 5.11 acres of CSS in the neighboring expanded wildlife sanctuary, for a total of 8.14 acres of new CSS habitat within the action area. The total restoration area is approximately equal to the impact area resulting from the project (i.e., 8.36 acres of impact, and 8.14 acres of restoration). Therefore, we expect that in the future, after CSS has been restored and is functioning as suitable gnatcatcher habitat, the action area will support a similar number of gnatcatcher pairs (i.e., two or three) as it currently supports. In addition, Mt. SAC will conserve both the existing CSS and the newly restored areas for a total of 16.72 acres of conserved CSS on site. These conservation lands will be protected in perpetuity, which is a benefit to the gnatcatcher as result of project. We anticipate that it will take approximately 5 years for restored CSS habitat to be suitable to support gnatcatcher breeding activities. One to two gnatcatcher territories will remain within avoided CSS habitat in the action area during project construction and restoration activities. These territories, along with nearby individuals in the Covina Hills-South or Puente/Chino Hills metapopulations, will help repopulate the restored habitat within the action area in the future. Therefore, while the project is expected to result in the short-term loss of up to one gnatcatcher pair in action area, no appreciable reduction in the numbers, reproduction, or distribution of the Covina Hills-South metapopulation or the species rangewide is expected. The implications of habitat loss and corresponding impacts to gnatcatcher pairs are discussed in more detail in “Effect on Recovery” below.

Fragmentation

The project will not have a substantial impact on the connectivity between local metapopulations. As stated above, within about 5 years, approximately the same amount of CSS will be available to the gnatcatcher before and after the project. The impact area will be configured between the two conservation lands on the West Parcel and expanded wildlife sanctuary (Figure 2). Therefore, the action area will be more fragmented as a result of the project. At its widest point, the impact area will be 600-feet wide. However, gnatcatchers will be able to continue to disperse periodically between CSS habitat on the West Parcel and expanded wildlife preserve after the photovoltaic solar panels and infrastructure are installed. The conservation lands will help ensure that gnatcatcher individuals within the action area continue to be connected to gnatcatcher metapopulations nearby, despite the increase in fragmentation of CSS habitat. The implications of the increased habitat fragmentation are discussed in more detail in the “Effect on Recovery” section below.

Injury and Mortality during Construction

The project includes several CMs that will avoid and minimize impacts to gnatcatcher individuals and habitat. Vegetation clearing will be conducted outside of the gnatcatcher breeding season (CM 2). Prior to initiation of other construction activities during the gnatcatcher breeding season, a Service-approved biologist will survey the site to ensure that breeding gnatcatchers are not present within the impact area (CM 3.b). Construction will not occur within 500 feet of an active gnatcatcher nest unless it is conducted consistent with a Service-approved plan to avoid

disturbing gnatcatchers (CM 3.c). With the implementation of the CMs, the potential for gnatcatcher injury or mortality or destruction of active gnatcatcher nests is discountable.

Injury and Mortality due to Collision

Collision with project structures is a direct source of avian fatality at photovoltaic solar facilities. Waterbirds may be at an increased risk of collision if they confuse photovoltaic panels with bodies of water and subsequently attempt to land on the structures (lake effect hypothesis) (Walston *et al.* 2015). Birds may also collide with solar panels because the panels reflecting sky and clouds appear to be a clear flight path for the birds. Gnatcatchers are not waterbirds, so they are unlikely to mistake solar panels for water bodies and attempt to land on the structures. In addition, gnatcatchers forage by moving about actively in shrubs and low trees searching for insects, sometimes hovering to pick items from foliage, but rarely flying out to catch insects in mid-air (Audubon 2016). Thus, although it is possible that gnatcatchers could collide with the solar panels, we anticipate that the likelihood of injury or mortality due to collision is discountable.

Construction Noise and Dust

Gnatcatchers are resident (non-migratory) birds, so they may be present in the vicinity of the project while construction activities are occurring. Noise and vibration associated with the use of heavy equipment has the potential to disrupt gnatcatcher breeding, sheltering and foraging. Some evidence suggests that gnatcatchers tend to build fewer nests and lay fewer eggs in noisier areas (Awbrey and Hunsaker 1997). Gnatcatchers call most frequently just prior to the nesting season (Preston *et al.* 1998b), apparently in association with pair interactions. Noise levels above a particular and yet unknown threshold are likely to mask gnatcatcher calls. However, the available data also suggest that gnatcatchers may be comparatively resistant to the effects of noise once the incubation of nests is initiated (Atwood and Bontrager 2001). Gnatcatchers in the vicinity of the project occupy habitat adjacent to roadways and residential development. Therefore, we expect gnatcatchers in the action area are already habituated to moderate ambient noise levels.

Gnatcatchers adjacent to construction activities may be temporarily disturbed or startled by vegetation removal, grading, fugitive dust or other construction activities during and outside of the breeding season. Mt. SAC will implement a number of measures during vegetation removal and project construction to minimize the potential effects from noise and dust. These measures are expected to reduce the likelihood of impacts to gnatcatchers, particularly during the breeding season. All vegetation removal will be conducted outside of the gnatcatcher breeding season to avoid disturbance to nesting gnatcatchers (CM 2). Noise levels for other construction activities during the gnatcatcher breeding season will not be substantially higher than the existing ambient noise levels near active nests (i.e. 60 decibels) due to the implementation of CM 3.b and 3.c. In addition, due to the duration and phasing of the project, most of the impact area is not expected to be subject to higher than ambient noise levels at any one time. Mt. SAC will implement watering and other appropriate measures to minimize the impacts of fugitive dust (CM 7.f). The project will result in some noise and dust; however, with the implementation of the CMs, the effects of construction-related noise and dust will be insignificant.

Human Intrusion into Conservation Lands

To minimize effects associated with human intrusion into the onsite conservation lands, permanent signage and fencing (CM 1.c) will be installed along the boundary of the conservation lands to identify the areas as such and to restrict access into the area. Signage will be clearly visible and will be placed along the fencing. In addition, as stated above, onsite remaining gnatcatcher habitat will be preserved and managed in perpetuity, including fencing and signage. Therefore, the potential for human intrusion to impact gnatcatchers is discountable.

Invasive Plant Species

The project could result in an increase in the introduction of invasive plant species into native habitats within the onsite preserve adjacent to the completed project. Nonnative, weedy species often out-compete and exclude native species, potentially altering the structure of the vegetation, degrading or eliminating upland habitat used by the gnatcatcher, and providing food and cover for undesirable nonnative animals (Bossard *et al.* 2000). Mt. SAC has incorporated measures into the HMP to prevent the spread of invasive species within the action area. The success criteria of the Service-approved HMP (CM 1.b) require invasive weed species to be completely eradicated from the conservation lands every year (CM 15). These conservation lands will be preserved and managed in perpetuity. The effect of the introduction of non-native plant species into native habitats as a result of the project is discountable.

Predators

Construction activities have the potential to attract non-native predators or increase the numbers of native predators that could prey upon gnatcatchers. Food-related trash and open containers attract raccoons (*Procyon lotor*), coyotes (*Canis latrans*), corvids (birds in the family Corvidae), and other predators. Any increase in normal predation levels could affect the small population of gnatcatchers that occupy the site. This potential impact will be minimized or avoided by the removing all trash that may attract predators from the project site, as described in CM 7.b. Thus, an effect to the gnatcatcher from a project-related increase in predation is discountable.

Management of Conserved Habitat

Under the HMP, various activities will occur in the conservation lands that have the potential to affect gnatcatchers. Activities such as native plant restoration, weeding of non-native species, gnatcatcher surveys, vegetation mapping, and fence installation and maintenance could disturb gnatcatchers in nearby habitat. However, several conservation measures will be implemented to avoid and minimize impacts to gnatcatcher individuals and habitat during the HMP (CM 2.b). Prior to initiation of construction activities during the gnatcatcher breeding season, a Service-approved biologist will survey the site to ensure that breeding gnatcatchers are not present within the impact area (CM 3.b). Construction will not occur within 500 feet of an active gnatcatcher nest unless it is conducted consistent with a Service-approved plan to avoid disturbing gnatcatchers (CM 3.c). Many of the activities conducted under the HMP are also passive

(i.e., not subject to construction work, such as mapping vegetation and biological surveys) and will be conducted by a Service-approved biologist. With the implementation of the CMs, the potential for gnatcatcher injury or mortality or destruction of active gnatcatcher nests during the implementation of the HMP is discountable.

Nevertheless, implementation of the HMP and the associated human intrusion into the conservation lands for the purpose of habitat management has the potential to disrupt gnatcatcher breeding, sheltering and foraging, and those effects may be adverse. For example, gnatcatchers may be disturbed by noise, dust and human activity during non-native plant removal from occupied habitat. However, Mt. SAC will implement CMs under the HMP, including conducting management activities during the breeding season that have the potential to destroy active nests (e.g., spraying or pulling CSS) or disrupt nesting activities (e.g., weed whipping along roads and trails adjacent to CSS), under the oversight of a monitoring biologist who will ensure that gnatcatcher nesting activities are not disrupted and that no nests are destroyed (Helix 2016). In addition, gnatcatchers in the vicinity of the project occupy habitat adjacent to roadways and residential development. Therefore, we expect gnatcatchers in the action area are already habituated to moderate levels of human disturbance. The implementation of the HMP will benefit the gnatcatcher by managing habitat in perpetuity, so any short-term disruption of gnatcatchers will be offset by the long-term benefits of the HMP. The effects to gnatcatcher breeding, feeding, and foraging from the HMP are insignificant.

Effect on Recovery

There is no recovery plan for the gnatcatcher, so we are evaluating this project relative to the general recovery goals of maintaining core populations of gnatcatchers and maintaining connectivity between populations. The project is not within a core population for the gnatcatcher, but despite an increase in habitat fragmentation on site, we expect the action area to support a similar number of gnatcatcher pairs (two to three) within 5 years. The project is a potential stepping stone for dispersal between gnatcatcher metapopulations in the Covina Hills to the north and the Puente/Chino Hills to the south. Because of the amount of developed land between the Covina Hills and Puente/Chino Hills, dispersal between the metapopulations in these areas is likely to be rare, and we have no direct evidence of such dispersal taking place. Nevertheless, the project will continue to serve as a potential stepping stone for any gnatcatchers attempting to disperse through the combination of developed and undeveloped lands between the Covina Hills and Puente/Chino Hills. Although the project will have a negative effect on habitat connectivity in the action area, it will benefit the gnatcatcher by conserving and managing the remaining and restored CSS in perpetuity, eliminating the threat of future development impacts. Because the project will not reduce or eliminate any core populations; will not substantially impact dispersal between core populations; and will maintain remaining and restored habitat in perpetuity, the project is not expected to appreciably impact the recovery of the gnatcatcher.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We have not identified any State, Tribal, local, or private actions within the action area that should be considered in this biological opinion.

CONCLUSION

After reviewing the current status of the gnatcatcher and its critical habitat, the environmental baseline for the action area, effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the gnatcatcher. We reached this conclusion by considering the following:

1. The project will impact 8.36 acres of gnatcatcher habitat out of many thousands of acres of CSS within the range of the gnatcatcher;
2. Project-related habitat loss and degradation will result in substantial impacts to only one gnatcatcher pair, which represents less than 0.1 percent of the roughly 2,562 pairs rangewide;
3. Impacts to occupied gnatcatcher habitat will be offset by restoration, preservation and management of 16.72 acres of CSS habitat on site. All conserved lands will be placed within a restrictive covenant prior to project impacts and will be preserved and managed in perpetuity;
4. Despite the adverse effect of the project due to the increase in fragmentation of onsite habitat, gnatcatcher habitat within the action area will maintain its functionality by continuing to provide a potential stepping stone for dispersal between the conservation lands and suitable habitat in the Covina Hills metapopulations; and
5. With implementation of the conservation measures, impacts to the gnatcatcher are expected to be minimized and are not expected to appreciably reduce the numbers, reproduction, or distribution of the gnatcatcher in the action area or throughout the species' range.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential

behavior patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the proposed action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

AMOUNT OR EXTENT OF TAKE

1. Harm to one gnatcatcher pair due to removal of 8.36 acres of CSS. The take exemption will be exceeded if more than 8.36 acres of gnatcatcher habitat (i.e., CSS) is cleared/graded.

No death or injury of chicks or eggs from vegetation clearing or project construction is anticipated; therefore, none is exempted from the section 9 take prohibitions under the Act.

EFFECT OF TAKE

In the accompanying biological opinion, we determined that this level of anticipated take is not likely to result in jeopardy to the gnatcatcher.

REASONABLE AND PRUDENT MEASURES

Mt. SAC will implement CMs as part of the proposed action to minimize the incidental take of gnatcatchers. In addition to these CMs, the following reasonable and prudent measures are necessary to further minimize the incidental take of gnatcatchers and to monitor and report the effects of the incidental take on gnatcatchers:

1. The Corps and/or Mt. SAC will monitor and report on compliance with established take exemptions for gnatcatchers associated with the proposed action; and
2. The Corps and/or Mt. SAC will receive Service approval prior to allowing access into conservation lands.

TERMS AND CONDITIONS

The measures described below are non-discretionary and must be undertaken by the Corps so that they become binding conditions of any permit issued to Mt. SAC, as appropriate, for the exemption in 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require Mt. SAC to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of the incidental take, the Corps or

Mt. SAC must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR§402.14(i)(3)].

The following terms and conditions implement reasonable and prudent measure 1:

1. Prior to vegetation clearing/grubbing, the Corps and/or Mt. SAC will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint after pre-construction surveys as described in CM 3. The Corps or Mt. SAC will provide an estimate of the number of gnatcatchers territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project as shown in the Figure 2 remain correct.
2. If any killed or injured gnatcatchers are observed during project construction activities, the Service-approved biologist shall immediately notify the CFWO.
3. The Corps and/or Mt. SAC shall notify CFWO within 30 days of completing removal of gnatcatcher habitat. The Corps and/or Applicant will also provide a final map depicting the areas that were cleared for project construction. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take exemption.
4. If the level of take exempted in this biological opinion is exceeded during project construction, the Corps and/or Mt. SAC shall immediately contact CFWO.

The following term and condition implements reasonable and prudent measure 2:

1. Prior to allowing access activities in the conservation lands, the Corps and/or Mt. SAC will provide to the CFWO a description of the requested access activities as managed under the HMP (e.g., for college course use). The CFWO will review and approve access into conservation lands to ensure the activities do not result in effects to the gnatcatcher not previously analyzed in this biological opinion.

DISPOSITION OF SICK, INJURED, OR DEAD SPECIMENS

Upon locating dead, injured, or sick individuals of threatened or endangered species, initial notification must be made to our Division of Law Enforcement in either San Diego, California, at 619-557-5063 or in Torrance, California, at 310-328-6307 within 3 working days. Notification should also be made by telephone and in writing to this office in Carlsbad, California, at 760-431-9440 and 2177 Salk Avenue, Suite 250, Carlsbad, California 92008. Written notification must be made within 5 calendar days and include the collection date and time, the location of the animal, and any other pertinent information. Caution must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact specimens shall be placed with educational or research institutions holding the appropriate State and Federal permits. Remains shall be placed with the San Diego Natural History Museum, San Diego. Arrangements

regarding proper disposition of potential museum specimens shall be made with the institution by the authorized biologist prior to implementation of the action.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

On September 23, 2015, we recommended that Mt. SAC consider project alternatives, including installation of solar panels above existing parking lots on campus (Medak 2015, *in litt.*). Mt. SAC responded, presenting a timeline of decisions made by the Mt. SAC Board of Trustees to approve the placement of photovoltaic panels on the West Parcel. Mt SAC determined the project was consistent with the college's long-term goals of sustainability and energy conservation. Despite the analysis done by Mt. SAC, we believe there are other project alternatives that would avoid much of the current project design's impacts on gnatcatchers. We encourage the Corps to use your authorities to require Mt. SAC to refine their project designs to avoid unnecessary impacts to this species.

REINITIATION NOTICE

This concludes formal consultation regarding the Mount San Antonio College West Parcel Solar project as outlined in the materials submitted to us. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; and (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions or concerns about the consultation or biological opinion, please contact Colleen Draguesku of my staff at 760-431-9440, extension 241.

Sincerely,

G. Mendel Stewart
Field Supervisor

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