David Magney Environmental Consulting
P.O. Box 1346, Ojai, California 93024-1346 * E-mail: david@magney.org
805/646-6045 Voice * 805/646-6975 FAX
www.magney.org

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California Department of Fish and Game
Newhall Ranch EIS/EIR Project Comments
c/o Dennis Bedford
4949 Viewridge Avenue
San Diego, CA 92123

**Subject: Comments on Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan and EIS/EIR**

Dear Mr. Bedford:

David Magney Environmental Consulting (DMEC) is providing these comments on behalf of the Friends of the Santa Clara River, a California nonprofit corporation, and the California Native Plant Society, which is a member organization of the Friends.

DMEC herein provides comments on the Draft Environmental Impact Report (DEIR) for Newhall Land and Farming Company's Resource Management and Development Plan (RMDP) and Spineflower Conservation Plan (SCP). These plans are intended to provide justification for issuing federal and state permits for development associated with the Newhall Ranch Specific Plan, previously approved by the County of Los Angeles. The Newhall Ranch Specific Plan area is located along the Santa Clara River just upstream of the Ventura County line. DMEC is focusing its review on the biological and wetland resources of the project site and how the proposed project will impact those resources. 1

Issues raised in this letter:

- Adequacy of the assessment of Newhall Ranch biological resources;
- Adequacy of the assessment of special-status species;
- Adequacy of impact assessment on wetland resources and functions;
- Feasibility of wetland mitigation plan; and
- Feasibility of the San Fernando Valley Spineflower Conservation Plan.

## BIOLOGICAL RESOURCES

The assessment of biological resources is addressed in Section 4.5 of the EIS/EIR. Issues reviewed below include the feasibility and reasonableness of wildlife guilds, assessment, or lack of assessment, of terrestrial mollusks, bryophytes, and lichens. Also addressed is the inadequate assessment of special-status vascular plants, assessment of impacts on common wildlife species, and mitigation for impacts to oak woodlands. 2

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## Wildlife Guilds as Assessment Method

Page 4.5-13 talks about common wildlife "guilds", which are category buckets designed to address impacts without looking at impacts directly on unprotected species. Whether these buckets meaningfully capture impacts on the species of wildlife with no special protective status is discussed below.

The EIS/EIR groups common wildlife species in the guilds to simplify the impact assessment analysis, primarily,

> "Because common wildlife species have no formal conservation status, they have been grouped into "guilds," which correspond to their common wildlife classification and, in some cases, to the habitat they use and their relative mobility. Thus, for example, in addition to the *Insect* guild, the *Fish* guild, and the *Aquatic Mollusk* guild, there is also a *Bird – Upland Woodland* guild, and a *Mammal – Low Mobility* guild, among others."

> "The purpose of the Common Wildlife impact analysis is to determine the extent to which the various components of the proposed Project and alternatives would affect these common animal species, that, nonetheless, probably provide important biological functions in the overall ecosystem (*e.g.*, as predators or prey)." (Page 4.5-13.)

3

While DMEC commends the preparers for considering "common" wildlife species, the guilds used are either overly simplistic or in fact include special-status species, which is contrary to its basic purported focus on common wildlife species. The Aquatic Guild is a perfect example, which includes a rare undescribed aquatic snail and at least two rare fish species. Therefore, this guild, and most of the others, does not truly represent the more common wildlife species. The guild approach fails to recognize the fact that each and every species has specific habitat, food, nesting, and migration patterns and requirements. Some species have similar enough habitat requirements to be grouped, but the EIS/EIR takes this grouping to an extreme, such that they are actually meaningless.

The assessment is quite mixed in completeness and adequacy. The EIS/EIR states on Page 4.5-122 that over 120 wildlife surveys were conducted on Newhall Ranch between 1988 and 2008. However, not one survey focused on terrestrial mollusks, even though California Department of Fish and Game's (CDFG) Natural Diversity Database (CNDDB) lists 56 mollusk (Gastropoda) species as sensitive species (CNDDB 2004[1]) and 104 mollusk taxa by early 2006 (CNDDB 2006[2]).

4

The definition of the insect guild is very broad, including all insects on the project site. The Class Insecta (27 orders of insects) contains more species of wildlife than any other group of animals, both in terms of numbers of species (between 6 and 10 million, representing 95% of all wildlife species on Earth) and individuals and in biomass. To group this large and diverse group of animals into just one assessment bucket greatly understates and minimizes the importance of this diverse group of animals.

5

The mitigation measures suggested for the insect guild are equally broad and vague (e.g. mitigation proposal BIO-64 [develop an integrated pest management plan] is the solution suggested for poisoning of the insect guild by pesticides.

The table of mitigation suggestions for the insect guild is on Page 4.5-486.

[1] California Natural Diversity Database (CNDDB). 2004. Special Animals. August. California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch, Sacramento, California.

[2] California Natural Diversity Database (CNDDB). 2006. Special Animals. February. (Quarterly publication, mimeo.) California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California.

Another much smaller group of invertebrate wildlife species consists of mollusks (Phylum Mollusca), made up of seven classes:

- Aplocophora (glistenworms);
- Bivalvia (bivalves, clams, oysters);
- Cephalopoda (squid, octopuses);
- Gastropoda (snails, slugs, melampus, pedipes, capshells, ancylids, thorn snails, lymnaca, etc.);
- Monoplacophora (monoplacophores);
- Polyplacophora (chitons); and
- Scaphopoda (tusk shells).

6

Clearly, some of these classes of mollusks are marine taxa and certainly would not be found on the Newhall Ranch project site; however, those groups that are terrestrial or freshwater aquatic species should be better addressed. The fact that a new species of aquatic mollusk, a species of *Pyrgulopsis* in the Class Gastropoda, was found in a freshwater spring on the ranch clearly illustrates that there are very likely other undescribed, and very possibly rare, species of mollusks that could be directly or indirectly impacted by the proposed development. Hershler (1994[3]), an expert on the *Pyrgulopsis* genus, states that over 50% of the species in North America are rare and very habitat specific. The vast majority of western U.S. *Pyrgulopsis* species are restricted to freshwater spring habitats (Hershler 1994), similar to the situation for the undescribed species found at Middle Canyon Spring.

Only three groups of invertebrate wildlife were given any attention, butterflies (Class Insecta: Order Lepidoptera), general insects (Class Insecta), and aquatic mollusks (Class Gastropoda). Nothing is discussed about other groups of invertebrates, such as: pelecypods, terrestrial mollusks, arachnids, crustaceans (Anostraca, Isopoda, Amphipoda, or Decapoda), and many other groups of invertebrates.

7

## Special-status Mollusks in the EIS/EIR

Following the thread started above, focusing on mollusks, the EIS/EIR provides a description of the mollusk guild on Page 4.5-487:

> "Mollusk Guild. With the exception of the undescribed snail discovered in Middle Canyon Spring and discussed in detail in Subsection 4.5.5.3, the only other documented freshwater snail in the Project area is *Physa* sp., which is generally common in the Santa Clara River and lower Potrero Canyon Creek (Swift 2009). However, the Project area is highly likely to support introduced snails and slugs that are considered to be pest species. The brown garden snail (*Helix aspersa*), which was introduced from France during the 1850s for use as food, and the gray garden slug (*Agriolimax reticulates* [sic]), also introduced in the 1800s from Europe, are the most common non-native mollusks and are severe garden and agricultural pests (Flint 2003). Because both the brown garden snail and the gray garden slug are non-native invasive species, there would be no adverse effects of the Project on this guild."

8

The purpose of identifying guilds of species is an attempt to simplify the discussion of a very diverse and complex group of wildlife species, which in some instances can be an appropriate tool. However, defining the guilds can be tricky and risky. The EIS/EIR further simplifies the guild concept to a point of absurdity

[3] Hershler, Robert. 1994. A Review of the North American Freshwater Snail Genus *Pyrgulopsis* (Hydrobiidae). *Smithsonian Contributions to Zoology* 554.

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by combining the Mollusk and Fish Guilds under the Aquatic Guild, as shown on Table 4.5-52. The original Mollusk Guild presumably included terrestrial mollusk species (apparently consisting of two nonnative species); however, the new consolidated guild (Aquatic Guild) precludes all terrestrial species. 8 cont.

Neither the Aquatic Guild nor the original Mollusk Guild included any *Helminthoglypta* species. *Helminthoglypta* is a relatively large genus of terrestrial land snails found throughout California (Roth and Sadeghain 2003[4]).

*Helminthoglypta* species (Shoulderband Snails) certainly occur on Newhall Ranch, as this genus of terrestrial snail occurs in a number of natural habitats throughout California. There are 104 species of *Helminthoglypta* known to occur in California, with 26 Gastropoda taxa (species and subspecies) known to occur in mainland Los Angeles County and 12 Gastropoda species known to occur in adjacent Ventura County (Roth and Sadeghain 2003, Magney 2005[5], 2009[6]). Of these, 12 species (taxa) are considered sensitive by the CNDDB (2004). By 2006, CNDDB listed 18 species of *Helminthoglypta* and 104 mollusk taxa, as sensitive (CNDDB 2006[7]), and the same number of *Helminthoglypta* but 110 mollusk taxa by early 2009 (CNDDB 2009a[8]). This regular increase in the number of mollusks considered rare by the CNDDB is a reflection of the new data becoming available about this interesting and important group of wildlife species, which have often been ignored or given very little attention by the resource agencies and environmental consultants (mostly because of their lack of knowledge with this group). 9

The native terrestrial mollusks known to occur in Los Angeles County (excluding those occurring only on Santa Catalina and San Clemente Islands) include: 10

- ***Anadenulus cockerelli***
- *Catinella rehderi*
- *Catinella vermeta*
- ***Cochlicopa lubrica***
- ***Deroceras monentolophus***
- ***Glyptostoma gabrielense***
- ***Haplotrema caelatum***
- *Hawaiia minuscula*
- ***Helminthoglypta fontiphila***
- ***Helminthoglypta petricola sangabrielis***
- ***Helminthoglypta petricola zechae***
- ***Helminthoglypta traskii pacoimensis***
- ***Helminthoglypta traskii traskii* (sensitive species – CNDDB 2009)**
- ***Helminthoglypta tudiculata angelena***

[4] Roth, Barry, and Patricia S. Sadeghain. 2003. Checklist of the Land Snails and Slugs of California. (*Santa Barbara Museum of Natural History Contributions in Science* No. 3.) Santa Barbara, California.

[5] Magney, D.L. 2005. Atlas of California Native Terrestrial Snails in Ventura County. 16 March 2005. David Magney Environmental Consulting, Ojai, California. Prepared for County of Ventura, Resource Management Agency, Planning Division. Ventura, California.

[6] Magney, D.L. 2009. Terrestrial Snails of Los Angeles County. 20 August 2009. David Magney Environmental Consulting, Ojai, California. Published through the Sespe Institute (www.sespeinstitute.com)

[7] California Natural Diversity Database (CNDDB). 2006. Special Animals. February. (Quarterly publication, mimeo.) California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California.

[8] California Natural Diversity Database (CNDDB). 2009a. Special Animals. March. California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California.

- ***Helminthoglypta tudiculata convicta***
- ***Helminthoglypta tudiculata imperforata***
- ***Helminthoglypta uvasana***
- ***Helminthoglypta vasquezi***
- ***Herpeteros angelus***
- ***Hesperarion hemphilli***
- ***Oxyloma sillimani***
- *Paralaoma caputspinulae*
- ***Pristiloma gabrielinum***
- *Punctum californicum*
- ***Punctum minutissimum***
- ***Sterkia hemphilli***
- *Zonitoides arboreus*

10 cont.

Of the 38 native terrestrial mollusks known to occur in Los Angeles County, 28 occur on the mainland and are listed above. One species is currently tracked by the CNDDB (2009), *Helminthoglypta traskii* ssp. *traskii*, which almost certainly occurs on Newhall Ranch. Most of the other mainland taxa certainly qualify as rare and should be considered as such (Magney 2009), regardless of the fact that the CNDDB has not yet added them to their list. Those that are rare are in bold typeface.

In addition to the native mollusks of Los Angeles County, there are an additional 16 nonnative species, including *Helix aspersa* and *Agriolimax reticulatus*, which is an old name for *Deroceras reticulatum*.

The discovery of the new species of *Pyrgulopsis* onsite, and the fact that at least one species of *Helminthoglypta*, or another terrestrial land snail, almost certainly occurs on Newhall Ranch, is strong evidence that surveys for terrestrial Gastropods should have been conducted as part of the assessment. Those rare terrestrial species that have potential to occur on Newhall Ranch, based on general proximity and habitat suitability, include: *Anadenulus cockerelli, Deroceras monentolophus, Glyptostoma gabrielense, Haplotrema caelatum, Helminthoglypta fontiphila, Helminthoglypta petricola sangabrielis, Helminthoglypta petricola zechae, Helminthoglypta traskii traskii, Helminthoglypta tudiculata angelena, Helminthoglypta tudiculata convicta, Helminthoglypta tudiculata imperforata, Helminthoglypta vasquezi, Herpeteros angelus, Hesperarion hemphilli, Oxyloma sillimani,* and *Pristiloma gabrielinum.*

11

*Helminthoglypta traskii traskii* has been collected from sites nearby in Ventura County, such as: near Santa Paula, Santa Rosa Valley 2 miles from Simi Valley, and *Helminthoglypta tudiculata convicta* has been collected from Bardsdale (near Fillmore) along the Santa Clara River (SBMNH 2009[9]). The fact that these two species of *Helminthoglypta* have been found in the Santa Clara River Valley in habitats that are also found on Newhall Ranch strongly suggest that they are present and that impacts to them should be addressed in the EIS/EIR.

12

Since the likelihood of one or more species of rare terrestrial mollusks being present on Newhall Ranch is high, focused surveys for them should have been part of the assessment of biological resources. The EIS/EIR is inadequate in that it failed to assess project-related impacts to special-status mollusks that have potential to occur onsite.

13

[9] Santa Barbara Museum of Natural History Malacology online database, accessed 7 August 2009

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## Special-status Species

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife.

Special-status species are plants and animals that are at least one of the following:

- *Listed as endangered or threatened* under Federal or California Endangered Species Acts,
- *Listed as rare* under the California Native Plant Protection Act, or
- *Considered rare* (but not formally listed) by resource agencies, professional organizations (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (e.g. U.S. Fish and Wildlife Service), pursuant to the Federal Endangered Species Act or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act, or those formally adopted by a local (e.g. county or city government) agency as of local concern or rare, or similar status. Special-status species are defined in Table 1 below. 14

**Table 1. Definitions of Special-Status Species**

| | |
|---|---|
| o Plants and animals legally protected under the California and Federal Endangered Species Acts or under other regulations. | |
| o Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or | |
| o Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range. | |
| **Special-Status Plant Species** | **Special-Status Animal Species** |
| o Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in *Federal Register* for proposed species).<br>o Plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (55 CFR 6184, February 21, 1990).<br>o Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380).<br>o Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001).<br>o Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 & 4 in CNPS 2001).<br>o Plants listed by CNPS as locally rare (Lake 2004, Magney 2003, Magney 2008, Wilken 2003).<br>o Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5).<br>o Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).<br>o Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions. | o Animals listed/proposed for listing as threatened/endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in *Federal Register* for proposed species).<br>o Animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under Federal Endangered Species Act (54 CFR 554).<br>o Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380).<br>o Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).<br>o Animal species of special concern to the CDFG.<br>o Animal species that are fully protected in California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]). |

| | |
|---|---|
| jurisdictions.<br>o Plants considered sensitive or unique by the scientific community; occurs at natural range limits (*State CEQA Guidelines*, Appendix G). | o Animals considered rare or sensitive locally by a local agency or scientific community (*State CEQA Guidelines*, Appendix G) |

The CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001, 2006[10]) categorizes rare California plants into one of five lists (1A, 1B, 2, 3, and 4) representing five levels of species status, one of which is assigned to a sensitive species to indicate its status of rarity or endangerment and distribution. Most taxa also receive a threat code extension following the List (e.g. 1B.1, 2.3), which replaces the old R-E-D Code previously used by CNPS. Table 2, California Native Plant Society List, provides a definition for each List code number, and Table 3, California Native Plant Society List Threat Code Extensions defines the CNPS List Threat Code Extensions that indicates the level of endangerment within the state.

14 cont.

**Table 2. California Native Plant Society List (CNPS List)**

| CNPS List | Definition |
|---|---|
| 1A | Presumed Extinct in California |
| 1B | Rare, Threatened, or Endangered in California and elsewhere |
| 2 | Rare, Threatened, or Endangered in California, but more common elsewhere |
| 3 | Need more information (a Review List) |
| 4 | Plants of Limited Distribution (a Watch List) |

**Table 3. California Native Plant Society List Threat Code Extensions**

| CNPS Threat Code Extension | Definition |
|---|---|
| .1 | Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) |
| .2 | Fairly endangered in California (20-80% occurrences threatened) |
| .3 | Not very endangered in California (<20% of occurrences threatened) |

The CNDDB Element Ranking system provides a numeric global and state-ranking system for all special-status species tracked by the CNDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. This Element Ranking system is defined below in Table 4, California Natural Diversity Database Element Ranking System.

[10] Changes to the *Inventory* as published on the CNPS website (http://www.cnps.org/programs/Rare_Plant/inventory/changes/changes_accepted.htm).

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## Table 4. California Natural Diversity Database Element Ranking System

| | |
|---|---|
| **Global Ranking (G)** | |
| G1 | Less than 6 viable element occurrences (pops for species), OR less than 1,000 individuals, OR <809.4 hectares (ha) (2,000 acres [ac]). Critically Imperiled. |
| G2 | 6 to 20 element occurrences OR 809.4 to 4,047 ha (2,000 to 10,000 ac). Imperiled. |
| G3 | 21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac). Somewhat Imperiled. |
| G4 | Apparently secure; rank lower than G3, factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat). Apparently Secure. |
| G5 | Population, or stand, demonstrably secure to ineradicable due to being commonly found in the world. Secure. |
| GH | All sites are **historic**; the element has not been seen for at least 20 years, but suitable habitat still exists. |
| GX | All sites are **extirpated;** this element is extinct in the wild. |
| GXC | Extinct in the wild; exists in cultivation. |
| G1Q | The element is very rare, but there is a taxonomic question associated with it. |
| **Subspecies Level:** Subspecies receive a **T-rank** attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety.<br>**For example:** *Chorizanthe robusta* var. *hartwegii* is ranked G2T1. The G-rank refers to the whole species range (*Chorizanthe robusta*), whereas the T-rank refers only to the global condition of the variety (var. *hartwegii*). | |
| **State Ranking (S)** | |
| S1 | Less than 6 element occurrences OR less than 1,000 individuals OR less than 809.4 ha (2,000 ac).<br>S1.1 = very threatened<br>S1.2 = threatened<br>S1.3 = no current threats known |
| S2 | 6 to 20 element occurrences OR 3,000 individuals OR 809.4 to 4,047 ha (2,000 to 10,000 ac).<br>S2.1 = very threatened<br>S2.2 = threatened<br>S2.3 = no current threats known.. |
| S3 | 21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac).<br>S3.1 = very threatened<br>S3.2 = threatened<br>S3.3 = no current threats known |
| S4 | Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e., there is some threat, or somewhat narrow habitat). NO THREAT RANK. |
| S5 | Demonstrably secure to ineradicable in California. NO THREAT RANK. |
| SH | All California sites are **historic**; the element has not been seen for at least 20 years, but suitable habitat still exists. |
| SX | All California sites are **extirpated;** this element is extinct in the wild. |
| **Notes** | |
| **1.** Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take an aerial view when ranking sensitive elements rather than simply counting element occurrences. | |
| **2.** Uncertainty about the rank of an element is expressed in two major ways: by expressing the rank as a range of values (e.g. S2S3 means the rank is somewhere between S2 and S3), and by adding a ? to the rank (e.g. S2?). This represents more certainty than S2S3, but less than S2. | |

14
cont.

As described for the CNDDB ranking, not all special-status species considered in this report are tracked by CNPS at a statewide level; however, CNPS, primarily through local chapters (guided by the Local Flora

Committee), has developed regional/county lists of **Species of Local Concern**. The Channel Islands Chapter of CNPS has developed a list of locally rare plants of Ventura County (Magney 2008[11]), which is periodically updated, and for Santa Barbara County (Wilken 2003[12], 2007[13]), and a preliminary list of locally rare plants for the Liebre Mountains region, which includes the Santa Clarita Valley and at least portions of Newhall Ranch (Magney 2003[14]). According to Magney (2008), Ventura County Locally Rare plant species are defined as plants with only 5 or fewer occurrences in Ventura County, and Ventura County Locally Uncommon species are defined as plants with only 6 to 10 occurrences in the County. The same criteria are used for the locally rare plants list for the Liebre Mountains. 14 cont.

## *Special-status Plants in the EIS/EIR*

Other than the tables in Section 4.5 listing special-status plant species, finding what plant species, common and rare, found on Newhall Ranch is buried as Appendix B of Appendix F. The EIS/EIR lists only 15 species of plants as special-status species as occurring on the 11,999-acre Newhall Ranch (Table 4.5-18), including two undescribed species. The EIS/EIR did not adequately assess impacts to special-status plant species, in particular those that are locally rare (rare in the region or Los Angeles County). 15

Special-status plant species were mapped using aerial photography and topographic maps. CNPS List 4 species were not mapped. (Page 4.5-547.)

Page 4.5-222, Section 4.5.3.4.5.4 Island Mountain-Mahogany (*Cercocarpus betuloides* var. *blancheae*) states, "The island mountain-mahogany is a CNPS List 4 (S3.3) plant, but it has no federal status. … Within the Specific Plan, Salt Creek, and Entrada areas, island mountain-mahogany occurs as an occasional component of chaparral communities at the base of north-facing slopes. The species has not been detected in the VCC planning area. Given the low sensitivity status of the species, individual island mountain-mahogany plants have not been mapped". 16

Page 4.5-223, Section 4.5.3.4.5.6 Mainland Cherry (*Prunus ilicifolia* ssp. *ilicifolia*) states, "The mainland cherry has no state or federal sensitivity status, but it is locally protected through the County of Los Angeles. This large shrub to tree was incidentally observed from 2002 to 2006 in the RMDP, Entrada, and VCC planning areas as an occasional component of undifferentiated chaparral, big sagebrush scrub, and river wash. Given the low sensitivity status of the species, individual mainland cherry trees were not mapped".

Page 4.5-223, Section 4.5.3.4.5.8 Oak-Leaved Nemophila (*Nemophila parviflora* var. *quercifolia*) states, "The oak-leaved nemophila is a CNPS List 4 (S3.3) plant, but it has no federal status. … one occurrence

[11] Magney, D.L. 2008. Checklist of Ventura County Rare Plants. 23 December 2008, Fourteenth edition. California Native Plant Society, Channel Islands Chapter, Ojai, California. Available at http://cnpsci.org/html/PlantInfo/ChecklistofVenturaCountyRarePlants-20081223.htm

[12] Wilken, D. 2003. Locally Rare Plants of Santa Barbara County. June 2003. Central Coast Center for Plant Conservation, Santa Barbara Botanic Garden, Santa Barbara, California. California Native Plant Society, Channel Islands Chapter, Ojai, California.

[13] Wilken, D. 2007. Rare Plants of Santa Barbara County. (version 1.8, 6 August 2007.) Central Coast Center for Plant Conservation, Santa Barbara Botanic Garden, Santa Barbara, California. California Native Plant Society, Channel Islands Chapter, Ojai, California. (Published on www.cnpsci.org.)

[14] Magney, D.L. 2003. Rare Plants of the Liebre Mountains, Los Angeles County. 2 May 2003. California Native Plant Society, Channel Islands Chapter, Ojai, California. Published on the CNPS Channel Islands Chapter's website, http://cnpsci.org/PlantInfo/01RarePlants.htm

of oak-leaved nemophila was found on the Project site within the Specific Plan area along a northeast-facing slope in an oak woodland east of Grapevine Mesa. Given the low sensitivity status of the species, this occurrence was not mapped".

Page 4.5-226, Section 4.5.3.4.5.15 Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*) states: "The southwestern spiny rush is a CNPS List 4 (S3.2) plant, but it has no federal status. This species is considered locally and regionally rare by local botanists and has been documented from 10 vouchered collections from LA County, half of which are on Santa Catalina Island (DMEC 2007 comment letter dated January 30 2007, Landmark Village DEIR)".

"This stout, robust perennial herb is found primarily on coastal dunes with mesic soils, meadows and alkaline seeps, and marshes and coastal salt swamps. Within the Specific Plan area, southwestern spiny rush individuals were observed annually from 2001 through 2006. … This species is not numerically abundant on site and occurrences of this species were not mapped due to its low sensitivity status." 16 cont.

Page 4.5-224, Section 4.5.3.4.5.11 Peirson's Morning-Glory (*Calystegia peirsonii*) states: "The Peirson's morning-glory is a CNPS List 4 (S3.2) plant, but it has no federal status. This species is typically found in chaparral, coastal scrub, chenopod scrub, cismontane woodland, lower montane coniferous forest, and grasslands. While never abundant, Peirson's morning-glory is widespread on site and was observed on ridges and slopes, weakly climbing over chaparral, coastal scrub, and grasslands throughout the RMDP, VCC, and Entrada areas. Given the low sensitivity status of the species, observations were not mapped".

Page 4.5-226, Section 4.5.3.4.5.14 Southern California Black Walnut (*Juglans californica* var. *californica*) states: "The southern California black walnut is a CNPS List 4 (S3.2) plant, but it has no federal status. This species typically inhabits chaparral and cismontane woodlands with Miocene–Pliocene shale and coastal scrub with alluvial soils. This large shrub to tree was incidentally observed in the Specific Plan area in 2002, 2003, and 2004. Observations of this species were made within the High Country SMA and Salt Creek area in 2003 and 2006 and within the VCC planning area in 2004 and 2005. Southern California black walnut was observed within the Entrada planning area as an occasional component of mixed chaparral, coastal scrub, and alluvial scrub in 2004 and 2005. Within the Specific Plan area, southern California black walnut dominates California walnut woodland and is found as an occasional component of chaparral, coastal scrub, and oak woodland. Within the VCC planning area, an individual southern California black walnut occurs within southern cottonwood–willow riparian forest along the south side of Castaic Creek. Occurrences of this species were not mapped due to its low sensitivity status".

The "low sensitivity status" is **not** an adequate excuse why the occurrences of these taxa should not be mapped. CNPS List 4 species should NOT be treated less any other special-status species pursuant to CEQA. Other species without CNPS "listing" are mapped in the EIS/EIR. All special-status species should be treated and assessed equally in the EIS/EIR.

Section 4.5.3.4.5.10 Parish's Sagebrush (*Artemisia tridentata* ssp. *parishii*) states, "Parish's sagebrush is considered special status by the County of Los Angeles, but it has no federal, state, or CNPS status". The statement that *Artemisia tridentata* ssp. *parishii* does not have CNPS status is incorrect. This subspecies is listed by CNPS, through the Channel Islands Chapter, as a locally rare species in adjacent Ventura County since at least 2003 (Magney 2003[15], 2008[16]). Furthermore, the EIS/EIR goes on to say, "It is considered 17

[15] Magney, D.L. 2003. Checklist of Ventura County Rare Plants. 24 June 2003. California Native Plant Society, Channel Islands Chapter, Ojai, California.

[16] Magney, D.L. 2008. Checklist of Ventura County Rare Plants. 23 December 2008, Fourteenth edition. California Native Plant Society, Channel Islands Chapter, Ojai, California. Published on www.cnpsci.org.

regionally rare by local botanists (Mary Meyer, personal communication, October 2007)." DMEC commends the EIS/EIR for treating this subspecies as a special-status species. 17 cont.

Page 4.5-1,871 ALTERNATIVE 2 of the EIS/EIR, under Loss of Habitat, *Direct Permanent and Temporary Impacts*, states:

> "Implementation of the RMDP would result in the direct permanent loss of 24 acres (25.8%) and the direct temporary loss of 5.2 acres of suitable habitat on site out of approximately 93 acres on site (Figures 4.5-33-A1 through 4.5-33-D2, Alternative 2 Impacts to RMDP/SCP, VCC, and Entrada Vegetation Communities). Potential impacts to individual Parish's sagebrush plants within big sagebrush scrub could occur. No individuals would be directly lost by implementation of the SCP. The loss of Parish's sagebrush as a result of implementation of the RMDP would constitute a substantial direct adverse effect on this species (significance criterion 1). Direct permanent and temporary impacts (Loss of Habitat) would be significant, absent mitigation." 18
>
> "*Indirect Permanent Impacts.* Build-out of the Specific Plan and Entrada planning areas would result in the indirect permanent loss of 47 acres (50.5%) of big sagebrush scrub within the Project area (Figures 4.5-33-A1 through 4.5-33-D2, Alternative 2 Impacts to RMDP/SCP, VCC, and Entrada Vegetation Communities). Given these impacts, it is foreseeable that individual Parish's sagebrush plants would be lost as a result of build-out of the Specific Plan and Entrada planning areas. This would constitute a substantial adverse effect on this species (significance criterion 1). No impacts related to the build-out of the VCC planning area are expected. Indirect permanent impacts (Loss of Habitat) would be significant, absent mitigation."
>
> "*Combined Direct and Indirect Permanent Impacts.* The combined direct and indirect permanent loss of suitable habitat resulting from implementation of the RMDP and the SCP and build-out of the Specific Plan and Entrada planning areas would total 71 acres (76.3%). No impacts related to the build-out of the VCC planning area are expected. The combined direct and indirect impacts to suitable habitat and associated loss of Parish's sagebrush plants would have a substantial adverse effect on this species (significance criterion 1). The combined direct and indirect permanent impacts (Loss of Habitat) would be significant, absent mitigation."

This is an example where a locally rare species was treated as a special-status species. This same level of assessment should be applied to all species with similar regional rarity considerations, as is discussed later in this letter.

## SLENDER MARIPOSA LILY

Page 4.5-1,910 of the EIS/EIR states: "The combined direct and indirect permanent loss of slender mariposa lily cumulative occupied area and individuals resulting from implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would total **72 acres (35.0%)** and **30,645 (46.4%)** individuals, respectively. The loss of slender mariposa lily occurring as a result of implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would be considered a substantial adverse effect on this species and would substantially reduce the number and restrict the range of this species on site (significance criteria 1 and 7). The combined direct and indirect permanent impacts (Impacts to Individuals) would be significant, absent mitigation." 19

When discussing the secondary impacts that would result from the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas (Page 4.5-1,911), the EIS/EIR states, "For purposes of this

analysis, it is assumed that the effects of the secondary impacts (and the potential for loss of slender mariposa lily) would be greatest within 300 feet of development (CBI 2000)." We discuss later in this letter that the absence of this study from the appendences needs to be resolved in order to make comments regarding buffer areas. 19 cont.

Nevertheless, under the proposed project plan (Alternative 2) there would be 33 acres (16.3%) of cumulative occupied area and 23,963 individuals (36.3%) within 300 feet of development. Even with mitigation and monitoring within the preserve areas, there will still be a large percentage (36.3%) of the population at risk of threats associated with edge effects. As described in Dudek 2007[17] Section 2.4 (Page 12) states that only two locations are proposed for receptors sites under the Revised Draft Slender Mariposa Lily Mitigation and Monitoring Plan; the High Country SMA or Salt Creek area. They are to be planted adjacent to existing populations of Slender Mariposa Lily within the preserves. What percentage of these existing populations fall within this 300 feet buffer is not stated; however, this is important since this is the area that is going to be most favorable for receptor sites. 20

The EIS/EIR states that for the finding of significance for both direct impacts and secondary impacts after mitigation will be adverse but not significant for Alternatives 2, 3, 4, 5, 6, and 7. DMEC found insufficient confirmation that the mitigation and monitoring standards as stated in the Revised Draft Slender Mariposa Lily Mitigation and Monitoring Plan for the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Study Area have proven to be sufficient based on scientific knowledge. The mitigation ratio proposed, as discussed below, is an example. 21

Stated in Dudek's Revised Draft Slender Mariposa Lily Mitigation and Monitoring Plan (Dudek 2007) in Section 2.3, Time Frame for Success, Page 12, "Success will be defined by meeting the stated requirement in the *Newhall Ranch Resource Management and Development Plan* (Dudek 2008) which states that, "[T]he plan shall replace or transplant the number of individual plants to be removed at a 1:1 ratio and/or enhance and protect existing populations of the species".

The claim is that Dudek's previous work with salvaging, transplanting, and establishing *Calochortus* (both *Calochortus clavatus* var. *gracilis* and *Calochortus plummerae*) indicates that successful results can be achieved. The report states: "In the autumn of 2005, seed and 687 bulbs were salvaged from the River Village footprint and planted into selected sites in similar habitat in late 2005 and early 2006 (Dudek 2006c). Despite two successive years of drought following transplantation, there was a success rate of 69% in 2005–6, 34% in 2006–7, and 93% in 2007–8 (Dudek 2007b, 2007c; Thomson 2008)" (Page 12).

While a 93% successes rate in the third year is a good start, there is no proof that the same success will continue for the next two years, and in perpetuity. It is premature of Dudek to claim that they have proved to be successful at salvaging, transplanting, and establishing species of *Calochortus* when they have not reached the goals that they are putting forth in this mitigation and monitoring plan; least a 1:1 ratio of growth. Furthermore, 93% success does not represent full replacement, as required by a 1:1 mitigation ratio.

In order for the 1:1 ratio to be meet under Alternative 2, **30,645** individuals must all survive. This is likely an unobtainable goal. Dudek also claims to have high success rate in regards to their seeding efforts for the first three years of the program. Again, three years does not prove to meet the long-term persistence of the species.

[17] Dudek. 2007. Revised Draft Slender Mariposa Lily Mitigation and Monitoring Plan for the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Study Area.

Much emphasis is based on the assumption that a minimum of 133 acres of the Slender Mariposa Lily cumulative occupied area will be conserved within the RMDP and Spineflower Conservation Plan (SCP) Project boundaries. DMEC has found multiple problems associated with both of these preserve designs and monitoring standards. We believe that under the current proposed project, neither of theses preserves will ensure the long-term persistence of the Slender Mariposa Lily. 22

The Entrada planning area was has an extensive population of Slender Mariposa Lily, only a small portion of this area is proposed for preservation (under the SCP). In order to "ensure biological diversity of the species"(Dudek 2007, Page 7), an area within San Martinez Grande Canyon will be conserved. The distance between San Martinez Grande Canyon and the Entrada planning area is too far for this objective to be reached. 23

## LOCALLY RARE PLANTS NOT ADEQUATELY ASSESSED

The EIS/EIR did not adequately consider or assess project-related impacts on locally rare plant species.

A review of the list of plants observed at the project site finds several problems, some of which are easily rectified, and others requiring significant revisions. First, a large number of vascular plants were not fully identified to subspecies or variety, which is necessary to understand which taxon is present, and if that taxon is a rare species meeting the intent and definition of rare under CEQA. Second, no consideration or discussion or assessment is given to species that are rare regionally or within Los Angeles County. DMEC's preliminary assessment of the species present found several plant taxa that should be considered as significant resources, and assessed accordingly.

Based on reviewing Appendix B of EIS/EIR Appendix F, a list of vascular plants that are not fully identified and may be rare in the region and/or Los Angeles County of which some subspecies or varieties are rare:

*Chaenactis glabriuscula* – which variety?
*Chrysothamnus nauseosus* – which subspecies?
*Heterotheca sessiliflora* – which subspecies?
*Lessingia glandulifera* – which variety?
*Stephanomeria exigua* – which subspecies?
*Pectocarya linearis* – which subspecies? 24
*Plagiobothrys collinus* – which variety?
*Lepidium virginicum* – which variety?
*Lonicera subspicata* – which variety?
*Symphoricarpos* sp. – which species?
*Spergularia* sp. – which species?
*Atriplex canescens* – which subspecies?
*Atriplex lentiformis* – which variety?
*Dudleya cymosa* – which subspecies?
*Astragalus trichopodus* – which variety? uncommon in Ventura County (Magney 2008)
*Lathyrus vestitus* – which subspecies?
*Lupinus excubitus* – variety *excubitus*? Should we assume this variety since variety *hallii* is also listed?
*Trifolium* sp. – which species?
*Trifolium albopurpureum* – which variety?
*Trifolium gracilentum* – which variety?
*Ribes aureum* – which variety?

*Ribes malvaceum* – which variety?
*Nemophila menziesii* – which variety?
*Phacelia cicutaria* – which variety? Rare in Ventura County (Magney 2008)
*Phacelia ramosissima* – which variety?
*Stachys ajugoides* –variety *ajugoides*? Should we assume this variety since variety *rigida* is also listed?
*Mentzelia* sp. – which species?
*Camissonia boothii* – which subspecies?
*Clarkia purpurea* – which subspecies?
*Oenothera elata* – which subspecies?
*Orobanche* sp. – which species?
*Leptodactylon californicum* – which subspecies?
*Navarretia ojaiensis* in not on the species list; however, it is assessed as a special-status species in the EIS/EIR.
*Rumex salicifolius* – which variety?
*Calyptridium* – which species?
*Claytonia parviflora* – which subspecies?
*Claytonia perfoliata* – which subspecies?
*Ceanothus tomentosus* – which variety?
*Cercocarpus betuloides* – which variety? Two varieties are listed below this entry on Appendix B of Appendix F, including variety *betuloides*, so which other variety could it be?
*Prunus ilicifolia* – which variety?
*Galium angustifolium* – which subspecies?
*Salix lasiolepis* – which variety?
*Antirrhinum coulterianum* – which subspecies?
*Castilleja densiflora* – which subspecies?
*Cordylanthus rigidus* – which subspecies?
*Linaria canadensis* – which subspecies?
*Mimulus aurantiacus* –variety *aurantiacus*? Should we assume this variety since variety *pubescens* is also listed?
*Urtica dioica* – which subspecies?
*Carex* sp. – which species?
*Scirpus acutus – which variety? Rare in Ventura County (Magney 2008)*
*Juncus* sp. – which species?
*Juncus balticus* – which variety?
*Bloomeria crocea* – which variety?
*Dichelostemma capitatum* – which variety?
*Bromus catharticus* – which variety? Variety *catharticus* is already listed.
*Eragrostis mexicana* – which variety?

24 cont.

If any of these taxa have ten or fewer populations in Los Angeles County, they should be evaluated as potentially locally rare, and losses to one or more populations should be considered significant, and appropriately mitigated.

25

Below is a list of 53 vascular plants listed in the DEIR or supporting documents that are rare in the region and/or Los Angeles County but where not evaluated as sensitive biological resources pursuant to CEQA:

26

*Juniperus californica* – While this species is relatively common in the desert portions of Los Angeles County and southern California, this occurrence on Newhall Ranch represents the southwestern-most occurrence of this species. The limits of a species range, and a disjunct population such as on Newhall Ranch, represents a significant botanical resource that should be assessed.

*Amaranthus palmeri* - uncommon in Ventura County (Magney 2008[18]); there are only 11 vouchered records for this species in Los Angeles County (Consortium of California Herbaria 2007[19]), representing 8 populations of which only 2 are extant, plus the Newhall Ranch populations, meaning that this taxon should be considered rare in Los Angeles County.

*Amaranthus powellii* - uncommon in Ventura County (Magney 2008); rare in Los Angeles County with 7 vouchered populations, all but one of which where made over 80 years ago (Consortium of California Herbaria 2007) and most are likely extirpated. The Newhall Ranch population is possibly the only extant population and it should be treated as rare in Los Angeles County. 26 cont.

*Sanicula bipinnata* - rare in Ventura County (Magney 2008); there are only about 8 extant occurrences of this species in Los Angeles County, with many of the voucher collected found in the Consortium of California Herbaria (2007) from collections made over 60 years ago and are likely extirpated. This species should be treated at a locally rare species in Los Angeles County.

*Achyrachaena mollis* - rare in Ventura County (Magney 2008); rare in Los Angeles County since there are less than 20 historic occurrences in the county with some historical and almost certainly extirpated and recent collection sites/populations are at development sites (Consortium of California Herbaria 2007). This species should be treated as a rare species.

*Ambrosia confertiflora* – rare in Ventura County (Magney 2008); of the 8 population historically known in Los Angeles County, the population at the project site is one of only 4 known occurrence in Los Angeles County (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Baccharis sarothroides* – not in Ventura County; the only known population in Los Angeles County is on the project site (Consortium of California Herbaria 2007); therefore, it should be treated as a rare species.

*Conyza coulteri* – rare in Ventura County (Magney 2008); only 8 collections have been made of this species in Los Angeles County, representing 6 extant populations (Consortium of California Herbaria 2007). This species should be treated as rare in Los Angeles County.

*Helianthus californicus* – rare in Ventura County (Magney 2008); rare in Los Angeles County with only 3 known populations (Consortium of California Herbaria 2007). This species should be treated as a rare species.

*Pluchea odorata* – rare in Ventura County (Magney 2008); rare in Los Angeles County represented by only about 6 extant occurrences (Consortium of California Herbaria 2007); this species should be treated as a rare species.

*Pluchea sericea* – rare in Ventura County (Magney 2008); represented by only 5 extant populations in Los Angeles County (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Wyethia ovata* – could this be misidentified? – *Balsamorhiza deltoidea* occurs in Ventura County and looks similar to *Wyethia ovata*. *Balsamorhiza is* uncommon in Ventura County (Magney 2008) but *W. ovata* is not known from Ventura County. This population represents an extralimital population well below its known elevational range and should be treated as a rare species.

[18] Magney, D.L. 2008. Checklist of Ventura County Rare Plants. 23 December 2008, Fourteenth edition. California Native Plant Society, Channel Islands Chapter, Ojai, California. Published on www.cnpsci.org.

[19] Consortium of California Herbaria. 2007. Database search of California public herbaria 22 January 2007. Jepson Herbarium, University of California, Berkeley. (http://ucjeps.berkeley.edu/consortium/)

*Descurainia pinnata* ssp. *halictorum* – rare in Ventura County (Magney 2008); represented in Los Angeles County by only 5 known extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Opuntia basilaris* var. *ramosa* – not found in Ventura County; only known occurrence in Los Angeles County; this taxon should be treated as a rare species. Appendix B of Appendix F lists *Opuntia basilaris* var. *ramosa* as present on Newhall Ranch; however, there is no explanation as why this variety is listed when many taxonomic sources place it as a synonym of *Opuntia basilaris* var. *basilaris*. It is not listed in the flora for the Liebre Mountains (Boyd 1999[20]), which only includes the northeast and easternmost portions of Newhall Ranch. The only collections of this variety deposited and reported in the Consortium of California Herbaria (CCH) online database[21] are from San Diego County, collected by Mark Elvin. Sanders (pers. comm. 2009[22]) believes the Newhall Ranch populations of Opuntia basilaris are unique, and best fit under the description for *Opuntia basilaris* var. *ramosa*. The actual identity is unknown; therefore, it should be treated as a special-status species.

*Opuntia californica* var. *parkeri* – not found in Ventura County; Newhall Ranch site it the only other known occurrence in Los Angeles County and should be treated as a rare species. Appendix B of Appendix F lists *Opuntia californica* var. *parkeri* as present on Newhall Ranch. This variety should be considered a special-status species. There are only a very small number of known populations in California, from San Diego County and western Riverside County Consortium of California Herbaria (CCH) online database (2009[23]). If this taxon was indeed found on Newhall Ranch, then it should be treated as a special-status species.

26 cont.

*Opuntia* X*vaseyi* – rare in Ventura County (Magney 2008); there are only 2 other known populations of this taxon in Los Angeles County (Consortium of California Herbaria 2007) and it should be treated as a rare species.

*Loeflingia squarrosa* var. *squarrosa*– rare in Ventura County (Magney 2008), rare in Liebre Mountains (Boyd 1999, Magney 2003[24]) and should be treated as a special-status species in the EIS/EIR.

*Atriplex serenana* var. *serenana* – rare in Ventura County (Magney 2008); represented by only 7 populations in Los Angeles County (Consortium of California Herbaria 2007) and should be considered as a rare species.

*Atriplex triangularis* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by about only 7 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Cuscuta pentagona* – rare in Ventura County (Magney 2008); represented in Los Angeles County by about only 8 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

[20] Boyd, S. 1999. *Vascular Flora of the Liebre Mountains, Western Transverse Ranges, California*. November. Rancho Santa Ana Botanic Garden, Claremont, California.

[21] Consortium of California Herbaria online database search: http://ucjeps.berkeley.edu/consortium/ dated 25 August 2009 for *Opuntia basilaris* var. *ramosa*.

[22] Sanders, Andrew, Curator, University of California at Riverside Herbarium, email correspondence on 25 August 2009 regarding taxonomic status of *Opuntia basilaris* var. *ramosa* and the plants at Newhall Ranch.

[23] Consortium of California Herbaria online database search: http://ucjeps.berkeley.edu/consortium/ dated 25 August 2009 for *Opuntia californica* var. *parkeri*.

[24] Magney, D.L. 2003. Rare Plants of the Liebre Mountains, Los Angeles County. California Native Plant Society, Channel Islands Chapter, Ojai, California. Published at http://www.cnpsci.org/html/PlantInfo/Liebre_Rare.htm

*Stillingia linearifolia* – rare in Ventura County (Magney 2008); represented in Los Angeles County by about only 9 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Lupinus excubitus* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by about only 9 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Lupinus macrocarpus* var. *densiflorus* [*L. densiflorus*] – rare in Ventura County (Magney 2008); represented in Los Angeles County by about only 8 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Vicia hassei* – rare in Ventura County (Magney 2008); represented in Los Angeles County by about only 8 extant populations at most (Consortium of California Herbaria 2007) and should be treated as a rare species.

26 cont.

*Stachys ajugoides* var. *rigida* – rare in Ventura County (Magney 2008); represented in Los Angeles County by about 5 populations, all of which are based on vouchers over 60 years old, except 1 (Consortium of California Herbaria 2007); this taxon should be treated as a rare species in the EIS/EIR.

*Malacothamnus fasciculatus* ssp. *laxiflorus* – rare in Ventura County (Magney 2008); represented in Los Angeles County by only 6 populations (Consortium of California Herbaria 2007); this taxon should be treated as a rare species.

*Clarkia speciosa* – not in Ventura County; Newhall Ranch collection represent the only known population in Los Angeles County (Consortium of California Herbaria 2007); this species is rare in Los Angeles County and should be treated as such in the EIS/EIR.

*Epilobium brachycarpum* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by about 10 extant populations (Consortium of California Herbaria 2007) and should be considered rare.

*Orobanche parishii* ssp. *parishii* – rare in Ventura County (Magney 2008); represented by up to 4 populations in Los Angeles County, 2 of which are on Newhall Ranch (Consortium of California Herbaria 2007) and should be considered a rare species.

*Argemone corymbosa* – rare in Ventura County (Magney 2008); represented by only a couple of populations in Los Angeles County (Consortium of California Herbaria 2009) besides the Newhall Ranch occurrence, and should be treated as a rare species.

*Eriastrum densifolium* ssp. *mohavense* – rare in Ventura County (Magney 2008); represented in Los Angeles County by only 3 populations (Consortium of California Herbaria) and should be treated as a rare species.

*Phlox gracilis* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by about 10 populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Chorizanthe fimbriata* – only record for Los Angeles County is on Newhall Ranch with no other known population in Los Angeles County (Consortium of California Herbaria 2007); not in adjacent Ventura County.

*Eriogonum viridescens* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by about 8 populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Lastarriaea coriacea* – rare in Ventura County (Magney 2008); represented in Los Angeles County by no more than 10 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Polygonum punctatum* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by no more than 8 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Rumex maritimus* – rare in Ventura County (Magney 2008); represented in Los Angeles County by no more than 8 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Galium nuttallii* ssp. *nuttallii* – CNPS List 4, uncommon in Ventura County (Magney 2008); represented in Los Angeles County by no more than 8 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species. 26 cont.

*Parthenocissus vitacea* – Rare in California and in Los Angeles County, not found in adjacent Ventura County; represented in Los Angeles County by no more than 3 extant populations (Consortium of California Herbaria 2007), all on Newhall Ranch, and should be treated as a rare species.

*Cyperus odoratus* – rare in Ventura County (Magney 2008); represented in Los Angeles County by no more than 8 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Eleocharis rostellata* – rare in Ventura County (Magney 2008); represented in Los Angeles County by no more than 7 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Scirpus americanus* – uncommon in Ventura County (Magney 2008); represented in Los Angeles County by no more than 2 extant populations (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Scirpus robustus* – rare in Ventura County (Magney 2008); represented in Los Angeles County by only one other extant population in the Liebre Mountains (Consortium of California Herbaria 2007) and should be treated as a rare species.

*Juncus longistylis* – not found in Ventura County; only 2 populations in Los Angeles County other than Newhall Ranch (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Juncus torreyi* – rare in Ventura County (Magney 2008); represented by about 7 extant populations in Los Angeles County, including Newhall Ranch (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Juncus triformis* – rare in Los Angeles County; not found in Ventura County; represented by only 1 extant populations in Los Angeles County on Newhall Ranch (Consortium of California Herbaria 2007); loss of this one Los Angeles County population or individuals of this taxon should be considered a significant impact.

*Lemna minuscula* – rare in Ventura County (Magney 2008); represented by only 6 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Lemna valdiviana* – uncommon in Ventura County (Magney 2008); represented by only 8 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Brodiaea terrestris* ssp. *kernensis* – rare in Ventura County (Magney 2008); represented by only 5 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Yucca schidigera* – rare in Los Angeles County; not found in Ventura County; represented by only 1 extant population in Los Angeles County on Newhall Ranch (Consortium of California Herbaria 2007); loss of this one Los Angeles County population or individuals of this taxon should be considered a significant impact. Is this planted onsite and not native on the ranch?

*Panicum capillare* – rare in Ventura County (Magney 2008); represented by only 9 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact. 26 cont.

*Paspalum distichum* – rare in Ventura County (Magney 2008); represented by only 7 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Sporobolus airoides* – rare in Ventura County (Magney 2008); represented by only 9 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Vulpia microstachys* var. *microstachys* – rare in Ventura County (Magney 2008); represented by about 7 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

*Potamogeton foliosus* – rare in Ventura County (Magney 2008); represented by about 10 historic populations in Los Angeles County (Consortium of California Herbaria 2007); loss of one or more populations of this taxon should be considered a significant impact.

The loss of any of these 53 plant taxa should be analyzed for significance. There is no doubt as to their rarity in Los Angeles County, the only area in California in which the County has any jurisdiction, but these plants that are rare in Los Angeles County were not considered in the DEIS/EIR as significant biological resources. As is practiced in other jurisdictions, such as Ventura County, the loss of a population of any of these taxa would be considered a significant impact, and appropriate mitigation proposed, if feasible. This was not done in the EIS/EIR, rendering it inadequate in this area. 27

## *Bryophytes Not Assessed*

It does not appear that any effort was made to assess the project impacts on the bryophyte flora. These organisms are not included in any of the "guild" buckets and no mention is made of either literature or field surveys to assess their baseline status on the property. With no baseline status assessed then no impacts of the project on the non-vascular plant flora is possible and this significant aspect of the biota is completely ignored. 28

The CNDDB tracks 30 bryophyte taxa (CNDDB 2009b[25]), up from 28 in 2004[26], with more species almost certainly to be added in the near future as more data are submitted. DMEC recently found an undescribed

[25] California Natural Diversity Database (CNDDB). 2009. Special Plants, Bryophytes, and Lichens List. April. California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California. http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf.

[26] California Natural Diversity Database (CNDDB). 2004. Special Vascular Plants, Bryophytes, and Lichens List. September. California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California.

DMEC

species of *Syntrichia* moss in Ventura County (Tomas Hallingbäck pers. comm.[27]), and there are new records of at least 5 moss species in the Santa Monica Mountains not previously known in the Southwest (floristic) Region of California (Wishner 2008[28]). These are examples of why it is necessary to conduct surveys for bryophytes as part of the CEQA/NEPA environmental review process. It is possible that one or more species of rare bryophytes occur on Newhall Ranch and impacts to them may be considered significant. Lacking ANY surveys for bryophytes precludes any ability to perform an adequate impact assessment. 28 cont.

The EIS/EIR is inadequate in that it failed to assess project-related impacts to special-status bryophytes that have potential to occur onsite.

## *Lichens Not Assessed*

It does not appear that any effort was made to assess the project impacts on the lichen flora. These organisms are not included in any of the "guild" buckets and no mention is made of either literature or field surveys to assess their baseline status on the property. With no baseline status assessed then no impacts of the project on the non-vascular plant flora is possible and this significant aspect of the biota is completely ignored. 29

The CNDDB tracks nine (9) lichen taxa (CNDDB 2009b[29], up from six (6) in 2004[30], with more species almost certainly to be added in the near future as more data are submitted based on recent research on California lichens (Magney 1999[31], Knudsen 2005a[32], Knudsen 2005b[33], Knudsen & Magney 2006[34], Knudsen & La Doux 2006[35], Knudsen 2008a[36], Knudsen 2008b[37], and Kocourková & Knudsen 2008[38]).

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[27] Hallingbäck, Tomas. Bryologist, Swedish University of Agricultural Sciences, ArtDatabanken, P. O. Box 7007, SE-750 07 Uppsala, SWEDEN, email: tomas.hallingback@artdata.slu.se, 22 May 2009 regarding identity of *Syntrichia* moss found at Mandalay Beach, Oxnard, California.

[28] Wishner, C. 2008. Bryophyte Inventory – Ash-Hidden Valley. 23 July 2008. Prepared for David Magney Environmental Consulting, Ojai, California. 12 pages. Chicago Park, California.

[29] California Natural Diversity Database (CNDDB). 2009. Special Plants, Bryophytes, and Lichens List. April. California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California. http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf.

[30] California Natural Diversity Database (CNDDB). 2004. Special Vascular Plants, Bryophytes, and Lichens List. September. California Department of Fish and Game, Biogeographic Data Branch, Sacramento, California.

[31] Magney, D.L. 1999. Preliminary List of Rare California Lichens. *California Lichen Society Bulletin* 6(2):22-27. See http://128.32.109.44/red.html or http://ucjeps.berkeley.edu/rlmoe/cals6_2.html.

[32] Knudsen, Kerry. 2005a. Lichens of the Santa Monica Mountains, Part One. *Opuscula Philolichenum* 2:27-36. http://clade.acnatsci.org/lendemer/paper6.pdf

[33] Knudsen, Kerry. 2005b. Biodiversity of Lichens at Palomar Mountain State Park, California. 11 July 2005. Herbarium, University of California, Riverside. Prepared for California Department of Parks and Recreation, Sacramento, California.

[34] Knudsen, K., and D.L. Magney. 2006. Rare Lichen Habitats and Rare Lichen Species of Ventura County, California. January 2006. *Opuscula Philolichenum* 3:49-52.

[35] Knudsen, Kerry, and Tasha La Doux. 2006. Lichen Flora of the Southwestern Mojave Desert: Key's Ranch, Joshua Tree National Park, San Bernardino County, California, USA. *Evansia* 22(3):103-109.

[36] Knudsen, Kerry. 2008a. Biodiversity of Lichens and Lichenicolous Fungi at Cabrillo National Monument. June 2008. Herbarium, University of California, Riverside. Prepared for U.S. Dept. of Interior, National Park Service, San Diego, California.

[37] Knudsen, Kerry. 2008b. Biodiversity of Lichens on San Miguel Island. Herbarium, University of California, Riverside. Prepared for U.S. Dept. of Interior, National Park Service, Ventura, California.

[38] Kocourková, Jana, and Kerry Knudsen. 2008. Four New Lichenicolous Fungi from North America. *Evansia* 25(2):62-64.

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DMEC recently found an undescribed species of *Placopyrenium* lichen in Ventura County (Kerry Knudsen pers. comm.[39]). Knudsen recorded at least 63 lichen species in the Santa Monica Mountains, some of which were not previously known in the Southwest (floristic) Region of California (Knudsen 2005a). These are examples of why it is necessary to conduct surveys for lichens as part of the CEQA/NEPA environmental review process. It is quite possible that one or more species of rare lichen occur on Newhall Ranch and impacts to them may be considered significant. Lacking ANY surveys for lichens precludes any ability to perform an adequate impact assessment. 29 cont.

The EIS/EIR is inadequate in that it failed to assess project-related impacts to special-status lichens that have potential to occur onsite.

There are two Significant Ecological Areas designated by Los Angeles County that occur on the Newhall Ranch project area, the River Corridor Special Management Area (SMA) and High Country SMA (Section 4.5, Page 4.5-197). 30

## Special-status Wildlife in the EIS/EIR

The EIS/EIR takes great leaps in its assessment that all the proposed mitigation measures will fully reduce impacts to almost all special-status wildlife species to less-than-significant levels. Their logic is flawed and not supported by the evidence, as explained below. 31

The Two-striped Garter Snake (*Thamnophis hammondii*) is a special-status species found in riparian habitats. The EIR/EIS states on Page 4.5-964, "Based on these survey results, a breeding population of two-striped garter snake is likely present in the Project area. Additionally, two-striped garter snake is likely to be found in portions of the Santa Clara River downstream of the Project area. Because two-striped garter snake has been documented to occur in the Santa Clara River and Castaic Creek in the Project area, it is assumed to be present on site within riparian habitat". The Two-striped Garter Snake uses both terrestrial and aquatic elements of its habitat and its general habitat requirements and range within the project area mirror those of the Southwestern Pond Turtle (Pages 4.5-938-942, 4.5-962-964). 32

The DEIR/EIS determines that there will be permanent and significant impacts by the project to the Two-striped Garter Snake. For example the report states:

> "Because of the large amount of terrestrial habitat loss, the combined direct and indirect permanent impacts could substantially reduce suitable habitat for the species on site; interfere substantially with the movement of the species; cause the species to drop below self-sustaining levels on site or range wide; threaten to eliminate the species on site or range wide; or substantially reduce the number or restrict the range of the species (significance criteria 1, 4, and 7). The combined direct and indirect permanent impacts (Loss of Habitat) would be significant, absent mitigation" (Page 4.5-966).

Identical reasoning and language is used to determine that there will be permanent and significant project impacts to the Southwestern Pond Turtle (e.g., Page 4.5-944).

It is unclear why the impacts to the Southwestern Pond Turtle are determined to be unavoidable, while the impacts to the Two-striped Garter Snake, living within the same habitat and range as the turtle, are

[39]Knudsen, Kerry. Lichenologist, Curator of Lichen Herbarium, University of California at Riverside. Emails dated 31 May and 10 June 2008, and 12 March and 11 August 2009 regarding rare lichens, including *Placopyrenium* sp. nova found on the Ash property in Hidden Valley, and *Placocarpus americanus* (new species) found in the Conejo Valley in the Santa Monica Mountains.

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determined to be mitigable. There is no scientific reasoning to assume that the impacts to the Two-striped Garter Snake will be fully mitigable and that the impacts to the turtle will not. The determination that there will be no unavoidable significant impacts to the Two-striped Garter Snake after mitigation is thus arbitrary and wrong, and the determination should be changed to "significant unavoidable impacts" as it is for the Southwestern Pond Turtle. 32 cont.

The Western Spadefoot Toad (*Spea hammondii*) is likely to occur in the same habitat as the Southwestern Pond Turtle and two-striped garter snake. As the draft EIR/EIS states: "Suitable breeding habitat for the western spadefoot toad on site includes riparian areas and seasonal drainages containing seasonal pools and suitable aestivation habitat includes surrounding uplands within at least several hundred meters of breeding sites. Because western spadefoot toads are associated with specific microhabitats, however, their total suitable habitat on site was not quantified" (p.4.5-984). 33

Given the likely presence of the Western Spadefoot Toad in the same habitat as Southwestern Pond Turtle and Two-striped Garter Snake and parallel dependence on both terrestrial and aquatic habitat elements, the determination of "significant unavoidable impacts" should be made for the Western Spadefoot Toad following the same reasoning that was used to determine this status for the Southwestern Pond Turtle. The determination that there will be no significant impacts to the Western Spadefoot Toad after mitigation is thus arbitrary and wrong.

## Special Management Area Monitoring Inadequate

The River Corridor SMA has been designated as a protected area to conserve riparian habitats and numerous special-status wildlife and plant species that live in these habitats. This SMA is also an important wildlife corridor (Page 4.5-198).

Mitigation measure SP4.6-17 (Page 4.5-1951) specifies several restrictions and prohibitions for access to the River Corridor SMA including daytime access only and bans on hunting, fishing, motorbike riding, and pets. The same restrictions for the High Country SMA are outlined in mitigation measures SP4.6-29 through SP4.6-32 (Page 4.5-1955). 34

Controlling human access to these ecologically sensitive areas is critical to conserving the ecological integrity of the SMAs. We question how implementation and enforcement of limits to public access and utilization of the High Country and River Corridors SMAs will be enforced sustainably and in perpetuity as will be required to truly conserve the ecological integrity of these areas.

No concrete or specific plan is included in these mitigation measures for exactly how public access to the SMAs will be controlled. There are indications that signs will be put up, as in mitigation measure SP4.6-17 (Page 4.5-1951), which states that signs will be put up prohibiting pets in the SMA, but this does not adequately assure that pets will actually be excluded from the SMAs.

Proposed mitigation measure BIO-69 (Page 4.5-2015) states: "The Project applicant and/or NLMO shall develop and implement a conservation education and citizen awareness program for the High Country SMA informing the public of the special-status resources present within the High Country SMA and providing information on common threats posed by the presence of people and pets to those resources. The NLMO shall install trailhead and trail signage indicating the High Country SMA is a biological conservation area and requesting that people and their animals stay on existing trails at all times. The NLMO shall provide 35

quarterly maintenance patrols to remove litter and monitor trail expansion and fire hazards within the High Country SMA, funded by the JPA".

35 cont.

The development of a conservation education and citizen awareness program is a worthwhile goal, but there is no evidence presented that this will be adequate to conserve the ecological integrity of the SMAs from human use. There is no evidence presented to demonstrate that quarterly monitoring of the SMAs will be adequate to conserve the ecological integrity of the SMAs and the special-status species that they are meant to conserve.

We propose that a dedicated enforcement officer or endowment to a local land management law enforcement agency to pay for their active control of public access to the SMAs should be a requirement added to these mitigation measures.

SP4.6-42 (Page 4.5-1957) specifies, "An appropriate type of service or assessment district shall be formed under the authority of the Los Angeles County Board of Supervisors for the collection of up to $24 per single family detached dwelling unit per year and $15 per single family attached dwelling unit per year, excluding any units designated as Low and Very Low affordable housing units pursuant to Section 3.10, Affordable Housing Program of the Specific Plan. This revenue would be assessed to the homeowner beginning with the occupancy of each dwelling unit and distributed to the *joint powers authority* for the purposes of recreation, maintenance, construction, conservation and related activities within the *High Country Special Management Area*".

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This mitigation measure could be used to fund the proposed law enforcement position for the High Country SMA. A similar funding mechanism should be required for a position to control public access in order to conserve the ecological integrity of the River Corridor SMA.

## Control of Exotic Species Invasions in SMAs and Other Mitigation Areas

Exotic species control is an essential function of maintaining the ecological integrity of the proposed SMAs and other mitigation areas.

37

Mitigation measure BIO-80 (Page 4.5-2023) states that, "The Project applicant will retain a qualified biologist to develop an Exotic Wildlife Species Control Plan and implement a control program for bullfrog, African clawed frog, and crayfish". This measure proposes that monitoring and control of Bullfrog, African Clawed Frog, and Crayfish shall continue for 50 years.

There is no biological evidence presented that the ecological threats posed by these and other species that would presumably be included in the Exotic Wildlife Species Control Plan will end after 50 years. This mitigation measure should assume as a baseline condition that exotic wildlife control will be required in perpetuity and require an endowment of adequate financial resources needed for perpetual implementation of the Exotic Wildlife Species Control Plan.

Proposed mitigation measure BIO-87 (Page 4.5-2026) states that monitoring for Argentine Ant invasion of mitigation areas will continue for 50 years. There is no biological evidence presented that the ecological threats posed by Argentine Ant invasions will end after 50 years.

38

This mitigation measure should assume as a baseline condition that Argentine Ant invasion and control will be required in perpetuity and require an endowment of adequate financial resources needed for perpetual monitoring and control of Argentine Ant invasions of mitigation areas. BIO-87 also needs to specify what entity will perform the task of Argentine Ant monitoring, how this monitoring will be reported, and who

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will be responsible for carrying out and enforcing remedial actions should Argentine Ants be found in mitigation areas. 38 cont.

Proposed mitigation measure BIO-63 (Page 4.5-2014) acknowledges the ecological importance of controlling feral cats and dogs in the SMAs, but does not determine with adequate specificity what agency will be responsible for this task. The control of feral dogs and cats is vaguely delegated to homeowner associations or other entities responsible for managing the SMAs.

We propose that Argentine Ant monitoring and control and control of feral cats, dogs, and other introduced mesopredators should be integrated into the Exotic Wildlife Species Control Plan required in proposed mitigation measure BIO-80 (Page 4.5-2023). An integrated Exotic Wildlife Species Control Plan, the endowed financial resources necessary to implement the plan, and creation of an authority to implement the plan should be required mitigation measures for the project applicant. 39

## WETLANDS

Several mitigation measures are proposed for wetland habitats to be created or enhanced as mitigation for wetlands destroyed by the Newhall Ranch project. Mitigation measures specifically pertaining to wetlands are detailed on Pages 4.5-1,975-1,982 under mitigation measures BIO-1 through BIO-16 in Section 4.5 (Biological Resources) of the EIS/EIR. 40

## Appropriate Taxa for Mitigation Plant Palettes

The mitigation measures section of Section 4.5 mentions that all detailed wetlands mitigation plans must include several specific elements as outlined in the Comprehensive Mitigation Implementation Plan (Page 4.5-1,975). Element (2a) must outline the quantity (seed or nursery stock) and species of plant to be planted (all species to be native to region). Any mitigation plant palette should also require that all seeds, propagules, and plantings come from the appropriate taxonomic stock (e.g. species, subspecies, variety) endemic to the mitigation site. A qualified biologist should be required to verify that taxonomically appropriate vegetation stock is being used before any work on the mitigation project starts. 41

## Definition of "Self-sustaining" for Monitoring Success Needed

Proposed mitigation measure BIO-3 (Page 4.5-1,977) concerns the creation of new vegetation communities and restoration of impacted vegetation communities. BIO-3 states: "All [mitigation] sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian vegetation community". 42

The concept of mitigation sites being "self-sustaining" is thus a key component for measuring success of mitigation projects and determining completion of the project applicant's responsibilities. Measure BIO-6 (Page 4.5-1,978) details the success criteria upon which "completion" of the revegetation site will be determined. The first criterion listed is, "Regardless of the date of initial planning, any restoration site must have been without active manipulation by irrigation, planning, or seeding for a minimum of three years prior to Agency consideration of successful completion". This criterion is the closest thing to a definition for "self-sustaining" that can be found in the mitigation measures.

All monitoring plans must contain a biologically meaningful definition of "self-sustaining" with which to measure the success of each proposed mitigation project. The definition of "self-sustaining" should be defined based on measurable biological standards derived from reference sites directly comparable to the type of wetland being mitigated for.

It seems likely that a biologically meaningful definition of "self-sustaining" could require monitoring the ecological functioning of mitigation sites for an extended period of time. For example, measure BIO-15 concerns guidelines for establishing healthy populations of riparian trees at mitigation sites. This measure states (Page 4.5-1,982) that "the growth and survival of the planted trees shall be monitored until they meet the self-sustaining success criteria in accordance with the methods and reporting procedures specified in BIO-6, BIO-7, BIO-11, and BIO-12". A biologically meaningful definition of "self-sustaining" for long-lived riparian tree species may require monitoring for several years. 42 cont.

The proposed mitigation measures do not seem to account for the possibility that monitoring could be required for many years into the future. DMEC suggests that the project applicant be required to endow an ecological monitoring position (or positions as needed) to ensure that all wetland mitigation sites are biologically self-sustaining. The size of the endowment needed should be commensurate to the time-scale needed for monitoring to assure that the wetland mitigation sites are self-sustaining.

## Eliminate Loophole for Modifying Mitigation Success Criteria

Measure BIO-6 (Page 4.5-1,978) states, "In a sub-notification letter, the applicant may request modification of success criteria on a project by project basis. Acceptance of such request will be at the discretion of CDFG and the Corps".

This language raises concerns that the biological criteria for success of any given mitigation project could retroactively be changed for any unspecified reason. DMEC recognizes that biological systems are dynamic and that initial conditions for success criteria may be altered by unforeseeable changes in the biological nature of the mitigation project. However, DMEC suggests that any request for modification of previously agreed upon success criteria for wetland mitigation projects must be prepared and submitted by a qualified biologist and available for public review to assure that success criteria are modified only for scientifically valid reasons. 43

## Inappropriate Use of Invasive Exotic Species as Habitat Creation Mitigation

BIO-9 (Page 4.5-1,979) states, "As an alternative to the creation/restoration of vegetation communities to compensate for permanent removal of riparian vegetation communities, in the Santa Clara River, the applicant may control invasive exotic plant species within the Upper Santa Clara River Sub-Watershed for a portion of the Santa Clara River mitigation required under BIO-2". 44

There is no scientific, logistical, or any other reasoning or justification given as to why the project applicant should be relieved of any of their responsibility for mitigating the loss of ANY permanent removal of riparian vegetation communities. While control of invasive plants is an important goal, the project applicant should not be relieved of any of their obligations without valid scientific explanation.

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## Use of Restoration Areas as Mitigation Banks

BIO-13 (Page 4.5-1,981) states, "Nothing in the section 404 or section 2081 Permit or section 1605 agreement shall preclude the applicant from selling mitigation credits to other parties wishing to use those permits or that agreement for a project and/or maintenance activity included in the permits/agreement". 45

DMEC's interpretation of this language is that the project applicant may intend to use the restored areas required for their project mitigation as a mitigation bank at some point in the future. If this interpretation is correct, then DMEC would argue that this practice should be prohibited as it would constitute "double-dipping" by the project applicant to profit twice-over from their required mitigation activities.

## Establishing Accounting System for Wetland Mitigation Requirements

BIO-11 concerns the establishment of an accurate and reliable accounting system for mitigation. In this measure, the project applicant dictates the terms by which the Corps and CDFG will respond to the annual reporting of mitigation credits by the project applicant. This dictation of terms by the project applicant, while perhaps understandable from the perspective of project efficiency, is inappropriate. The project applicant should not be allowed to dictate the terms by which the mitigation accounting system will be developed and implemented. 46

## Use of Hybrid Assessment of Riparian Condition (HARC) to Measure Wetland Functions

A major criticism of a previous project document submitted by the project applicant, the Landmark Village DEIR, was that impacts to wetland functions were not adequately addressed (DMEC Critique for Friends of the Santa Clara River, Page 11). The suggestion was made that the Hydrogeomorphic (HGM) method (Smith et al. 1995) could be objectively used to determine and measure wetland functionality and assessment of project-related impacts to wetland functionality in the project area.

The investigators of wetland assessment for the Newhall EIS/EIR have used a modified version of the HGM method to assess baseline wetland functionality and estimate project-related impacts to this functionality on the project site. They call their methodology the Hybrid Assessment of Riparian Condition (HARC). The details of what the HARC is, justifications for its use, and how it is implemented to measure wetland functionality are discussed on Page 4.6-32-4.6-37 in Section 4.6 (Jurisdictional Waters and Streams) of the Newhall EIS/EIR. 47

The assumptions and methods used to develop and implement the HARC appear sound. The Newhall EIS/EIR authors demonstrate that it can be used to determine both baseline wetland functionality and estimated project impacts to this functionality.

For whichever project alternative is adopted, DMEC recommends requiring that the HARC or comparable HGM methodology be used to estimate baseline wetland functionality and the mitigation needed to create or restore equivalent functionality to impacted wetlands. All of the assumptions, implementation procedures, and outputs of the HARC or comparable methodology must be made available for external review by the public to ensure that the process is transparent and the results are scientifically valid.

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## SAN FERNANDO VALLEY SPINEFLOWER CONSERVATION PLAN

The San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*) is an endangered species under the California Endangered Species Act (CESA) (California Fish and Game Code, Sections 2050– 2097) as of September 8, 2002. Currently it is a candidate species for federal listing under the Endangered Species Act of 1973 (FESA) (16 U.S.C. Section 1531, et seq.).

The San Fernando Valley Spineflower (SFVS) historically was more widespread, and thought extinct until its rediscovery at two locations, Ahmanson Ranch in the southeast corner of Ventura County and on Newhall Ranch (Newhall Land Properties) in western northern Los Angeles County, within the Santa Clara River Valley. SFVS was discovered on Ahmanson Ranch in 1999 during a subsequent biological survey prior to development and on Newhall Ranch in 2000. The population on Ahmanson Ranch (now the Upper Las Virgenes Canyon Open Space Preserve) is no longer in direct threat from development after being acquired the Federal Government; however, potential impacts to that population (impacts associated with movie filming near preserve) still needs to be evaluated (USFWS 2008[40]). Since the Newhall Ranch contains the majority of extant natural populations of the SFVS, the proposals to develop the ranch into a new city must consider how those development plans will affect the plant. 48

The purpose of the Spineflower Conservation Plan (SCP) to establish a conservation and management plan to permanently protect and manage a system of preserves designed to maximize the long-term persistence of the SFVS within the project study area described below. This SCP describes a preserve system proposed by the applicant, The Newhall Land and Farming Company. The management and monitoring components of this SCP have been developed in consultation with the CDFG.

For the purposes of the SCP, the project study area (proposed for development) includes portions of the Newhall Ranch Specific Plan area (Specific Plan area), Valencia Commerce Center (VCC) planning area and Entrada planning area. Figure 4.5-139 Alternative 2 Spineflower Preserve Areas Adjacent Land Uses (taken from the 4.5 Appendance of the EIS/EIR) below shows the locations of these planning areas. Five preserves areas are proposed under the current development plan (Alternative 2). One preserve is located within the Entrada planning area (Entrada Preserve Area) and the other four are located within the Specific Plan area (Airport Mesa, Grapevine Mesa, San Martinez Grande, and Potrero Preserve Areas).

40 Fish and Wildlife Service. 50 CFR Part 17. 75176 Federal Register / Vol. 73, No. 238 / Wed, December 10, 2008 / Proposed Rules. http://www.fws.gov/endangered/pdfs/CNOR/08%20CNOR%20published%2012-10-08.pdf

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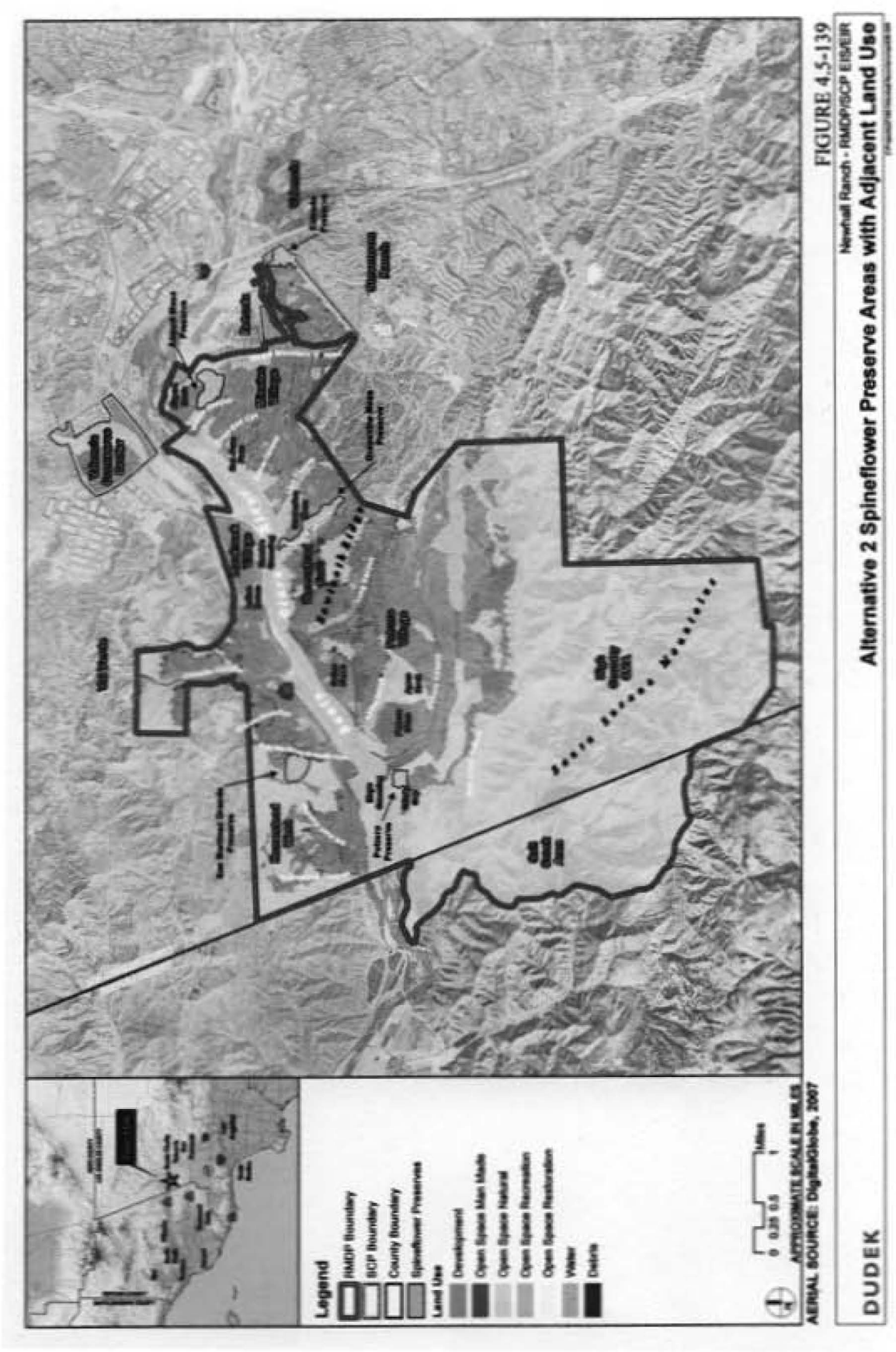
FIGURE 4.5-139
Newhall Ranch - RMDP/SCP EIS/EIR
Alternative 2 Spineflower Preserve Areas with Adjacent Land Use
DUDEK
Legend
RMDP Boundary
SCP Boundary
County Boundary
Spineflower Preserves
Land Use
Development
Open Space Man Made
Open Space Natural
Open Space Recreation
Open Space Restoration
Water
Debris
AERIAL SOURCE: DigitalGlobe, 2007

48
cont.

The five preserves proposed in the SCP would conserve approximately 68.6% of the cumulative SFVS occupied-area within the study area, listed in the SPC's Table 22 (taken from the SCP section 17.0 Take and Conservation, Page 144).

**Table 22 Conservation and Take by Project Site Using Total Footprint**

| Project Site | SFVS Acres to be Conserved | SFVS Acres to be Taken | Total |
|---|---|---|---|
| Specific Plan area | 12.86 (74%) | 4.421 (26%) | 17.28 |
| VCC | 0.00 (0%) | 0.85(100%) | 0.85 |
| Entrada | 1.03 (49%) | 1.09 (51%) | 2.10 |
| **Total** | **13.88 (69%)** | **6.36 (31%)** | **20.24** |

48 cont.

"The information provided in this Plan will be used by the applicant in requesting a state permit authorizing the take of spineflower in the areas located outside designated spineflower preserves. Specifically, the applicant is requesting: (1) a Candidate Conservation Agreement from the U.S. Fish and Wildlife Service (USFWS) under FESA and (2) a section 2081(b) Incidental Take Permit from CDFG under CESA"(SCP, 1.2 Purpose and Need, Page 2).

As stated in Section 1.2 Purpose and Need, on Page 7 of the SCP: "The purpose and need for the Plan under the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. Section 4321, et seq.) and the Plan objectives under the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000, et seq.) are:

> "To develop and implement a practicable/feasible comprehensive spineflower conservation plan that provides for the long-term persistence of spineflower within Newhall Land properties containing known spineflower populations."

In addition to compliance with NEPA and CEQA, the U.S. Army Corps of Engineers (Corps) and CDFG are the lead agencies involved in the preparation of the joint Draft EIS/EIR, which addressed impacts associated the proposed project. In response to the proposed city, the CDFG, who has responsibility over state-listed species, must develop and approve a conservation plan that protects the SFVS to ensure its viability and continued existence.

As stated in the Candidate Conversation Agreement: "The purpose of this Agreement is to agree upon conservation, management, and monitoring measures ("Conservation Measures") for the spineflower, located on portions of Newhall's Enrolled Lands, described below. This Agreement is intended to benefit the spineflower, a candidate species, by obtaining Newhall's commitment to implement the Conservation Measures, which, when combined with the benefits that will be achieved by the conservation of the spineflower in the Upper Las Virgenes Canyon Open Space Preserve, **would preclude the need to list the spineflower in the future**" (Candidate Conservation Agreement, Page D- 2). As pointed out below, DMEC has serious questions about whether the SCP will work as suggested and adequately conserve the SFVS in perpetuity.

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## SCP Goals and Objectives

SCP, starting on Page 8, states:

> "The goal of this plan is to ensure the long-term persistence of spineflower within the project study area. As proposed by the applicant in this plan, the long-term conservation of spineflower will be achieved first by establishing a system of preserves to protect the core occurrences of spineflower in the project study area, and second, by implementing management and monitoring within an adaptive management framework to maintain or enhance the protected spineflower occurrences".

The SCP goes on to list specific goals, each supported by two or more objectives, which are listed below.

"Goal 1: Maintain or increase San Fernando Valley Spineflower populations within the preserves", which is supported by several objectives:

49

- "Objective 1.1 - Maintain or increase the distribution of the spineflower within each preserve
- Objective 1.2 – Maintain or increase the abundance of the spineflower within each preserve
- Objective 1.3 – Reduce or prevent the increase of identified stressors or anthropogenic factors that negatively impact spineflower individual and population performance
- Objective 1.4 – Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the spineflower in order to inform management and monitoring within the preserves
- Objective 1.5 - Plan and conduct small scale experimental management trials to test the effects of proposed on-the-ground management treatments and evaluate effectiveness and spineflower's response"

"Goal 2: Maintain or enhance the structure and native species composition of the native communities within the spineflower preserves". Goal 2 is supported by four objectives, one of which is subdivided into two sub-objectives:

- "Objective 2.1 - Maintain a mosaic of naturally occurring native communities within the preserves. Under this objective, management would be implemented if a 25% or greater change is observed in the absolute cover of existing native plant communities within each preserve, as measured through a combination of remote sensing and aerial mapping at 10-year intervals
- Objective 2.1(a) – Restore damaged habitats potentially capable of supporting spineflower, within the preserves
- Objective 2.1(b) – Revegetate areas within preserves that have been damaged and do not support native habitats but are unlikely to support spineflower in the future
- Objective 2.2 – Maintain or increase the absolute cover of native plant species by 15% within each preserve every 10 years
- Objective 2.3 – Maintain or increase the diversity of native plant species within each preserve by at least 15%, as measured within each preserve every 10 years
- Objective 2.4 – Increase understanding of the ecology of the native communities needed to inform management of the preserves by undertaking the studies specified as part of the adaptive management program"

"Goal 3: Facilitate the natural ecological processes required to sustain the native populations and communities in the preserves" is supported by two objectives:

- "Objective 3.1 – Maintain or enhance opportunities for migration of plant and animal populations, including spineflower, between potentially isolated preserves
- Objective 3.2 – Maintain the hydrologic conditions within the preserves"

DMEC believes that these goals have not been achieved under the current proposed preserve design. In order for the SFVS to be actually protected and preserved, much less mitigate for the proposed impacts to the species under any of the project development alternatives, except maybe the No Project alternative, the SCP must truly preserve the SFVS onsite, in perpetuity. It does not. 49 cont.

The shortcoming of the SCP are described below.

## *SFVS Knowledge Lacking*

The SCP acknowledges that there is fundamentally no baseline understanding of the processes governing the distribution and abundance of the SFVS. The SCP states regarding historical knowledge of processes determining spineflower abundance: "Historical records do not include information regarding the abundance of SFVS (Page 14)". Preliminary hypotheses about the processes determining SFVS distribution and abundance are based on population survey data collected from Ahmanson Ranch and the proposed project areas at Newhall (Table 2, Page 14). 50

The SCP was developed and assessed in the project EIS/EIR. The SCP presents several biological objectives for the conservation of the SFVS as described above. Among them is, as presented on Page 8 of the SCP, "Objective 1.4: Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the spineflower in order to inform management and monitoring within the preserves". This objective should rather be to "Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the spineflower in order to inform management and monitoring **of the species**", and it should be the **first** objective of the SCP. 51

Understanding the ecology of the SFVS is vital to designing a viable preserve system. Little is known that is specific to the SFVS, much of the analysis dealing with the SFVS's phenology have been inferred based on work done with species that may have similar life histories. Therefore, many of the conclusions in the EIS/EIR, SPC, and supporting reports are based on many assumptions. While these assumptions are very helpful in creating guidelines (or strategy), they cannot be relied upon until actual scientific studies have proven them accurate. For instance, the Adaptive Management Section of the SCP relies heavily on relocation/translocation if there is a drop in the population of the SFVS. However, there was no mention if any relocation/ translocation studies have were proven successful. 52

The following sections describe the known ecology of the SFVS, based on prior investigations. DMEC will expose gaps in knowledge, where the SCP frequently defers to future studies. In order to set viable mitigation standards and meet the goal of ensuring the long-term persistence of spineflower, additional studies are necessary to obtain baseline knowledge of SFVS ecology and habitat predictors. The additional investigations should take place **before** preserve areas and mitigation standards are designated. 53

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## POPULATION DYNAMICS

Understanding the population trends of the species and the role and extent of the seed bank across its overall range across the Newhall property should be a fundamental goal of any plan for the species conservation. The extreme population fluctuations of SFVS (e.g. fluctuating from 6.4 million individuals in 2005 to 760 individuals in 2007, Table 2 on Page 14 of the SCP) indicates a population dynamic that potentially exposes the species to high extinction risk if any catastrophic event strikes the population in a low population year and the seed bank is not adequately protected. This scenario is especially true when the SFVS is confined to an isolated system of preserves and the seed bank of the species outside of these preserves is destroyed, as is the scenario proposed in the SCP. 54

Without understanding the population dynamics of the SFVS, the authors of the SCP cannot be certain that not only will the SFVS endure within the confounds of the preserves, but their population can increase. We feel without this knowledge, the SCP does not meet the objectives as listed above and described in the SCP.

## SEEDBANKS AND GENETICS

As previously discussed, extreme population fluctuations in the SFVS were witnessed on the Ahmanson and Newhall properties. Germination of the SFVS seedbank typically occurs after late-fall and winter rains which results in winter and spring blooms, as in many other annual plant species. Seedbank and genetic information in the SCP is based on the Slender-horned Spineflower, a close relative of the SFVS. Research suggests that *in situ*, seedbanks are critical to maintaining genetic diversity among isolated populations and that population variations could indicate that seed banks make important contributions to the genetics and population biology (as suggested by Ferguson and Ellstrand (1999) for the Slender-horned Spineflower) (SCP, Page 4.10-27). 55

While these finding are helpful in considering the role seedbanks may play, no comparable research has been done for the SFVS. More investigations into the role that seedbanks play in the SFVS's genetics and population dynamics is essential before 6.32 acres (31 %) of mapped SFVS occurrences on the Newhall property are destroyed to accommodate the proposed urban development.

The SCP authors also suggest that a genetic study be done as future research to investigate the genetic structure of the SFVS occurrence in the study area and the viability of seeds produced from self-fertilization. They claim that this genetic study will be "conducted in the near-term within a 1-year time frame or in the first year where there are sufficient aboveground populations to undertake the study" (Adaptive Management Program Module, Page D-27). 56

The SCP does not provide sufficient management strategies to mitigate for possible loss of genetic diversity in the SFVS population. In the Adaptive Management Program Module section on the Loss of Genetic Diversity and subsequent management proposed to offset. The one strategy given is to maintain or enhance conditions for pollinators, seed dispersal and/or migration. Since they don't understand the mechanisms by which the SFVS germinates and is dispersed, they cannot assume that they can maintain or enhance these conditions. Furthermore, the preserves are so isolated from each other, dispersal and migration are not likely possible between the remaining populations.

One of the goals set forth in Objective 1.2 is to "maintain conditions conducive to persistence of a viable seed bank, in order to increase abundance and enhance long term population persistence" (SCP, Page 1.2-11). There is not enough information given in the SCP to make this objective achievable. 57

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## PRESERVE DESIGN, MANAGEMENT ACTIVITIES, AND MONITORING ACTIVITIES

As previously discussed, the SCP identifies five proposed preserve areas to be established on Newhall Ranch (of Newhall Land Properties). The five preserves proposed in the SCP would conserve approximately 68.6% of the cumulative SFVS occupied area within the study area.

The establishment of the proposed preserves and related management and monitoring activities in the SCP are designed as mitigation for the "take" or loss of 31% of the total SFVS occurrences on the Newhall Land properties. The entire Valencia Commerce Center (VCC) population will be taken under the current plan. The SCP states in Section 17.0 Conservation and Take Estimates, Page144: 58

> "At VCC, neither avoidance nor minimization is practicable in order to maintain the integrity of the approved development plan. The VCC project was approved for development in 1990, half of which has been built. Spineflower observed in the VCC planning area accounted for approximately 4% of all 2002 through 2007 cumulative spineflower occurrence area."

The following sections are critiques of the SCP preserve design, management, and monitoring activities.

### Preserve Design

Initially Dudek performed the Habitat Stability Index (HSI) in order to identify if habitat features are predictors of SFVS occurrences. The six habitat features were used to compute the HIS were vegetation, soils, geology, elevation, slope, and aspect. The results of the HSI were unsatisfactory due to either too course of data or that habitat features were not good predictors of occurrences. The SCP states, "It is possible that further studies at a finer scale may better refine the various habitat parameters differentiating occupied SFVS habitat from unoccupied areas" (SCP, Page 7.1-62). 59

Since the HSI proved unsatisfactory, Dudek next used a representative model to evaluate the percentage contain suitable habitat within the five preserves by comparing distribution of SFVS to the six habitat features given above. However, this implies that the five preserve locations and sizes had already chosen before the representative model was used. The locations of the preserves might have been the best fit for the residential developments; however, they are NOT the best fit for the long-term survival of the SFVS on Newhall Ranch. The preserves need to be significantly larger and directly connected to each other to minimize the negative influence of outside factors and variables.

### Buffer Areas

Buffer area width can be a very complicated subject. There are many variables that all need to be fully addressed and understood before a specific number on what a buffer area should be can be applied/determined. These variables include: habitat type, pollinators, plant phenology, seed bank viability, edge effects, disturbance factors, drainage, prevailing winds, watershed (local), etc. 60

The proposed spineflower preserves described in the Spineflower Conservation Plan (SCP) would protect 68.6 % (13.88 acres) occupied spineflower habitat onsite. Buffer areas would be included within the preserves that would serve as protection against threats associated with edge effects from the adjacent urban development. Buffer widths where measured from the edge of the known spineflower occurrences to the nearest spineflower preserve boundary as described in the SCP. 61

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As seen below in Table 5, taken from the Applicant Take Permit Letter[41] page 12, the proposed SFVS preserves would include buffer widths ranging from a minimum of 80 feet to more than 300 feet.

**Table 5**
**Spineflower Buffer Widths, Proposed SCP**

| Spineflower Preserve Location | Acres of Occupied Spineflower Area with Buffer of | | | |
|---|---|---|---|---|
| | 80–100 ft | 100–200 ft | 200–300 ft | >300 ft |
| Airport Mesa Preserve Area | 0.13 | 1.76 | 2.42 | 0.91 |
| Grapevine Mesa Preserve Area | 0.24 | 2.42 | 1.36 | 0.00 |
| San Martinez Grande Preserve Area | <0.01 | 0.18 | 0.41 | 1.70 |
| Potrero Preserve Area | 0.11 | 0.75 | 0.46 | 0.01 |
| Entrada Planning Area | 0.09 | 0.81 | 0.13 | <0.01 |
| **Total by Percent** | **4.13%** | **42.59%** | **34.39%** | **18.90%** |

61 cont.

The letter states on Page 12, "Within the SCP planning area, the vast majority (95.9%) of the preserved occupied area would be buffered by at least 100 feet, while 18.9% would be more than 300 feet from the nearest spineflower preserve edge". While this statement is a correct calculation, it should not be implied that the 95.9% of area buffered by at least 100 feet is acceptable for protecting the state listed plant. Based additional literature reviewed, much having to do with risk of Argentine Ant in preserve areas, we believe that buffers of 80-200 feet are inadequate to provide protection within the preserve.

The SPC state in Section 7.3 Accommodating Population Fluctuation with Preserve Areas on Page 67: "In order to minimize edge effects and certain indirect impacts from development areas, a buffer zone has been incorporated within each preserve area."

There is only a brief discussion in the SCP on how they determined appropriate buffer size. The buffer areas for the SCP are based on the analysis set forth in the "Review of Potential Edge Effects on the San Fernando Valley Spineflower", prepared by Conservation Biology Institute (CBI 2000[42]), prepared for Ahmanson Ranch, and other sources of scientific information and analysis. Since the buffers are based on this reports findings, the SPC needs to be included in the Newhall EIS/EIR so that it can be reviewed and commented on accordingly. The CBI report is listed in the literature-cited section of the 2007 SCP, but not included in the appendices. This needs to be rectified since it is such an important component and aspect of the SFVS preserve design.

62

The majority of the buffer areas given for the proposed preserve areas are of 80-200 feet or more to separate the SFVS occurrences from adjacent development. The only mention of where the 80-200 feet buffer widths came from was in regards the CBI study. As stated in the Project Design Features Section of Dukes 2007 report, Relationship of Argentine Ant to Conserved San Fernando Valley Spineflower Populations (SCP, C-8):

63

> "to minimize initial establishment of Argentine ants adjacent to preserves, container plants to be installed within 200 feet of the preserves shall be inspected for pests, including the Argentine ant,

[41] APPLICATION FOR INCIDENTAL TAKE PERMIT (pursuant to 14 CCR Section 783.2 and California Public Resources Code, Section 2081) Dated: May 9, 2008, Page 12.

[42] CBI (Conservation Biology Institute). 2000. Review of Potential Edge Effects on the San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*). 19 January 2000. Escondido, CA.

DMEC

> and any plants found to be infested shall be rejected. The CBI (2000) study suggests that this measure will be moderately effective for buffer widths of 80 to 100 feet and highly effective at buffers greater than 200 feet."

63 cont.

Since the CBI study is not available, we cannot determine what other factors were considered when justifying suitable buffer widths, beside that of the Argentine Ant.

The following subsection on Argentine Ants will address in further detail why a minimum buffer area of 80-200 feet as suggested in the SCP, is inadequate to protect the preserves from threats and allow for sustainability of the spineflower population.

64

## Insufficient Buffer to Exclude Argentine Ant

The presence of the Argentine Ant is not a matter of if they invade, its when they will invade, if insufficient natural, undisturbed habitat does not separate the preserves from urban environments. The SCP even states, "it is assumed that they will occur within development areas and Open Areas adjacent to the preserves in the future" (SCP, Page 9.2.9-117).

DMEC believes that the 80-200 feet buffer areas applied around 46.7 % the SFVS preserves is insufficient. The Suarez et al. (1998[43]) states that a 200 m (656 ft) buffer is appropriate for preserve areas in Southern California that are adjacent to urban development. While they do cite this article in regards to other issues, there is no mention of this suggested buffer anywhere in the Dudek (2007[44]) report.

Please note these quotes from the Suarez et al. 1998 article, Effects of Fragmentation and Invasion on Native Ant Communities in Coastal Southern California:

> "The Argentine ant can spread into an area immediately after isolation from surrounding urban edges where they are most abundant. The association between Argentine ant activity and distance to the nearest urban edge suggests that urban reserves in coastal southern California will only be effective at maintaining natural populations of native ants at distances 200 m from an edge."
>
> "At the urban–scrub interface, Argentine ants decrease sharply in abundance with increasing distance away from edges such that by 200m few remain."

65

The SCP states, "In addition, the spineflower preserves are about 25 to 30 miles from the coast and experience hotter and drier summers than the coastal areas of San Diego (i.e. within 10 to 11 miles of the coast) where Suarez et al. (1998) observed ants in all sampled areas. It is possible that the spineflower preserves in the more inland area of Santa Clarita (where the Newhall Ranch spineflower preserve areas are located) would be less susceptible to Argentine ant invasion—all else being equal—than native habitats in coastal San Diego County, although this hypothesis would need to be tested (Dudek 2007, page 7)". We assume this is their justification of why the buffer size in the Santa Clarita (frequently 80-200 ft) should be less than the buffer size recommended for the preserve in San Diego (>200 m or 656 ft) (as suggested by Suarez et al. 1998).

[43] Suarez, A.V., D.T. Bolger, T.J. Case. 1998. Effects of Fragmentation and Invasion on Native Ant Communities in Coastal Southern California. *Ecology* 79(6):2041-2056.

[44] Dudek and Associates, Inc. 2007. Relationship of Argentine Ant to Conserved San Fernando Valley Spineflower Populations. December. California. Prepared for the Newhall Land and Farming Company, Valencia, California.

Additional research was done on Argentine Ants in fragmented communities in San Diego County in a 2003 report by Suarez & Case[45]. The report primarily looked to see if exotic vegetation was a contributing factor of spread of the Argentine ant into natural vegetation areas. The report states, "…in Rice Canyon (Fig. 9.4) the vegetation in the east end is predominately native, implying that the spread of Argentine ants into the habitat fragment and the subsequent loss of native species is not dependent on exotic vegetation. This is also supported at the University of California's Elliot Reserve and Torrey Pines State Park where Argentine ants have penetrated over 400 and 1000 m, respectively, into the reserves in areas dominated by native scrub vegetation (Suarez et al. 1998; J. King, unpubl.). This also highlights that the degree to which Argentine ants can penetrate into natural habitat varies depending upon the topography and abiotic conditions of the landscape. For example, in more xeric sites in Riverside County, California, Argentine ants appear only able to penetrate up to 50 m into native vegetation from neighboring urban developments (Suarez and Case, unpubl.)". 66

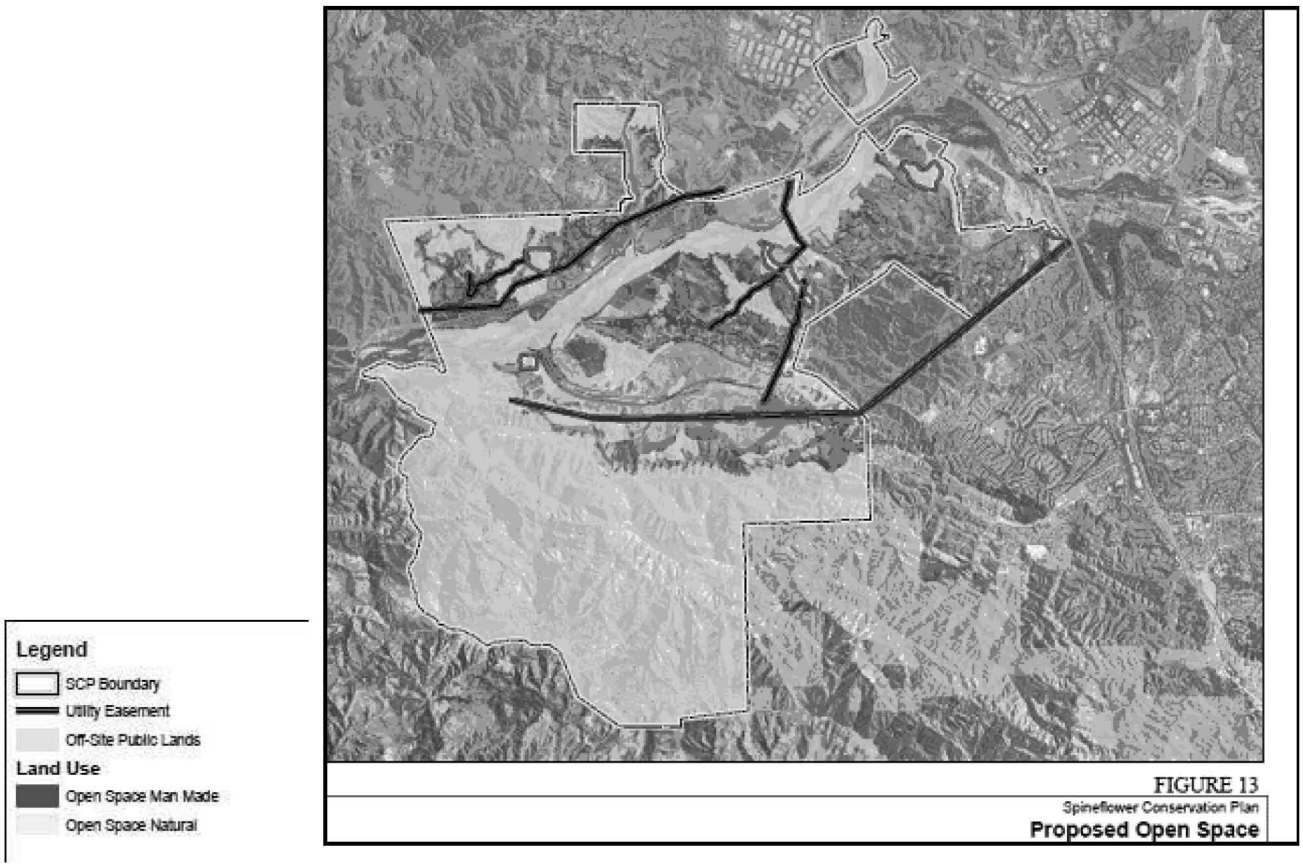
DMEC believes that Newhall Ranch falls somewhere between the coastal environments represented in the San Diego research and the xeric environments of Riverside County. Even if we were to use the Riverside County example, it still states that the Argentine Ants is able to penetrate up to 50 meters (164 feet), the proposed preserve areas don't prove sufficient buffers.

It is well documented that the invasion of the Argentine Ant is directly tied to urban development and associated irrigation (Dudek 2007). The SCP states that by maintaining a "dry zone" of 200 feet between the urban development and the preserve, the Argentine Ant will not be able to colonize. Within the "dry zone", soil moistures are maintained below 10% saturation. While they do attempt to combat the issue of the dispersal of Argentine Ant, it is still an inadequate buffer to protect against invasion. 67

## Connectivity Between Preserves

Due to the size and shape of the SFVS core habitats in the proposed SFVS preserves, as well as the isolated patch locations, in order for the preserves to remain viable and sustainable populations it is extremely important they allow for connections to other habitat patches. To see connectivity feature as described in detail below, please refer to part of Figure 13 Proposed Open Space taken SCP, Page 73. The five preserve areas area outlined in purple. 68

[45] Suarez, A.V. and T.J. Case. 2003. The ecological consequences of a fragmentation mediated invasion: The Argentine Ant, *Linepithema humile*, in southern California. Pages 161-180 in G.A. Bradshaw and P. Marquet (eds.) *How landscapes change: Human disturbance and ecosystem disruptions in the Americas*. Ecological Studies, vol. 162. Springer Verlag, Berlin.




68
cont.

The Potrero and Grapevine Mesa Preserve Areas are both connected to the Santa Clara River corridor through lands designated as open areas. The Airport Mesa Preserve Area connects to open area via a wildlife-movement arched culvert. The SCP clearly states, "There is no direct connectivity linking the San Martinez Grande Preserve Area to natural habitat areas. A 50- to 100-foot-wide band of proposed development along San Martinez Grande Road separates the San Martinez Grande Preserve Area from a narrow open area located east of the road along the stream corridor. It is not known whether pollinators or dispersal agents would be able to cross developed lands to reach this preserve area" (SPC, Page 7.1-71). The Entrada Preserve Area does have a utility easement connecting it to the Santa Clara River corridor, but the report fails to say how long this corridor is and whether it would actually function as a viable connection pathway between SFVS preserve sites. All it describes is that the corridor is 175-feet in width. From hand measurement of the Figure 13 on Page 72 of the SCP, this "corridor" is approximately 5,000 feet (approximately 1 mile) to open space not on Newhall property and an additional 7,500 feet (1.4 miles) to the man-made open space on Newhall property and then continuing down the utility easement corridor another approximate 12,500 feet (2.4 miles) to the Santa Clara River corridor. This is a total of 4.8 miles to the Santa Clara River corridor.

The preserve areas fail to provide means of migration for not only the SFVS, but also other plant and animal populations. Only the Potrero and Grapevine Mesa preserves can be directly connected, but only through a long distance (approximately 13,750 feet or 2.6 miles) of open space. The other three preserves (San Martinez, Airport, and Entrada) can only be connected through long and narrow utility easement corridors or wildlife movement corridors associated with heavily trafficked streets. Therefore, Objective 3.1 will not be achieved. This may result in localized extinctions and a decrease is genetic exchange for all isolated populations.

The SCP fails to address the distance between each preserve by merely stating what connectivity features are present (if any). From what can be easily observed from looking at Figure 13 (Page 72) is that there are expansive distances between each of the preserves. If SFVS pollinators and seed dispersal agents cannot easily travel between preserves, the preserve design fails to allow for genetic exchange. 68 cont.

Much of the land use areas adjacent to the preserves are referred to as "open space" but no specific information is given. The SCP report states that, "open areas may include undeveloped land, passive and active use parks, and trails. Development plans are not currently available for open areas, and, therefore, open area land uses adjacent to the proposed spineflower preserves are not known at this time" (SPC, Page 7.1-71). This is not sufficient. Land use activities adjacent to preserve will have direct influence on quality and/or long-term viability of the natural vegetation and the amount wildlife that will frequent the preserves. 69

## MANAGEMENT AND MONITORING ACTIVITIES

The proposed management plan described in the SCP was intended to permanently protect and manage a system of preserves designed to maximize the long-term persistence of the SFVS within the project study area. Since so little is known about the ecology and habitat predictors of the SFSV, the management of the proposed preserves relies on consistent monitoring and future studies. The close proximity (80 feet at the closest point) of the preserves to urban development will result in numerous risk factors that need to be constantly monitored so not to impact SFVS populations. 70

### Preserve Manager

The duties of the proposed preserve manager are outlined in Section 9 on Page 76 of the SCP, stating, "A preserve manager will be contracted with and paid for by Newhall to perform environmental monitoring, oversee the spineflower preserve areas, and ensure the monitoring and management activities outlined herein are carried out". 71

Given the large amount of work that will go into maintaining the preserves and the vast amount of scientific monitoring that the SCP will entail, it seems quite unrealistic that one person could accomplish both the managerial and scientific duties necessary for adequate SFVS conservation. We recommend that minimally there be separate preserve management and scientific monitor-investigator positions be created as part of any conservation agreement reached between CDFG and Newhall.

### Landscaping Adjacent to Preserves

In the Construction Plans and Specifications, Section 9.1.2, there is a list of measures/restrictions in order to avoid impacting SFVS during construction. One such restriction is, "Avoid planting or seeding invasive species in development areas within 200 feet of spineflower preserve areas" (SCP, Page 9.1.2-110). It is incorrect to assume that the Preserve Manager can correctly manage the distribution of competing plant species in the preserves and still allow "invasive species" to be located only 200 feet from SFVS preserves. This restriction should have been stated as "avoid planting or seeding **all** invasive species within the development area and preserve areas". 72

As described in Section 9.2.3, the use of container plants within public areas within 200 feet of the SFVS preserves seems a meager means of protection from threats to the preserve; disease, weeds, and pests, including Argentine Ant. Inspection of all of these container plants by the preserve manager is simply 73

impracticable. Much of the property adjacent to the preserves will be residential. Even with landscaping restrictions (no plants on the Cal-IPC list and their Invasive Ornamental Plants list), it is not feasible for the Preserve Manager to have to deal with landscaping associated with the homes. To do this, the preserve manager would also have to be responsible for inspecting the backyards of the adjacent residences. This seems like an outlandish statement; however, it is not feasible to have such tasks given to the preserve manager, especially when the report states "it is assumed that they (Argentine ants) will occur within development areas and Open Areas adjacent to the preserves in the future" (SCP, Page 9.2.9-117). 73 cont.

## Access

As described in Section 9.2.4, all portions of the SFVS preserves shall be closed, with the exception of pre-identified existing dirt roads and utility easements. However, next it explains that "paths proposed for use as nature trails shall have openings in the fencing at identified trailhead locations wide enough only for trail users to pass through" (Page 82). This is a direct contradiction to the previous statement. The only other mention of trails is Section 9.3.3 Management of Grapevine Mesa Preserve area (Page 25), where it says the existing dirt roadways m ay be incorporated into a pedestrian-only walking trail system with appropriate signage. The trail system will have to be reviewed by CDFG. 74

Trails through preserve areas can lead to soil compaction and possible tramping, not to mention other direct impacts to SFVS plants such as removal and destruction. The extent to which such soil disturbances affect the SFVS is still unknown. Therefore, in order to maintain the protection of the SFVS, no trails should cross the preserves. 75

## Management for Argentine Ant

Section 9.2.9 on Page 117 of the SCP states:

> "The goal of management is to preclude the invasion of Argentine ants into the preserves and their associated buffers. Controls will be implemented using an Integrated Pest Management (IPM) approach and will likely require a combination of methods. The primary management strategy focuses on prevention by maintaining an inhospitable habitat condition in the buffer between the development edge and the preserve." 76

As mentioned above, the CBI study suggested the 80-100 feet buffer would be moderately effective as a buffer width to protect the preserve from Argentine ants. ***Moderately*** effective is not good enough to meet the goal that will "preclude the invasion of the Argentine ant". This is especially true since **46.72%** of the SFVS occupied preserve areas would be buffered by a minimum of 200 feet (4.13% 80-100 feet and 42.59% 100-200 feet), as shown in Table 5 earlier in the letter.

Since the 200-foot "dry zone" will be located next to or within urban landscaping, the SCP will require container plants to be installed within 200 feet of the preserves. The container plants will purportedly be inspected by the preserve manager for pests and disease, which assumes that they can actually detect and identify all the pests and diseases. The SCP once again cites the CBI (2000) study that "suggests that this measure will be **moderately effective** for buffer widths of 80 to 100 feet and **highly effective** at buffers greater than 200 feet (Dudek 2007). Again, the CBI study is not included in the Appendices of the SCP and we are unable to distinguish what these assumptions were based on. 77

Monitoring for the Argentine Ant will be performed quarterly. As discussed later in the Qualitative Monitoring of Preserve Areas, this allows for too much of a time gap to adequately detect them in time. The report justifies this time gap based on the Suarez et al. (2001) study, in which it was shown that populations of Argentine Ant disperse at a rate of about 15 to 270 meters per year and that "quarterly monitoring for Argentine Ant should be adequate to detect incipient invasions" (Dudek 2007, Page 10). If you do the math, this is around 50-885 feet in one year, even if monitored quarterly, Argentine Ant could reach the preserve areas with a buffer area of 80-200 feet in one quarter. 78

The report claims that the "invasions by Argentine ants, if they occur, are reversible under appropriate conditions" (Dudek 2007, Page 10). There have been no studies reporting successful long-term eradicated the Argentine Ant. While restoring the level of soil saturation back to 10% might decrease the abundance of the Argentine Ant, as demonstrated in the Menke and Holway (2006) report, it will not result in full eradication. 79

## Restoration Activities within Preserve Areas

The SCP puts a lot of emphasis on further analysis that will be included in the Habitat Characterization Study Further (described in Appendix A of the SCP) that will better characterize the SFVS's physical and biological habitat requirements at a fine scale. "Restoration and enhancement efforts within the preserve areas shall be informed by the results of the Spineflower Habitat Characterization Study to be conducted" (SCP, Page 9.2.10-118). It is our understanding from email correspondence with Jodi McGraw[46] that the habitat assessment or characterization was not implemented, at least not by her firm. If this is the case, then it is premature for preserve design and future management framework be constructed in the SCP since the basis for many of the restoration and proposed experimental trials depend on the results of this Study. 80

As described in Section 7.1, "it is not possible at this time to identify suitable habitat for the spineflower" (SCP, Page 61). Results of the HSI were unsatisfactory and habitat studies described in Section 5.3 only narrowed down possible suitable habitat based occurrence percentages. Of these, both soil chemistry and soil texture proved not to be good predictors of whether a site represents potentially suitable habitat for the SFVS. It is not justified or reasonable that the SCP can recommend restoration and possible introduction when there is not enough scientific knowledge on what is suitable habitat for the spineflower. 81

# MONITORING ACTIVITIES

## The Spineflower Monitoring Program

82

The Spineflower Monitoring Programs (Section 11.2) purpose is to achieve the biological goals and objective concerning SFVS populations as addressed in Goal 1 (Section 3.0).

> "The goal of the Spineflower Monitoring Program is to provide objective, repeatable methods for collecting, analyzing, and interpreting ecologically meaningful information that can be used to evaluate the status of spineflower populations, the effectiveness of the conservation strategy, and the design of future management and monitoring, using the most cost-effective methods possible" (SCP, Page 11.2-132).

[46] Jodi M. McGraw, Ph.D., Jodi McGraw Consulting, Freedom, CA, personal communication: email dated 6 August 2009 regarding status of the SFVS habitat assessment study; jodi@jodimcgrawconsulting.com.

While restoration and improvements made within the preserves will most likely improve growing conditions and they may allow existing SFVS populations the ability to expand, these will only be short-term expansions since the isolation of these preserves will not allow for sustainability of the species; e.g. genetic diversity. 83

The Spineflower Monitoring Program includes protocols for monitoring both the distribution and abundance of SFVS populations within the preserves. Monitoring will be done by mapping the areal extent of the SFVS distribution. The problem with the protocol as described on Page 1 of Appendix E (Draft Monitoring Protocols) is that this will only be done every 10 years, "to reduce the potential for inter-annual variability in density to influence areal extent". Next, it states that mapping will only be conducted in "years with weather conditions appropriate for establishment and survival (i.e., years with above-average rainfall)". The parameters used to determine when mapping will occur needs to be more refined, more than just "above-average rainfall" as this is fairly nebulous, and could include years with just 0.1 inch more rainfall than average. Furthermore, the actual average rainfall at the SFVS populations is not known since no weather stations have been established at any of the population sites, or even the proposed preserve sites. California is currently experiencing a drought and even if the years post SCP approval have the conditions appropriate, there is too much room for error. Ten year gaps in areal mapping is insufficient and only mapping in above-rainfall years is ridiculous since dramatic changes to site conditions can occur in much shorter timeframes, and by the time the Preserve Manager conducted the mapping, the damage could be irreversible. 84

Climate is known to play a large role in the germination of the SFVS. Therefore, it is even more important to do mapping in years with little precipitation. Since the population dynamics of the SFVS are still not well known, any opportunity to map and compare their distribution year to year will lead to better understanding. 85

The Spineflower Monitoring Program along with the implementing the general management measures (Section 9.2) still prove to be inadequate due to the insufficient buffer area size that will still allow for the invasion of threats such as the Argentine ants. 86

## QUALITATIVE MONITORING ACTIVITIES WITHIN PRESERVE AREAS

The monitoring proposed, and time frame for report preparation, is not satisfactory and will allow for too much error. The SCP states, "Qualitative monitoring will be performed quarterly and include an overall review of the spineflower populations and habitats within the preserve and preserve buffer" (SCP, Page 11.5-133). 87

Following development and residence, "quarterly monitoring shall be initiated for Argentine ants along the urban–open space interface at sentinel locations where invasions could occur (e.g., where moist microhabitats that attract Argentine ants may be created)" (SCP, Page 11.5-134). As previously discussed, the SCP report states, "based on a study by Suarez et al. (2001), Argentine ant populations disperse at a rate of about 15 to 270 meters per year; therefore, quarterly monitoring for Argentine Ant should be adequate to detect incipient invasions" (SCP, Page 11.5-134). This actually proves that quarterly monitoring in not adequate because by 15 to 270 meters per year (50-885 feet) ants could invade the 80-200 feet buffered areas in the first quarter.

The SCP claims, "because Argentine ants can be effectively managed within and adjacent to the preserves through general aspects of preserve design with a limited need for active management and human 88

mediation, it is not necessary to address Argentine ants through adaptive management" (SCP, Page 10.4-130). Their presence in the adjacent urban development is likely inevitable and containment will require continuous monitoring and treatment to keep out of the preserve areas. This is an inefficient use of the preserve managers time, the use of larger buffers would require less labor and be much more effective in keeping the Argentine Ant out of the SFVS preserves. 88 cont.

The monitoring plans state that if Argentine Ant is detected during monitoring, "the qualified biologist shall distinguish between foraging ants versus nesting ants and implement appropriate direct control measures immediately to help prevent the invasion from worsening" (SCP, Page 11.5-134). The training necessary for the said biologists to distinguish between ants is onerous. The plan continues to go through the next steps to be taken if ants are detected, insecticide treatment, and identify/correction the possible source of the increased moisture. However, once the ants have colonized, local treatment can prove effective to decrease volume (with the use of baits and insecticides) but full eradiation is highly **unlikely**. 89

The quarterly monitoring will also determine the presence or absence of native ant species within the preserves. "If native ant species are determined to be absent, further research into the cause of their disappearance will be conducted, and management measures will be developed to mitigate this effect." Ants have been shown to be effective pollinators for the SFVS, as shown in the Jones et al. (2004) study, if native ants numbers diminish there could be direct impacts on the germination of the SFVS within the preserves. Quarterly monitoring is simply too little! 90

As discussed in the Monitoring Results section (SCP, Page 11.7-135), reports of the quarterly monitoring results are only to be prepared annually for SFVS abundance and every 10 years for SFVS distribution and vegetation in the preserves. This is just too much of a gap in distribution data for a State-listed species. The risk (extirpation) is too great to rest on such infrequent monitoring.

## SPINEFLOWER INTRODUCTION PROGRAM

As stated in Section 12.0, "if CDFG determines that avoidance and minimization efforts and establishment of the preserves are not adequate to substantially lessen the significance of direct and indirect impacts to the spineflower, a reintroduction program may be implemented" (SCP, Page 12.0-136). 91

### Seed Collection

Section 12.2 calls for approximately 5% additional "seed will be collected in each preserve area each year, only in years of within 20% or greater of normal rainfall, for 10 years, beginning in the year the preserves are established". SFVS seed collection will follow the approved seed collection protocol as described in the October 8, 2003 CDFG letter. However, they will only collect the 5% of seeds in years within 20% or greater normal rainfall, for the next 10 years" (SCP, Page 12.2-136). 92

These seeds will be used to create additional SFVS occurrences if necessary. Section 12.3 Seeding on page 137 states, "Direct seeding will include identifying locations within the preserve areas with appropriate soils, geology, aspect, slope, and vegetation conditions that have no historical occurrences of spineflower". However, based on the earlier discussion, they don't know what these appropriate conditions are yet.

## Conservation of the Seed Bank

A fundamental assumption of the SCP is that the seed bank of this species outside of the preserve areas can be stored at botanical gardens and other seed repositories (SCP, Page 12.1-136) and used to restore populations should the preserves fail to adequately protect SFVS populations. Protocols for restoration of SFVS populations from captive propagation are detailed in Section 12 of the SCP (Pages 136-138); however, there has been **no** study done or demonstration that reintroduction of the SFVS, or any *Chorizanthe* species, to previously unoccupied habitat or currently occupied habitat will actually work. 93

## Spineflower Information Center

A major part of the proposed adaptive management plan is the creation of a Spineflower Information Center, a centralized data storage system with all of the relevant SFVS scientific and management data. The Spineflower Information Center should be accessible to the public so that the review of the SFVS status is transparent and can be monitored by members of the public in parallel with the SFVS specialist taskforces that are called for in the adaptive management plan. 94

## *Funding*

Section 13 of the SCP, Pages107-109, concerns funding the activities outlined in the plan. The longest time horizon addressed in the plan is a 50-year projection for qualitative monitoring and monitoring report costs. There is no financial endowment contemplated or discussed for perpetual scientific monitoring and sustained spineflower preserve maintenance. Newhall is responsible for ensuring the permanent conservation of the SFVS populations on their property and a permanent sustained endowment or comparable financial mechanism to ensure sustained resources for SFVS conservation activities must be provided as part of any conservation plan.

Funding is shown in Table 20 (SCP, Page 13.0-139) depicts the costs of the management measures for existing agricultural activities during construction and after construction, as well as costs associated with monitoring and reporting requirements totaling $5,829,180.00 for the next 50-years. The majority of projected costs is fixed and is calculated accordingly. However, nowhere in this assessment is there any room for error. The funding should allow for errors and for continued management after 50 years. 95

As recent economic conditions have shown, availability of funds from taxes, assessments, or corporations such as Newhall Land and Farming Company, or its parent company, Lennar, cannot be depended upon when the economy sours. Therefore, a permanent endowment needs to be established and adequately funded to provide a secure and permanent source of funding to pay the salaries of the preserve manager, other support staff, and implement routine and adaptive management measures to protect the SFVS populations on the Newhall Ranch, in perpetuity.

To ensure adequate funding is available to manage the preserves in perpetuity, the minimum time frame that should be considered to actually be meaningful in protecting the SFVS from extinction. An endowment must be established, and funded well enough, to provide funds annually that are sufficient to fund permanent staff and implement adaptive management strategies, much less the routine maintenance required for managing any preserve. The entire costs associated with managing the SFVS preserves should be born only by the developer, not the taxpayer, since Newhall is the sole beneficiary of any issued take permit from CDFG.

DMEC

## SCP is Inadequate to Mitigation Impacts to SFVS

As currently written, the SCP is inadequate and fails to set forth a sound or feasible plan that can feasibly mitigation project-related impacts on the SFVS. *This results in failure of the SCP to meet CEQA requirements without a finding of overriding consideration of impacts to San Fernando Valley Spineflower survival must be rectified.*

96

The Spineflower Conservation Plan (SCP) states on Page 7:

> "The goal of this plan is to ensure the long-term persistence of spineflower within the study area. As proposed by the applicant in this plan, the long-term conservation of spineflower will be achieved first by establishing a system of preserves to protect the core occurrences of spineflower in the study area, and second by implementing management and monitoring within an adaptive management framework to maintain or enhance the protected spineflower occurrences."

DMEC finds that the SCP is inadequate to ensure the long-term persistence of the San Fernando Valley Spineflower (SFVS) in the proposed project area. Essential knowledge needed to assure the long-term persistence of the spineflower in the proposed preserve system does not exist. The SCP defers acquisition of the knowledge needed to ensure the long-term persistence of this species into the future.

This plan does not adequately provide for mitigation of take of proposed project impacts to the long-term persistence of the SFVS. We argue that the deferral of acquiring essential knowledge needed to meet the fundamental goal of the SCP (i.e. ensuring the long-term persistence of the species) is in practice deferring overall formulation of a viable mitigation plan for proposed impacts to the SFVS by the project applicant. Deferral of formulation of a mitigation plan is a violation of CEQA (CEQA Guidelines Section 15126.4).

In the absence of a viable mitigation plan, a finding of overriding consideration must be found in regards to SFVS in order for this EIS/EIR to be in compliance with CEQA (citation). The Lead Agency must make findings that the value of this project (Newhall Specific Area Plan and related developments) is more important than the survival of the SFVS to justify the take of the species.

*The implementation of the SCP fundamentally depends upon meeting Goal 1 and attendant objectives needed to implement this goal.*

Goal 1: Maintain or increase San Fernando Valley Spineflower populations within the preserves

- Objective 1.1 - Maintain or increase the distribution of the spineflower within each preserve
- Objective 1.2 – Maintain or increase the abundance of the spineflower within each preserve
- Objective 1.3 – Reduce or prevent the increase of identified stressors or anthropogenic factors that negatively impact spineflower individual and population performance

97

- Objective 1.4 – Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the spineflower in order to inform management and monitoring within the preserves
- Objective 1.5 - Plan and conduct small scale experimental management trials to test the effects of proposed on-the-ground management treatments and evaluate effectiveness and spineflower's response

The other goals in the SCP are subsidiary to attaining the success of Goal 1 (Maintaining or increasing spineflower populations within the preserves) and the objectives needed to implement it. We thus focus this critique on the problems with Goal 1 and its objectives, which render the SCP inoperative as a valid mitigation plan under CEQA.

***Lack of adequate data to implement primary goal and objectives of SCP.***

As discussed above, understanding the population trends of the species and the role and extent of the seed bank across its overall range across the Newhall property should be a fundamental goal of any plan for the species conservation. .

The SCP acknowledges that there is fundamentally no baseline understanding of the processes governing the distribution and abundance of the SFVS. Also stated above, analysis of population survey data has yielded the initial conclusion regarding ecological processes controlling spineflower distribution and abundance: "More data is [sic] needed, but the preliminary interpretation is that preferred spineflower location is controlled by intrinsic environmental characteristics (e.g. soil type), while population density (and, in turn, actual numbers of individuals) is controlled by extrinsic environmental characteristics (e.g. rainfall) (Pages15-16)". The basic ecological processes controlling SFVS distribution and abundance remain fundamentally unknown and the current state of knowledge of these processes is most directly summarized by the authors of the SCP in this statement: "Many gaps remain in the understanding of the ecology of the spineflower, making it difficult to devise management strategies to prevent its extirpation, and to design efficacious monitoring protocols (SCP, Page 8)". 98

***The primary goal and objectives of the Spineflower Conservation Plan cannot be met with existing knowledge and thus the SCP cannot meet CEQA requirements.***

Objective 1.1 and Objective 1.2 imply that the fundamental baseline knowledge of the ecological processes controlling SFVS distribution and abundance needed to manage these processes exists. As illustrated above, this baseline knowledge does not currently exist. We cannot assume that we have the requisite knowledge to increase or maintain SFVS distribution or abundance and thus cannot codify these processes as management goals until this knowledge exists as Objective 1.1 and Objective 1.2 currently do. 99

There is no knowledge of how to maintain or increase SFVS distribution or abundance as the SCP goals imply. These goals are not practicable and thus the fundamental assumptions of the SCP are not viable or valid. The research needed to acquire the necessary knowledge to maintain SFVS distribution and abundance is deferred to future studies (e.g. Goals 1.4 and 1.5). The reality of the SCP is that the knowledge and management practices needed to make it a viable mitigation tool are deferred to the future. This is a violation of CEQA Guidelines Section 15126.4 and negates the validity of this SCP.

We provide a detailed critique below of the areas in which the fundamental baseline knowledge of the ecological processes controlling SFVS distribution and abundance are deficient for implementing the SCP as currently written.

## 1. Failure of Reintroduction as a Viable Spineflower Mitigation Strategy

There has been **no** study done or demonstration that reintroduction of the SFVS, or any *Chorizanthe* species, to previously unoccupied habitat or currently occupied habitat will actually work.

Before destruction of any known part of the SFVS population is contemplated, much less permitted, demonstration that the SFVS seed bank can be successfully stored and sustainably reintroduced to the wild **must be demonstrated.** Fiedler (1991[47]) surveyed the effectiveness of reintroduction of Californian special-status plant species as a mitigation strategy and concluded that "it is suggested that because of the 100

[47] Fiedler, P. 1991. Mitigation Related Transplantation, Translocation and Reintroduction Projects Involving Endangered and Threatened and Rare Plant Species in California. California Department of Fish and Game, Sacramento, California.

lack of or limited success of most of the transplantation, reintroduction, or restoration attempts documented, and the uncertainty of many of the on-going projects, the Endangered Plant Program of the California Department of Fish and Game's Natural Heritage Division should remain extremely cautious in any mitigation agreement that will allow any of these techniques to serve as mitigation for project impacts". There are no data presented in this plan that the proposed mitigation for destruction of the SFVS seed bank outside of the preserve areas will work.

100 cont.

In the Spineflower Draft Conservation Agreement (Page 18), the authors state:

> "Although the reintroduction program is experimental at this stage, the parties consider such a program to be a feasible form of conservation at this juncture based upon available studies."

The authors do not cite any specific studies that validate their conclusion that a reintroduction program is feasible. There are no baseline data extant that collection and storage of the SFVS seedbank is a viable conservation strategy. There is no valid scientific logic presented to support the applicant's assertion that reintroduction is a viable conservation plan for the spineflower.

All knowledge and demonstration that reintroduction is a viable conservation strategy is deferred to the future and thus invalidates reintroduction as a viable mitigation strategy under CEQA Guidelines Section 15126.4. Proceeding with reintroduction strategies with the current lack of knowledge that they are viable would result in the destruction of 6.32 acres (31 %) of mapped SFVS occurrences on the Newhall property and the associated SFVS seedbank underlying these known SFVS population occurrences. The destruction of this seedbank cannot be mitigated for with the current lack of ecological knowledge.

The SCP puts much emphasis on further analysis that will be included in the Habitat Characterization Study. It is our understanding from email correspondence with Jodi McGraw, the designer of the proposed study that the habitat assessment or characterization was not implemented. If this is the case, then it is premature for preserve design and future management framework be constructed in the SCP since the basis for many of the restoration and proposed experimental trials depend on the results of this Study.

It is not justified or reasonable that the SCP can recommend restoration and possible introduction when there is not enough scientific knowledge on what is suitable habitat for the SFVS.

## 2. Lack of Knowledge About Genetics

There is a lack of knowledge about genetic structure and diversity of the SFVS seedbank, which is needed for adequate management of SFVS abundance and diversity. As discussed extreme population fluctuations occur in spineflower populations. Germination of the SFVS seedbank typically occurs after late-fall and winter rains which results in winter and spring blooms, as in many other annual plant species. Research on the Slender-horned Spineflower suggests that seedbanks are critical for maintaining genetic diversity among isolated populations and that population variations could indicate that seed banks make important contributions to the genetics and population biology (SCP, Page 4.10-27). No comparable research has been done for the SFVS. More investigations into the role that seedbanks play in the SFVS's genetics and population dynamics is essential before 6.32 acres (31 %) of mapped SFVS occurrences on the Newhall property are destroyed to accommodate the proposed urban development.

101

The SCP authors suggest that genetic studies will be done to understand the baseline genetic structure of the population and investigate the genetic viability of seeds produced by self-fertilization. The authors state that these genetic studies will be "conducted in the near-term within a 1-year time frame or in the first year where there are sufficient aboveground populations to undertake the study" (Adaptive Management

Program Module, Page D-27). We are not aware of any technology or methodology that would allow complex genetic studies such as the ones proposed to be completed in the one year time frame indicated. We argue that the genetic knowledge the authors say is needed for SFVS management should be conducted prior to the approval of any mitigation plan and not be allowed as a vague afterthought in an unrealistic timeline as is proposed in the SCP. 101 cont.

## 3. Pollination Not Fully Understood and Existing Data Not Used

A pollination study was conducted on the Newhall property (Jones et al. 2004[48]), the results showed variation in pollinators present depended on location (three study sites) and season. Among the most common visitors to the study sites were ants, flies, and beetles. Honeybees were also shown to be effective pollinators although their numbers weren't as prevalent as the other three pollinators were. 102

Jones et al. (2004) also performed a lab experiment to evaluate the effectiveness of ants as SFVS pollinators. The results confirmed ants to be not only effective pollinators, it also proved that when the plant was alone it was able to self pollinate. These results are important since the pollination of the SFVS is still relatively unknown and any impacts to potential pollinators need to be mitigated as part of the SCP.

The invasion by the Argentine Ant is one of the threats to the pollinators with in the proposed preserves. The Argentine Ant is associated with urban development (Dudek 2007[49], Section 6, C-11). Invasions by the Argentine Ant often results in the displacement of existing invertebrates that serves as seed predators and are effective as seed dispersers. Page D-47 of the Adaptive Management Program Module addresses the threat of the Argentine Ant, stating, "In coastal San Diego county, Argentine ants were ineffective in safely dispersing seeds of the myrmecochorous tree poppy (*Dendromecon rigida*) relative to displaced native harvester ant (*Pogonomyrmex subnitidus*) as seeds left by Argentine ants were not sufficiently buried to avoid subsequent predation at the soil surface".

The EIS/EIR spent a fair amount of time describing the threat of the Argentine Ant (Relationship of Argentine Ant to Conserved San Fernando Valley Spineflower Population, Dukek 2007) and plans to manage them; however, it basically ignored the roll of other pollinators, and how they would be impacted by the project. Flies and beetles were also found to be the most common visitors along with ants and honeybees depending on what seasons the pollination studies were conducted. For example, the only time honeybees are mentioned is on Page D-25 of the Adaptive Management Program Module, Loss of Genetic Diversity:

> "European honeybees have been observed visiting spineflower's at the Laskey Mesa site (Jones et al. 2002) and may be able to transfer pollen between preserves. It is believed that European honey bees currently may be experiencing colony collapse syndrome, and pollination relying upon them therefore may be tenuous."

Page 5, paragraph 2, Section 3.8 Phenology, Seed Production and Pollination, states, "However, ants are not efficient pollinators, and the rate of fruit set measured by researchers was high, which would indicate another, more effective pollinator was visiting the plants (USFWS 2004)". This statement alone is strong

[48] Jones, C.E., S. Walker, F. Shropshire, R. Allen, D. Sandquist, and J. Luttrell. 2004. Newhall Ranch Investigation of the San Fernando Valley Spineflower, Chorizanthe parryi var. fernandina (S. Watson) Jepson.

[49] Dudek and Associates, Inc. 2007. Relationship of Argentine Ant to Conserved San Fernando Valley Spineflower Populations. December. California. Prepared for the Newhall Land and Farming Company, Valencia, California.

evidence that the SCP should have examined in greater detail what other pollinators are present, and the EIS/EIR should have assessed how the proposed project would impact those pollinators. 102 cont.

The preserves need to be large enough to ensure viable populations of SFVS pollinators existing onsite, and will persist onsite over the long term.

## 4. Seed Dispersal

Little is known about dispersal of SFVS seeds. As discussed above, Argentine Ants may pose a threat to native SFVS seed dispersers. Potential interactive effects of granivory and invasion by the Argentine Ant, which may displace native invertebrate granivores, could be significant. In addition, trapping studies conducted by Sapphos in 2001 on Ahmanson Ranch did not clarify whether small mammals play a role in SFVS seed dispersal (SCP, Page 4.9-27). 103

DMEC believes that the buffer areas as proposed under the current plan will be inadequate protection from the invasion of the Argentine Ant within the preserves areas. There will be further discussions on the threat of Argentine Ant and a critique of the Integrated Pest Management (IPM) proposed later in the letter.

## 5. Soils

With the use of a representative model described later, Dudek found that SFVS occurrences varied among combinations of sandy and gravelly silt and clay loams as discussed in Section 5.3.2 of the SCP. Soil texture and soil chemistry both proved not to be good predictors of whether a site represents potentially suitable habitat for SFVS. 104

On both the Ahmanson Ranch and Newhall Land properties, SFVS is also in areas with disturbed soils and in areas disturbed by fossorial rodent activity. The SCP suggests that soil disturbances might also directly facilitate spineflower performance by increasing soil nutrients (J. McGraw, unpublished data) (Adaptive Management Module D-51). It is possible that SFVS relies on fossorial rodents since SFVS was found often occurring in areas disturbed by fossorial rodent activity. The size of the preserves may impact the rodent populations if they are too small.

It is clear that more investigation needs to focus on the soil requirements of the SFVS, especially since SCP suggests that enhancement should occur if there is a decrease in SFVS populations within the preserves. There is not information to make these important decisions.

## 6. Elevation, Slope, and Aspect

The SFVS occurs primarily on slopes with a south-facing aspect. These southern exposures experience more sunlight and heat (solar insolation), which leads to less dense herbaceous growth and/or less dense vegetation when compared to areas with a northern exposure. Therefore, SFVS's tendency to occur on these slope exposures may be due to the prevalence of more sparsely vegetated habitat areas on hotter, drier slopes (SCP, Page 4.6-23). 105

## 7. Competition

Dudek found that the majority of co-occurring species in 2007 were non-native annual species, suggesting the similarity of ecological requirements and the potential that competitive effects of non-native plants may 106

be especially important in years of below-average rainfall (SCP, Page 4.7-23). However, without focused ecological studies and soils analysis, the actual relationships will remain speculative at best. It has been hypothesized that European grasses dominating California landscapes are present and thriving as a result of an increase in soil nitrogen originating from smog. If that excess nitrogen in the soil is depleted, many of those alien species may die off, or at least be reduced in density, which will return the advantage to California native species. 106 cont.

## 8. Predators

There is currently no evidence that disease or predation are factors affecting the SFVS. Heavy grazing activities have taken place on both the former Ahmanson Ranch site and Newhall's property for many decades. The SCP states, "these factors are not applicable threats to survival of the spineflower" (CCA[50], Page 4.1.3-8).

The SCP defers to the Habitat Characterization Study to document the extent of herbivory and to address possible SFVS browsing, effects of herbivory and management for SFVS plants. This study was to be conducted in Spring 2008. To our knowledge this study has not been done (Jody McGraw pers. comm.[51]); therefore, there is not enough evidence to state the extent of herbivory and if a threat to the SFVS. 107

We can infer from the proposed preserve design that it will result in isolated patches of habitat and lead to impaired connectivity between preserves. This will likely result in declines in the top predators (Mountain Lion, Coyote, Bobcat, raptors) and further result in an increase of small mammal prey species and an increase in herbivory. An increase in herbivory by these prey species could lead to increased competition with invertebrates species that are thought to be potential seed dispersers of the SFVS.

Though the Adaptive Management Program Module section on Herbivory and Seed Predation (D-48) maintains that, "maintenance of large core open-space areas (i.e., High Country Special Management Area (SMA), Salt Creek area, and River Corridor SMA) and biological connectivity between preserves is intended to maintain the presence of top predators, such as raptors, coyotes, and bobcats and would prevent the occurrence of predator release within the preserves", the preserves are located so far apart that this is not likely.

## 9. Climate

Section 11.6 Local and Regional Weather Conditions (SCP, Page 11.6-135) states,

> "Rain gauges and possibly other basic measurement devices for measuring temperature and soil moisture will be installed on the preserves to ensure that local environmental conditions are being accurately monitored. Because Santa Ana winds may play a role in interacting with drought conditions to reduce survival at critical times, data on wind conditions will also be tracked." 108

As has been shown by population data gathered to date, the SFVS population varies wildly from year to year, as is typical for many annual species of Mediterranean and desert climates. Exactly what environmental cues the SFVS is responding to stimulate germination is unknown. So far, the trend, from

[50] The Newhall Land And Farming Company, "Draft Newhall Land Candidate Conservation Agreement for San Fernando Valley Spineflower" (February 14, 2008)

[51] Jodi M. McGraw, Ph.D., Jodi McGraw Consulting, Freedom, CA, personal communication: email dated 6 August 2009 regarding status of the SFVS habitat assessment study; jodi@jodimcgrawconsulting.com.

sampling data, is one of decline, suggesting that drought conditions do not stimulate seed germination (which may seem obvious); however, there have not been enough sampling for enough years to cover a typical climate cycle of drought periods and wet periods to identify any clear patterns.

No site-specific climatic data have been gathered at any of the SFVS populations. Precipitation data exist only from established weather stations, which are widely scattered and none close to the SFVS population sites. The nearest self-recording weather stations are Los Angeles Department of Water and Power's Newhall-Soledad (406) and Del Valle (446) stations, both at least 5 miles from the nearest SFVS population. The nearest raingage is at the Valencia Reclamation Plan (1263) at 1,000 feet above mean sea level, which is checked manually on a daily basis. Another nearby station, an automatic recording station, is at Castaic Junction (1012B), at 1,005 feet above mean sea level. Precipitation data from these stations may be useful for determining actual rainfall on the nearby SFVS populations; however, the usefulness of this nearby station may provide erroneous data since the topographic position of this site is different than most of the SFVS population sites. 108 cont.

Precipitation is extremely variable in where and how much falls in any given storm, varying significantly from mile to mile and with relatively small changes in elevation and slope aspect. This means that simply using the nearest weather station data as the means to determine precipitation and temperatures at the SFVS populations may very well provide misleading or incorrect information in determining the actual ecological conditions existing at one or more of the SFVS population sites.

The SCP authors acknowledge that they have not addressed the potential implications of climate change in their plan:

> "Anthropogenic contributions to global climate change are generally accepted by the scientific community, and these changes over time may influence the type and composition of native vegetation communities as well as other aspects of the natural environment in Southern California. Although it is an objective of this plan to prevent anthropogenic changes to the naturally-occurring communities within the preserves, management of the preserves is not intended to reverse or slow changes that are the result from global climate change."

This blanket dismissal of the potential affects of climate change on SFVS persistence seems completely inadequate. The question of whether the potentially suitable or unoccupied habitat set aside in the preserves is adequate to control for potential movements of SFVS populations due to climate change should be addressed in the SCP. The adaptive management framework proposed in the SCP is designed to contemplate future uncertainty in SFVS population dynamics. It is unclear why potential effects of climate change are not addressed within the adaptive management framework and they should be.

In summary, DMEC finds that the EIS/EIR fails to adequately assess all project-related impacts to the biological resources onsite and fails to provide adequate and/or feasible mitigation to reduce the significant impacts to a level of less than significant. The SPC fails to protect the SFVS and would put it at risk of extinction, or at least local extirpation in the long term. 109

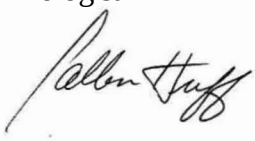
Thank you for considering our concerns with the adequacy of the EIS/EIR.

DMEC

Sincerely,

David L. Magney
President

David Brown, M.S.
Biologist



Callen Huff
Biologist

cc: Ron Bottoroff, Friends of the Santa Clara River
Greg Suba, California Native Plant Society

**From:** David Magney <david@magney.org>
**To:** NEWHALLRANCH@dfg.ca.gov
**Date:** Tue, Aug 25, 2009 3:07 PM
**Subject:** Comment letter on the Newhall EIS/EIR on behalf of the Friends of the Santa Clara River & CNPS on bio resource issues

Mr. Bedford,
Attached please find a PDF copy of our letter commenting on the Newhall Ranch Resource Management and Development Plan and the Spineflower Conservation Plan. David Magney Environmental Consulting prepared these comments on behalf of the Friends of the Santa Clara River and California Native Plant Society. Please contact me if you have any questions or need anything regarding this letter.
Respectfully,

David L. Magney
President
David Magney Environmental Consulting
P.O. Box 1346
Ojai, CA 93024
805/646-6045
www.magney.org

**CC:** gsuba@cnps.org; bottorffm@verizon.net

## 53. Letter from Friends of the Santa Clara River and California Native Plant Society, dated August 25, 2009

**Response 1**

The comment explains that this letter provided by a consulting firm on behalf of the Friends of the Santa Clara River (Friends) and California Native Plant Society (CNPS). The remainder of the comment is an introduction to comments that follow. Because the comment does not address the content of the Draft EIS/EIR, no additional response is provided. The U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG) appreciate the comments provided in your letter. Responses to the topics introduced in this comment are provided below. Your opinions and recommendations regarding biological impacts will be included as part of the record and made available to decision makers prior to a final decision on the proposed Project.

**Response 2**

The comment is an introduction to comments on the Biological Resources section of the Draft EIS/EIR that follow, including comments on wildlife guilds, terrestrial mollusks, bryophytes, lichens, special-status vascular plants, common wildlife species, and oak woodland. Because the comment does not address the content of the Draft EIS/EIR, no additional response is provided.

**Response 3**

The comment generally describes the wildlife guild analytic approach for common wildlife species taken in the Draft EIS/EIR. The comment states that the guild approach fails to recognize that each species has specific requirements for habitat, food, nesting, and migration patterns. The comment cites the Aquatic Guild as an example of a wildlife guild that includes special-status species.

The guild approach analyzes impacts to wildlife species to provide decision makers with an additional tool to take intelligent account of the environmental consequences of the proposed Project and alternatives, including effects on species that have no formal conservation or sensitivity status. As analytic tools, the guilds also necessarily included any special-status species sharing the habitat, life history, or other characteristics used to define each guild. However, the Draft EIS/EIR also specifically analyzes potential impacts to special-status species. Each special-status species is analyzed separately and in greater detail than provided for the common species at the guild level, including impact significance findings and mitigation for each species on an individual basis.

The guild approach is used in two different ways in the Draft EIS/EIR: to evaluate impacts common species and to evaluate impacts to wildlife movement. The Wildlife Guild analysis is presented in **Subsection 4.5.1.1.5.3**, Impacts to Common Wildlife -- The "Guild" Analysis, which begins on page 4.5-13 of the Draft EIS/EIR. Impacts to wildlife movement are discussed in **Subsection 4.5.1.1.5.4**.

The Draft EIS/EIR combined wildlife species into categories, called "guilds," according to habitat, life history, or other characteristics. The guild analysis was used to address the many wildlife species lacking formal conservation status or agency designations. Each species is unique in its life history and habitat requirements. Because there are literally hundreds of vertebrate species and likely thousands of invertebrates that occur in the Project area that have no conservation status designation, or would be considered special-status species as defined by the Draft EIS/EIR (see **Response 10**, below), a species-by-

species analysis is not practical or feasible. The guild approach was used in the Draft EIS/EIR to provide a general assessment of these species' occurrence on the proposed Project site and the Project's anticipated impacts to them.

The discussion of wildlife movement in the Draft EIS/EIR (**Subsection 4.5.5.2.4**, Impacts to Wildlife Movement and Habitat Connectivity) groups species whose shared life history characteristics allow for an analysis of their potential movement across the landscape. The example cited in the comment is the Aquatic Guild. The wildlife movement analysis combined the Aquatic Mollusk and Fish Guilds into the Aquatic Guild because species in these guilds share similar habitat requirements for movement. The Aquatic Guild is discussed further in **Response 8**, below.

**Response 4**

The comment asserts that the assessment of impacts to wildlife guilds in the Draft EIS/EIR is mixed in its completeness and adequacy. The comment cites the Draft EIS/EIR to note that over 120 wildlife surveys were conducted on Newhall lands between 1988 and 2008; however, the commentor states that no survey focused on terrestrial mollusks, even though the 2006 California Natural Diversity Data Base (CNDDB) lists 104 mollusk taxa as special-status.

Wildlife surveys at the proposed Project site were planned and scheduled to analyze potential project impacts in terms of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), focusing largely on potentially significant Project-related impacts to special-status species. No special-status terrestrial mollusks are reported in the CNDDB [March 2010] on the proposed Project site or within a 25-mile radius. Based in part on this literature review, the Draft EIS/EIR preparers did not survey for terrestrial mollusks or analyze potential impacts to these species as special-status snails were not expected to occur on the proposed Project site. However, in response to this and other comments in the comment letter, surveys for terrestrial gastropods were conducted in the proposed RMDP development area, the Salt Creek area, High Country Special Management Area (SMA), River Corridor SMA, and in off-site locations in Los Angeles County and Ventura County. These surveys were conducted over a five-day period from November 2009 to January 2010 and focused on suitable microhabitats where these species may occur. Three native species of shoulderband snails were detected during the surveys, including Southern California shoulderband snail (*Helminthoglypta tudiculata*), Grapevine shoulderband snail (*Helminthoglypta uvasana*), and Vasquez rocks shoulderband snail (*Helminthoglypta* v*asquezi*). These surveys were lead by Lawrence Hunt a senior biologist with knowledge of the life history of terrestrial gastropods. Lawrence Hunt indicated that he detected a shoulderband snail in Potrero Canyon in 2005 (LEH Field Catalogue Number 373) in support of other activities on the Newhall Ranch Property. Because only the shell was available and the living animal is required for detection to subspecies, the animal was tentatively identified as *Helminthoglypta traskii* and is catalogued in the Santa Barbara Museum of Natural History. Gastropods identified by the CNDDB as sensitive, including Trask shoulderband (*Helminthoglypta traskii* spp. *traskii*) snail were not detected during the surveys. The surveys also found other native and non-native snails, including the introduced garden snail (*Helix aspersa*), decollate snails (*Rumina decollate*), an introduced predatory gastropod sold in local garden stores, and an aquatic snail belonging to the Family Succineidae, a native, cosmopolitan family not considered rare in California by the CNDDB. Special-status terrestrial mollusks are discussed further in **Responses 8 through 13**, below.

**Response 5**

The comment states that the Insect Guild is very broad, including all insects in the Project area, and suggests that this grouping understates and minimizes the importance of this diverse group. The comment also states that the mitigation measures for impacts to the Insect Guild are "equally broad and vague" and cites Mitigation Measure BIO-64 (Integrated Pest Management Plan) as an example. The comment notes that the table of mitigation "suggestion[s]" for the Insect Guild is on page 4.5-486 of the Draft EIS/EIR.

As described in **Response 3**, the guild approach is used as one of a number of analytic tools to provide decision makers with useful information regarding environmental effects on species without formal conservation status designations. The analysis in the Draft EIS/EIR concluded that impacts to Insect Guild species, that are not special-status, would be adverse, but not significant, therefore, no mitigation is required (**Subsection 4.5.5.2.3.4**, Impacts to Common Wildlife). Nevertheless, the Draft EIS/EIR identified mitigation measures in **Table 4.5-36** of the Draft EIS/EIR that would be implemented to reduce impacts to other biological resources that would also reduce impacts to Insect Guild species. Most of these measures would benefit insects by avoiding or minimizing adverse impacts to their habitat, by setting aside approximately 6,300 acres of habitat in the River Corridor SMA, High Country SMA, and Salt Creek area; by restoring riparian habitat to replace habitat lost or degraded by land use changes; or by minimizing adverse habitat impacts by managing erosion, water quality, dust, pollutants, and nursery stock to be planted near native vegetation. Additional detail may be found in the Draft EIS/EIR in **Subsection 4.5.6,** Mitigation Measures.

Mitigation Measure BIO-64 states that an integrated pest management (IPM) plan that regulates and limits the use of pesticides (including rodenticides and insecticides) on site will be prepared prior to the issuance of building permits for the initial tract map. The intent of the plan is to target populations of exotic or invasive species that threaten native species diversity.

**Response 6**

The comment addresses mollusks and lists seven classes of mollusks, but notes that some of them are marine taxa and would not occur in the Project area; the commentor states the classes of mollusks that could occur on the Project site should be "better addressed." The comment states that because a new species of mollusk (*i.e.*, *Pyrgulopsis* sp. *nova*)[1] was found in the freshwater spring in the Project area, that "there are very likely other undescribed, and very possibly rare, species of mollusks that could be directly or indirectly impacted by the proposed development." The comment also cites Hershler (1994) regarding the genus *Pyrgulopsis*, including that over 50 percent of the species in the genus are rare and very habitat specific, and that the vast majority of these *Pyrgulopsis* species are restricted to freshwater spring habitats similar to the Middle Canyon Spring in the Project area.

The list of seven classes of mollusks identified by the commentor does not, in and of itself, address the environmental analysis in the Draft EIS/EIR.

[1] This formerly undescribed snail has now been described by Hershler and Liu (2010) as new a species -- *Pyrgulopsis castaicensis* **n. sp.** Hershler, R. and Liu, H. 2010. "Two New, Possibly Threatened Species of *Pyrgulopsis* (Gastroda: Hydrobiidae) From Southwestern California." *Zootaxa* 2343:1-17.

Other undescribed spring snail species are unlikely to occur in the Project area because Middle Canyon Spring is the only known spring in the proposed Project area in proximity to proposed development (see **Subsection 4.5.5.3**, Impacts to Special-Status Species, of the Draft EIS/EIR). The Middle Canyon Spring is a unique feature of the proposed Project area, providing isolated, perennial aquatic habitat. These conditions are appropriate for localized adaptation (*i.e.*, differentiation from related species eventually leading to recognition as a distinct species) among habitat-specific species with low mobility, such as spring snails. As the comment notes, spring snails are rare and very habitat specific, and the vast majority are restricted to freshwater springs.

As discussed in **Subsection 4.5.5.3**, Impacts to Special-Status Species, of the Draft EIS/EIR, reconnaissance-level surveys were conducted in February 2009. Representative reaches of perennial drainages within the Project area were examined for the presence of aquatic mollusks. With the exception of the known population of *P. castaicensis* at Middle Canyon Spring, no spring snails were found during the February 2009 surveys.

Special-status mollusks are discussed further in **Responses 8 through 13**, below.

**Response 7**

The commentor states that only three groups of invertebrates were given any attention in the Draft EIS/EIR: butterflies, general insects, and aquatic mollusks, and that nothing was discussed about pelecypods (aquatic shellmaker mollusks such as clams, oysters, mussels, and shipworms), terrestrial mollusks, arachnids (spiders), and crustaceans (Anostraca, Isopoda, Amphipoda, or Decapoda), and many other groups of invertebrates.

In addition to the three invertebrate groups the commentor names, the Draft EIS/EIR also gives special attention to the Anostraca, or fairy shrimp. Focused surveys, in consultation with the U.S. Fish and Wildlife Service (USFWS), were conducted in the Project area for special-status fairy shrimp (vernal pool fairy shrimp, San Diego fairy shrimp, and Riverside fairy shrimp), as described in **Table 4.5-11** on page 4.5-107 of the Draft EIS/EIR (also Dudek 2008E of **Appendix 4.5**, Biological Resources, of the Draft EIS/EIR). The presence/absence surveys for special-status fairy shrimp, which were conducted by permitted biologist, were negative (Dudek 2008E). Based on these surveys, fairy shrimp are not known to occur on the proposed Project site and the Draft EIS/EIR concluded that impacts to this order of invertebrates would not be significant.

Invertebrates without special conservation status, such as pelecypods, most terrestrial mollusks, arachnids, and other crustaceans (Isopoda, Amphipoda, or Decapoda) were not individually evaluated in the Draft EIS/EIR because the proposed Project (Alternative 2) is not expected to result in any potentially significant impacts to these species. In general, NEPA and CEQA analyses must describe environmental impacts, with CEQA focusing specifically on potentially significant impacts, in sufficient detail to ensure meaningful environmental review and informed decision making. Please see **Response 3** for discussion of the methodology and range of species evaluated in the Draft EIS/EIR. Biological surveys to support CEQA and NEPA analyses usually focus on special-status species and are not intended to be exhaustive inventories of all animals that could be in the project area. The identification of special-status species is one of the analytic tools used to focus analysis in the Draft EIS/EIR on potentially significant impacts. The Draft EIS/EIR appropriately considered effects on a range of species, including consideration of potential threats, vulnerabilities, and life cycle requirements in determining and focusing analysis on

potentially significant impacts. There are no special-status species with potential to occur in the proposed Project area (as tracked in the CNDDB) among the taxa listed by the commentor. Therefore, additional biological surveys and analyses were not indicated for common taxa, such as pelecypods, spiders, or other categories of common animals, which, in the professional judgment of CDFG staff and consultants, are considered to occur widely throughout the region, and would be expected to persist in large, viable populations regionally and within the proposed Project site. Overall, data and analyses for the proposed Project covers a broad range of taxa, including focused surveys for birds, mammals (including bats), amphibians and reptiles, butterflies, fairy shrimp, fish, and freshwater mollusks conducted between 1988 and 2008. Numerous non-special-status species were documented during these surveys.

**Response 8**

The commentor states that identifying guilds to simplify the discussion of wildlife species is sometimes appropriate, but doing so can be "tricky and risky." The commentor indicates that combining the Mollusk and Fish Guilds under the Aquatic Guild (**Table 4.5-52** of the Draft EIS/EIR) excludes terrestrial mollusks even though the original Mollusk Guild "presumably" included terrestrial mollusks.

The purpose and rationale of the guild analysis, including the Mollusk and Fish Guilds, are described in **Response 3**, above. The Aquatic Guild is introduced and explained in **Subsection 4.5.4.2.4,** Impacts to Wildlife Movement and Habitat Connectivity, of the Draft EIS/EIR. In that subsection, the Draft EIS/EIR groups species whose shared life history characteristics allow for an analysis of their potential movement through aquatic habitats. Both of the native snails identified in the Project area, *Pyrgulopsis castaicensis* n. sp. and *Physa*, are aquatic species. Therefore, for the purpose of evaluating wildlife movement and habitat connectivity, it was reasonable to include these species in the more general Aquatic Guild. With the exception of movement and habitat connectivity, the Draft EIS/EIR describes and analyses the Mollusk and Fish Guilds separately.

In the judgment of qualified biologists, including CDFG staff and consultants, the proposed Project does not have the potential to have a significant effect on common terrestrial mollusks. Given that no potentially significant impacts are expected, focused surveys and related species-specific impact analyses in the Draft EIS/EIR for non-special-status terrestrial mollusks, beyond the guild approach generally, were not deemed necessary. However, in response to the comment, the Final EIS/EIR includes discussions of the terrestrial mollusks in the Guild Analysis in the discussion of common wildlife (**Subsection 4.5.5.2.3.4**, Impacts to Common Wildlife) and in the discussion of wildlife movement (**Subsection 4.5.5.2.4**, Impacts to Wildlife Movement and Habitat Connectivity) as part of the Low Mobility Guild.

**Response 9**

The comment states that neither the Aquatic Guild nor the Mollusk Guild include any *Helminthoglypta* (shoulderband snails) species, a relatively large genus of terrestrial land snails found throughout California. The comment states that shoulderband snails "certainly occur on Newhall Ranch, as this genus of terrestrial snail occurs in a number of natural habitats throughout California." The comment summarizes the numbers of known shoulderband snail taxa in California; all gastropods (snails) known from mainland Los Angeles County and Ventura County; and the number of special-status snail taxa (recognized by CNDDB) in California, citing several literature sources. The comment also notes that the

number of designated special-status mollusk taxa has increased since 2006 as a reflection of new data available.

Shoulderband snails were not addressed by name in the Mollusk Guild because the guild approach was intended to broadly summarize groups of animals without naming each one.

Because no potentially significant Project-related impacts are expected for the species, the Draft EIS/EIR does not include a species-specific analysis of Project-related impacts on special-status shoulderband snails. While common shoulderband snails were expected to occur on the proposed Project site, gastropods identified by the CNDDB as special-status were not expected to occur on site, based on the locations of other reported occurrences in the CNDDB. The most recent edition of CNDDB *Special Animals* compendium (CDFG, July 2009)[2] lists 115 mollusk taxa as special-status. Twelve of these taxa are reported from Los Angeles County or Ventura County (CDFG, July 2009). Of these 12 taxa, 10 are only known to occur on the Channel Islands and one is only known to occur in permanently submerged areas in coastal lagoons, estuaries, and salt marshes. The only special-status mollusk species known from the region is Trask shoulderband (*Helminthoglypta traskii* ssp. *traskii*, a CDFG Special Animal, CDFG, July 2009). No Trask shoulderband occurrences are reported in the CNDDB (CDFG, November 2010)[3] in or near the proposed Project site. The closest reported occurrence of a single snail is at La Jolla Canyon near Point Mugu approximately 28 miles from the Project area. However, in response to this and other comments in this letter, surveys for terrestrial mollusks were conducted over a five-day period from November 2009 to January 2010 on the Project site and surrounding area. As described above in **Response 4**, three native species of shoulderband snails were detected during the surveys, including Southern California shoulderband snail (*Helminthoglypta tudiculata* cf. *H.t. convicta*), Grapevine shoulderband snail (*Helminthoglypta uvasana*), and Vasquez rocks shoulderband snail (*Helminthoglypta vasquezi*) and it was determined that a *Helminthoglypta traskii* shell was collected in Potrero Canyon in 2005 (LEH Field Catalogue Number 373).[4] Trask shoulderband snails were not observed during the surveys; however based on the detection of the other shoulderband species and the reported occurrence of *Helminthoglypta traskii* in 2005, the Corps and CDFG conclude there is a potential for *Helminthoglypta traskii* ssp. *traskii* to occur on the proposed Project site. A detailed description of the gastropods identified during the recent surveys and the potential for special-status species to occur is discussed further in **Response 11**, below.

The comment also reviews numbers and conservation status of gastropods region-wide, and provides introductory information for **Responses 10 through 13**, addressed below. The comment that the number of special-status mollusk taxa recognized in the CNDDB has increased since 2006 does not address the analysis in the Draft EIS/EIR. Therefore, no additional response is provided.

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[2] CDFG. 2009 "Special Animals." Biogeographic Data Branch, California Natural Diversity Database. July 2009 http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf

[3] CDFG. 2009. *RareFind*. Version 3.1.0. *California Natural Diversity Database*. November 1, 2009. http://www.dfg.ca.gov/bdb/html/cnddb.html

[4] This shell was tentatively identified as *Helminthoglypta traskii* and is cataloged in the Santa Barbara Museum of Natural History

**Response 10**

The comment provides a list of native terrestrial mollusks occurring in mainland Los Angeles County. The comment notes that, of these species, only Trask shoulderband is currently tracked in the CNDDB and states that this species "almost certainly occurs on Newhall Ranch." The commentor states that most of the other taxa (highlighted in bold in the comment) qualify as rare, citing Magney (2009), although the comment indicates that the CNDDB has not added them to its list. The comment notes that there are 16 additional non-native mollusk species known from Los Angeles County.

As noted in **Response 9**, the nearest record for Trask shoulderband in relation to the proposed Project is the single reported occurrence at La Jolla Canyon near Point Mugu (CDFG 2009). Surveys of the Project area and surrounding areas conducted from November 2009 to January 2010 were negative for Trask shoulderband, but three other shoulderband species were detected: Southern California shoulderband snail, Grapevine shoulderband snail, and Vasquez rocks shoulderband snail. Because a shell found in Potrero Canyon in 2005 was tentatively identified as *Helminthoglypta traskii*, and because other shoulderband species shells were found in recent surveys, the Corps and CDFG conclude that Trask shoulderband ssp. *traskii* has the potential to occur on the Project site. There are several subspecies of Trask shoulderband (*Helminthoglypta traskii)*; only the *traskii* subspecies is considered a special status species.

The comment states that "most of the other mainland taxa certainly qualify as rare and should be considered as such (Magney 2009), regardless of the fact that the CNDDB has not yet added them to their list." However, the lead agencies appropriately defined special-status species to include species, which meet the CEQA definition of endangered, rare, or threatened even if not formally listed under the state or federal Endangered Species Acts, as well as all other species of expressed concern to resource agencies. (Draft EIS/EIR, **Subsection 4.5.3.4.6** (wildlife), Cal. Code Regs. tit. 14 § 15380, subds. (b),(d).) CDFG also considers local endemism and vulnerability to extirpation to be among the criteria used to identify "Special Animals" having the greatest need of protection (CDFG, July 2009). In determining which species should be considered special-status species and evaluated individually in the Draft EIS/EIR, the lead agencies relied on information compiled from literature review and field study observations, (see **Subsection 4.5.3.1**, Literature Review, of the Draft EIS/EIR), augmented by the professional judgment of qualified biologists and staff.

With the exception of the Trask shoulderband subspecies, the mollusks listed by the commentor are not special-status species as defined in the Draft EIS/EIR, and are not considered endangered, rare or threatened as those terms are defined under CEQA. (Draft EIS/EIR, **Subsection 4.5.3.4.6**, p. 4.5-228, Cal. Code Reg. tit. 14, § 15380, subds. (b),(d).) However, impacts to common species, including mollusks, were also evaluated in the Draft EIS/EIR. See **Responses 3**, **4**, and **8**.

For the purposes of the analysis presented in this subsection, special-status wildlife species are defined as species that:

- Have been designated as either rare, threatened, or endangered by CDFG or the USFWS and are protected under either the California Endangered Species Act (CESA) (Fish & G. Code, §§ 2050 *et seq.*) or federal Endangered Species Act (ESA) (16 U.S.C. §§ 1531 *et seq.*); or meet the CEQA definition for endangered, rare, or threatened (Cal Code Reg., tit. 14, § 15380, subds. (b), (d));

- Are candidate species being considered or proposed for listing under these same acts;
- Are fully protected by the Fish & Game Code sections 3511, 4700, 5050, or 5515; or
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes those wildlife that are considered state Species of Special Concern; are on CDFG Watch List; are designated as a federal Bird of Conservation Concern; or considered a state Special Animal; or
- Are wildlife that the California Natural Diversity Database (CNDDB) is interested in tracking.

The comment about the number of non-native mollusk species in Los Angeles County does not address the analysis in the Draft EIS/EIR; therefore, no additional response is provided.

**Response 11**

The comment states that the discovery of the new species of *Pyrgulopsis* on site, and the commentor's assertion that at least one species of *Helminthoglypta* or another species of terrestrial snail "almost certainly occurs on Newhall Ranch," indicates that surveys for Gastropod species should have been conducted. The comment asserts that 16 terrestrial mollusk species are "rare" and have potential to occur on the site.

In response to the concerns expressed in this comment letter, the permit applicant undertook additional surveys for terrestrial mollusks from November 2009 to January 2010. (See **Responses 4, 9** and **10**, above.) A complete description of the surveys, methods, and conclusions of the gastropod surveys is included in revised **Section 4.5**, Biological Resources, of the Final EIS/EIR. For purposes of responding to the commentor's questions, a concise summary of the surveys is included below.

Surveys for terrestrial gastropods were conducted in portions of the proposed RMDP development area, the Salt Creek area, High Country SMA, and River Corridor SMA. Survey methods included control sites that consisted of suitable habitat in areas not proposed for development or intended as mitigation lands in both Los Angeles County and Ventura County. These surveys were conducted over a five-day period from November 2009 to January 2010 by a biologist familiar with the ecology of shoulderband snails. Surveys for terrestrial gastropods where conducted in a broad array of habitat types, including, but not limited to, California annual grassland, coastal scrub, riparian woodland, riparian scrub, big sagebrush scrub, mulefat scrub, oak woodland, and chaparral. Surveys focused on suitable microhabitats within these communities where these species had the potential to occur. Suitable microhabitats included, but were not limited to, brush and debris piles, rock piles, isolated rocks, leaf litter, logs, trash/debris piles and other unique features that may provide soil moisture or refugia. These areas were searched by raking through leaf and stick litter, visually inspecting cracks and crevices, and turning over objects, such as logs and rocks. Specimens were tentatively identified in the field, and then sent to Dr. Barry Roth, a *Helminthoglypta* snail expert located at the California Academy of Science in San Francisco, California, for positive identification.

Three native species of shoulderband snails were detected during the surveys, including Southern California shoulderband snail (*Helminthoglypta tudiculata* cf. *H.t. convicta*), Vasquez rocks shoulderband snail (*Helminthoglypta vasquezi*), and Grapevine shoulderband snail (*Helminthoglypta uvasana*). The first two of these were also found on the Project site. These snails were detected in a variety of habitat

types including California annual grassland, coastal scrub, and in riparian areas. All the snails were found in association with their expected microclimates (*i.e.*, under rocks, in leaf litter, woody debris piles, under the decaying bases of yucca bushes, and similar moist environments).

Southern California shoulderband snail was found at several locations on and around the proposed RMDP area (see discussion in revised **Section 4.5** of the Final EIS/EIR). These areas included the Santa Clara River floodplain at the mouth of Potrero Canyon, the mouth of Ayers Canyon, the Middle Canyon area and the lower San Martinez Grande Canyon. This species was also detected near the confluence of Piru Creek and the Santa Clara River, approximately 4.8 miles downstream of the proposed Project. The Southern California shoulderband snail range widely through coastal southern California and northwestern Baja California, and the snails collected at these localities were preliminarily identified as the subspecies, *H.t. convicta*. However based on morphological variations of the shells, these specimens did not exactly match other *H.t. convicta* specimens in reference collections. It is, therefore, possible that these specimens represent a new species of shoulderband snail; however, additional study of live specimens would be required to determine the taxonomic relevance of these differences (B. Roth, pers. comm. 2010).

Vasquez rocks shoulderband snail was detected at several locations on the proposed RMDP Project area and proposed mitigation sites, including the upper Potrero Canyon area; lower and upper portions of Salt Creek; the east fork of Salt Creek; the Santa Clara River floodplain at the mouth of Potrero Canyon, the mouth of Middle Canyon; portions of upper Middle Canyon and the Magic Mountain Canyon watershed. This species was also detected at several locations outside the Project area, including Hasley Canyon two miles upstream of the Newhall Ranch, Castaic Creek approximately 12 miles northwest of Newhall Ranch, and the Castaic Junction area, less than one mile northwest of the project area. This species was previously known only from the type locality at Vasquez Rocks County Park near Agua Dulce in Los Angeles County. The shells collected in this study also differ in several morphological characteristics from the type series, but additional study would be required to determine the taxonomic relevance of these differences (B. Roth, pers. comm.). This detection extends the known range of this species at least 25 miles west of the type locality and greatly expands the known distribution of the species.

Grapevine shoulderband snail was not detected on the RMDP Project area, but was located in the Piru Creek floodplain near the confluence with the Santa Clara River west of Santa Paula. This species was previously known only from the type locality near Fort Tejon State Historical Park in Kern County. This detection extends the known range of this species at least 42 miles southwest of the type locality and greatly expands the known distribution of the species. Based on these new occurrences, this species is expected to also occur on Newhall Ranch.

The surveys also found other native and non-native snails, including the introduced garden snail (*Helix aspersa*), decollate snails (*Rumina decollate*) an introduced predatory gastropod sold in local garden stores, and an aquatic snail belonging to the Family Succineidae a native, cosmopolitan family not considered rare in California by the CDFG.

The ecology of terrestrial land snails, including shoulderband snails in most of Southern California, is very poorly understood. This may be in part because the species are highly cryptic, extensive surveys for these groups have not been systematically conducted, and, with the exception of a few species, are not considered sensitive by CDFG or USFWS. Based on the findings of the surveys conducted in response to this and other comments, field survey data and preliminary identification of specimens suggests that at

least three or more species of shoulderband snail may occur in the proposed Project development area and proposed mitigation lands, including the River Corridor SMA, High Country SMA, and Salt Creek area. In addition, the data suggest that the known or expected distribution of these shoulderband species appears to be much wider than previously thought. For example, Vasquez Rocks shoulderband and Grapevine shoulderband snails were previously known from much more restricted ranges, but were both located in the proposed Project development area, proposed mitigation areas, or areas near the Project area. These occurrences represent range extensions for these two species of 25 and 42 miles, respectively. This suggests that some species of shoulderband snails do not appear to be restricted to discrete locations. Conversely, a review of literature indicates that Trask shoulderband snail occurs across most of southern California and northern Baja California Mexico in areas supporting coastal scrub and chaparral communities. However, this species was not observed during the surveys. Nonetheless based on the information provided by the surveys, and because a Trask shoulderband shell (*Helminthoglypta traskii*) was found in Potrero Canyon in 2005, it is reasonable to conclude that other helminthoglyptid taxa, including the special-status Trask shoulderband snail, have the potential to occur on Newhall Ranch.

If special status Trask shoulderband snails (subspecies *traskii*) are present in the Project area, construction of the proposed Project (Alternative 2) or Alternatives 3 through 7 could result in loss of individual snails through mechanical disturbance or alteration of habitat during vegetation clearing and/or grading. If present on site, construction of the proposed Project or Alternatives would also result in the loss of microhabitat occupied by the special status Trask shoulderband snail subspecies, as well as short-term and secondary effects. Short-term construction-related effect could include exposure to construction-related dust and ground vibration that could inhibit the species from using suitable habitat for refugia, foraging, and reproduction. Potential long-term secondary effects this species may occur, including habitat fragmentation; off-road vehicles; cattle grazing; altered wildfire regimes; invasive plant species; increased human activity; Argentine ants; other introduced non-native snails such as decollate snails; increased activity by pet, stray, and feral cats and dogs, and pesticides.

These impacts, should they occur, would be considered significant absent mitigation. A variety of mitigations measures identified in the Draft EIS/EIR would reduce these impacts to less-than-significant levels. The key mitigation measures relate to the dedication of the River Corridor SMA, High Country SMA, and Salt Creek area (Mitigation Measures SP-4.6-23, SP-4.6-37, and BIO-19, respectively). These mitigation lands total 6,300 acres and provide good quality habitat that could support special status Trask shoulderband (ssp. *traskii*) snails, if present, and would be preserved and managed in perpetuity. These areas contain a suite of topographical features including rocky outcrops, canyons, and drainages; all features where helminthoglyptid species have been documented in the literature. In addition, these areas support a variety of vegetation communities and provide large areas of open space that would allow for gene flow between watersheds or populations. Additional mitigation measures that would reduce impacts to Trask shoulderband to less than significant include SP-4.6-1 through SP-4.6-42, SP-4.6-53, SP-4.6-59, SP-4.6-63, BIO-1 through BIO-16, BIO-19 through BIO-21, BIO-52, BIO-63, BIO-64, BIO-69, BIO-73, and BIO-87.

Gastropods identified by the CNDDB (CDFG, July 2009) as sensitive or considered sensitive by the criteria identified for the Draft EIS/EIR, were not detected on the proposed Project site. However, the results of the surveys and potential impacts to special-status gastropods, including Trask shoulderband (ssp. *traskii*) snail, have been added to the Final EIS/EIR and included for analysis of impacts.

Please see **Response 10** for discussion of special-status species as defined and evaluated in the Draft EIS/EIR.

**Response 12**

The comment states that *Helminthoglypta traskii* ssp. *traskii* has been collected from nearby sites in Ventura County, such as near Santa Paula and the Santa Rosa Valley, and that *Helminthoglypta tudiculata convicta* has been collected from Bardsdale (near Fillmore) along the Santa Clara River, citing the Santa Barbara Museum of Natural History (SBMNH 2009). The comment suggests that these two species have a high potential to occur on Newhall Ranch and that they should have been analyzed in the Draft EIS/EIR.

In response to the concerns expressed in this comment letter, the permit applicant undertook additional surveys for terrestrial mollusks from November 2009 to January 2010 on the Project site and surrounding areas. Three native species of shoulderband snails were detected during the surveys, including Southern California shoulderband snail, Grapevine shoulderband snail, and Vasquez rocks shoulderband snail. Please see **Response 11**, above for a description of the findings of the surveys. Although the special-status Trask shoulderband snail was not detected, based on the results of the surveys, including the detection of others shoulderband species, the species may occur on the Project site. Therefore this subspecies is analyzed in the Final EIS/EIR. If present, impacts to this subspecies would be considered significant absent mitigation. However, implementation of mitigation measures that require the dedication of the River Corridor SMA, High Country SMA, and Salt Creek area (Mitigation measures SP-4.6-23, SP-4.6-37, and BIO-19, respectively), would reduce these impacts to less-than-significant levels. Because Southern California shoulderband snail does not meet the criteria for a special-status species as defined, and because no potentially significant Project-related impacts to the species are expected, the Draft EIS/EIR does not include a species-specific impacts analysis for the species; however, this and other shoulderband snails are addressed in detail in the Final EIS/EIR in response to the commentor as part of the Mollusk Guild. Also see **Response 10**, above.

**Response 13**

The comment states that because one or more species of rare terrestrial mollusks may occur on Newhall Ranch, focused surveys should have been part of the assessment. The comment asserts that the Draft EIS/EIR is inadequate because it failed to assess Project-related impacts to special-status mollusks that have potential to occur on site.

The EIS/EIR is adequate and provides decision makers with sufficient information to take intelligent account of environmental consequences of the proposed Project and project alternatives. Terrestrial mollusks are addressed in **Responses 8 through 12**, above. As discussed in **Responses 9** and **12**, special-status shoulderband snails were not expected to occur on the proposed Project site. However, in response to the concerns expressed in this comment letter, the permit applicant undertook additional surveys for terrestrial mollusks. The survey methodology was adequate to evaluate the potential presence of shoulderband snails in the Project area, including the special-status Trask shoulderband snail. The results of those field surveys are described in **Response 11**, above, and any related Project impacts would be less than significant with mitigation.

**Response 14**

The comment defines special-status habitats and reviews several definitions of special-status species, and uses tables to present the commentor's definition.

The commentor's definition of "special status habitat" appears to generally correspond to special-status vegetation communities. These communities were identified using the CNDDB ranking system, which takes into account rarity and threat, and provides a consistent manner to identify rare and declining vegetation communities (Draft EIS/EIR, p. 4.5-210).

The comment includes several tables. The commentor's Table 1 summarizes the commentor's recommended definitions of special-status species. The commentor's Tables 2 and 3 summarize the California Native Plant Society's state-wide criteria for ranking special-status plants according to threats and rarity. The commentor's Table 4 summarizes the CNDDB (the Natural Heritage Program of CDFG) ranking system for special-status plants and animals.

The comment also notes that the Channel Islands Chapter of CNPS has developed lists of Species of Local Concern for Ventura County, Santa Barbara County, and the Liebre Mountains region (Los Angeles County). The comment states that the Liebre Mountains region includes the Santa Clarita Valley and at least part of the Newhall Ranch property. The commentor defines locally rare plants in Ventura County as those plants known from five or fewer occurrences in the County, and uncommon species as those known from 6-10 occurrences. The Channel Islands CNPS chapter uses the same criteria to define locally rare plants in the Liebre Mountains.

The CNPS Channel Islands Chapter's lists of Species of Local Concern named in the comment address geographic localities largely outside the proposed Project area. The eastern margin of the proposed Project area appears to overlap the southwest corner of the Liebre Mountains study area, as defined by Boyd.[5] However, all proposed ground-disturbing Project-related activities would occur west of Interstate 5 (I-5) in the Santa Clara River Valley, surrounded by the Topatopa Mountains and Santa Susana Mountains, in Los Angeles County. None of these activities would occur in Ventura County or Santa Barbara County. The Liebre Mountains study area,[6] is within the Sierra Pelona Range, and is a roughly triangular area bounded by Soledad Canyon on the south, Peace Valley and Pyramid Lake on the west, and the Antelope Valley (western Mojave Desert) floor on the northeast. The Liebre Mountains study area is mapped by Boyd.[7] It includes part of the eastern margin of the proposed Project area.

The commentor's assertion that plants known from five or fewer occurrences within a geographic region are "locally rare" and those known from 6-10 occurrences are "uncommon" is not supported by analysis or rationale, appears to be arbitrary, and results in an unreasonable number of purportedly rare species in a given geographic area. The commentor's criteria are also inconsistent with the state-wide CNPS Rare Plant Program, which ranks species according to rarity and threat by a rigorous review process. The Rare

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5 Boyd, S. 1999. "Vascular flora of the Liebre Mountains, Western Transverse Ranges, California." *Aliso 18*:93-139. Reprinted as Occasional Publication No. 5. Claremont, California: Rancho Santa Ana Botanical Garden.

6 *Ibid.*

7 *Ibid.*, Fig. 1, p. 94.

Plant Botanist at CNPS evaluates available information and prepares a written recommendation, which is, in turn, reviewed and evaluated by a statewide network of other botanists (California Native Plant Society Rare Plant Program, http://cnps.org/cnps/rareplants/, site visited 6 Feb 2010).

Known occurrences of plants, rare or common, are largely based on physical specimens and associated location data, which are stored in herbarium collections, usually in museums or universities, for academic study. The number of specimens may reflect, in part, a species' abundance or distribution, but the number of specimens also reflects whether the species is conspicuous, attractive, accessible to collectors, or economically useful. Evaluating local rarity on the basis of known occurrences alone is generally inappropriate, and tends to overestimate the number of purportedly rare plant species. A paucity of known occurrences does not necessarily reflect rarity. Instead, it may reflect an inconspicuous appearance, a flowering period that is short or occurs during a season when few botanists do field work, or occurrences largely in inaccessible locations or habitats.

Further, it is inappropriate to apply the same numeric criteria to different geographic regions of varying extent. The commentor's recommended criteria would inappropriately equate, for example, Santa Barbara County (more than 2,700 square miles) and the Liebre Mountains study area (613 square miles).[8]

The commentor's criteria for special-status species, except as discussed above, are otherwise similar to the definition used in the Draft EIS/EIR. Special-status species were appropriately defined in the Draft EIS/EIR to include all special-status plant and wildlife species and habitat types on and in the vicinity of the Project site. (See **Subsection 4.5.3.4.5**, Special-status Plants, and **Subsection 4.5.3.2.6**, Special-status Wildlife). See **Response 10** for additional discussion of special-status species determinations. The commentor's proposed inclusion of species considered rare by private societies such as Audubon, the Wildlife Society, and local CNPS chapters in the definition of special-status species identified in the Draft EIS/EIR is not necessary or appropriate in the lead agencies' opinion in the present case.

Appendix G of the CEQA Guidelines, cited in commentor's Table 1, is a checklist commonly adopted by lead agencies to review potential environmental impacts; Appendix G includes six questions related to potential impacts to biological resources. There is no reference or guideline to identify "the scientific community," as stated by the commentor. However, as discussed in **Response 10**, the lead agencies' process for identifying special-status species included appropriate consultation with qualified biologists. Nor does Appendix G refer to "natural range limits" for plants. However, significance criterion number 7 considered whether the Project would substantially reduce or restrict the range of special-status species.

Special-status species are defined in **Subsections 4.5.3.4.5** (page 4.5-215) and **4.5.3.4.6** (page 4.5-228) of the Draft EIS/EIR to include, among other criteria, all plant or animal species "of expressed concern to resource/regulatory agencies or local jurisdictions"; all plant species listed in the CNPS Inventory; and all wildlife species that are considered a state Species of Special Concern, are on CDFG Watch List, are designated as a federal Bird of Conservation Concern, or considered a state Special Animal, or that the CNDDB is interested in tracking. The Draft EIS/EIR's identification of special-status species is sufficiently broad to ensure that impacts are fully evaluated.

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8 *Ibid.*

**Response 15**

The commentor notes that the list of plant species found on the Newhall Ranch site is located in Appendix B of Appendix F to the Biological Resources section of the Draft EIS/EIR, and that main text of the Draft EIS/EIR lists 15 special-status plant species (including two undescribed species) occurring on the site. The commentor asserts that the EIS/EIR does not adequately assess impacts to special-status plant species, particularly species which the commentor believes are "locally rare" in the region or in Los Angeles County.

Multiple focused surveys for special-status plant species were conducted from 2001 through 2007. These surveys are described in **Subsection 4.5.3.2.2** (Draft EIS/EIR, pp. 4.5-114 - 4.5-121). All plant species noted on the site during botanical field surveys listed in the Survey Methods subsection of the Draft EIS/EIR (**Subsection 4.5.3.2**, beginning on p. 4.5-114) were recorded in field notes, and these notes were compiled into a species list, including scientific and common names of each species, in **Appendix 4.5** of the Draft EIS/EIR, Dudek 2007F, Appendix B. This information is voluminous and technical, and is appropriately included in an appendix. This approach is consistent with CEQA:

> ". . . Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. . . ."( Cal. Code Reg., tit. 15,§ 15147.)

Information presented in the main body of the Draft EIS/EIR provides decision makers with sufficient information and analysis, based on this material, to take intelligent account of environmental consequences. **Subsection 4.5.3.3**, Vegetation Communities and Land Covers, of the Draft EIS/EIR discusses vegetation communities found in each planning area of the proposed Project site, including typical species found in such communities (Draft EIS/EIR pp. 4.5-133 to 4.5144). The impact analysis addresses each special-status plant.

The comment asserting that the EIS/EIR does not adequately assess impacts to special-status plant species, particularly species the commentor believes are "locally rare," is an introduction to remarks that follow, addressed in **Responses 16 through 18** and **Responses 24 through 26**, below.

**Response 16**

The commentor notes that most special-status plant species locations were mapped but that CNPS List 4 species locations were not mapped. The commentor quotes several paragraphs from the Draft EIS/EIR in support of this point, asserts that CNPS List 4 species should have been mapped during field surveys, and that CNPS List 4 species should be treated equally with other special-status species pursuant to CEQA. The commentor asserts that "other species without CNPS 'listing' are mapped in the EIS/EIR," however, the commentor does not provide an example to address.

Oak trees were mapped in compliance with the County of Los Angeles Oak Tree Ordinance.

CNPS defines List 4 to include "plants of limited distribution (a watch list)" (*http://cnps.org/cnps/rareplants/ranking.php*, site visited 30 Dec 2009). The CNPS website further clarifies the purpose of List 4 as follows:

> "The plants in this category are of limited distribution or infrequent throughout a broader area in California, and their vulnerability or susceptibility to threat appears relatively low at this time. While we cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a List 4 plant change, we will transfer it to a more appropriate list.
>
> "Very few of the plants constituting List 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and we strongly recommend that List 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA."

The impact analyses for List 4 species appropriately account for impacts to these species by taking into consideration the lower conservation status and threat levels to determine whether impacts to List 4 species would occur under the impact significance criteria. Impact significance criteria are found in **Subsection 4.5.1.1.4** (Draft EIS/EIR pp. 4.5-6 to 4.5-7). As a general matter, because these species are less rare and less threatened than, for example, List 2 species, such species are less likely to be significantly impacted. Impact analyses addressed such species individually, using the same significance criteria as for all other special-status species. However, different and appropriate analytic tools were used to provide decision-makers with relevant, sufficient information to intelligently account for the proposed Project's environmental consequences to List 4 species. As described in **Subsection 4.5.5.2.3.5**, Impacts to Special-Status Plants, of the Draft EIS/EIR, on pages 4.5-551 and 4.5-552, impacts to List 4 plants are calculated based on acreage of suitable habitat to be impacted within the proposed Project area.

**Response 17**

The commentor quotes the Draft EIS/EIR's explanation of Parish's sagebrush (*Artemisia tridentata* ssp. *Parishii*) conservation status (*i.e.*, it is considered special status by the County of Los Angeles and local botanists, but it has no federal, state, or CNPS status). The commentor notes that Parish's sagebrush is ranked as a locally rare species by the Channel Islands CNPS Chapter, contrary to the Draft EIS/EIR statement that it has no CNPS status. The commentor commends the Draft EIS/EIR for its inclusion of Parish's sagebrush as a special-status species.

For clarification, Parish's sagebrush has no conservation status under the CNPS Rare Plant Program at the state level, as indicated by the CNPS Online Inventory (http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi). Please note that all references to CNPS throughout the Draft EIS/EIR refer to the Rare Plant Program at the state level, and not to individual CNPS chapters. Parish's sagebrush was included and evaluated as a special-status species because the County of Los Angeles (County of Los Angeles 2003A) has expressed concern for this species.

**Response 18**

The commentor quotes text from the Draft EIS/EIR evaluating proposed Project impacts to Parish's sagebrush as an example of a locally rare species treated and analyzed as a special-status species. The

commentor recommends that the same level of analysis should be applied to all species with similar regional rarity considerations.

Parish's sagebrush is addressed in the Draft EIS/EIR as a special-status plant species due to the County of Los Angeles' consideration of this species as special status in the Newhall Ranch Specific Plan EIR (County of Los Angeles 2003A). This county-level conservation concern meets the definition of special-status species adopted in the Draft EIS/EIR, as a species "of expressed concern to resource/regulatory agencies or local jurisdictions." In addition, significance criteria also require consideration of whether the proposed Project would comply with local policies designed to protect biological resources. These criteria and definitions are also discussed in **Responses 14** and **16**, above; they can be found in the Draft EIS/EIR sections cited in those responses.

**Response 19**

The comment quotes from pages 4.5-1910 and 4.5-1911 of the Draft EIS/EIR regarding direct, indirect, and secondary impacts of the proposed Project to slender mariposa lily (*Calochortus clavatus* var. *gracilis*) and the Conservation Biology Institute study cited in the Draft EIS/EIR regarding secondary impacts. The comment indicates that the study was not included in the Appendices to the Draft EIS/EIR and that later comments in the letter address this point further.

The portion of the comment regarding impacts to slender mariposa lily is an introduction to **Responses 20 through 23**, addressed below. The Conservation Biology Institute report is discussed in **Response 62**, below.

**Response 20**

The comment paraphrases from the Draft EIS/EIR regarding locations of slender mariposa lily within 300 feet of proposed new development, as proposed under Alternative 2. The commentor believes that these plants would be affected by edge effects of proposed development. The comment discusses the Revised Draft Slender Mariposa Lily Mitigation and Monitoring Plan (Dudek 2007) regarding relocation of slender mariposa lily bulbs. The commentor states that the percentage of the existing slender mariposa lilies in High Country SMA and Salt Creek area within 300 feet of proposed new development is not reported, but would be important for slender mariposa lilies relocated in that area.

Less than 1 percent of the cumulative slender mariposa lily occupied area within the High Country SMA and Salt Creek area is within 300 feet of proposed development under Alternatives 2 through 7. **Subsection 4.5.5.3** of the Draft EIS/EIR, on page 4.5-1916, describes secondary impacts (*i.e.*, edge effects) and identifies mitigation measures that would reduce these impacts to a level that is less than significant.

Secondary impacts, or edge effects, could occur during construction phases of the proposed Project or later, upon completion and occupancy of proposed new development. Potential secondary impacts during construction are analyzed in the Draft EIS/EIR as "short term secondary impacts." Mitigation Measures (SP-4.6-32 through SP-4.6-35, SP-4.6-44, and SP-4.6-45; BIO-49, BIO-52, BIO-70, BIO-71, and BIO-72) would require numerous measures to avoid or minimize these impacts, such as providing guidelines for grading and construction activities; requiring biological monitoring during grading and construction activities; and controlling erosion and dust.

Potential secondary impacts during occupancy of the proposed new development are addressed as "long-term secondary impacts" in the Draft EIS/EIR, **Subsection 4.5.5.1**). These impacts could include introduction of non-native, invasive plant species; hydrologic alterations and water quality impacts; increased human activity, trampling, and soil compaction; and increased risk of fire. Mitigation Measures (SP-4.6-27, SP-4.6-29 through SP-4.6-33, SP-4.6-36 through SP-4.6-42, SP-4.6-49, and SP-4.6-55 through SP-4.6-58; BIO-19 through BIO-21, BIO-40, BIO-63, and BIO-69) would require numerous measures to avoid or minimize these impacts by restricting access to, grazing within, and recreational usage of the High Country SMA; providing for transition areas along the High Country SMA; providing drainage guidelines; requiring conformance with National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) permit provisions; requiring the implementation of a wildfire fuel modification plan; placing restrictions on domestic animals in proximity to open space areas; by providing trail signage and homeowner education; and placing restrictions on plant palettes proposed for use on landscaped slopes.

The mitigation strategy for project impacts to slender mariposa lilies is described in **Subsection 4.5.5.3**, starting on page 4.5-1915 of the Draft EIS/EIR and in mitigation measure BIO-40. Slender mariposa lilies would not be relocated in the area described by the commentor, within 300 feet of proposed new development. The proposed mitigation of impacts to slender mariposa lily is described further in **Responses 21 through 23**, below.

**Response 21**

The comment cites the Draft EIS/EIR's conclusion that impacts to slender mariposa lily, with implementation of mitigation as identified in the document, would be adverse but not significant for all alternatives analyzed. The commentor believes that implementing the Draft Slender Mariposa Lily Mitigation and Monitoring Plan (see Dudek 2007I in **Appendix 4.5** of the Draft EIS/EIR) would be insufficient to mitigate the impacts below a level of significance.

The comment quotes from the Draft Slender Mariposa Lily Mitigation and Monitoring Plan and the Newhall Ranch Resource Management and Development Plan (Dudek 2008), that these impacts would be mitigated by replacing slender mariposa lily plants at a 1:1 ratio *and/or* [emphasis added] by enhancing and protecting existing populations. The comment quotes from the Draft Slender Mariposa Lily Mitigation and Monitoring Plan regarding prior work with mariposa lily salvage and transplantation. The comment indicates that, despite good results to date, long-term success is still unknown, and a 1:1 ratio may not be attainable. The comment expresses similar concerns regarding seeding.

The mitigation strategy and specific requirements as identified in the Draft EIS/EIR are feasible and would mitigate Project impacts to slender mariposa lily to a level less than significant. The Draft EIS/EIR (**Subsection 4.5.5.3**, page 4.5-1916) and Draft RMDP (Subsection 7.1.2.2, pages 202 and 203) identify a strategy to mitigate impacts to slender mariposa lily by: (1) protecting a minimum of 133 acres of slender mariposa lily cumulative occupied area (*i.e.*, existing populations) in the High Country SMA, Salt Creek area, and San Martinez Grande area; and (2) the restoration and enhancement of slender mariposa lily habitat at a ratio of 1:1. The mitigation would not require slender mariposa lily plants to be replaced at a ratio of 1:1.

Mitigation Measure BIO-40 describes habitat improvement or restoration measures to be completed in these areas prior to introducing slender mariposa lily, to be based on native occupied slender mariposa lily

habitat. Upon completion of enhancement or restoration, slender mariposa lily propagules (seed or bulbs) would be introduced onto the restoration site. Mitigation Measure BIO-40 also describes sources of slender mariposa lily propagules and monitoring of the reintroduction sites. In conformance with Mitigation Measure BIO-40, the Draft Slender Mariposa Lily Mitigation and Monitoring Plan would be revised and submitted to CDFG for review and approval, prior to implementation.

**Response 22**

The comment states there are multiple problems with the preserve designs and monitoring standards in areas proposed for slender mariposa lily conservation within the RMDP and SCP Project boundaries, so that the preserves would not ensure the long-term persistence of slender mariposa lily.

The mitigation strategy and specific requirements as identified in the Draft EIS/EIR, and described above in **Response 21**, would (1) protect a minimum of 133 acres of slender mariposa lily cumulative occupied area; and (2) restore and enhance slender mariposa lily habitat at a ratio of 1:1. Preserve areas and special management areas where slender mariposa lily occurrences would be protected were designed to minimize adverse impacts of adjacent land uses; and to monitor potential adverse effects and implement management actions in response to those effects as appropriate. In addition to setting aside preserve areas and special management areas, management and monitoring of the open space preserve areas, including areas where slender mariposa lily would be protected, would protect the populations and reduce Project impacts to less than significant.

This comment expresses a general concern with preserve design and monitoring and does not identify a specific deficiency regarding these topics. The commentor provides more extensive comments regarding preserve designs or monitoring standards in other comments. Comments regarding proposed preserve design and monitoring of the Salt Creek, High Country, and River Corridor SMAs are discussed in **Responses 34 through 39**. Comments regarding proposed San Fernando Valley spineflower (spineflower) preserve design, monitoring, and management are discussed in **Responses 48 through 109**.

**Response 23**

The comment states that only a small portion of the slender mariposa lily habitat in the Entrada planning area would be conserved within the proposed Entrada spineflower preserve, and that slender mariposa lily habitat within San Martinez Grande Canyon would be conserved. The commentor believes that the two sites are too far apart to effectively "ensure biological diversity of the species" (quoted from the Draft Slender Mariposa Lily Mitigation and Monitoring Plan).

Under the proposed project (Alternative 2, as analyzed in the Draft EIS/EIR), slender mariposa lily occurrences would be conserved in open space areas, such as north of Airport Mesa, west of VCC planning area, the Grapevine Mesa spineflower preserve, south of Potrero Canyon, Sawtooth Ridge, Salt Creek Canyon, and Ayers Rock, in addition to the Entrada and San Martinez Grande Canyon areas mentioned by the commentor (see **Figure 4.5-19** in the Draft EIS/EIR). These occurrences represent the range of geographic and elevational variation of known slender mariposa lily occurrences throughout the proposed Project area. Thus, the proposed Project, including implementation of Mitigation Measure BIO-40, would adequately conserve biological diversity of the species by conserving local populations of slender mariposa lily throughout the area, as intended by the quoted language in the Draft Slender Mariposa Lily Mitigation and Monitoring Plan.

**Response 24**

The comment asserts that the Draft EIS/EIR does not adequately consider or assess potential Project impacts to plant taxa referred to by the commentor as "locally rare plant species." The comment first states that, "a large number of vascular plants were not fully identified to subspecies or variety," and asserts that identification to the subspecies or variety level is necessary to determine whether a given taxon should be considered rare in the proposed Project's CEQA analysis. As discussed above in **Response 7**, the identification of special-status species is one of the analytic tools used to focus analysis in the Draft EIS/EIR on potentially significant impacts. These species appear in **Appendix 4.5** of the Draft EIS/EIR (see Appendix B of Dudek 2007F). Second, the comment states that the Draft EIS/EIR does not address species that, in the commentor's view, are rare, either regionally or within Los Angeles County. The commentor further asserts that other species reported in the same Appendix should have been addressed as "significant resources" in the Draft EIS/EIR. The comment lists 50 species and six genera that were not identified to lower taxonomic level (species, subspecies, or variety).

This response addresses the commentor's first point, that 50 species and six genera found on the proposed Project site were not identified to lower taxonomic level (species, subspecies, or variety). The second point, regarding the commentor's views of regionally rare species is addressed below, in **Responses 26** and **27**.

CDFG Botanical Survey guidelines (2000) recommend that "every plant observed be identified to the extent necessary to determine its rarity and listing status." Under these guidelines, identification to the level of genus or species is appropriate when there is no rare species, subspecies, or variety potentially occurring in the project area, within the genus or species as identified. Conformance with these CDFG guidelines provides a full accounting of special conservation status of all plants encountered during a botanical field survey and is therefore appropriate for the analysis presented in the Draft EIS/EIR. Any plant encountered during the survey would be identified to species, subspecies, or variety, as needed, to determine its conservation status (if any).

For example, the commentor notes that *Spergularia* sp. is in the Project species list and asks, "which species." There are eleven *Spergularia* ("sand-spurrey") species and varieties reported from California (Hickman 1993; University and Jepson Herbaria 2009). One of the varieties, *S. canadensis* var. *occidentalis* ("western sand-spurrey") is a special-status plant known in California only from coastal salt marsh habitat in Humboldt County (CNPS 2009), hundreds of miles north of the proposed Project site. There is no potential for western sand-spurrey to occur at the Newhall Ranch site due to its habitat and geographic range. None of the other California sand-spurrey taxa have special-status rankings with the CDFG, USFWS, State CNPS Rare Plant Program, or Los Angeles County. Thus, sand-spurrey on the Project site was identified to genus and, in conformance with the CDFG guidelines, "to the extent necessary to determine its rarity and listing status." Identification to the generic level, *Spergularia* sp., is consistent with CDFG guidelines, and appropriate for the Draft EIS/EIR.

Thirty of the 50 species and six genera named by the commentor have no recognized species, subspecies, or varieties with special-status rankings with the CDFG, USFWS, State CNPS Rare Plant Program, or Los Angeles County and, therefore, do not meet criteria as special-status species as defined in the Draft EIS/EIR). Identification to the generic or species level in **Appendix 4.5** of the Draft EIS/EIR, Dudek 2007F, Appendix B, is consistent with CDFG guidelines, and appropriate for CEQA and NEPA analysis. For example, *Astragalus trichopodus* has three recognized subspecific taxa in California, but none are

designated or ranked as rare species by the state-wide CNPS Rare Plant Program (CNPS 2010) or by resource agencies, including CDFG. Therefore, none would meet criteria as special-status species as defined in the Draft EIS/EIR.

Nineteen of the 50 species and six genera do have recognized species, subspecies, or varieties with special-status rankings according to one or more of the criteria adopted for the Draft EIS/EIR, but none of these special-status taxa occur in or near the proposed Project site's geographic region. Identification to the generic or species level in **Appendix 4.5** of the Draft EIS/EIR (see Appendix B of Dudek 2007F) is consistent with CDFG guidelines, and appropriate for CEQA and NEPA analysis. Sand spurrey (*Spergularia* sp.), described above, is an example.

Three species or genera included in the commentor's list (*Lupinus excubitus*, *Orobanche* sp., and *Juncus* sp.)[9] include special-status species, subspecies, or varieties (according to one or more of the criteria adopted for the Draft EIS/EIR) occurring in the proposed Project site's general geographic region, but known only from much higher elevations. Elevational range of the proposed Project site is about 252 to 975 m (825 to 3,200 ft.): (1) *Lupinus excubitus* var. *johnstonii,* (interior bush lupine) occurs in chaparral and lower montane coniferous forest on decomposed granite soils, above about 1,500 m (4,900 ft.) elevation, about 1,700 ft. above the highest elevations in the proposed Project area; (2) *Orobanche valida* subsp. *valida* (Rock Creek broomrape) occurs in montane chaparral and pinyon or juniper woodlands of the San Gabriel, Topatopa, and Sierra Nevada mountains above about 1,250 m (4,100 ft.) elevation; and (3) *Juncus duranii* (Duran's rush), which occurs within lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest on mesic soils at elevations above about 1,600 m (5,250 ft.), about 2,000 ft. above the highest elevations in the proposed Project area. Due to their elevational ranges, these plants do not have potential to occur within the Project area.

Four species or genera included in the commentor's list include species, subspecies, or varieties meeting the criteria as special-status species as defined in the Draft EIS/EIR that are known from the proposed Project site's geographic range but already are addressed in the Draft EIS/EIR: These are *Navarretia ojaiensis*, *Cercocarpus betuloides* var. *blancheae*, *Juncus acutus* subsp. l*eopoldii,* and *Prunus ilicifolia*. At the time that *Navarretia ojaiensis* was recorded in the field, the species had not yet been formally described. It was not included in the cumulative plant species list for the Newhall Ranch survey area, but was included in the plant species list for Salt Creek area (see **Appendix 4.5** (Appendix B of Dudek and Associates 2004I)) and was addressed in the Draft EIS/EIR. Since completion of field work and compilation of the cumulative plant species list, it has been formally described and named in the botanical literature (Johnson 2007), and it is treated under *Navarretia ojaiensis* in the Draft EIS/EIR. *Cercocarpus betuloides* var. *blancheae*, *Prunus ilicifolia,* and *Juncus acutus* ssp. *leopoldii* all are recorded in the cumulative plant species list in **Appendix 4.5** of the Draft EIS/EIR (see Appendix B of Dudek 2007F) and analyzed in the special-status species section of the Draft EIS/EIR: see **Subsection 4.5.5.2.3.5**, Impacts to Special-status Plants, and **Subsection 4.5.5.3**, which address each of these species.

*Lepidium virginicum* var. *robinsonii* (CNPS List 1B) would meet criteria as a special-status species as defined in the Draft EIS/EIR. The project species list (**Appendix 4.5** of the Draft EIS/EIR (see Appendix B of Dudek 2007F)) reports *Lepidium virginicum,* without indicating which subspecies was found on the

[9] Note that the commentor lists 56 taxa; this response identified a total of 57 taxa because two species in the genus Juncus (*J. duranii* and *J. acutus* var. *leopoldii*) have potential to occur locally and would meet the Draft EIS/EIR definition of special-status species for plants.

Project site. The reported observation is based on specimens collected by A.C. Sanders and others during botanical surveys for the proposed Project on 5 March 2003. The specimens were recently reviewed by Sanders and identified as *L. virginicum* var. *pubescens*, a plant that would not meet the criteria as a special-status species as defined in the Draft EIS/EIR. The special-status subspecies, *L. virginicum* var. *robinsonii,* was not found on the Project site during the extensive field surveys, is not known from western Los Angeles County or mainland Ventura County (CNPS 2010), and is not expected to occur on the site.

One of the species included in the commentor's list (*Phacelia cicutaria*) includes a variety meeting the criteria as special-status species as defined in the Draft EIS/EIR, known from within or near the proposed Project site's geographic range. *Phacelia cicutaria* var. *hubbeyi* (CNPS List 4) occurs in chaparral, coastal scrub, and grasslands, from Los Angeles County north to Kern County and west to Santa Barbara County. It is known from near the general region, but not from the Project site. Two specimens of *Phacelia cicutaria* collected on the Project site during field surveys for the proposed Project were identified as a different variety, *P. cicutaria* var. *hispida* (no special status) (Consortium of California Herbaria 2010). In summary, the species and genera listed by the commentor either: (1) have no special-status species, subspecies, or varieties that meet the definition for special-status species in the Draft EIS/EIR as described in **Subsection 4.5.3.4.5**, Special-status Plants (see **Responses 10** and **14**); (2) have no special-status species, subspecies, or varieties with biogeographic overlap with the area in which the Project site occurs; (3) have special-status species, subspecies, or varieties within the Projects site's biogeographic region, but occurring only well outside its elevational range and thus have no potential to occur in the Project area; (4) were determined in the Draft EIS/EIR to occur on the site, potential Project impacts were analyzed and found to be less than significant with recommended mitigation; (5) the special-status variety of one plant, *Lepicium virginicum* (var. *robinsonii*, CNPS List 1B) is not expected to occur on the Project site due to geographic range, though the related variety (*L. virginicum* var. *pubescens*) was found on the site; (6) the special-status variety *Phacelia cicutaria* (var. *hubbeyi,* CNPS List 4) is not expected to occur on the Project site, based on results of field surveys.

**Response 25**

The commentor recommends that any of the plant taxa listed in **Comment 24** with 10 or fewer occurrences in Los Angeles County should be evaluated for potential as locally rare; recommends that Project-related loss of such occurrences should be considered significant in the Draft EIS/EIR; and recommends that the Draft EIS/EIR incorporate mitigation measures for these taxa.

The commentor's overall remarks regarding rarity are addressed in **Response 14**, above. Special-status species were appropriately defined in the Draft EIS/EIR to include all special-status plants, all of which are appropriately evaluated in the Draft EIS/EIR under CEQA and NEPA (see **Subsection 4.5.3.4.5**, Special-status Plants). In addition, none of the plant species listed in **Comment 24** are considered locally rare by the County of Los Angeles. See **Response 10** for additional discussion of special-status species determinations.

**Response 26**

The commentor provides a list of 53 vascular plant taxa reportedly occurring on the proposed Project site ("listed in the DEIR or supporting documents") that the commentor asserts are rare in the region and were not evaluated in the Draft EIS/EIR.

In the lead agencies' opinion, the Draft EIS/EIR includes an appropriate definition of special-status plant species for purposes of required analysis under CEQA and NEPA. See **Responses 10** and **14** for additional discussion of special-status species determinations. Special-status species are defined in **Subsections 4.5.3.4.5** (page 4.5-215) and **4.5.3.4.6** (page 4.5-228), to include, among other criteria, all plant or animal species "of expressed concern to resource/regulatory agencies or local jurisdictions"; and all plant species listed in the CNPS Inventory. The Draft EIS/EIR's identification of special-status species is sufficiently broad to ensure that impacts are fully evaluated, including all potentially significant environmental impacts under CEQA. The commentor's proposal to include plant species considered rare by local CNPS chapters in the definition of special-status species identified in the Draft EIS/EIR is not necessary or appropriate in the lead agencies' opinion. See **Response 14**, above, for additional discussion of the commentor's recommended inclusion of species reportedly rare in Ventura County, Santa Barbara County, or the Liebre Mountains among special-status species addressed in the EIS/EIR.

Of the list of 53 vascular plant taxa the commentor considers rare in the region, none are listed, proposed for listing, or candidates for listing as threatened or endangered under federal or state Endangered Species Acts, and only two are listed in the CNPS Inventory of Rare and Endangered Plants (*i.e.*, the state CNPS Rare Plant Program, http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi). None are considered locally rare by the County of Los Angeles. Fifty-one of the plant taxa named in the comment have no special conservation status with state or federal conservation agencies or with the state-wide CNPS Rare Plant Program and do not meet the definition of "special-status species" as used throughout the Draft EIS/EIR, defined in **Subsections 4.5.3.4.5** (page 4.5-215) and **4.5.3.4.6** (page 4.5-228) and discussed further in **Response 14**, above. *Galium nuttalli* ssp. *nuttalli* has no designation with the state-wide CNPS Rare Plant Program. To clarify, it is not in CNPS List 4. *Galium nuttalli* ssp. *nuttalli* does not meet the definition of "special-status species" as used throughout the Draft EIS/EIR and was not treated as such in the Draft EIS/EIR.

*Clarkia speciosa* is a species comprised of four recognized subspecies in California. One of these, *C. speciosa* subsp. *immmaculata,* is on CNPS List 1B.1. It is endemic to San Luis Obispo County, well outside the Project area. *Clarkia speciosa* ssp. *speciosa* was considered for inclusion in the CNPS Inventory but rejected because it is considered common. No other *C. speciosa* subspecies are included in the CNPS Inventory. There is no potential for any *C. speciosa* subspecies designated by the CNPS state-wide Rare Plant Program or meeting the definition of "special-status species" as used throughout the Draft EIS/EIR to occur on the Project site, and these subspecies were not evaluated in the Draft EIS/EIR as special-status biological resources as a result. Furthermore, again, because there is no potential for *C. speciosa* subsp. *immaculata* to occur on the Project site, no Project-related potentially significant impacts are expected.

*Potamogeton foliosus* ("leafy pondweed") is a species comprised of two recognized varieties in California. One of these, *P. foliosus* var. *fibrillosus,* is on CNPS List 2. In California, it is known only from coastal Del Norte County near Crescent City. Its geographic range extends north to Oregon and Washington and east to Idaho and Nevada; all known occurrences are well outside the proposed Project area. There is no potential for *P. foliosus* var. *fibrillosus* to occur on the Project site, and this subspecies was not evaluated in the Draft EIS/EIR as a special-status biological resource. The other variety, *Potamegeton foliosus* var. *foliosus,* has no designation in the CNPS state-wide Rare Plant Program and does not meet the definition of "special-status species" as used throughout the Draft EIS/EIR, and was not individually evaluated in the Draft EIS/EIR.

The remaining species identified by the commentor do not meet the definition of "special-status species" as used throughout the Draft EIS/EIR. As discussed above in **Response 7**, the identification of special-status species is one of the analytic tools used to focus analysis in the Draft EIS/EIR on potentially significant impacts. Impacts to common plant species are considered in the analysis of impacts to vegetation communities and land covers. (See **Subsection 4.5.1.1.5.1,** Impacts to Vegetation Communities and Land Covers.)

**Response 27**

The comment states that the loss of any of the 53 plant taxa listed in **Comment 26** (above) should be analyzed for significance. The commentor asserts that all 53 taxa are rare in Los Angeles County and states that they were not considered in the Draft EIS/EIR as significant biological resources. The commentor further states that other jurisdictions, such as Ventura County, would consider losses of occurrences of these taxa to be significant impacts, and that mitigation would be proposed. The commentor notes that the Draft EIS/EIR did not evaluate potential impacts to these 53 taxa and asserts that the Draft EIS/EIR is, therefore, inadequate in this area.

Special-status species were appropriately defined in the Draft EIS/EIR to include all special-status plant and wildlife species and habitat types. Identification of special-status species is one of the analytic tools used to focus analysis in the Draft EIS/EIR on potentially significant impacts. The Draft EIS/EIR appropriately considered effects on a range of species, including consideration of potential threats, vulnerabilities, and life cycle requirements in determining and focusing analysis on potentially significant impacts. See **Responses 10** and **14** for additional discussion of special-status species determinations. Special-status species are defined in **Subsections 4.5.3.4.5** (page 4.5-215) and **4.5.3.4.6** (page 4.5-228), to include, among other criteria, all plant or animal species "of expressed concern to resource/regulatory agencies or local jurisdictions"; and all plant species listed in the CNPS Inventory. The Draft EIS/EIR's identification of special-status species is sufficiently broad, as are analyses of impacts to wildlife guilds, vegetation communities, and land covers, to ensure that potentially significant impacts to biological resources are fully evaluated and that decision makers are provided with sufficient detail to ensure meaningful environmental review and informed decision making.. The commentor's proposed inclusion of species considered rare by local CNPS chapters in the definition of special-status species is not adopted. See **Response 14**, above, for additional discussion of the commentor's recommended inclusion of species reportedly rare in Ventura County, Santa Barbara County, or the Liebre Mountains among special-status species addressed specifically in the EIS/EIR as a result of potentially significant Project-related impacts.

**Response 28**

The comment states that field surveys for bryophytes (mosses and liverworts) are not reported and that these plants are not addressed in the Draft EIS/EIR. The comment reviews CNDDB status of mosses and liverworts and lists some recent field discoveries as examples of the importance of bryophyte surveys for environmental review. The commentor believes that one or more species of rare bryophytes could occur on Newhall Ranch and, if so, that impacts to them may be significant. The commentor believes that the Draft EIS/EIR is inadequate because it did not assess impacts to special-status bryophytes.

The Draft EIS/EIR does not address special-status bryophytes (*i.e.*, mosses and liverworts) potentially occurring in the Project area because, after a preliminary analysis, no such special-status species are

expected to occur on or in the vicinity of the Project site. The CNDDB[10] and California Native Plant Society[11] include 30 bryophytes in lists of special-status plants, for example, but do not report any special-status bryophytes from the Project site or the surrounding region.

In response to this comment, reconnaissance-level field surveys for bryophytes, including special-status, were conducted by bryologists E. Laeger and J.R. Shevock. Based on geographic and elevational ranges and microhabitat requirements, Laeger and Shevock (2010) reported that only four of the 30 special-status bryophytes in California are "even remotely possible" to occur on the Project site. These are: *Anomobryum julaceum, Schizymenium shevockii* (now placed in the genus *Mielichhoferia*), *Tortula californica,* and *Triquetrella californica.*

None of these four species are known from Los Angeles County. In a historical perspective, Los Angeles County has been under-surveyed by bryologists, and bryophyte distributions are, therefore, less well known than they are elsewhere in the state. Laeger and Shevock reviewed the Vegetation Communities and Land Covers map (**Figure 4.5-11-A1** of the Draft EIS/EIR) and concluded that some vegetation types on the Project site could provide suitable habitat, and a field review was undertaken.

Laeger and Shevock conducted the bryophyte survey on February 1, 2010. They described timing of the survey as "ideal" due to above-average winter rains, including rainfall a week before the field survey, so that bryophytes were green and hydrated, and easy to observe. Laeger and Shevock state that "all of the four taxa if present on the lands surveyed would have been readily observable."

No special-status bryophyte species were encountered during the field survey. Laeger and Shevock (2010) concluded that, "since the majority of the proposed development alternatives for Newhall Ranch RMDP/SCP EIS/EIR are planned for the lower elevations where the landscape is already altered in various conditions, our professional opinion is this project will have no impact on special status bryophytes."

**Response 29**

The comment states that field surveys for lichens are not reported and that lichens are not addressed in the Draft EIS/EIR. The comment reviews CNDDB status of lichens and lists some recent field discoveries as examples of the importance of lichen surveys for environmental review. The commentor believes that one or more species of rare lichens could occur on Newhall Ranch and, if so, that impacts to them may be significant. The commentor believes that the Draft EIS/EIR is inadequate because it did not assess impacts to special-status lichens.

The Draft EIS/EIR does not specifically address special-status lichens potentially occurring in the Project area because, after a preliminary analysis, no such species are expected to occur on or in the vicinity of the Project site. The California Natural Diversity Data Base[12] includes nine special-status lichen species

[10] CDFG 2009a, California Natural Diversity Database GIS layer, October 6, 2009; CDFG 2009b, *RareFind*, Version 3.1.0, CNDDB, October 9, 2009.

[11] CNPS 2007, Inventory of Rare and Endangered Plants (v7-07a 1-17-07), accessed October 12, 2009, http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi

[12] CDFG 2009a, California Natural Diversity Database GIS layer, October 6, 2009; CDFG 2009b, *RareFind*, Version 3.1.0, CNDDB, October 9, 2009.

in California, for example, but none from the Project site or the surrounding region. In response to this comment, reconnaissance-level field surveys for special-status lichens were conducted by lichenologist Kerry Knudsen. Knudsen (2010) located 26 lichen taxa on the proposed Project site. None of these species meet the definition of special-status species in the Draft EIS/EIR. Knudsen (2010) reported that the site would have historically had relatively low lichen diversity due to aridity, elevation (below 1,500 ft.), and prevalence of erodible rock types, which do not provide stable substrate for rock-growing lichens. Also, if biological crusts, including soil lichens, historically occurred on the site, these have been damaged by long-term ranching and farming.

Based on records of special-status lichens, California Natural Diversity Data Base, and the results of Knudsen's field survey, no special-status lichens are expected to occur on or in the vicinity of the Project site and, for the same reason, no potentially significant Project-related impacts are expected.

**Response 30**

The commentor notes that two County of Los Angeles Significant Ecological Areas (SEAs) occur within the Project site: River Corridor SMA and High Country SMA.

The comment does not address the analysis presented in the Draft EIS/EIR. Please see **Topical Response 11: River Corridor SMA/SEA 23 Consistency**, and **Responses 34 through 36** for further discussion of the SEAs.

**Response 31**

The commentor states that the Draft EIS/EIR takes "great leaps" in its assessment that the proposed mitigation measures "will fully reduce impacts" to almost all species to levels that are less than significant. The commentor states that the logic in the Draft EIS/EIR is flawed.

**Section 4.5**, Biological Resources, of the Draft EIS/EIR analyzed the potential effects of the proposed Project and alternatives to the biological resources present or expected to occur in both the RMDP/SCP Project area and adjacent habitat in compliance with NEPA and CEQA. The Draft EIS/EIR identified specific potentially significant impacts to these resources and, where such impacts were possible, identified and discussed mitigation measures to reduce these effects to less-than-significant levels. With the exception of Alternative 2, for which significant impacts to San Fernando Valley spineflower, southwestern pond turtle, and San Emigdio blue butterfly would remain significant and unavoidable even with mitigation, the Draft EIS/EIR concluded that all other potentially significant impacts to biological resources would be reduced to less-than-significant levels with implementation of the proposed mitigation measures. Impacts to all biological resources for Alternatives 3 through 7 would be reduced to less-than-significant levels with implementation of the proposed mitigation measures.

With regard to the commentor's use of the term "fully reduce impacts," as provided for in the CEQA definition of "Mitigation" in CEQA Guidelines section 15370, mitigation measures need only reduce significant impacts to a level less than significant (*e.g.*, through minimization), not "fully reduce impacts." The term "fully reduce" may be an imprecise reference by the commenter to section 2081, subdivision (b), of the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), which requires that impacts of the taking under CESA be "fully mitigated." As stated in **Subsection 4.5.2.2.1** of the Draft EIS/EIR (page 4.5-42):

> With respect to Fish and Game Code section 2081, this provision provides, in pertinent part, that CDFG may authorize, by permit, the take of endangered, threatened, or candidate species if all of the following conditions are met (Fish & G. Code, § 2081, subds. (b), (c); see also Cal. Code Regs., tit. 14, § 783.4 subds. (a)-(c)):
>
> (2) The impacts of the authorized take are minimized and fully mitigated, which is defined to mean all impacts on the species that result from any act that would cause the proposed taking; . . .

**Response 32**

The commentor refers to the two-striped garter snake and cites survey results and significance determinations of permanent and significant impacts to the species presented in the Draft EIS/EIR. The commentor states that the same analysis is applied to the southwestern pond turtle, which uses the same types of aquatic and terrestrial habitats as the two-striped garter snake. The commentor questions why the impacts to the southwestern pond turtle are determined to be significant and unavoidable while the impacts to the two-striped garter snake, which uses the same habitat as the turtle, are determined to be mitigable to less than significant. The commentor states that there is no scientific reasoning to assume that impacts to two-striped garter snake are "fully mitigable" and that impacts to the turtle are not, and that the determination that there are no unavoidable significant impacts to two-striped garter snake after mitigation is "arbitrary and wrong." The commentor indicates that the determination for two-striped garter snake should be changed to "significant unavoidable impacts," as it is for the southwestern pond turtle.

The difference in the significance findings following mitigation for the two-striped garter snake and southwestern pond turtle is supported by the technical analysis of the two species provided in **Section 4.5**, Biological Resources, of the Draft EIS/EIR. This discussion demonstrates that the analyses and conclusions presented in the Draft EIS/EIR are not arbitrary, but rather are based on deliberative and well-informed consideration of each species in the Project area. The commentor is generally accurate in pointing out that the two species occupy similar aquatic and terrestrial habitats in the Project area. However, the two species rely on different reproductive strategies. The analysis in the Draft EIS/EIR presents a detailed analytic approach that clearly shows how project impacts to the two species are distinctly different because of important differences in their life histories. For example, the two-striped garter snake is a live-bearing (viviparous) species, and the southwestern pond turtle is an egg-laying (oviparous) species that requires suitable nesting habitat (*e.g.*, Rathbun *et al.* 1992). The availability and selection of suitable nesting sites is a key factor in southwestern pond turtle distribution and is a limiting resource for this species in the Project area. Conversely, two-striped garter snakes, which bear their live young under loose bark, rotting logs, and in dense vegetation, are much less limited in access to potential nursery sites. The analysis in **Subsection 4.5.5.3,** Impacts to Special-Status Species, of the Draft EIS/EIR concluded that the lower Potrero Canyon is an important nesting and refuge area for juvenile pond turtles.

Construction of the proposed Project (Alternative 2) would result in the loss of important breeding and nursery areas and would restrict pond turtle movement between lower Potrero Canyon and the Santa Clara River floodplain. Therefore, the Draft EIS/EIR concluded that the impacts to pond turtles would be significant and unavoidable, due to the construction of the Potrero Canyon Road Bridge. For this reason, impacts to southwestern pond turtle were determined to be significant and unavoidable under Alternative 2. Under Alternatives 3 through 7, impacts to the southwestern pond turtle were determined to be

mitigable to a level less than significant because use of lower Potrero Canyon would be less affected, and movement between Potrero Canyon and the Santa Clara River would not be precluded under these alternatives. The two-striped garter snake would not be affected under Alternative 2 in the same way as southwestern pond turtle because lower Potrero Canyon is not considered to have the same level of importance for the two-striped garter snake as it has for southwestern pond turtle. Therefore, the Draft EIS/EIR based the significance conclusions for the two species on scientific data that reflect the life history differences and specific habitat uses of the two species.

**Response 33**

The commentor states that western spadefoot toad is likely to occur in the same habitats as the two-striped garter snake and southwestern pond turtle, and cites text from the Draft EIS/EIR. The commentor states that because the western spadefoot uses the same habitats as the two-striped garter snake and southwestern pond turtle, a determination of "significant unavoidable impacts" should have been made for this species as well, and that the determination that there would be no significant impacts to western spadefoot after mitigation is "arbitrary and wrong."

The life history of the western spadefoot and their distribution in the Project area were considered in the significance determination for the species. As described in **Subsection 4.5.3.3**, Impacts to Special-Status Species, of the Draft EIS/EIR, there are five separate documented occurrences of western spadefoot in the Project area. Construction of the proposed Project would result in the loss of two breeding pools in the Mission Village development area and one breeding pool in the Potrero Village development area. The other documented occurrences are either outside the development footprint and/or no longer support western spadefoot toads. The main difference between impacts to western spadefoot and southwestern pond turtle is that a key nesting and refuge area for the southwestern pond turtle in lower Potrero Canyon would be permanently affected by the proposed Project under Alternative 2. The loss of this site is not considered mitigable under Alternative 2, resulting in the conclusion that impacts to the pond turtle would be significant and unavoidable. Although three documented western spadefoot breeding locations would be permanently lost, the Draft EIS/EIR concluded that the mitigation strategy and specific mitigation measures for western spadefoot will reduce impacts to a less-than-significant level.

**Response 34**

The commentor states that the River Corridor SMA, which will protect riparian habitats and numerous special-status species and which is also an important wildlife corridor, is subject to Mitigation Measure SP-4.6-17, which specifies restrictions on public activities in the River Corridor SMA. The commentor notes that the same restrictions apply to the High Country SMA per Mitigation Measures SP-4.6-29 through SP-4.6-32. The commentor questions how these measures will be implemented and enforced in perpetuity because no concrete or specific plan is included in the mitigation measures. As an example, the commentor states that signs prohibiting pets will be placed in the SMA, but this does not adequately ensure that pets will actually be excluded from the SMAs.

The plan for enforcement of the standards in the mitigation measures is included in the mitigation measures themselves, including SP-4.6-17 and SP-4.6-21 through SP-4.6-25. These mitigation measures include details of who would be responsible for enforcement and how it would be conducted. A management plan must be established by the Project applicant and provided to the County of Los Angeles prior to recordation of the River Corridor SMA Conservation and Public Access Easement. The County

of Los Angeles would be responsible for enforcement of the mitigation measures within the River Corridor SMA through adoption of existing ordinances applicable to the River Corridor SMA. The County Department of Parks and Recreation, in conjunction with the Center for Natural Lands Management (CNLM) would be responsible for enforcement of those ordinances (County of Los Angeles 2003A). CNLM would be funded by a non-wasting endowment in perpetuity, provided by the Project applicant. Mitigation Measure SP-4.6-41 states that recreation within and conservation of the High Country SMA would be the responsibility of a joint powers authority (JPA) of the County of Los Angeles, the City of Santa Clarita, and the Santa Monica Mountains Conservancy. The JPA would be responsible for enforcement of Mitigation Measures SP-4.6-29 through SP-4.6-33, SP-4.6-36, and SP-4.6-38 through SP-4.6-41 within the High Country SMA, through adoption of existing County ordinances. CNLM would be responsible for the management and restoration activities within the High Country SMA.

Upon Project approval, CDFG would also adopt a mitigation monitoring or reporting program, pursuant to Public Resources Code section 21081.6, to ensure that the mitigation measures and Project revisions as adopted to mitigate or avoid significant impacts of the Project are implemented, consistent with CDFG's regulatory jurisdiction under CESA and California Fish and Game Code section 1600 *et seq*.

**Response 35**

The commentor quotes Mitigation Measure BIO-69 regarding a conservation education and citizen awareness program for the High Country SMA, including quarterly monitoring, and states that there is no evidence that this will be adequate to conserve the ecological integrity of the SMA.

The Newhall Ranch Specific Plan (adopted by Los Angeles County) includes Mitigation Measure SP-4.6-38 that specifies the future disposition of the River Corridor SMA, including ownership and management. BIO-69 is just one component of the overall management approach to the High Country SMA and specifies quarterly monitoring for litter removal and repairs to trail expansion, to be performed by a Natural Lands Management Organization (NLMO). Mitigation Measures SP-4.6-29 through SP-4.6-32 specify performance standards for the High Country SMA regarding public access. In addition, per Mitigation Measure SP-4.6.41, recreation in the High Country SMA will be the responsibility of a joint powers authority.

Management activities would be funded per Mitigation Measure SP-4.6-42. In addition, the applicant would be required to fund a non-wasting endowment for management activities in perpetuity by an NLMO. See revised Mitigation Measure BIO-80. See **Response 37** for additional discussion of funding provisions.

Analysis in the Draft EIS/EIR considered secondary effects due to disturbance by humans and stray pets and identified mitigation that would be adequate to reduce impacts to less than significant, including BIO-63, which specifies that the NLMO would remove stray and feral cats and dogs on an as-needed basis in cooperation with the Society for Prevention of Cruelty to Animals (SPCA) or the Los Angeles County of Animal Control. In addition, BIO-69 has also been revised to provide additional details regarding trail maintenance responsibilities.

**Response 36**

The commentor recommends that a dedicated enforcement officer or endowment to a local land enforcement agency to pay for active control of public access to the SMAs should be a requirement added to the mitigation measures.

Consistent with the commentor's suggestion, Mitigation Measure SP-4.6-42 creates a service assessment district to fund the management activities, including enforcement activities of the Joint Powers Authority within the High Country SMA. A conservation easement would be established for the Santa Clara River SMA; public access, including trail use, and control of stray and feral pets would be enforced under the authority of the Los Angeles County Department of Parks and Recreation (County of Los Angeles 2003A).

Analysis in the Draft EIS/EIR took into account that there would be secondary effects due to disturbance by humans and stray pets and identified mitigation that would be adequate to reduce impacts to less than significant, including Mitigation Measure BIO-63 (see **Response 35**, above).

**Response 37**

The commentor states that exotic species control is an essential function of maintaining ecological integrity and quotes Mitigation Measure BIO-80, which includes controls and biannual monitoring for bullfrog, African clawed frog, and crayfish for a period of 50 years. The commentor recommends that this mitigation measure be required in perpetuity and require an endowment for perpetual implementation of the Exotic Wildlife Species Control Plan.

It is not the intention of the CDFG or the Corps to limit exotic species control to a 50-year timeframe. In response to this comment, Mitigation Measure BIO-80 has been amended to clarify that an NLMO, funded through a non-wasting endowment, would continue the exotic species control program in perpetuity.

**Response 38**

The commentor refers to Mitigation Measure BIO-87, which addresses monitoring for Argentine ant invasion of mitigation areas for 50 years. The commentor states that there is no biological evidence presented that ecological threats posed by Argentine ant invasions will end after 50 years. The commentor suggests that Argentine ant controls will be required in perpetuity and will require an endowment of adequate financial resources. The commentor also states that Mitigation Measure BIO-87 needs to specify what entity will perform the monitoring task, how the task will be reported, and who will be responsible for carrying out and enforcing remedial actions.

With regard to assurance of funding of mitigation measures, as described in Section 8.0 of the RMDP, Newhall Land, or a designee, would post bonds (or other CDFG-approved financial assurance mechanisms) for the management, monitoring, and reporting measures. Bonds or other securities shall be released by CDFG upon reaching identified milestones and/or upon receipt of verification of grants or special assessments obtained to implement this Plan. Perpetual funding for monitoring and management within the High Country SMA, River Corridor SMA, and Open Area beyond the 50-year timeframe also described on page 90 of the RMDP (SP-4.6-42). The RMDP expands this perpetual funding mechanism to the Salt Creek area on page 91.

In response to this and other comments, BIO-87 has been revised to clarify that control of Argentine ants would occur in perpetuity. An NLMO and/or the Joint Powers Authority would be responsible for management of Argentine ants, utilizing pit traps and application of direct controls on nests. It was not the intention of the CDFG or the Corps to limit Argentine ant control to a 50-year timeframe. Mitigation Measures BIO-33 and BIO-87 have been revised to provide additional detail regarding Argentine ant mitigation. Argentine ant control activities would initially be the responsibility of the applicant. An NLMO and/or the Joint Powers Authority would assume these responsibilities long-term, funded through a non-wasting endowment.

**Response 39**

The commentor states that while Mitigation Measure BIO-63 acknowledges the importance of controlling feral cats and dogs in the SMAs, it is not specific as to what agency will be responsible for the task. The commentor also states that the controls are vaguely tied to homeowner associations or other entities responsible for managing the SMAs. The commentor proposes that the Argentine ant and feral cat and dog control plans, and controls for other introduced mesopredators, be integrated into the Exotic Wildlife Species Control Plan required by Mitigation Measure BIO-80. The commentor indicates that an integrated Exotic Wildlife Species Control Plan, the endowed financial resources to implement the plan, and creation of an authority to implement the plan should be required mitigation measures.

Mitigation Measure BIO-63 specifies the responsible entities for control of feral cats and dogs in open space, as indicated in this excerpt from the mitigation measure (see **Subsection 4.5.6**, Mitigation Measures, for full text). Also see **Response 37**, above.

> Control of stray and feral cats and dogs will be conducted in open space areas on an as-needed basis by the NLMO(s) or the Newhall Ranch JPA managing the River Corridor SMA, High Country SMA, or Salt Creek area or by the HOAs managing the Open Areas.

Combining the control of exotic, invasive species with a control program for stray and feral pets in a single, integrated plan is not necessary to reduce impacts associated with these threats.

Upon Project approval, CDFG would also adopt a mitigation monitoring or reporting program, pursuant to Public Resources Code section 21081.6, to ensure that the mitigation measures and Project revisions as adopted to mitigate or avoid significant impacts of the Project are implemented, consistent with CDFG's regulatory jurisdiction under the CESA and Fish and Game Code section 1600 *et seq.*

**Response 40**

The comment is an introduction to comments that follow. Responses to the specific comments are provided below in **Responses 41 through 47**.

**Response 41**

The comment discusses Mitigation Measure BIO-1 and states that wetland mitigation plans should require that plant materials be endemic to the mitigation site and that a qualified biologist should verify this.

Mitigation Measure BIO-1 requires the preparation of detailed wetland mitigation plans that include specifying the quantity of seed or nursery stock (as noted by the commentor). Mitigation Measure BIO-1

also requires that all species be native to the region and that replacement riparian vegetation communities be designed to replace the functions and values of the riparian vegetation communities to be removed. Mitigation Measure BIO-4 specifies that replacement riparian vegetation communities shall have similar dominant trees and understory shrubs and herbs (excluding exotic species) to those of the impacted riparian vegetation communities (see **Table 4.5-69** of the Draft EIS/EIR for example of recommended plant species for the River Corridor SMA and tributaries). Each area impacted by the proposed Project will have its own unique distribution of trees, understory shrubs, and herbs. Therefore, it is not feasible to specify a single plant species palette or quantity at this time that would be appropriate for all impacted sites.

Mitigation Measure BIO-1 currently requires that all plant material must be native to region, which provides an appropriate level of specificity. Mitigation Measure SP-4.6-2 currently requires that a qualified biologist prepare or review the revegetation plans and monitor the restoration effort from its inception through the establishment phase. Wetland mitigation plans prepared for Mitigation Measure BIO-1 would also be subject to the approval of CDFG and the Corps; both organizations possess the required expertise to evaluate wetland mitigation plans.

**Response 42**

The comment states that the term "self-sustaining" should be defined in the context of riparian mitigation sites in a way that is "biologically meaningful" and suggests that monitoring until riparian mitigation sites are self-sustaining may be required for an extended period of time. The commentor suggests that an ecological monitoring position(s) be funded by an endowment to implement the required monitoring.

Mitigation Measure BIO-6 provides six different success criteria to ensure that a riparian mitigation site is self-sustaining:

BIO-6 The revegetation site will be considered "complete" upon meeting all of the following success criteria. In a sub-notification letter, the applicant may request modification of success criteria on a project-by-project basis. Acceptance of such request will be at the discretion of CDFG and the Corps.

1. Regardless of the date of initial planting, any restoration site must have been without active manipulation by irrigation, planting, or seeding for a minimum of three years prior to Agency consideration of successful completion.

2. The percent cover and species richness of native vegetation shall be evaluated based on local reference sites established by CDFG and the Corps for the plant communities in the impacted areas.

3. Native shrubs and trees shall have at least 80% survivorship after two years beyond the beginning of the success evaluation start date. This may include natural recruitment.

4. Non-native species cover will be no more than 5% absolute cover through the term of the restoration.

5. Giant reed (*Arundo donax*), tamarisk (*Tamarix ramosissima*), perennial pepperweed (*Lepidium latifolium*), tree of heaven (*Ailanthus altissimus*), pampas grass (*Cortaderia*

*selloana)* and any species listed on the California State Agricultural list, or Cal-IPC list of noxious weeds will not be present on the revegetation site as of the date of completion approval.

6. Using the HARC assessment methodology, the compensatory mitigation site shall meet or exceed the baseline functional scores of the impact area in Corps' jurisdictional waters as described in the Conceptual Mitigation Plan[13] for Waters of the United States.

These are appropriate criteria to assess whether a restored plant community is self-sustaining and meeting or exceeding the baseline functions and values/services of the impacted plant community.

Regarding funding, as described in Section 11.0 of the Draft RMDP, on page 291, Newhall Land (or its designee) will post bonds (or other CDFG-approved financial assurance) for the management, monitoring, and reporting measures described in Section 7.0 of the Draft RMDP, including the riparian mitigation measures required by the Draft EIS/EIR. Under the subnotification procedures and security release procedures for performance bonds or other appropriate financial security, CDFG would monitor implementation of these mitigation measures. The bonds or other financial security would be released by CDFG only after the appropriate success criteria have been met.

**Response 43**

The comment suggests that, if the applicant requests a modification, success criteria could be retroactively changed for unspecified reasons. The comment also states that such requests for modifications of the success criteria specified in Mitigation Measure BIO-6 during the subnotification process should be prepared by a qualified biologist and be available for public review.

Consistent with the recommendation in this comment, a qualified biologist would prepare or review any requests to modify the success criteria. Mitigation Measure SP-4.6-2 requires that a qualified biologist prepare or review the revegetation plans and monitor the restoration effort from its inception through the establishment phase. Mitigation Measure BIO-1 describes preparation of the detailed wetlands mitigation plans, which will include a list of success criteria for the riparian mitigation sites. Wetland mitigation plans prepared for Mitigation Measure BIO-1 would also be subject to the approval of CDFG and the Corps; both organizations possess the required expertise to evaluate wetland mitigation plans.

Any future modification of the success criteria for a particular site would be based on appropriate cause, such as unforeseen conditions which cause continued failure of the restored community. Should this situation occur, another site could be designated for restoration. Mitigation Measure BIO-7 specifies that the applicant shall be responsible for replanting restoration areas subject to flood, fires, or drought ("act of God"). Replanted damaged restoration sites would be subject to the same success criteria as provided for in Mitigation Measure BIO-6. Should a second "act of God" occur prior to agency approval of the restoration area, the applicant shall coordinate with the agencies and develop an alternative restoration strategy(ies) to meet the success requirements. Alternative strategies may include restoration elsewhere in the River corridor or tributaries.

[13] For detailed information concerning the Corps' compensatory mitigation program for impacts to waters of the United States, please reference the Corps' draft 404(b)1 alternatives analysis, included in **Appendix F1.0** of the Final EIS/EIR.

These mitigation measures incorporate appropriate mechanisms for the lead agencies to ensure that mitigation would be successfully implemented. The commentor's request to modify the mitigation monitoring process is not necessary as a result. Technical reports in support of compliance review would be submitted to the appropriate state and federal lead agencies to ensure that mitigation would be successfully implemented. If the proposed Project or an alternative is approved, a Mitigation Monitoring or Reporting Plan would be required under CEQA.[14]

**Response 44**

The comment expresses opposition to the use of exotic plant control in lieu of creation/restoration for mitigation of impacts to riparian vegetation communities.

Mitigation Measure BIO-9 identifies control of invasive exotic plant species as an alternative to the creation/restoration of vegetation communities. As specified in Mitigation Measure BIO-9, invasive exotic plant species control may be performed for a portion of the mitigation required under Mitigation Measure BIO-2.

As described in Mitigation Measure BIO-2, exotic/invasive species removal, followed by restoration/revegetation, may be used to mitigate impacts: "Mitigation shall be credited at an acreage equivalent to the percentage of exotic vegetation at the restoration site. This means, for example, if a 10-acre area is occupied by 10 percent exotic species, restoration will be credited for 1 acre of impact. As appropriate and authorized by CDFG, reduced percentage credits may be applied for invasive removal with passive restoration (weeding and documentation of natural recruitment only)." This is an appropriate technique to increase functions and values within the riparian corridor. CDFG would review and approve/reject this form of mitigation on a case-by-case basis.

The proposed Project (Alternative 2) would have a deficit of potential mitigation sites within the Project area for both the Santa Clara River and tributary impacts, necessitating alternative mitigation. Alternative 4 would have a potential mitigation site deficit for tributary mitigation. Alternative 5 would have a deficit in river mitigation. Adequate potential mitigation sites are available for Alternatives 3, 6, and 7, or combinations of alternatives.

**Response 45**

The commentor suggests that the selling of mitigation credits (allowed under Mitigation Measure BIO-13) would be "double-dipping" if the applicant is selling credits within restored areas required for the applicant's Project impacts.

As described in Mitigation Measure BIO-13, the mitigation program will adhere to the Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks, which does not allow “double-dipping” of mitigation credits. Mitigation Measure BIO-13 recognizes that entities other than the applicant may submit sub-verification letters for projects included in the permits/agreements. Examples of other entities include utility companies, HOAs, City of Santa Clarita, County of Los Angeles, *etc*., who may need to install or maintain infrastructure. These entities would have the ability to purchase mitigation credits from the applicant within mitigation areas not already committed as mitigation for other on-site projects.

[14] California Code of Regulations, tit. 14, § 15091, subd. (d).

That is, the Project applicant might commit to undertake mitigation in excess of that required by the Corps of CDFG to offset impacts of another approved project. That surplus mitigation is the subject of Mitigation Measure BIO-13.

**Response 46**

The comment suggests that the applicant will dictate the terms by which the mitigation accounting system will be developed and implemented.

Through Mitigation Measure BIO-11, the Corps and CDFG specify the requirements of the mitigation accounting system, including the content of the accounting system (*e.g.*, in-lieu fees paid, area of vegetation planted, exotic control, mitigation credit status, and credits used), as well as the submittal date each year. Mitigation Measure BIO-11 dictates the development and implementation of the accounting system.

BIO-11 To provide an accurate and reliable accounting system for mitigation, the applicant utilizing the RMDP shall file a mitigation accounting form annually with the Corps and CDFG by April 1. This form shall document the amount of vegetation planted during the past year, any "in-lieu fees" paid for exotic invasive plant species control, the status of all mitigation credits to date, and any credits subtracted by projects implemented during the past year. The applicant, utilizing the RMDP, shall keep detailed records and provide a mitigation accounting form to the Corps and CDFG annually for review for the life of the permit, or until all credits have been used up for individual projects, and success criteria have been met. The Corps and CDFG shall provide concurrence within 60 days, including written verification for all restoration and weed removal sites that meet the specified performance criteria. Adequate proof of delivery of applicable reports would be required as well as subsequent notice to the Agencies requesting surety release.

**Response 47**

The commentor suggests that the Hybrid Assessment of Riparian Condition (HARC; or comparable HGM method) be used to assess each impacted wetland, and that the HARC assessments should be available for public review.

See **Response 42**. As required by Mitigation Measure BIO-6, each riparian mitigation site must meet the HARC functional score of the riparian impact area. BIO-6 establishes appropriate criteria to assess whether a restored plant community is self-sustaining and meeting or exceeding the baseline functions and values/services of the impacted plant community.

As required by Mitigation Measure BIO-1, detailed wetlands mitigation plans would include a HARC assessment for the riparian impact area, the results of which would be used to determine mitigation replacement ratios required under Mitigation Measures BIO-2 and BIO-10. Therefore, each impacted wetland would be assessed using the HARC.

The commentor's request to modify the mitigation monitoring process is not adopted. Technical reports in support of compliance review would be submitted to the appropriate state and federal lead agencies to

ensure that mitigation would be successfully implemented. If the proposed Project or an Alternative is approved, a Mitigation Monitoring or Reporting Plan would be required under CEQA.[15]

**Response 48**

The comment summarizes the commentor's view of the legal status and known geographic distribution of San Fernando Valley spineflower (spineflower); the purpose and scope of the Draft Spineflower Conservation Plan (SCP); the extent of cumulative spineflower occupied-area to be taken and conserved under Alternative 2; and the legal and administrative contexts of the SCP under CESA, ESA, CEQA, and NEPA. **Figure 4.5-139** from the Draft EIS/EIR (Alternative 2 Spineflower Preserve Areas With Adjacent Land Use) and Table 22 from the SCP (Conservation and Take by Project Site Using Total Footprint) are reproduced as parts of the comment. The comment concludes that the commentor "has serious questions about whether the SCP will work as suggested and adequately conserve the [spineflower] in perpetuity." Those questions are detailed in **Comments 49 through 109**.

This comment is an introduction to further comments on the Draft SCP, but does not raise specific questions about its adequacy. The commentor's further questions about whether the SCP will work are addressed in **Responses 49 through 109**, below. No additional response is provided here.

**Response 49**

The comment reviews the goals and objectives of the Draft SCP, quoting from Section 3.0. The commentor believes that the proposed preserve design would not meet the goals as stated in the Draft SCP and that, "in order for the [spineflower] to be actually protected and preserved, much less mitigate for the proposed impacts to the species under any of the project development alternatives, except maybe the No Project alternative, the SCP must truly preserve the SFVS onsite, in perpetuity. It does not. The shortcoming of the SCP are described below."

The Draft EIS/EIR concludes that impacts to spineflower under Alternative 2 (*i.e.*, the preserve design described in the Draft SCP) would be significant and unavoidable. Analysis concluded that impacts to spineflower under Alternatives 3 through 7 would be less than significant with mitigation identified in the Draft EIS/EIR.

The spineflower mitigation strategy relies primarily, but not exclusively, upon on-site preservation and conservation. The strategy, as outlined in Mitigation Measures SP-4.6-53, SP-4.6-59, SP-4.6-65 through SP-4.6-80, BIO-23 through BIO-31, BIO-33 through BIO-39, BIO-85, and BIO-87, consists of: (a) preserving and managing a large proportion of cumulative occupied spineflower habitat in situ, in a series of spineflower preserves to be managed in perpetuity; and (b) habitat enhancement within the preserves to facilitate expansion of spineflower populations and cumulatively occupied habitat.

In response to this and other comments, the Draft SCP has been revised to clarify and expand upon spineflower management measures. These revisions are described further in **Responses 50 through 109**, below.

[15] California Code of Regulations, tit. 14, § 15091, subd. (d).

**Response 50**

The comment states that "[t]he SCP acknowledges that there is fundamentally no baseline understanding of the processes governing the distribution and abundance of the [spineflower]." The comment quotes from page 14 of the Draft SCP regarding historical records and paraphrases the Draft SCP, stating that processes affecting spineflower distribution and abundance are based on surveys conducted at Ahmanson Ranch and the proposed Project site.

There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR. Section 4.0 of the Draft SCP describes aspects of the species, such as distribution, abundance, existing and historical occurrences, germination, seed viability, and pollinators. Section 5.0 of the Draft SCP and **Subsection 4.5.5.3** of the Draft EIS/EIR provide extensive field survey data compiled by Dudek and Associates over a six-year period (2002-2007) documenting fluctuations in occurrence and abundance over that period, evidently correlated with rainfall and fire patterns. In addition, Section 4.0 the Draft SCP describes and cites studies of spineflower pollination and other ecological investigations (Jones *et al.* 2002, 2004); studies by LaPierre and Wright (2000) of ants and other arthropods as potential pollinators or seed dispersers; and seed germination trials (reports included in work by Sapphos (2003)).

Since publication of the Draft EIS/EIR, the Jones *et al.* studies, already incorporated into the Draft SCP, have been published in the professional literature:

> C.E. Jones et al. 2009. "Reproductive Biology of the San Fernando Valley spineflower, *Chorizanthe parryi* var. *fernandina* (Polygonaceae)." *Madrono* 56:23-42.

The lead agencies believe sufficient information exists, is available, and has been presented and discussed in the Draft EIS/EIR to ensure meaningful environmental review and informed public decision making regarding the proposed Project and the San Fernando Valley spineflower in particular.

**Response 51**

The comment recommends that Objective 1.4 of the Draft SCP should be considered the "first objective" and should be revised to focus on understanding ecological factors in order to manage and monitor the species as a whole rather than in order to manage and monitor spineflower within the preserves.

The order of the objectives listed in Section 3.0 of the Draft SCP does not limit the importance of any individual objectives. Goal 1 is to maintain or increase spineflower populations within the preserves; the specific Objectives 1.1 through 1.5 were developed to achieve Goal 1. Objective 1.4 is important, but not more important than maintaining or increasing the distribution and abundance of spineflower within the preserves (Objectives 1.1 and 1.2).

Furthermore, as described in Section 1.0 of the Draft SCP, the SCP is a conservation, management, and monitoring plan prepared for the protection and management of spineflower on the Project site, not across the range of the species. Spineflower ecological studies to be funded by the applicant under the SCP (*e.g.*, the Habitat Characterization Study (HCS) described in Appendix A of the Draft SCP; seeding and habitat enhancement studies described in Section 10.5.3, and future studies that may be implemented throughout the Adaptive Management Module (Appendix E of the Draft SCP) as described in Section 10.0 of the Draft SCP) would be carried out on Newhall Land and Farming lands, designed and implemented with

the specific intent of informing spineflower management on Newhall Land and Farming lands. Results of these studies would also be useful to land managers at the Laskey Mesa (Ahmanson Ranch) site.

**Response 52**

The comment states that much of the Draft SCP's spineflower analysis is inferred from studies of other species with similar life histories, and that these inferences must be verified by scientific studies of spineflower itself before they are incorporated into spineflower management. The comment also states that the Draft SCP proposes relocation/translocation as a management response to spineflower population decline, and that no relocation/translocation studies to date have shown whether this measure would be successful.

Some inferences regarding spineflower biology are based on studies of related species within the same or closely related genera. For example, inferences regarding seed banks and genetics include consideration of prior research on slender-horned spineflower (*Dodecahema leptoceras*). Other aspects of spineflower life history are based on studies of the species itself. These studies assessed competition with other plants, breeding system, germination and viability, and pollinators (Dudek 2007, Sections 4.7 and 4.8). The description and analysis in the Draft SCP is based on facts, reasonable assumptions, and expert opinion and supports the conclusions and analysis in the Draft EIS/EIR. Please see **Response 50**, above.

The SCP is a conservation and management plan to permanently protect and manage a system of preserves designed to maximize the long-term persistence of the spineflower (*Chorizanthe parryi* var. *fernandina*) within the Project study area. The plan relies primarily, but not exclusively, on preservation and conservation. Seed collection and seed bank conservation as proposed in the Draft SCP are described further in **Responses 91 through 93**, below.

The adaptive management program of the Draft SCP focuses on addressing specific threats, such as invasive, non-native plant species, loss of genetic diversity, fire suppression and exclusion, and trampling. Section 12.3 of the Draft SCP discusses seeding as a remedial action. In response to this and other comments, the Draft SCP has been revised to clarify that seeding and translocation studies would be conducted outside preserve areas as experiments. These studies would be conducted as part of the Adaptive Management Program and would inform future management activities. See **Responses 81**, **92**, **93**, and **100**, below, for additional discussion.

**Response 53**

The comment is an introduction to comments that follow. The comment indicates that following comments (**Comments 54 through 57**) will describe what is known and unknown of spineflower ecology, that the commentor believes the Draft SCP frequently defers to future studies, and believes that these studies should take place before preserve areas and mitigation standards are designated.

There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR regarding the proposed preserve design and management.

Responses to the commentor's specific points are provided below, in **Responses 54 through 57**.

**Response 54**

The comment recommends that a fundamental goal of spineflower conservation should be to understand spineflower population trends and the role and extent of its seed bank (*i.e.*, dormant seed stored in the soil) throughout the Newhall property. The comment notes the extreme year-to-year fluctuations of spineflower populations, citing data from Table 2 of the SCP, and suggests that spineflower may be at high risk of extinction if a catastrophic event strikes a preserve in a low population year and if the seed bank is not adequately protected, especially if spineflower occurrences are confined to a series of isolated preserves. The commentor believes that an understanding of spineflower population dynamics is necessary to ensure that spineflower will persist and increase in the proposed spineflower preserves, and that, without this knowledge, the SCP does not meet its objectives.

Improved understanding of spineflower population biology and seed banking is a stated objective of the Draft SCP. In the Biological Goals and Objectives section of the Draft SCP, Objective 1.4 is to "Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the spineflower in order to inform management and monitoring within the preserves" (Section 3.0 of the Draft SCP, p. 8). This objective encompasses the population trends and the seed bank's role in spineflower population biology noted in the comment. See also **Response 51**, above.

The extreme annual fluctuation in spineflower numbers is consistent with a "seed banking" life history. That is, spineflower seed appears to germinate in favorable years, but to remain dormant in the soil in unfavorable years. Dormant seed, stored in the soil, is termed a "seed bank." San Fernando Valley spineflower seed germination studies by Jones *et al.* (2009)[16] indicate that spineflower seed germinates in high proportion without special treatment, but that seed subjected to simulated overwinter conditions (cold storage and/or 24-hour leaching under running water) exhibited much-reduced germination proportions. In nature, seeds would invariably experience cool weather or intermittent soaking before their natural germination season. These results are preliminary but are consistent with the observation that spineflower apparently "banks" much of its seed until conditions are favorable for large-scale germination and growth.

Small populations, or populations confined to small geographic areas, are at increased risk of local extinction from "catastrophic events" (*e.g.*, landslide). This increased risk would likely apply to spineflower populations within preserves, as proposed in the Draft SCP. This increased risk is one of the reasons for establishing a series of preserves for long-term conservation, as proposed in the Draft SCP. Establishing a system of preserves across a wide area reduces the possibility that a catastrophic event may affect all of the preserves. The conservation strategy as proposed in the Draft SCP and Revised Draft SCP would further reduce this risk by implementing on-site management measures to, among other things, manage or avoid "catastrophic events" such as wildfire or landslide (see Section 9.2.11, Management Response to Wildfire/Geologic Events). Additional information on population dynamics or seed bank function may become available in the future, and that information will further inform and contribute to the long-term conservation of the species through the adaptive management component of the Proposed and Revised SCP. In contrast to the commentor's contention, however, the lead agencies and CDFG in particular believe there is sufficient information available at this point in time to devise an effective conservation strategy for the species necessary to manage the proposed preserve areas, to maintain

[16] C.E. Jones *et al.* 2009. "Reproductive Biology of the San Fernando Valley spineflower, *Chorizanthe parryi* var. *fernandina* (Polygonaceae)." *Madrono 56*:23-42.

existing occupied spineflower habitat in the preserves in its present condition, and to implement other management activities to restore native vegetation and remove existing incompatible land uses within the preserves.

**Response 55**

The comment states again that spineflower populations experience extreme fluctuations from one year to another; and that germination and subsequent blooming occur following late-fall and winter rains. It also states that Section 4.10 (p. 24) of the Draft SCP summarizes seed bank and genetic information for slender-horned spineflower, a close relative of spineflower, but that these results may not be directly applicable to spineflower conservation management. The comment recommends that further investigations into the role of seed banks in spineflower's genetics and population dynamics "is essential before 6.32 acres (31 %) of mapped [spineflower] occurrences on the Newhall property are destroyed . . ."

Additional information on population dynamics and seed bank function would be useful, but not necessary, to devise a successful Project-related conservation strategy for the species, including measures to manage the proposed preserve areas. Please see the more detailed response to this point in **Response 54**, above. Discussion in the Draft SCP relies on facts, reasonable inferences, and expert opinions; see **Response 52**. Analysis in the Draft EIS/EIR concluded that the loss of 6.36 acres of cumulative occupied spineflower habitat (31.4 percent), (SCP Section 7.2, Tables 7 through 12) as would occur under Alternative 2, would be a significant, unavoidable impact.

**Response 56**

The comment notes that the Draft SCP proposes near-term investigations of genetics of the spineflower occurrences in the study area and the viability of seeds produced from self-fertilization (Adaptive Management Program Module, page D-27). The commentor believes that enhanced habitat for pollinators and seed dispersal as proposed in the Draft SCP would provide insufficient management direction for possible future loss of genetic diversity in conserved spineflower populations, and that the proposed investigations would be untimely. Furthermore, the commentor believes that spineflower germination and dispersal are not understood, that proposed preserve sites are too isolated from one another for effective dispersal and migration among them, and that preserve managers would have insufficient information available to maintain or enhance conditions for pollinators, seed dispersal, and migration.

The proposed spineflower preserve system was designed to conserve existing spineflower genetic diversity throughout the plant's range on the Newhall Ranch property. As discussed below, conservation of spineflower genetic diversity would be achieved by preserving and managing spineflower populations within a series of several preserves located across spineflower known geographic extent on the proposed Project site.

The potential for loss of spineflower genetic diversity and management response is described in the Adaptive Management Module, Appendix D of the Draft SCP, on pages D-24 through D-26. Analysis in the Draft SCP and Revised Draft SCP considered potential deleterious effects to local spineflower populations that could result either from: (1) loss of genetic diversity and consequent inbreeding depression in isolated preserved populations, discussed in this response (see Revised Draft SCP (Dudek 2010)); and (2) loss or dilution of localized, genetically unique populations due to introduction of seed from outside sources, discussed further in **Response 68** (see also Revised Draft SCP (Dudek 2010)).

Conservation of spineflower genetic diversity would be achieved by preserving and managing spineflower populations within a series of several preserves located from east to west across spineflower known geographic extent on the proposed Project site, as described in the Draft SCP. Proposed development would reduce potential for gene flow (*i.e.*, seed or pollen dispersal) among preserves. However, four of the five preserves as proposed in the SCP and analyzed as Alternative 2 in the Draft EIS/EIR would be adjacent to additional open space areas, providing biological connectivity to the Santa Clara River corridor and providing opportunity for seed or pollen transport among preserves. Biological connectivity is discussed further in **Response 68**, below.

At least two aspects of spineflower life history, based on research and inference, indicate that inbreeding depression presents a relatively low risk to its long-term conservation. First, plant populations at greatest risk of inbreeding depression are small populations of self-incompatible species.[17] Spineflower is partially self-compatible; that is, plants are able to self-pollinate (Jones *et al.* 2009), and therefore it does not appear to be among species at greatest risk of inbreeding depression. Second, evidence is consistent with a seed banking life history in spineflower (see **Response 54**, above). Seed banking conserves genetic diversity[18] because the dormant seed bank in the soil stores the genetic information of many plants that were successful in a variety of prior years, under varying year-to-year climatic conditions.

In addition to habitat enhancement for pollinators and seed dispersal, adaptive management techniques would be used to provide other strategies to sustain genetic diversity. The Draft SCP (Section 12.0) includes provisions to salvage seed from populations to be taken for development and to collect small proportions of seed from populations within preserves, in years of high seed production. A proportion of this seed would be stored long-term and would be available to introduce genetic diversity into preserved spineflower populations (see Section 10.5.3.1 of the Revised Draft SCP and Appendix E (Adaptive Management Module) in the Revised Draft SCP). Seed collection is discussed further in **Responses 91 through 93**, below. The Adaptive Management Module of the Revised Draft SCP (Appendix E) proposes genetic studies to be completed in the short-term (1-year) and medium-term (1- to 5-year) timeframes (see Section 10.5.3.1 of the Revised Draft SCP and Appendix E (Adaptive Management Module) in the Revised Draft SCP).

**Response 57**

The comment states that insufficient information is available to "maintain conditions conducive to persistence of a viable [spineflower] seed bank" within the preserves, as stated in Objective 1.2 of the Draft SCP.

The lead agencies disagree that there is insufficient information available at this time to devise a successful Project-related conservation strategy for the species, including management and other measures that will maintain conditions conducive to the persistence of a viable spineflower seed bank within the preserves. Proposed preserve management measures will maintain the existing conditions (*i.e.*,

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[17] Porter, J. M., O. Mistretta, and S. Hobbs. 2005. Studies on the Natural History of *Astragalus magdalenae* var. *peirsonii* (Peirson's milk-vetch): Final report. Unpublished report. Claremont, California: Rancho Santa Ana Botanic Garden. http://www.fws.gov/carlsbad/TEspecies/Documents/PMV/Porter%20et%20al%202005%20report.pdf.

[18] Baker, H.G. 1989. "Some Aspects of the Natural History of Seed banks." In *Ecology of soil seed banks,* M. A. Leck, V. T. Parker, and R. L. Simpson (eds.), 9-21. San Diego, California: Academic Press.

avoid altering them) within the cumulative occupied habitat. Specific details of soil conditions would not be necessary to implement this aspect of spineflower habitat management. The observed extreme population fluctuations are probably due to seed banking. Seed banks are described and discussed above, in **Response 54**. The future habitat characterization study would inform future efforts to restore and expand similar, suitable soils within the preserves.

**Response 58**

The comment summarizes the commentor's understanding of the preserve system as an introduction to the comments that follow. The comment states again that the Draft SCP identifies five proposed preserve areas, which would conserve approximately 68.6 percent of the cumulative spineflower occupied area within the study area; that the proposed preserves and related management and monitoring activities are designed as mitigation for the loss of 31 percent of cumulative spineflower occupied area; and that no spineflower preserve is proposed within the VCC planning area, which account for approximately 4 percent of cumulative spineflower occupied area. The comment includes a quote from the Draft SCP at page 113 (not page 144 as cited by the commentor). The comment states that the following comments (**Comments 59 through 90**) will critique SCP preserve design, management, and monitoring activities.

The Draft SCP and Alternatives 2 and 3 as described in the Draft EIS/EIR would not include any spineflower preserve land in the VCC planning area. Alternatives 4 through 7 as described in the Draft EIS/EIR would include a spineflower preserve within the VCC planning area. The Draft EIS/EIR concluded that Project impacts to spineflower of Alternative 2, but not Alternatives 3 through 7, would be significant and unavoidable. The critique of proposed SCP preserve design, management, and monitoring activities are addressed in **Responses 59 through 90**, below.

**Response 59**

The comment reviews the Draft SCP's discussion of the Habitat Stability Index (see Subsection 7.1 of the Draft SCP; note that the index should be Habitat Suitability Index), describing its results as "not satisfactory." In the commentor's view, the follow-up representative model analysis of spineflower habitat within Newhall's proposed preserve designs (*i.e.*, Alternative 2 in the Draft EIS/EIR) implied that the preserve locations and sizes had been chosen before conducting the representative model analysis, and that the proposed preserve locations might have been the best fit for proposed developments rather than spineflower conservation. In the commentor's view, the preserves should be significantly larger and directly connected to each other to minimize the negative influence of outside factors and variables.

The Draft EIS/EIR concluded that Alternative 2, including the spineflower preserve boundaries described in the Draft SCP, would have significant unavoidable impacts to spineflower. Other alternatives analyzed in the Draft EIS/EIR would preserve larger proportions of spineflower cumulative occupied area in larger preserves. The Draft EIS/EIR concluded that impacts of Alternatives 3 through 7, with mitigation measures it identified, would be less than significant.

The comment's assertion, that the proposed preserves should be "significantly larger and directly connected to each other to minimize the negative influence of outside factors and variables" is addressed below in **Responses 60 through 67**, addressing buffer areas, Argentine ants, and biological connectivity; and **Response 72**, addressing landscaping adjacent to preserves.

**Response 60**

The comment briefly discusses preserve buffer areas, recommending that habitat type, pollinators, plant phenology, seed bank viability, edge effects, disturbance factors, drainage, prevailing winds, watershed (local), and other factors should be considered in designing buffer area widths.

The factors listed in this comment are general considerations in buffer design. Buffers are open space areas between the rare species and surrounding land uses. In the Draft SCP and the Draft EIS/EIR, buffer areas are the intervening land between the cumulative occupied spineflower habitat and spineflower preserve boundaries. The function of the buffer area is to minimize the adverse effects of developed land uses on rare species. Adverse effects from adjacent lands are termed "edge effects." For example, buffer areas function to separate occupied rare plant habitat from adverse edge effects of weeds propagating along trails or through fuel modification zones at the edges of a preserve. Buffer areas and edge effects are discussed further in **Responses 61 through 67**, respectively.

**Response 61**

The comment reviews the proposed spineflower preserve design, paraphrasing and quoting from Newhall's Application for Incidental Take Permit for the Newhall Land Resource Management and Development Plan (April 14, 2008), noting that proposed buffer widths would range from 80 feet to more than 300 feet, and that 95.9 percent cumulative occupied habitat would be buffered from adjacent land uses by at least 100 feet. The commentor believes that the 80- to 200-foot buffer areas are inadequate for spineflower, particularly with respect to the adverse effects of Argentine ants. The comment is an introduction to the comments that follow.

The buffer widths summarized in Newhall's Application for Incidental Take Permit, cited by the commentor, describe conditions as proposed by the applicant. The applicant's proposed spineflower preserve system is described in the Draft SCP and in Alternative 2 of the Draft EIS/EIR.

Buffer design as it applies to Argentine ants is discussed further in **Responses 65 through 67**, below. Other aspects of buffer design are discussed below in **Responses 62** and **63**.

**Response 62**

The comment states that the Draft SCP incorporates buffer zones into preserve design to minimize edge effects and certain indirect impacts from development areas; and states that "there is only a brief discussion in the [Draft] SCP on how they determined appropriate buffer size. The buffer areas for the SCP are based on the analysis set forth in the 'Review of Potential Edge Effects on the San Fernando Valley Spineflower,' prepared by Conservation Biology Institute (CBI 2000)." The comment recommends that the CBI 2000 study should be included in the appendices of the EIS/EIR for reference during review and comment.

See **Responses 63 through 67**, below, for further discussion of buffer distances. The CBI report was one of many scientific reports used in preparing the Draft SCP and the Draft EIS/EIR, and was appropriately cited in both documents. Analysis in the Draft EIS/EIR is based on multiple technical sources, which are appropriately cited, and provides decision makers with sufficient information to enable them to take intelligent account of environmental consequences to spineflower.

**Response 63**

The comment states that in the absence of the CBI 2000 study from the published Draft EIS/EIR appendices, the commentor cannot determine what other factors were considered in evaluating suitable buffers within the spineflower preserves.

The comment includes a passage from Draft SCP Appendix C regarding Argentine ants and buffer widths. Argentine ants are addressed further in **Responses 65 through 67**, below.

The mitigation strategy and summary for spineflower is described in **Subsection 4.5.5.3** of the Draft EIS/EIR, on pages 4.5.5.3-1740 through 4.5.5.3-1752. This section describes the potential edge effects that were considered in evaluating suitable buffers within spineflower preserves, including: non-native, invasive plant species; non-native, invasive animal species; vegetation clearing; trampling; changes in hydrology; chemical pollutants; and increased fire frequency. In the Draft SCP and the Draft EIS/EIR, buffer areas were defined as land within proposed spineflower preserves, between the spineflower cumulative occupied habitat areas and the preserve boundaries. That is, the buffer areas are preserve land that "buffers" the rare plants from adverse effects of surrounding land uses. Adjacent land uses such as roads, trails, or fuel modification zones were not considered buffer areas.

Based on the professional judgment of staff and consultants with relevant expertise, buffer widths of 80 to 100 feet, in combination with active management activities and other mitigation measures (SP-4.6-53, SP-4.6-59, SP-4.6-65 through SP-4.6-80, BIO-23 through BIO-31, BIO-33 through BIO-39, BIO-85, and BIO-87), were determined to be effective in buffering spineflower from most adverse edge effects, such as: invasion by newly introduced non-native landscaping plants into cumulatively occupied spineflower habitat, adverse effects of adjacent vegetation clearing for fuel modification, trampling or crushing, and overspray of landscaping chemicals from surrounding areas.

The Draft SCP includes management actions within the proposed spineflower preserves, such as fencing and signage at the boundaries to prohibit trespass, control of weeds, native habitat restoration, prohibitions against alterations to existing hydrology, excluding fuel modification zones within preserves and preparation of a fire management plan and post-fire rehabilitation plan. These measures are described in Section 9 of the Draft SCP.

Furthermore, in order to expand the effective buffer distance between cumulative occupied spineflower habitat and adverse edge effects of surrounding land uses, the Draft SCP also restricts adjacent land uses, including: restrictions on landscape palettes; irrigation; drainage/runoff control; and use of herbicides, pesticides, and fertilizers. These measures are described in Section 9 of the Draft SCP.

In response to comments, the SCP has been revised to incorporate additional management activities and restrictions on adjacent land uses. Please see **Response 66**, below.

**Response 64**

The comment indicates that the following subsection of the comment letter will address buffer distances, including the commentor's belief that distances of 80 to 200 feet are inadequate to protect the preserves from adverse effects of Argentine ants.

The comment is an introduction to comments that follow. Argentine ants and buffer distances are addressed in **Responses 65 through 67**, below.

**Response 65**

The comment notes that Argentine ants can be expected to occur in proposed new development areas and open areas within the proposed Project site. The commentor believes that the proposed 80- to 200-foot buffer areas at spineflower preserves are insufficient to prevent invasion by Argentine ants, citing a recommended 200-meter (656-foot) buffer in San Diego, California, in Suarez *et al.* (1998), and quoting text from that report. The commentor discusses text in Appendix C of the Draft SCP, which suggests that Argentine ants may be less invasive in dry soils in the Santa Clarita Valley than in San Diego area due to drier climate. The comment concludes with the assumption that this distance from the coast is the reason the proposed Project incorporates smaller buffers than recommended by Suarez *et al*. The commentor states in **Comment 66** that conditions in the Project area are unlike San Diego County. See **Response 66**, below.

This response addresses Argentine ant invasions and summarizes available scientific information. Specific Project features and mitigation measures to prevent adverse effects of Argentine ants on spineflower cumulative occupied habitat within spineflower preserves are described below, in **Responses 53 through 66**. Other factors considered in buffer design are discussed above, in **Responses 53 through 63**.

As described in Appendix C of the Draft SCP, on pages 5 and 6, the Suarez *et al.* (1998) study indicates that Argentine ants may penetrate several hundred meters into open space, provided they are unchecked, and conditions, particularly soil moisture, are suitable.

Ecological research has addressed Argentine ant invasions in California in some detail. In native vegetation, Argentine ants spread more widely where soil moisture is available[19] and are most abundant at habitat edges adjacent to irrigated urban lands.[20] At riparian sites in northern California, Holway found that Argentine ants spread readily along perennial stream corridors, but in the same study, they did not spread along intermittent (*i.e.*, seasonally dry) streams.[21] Pitfall trapping experiments show that Argentine ants are active more than 100 m into native shrublands adjacent to developed urban land,[22] but they were

[19] Holway, D. A. 1998. "Factors governing rate of invasion: a natural experiment using Argentine ants." *Oecologia* 115:206-212.

[20] Human, K. G., S. Weiss, A. Weiss, B. Sandler, and D. M. Gordon. 1998. "Effects of abiotic factors on the distribution and activity of the invasive Argentine ant (Hymenoptera: Formicidae)." *Environmental Entomology* 27:822-833.

[21] Holway, D. A. 1998. "Factors governing rate of invasion: a natural experiment using Argentine ants." *Oecologia* 115:206-212.

[22] Suarez *et al*. 1998; Holway, D. A., L. Lach, A. V. Suarez, N. D. Tsutsui, and T. J. Case. 2002. "The causes and consequences of ant invasions." *Annual Review of Ecology and Systematics* 33:181-233.

significantly more common in mesic shrublands (canyons downslope from development, subject to runoff from upslope land uses) than in arid shrublands (mesa surfaces without runoff from adjacent lands[23]).

Where Argentine ants invade, they displace most or all native ant species.[24] They effectively suppress native ants in uplands to distances of at least 50 meters (160 feet) from mesic nest habitat, sometimes farther, depending on moisture or other factors. These suppressive effects were undetectable at 200 meters (660 feet) from the edge.[25]

Argentine ant activity is concentrated near nests, although scattered individual ants forage some distance from the nest. Preserve design and management are not expected to completely exclude foraging Argentine ants. Design and management would exclude nesting ants from preserves and adjacent managed areas, and thus limit the adverse habitat effects associated Argentine ants.

In addition to buffers within the preserves, prevention of Argentine ant invasion within the spineflower preserves would rely on management within and adjacent to the preserves through a variety of mitigation measures, as described below in **Response 66**, to prevent creation of soil conditions that might enable Argentine ants to establish nests, and on management and irrigation practices adjacent to the preserves to avoid or minimize any potential land use effects that might enhance conditions for Argentine ants. Thus, in addition to buffers, the proposed Project's primary management and land use strategies to prevent Argentine ant infestations in spineflower preserves will be to prevent or minimize irrigation, stormwater runoff, or nuisance runoff into the preserves or adjacent areas.

**Response 66**

The commentor states the proposed buffer areas at spineflower preserves are insufficient, citing a Suarez and Case (2003) study which indicates Argentine ants are able to penetrate up to 50 meters (164 feet) from developed lands into adjacent natural habitat in relatively arid Riverside County. The commentor believes that the climate at Newhall Ranch falls somewhere between those of coastal San Diego County and the more arid study sites in Riverside County. The commentor concludes that proposed buffers less than 50 meters (164 feet) wide are insufficient to prevent Argentine ants from invading proposed spineflower preserves.

This response addresses specific Project features and mitigation measures to prevent adverse effects of Argentine ants on spineflower cumulative occupied habitat within spineflower preserves. A summary of available scientific information on Argentine ant invasions is provided above, in **Response 65**. Other factors considered in buffer design are discussed above, in **Response 63**.

Argentine ant invasion into natural lands is correlated with a number of factors, including slope, climate, and soil moisture, as described in **Response 65**, above. As described in Appendix C of the Draft SCP, on pages C-11 and C-12, Argentine ants are expected to invade areas adjacent to urban development where

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[23] Holway, D. A., L. Lach, A. V. Suarez, N. D. Tsutsui, and T. J. Case. 2002. "The causes and consequences of ant invasions." *Annual Review of Ecology and Systematics* 33:181-233.

[24] *Ibid.*

[25] Holway, D. A. 2005. "Edge effects of an invasive species across a natural ecological boundary." *Biological Conservation* 121:561-567.

habitat is suitable, particularly moist soils or irrigated areas. The Draft SCP and Draft EIS/EIR incorporate management measures within the proposed spineflower preserves and restrictions on land uses adjacent to preserve areas to prevent Argentine ant invasion into cumulative occupied spineflower habitat. These include the buffer areas within the preserves (which physically separate cumulative occupied spineflower habitat from adjacent land uses), and the following Project design features, monitoring, and management activities, described in Subsection 9.2.9, Argentine Ants, of the Revised Draft SCP and in **Subsection 4.5.6**, Mitigation Measures, of the Draft EIS/EIR. The key mitigation measures include revised BIO-72, BIO-85, and BIO-87.

As revised BIO-72 requires, in part, that container plants to be installed within public areas within 200 feet of the open space areas shall be inspected by a qualified restoration specialist for the presence of disease; weeds; and pests, including Argentine ants.

BIO-85 includes several elements to protect against Argentine ants:

- Providing "dry zones" between urban development and spineflower populations, where typical soil moistures are maintained at levels below about 10% soil saturation, which will deter the establishment of nesting colonies of ants; and providing dry zone buffers of sufficient width to reduce the potential for Argentine ant activity within core habitat areas.

- Ensuring that landscape container plants installed within 200 feet of preserves are ant-free, to reduce the chance of colonies establishing in areas close to the preserves.

- Using drought-resistant plants in fuel modification zones and minimizing irrigation to the extent feasible.

- Maintaining natural hydrologic conditions in the preserves through the project design features, including for roadways, French drains, irrigation systems, underground utilities, drainage pipes and fencing, storm drains, and any other BMP measures that apply to surface water entering the preserve areas.

As revised, BIO-87 requires quarterly monitoring for Argentine ants along the urban-open space interface at sentinel locations where invasions could occur (*e.g.*, where moist microhabitats that attract Argentine ants may be created). If Argentine ants are detected during monitoring, direct control measures will be implemented immediately to help prevent the invasion from worsening. A general reconnaissance of the infested area would also be conducted to identify and correct the possible source of the invasion, such as uncontrolled urban runoff, leaking pipes, or collected water.

In addition to the management measures identified by the Draft SCP and Draft EIS/EIR, in response to this and other similar comments, the Revised Draft SCP and Final EIS/EIR provide further clarification of spineflower preserve buffer areas and adjacent land uses and incorporate new/modified mitigation measures to maximize adjacent land use compatibility with spineflower preserve management.

Where feasible, development within adjacent land uses (*i.e.*, land uses within 300 feet of spineflower preserve boundaries) will be consistent with the following design features and best management practices:

- Where manufactured slopes are necessary adjacent to preserves, native vegetation will be utilized wherever possible to stabilize these slopes, consistent with the requirements of fuel modification zones. One example might be where a raised roadway provides adequate fire protection and access to fire equipment. In this case, the manufactured slope on the preserve side of the roadway should be planted with native vegetation (see Revised Draft SCP, Subsection 9.2.3)

- Where manufactured slopes drain toward the preserve(s) and in other fuel modification zones adjacent to preserves, a temporary drip irrigation system would be installed to the satisfaction of the County in order to establish the vegetation in these area(s). This system shall continue only until the slope vegetation is established and self-sustaining (see Revised SCP, Subsection 9.2.7).

- Access roads for utilities located within preserve areas shall be maintained, and road runoff shall be directed away from spineflower areas or otherwise managed to prevent erosion of occupied spineflower areas (see Revised Draft SCP, Subsection 9.2.7).

- Storm drains must not impact spineflower either directly or indirectly. Under no circumstances shall storm drains daylight onto steeply sloped areas or other areas that would cause erosion (see Revised Draft SCP, Subsection 9.2.7).

- Where feasible, and/or appropriate, dry areas such as parking lots and roadways shall be built next to preserve boundaries. These will be designed to slope away from the preserve to avoid runoff entering the preserve (see Revised Draft SCP, Subsection 9.2.9).

- Pedestrian pathways placed next to preserves shall consist of decomposed granite or other gravel to minimize the holding moisture, which might provide suitable habitat for the establishment of Argentine ant colonies (see Revised Draft SCP, Subsection 9.2.9).

**Response 67**

The comment paraphrases the Draft SCP as follows: "by maintaining a ‘dry zone' of 200 feet between the urban development and the preserve, the Argentine Ant will not be able to colonize" and concludes that maintaining a dry zone of 200 feet is not adequate, even in combination with buffer areas within the proposed spineflower preserves, to protect against Argentine ant invasion.

Minimizing Argentine ant activity in cumulative spineflower occupied habitat would be achieved through a combination of design features and management actions described above (see **Responses 65** and **66**, above, and **Responses 76** and **79**, below). In addition to the proposed buffer areas, with implementation of Mitigation Measures BIO-85 and BIO-87, including Project design features, monitoring, and management activities, secondary impacts of invasive plant and animal species (including Argentine ants) with respect to the spineflower would be adverse but not significant.

**Response 68**

The commentor states that, for the proposed spineflower preserves to remain viable, it will be important to provide connections to other habitat patches. The comment includes a reproduction from Figure 13 of the Draft SCP. The comment states that the proposed Potrero and Grapevine Mesa preserves would be connected to the Santa Clara River corridor via designated open areas, but that the proposed San Martinez

Grande, Airport Mesa, and Entrada Preserves would only be biologically connected through long and narrow utility easement corridors or wildlife movement corridors associated with heavily trafficked streets. The commentor asserts that preserve areas fail to provide means of migration for spineflower and other plant and animal populations; that Objective 3.1 of the Draft SCP would not be achieved; and that this may result in localized extinctions and a decrease is genetic exchange for isolated populations. The comment includes quoted text from the Draft SCP indicating that it is unknown whether spineflower pollinators or dispersal vectors would be able to reach the proposed San Martinez Grande preserve site (The quoted text appears in Section 7.4, not 7.1 as indicated by the commentor).

Biological connectivity is one aspect of conservation planning considered and evaluated during preparation of the Draft SCP. If a species occurs in disjunct patches within a landscape, but intervening habitat between the patches allows for pollen or seed dispersal among patches, then the patches are said to have biological connectivity.[26] If land uses in the intervening habitat limits or prevents dispersal, then connectivity is reduced or, in some cases, eliminated.

Recognizing the value of biological connectivity, Objective 3.1 of the Draft SCP is to "Maintain or enhance opportunities for migration of plant and animal populations, including spineflower, between potentially isolated preserves." **Response 56**, above, addresses conservation of genetic diversity as proposed in the Draft SCP. In summary, the proposed spineflower preserves were designed to conserve existing spineflower genetic diversity; preserve design allows for biological connectivity among three of the five proposed spineflower preserves; known aspects of spineflower life history indicate that the potential for inbreeding depression presents a relatively low risk to its long-term conservation. The Draft and Revised Draft SCP both include an Adaptive Management Program to study genetic diversity in spineflower.

The commentor's concerns regarding habitat connectivity for spineflower populations are acknowledged and will be made available to decision makers prior to a final decision on the proposed Project.

**Response 69**

The comment addresses the open space land use designation in the Draft EIS/EIR and Draft SCP. The commentor suggests that additional information is needed with respect to open space adjacent to proposed spineflower preserves because these land uses, such as passive or active recreational uses, may affect vegetation and wildlife within the preserves. The commentor quotes a passage from the Draft SCP Section 7.4 to illustrate the commentor's concern that additional information is needed.

Several potential "open space" land uses are proposed in Alternative 2 of the Draft EIS/EIR and the Draft SCP. These include undeveloped land, passive and active use parks, and trails. The mitigation summary and strategy in **Subsection 4.5.5.3** analysis for spineflower, on pages 4.5.5.3-1740 through 4.5.5.3-1752 of the Draft EIS/EIR, describes numerous potential impacts of off-site land uses (*i.e.*, secondary impacts) to spineflower: non-native, invasive plant species; non-native, invasive animal species; vegetation clearing; trampling; changes in hydrology; chemical pollutants; and increased fire frequency. The mitigation summary and strategy also describes mitigation measures to minimize these impacts, typically

[26] Hilty, J. A., W. Z. Lidecker, Jr., and A. M. Merenlender. 2006. *Corridor Ecology: The science and practice of linking landscapes for biodiversity conservation*. Page 50. Washington, D.C.: Island Press.

referred to as "edge effects." The Draft EIS/EIR concludes that secondary impacts to spineflower would be adverse but less than significant. Further detail and clarification of these measures are incorporated into the Revised Draft SCP, discussed in **Responses 60 through 66**, above.

**Response 70**

The comment discusses the purpose of the proposed SCP management plan. In the commentor's view, preserve management would rely on consistent monitoring and future studies, due to incomplete information and proximity to proposed new development.

The comment is an introduction to comments that follow. The mitigation strategy for spineflower relies primarily, but not exclusively, on preservation and conservation. SCP management and monitoring activities are discussed further in **Responses 71 through 90**, below.

**Response 71**

The comment quotes text from Section 9.0 of the Draft SCP discussing the duties of the preserve manager. The commentor recommends two positions, for management and scientific monitoring and investigation.

Initial establishment of preserves, including activities such as fencing and habitat enhancement, would be performed by the applicant under CDFG supervision. Long-term preserve management would be funded by the applicant through performance bonds and a non-wasting endowment. The applicant would be responsible for maintenance and management activities in perpetuity. The Revised Draft SCP clarifies these details (see Section 9.0 of the Revised Draft SCP regarding maintenance and management activities). The conservation land management entity would assign tasks to qualified personnel as appropriate.

**Response 72**

The comment describes one component of the Draft SCP, from Section 9.1.2, involving planting or seeding in areas adjacent to proposed spineflower preserves during construction phases of the proposed Project. The commentor believes that the spineflower Preserve Manager will be unable to manage the invasive plants in the preserves if invasive species were located 200 feet or farther from spineflower preserve boundaries (*i.e.*, within the Project Area). The commentor recommends modifying Section 9.1.2 of the Draft SCP (see also Mitigation Measure BIO-29) to restrict the planting or seeding of invasive species throughout the proposed development and preserve areas.

Measures proposed in the Draft SCP and the Draft EIS/EIR would be adequate to minimize and control threats of invasive plants to the proposed spineflower preserves during construction. The Draft SCP recognizes that invasive weeds may pose a threat to spineflower. The Preserve Management section of the Draft SCP (Section 9.2.10) proposes habitat restoration in agricultural, disturbed, and developed lands within proposed spineflower preserves. Restoration efforts would, among other benefits, reduce abundance of invasive weeds within the preserves. However, in response to this comment, the Revised Draft SCP (see Subsection 9.1.2) and Mitigation Measure BIO-29 have been revised to preclude the use of invasive species in planting or seeding during construction phases throughout the Project area.

**Response 73**

The commentor believes that limiting plant palettes and inspecting container plants, as described in Section 9.2.3 of the Draft SCP, may provide inadequate protection from potential threats to the spineflower preserves, such as disease, weeds, and pests, including Argentine ants. The commentor believes that inspection of all of these container plants would be impracticable or infeasible, particularly for plants to be planted in residential landscaping. The comment quotes from the Draft SCP, that Argentine ants are expected to occur within development areas and Open Areas adjacent to the preserves.

Section 9.2.3 of the Draft SCP and Mitigation Measure BIO-34 of the Draft EIS/EIR specify that container plants designated for public areas within 200 feet of the spineflower preserves will be inspected. The spineflower Preserve Manager would not inspect plants to be planted at private residences. The Draft SCP and Draft EIS/EIR include feasible measures to control Argentine ants within proposed spineflower preserves, as discussed above in **Responses 65 through 67**.

Measures proposed in the Draft SCP and the Draft EIS/EIR would be adequate to minimize and control threats of invasive plants to the proposed spineflower preserves. The Draft SCP recognizes that invasive weeds may pose a threat to spineflower. The Preserve Management section of the Draft SCP (Section 9.2.10) proposes habitat restoration in agricultural, disturbed, and developed lands within proposed spineflower preserves. Restoration efforts would, among other benefits, reduce abundance of invasive weeds within the preserves. The Adaptive Management Program of the Draft SCP (Appendix D) would further control invasive plants through a series of monitoring and management strategies to identify and control potential invasive species.

It is neither practical nor feasible to control species planted by homeowners on private property. Mitigation Measure BIO-34 would require plant palettes proposed for use within public landscaped and Fuel Management Zone (FMZ) areas within 200 feet of a spineflower preserve to be reviewed by the spineflower preserve manager or a qualified biologist to ensure that the proposed plants will not naturalize within the proposed spineflower preserves. Also, Mitigation Measure BIO-72 requires that landscape plants within 200 feet of native vegetation communities shall not be on the California Invasive Plant Inventory (Cal-IPC) (most recent version) or on the list of Invasive Ornamental Plants listed in Appendix B of the Draft SCP.

**Response 74**

The commentor states that Subsection 9.2.4 of the Draft SCP contains the text, "paths proposed for use as nature trails shall have openings in the fencing at identified trailhead locations wide enough only for trail users to pass through" and suggests that this contradicts text earlier in the same section indicating that all portions of the spineflower preserves will be closed except for existing dirt roads and utility easements. The comment references Subsection 9.3.3, Management of Grapevine Mesa, of the Draft SCP (actually Subsection 9.2.2 of the Draft SCP) as indicating an existing dirt road may be incorporated into a pedestrian-only walking trail system upon approval by CDFG.

The text quoted by the commentor appeared in an earlier working draft version of the SCP, which was attached to the Draft Candidate Conservation Agreement. Subsequently, this text was removed, and it does not appear in Subsection 9.2.4 of the Draft SCP that was attached to the Draft EIS/EIR. The Revised Draft SCP is included as **Appendix F1.0** of the Final EIS/EIR.

Regarding the dirt road in the Grapevine Mesa Preserve, the comment accurately characterizes text within Subsection 9.3.2 of the Draft SCP. Mitigation Measure BIO-35 requires that no public access shall be permitted within spineflower preserves. In response to this comment, and for consistency with BIO-35, the Draft SCP had been modified to delete the statement in Section 9.3.2, and clarify that this access road would not be open to the public.

**Response 75**

The comment indicates that trails within preserve areas can lead to soil compaction, trampling, or other impacts to spineflower plants and suggests that no trails should cross spineflower preserves.

The Draft SCP has been revised to clarify that public access to spineflower preserves would be prohibited. See **Response 74**, above.

**Response 76**

The commentor quotes from Section 9.2.9 of the Draft SCP, regarding the management goal of preventing Argentine ant invasions into SCP preserves or associated buffers; use of integrated pest management; and maintenance of habitat conditions inhospitable to Argentine ants between development areas and proposed spineflower preserves. The comment states that the Conservation Biology Institute study cited earlier in the comment letter suggested the 80 to 100 feet buffer would be moderately effective to protect against Argentine ants, and, in the commentor's view, moderate effectiveness would be inadequate for the purpose of spineflower conservation.

**Response 66**, above, describes management measures to prevent Argentine ants from invading proposed spineflower preserves. **Responses 65 through 67**, above, address Argentine ant invasion, buffer widths, and proposed management practices intended to prevent Argentine ant invasion into cumulative occupied spineflower habitat within preserves. Buffer areas are also discussed in **Responses 60 through 63**. In summary, the proposed strategy to minimize adverse effects to spineflower includes: (1) buffer areas within the proposed spineflower preserves (*i.e.*, between the cumulative spineflower occupied habitat and the preserve boundaries); (2) land use design practices on adjacent lands to minimize soil moisture and thus minimize habitat suitability for Argentine ants; and (3) active monitoring and management measures to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves. Subsection 9.2.9, Argentine Ants, of the Revised Draft SCP and Mitigation Measures BIO-85 and BIO-87 describe Project design features, and monitoring and management activities (see **Response 66**). The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant. Section 12.0 of the Revised Draft SCP and Mitigation Measure BIO-87 have been revised to clarify that a conservation land management entity would continue Argentine ant monitoring and control in perpetuity. Please see **Response 95** for additional discussion of funding for SCP management activities.

**Response 77**

The comment indicates that inspecting for pests in those container plants to be installed within 200 feet of the spineflower preserves would be moderately effective in the context of 80- to 100-foot buffers and would be highly effective in the context of buffers greater than 200 feet. The comment notes the CBI (2000) study was not included as an appendix to the SCP.

Inspection of container plants for Argentine ants is one measure among numerous others designed to avoid and minimize impacts of Argentine ants to spineflower preserves. **Responses 65 through 67**, above, address Argentine ant invasion, buffer widths, and proposed management practices intended to prevent Argentine ant invasion into cumulative occupied spineflower habitat within preserves. Buffer areas are also discussed in **Responses 60 through 63**. In summary, the proposed strategy to minimize adverse effects to spineflower includes: (1) buffer areas within the proposed spineflower preserves (*i.e.*, between the cumulative spineflower occupied habitat and the preserve boundaries); (2) land use design practices on adjacent lands to minimize soil moisture and thus minimize habitat suitability for Argentine ants; and (3) active monitoring and management measures to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves. Subsection 9.2.9, Argentine Ants, of the Revised Draft SCP and Mitigation Measures BIO-85 and BIO-87 in the Draft EIS/EIR describe Project design features, and monitoring and management activities (see **Response 66**). The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant. See **Response 76** for additional discussion of revisions to Mitigation Measure BIO-87.

Regarding the CBI (2000) study, see **Response 62**.

**Response 78**

The comment states that monitoring for Argentine ants would be performed quarterly, based on dispersal rates described by Suarez *et al.* (2001),[27] cited in the Draft SCP. The commentor believes that the proposed schedule would be insufficient to prevent Argentine ant invasions into the proposed spineflower preserves. The commentor states that annual dispersal rates of 50 to 885 feet per year could lead to Argentine ant invasions across buffer areas and into preserves within the quarterly monitoring schedule.

Argentine ants have been introduced to every continent except Antarctica and are a well-studied model of ecological invasion by non-native species. Argentine ant dispersal rates in California have been taken into account in developing a monitoring schedule for Argentine ants (see Section 11.5.2 of the Draft SCP). Suarez *et al.* (2001) reported that the average worldwide dispersal rate for invading Argentine ants in areas where they were actively spreading over a three-year minimum period was about 150 m (490 ft.) per year. Suarez *et al*.'s (2001) analysis explicitly excluded data from cases where Argentine ants did not advance during all or part of the study periods: "Invasion fronts that did not advance were dropped from this analysis because the environment at these sites may not be abiotically suitable for Argentine ants. For example, Holway (1998) found that Argentine ants spread at sites with permanent stream flow, but did not at sites with intermittent stream flow. Therefore, including sites at which Argentine ants did not spread would overestimate variation in invasion rates." Thus, the dispersal rates reported by Suarez *et al.* (2001) are not applicable to the proposed Project because preserve design and management will maintain existing, unsuitable habitat that would limit Argentine ant dispersal.

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[27] Suarez, A.V., D. A. Holway, and T. J. Case. 2001. "Patterns of Spread in Biological Invasions Dominated by Long-Distance Jump Dispersal: Insights from Argentine Ants." *Proceedings of the National Academy of Sciences of the United States of America 98*:1095-1100. January 30, 2001.

The Holway (1998) study[28] cited by Suarez *et al.* (2001) estimated Argentine ant dispersal rates within suitable habitat in the Sacramento Valley, California. Holway (1998) found that, in stream channels where flowing water is present, Argentine ants disperse at rates of about 16 meters (52 feet) per year. In unsuitable habitat (*i.e.*, dry or intermittent stream channels), they did not advance into new areas at all and, in fact, retreated at rates of about 6 meters (20 feet) per year. Please also refer to **Response 79**, below, regarding management of soil moisture sources to prevent Argentine ant invasions into natural areas adjacent to development. See **Response 65**, above, for additional discussion and review of scientific literature on Argentine ant biology.

Quarterly monitoring for Argentine ants is one measure among numerous others designed to avoid and minimize impacts of Argentine ants to spineflower preserves, as describe in **Response 66**, above, and reviewed in **Response 77**, above. The proposed land use design practices that would minimize soil moisture on lands adjacent to proposed spineflower preserves are specifically intended to minimize habitat suitability for Argentine ants. These measures, in combination with active monitoring and management to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves, are considered adequate to mitigate secondary impacts of Argentine ants to spineflower below a level of significance. Mitigation Measures BIO-85 and BIO-87 in the Draft EIS/EIR describe Project design features, and monitoring and management activities. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed.

**Response 79**

The comment quotes from Appendix C of the Draft SCP regarding reversibility of Argentine ant invasions. The comment states that no studies have reported successful long-term eradication of the Argentine ant. The comment states further that reducing soil moisture might decrease the abundance of the Argentine ants but would not fully eradicate them.

The comment refers to Appendix C of the Draft SCP, Draft Relationship of Argentine Ant to Conserved San Fernando Valley Spineflower Populations. The statement that Argentine ant invasions "are reversible under appropriate conditions" is based on research reported by Menke and Holway.[29] These researchers investigated the relationship of Argentine ant invasion and dispersal to soil moisture levels. On a naturally dry site, they increased soil moisture by installing drip irrigation emitters. Argentine ants responded to the increased moisture availability by nesting in new areas where no nests had previously been present. When the researchers removed the apparatus, and soil moisture returned to natural levels, the Argentine ant nests were abandoned. Argentine ants were present in low numbers on the experimental site both before and after the experimental manipulation.

The authors interpreted the conservation management implications of their work as follows: "In seasonally dry environments under threat of invasion by Argentine ants, sensible water use practices should be a more prominent consideration of reserve design and management. Our results illustrate, for example, how the interception and diversion of urban run-off could restrict the Argentine ant's spread into

[28] Holway, D.A. 1998. "Factors governing rate of invasion: a natural experiment using Argentine ants." *Oecologia 115*:206-212.

[29] Menke, S. B., and D. A Holway. 2006. "Abiotic factors control invasion by Argentine ants at the community scale." *Journal of Animal Ecology 75*:368-376.

natural areas. The common use of drip irrigation in habitat restoration projects should also be evaluated carefully for unintended consequences (*e.g.*, encouraging invasive species)." And "these results suggest that even small reductions in urban run-off may act to limit *L. humile* in areas that are otherwise too dry."

The Draft SCP and Draft EIS/EIR recognize that Argentine ants would present an ongoing threat to spineflower preserves. Preserve management is not intended to wholly prevent Argentine ant activity within preserves, but instead to prevent or eliminate Argentine ants from nesting, and to minimize their foraging activity, within or adjacent to preserves. **Response 65**, above, reviews scientific literature on Argentine ant biology; **Response 66**, above, describes measures to avoid and minimize impacts of Argentine ants to spineflower preserves. The strategy is briefly reviewed in **Response 77**, above. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed, including the proposed Project (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761).

**Response 80**

The commentor asserts that the SCP "puts a lot of emphasis" on a Habitat Characterization Study, to be conducted in the future. The commentor quotes from Section 9.2.10 of the Draft SCP, and notes that the Spineflower HCS has not yet been conducted. The commentor believes that the study would become the basis for restoration and experimental trials and that the preserve design and management framework in the Draft SCP are premature.

The Spineflower HCS, is discussed in Appendix A of the Draft SCP. The Draft SCP has been revised to clarify that the HCS would be implemented upon issuance of the Incidental Take Permit, and no later than two years after issuance, and prior to proposed development that would be facilitated by the proposed Project, and at such time as favorable rainfall conditions occur (see Section 10.5.4 of the Revised Draft SCP). The proposed spineflower HCS would inform future spineflower seeding or reintroduction experimentation, as proposed in Section 12.0 of the Draft SCP (Section 10.0 of the Revised Draft SCP) (see also **Response 93**, below, and Section 10.0, Adaptive Management, in the Revised Draft SCP). Habitat restoration proposed in Section 9.2.10 of the Draft SCP is not reliant on results of the proposed HCS. Instead, restoration is intended to improve conditions for spineflower by reducing adjacent sources of weed seeds and by improving adjacent habitat for pollinators or seed dispersers. Results of the proposed spineflower HCS also could inform future habitat enhancement under the Adaptive Management Strategy. These results would be useful but not necessary to preserve design and management as proposed in the Draft SCP. The distribution of the spineflower within the Draft SCP study area is well understood based upon 6 years of annual surveys from 2002 to 2007 and spineflower preserve designs as proposed in the Draft SCP and Alternative 2 of the Draft EIS/EIR, as analyzed in all Alternatives of the Draft EIS/EIR, are based upon those survey results.

**Response 81**

The comment quotes from Section 7.3 of the Draft SCP (rather than Section 7.1 as the comment indicates), that "it is not possible at this time to identify suitable habitat for the spineflower," and summarizes two approaches to characterize its habitat, from the Draft SCP. The comment concludes that insufficient data are available on spineflower habitat requirements for spineflower restoration or introduction efforts.

Cumulative occupied spineflower habitat, identified in the Draft EIS/EIR, represents suitable habitat for spineflower. The Draft SCP relies primarily, but not exclusively, on preservation and conservation within proposed preserve areas, which include cumulative occupied spineflower habitat. Habitat restoration proposed in Section 9.2.10 of the Draft SCP is intended to improve conditions for spineflower by reducing adjacent sources of weed seeds and by improving adjacent habitat for pollinators or seed dispersers (see **Response 80**, above), but would not be the primary spineflower conservation mechanism. Similarly, spineflower introduction efforts are proposed as an element of the Adaptive Management Plan in the Draft SCP. In response to this and other comments, the Draft SCP has been revised to clarify that experimental seeding and translocation studies would be conducted outside preserve areas, as part of the Adaptive Management Program, and would inform future management activities. The revised Adaptive Management Section is found in Section 10.0 of the Revised Draft SCP. In response to this and other comments, the Draft SCP has been revised to clarify that seeding and translocation studies would be conducted outside preserve areas as experiments. These studies would be conducted as part of the Adaptive Management Program and would inform future management activities. These elements of the SCP are described further in **Response 93**, below.

**Response 82**

The commentor quotes a goal from the Spineflower Monitoring Program (Section 11.2 of the Draft SCP) and states that the Monitoring Program's purpose is to achieve the biological goals and objective concerning spineflower populations as addressed in Goal 1 (Section 3.0).

This comment is an introduction to comments that follow. **Responses 83 through 90** address the commentor's specific concerns.

**Response 83**

The comment states that proposed restoration and habitat improvements would likely improve conditions for spineflower, but success would be only short term because isolation of the proposed preserves will not allow for spineflower sustainability, using genetic diversity as an example.

The Draft SCP and Draft EIS/EIR have addressed potential risks of reduced genetic diversity to spineflower populations. In addition to providing habitat connectivity for three of the five proposed preserves, the SCP would provide adequate management and monitoring measures to reduce these risks. Genetic diversity is discussed in **Response 56**. In summary, the proposed spineflower preserves were designed to conserve existing spineflower genetic diversity; preserve design allows for biological connectivity among three of the five proposed spineflower preserves; known aspects of spineflower life history indicate that the potential for inbreeding depression presents a relatively low risk to its long-term conservation. Biological connectivity among proposed spineflower preserves is discussed in **Response 68**.

**Response 84**

The comment describes parts of the proposed Spineflower Monitoring Program (Appendix E of the Draft SCP). The comment states that monitoring spineflower areal extent within proposed preserves on 10-year intervals, in years of above-average rainfall. The commentor believes that the rainfall parameter is too vague, and could allow for sampling in rainfall years only 0.1 inch above average. The comment states that average rainfall at the proposed spineflower preserves is unknown because there are no weather

stations at the sites. The commentor believes that the proposed monitoring schedule is insufficient, because adverse changes within the preserves could occur in shorter timeframes, and that damage to spineflower populations or habitat could be irreversible before being documented by monitoring data.

Delineating areal extent of spineflower populations on 10-year intervals, during years of above-average rainfall, would provide monitoring data useful for longer-term habitat management, but this aspect of the proposed monitoring program is not intended to track adverse short-term changes. Short-term variation in spineflower numbers would be monitored annually. The Abundance Sampling design (Section 2.2 of the Monitoring Program, Appendix E of the Draft SCP) would distinguish natural variation in spineflower numbers (*e.g.*, due to rainfall) from any systematic decline (*e.g.*, due to habitat degradation). Densities of spineflower in each preserve would be evaluated each year to track correlations with rainfall or other extrinsic weather-related variables. If spineflower densities changed within a preserve, and the change was not correlated with weather or with spineflower densities in other preserves, then this aspect of the monitoring program would detect it.

The location of spineflower cumulative occupied habitat is well understood, based on six years of extensive surveys (2002 through 2007). Occupied habitat varies somewhat, but not widely, from year to year. The proposed mapping of its areal extent on 10-year intervals, in years of above-average rainfall, would be sufficient to detect distribution changes. The monitoring protocol requires that mapping would be conducted in a year of rainfall greater than one standard deviation above average (Section 2.2 of the Monitoring Program, Appendix E of the Draft SCP); a rainfall year only 0.1 inch above average would not meet this requirement. The Draft SCP proposes to install weather monitoring equipment to ensure that adequate rainfall data would be available.

**Response 85**

The comment states that climate plays a large role in spineflower germination and that, therefore, mapping in years of little precipitation has increased importance. The commentor believes that mapping areal extent of spineflower each year would lead to a better understanding.

The location of spineflower cumulative occupied habitat is well understood, based on 6 years of extensive surveys (2002 through 2007). Occupied habitat varies somewhat, but not widely, from year to year. The proposed mapping of its areal extent on 10-year intervals, in years of above-average rainfall, would be sufficient to detect distribution changes. See also the **Response 84**, above.

**Response 86**

The comment states that the proposed spineflower management and monitoring will be inadequate due to insufficient buffer size, which will allow for threats such as Argentine ants.

Spineflower preserve buffer areas are described above in **Responses 60 through 64**. Argentine ants are discussed above in **Responses 65 through 67** and **76 through 79**. In summary, the proposed strategy to minimize adverse effects to spineflower includes: (1) buffer areas within the proposed spineflower preserves (*i.e.*, between the cumulative spineflower occupied habitat and the preserve boundaries); (2) land use design practices on adjacent lands to minimize soil moisture and thus minimize habitat suitability for Argentine ants; and (3) active monitoring and management measures to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves. The Draft EIS/EIR

concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed.

**Response 87**

The comment states that the monitoring and reporting schedule proposed in the Draft SCP would allow for too much error. The comment includes quoted text from Section 11.5 of the Draft SCP. The commentor asserts that quarterly monitoring for Argentine ants would be inadequate due to dispersal rates reported by Suarez *et al.* (2001).

**Response 78**, above, discusses monitoring for Argentine ant invasions and, if needed, eradication, as one measure among many others for prevention of adverse impacts by Argentine ants to cumulative occupied spineflower habitat. Suarez *et al.* (2001) reported Argentine ant dispersal rates within suitable habitat, where adequate soil moisture is present. Proposed land use design and management practices would minimize soil moisture on lands adjacent to proposed spineflower preserves. These practices are specifically intended to minimize habitat suitability for Argentine ants and, therefore, minimize likelihood that they may disperse into the proposed spineflower preserves, following recommendations made by Menke and Holway (2006). Based on available knowledge of Argentine ant biology, described in **Responses 65**, **78**, and **79** above, the monitoring and reporting schedule proposed in the Draft SCP would adequately protect spineflower cumulative occupied habitat by detecting and eradicating Argentine ant invasions if they occur. Measures designed to avoid and minimize impacts of Argentine ants to spineflower preserves are described in **Response 66**, above, and summarized in **Response 77**, above. Mitigation Measures BIO-85 and BIO-87 in the Draft EIS/EIR describe Project design features, and monitoring and management activities. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed.

**Response 88**

The comment quotes from Section 10.4 of the Draft SCP regarding the exclusion of Argentine ants from the stressors addressed by the Adaptive Management Program. The comment states that Argentine ants will be found in adjacent urban development and that continuous monitoring and treatment will be needed to keep them out of the proposed spineflower preserves. The commentor believes that larger spineflower preserve buffers would require less management for Argentine ants and be more effective at keeping Argentine ants out of the spineflower preserves.

In response to this and other comments, the Draft SCP has been revised to incorporate additional management activities and restrictions on adjacent land uses. For the purpose of controlling Argentine ants, these changes expand the dry areas in land uses adjacent to the spineflower preserves. See **Response 66** for additional discussion of these changes.

Management and monitoring to minimize Argentine ant impacts to cumulative occupied spineflower habitat within proposed spineflower preserves are discussed in Section 9.0, Management Activities of the Draft SCP. **Responses 65 through 67**, above, address Argentine ant invasion, buffer widths, and proposed management practices intended to prevent Argentine ant invasion into cumulative occupied spineflower habitat within preserves. Buffer areas are also discussed in **Responses 60 through 63**. In summary, the proposed strategy to minimize adverse effects to spineflower includes: (1) buffer areas

within the proposed spineflower preserves (*i.e.*, between the cumulative spineflower occupied habitat and the preserve boundaries); (2) land use design practices on adjacent lands to minimize soil moisture and thus minimize habitat suitability for Argentine ants; and (3) active monitoring and management measures to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves. Mitigation Measures BIO-85 and BIO-87 in the Draft EIS/EIR describe Project design features, and monitoring and management activities. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed.

**Response 89**

The comment quotes from Section 11.5 of the Draft SCP regarding the distinction between foraging versus nesting Argentine ants. The commentor believes that discerning foraging from nesting Argentine ants would require onerous training and that, using the methods proposed, full eradication of Argentine ants would be unlikely.

Argentine ants' nests are readily identified by the presence of eggs and larvae in shallow soil where suitable moisture and cover are present. No onerous training would be necessary. The effectiveness of proposed measures to minimize Argentine ant activity and prevent their nesting within and adjacent to proposed spineflower preserves is discussed in **Response 79**, above. Preserve design and management are not expected to completely exclude foraging Argentine ants. Design and management would exclude nesting ants from preserves and adjacent managed areas, and thus limit the adverse habitat effects associated Argentine ants. **Response 65**, above, reviews scientific literature on Argentine ant biology; **Response 66**, above, describes measures to avoid and minimize impacts of Argentine ants to spineflower preserves. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed, including the proposed Project (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761).

**Response 90**

The comment quotes from Section 11.5.2 of the Draft SCP, addressing quarterly monitoring to determine presence or absence of native ant species within the proposed preserves. The comment states that native ants are effective spineflower pollinators and believes that declines in native ants within preserves could directly impact spineflower germination there. The commentor states that quarterly monitoring for native ants and annual reporting of the quarterly results is inadequate. The comment also states that abundance monitoring conducted annually and aerial mapping conducted every 10 years for spineflower is too infrequent, and that risk of extirpations is too great for a state-listed species.

The Draft SCP and Draft EIS/EIR recognize that native ants are important, but not the exclusive, pollinators of spineflower. Both documents recognize that invasive Argentine ants could, if uncontrolled, cause localized extinctions among these native ants. Therefore, the Draft SCP proposes a series of measures to monitor for both native and Argentine ants within preserves; to minimize potential invasions of Argentine ants; and to control Argentine ants if they nest within or adjacent to proposed preserves.

Several species of native ants are among the known spineflower pollinators. Other insects documented visiting the spineflower at the proposed Project site were flies and beetles, described in Section 4.8 of the

Draft SCP. Based on research conducted in part at the Newhall Ranch Project site, Jones *et al.* (2009)[30] reported that spineflower pollination studies are consistent with a generalist, rather than a specialist, pollination strategy. These researchers found that seed set was equivalent when ants were excluded from visiting spineflower, allowing only flying insects to access the spineflower. While ants are important pollinators, spineflower produce similar seed numbers even in the absence of ant pollinators.

Quarterly monitoring and annual reporting for native ants, as proposed in the Draft SCP, would be sufficient to detect any changes in native ant presence that could affect spineflower pollination, because spineflower blooms only annually. The Draft EIS/EIR and Draft SCP recognize the potential adverse effects of Argentine ants to native ant pollinators. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed, including the proposed Project (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761). The Draft EIS/EIR and Draft SCP identify numerous measures to avoid and minimize these effects. **Response 65**, above, reviews scientific literature on Argentine ant biology; **Response 66**, above, describes measures to avoid and minimize impacts of Argentine ants to spineflower preserves.

The commentor's concerns regarding the proposed monitoring schedule for spineflower abundance and areal extent are addressed in **Responses 84** and **85**, above.

**Response 91**

The comment quotes text from Section 12.0 of the Draft SCP (see Section 10.5.3 of the Revised Draft SCP), regarding a potential spineflower reintroduction program.

This comment provides background information to comments that follow. The purpose and methods of seed salvage, seed collection within spineflower preserves, and experimental spineflower propagation efforts as elements of the Adaptive Management Plan are described further in **Responses 92** and **93**, below.

**Response 92**

The comment quotes from Section 12.2 of the Draft SCP, regarding seed collection within the proposed spineflower preserves; and from Section 12.3, Seeding, regarding spineflower seeding within the preserve areas. The commentor believes that sufficient information is not available to identify appropriate soils, geology, aspect, slope, and vegetation conditions to plan future seeding.

The adequacy of available information on spineflower seed biology and habitat is described in **Responses 50 through 57**, above. There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR regarding the proposed preserve design and management.

In response to this and other comments, the Draft SCP has been revised to clarify that seeding and translocation studies would be conducted outside preserve areas as experiments. These studies would be

[30] C.E. Jones *et al.* 2009. "Reproductive Biology of the San Fernando Valley spineflower, *Chorizanthe parryi* var. *fernandina* (Polygonaceae)." *Madrono 56*:23-42.

conducted as part of the Adaptive Management Program and would inform future management activities. The Adaptive Management Program of the SCP is discussed below in **Response 93**. See Section 10.5.3, Spineflower Enhancement Program, of the Revised Draft SCP. The remedial seeding originally proposed in Section 12.3 of the Draft SCP has been eliminated.

**Response 93**

The comment expresses concern regarding the proposed storage of spineflower seed in seed repositories at Rancho Santa Ana Botanic Garden (RSABG) and at the U.S. Department of Agriculture (USDA) National Seed Storage Laboratory and subsequent relocation/translocation of spineflower given the lack of existing relocation/translocation studies for this species.

Long-term seed storage is a well documented and viable strategy for preserving plant genetic biodiversity. For example, The RSABG Seed Conservation Program curates and manages more than 3,000 accessions representing more than 1,600 California native plant species and cultivars. These collections serve professionals in the conservation, botanical, research, education, and horticultural fields. Seed is stored in low humidity and low temperature freezers, following guidelines of Biodiversity International, the Center for Plant Conservation (CPC), and in consultation with the USDA National Center for Genetic Resource Preservation. Through a Memorandum of Understanding with CDFG and USFWS, RSABG is authorized and regularly utilized as the principal repository for germplasm collections of rare, threatened, and endangered California native plant species. RSABG helps to maintain a national collection of some of the most critically endangered plant species. Coordinated by the CPC, regional participating institutions place critically endangered species into cultivation and/or to maintain seed collections of these plants in long-term cold storage.

In response to this and other comments, the Draft SCP has been revised to clarify that seeding and translocation studies would be conducted outside preserve areas as experiments. These studies would be conducted as part of the Adaptive Management Program and would inform future management activities. The revised Adaptive Management section is found in Section 10.0 of the Revised Draft SCP. Seed collection and disposition for salvage and seed collection from preserves would be separate and distinct elements of SCP implementation.

Seed Salvage from Development areas: Revisions to the SCP would require the Applicant to salvage spineflower seed from occupied habitat scheduled for development (the incidental take under otherwise lawful activities, authorized by the Incidental Take Permit), as material for experimental germination, habitat, and life history studies, which may become important in future spineflower management. For example, upon approval of the facilitated Specific Plan developments, the Applicant would be required to salvage spineflower seed or seed bank material from all known cumulative occupied habitat within the development impact area; store the salvaged material appropriately for long-term viability; and implement experimental spineflower life history work. Experimentation with salvaged seeds (or soil from occupied habitat, containing seed bank) would not be conducted within proposed spineflower preserves, but instead conducted at selected open space locations elsewhere within the Project area or other options at the discretion of CDFG. The purposes of conducting experimental work outside the proposed spineflower preserves are: (1) to avoid ambiguity in evaluating preserve management success; and (2) to avoid the possibility of inadvertently altering localized spineflower gene pools by introducing seeds from other sites. Because these activities would be experimental and the potential outcome of required salvage and related activities are uncertain, seed salvage activities and related experiment were not considered by the

lead agencies as contributing to the analyses and determination articulated in the Draft EIS/EIR as to whether adverse Project-related impacts to spineflower would be reduced below a level of significance under CEQA. Further, salvage experimentation is not considered by CDFG at this time as a basis, in and of itself, to meet CESA's full mitigation standard.

Seed Collection within Preserves: The Draft SCP would require the Applicant to collect seed from spineflower occurrences within the proposed preserves. The amount of seed collected within preserves would be limited in any given year (to approximately 5 percent of estimated seed production) to ensure an adequate seed bank is available for spineflower germination and persistence. These seed collections would serve in part as a permanent conservation of spineflower genetic resources (*i.e.*, in the Rancho Santa Ana Botanic Garden Seed Conservation Program, http://www.rsabg.org/collections/256 and USDA National Seed Storage Laboratory in Colorado). In addition, the seed would be stored to ensure its availability for possible future enhancement activities within the preserves. Enhancement activities would be based on results of experimentation with salvaged seeds (as described above).

**Response 94**

The commentor refers to the Spineflower Information Center, a proposed centralized website or FTP server for spineflower scientific and management data, and recommends that the Spineflower Information Center should be accessible to the public for the purpose of transparency.

The purpose of the proposed Spineflower Information Center (described in Appendix D of the Draft SCP, on page D-55) is to make relevant spineflower data available to scientists, preserve managers, and members of the SCP Adaptive Management Working Group. There is no requirement to make such data available to the public. However, periodic monitoring reports will be available to the public upon request.

**Response 95**

The comment states that funding to implement the Draft SCP should be augmented to include contingency funds, a permanent endowment should be established, funding should be in perpetuity, and funding should be provided by the applicant.

In response to this and other comments, the funding section for the SCP has been revised to clarify that funding for management of the spineflower preserve system would be established through both short- and long-term funding mechanisms. Short-term funding (*i.e.*, financial security) would be used to establish preserves and conduct start-up activities such as initial fencing, restoration, and enhancement. These activities would be carried out by the applicant during development of Specific Plan projects, and secured through performance bonds or other financial security acceptable to CDFG. The applicant would be responsible for these activities for a period of 50 years. In addition, the applicant would be required to fund a non-wasting endowment for management activities in perpetuity.

**Response 96**

The commentor believes that the Draft SCP is not a sound or feasible plan to mitigate Project-related impacts to spineflower, and is inadequate to achieve its goal (quoted from page 7 of the Draft SCP). The comment reiterates earlier comments that "essential knowledge" is lacking; that the Draft SCP defers acquisition of this knowledge to the future; and that the Draft SCP would not adequately mitigate

proposed spineflower take. In the commentor's view, the Draft SCP would represent deferred mitigation and is improper under CEQA.

Analysis in the Draft EIS/EIR concluded that impacts to spineflower individuals would be significant and unavoidable under Alternative 2, but that impacts under Alternatives 3 through 7 would be less than significant with mitigation (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761). The Draft EIS/EIR and the Draft SCP describe an overall mitigation strategy and identify a series of specific mitigation measures. These mitigation measures are clarified in the Revised Draft SCP and Final EIS/EIR. The mitigation strategy consists of: (1) preserving and managing a large proportion of cumulative occupied spineflower habitat in situ, in a series of spineflower preserves to be managed in perpetuity; (2) habitat enhancement within the preserves to facilitate expansion of spineflower populations and cumulative occupied habitat. Cumulative occupied spineflower habitat has been identified and mapped within the proposed preserves during numerous field surveys. Proposed spineflower preserve design and management takes into account the distribution and acreage of known cumulative occupied habitat; buffer areas to minimize indirect effects of adjacent land uses; biological connectivity; pollination biology; and other factors described in the Draft SCP, analyzed in the Draft EIS/EIR, and is discussed further in **Responses 48 through 108**. Sufficient information is available at this time to devise an effective Project-related conservation strategy for spineflower, as well as sufficient information to evaluate the effectiveness of the Draft SCP and related mitigation identified in the Draft EIS/EIR. That evaluation is presented in **Subsection 4.5.5.3** of the Draft EIS/EIR, starting on page 4.5-1735, and the adequacy of available information regarding spineflower is described in several of the responses to comments, above. As discussed in **Responses 49** and **70**, the mitigation strategy for spineflower relies primarily on preservation and conservation. Proposed spineflower preserve areas would be offered to CDFG as a permanent conservation easement within one year of 2081 permit issuance, and would be appropriately funded as required under mitigation measure BIO-23, thus ensuring that mitigation is not deferred. In addition, SCP management and monitoring activities are discussed in **Responses 71 through 90**, above. There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR regarding the proposed preserve design and management. Future habitat enhancement or other spineflower management measures would be informed through results of proposed Adaptive Management strategy. Information to be developed through that element of the Draft SCP will be useful, but not necessary, to the overall mitigation strategy. In contrast to the commentor, CDFG does not believe the Draft or Revised SCP constitute improper deferral of mitigation under CEQA.

**Response 97**

The commentor asserts that, "implementation of the SCP fundamentally depends upon meeting Goal 1 and attendant objectives" of the Draft SCP, and that the other stated goals are subsidiary to Goal 1. The comment quotes Goal 1 and Objectives 1.1 through 1.5 from Section 3.0 of the Draft SCP. The comment describes the intent to focus further comments on "the problems with Goal 1 and its objectives," which, in the commentor's view, "render the [Draft] SCP inoperative as a valid mitigation plan under CEQA."

The Draft SCP is part of the applicant's proposed Project. The Draft EIS/EIR identifies mitigation measures and alternatives that would further reduce or avoid significant impacts to spineflower. Analysis in the Draft EIS/EIR concluded that impacts to spineflower individuals would be significant and unavoidable under Alternative 2, but that impacts under Alternatives 3 through 7 would be less than significant with mitigation (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761).

This comment is an introduction to **Comments 98** and **99**, which further discuss Goal 1 and Objectives 1.1 through 1.5. **Responses 98** and **99** are provided below.

**Response 98**

The comment reiterates concerns described above in **Comments 50** and **53 through 55** regarding spineflower population trends and the role and extent of the seed bank, and recommends again that an understanding of these processes across spineflower overall range on the Newhall property should be a fundamental goal of spineflower conservation.

There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR regarding the proposed preserve design and management. Population fluctuation and seed bank ecology are discussed in **Responses 53 through 55**, above. Conservation of spineflower genetic diversity across its range on the proposed Project site is discussed in **Response 56**, above. Further, **Response 50**, above, summarizes the present knowledge of spineflower distribution, abundance, existing and historical occurrences, germination, seed viability and pollinators (from Section 4.0 of the Draft SCP), and extensive field survey data compiled by Dudek and Associates over a six-year period (from Section 5.0 the Draft SCP). Additional information on population dynamics and seed bank function would be useful, but not necessary, to manage the proposed preserve areas.

**Response 99**

The comment states that there is insufficient background understanding of spineflower to implement Objectives 1.1 and 1.2 of the Draft SCP to increase or maintain spineflower distribution and abundance. The commentor believes that these objectives are not practicable and that necessary research to maintain spineflower distribution and abundance is deferred to future studies. In the commentor's opinion, these perceived shortcomings negate the SCP's validity and would violate Code of Regulations, tit. 14, § 15126.4. The comment notes that further comments (100 through 108, below) provide further detail on "deficient" background knowledge.

The spineflower mitigation strategy relies primarily, but not exclusively, upon on-site preservation and conservation. Proposed spineflower preserve areas would be offered to CDFG as a permanent conservation easement, in advance of project impacts for each applicable tract map, and would be appropriately funded as required under mitigation measure BIO-23, thus ensuring that mitigation is not deferred. The strategy, as outlined in Mitigation Measures SP-4.6-53, SP-4.6-59, SP-4.6-65 through SP-4.6-80, and BIO-23 through BIO-31, BIO-33 through BIO-39, BIO-85, and BIO-87, consists of: (1) preserving and managing a large proportion of cumulative occupied spineflower habitat in situ, in a series of spineflower preserves to be managed in perpetuity; (2) habitat enhancement within the preserves to facilitate expansion of spineflower populations and cumulative occupied habitat. There is adequate information about the basic ecological processes governing spineflower distribution and abundance to support the analysis and conclusions in the Draft EIS/EIR. Section 4.0 of the Draft SCP describes aspects of the species, such as distribution, abundance, existing and historical occurrences, germination, seed viability, and pollinators. Section 5.0 of the Draft SCP and **Subsection 4.5.5.3** of the Draft EIS/EIR, starting on page 4.5-1732 provide extensive field survey data compiled by Dudek and Associates over a 6-year period (2002 to 2007) documenting fluctuations in occurrence and abundance over that period, evidently correlated with rainfall and fire patterns. In addition, Section 4.0 of the Draft SCP describes and

cites studies of spineflower pollination from other ecological investigations (C.E. Jones *et al*. 2002, 2004); studies by LaPierre and Wright (2000) of ants and other arthropods as potential pollinators or seed dispersers; and seed germination trials (reports included in *Sapphos* (2003)). Related **Comments 100 through 108** are addressed below.

Finally, in contrast to the commentor, CDFG does not believe the Draft or Revised SCP constitute improper deferred mitigation under CEQA.

**Response 100**

The commentor reiterates previous comments regarding the spineflower Adaptive Management Program, including relocation/translocation, seed storage, and the proposed Habitat Characterization Study. The comment quotes from Fiedler (1991) regarding limited success and uncertainty of reintroduction attempts with special-status plants in California. The comment quotes from the Spineflower Draft Candidate Conservation Agreement (page 18) regarding the experimental nature of spineflower reintroduction. The commentor believes that there is insufficient information to show that a reintroduction program is feasible. The commentor believes that acquisition of needed information is improperly deferred. The comment states that the proposed Project as described in the Draft SCP and Draft EIS/EIR would result in the loss of 6.32 acres (31 percent) of mapped spineflower cumulative occupied habitat on the proposed Project site, and that the proposed HCS has not yet been implemented.

The Adaptive Management Program of the Draft SCP focuses on addressing threats such as invasive, non-native plant species, loss of genetic diversity, fire suppression and exclusion, and trampling. Section 12.3 of the Draft SCP discusses seeding as a remedial action. In response to this and other comments, the Draft SCP has been revised to clarify that seeding and translocation studies would be conducted outside preserve areas as experiments. These studies would be conducted as part of the Adaptive Management Program and would inform future management activities. Proposed salvage and seeding measures are described further in **Responses 92** and **93**, above.

The quoted text is from the Draft Candidate Conservation Agreement. The Draft Candidate Conservation Agreement was submitted to the USFWS in February 2008.[31] It does not fully reflect the role of the Adaptive Management Plan, including experimental seeding, as intended in the Draft EIS/EIR and Draft SCP. The Draft EIS/EIR does not rely on experimental spineflower seeding efforts to reduce impacts to less than significant. The Final EIS/EIR and the Revised Draft SCP clarify the role of the proposed Adaptive Management Module, including experimental seeding. The Draft Candidate Conservation Agreement would be revised to reflect the contents of the Final EIS/EIR and the Revised Draft SCP.

The assertion that the proposed spineflower mitigation strategy would defer mitigation is addressed above, in **Response 96**. The Draft EIS/EIR and the Draft SCP describe an overall mitigation strategy and identify a series of specific mitigation measures. These mitigation measures are clarified in the Revised SCP and Final EIS/EIR.

[31] Newhall Land and Farming Company and USFWS. 2008. *Draft Final Candidate Conservation Agreement for the San Fernando Valley Spineflower*.

The Draft EIS/EIR concluded that impacts of the proposed Project (Alternative 2, described in the Draft SCP) would result in significant unavoidable impacts to spineflower. The implementation schedule for the proposed Spineflower HCS is described in **Response 80**, above.

**Response 101**

The comment states that knowledge of spineflower genetic structure and seed bank are lacking, and that these are needed for management purposes. The comment infers from literature cited in the Draft SCP the roles of seed banks in genetic diversity among populations, and states that comparable research for spineflower is unavailable. The comment quotes from the Draft SCP Adaptive Management Program Module regarding planned spineflower genetic studies, indicates that the proposed work could not be completed within the proposed timeframe, and recommends completion of genetic research prior to approving the Draft SCP and consequent loss of occupied habitat.

Additional information on population dynamics and seed bank function would be useful, but not necessary, to devise an effective Project-related conservation strategy for spineflower at this time, including measures to manage the proposed preserve areas. The description and analysis in the Draft SCP is based on facts, reasonable assumptions, and expert opinion and supports the conclusions and analysis in the Draft EIS/EIR. Please see **Response 52** regarding the appropriate use of inferences. Please see **Responses 54 through 57**, above, regarding spineflower population genetics, the potential effects of the proposed Project to its population genetics, and proposed monitoring measures and potential management responses. Analysis in the Draft EIS/EIR concluded that the loss of 6.36 acres of cumulative occupied spineflower habitat (31.4 percent) (SCP Section 7.2, Tables 7 through 12) as would occur under Alternative 2, would be a significant, unavoidable impact.

**Response 102**

The comment cites pollination studies conducted on the proposed Project site by Jones *et al.* (2004). The commentor believes that spineflower pollination biology is relatively unknown and that project impacts to potential pollinators (*i.e.*, ants, flies, beetles, and honeybees) must be mitigated. The comment states that invasion by Argentine ants into proposed spineflower preserves would pose threats to such pollinators. The comment states that Argentine ants often displace native invertebrates. The commentor acknowledges the Draft EIS/EIR's analysis of potential adverse impacts of Argentine ants and the measures identified to mitigate these impacts. The comment quotes from page D-25 of the Adaptive Management Program Module regarding potential role of European honeybees in spineflower pollination. The comment quotes from the Draft Candidate Conservation Agreement[32] regarding the likelihood that ants are not the only spineflower pollinators. The commentor believes that the Draft SCP should have examined pollinators in greater detail, and the Draft EIS/EIR should have assessed potential Project impacts to those pollinators and seed dispersers. The commentor states that spineflower preserves should be large enough to ensure that viable populations of spineflower pollinators can persist.

Scientific information indicates that spineflower is pollinated by numerous insects, including native ants, and is capable of self-pollination. The Draft SCP and Draft EIS/EIR recognize that native ants are important, but not the exclusive, pollinators of spineflower. The Draft SCP and Draft EIS/EIR take

[32] Newhall Land and Farming Company and USFWS. 2008. *Draft Final Candidate Conservation Agreement for the San Fernando Valley Spineflower*.

pollination into account in the analysis of impacts and provide numerous design and management measures to provide habitat for pollinators and to minimize effects of Argentine ants on spineflower pollinators.

Scientific information evaluated for the Draft SCP and Draft EIS/EIR provides a substantial basis to account for spineflower pollination biology in spineflower preserve design and management. Analysis of pollination biology in the Draft EIS/EIR is based on unpublished reports by Jones *et al.* (2002, 2004), which are appropriately cited, and provides decision makers with sufficient information to enable them to take intelligent account of environmental consequences to spineflower pollinators. Note that since public release of the Draft EIS/EIR, these unpublished reports have been incorporated into a formal paper published in the scientific literature.[33] The 2009 publication synthesizes data presented in the earlier unpublished reports within the broader context of plant reproductive biology. This publication summarizes existing information; it does not present new information relevant to spineflower conservation at the proposed Project site.

Pollination biology in spineflower has been carefully documented at the Laskey Mesa site and at the proposed Project site. The role of native ants and other insects as spineflower pollinators is described above in **Response 90**. Research has concluded unequivocally that native ants are effective pollinators of spineflower and that numerous other insects also may serve as spineflower pollinators (Jones *et al.* 2004). Several species of native ants are among the known spineflower pollinators. Other insects documented visiting the spineflower at the proposed Project site were flies and beetles, described in Section 4.8 of the Draft SCP. Based on research conducted in part at the Project site, Jones *et al.* (2004, 2009) reported that spineflower pollination studies are consistent with a generalist, rather than a specialist, pollination strategy.

The Draft EIS/EIR and Draft SCP recognize the potential adverse effects of Argentine ants to native invertebrates, including spineflower pollinators and potential seed dispersers. The Draft EIS/EIR concludes that, with implementation of identified mitigation measures, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed, including the proposed Project (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761). The Draft EIS/EIR and Draft SCP identify numerous measures to avoid and minimize these effects. **Response 65**, above, reviews scientific literature on Argentine ant biology; **Response 66**, above, describes measures to avoid and minimize impacts of Argentine ants to spineflower preserves.

The Jones *et al.* pollination studies documented European honeybees as spineflower pollinators at the Laskey Mesa site (Jones *et al.* 2002, 2009), but not at the proposed Project site during 2004 (Jones *et al.* 2004, 2009). As discussed above, research has concluded that native ants are effective pollinators of spineflower regardless of the presence of other insects, including European honeybees. Further, European honeybees are not native to southern California, and spineflower conservation management would not rely on them as spineflower pollinators. Therefore, while European honeybees may play some role in the pollination of spineflower, any potential impacts to honeybees would not be significant given spineflower generalist pollination strategy.

[33] C.E. Jones *et al.* 2009. "Reproductive Biology of the San Fernando Valley spineflower, *Chorizanthe parryi* var. *fernandina* (Polygonaceae)." *Madrono 56*:23-42.

Existing native habitats and additional restored habitat would provide habitat for spineflower pollinators within each of the proposed preserves. The proposed spineflower preserve system includes native habitats, primarily California sagebrush scrub but also several acres of chaparral, oak woodlands, and other sagebrush shrublands, making up about 50 percent of proposed preserve lands within four of the five proposed reserves (Tables 14 through 18 of the Draft SCP, Subsections 8.1 through 8.5). Subsection 9.10 of the Draft SCP describes proposed restoration activities within the proposed preserves to increase native shrub cover in disturbed areas, agricultural land, and non-native annual grasslands.

**Response 103**

The comment states that little is known about spineflower seed dispersal and that Argentine ants may pose a threat to native spineflower seed dispersers, perhaps including native seed-eating (granivorous) species. The comment reports that it is unclear whether small mammals may play a role in spineflower seed dispersal. The commentor believes that the buffer areas as proposed under the Draft SCP current plan would be inadequate to prevent invasion by Argentine ants. The comment indicates that further comments regarding Argentine ants and proposed Integrated Pest Management (IPM) are located later in the letter.

The Draft EIS/EIR and Draft SCP recognize the potential adverse effects of Argentine ants to native invertebrates, including spineflower pollinators and potential seed dispersers. The Draft EIS/EIR and Draft SCP identify numerous measures to avoid and minimize these effects. **Responses 65 through 67**, above, address Argentine ant invasion, buffer widths, and proposed management practices intended to prevent Argentine ant invasion into cumulative occupied spineflower habitat within preserves. Buffer areas are also discussed in **Responses 60 through 63**. Buffer areas and control measures for Argentine ants are also discussed in **Responses 76 through 78**. In summary, the proposed strategy to minimize adverse effects of Argentine ants to spineflower includes: (1) buffer areas within the proposed spineflower preserves (*i.e.*, between the cumulative spineflower occupied habitat and the preserve boundaries); (2) land use design practices on adjacent lands to minimize soil moisture and thus minimize habitat suitability for Argentine ants; and (3) active monitoring and management measures to detect and eradicate Argentine ant nests that may occur within or adjacent to the proposed spineflower preserves. Mitigation Measures BIO-85 and BIO-87 in the Draft EIS/EIR describe Project design features, and monitoring and management activities. The Draft EIS/EIR concludes that, with implementation of mitigation measures it identifies, secondary impacts of Argentine ants to spineflower would be adverse but less than significant for all Alternatives analyzed, including the proposed Project (see Draft EIS/EIR **Subsection 4.5.5.3**, page 1761).

This comment also states that the commentor has further comments regarding IPM. The comment letter, however, does not contain any subsequent comments regarding IPM. The commentor does mention IPM in **Comments 5** and **76**, above. In response to these and other comments, Mitigation Measure BIO-64 has been revised to clarify the required contents and performance criteria to be included in the IPM Plan.

**Response 104**

The comment paraphrases from Section 5.3.2 of the Draft SCP regarding soil characteristics in spineflower cumulative occupied habitat. The comment states that spineflower occurs in disturbed soils, including areas disturbed by fossorial (burrowing) rodents. The comment cites the hypothetical remark from the Adaptive Management Module of the Draft SCP regarding soil disturbance. The comment

suggests that spineflower may rely on fossorial rodents and that rodent populations may be affected by spineflower preserve sizes. The commentor believes that spineflower soil requirements require further investigation for habitat enhancement and that information for decision-making is unavailable.

The proposed HCS discussed above in **Response 80** would provide additional information on spineflower soil requirements. Results of the proposed Spineflower HCS also could inform future habitat enhancement under the Adaptive Management Strategy. These results would be useful but not necessary to preserve design and management as proposed in the Draft SCP. Habitat restoration proposed in Section 9.2.10 of the Draft SCP is not reliant on results of the proposed HCS. Instead, restoration is intended to improve conditions for spineflower by reducing adjacent sources of weed seeds and by improving adjacent habitat for pollinators or seed dispersers.

The proposed spineflower preserves described in the Draft SCP and analyzed as Alternative 2 in the Draft EIS/EIR range in size from about 14 acres to about 46 acres. These preserves support a variety of grassland and ruderal habitat known to support a diverse range of burrowing rodents, including California ground squirrels and Botta's pocket gophers. These species are relatively fecund and able to persist in a range of habitats. The proposed preserve sizes would be large enough to maintain populations of several local fossorial rodent species. For example, California ground squirrels typically have overlapping home ranges of 0.4 to 0.6 acres and Botta's pocket gopher home ranges average about 0.06 acre.[34] Based on the ecology of these species, it is likely that the proposed preserves would remain viable habitat for several burrowing mammals.

**Response 105**

The comment quotes a discussion of spineflower habitat characteristics from Section 4.6 of the Draft SCP, noting that spineflower occurs primarily on slopes with south-facing aspects, which experience greater solar insolation (heating and drying), leading to less dense vegetation cover than slopes on northern exposures, and that spineflower may tend to occur on these slope exposures due to their sparse vegetation cover.

The comment does not address the adequacy of the environmental review provided by the Draft EIS/EIR. No further response is provided; however, the comment will be included in the record and made available to decision makers prior to a decision on the proposed Project.

**Response 106**

The commentor suggests that if excess nitrogen in the soil is depleted, non-native plant species may experience a reduction in density or die off, which could result in an advantage to native species.

The lead agencies view the commentor's remarks as speculative and unfounded. Moreover, because the comment does not address the adequacy of the environmental review provided by the Draft EIS/EIR, no further response is provided. However, the comment will be included in the lead agencies' administrative records and made available to decision makers prior to any decision on the proposed Project.

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[34] Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White, eds. 1990. *California's Wildlife: Volume III. Mammals.* Sacramento, California: CDFG.

**Response 107**

The comment states that there is no evidence that disease or predation affect spineflower, quoting the Draft Candidate Conservation Agreement, and that the former Ahmanson Ranch site and the proposed Project site have been subject to livestock grazing for many decades. The commentor asserts that the Draft SCP defers to the proposed HCS to document the extent of herbivory and to address possible spineflower browsing, effects of herbivory and management for spineflower plants, and notes that the HCS has not yet been conducted.

The commentor infers from the proposed preserve design that the proposed preserves would be isolated, resulting in declines of top predators such as mountain lion, coyote, bobcat, and raptors. The commentor believes that reduced predation could cause increases in small mammal numbers, subsequent increased herbivory upon spineflower, or increased competition with invertebrates that may disperse spineflower seed. The comment quotes from the Adaptive Management Module of the Draft SCP regarding biological connectivity among the proposed preserves and other natural open space areas within the proposed Project area. The commentor believes that the proposed preserves would be located too far apart to ensure biological connectivity.

The statement from the Draft Candidate Conservation Agreement,[35] that disease or predation "are not applicable threats to survival of the spineflower" is based on the known persistence of spineflower on lands where livestock grazing has been an important land use for decades. spineflower persistence is apparently consistent with these grazing practices. The statements in the Draft Candidate Conservation Agreement are consistent with these observations. Regardless, the Draft SCP does not propose livestock grazing within the proposed spineflower preserves. There have been no studies of herbivory by native or introduced animal species (*e.g.*, rodents or insects) on spineflower. There also have been no anecdotal observations of spineflower damage by herbivory reported in field studies (Dudek and Associates 2002A, 2002B, 2002C, 2004B, 2004C, 2004E, 2004F, 2004G, 2004H, 2006F, 2006G, 2006H, 2006I, 2006J, 2006K; Dudek 2007F, 2007G, 2007H; FL*x* 2004B, 2005, 2006A; Jones *et al.* 2002, 2004). Although there is currently no evidence that herbivory or seed predation (*i.e.*, granivory) present important threats to spineflower, the Adaptive Management Program Module recognizes these as potential stressors and proposes monitoring and management strategies to address them as needed.

Implementation schedule for the Spineflower HCS is discussed in **Response 80**, above. The Revised Draft SCP has been revised to clarify that the HCS would be implemented upon issuance of the Incidental Take Permit, and no later than two years after issuance, and prior to proposed development that would be facilitated by the proposed Project, and at such time as favorable rainfall conditions occur.

Biological connectivity, as it may affect spineflower pollination and seed dispersal, is addressed above in **Response 68**. In summary, preserve design allows for biological connectivity among three of the five proposed spineflower preserves.

Draft EIS/EIR **Subsection 4.5.5.2.4**, Impacts to Wildlife Movement and Habitat Connectivity, analyzes impacts to wildlife movement, including top predators such as mountain lion, coyote, bobcat, and raptors. The analysis determined impacts to local wildlife corridors would be significant, absent mitigation

[35] Newhall Land and Farming Company and USFWS. 2008. *Draft Final Candidate Conservation Agreement for the San Fernando Valley Spineflower*.

because local wildlife movement would be constrained due to development, but that impacts to landscape habitat connectivity and wildlife crossings (*i.e.*, proposed bridges over the Santa Clara River and culvert undercrossing of State Route 126 (SR-126)) would be adverse, but not significant. Impacts to wildlife corridors would be less than significant with mitigation measures, which would provide for continued wildlife access. Key mitigation measures include SP-4.6-23, SP-4.6-37, and BIO-19, which refer to dedication of the River Corridor SMA, High Country SMA, and Salt Creek area, respectively. In addition, SP-4.6-56 requires downcast luminaries to direct lighting away from natural areas and BIO-59, which provides for a wildlife movement corridor plan, which includes design criteria for road crossings and methods to encourage passage, such as lighting, bubblers, and vegetation planting. Although the proposed new land uses would tend to isolate the proposed spineflower preserves from certain predators that are sensitive to development (*i.e.*, mountain lions), other predators of small mammals, including raptors and coyotes, would still have access to the spineflower preserves. Raptors are highly mobile and would not be inhibited from foraging in the spineflower preserves. Coyotes are adaptable to urbanized settings and would be able to access the spineflower preserves. The Potrero, San Martinez Grande, and Grapevine Mesa preserves are directly connected to open space (see **Figure 4.5-139,** Alternative 2 Spineflower Preserve Areas with Adjacent Land Use, of the Draft EIS/EIR). Airport Mesa also would be accessible via adjacent natural open space. The Entrada preserve would be the most isolated from large open space areas, but it is bounded on the south by a golf course and is crossed by an east-west Southern California Edison (SCE) utility easement and unpaved access road, which coyotes would readily use. Because these predators would still have access to the preserves, no substantial increase in small mammal populations is expected within proposed spineflower preserves due to a lack of top predators. Therefore, no substantial increase in herbivory upon spineflower or competition with invertebrate seed dispersers would occur. Further, the Draft SCP includes a monitoring plan and an Adaptive Management Plan, which would address potential stressors to spineflower within the preserves.

**Response 108**

The comment quotes from the Draft SCP Section 11.6 regarding installation of rain gauges and possibly other monitoring devices on the proposed spineflower preserves. The comment notes that spineflower populations vary widely from year-to-year, that additional data may shed light on specific climatic cues for germination, that there is no self-recording weather station closer than about five miles from the site, and that nearby rain gauges are in differing topographic positions. The comment states that reliance on these nearby sources could be misleading.

The comment states that the SCP does not address the potential implications of climate change and quotes a passage from the Adaptive Management Plan (Appendix D of the Draft SCP). The commentor recommends addressing potential effects of climate change on spineflower persistence by evaluating whether spineflower preserves would provide for potential movements of spineflower populations due to climate change. The comment also recommends addressing climate change within the Adaptive Management framework of the SCP.

The Draft SCP proposes to install weather monitoring equipment to ensure that adequate rainfall data would be available.

The Adaptive Management element of the Draft SCP is designed to detect and track threats to spineflower populations within proposed preserves. Climate change may affect spineflower, but it would be speculative to analyze exactly what the effects of climate change will be on this species, and even more

speculative to analyze the impacts of the proposed Project in the context of climate change with respect to this species. Where climate change may indirectly affect spineflower by affecting one or more threats identified in the Adaptive Management Section, then it would be accommodated within the Adaptive Management Plan. Please see Section 10.0, Adaptive Management, of the Draft SCP for additional discussion of the Adaptive Management program for spineflower.

The Draft EIS/EIR uses all available, non-speculative information to evaluate the impacts of the proposed project on spineflower. Although seed dispersal mechanisms are not well understood, three of the five proposed spineflower preserves would be linked via open space corridors to the Santa Clara River corridor, providing biological connectivity to a wider area.

**Response 109**

This comment summarizes previous comments. The comment does not address the adequacy of the Draft EIS/EIR, therefore no further response is provided; however, the comment will be included in the record and made available to decision makers prior to a decision on the proposed Project.