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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.

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.

DMEC

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.)

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]).

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.

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.

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[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).

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.

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."

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.

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.

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).

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

- ***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*

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*.

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.

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.

[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.

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). 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). o Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380). o Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001). o Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 & 4 in CNPS 2001). o Plants listed by CNPS as locally rare (Lake 2004, Magney 2003, Magney 2008, Wilken 2003). 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). o Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). 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). 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). o Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380). 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). o Animal species of special concern to the CDFG. o Animal species that are fully protected in California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]).

jurisdictions. 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.

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. **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). S1.1 = very threatened S1.2 = threatened 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). S2.1 = very threatened S2.2 = threatened 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). S3.1 = very threatened S3.2 = threatened 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.	

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.

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).

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".

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."

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

[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.

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."
>
> "*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."

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.

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.

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.

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.

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.

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?
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?

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.

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:

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.

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.

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.

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[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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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).

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.

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).

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.

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.

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).

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).

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

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

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*".

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.

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.

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

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

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.

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.

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.

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".

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.

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.

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".

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.

DMEC

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".

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.

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.

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.

DMEC

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.

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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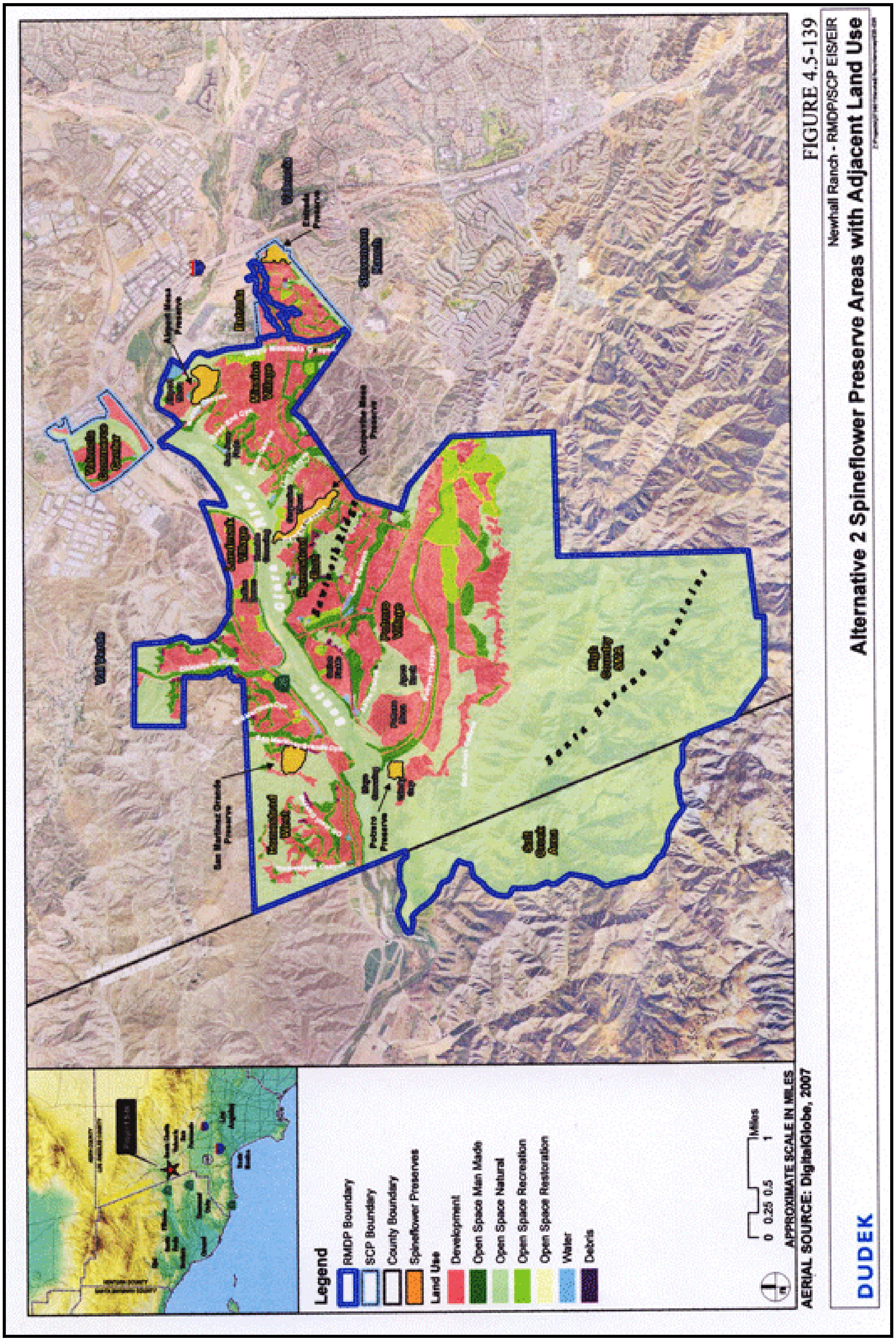


FIGURE 4.5-139
Newhall Ranch - RMDP/SCP EIS/EIR
Alternative 2 Spineflower Preserve Areas with Adjacent Land Use
Legend
RMDP Boundary
SCP Boundary
County Boundary
Spineflower Preserves
Land Use
Development
Open Space Man Made
Open Space Natural
Open Space Recreation
Open Space Restoration
Water
Debris
0 0.25 0.5 1 Miles
APPROXIMATE SCALE IN MILES
AERIAL SOURCE: DigitalGlobe, 2007
DUDEK

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**

"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.

DMEC

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:

- "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.

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).

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.

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.

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.

DMEC

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.

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).

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).

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.

DMEC

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:

> "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).

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.

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.

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	Acres of Occupied Spineflower Area with Buffer of			
Location	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%**

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.

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):

> "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."

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.

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."

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.)".

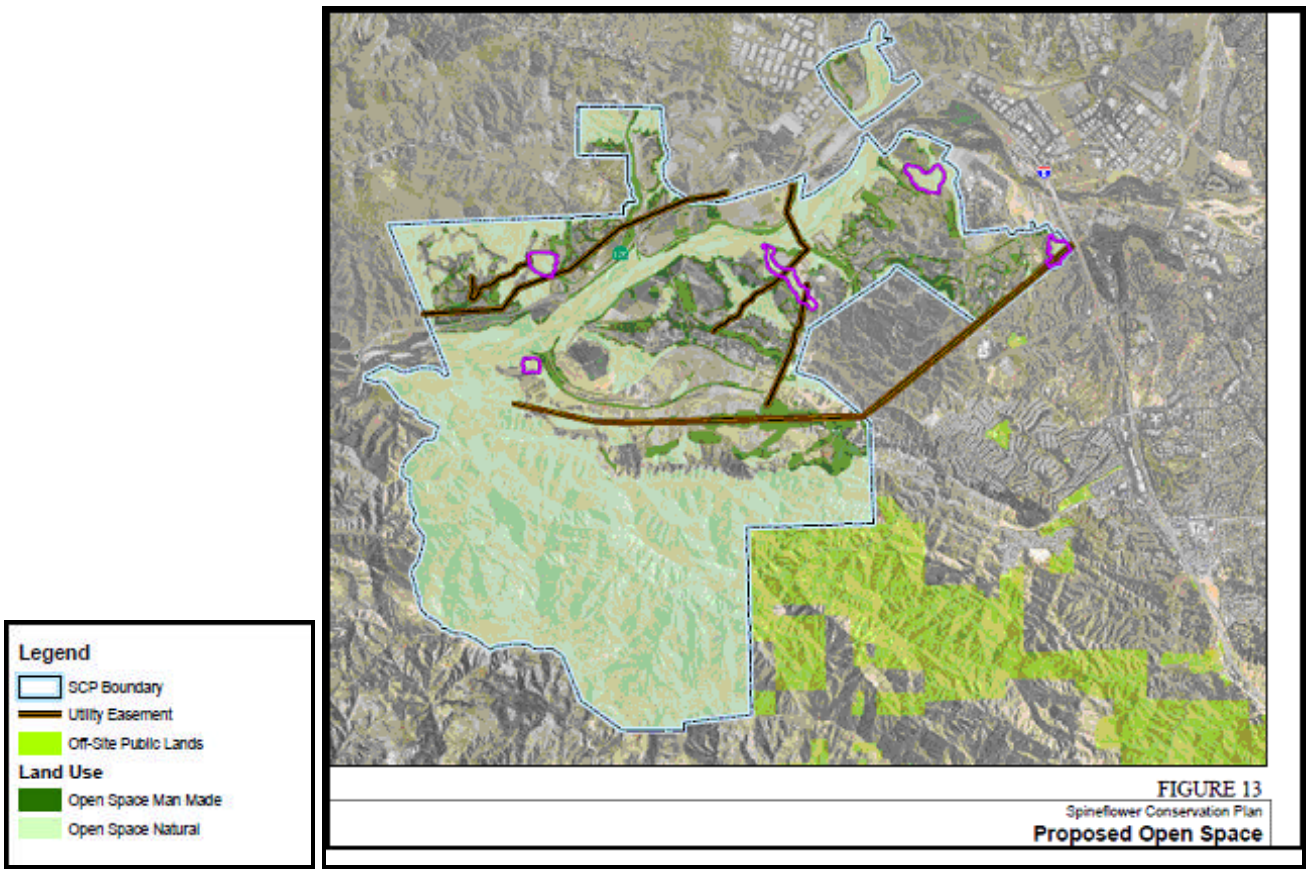
DMEC believes that Newhall Ranch falls somewhere between the coastal environments represented in the San Diego research and the xeric environments of Riverside County. Even if we were to use the Riverside County example, it still states that the Argentine Ants is able to penetrate up to 50 meters (164 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.

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.

[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.



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.

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.

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.

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".

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".

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

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).

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.

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.

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."

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.

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.

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.

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.

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.

MONITORING ACTIVITIES

The Spineflower Monitoring Program

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.

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.

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.

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.

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).

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

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.

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**.

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!

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).

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).

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.

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.

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.

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.*

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
- 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)".

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.

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

[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.

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.

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.

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.

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.

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).

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.

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).

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

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.

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.

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."

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.

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.

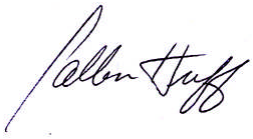
Thank you for considering our concerns with the adequacy of the EIS/EIR.

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