



February 4, 2010

Ms. Sherri Miller  
Dudek  
25125 Springfield Court, Suite 180  
Valencia, California 91355

Re: Newhall Ranch Lichen Survey

Ms. Miller,

The purpose of this letter is to report the findings of my February 3, 2010 field survey conducted within the Newhall Ranch Resource Management and Development Plan study area.

Naturally, the whole site would have historically had relative low lichen diversity. The two main limiting factors are low annual humidity (amount of moist available through rain, rain evaporation, fog, marine layers and morning dew) and elevations below 1500 feet. Under these conditions, for instance, epiphytes on trees would have been few though prevalent. A third limiting factor is the natural rock type which is too soft, eroding too quickly, to be a stable substrate for saxicolous lichens. Prior to the site's development for ranching and farming, areas of native grassland in valley floors probably supported biological crusts containing numerous terricolous (i.e. living on or in the ground) lichen species. These likely disappeared with grazing and the introduction and establishment of invasive non-native grasses over a relatively short period of time (less than ten years), when ranching began in the 1800s. The indicator of long-term grazing is the complete lack of any *Cladonia* species.

Frequent fires have probably reduced lichen diversity on shrubs and trees, which would have been relatively low anyway. Most of the area has no lichens at all on shrubs or trees. The few lichen species found on trees and shrubs are nitrophiles, which are tolerant to nitrates from agriculture.

The total amount of lichen diversity was 26 taxa. None of the species given Special Plant Status by the Department of Fish and Game were found. None of the species were rare in California and all have been reported from Los Angeles and Ventura County previously (Knudsen 2006; Knudsen & Kocourková 2009; Consortium of North American Lichen Herbaria 2009). None are deserving of any special protection or mitigation. Six species were observed on bark of which only two, *Xanthoria tenax* L. Lindblom and *Physconia isidiigera* (Zahlbr.) Essl., were common on scattered oaks which had not been recently burnt. The remaining species were growing on soil over sandstone or exposed sandstone at a few sites in the Salt Creek Canyon and Chiquito Canyon, where the sandstone was less soft, possibly cemented by calcium deposits. The

whole site is considered depauperate in lichens and whole areas, like Sawtooth Ridge, for instance, are totally lacking in lichens. All the lichens surveyed have wide ecological amplitude and most are pioneer species.

#### Taxonomic checklist

*Acarospora terricola* H. Magn. – A terricolous lichen common on one site in Salt Creek on soil over sandstone. This is a relict of former biological soil crusts. The species was described from Santa Monica Mountains where it is frequent in several areas.

*Candelaria pacifica* Westberg. – A corticolous species that is usually relatively common on coastal sage shrubs. A small amount was observed on some willows. Its absence is an indicator of the effect of fire frequency on lichen diversity.

*Caloplaca pyracea* (Ach.) Th. Fr. – This common corticolous lichen was found on several shrubs in Salt Creek area.

*Caloplaca luteominia* var. *bolanderi* (Tuck.) Arup. – The two varieties of the common *C. luteominia* are only distinguished by the color of their fruiting bodies (orange and red, with some piebald specimens occasionally observed). The varietal status is dubious. The species occurs on sandstone and soil. A small population was found on sandstone in Salt Creek area. This species is common near coast. This is a typical outlying maritime population. Similar populations of maritime species are found inland areas up to 30 miles from coast in watersheds in southern California.

*Caloplaca luteominia* (Tuck.) Zahlbr. var. *luteominia*

*Candelaria pacifica* Westberg – Common corticolous species. A few small populations were seen on willows and oaks in riparian area near Magic Mountain.

*Candelariella aurella* (Hoffm.) Zahlbr. – This common saxicolous species was found on one rock in drainage in Chiquito Canyon

*Candelariella rosulans* (Müll. Arg.) Zahlbr. – Infertile areoles of this common saxicolous lichen was found in Salt Creek Canyon.

*Collema coccophorum* Tuck. – This common cyanolichen lichen is a pioneer, was often infertile, and small individuals were seen throughout site where other lichens occurred on rock or soil over rock.

*Collema tenax* (Sw.) Ach. – This common cyanolichen was observed in Salt Creek Canyon on soil over rock. This is another pioneer species.

*Hyperphyscia adglutinata* (Flörke) H. Mayrhofer & Poelt – This common corticolous lichen was found on *Sambucus mexicana* which had escaped the 2003 fire. This species was probably common on oaks but has vanished due to increased fire frequency.

*Lecania brunonis* (Tuck.) Herre – This common saxicolous species was found in Salt Creek Canyon.

*Lecidea fuscoatra* (L.) Ach. – This common saxicolous species occurred on rock in Salt Creek Canyon.

*Lepraria adhaerens* K. Knudsen, Elix & Lendemer – This common terricolous and saxicolous lichen was found with mosses in drainage in Santa Susana Mountains.

- Peltula obscurans* var. *hassei* (Zahlbr.) Wetmore – This common saxicolous species occurred in Salt Creek Canyon area.
- Physcia adscendens* (Fr.) H. Olivier – This common corticolous species was rare in Salt Creek Canyon. Another indicator that frequent fire frequency has severely reduced lichen diversity on bark.
- Physcia stellaris* (L.) Nyl. – This common corticolous species was found on *Sambucus mexicana* in Salt Creek Canyon. It is doubtful if it had ever been common at this site at this low inland elevation.
- Physconia isidiigera* (Zahlbr.) Essl. – This common corticolous species was frequent on oaks that had not been burned, like isolated valley oaks, with *Xanthoria tenax*.
- Placidium lacinulatum* (Ach.) Breuss – This common terricolous species was common in drainage in Chiquito Canyon.
- Psora decipiens* (Hedwig) Hoffm. – This common terricolous species was infrequent in drainage in Chiquito Canyon.
- Sarcogyne arenosa* (Herre) K. Knudsen and Standley – This common terricolous and saxicolous lichen was frequent in Salt Creek Canyon.
- Trapelia coarctata* (Turner ex Sm.) M. Choisy – This common terricolous and saxicolous lichen was frequent at one site in Salt Creek Canyon.
- Trapelia glebulosa* (Sm.) J.R. Laundon – This common terricolous and saxicolous lichen is a pioneer and common in Salt Creek Canyon.
- Trapeliopsis glaucopholis* (Nyl. ex Hasse) Printzen & McCune – This common terricolous and saxicolous lichen was common on one rock outcrop in Salt Creek Canyon.
- Verrucaria fuscoatroides* Servít – This common saxicolous species was frequent in Salt Creek Canyon area. Identification tentative based on immature ascospores, but no species in this genus with this thallus form I consider rare in southern California.
- Xanthoria tenax* L. Lindblom – This common corticolous species was frequent on oaks that had not been burned, like isolated valley oaks, with *Physconia isidiigera*.

#### Cited References

- Consortium of North American Lichen Herbaria  
<http://symbiota.org/nalichens/collections/index.php> Accessed Feb. 3, 2010
- Knudsen, K. 2007. An annotated checklist of the lichens of the Santa Monica Mountains. *In*: Knapp, D.A.: Proceedings of the 32nd Annual Southern California Botanists Symposium. Flora and Ecology of the Santa Monica Mountains. Southern California Botanists Special Publication, No. 4. Fullerton, pp. 35–62.
- Knudsen, K, Kocourková, J. 2009. Lichens, Lichenicolous and Allied Fungi of the Santa Monica Mountains, Part 4: Additions and Corrections to the Annotated Checklist. *Opuscula Philolichenum* 7: 29–48.

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