

Failure to Control Annual Weeds Reduces Restoration Success in Pipeline Project

Carrie Schneider, California Native Plant Society - San Diego Chapter

We conducted vegetation surveys to review the results of revegetation carried out after the 1995 excavation for a water pipeline project in San Diego's Mission Trails Regional Park. Restoration for the project consisted of replacement of topsoil, hydroseeding, and weeding focused primarily on control of perennial species. We found that **non-native annual vegetation dominated three out of four of the plots located on the site of the former project**, whereas nearby off-project-site plots were dominated by native species, including woody shrubs such as *Xylococcus bicolor*, which not present in any on-site plot.

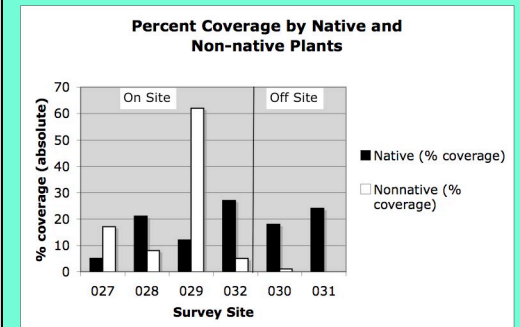
Conclusion and Recommendations

We conclude that **more effective control of annual weeds** such as mustard in the San Diego County Water Authority restoration projects would improve the likelihood of re-establishment of native vegetation.

Use of container plants would improve the establishment of certain species that are expected to be found on the site, such as *Xylococcus bicolor* (Mission Manzanita).

Extent of cover by native species

The sum of cover by native species or non-native species with greater than 1% coverage is shown. Note that plot 32 was also thickly covered by previous year's dead stalks from non-native *Hirschfeldia incana*, which was not counted as part of the cover but would presumably contribute substantially to the total in a wetter year or later in the season after plants matured.



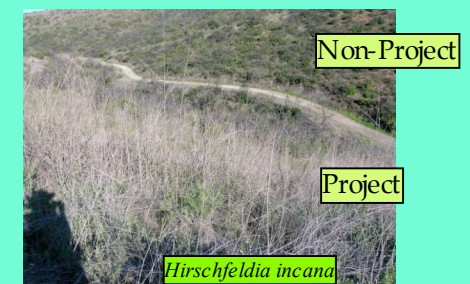
Project Site. Four survey plots (27, 28, 29, 32) overlaid the 1995 pipeline project. Two off-site survey plots (30, 31) were near the others but not directly affected by excavation. The large rectangular site in the middle of the photo is the SDCWA Flow Regulatory Structure I (FRS I).



Image is courtesy of Google Earth™ mapping service and is used with permission.

Current results of revegetation

View to the north from off-project site 30 showing obvious vegetation difference between project and non-project sites.



Thanks to the volunteers from the San Diego chapter of the California Native Plant Society for vegetation surveys.