ABSTRACT

In recent years there has been growing recognition of the practical contributions trees make to healthy neighborhoods -- from temperature and run off reduction to air quality, aesthetic values, and quality-of-life benefits. Less attention has been directed to the potential incorporation of native trees into the suburban canopy, although remnant or volunteer trees are often an existing component.

In fact, many of the Bay Area's suburban landscapes were formerly oak savannas with a relatively dispersed natural spacing. Their loss is an often overlooked impact to native California habitats. Recent research suggests that elements of the structure and function of the native oak savannas are compatible with contemporary land uses, and could provide significant ecological functions in addition to the other benefits of canopy cover. This presentation explores an approach to strategically reintroducing native trees to suburban California landscapes through coordinated local stewardship, urban forestry, and parkland management programs.

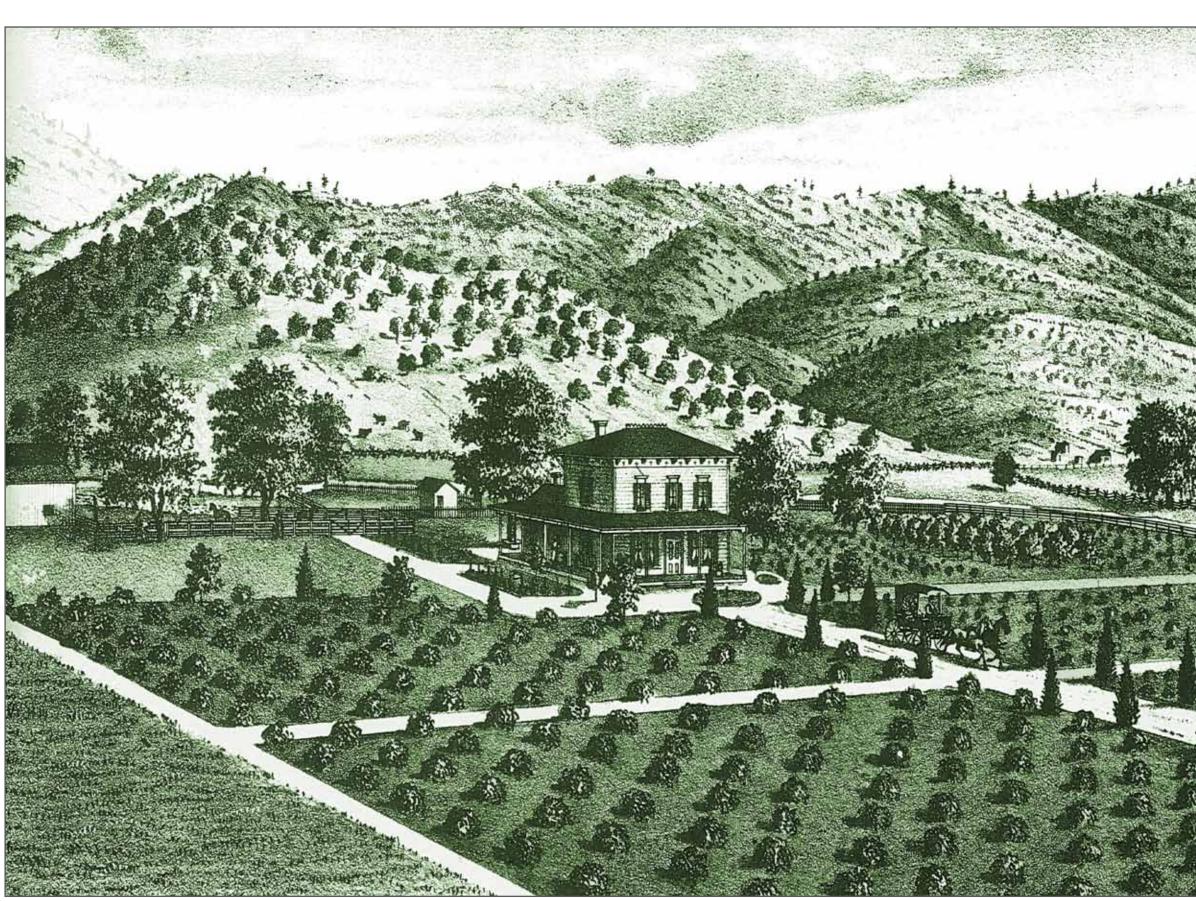
RE-OAKING THE VALLEYS:

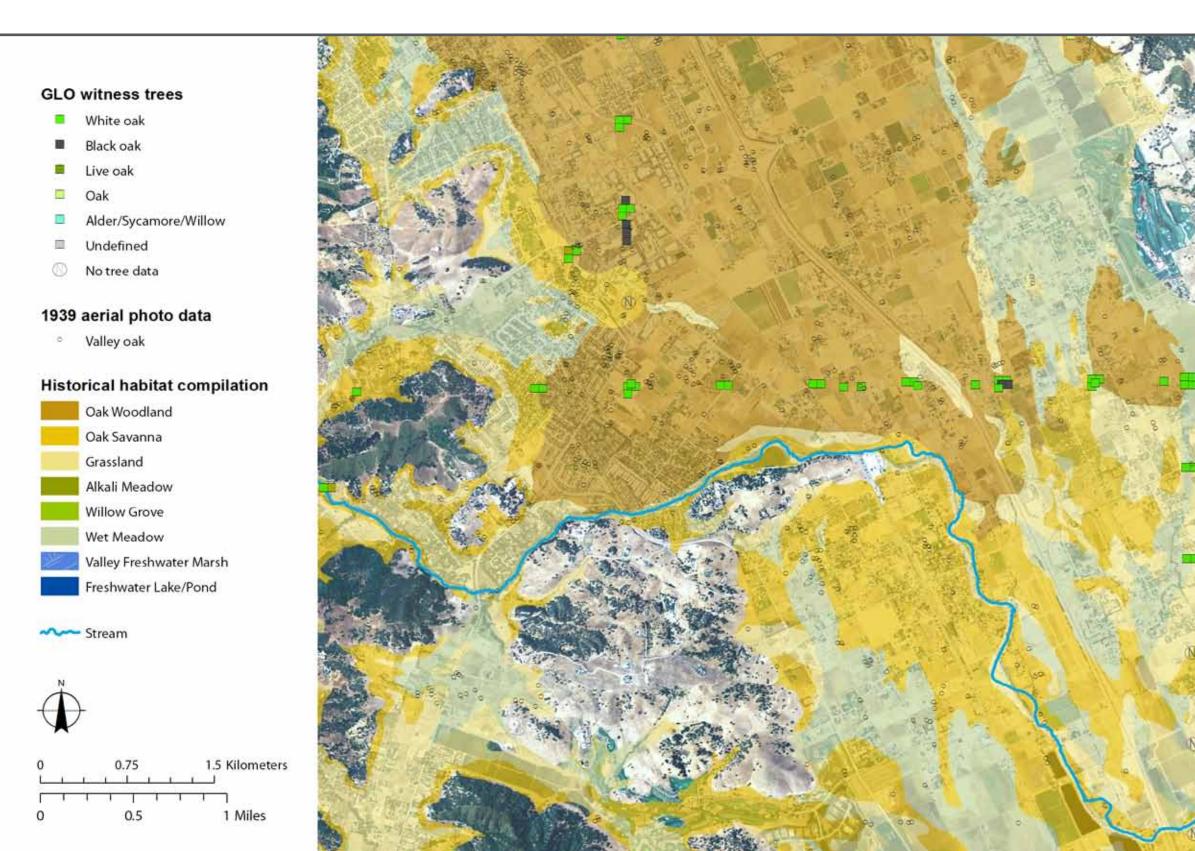
BRINGING NATIVE TREES BACK INTO CALIFORNIA'S SUBURBAN LANDSCAPES Robin Grossinger' and Alison Whipple' 1 San Francisco Estuary Institute, Oakland, CA



EARLY SETTLEMENTS WERE LOCATED IN OAK GROVES

now-suburban landscapes were oal savannas, dominated by stately valley oaks. Early towns were designed to take advantage of the trees' natural beauty and the practical benefits of shading during the hot summer. Most of the savannas were cleared before 1900 to make way for orchards; their former distribution has been largely





Historical habitat map (ca. 1800) of southern Santa Clara Valley, created from a broad range of data sources. The extent of oak woodlands and savannas is shown in shades of orange.



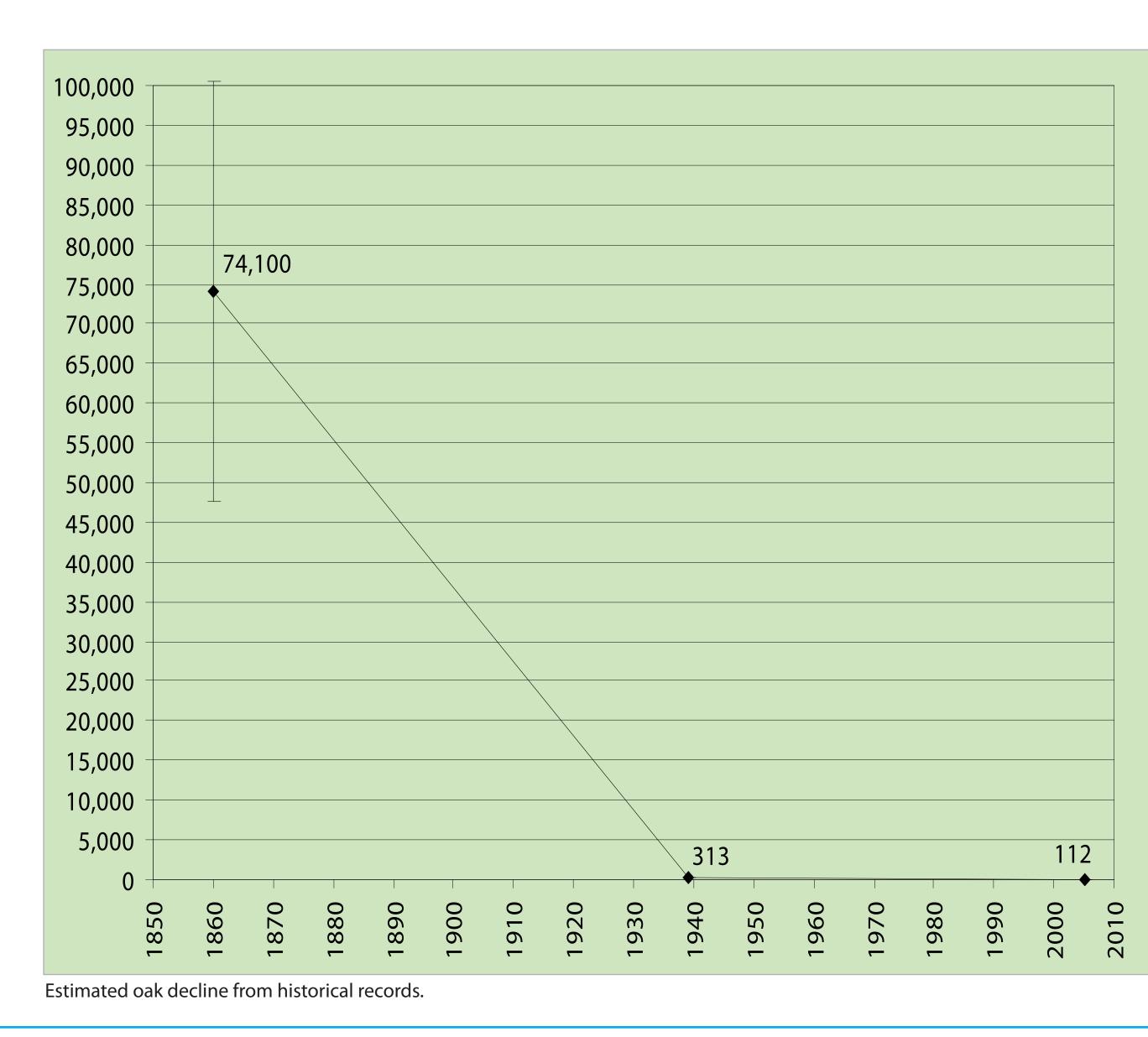
efore 19th-century impacts orchard agriculture, valley oaks formed a relatively dispersed, open pattern of light and shade that dominated many California valleys, from Ojai to Napa, Thousand Oaks to Gilroy, Walnut Creek to Stockton. These oaks provided critical food and habitat for native wildlife, shade and beauty for local people and



Before 19th-century impacts of orchard agriculture, valley oaks formed a relatively dispersed, open pattern of light and shade that dominated many California valleys, from Ojai to Napa, Thousand Oaks to Gilroy, Walnut Creek to Stockton. formed a relatively dispersed, open pattern of light and shade that dominated many California valleys, from Ojai to Napa, Thousand Oaks to Gilroy,

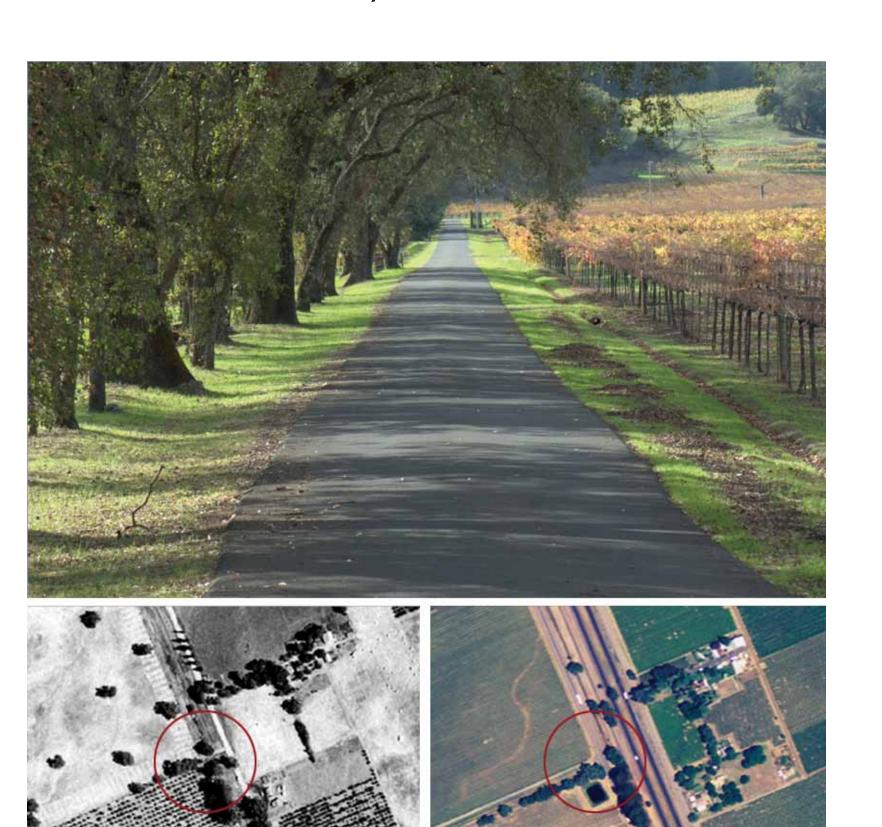


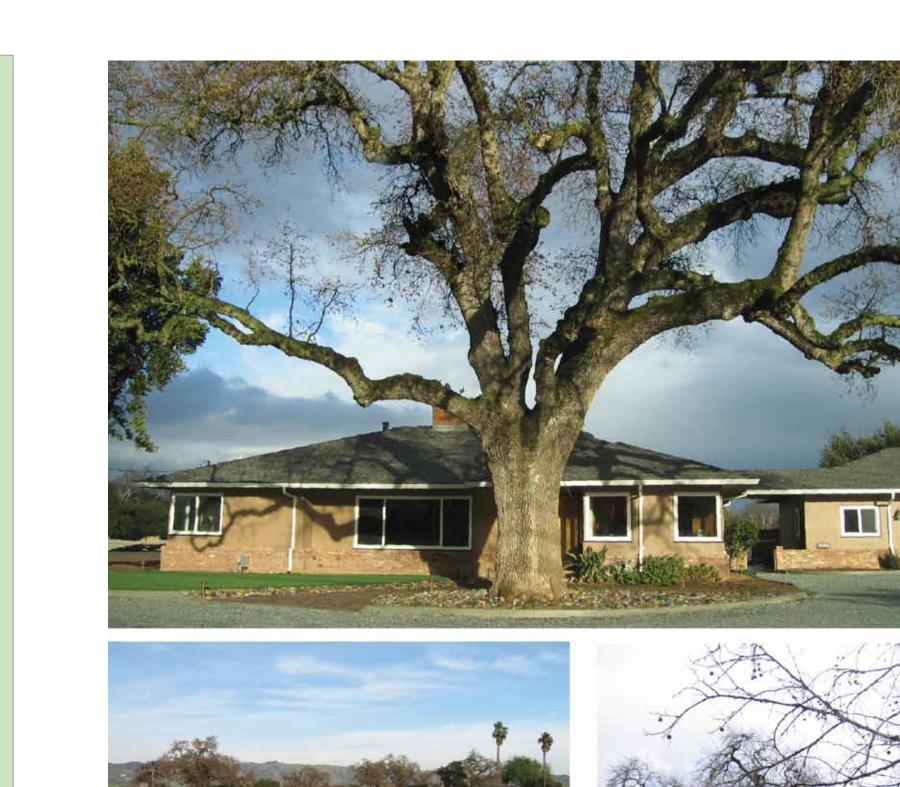
By 1935, orchards cover most of the formerly wooded Morgan Hill area. Remnant isolated trees are mostly associated with farm



YET SURPRISING REMNANTS PERSIST,

Valley oaks formed a relatively dispersed, open pattern of light and shade that dominated many California valleys, from Ojai to Napa, Thousand Oaks to Gilroy Walnut Creek to Stockton. These oaks provided critical food and habitat for native wildlife, shade and beauty for local people and their livestock, and These oaks provided critical food and habitat for native wildlife, shade







COULD THE TREES RETURN?

Our research, soon to be published in the journal Restoration Ecology, shows that the dispersed natural spacing of these trees is consistent with the structure of contemporary suburban landscapes, and that strategic reintroduction could provide valuable functions for people and the ecosystem.

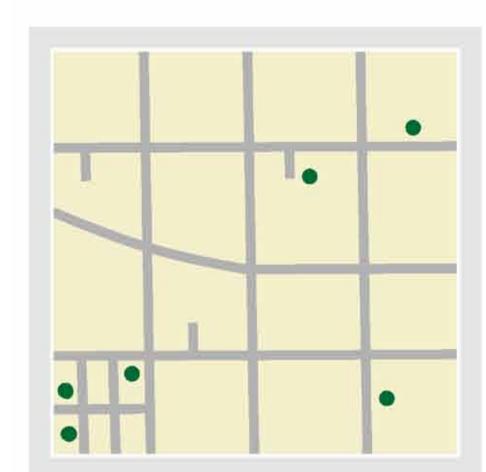
This simple idea would elegantly retrofit suburbs into the California landscapes they inhabit, transforming neighborhoods that often lack effective tree cover, ecological amenities, and sense of place. Strategically incorporating native trees in the many underutilized spaces (medians, parking lots, commercial lawns) will create an aerial canopy that reduces the urban heat island effect (and associated health and energy impacts) while storing carbon and reducing runoff. Designed within a regional context to link neighboring populations of oaks and oak-associated birds, Re-Oaking will also help reestablish native species. Creating viable densities of valley oaks -- whose distance of genetic exchange is relatively small -- may help this much revered but declining endemic California tree persist in the face of climate



CIRCA 1800:

VALLEY OAKS OCCUR IN VARYING DENSITIES

Visitors identify dense groves, areas of "scattered trees", and open "glades". Dirt roads go around trees, and, for the most part, so do ranching and early agricultural efforts.



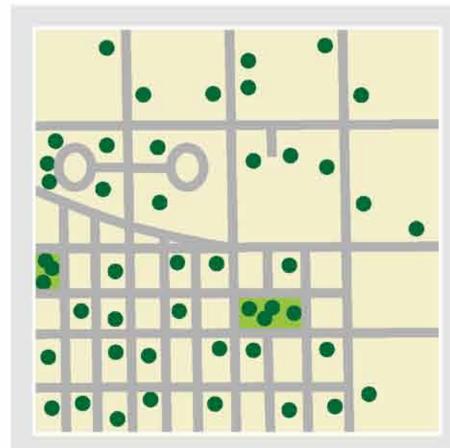
PRE-WORLD WAR II

MOST OF THE VALLEY FLOOR HAS BEEN CLEARED

for orchards, but a few trees remain in pasturelands, along roadsides, and as shade trees in town and on



DESPITE SOME PRESERVATION OF EXISTING TREES, oak decline continues. Residential and commercial development expands into former orchards.



REOAKING SUBURBIA

SIMILAR DENSITIES AND PATTERNS TO HISTORICAL CONDITIONS could be achieved through strategic planting and stewardhsip along roads, in parks and yards, and other areas, providing a range of benefits to people and the ecosystem.

