

THE UPPER SANTA YNEZ RIVER AS HABITAT FOR A DIVERSE RIPARIAN FLORA AND FAUNA¹

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Abstract: The upper Santa Ynez River, Santa Barbara County, provides habitats for a relatively large population of least Bell's vireos (Vireo bellii pusillus), as well as diverse riparian flora and fauna. Of particular interest is the richness of the species within particular guilds. Four species of vireos: least Bell's, warbling (Vireo gilvus), solitary (Vireo solitarius) and Hutton's (Vireo huttoni), coexist together often on overlapping territories taking advantage of both vertical and horizontal diversity. Floristically these habitats are equally rich, hosting five species of willows (Salix spp.), two cottonwoods (Populus spp.), two oaks (Quercus spp.), alder (Alnus rhombifolia), and sycamore (Platanus racemosa), often in close or overlapping proximity. The most complex layer of vegetation is found precisely within the selected nesting range of the least Bell's vireo, suggesting that this degree of complexity may be of utmost importance in terms of future survival of the endangered vireo, and also many other riparian species.

We subdivided the habitats into six basic community types (Fig. 1). Although these types of habitats are highly generalized they illustrate the diversity of niches available for use by wildlife.

These riparian habitats function as an ecological island in an otherwise inhospitable arid region (Fig. 2). The surrounding Chapparal Woodlands and meadows provide miles of buffer between the fragile riparian habitats and urban or agricultural development. Most of this area is within the Los Padres National Forest.

During the spring and summer breeding season, the riparian habitats experience a marked increase in use as animals migrate to and from breeding and nursery grounds (Fig. 3). Mammals which routinely inhabit the surrounding arid regions move into the riparian zone to raise their young near the more reliable sources of food and water. Also as the summer drought extends into

the later months of summer many animals move out of their habitual montane shelters as food and water sources become depleted, and seek temporary shelter in the more hospitable riparian habitats. The Phainopepla (*Phainopepla nitens*), for example usually breeds in the deserts of Southern California in the early spring, and then moves to riparian habitats for a late summer breeding season.

The combination of a high water table, and a deep alluvium provide a comparatively high degree of humidity. Because much of this area is characterized by closed canopy forests, the air moisture provides a cooling effect within the riparian zone. The temperature gradient between the riparian and surrounding slopes is often as much as fifteen degrees. Because coastal fog flows from the Pacific Ocean up the lower Santa Ynez River near Lompoc, California, and inland to the upper Santa Ynez River, these habitats are often shrouded in morning fog, providing an additional cooling effect.

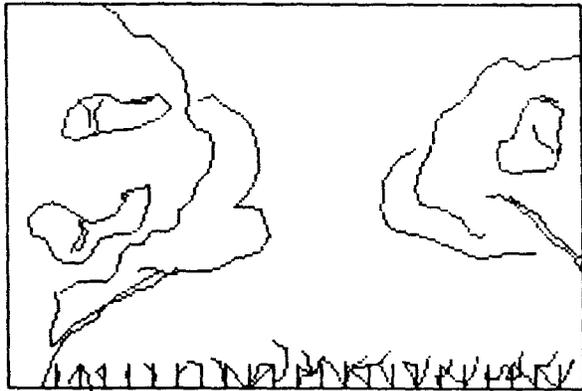
Because this section of habitat is surrounded by the National Forest, it is provided with protection that few other riparian habitats in California enjoy. A nearby mercury mine (Fig. 4), is no longer in operation, and grazing allotments in the area have been closed. Few areas remain in California, that can provide a nearly pristine setting in which to study the population dynamics of riparian related wildlife.

These habitat areas are proposed for listing as critical habitat for the least Bell's vireo, and as such may receive protection from the Federal Endangered Species Act.

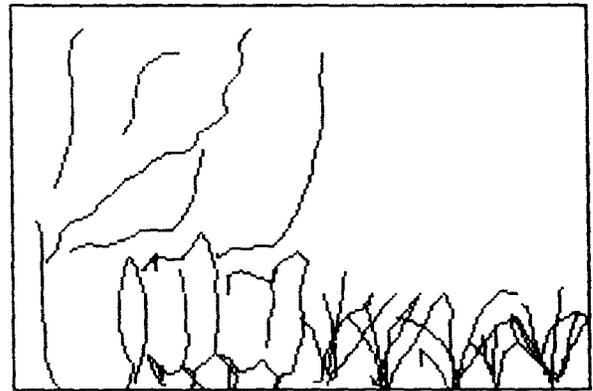
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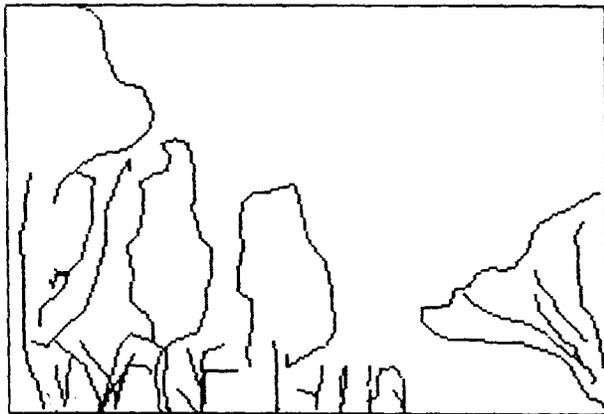
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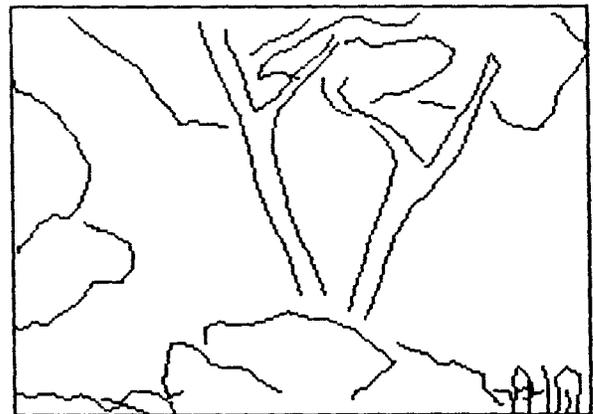
a. Savannah



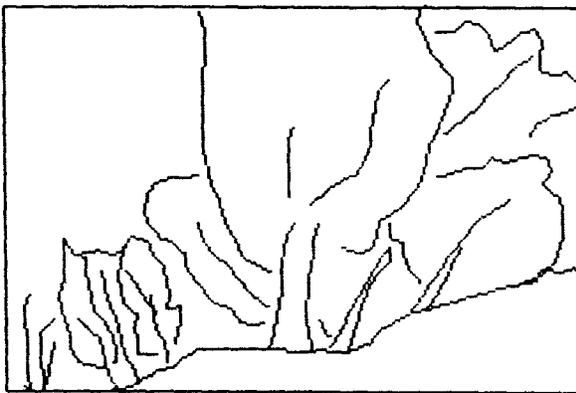
b. Closed Thickets



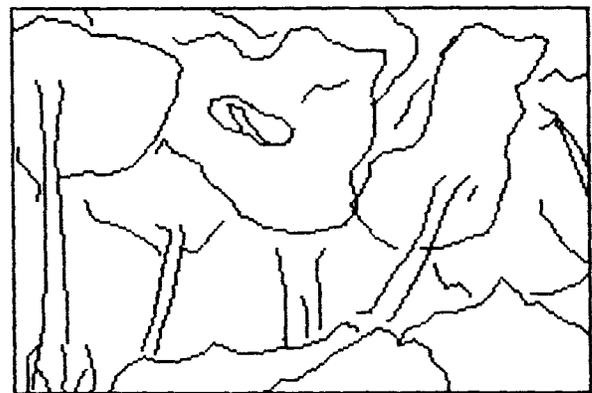
c. Open Woodlands Edge



d. Open Woodlands Interior



e. Closed Forest Edge



f. Closed Forest Interior

Figure 1- These drawings (a-f) represent composites taken from drawings of the habitat at all least Bell's vireo nest sites studied at Gibraltar Reservoir in 1987.



Figure 2- Steep arid slopes stretch for miles, and abut the Dick Smith Wilderness Area.



Figure 4- A mercury mine on the slopes above Gibraltar Reservoir may continue to pose an environmental threat to this river basin.



Figure 3- Cool stream channels serve as corridors for some migrating birds and mammals and nursery grounds for others.