

**California Wildlife Habitat Relationships System
California Department of Fish and Game
California Interagency Wildlife Task Group**

VINEYARDS

Ronald F. Schultze

Vegetation

Structure-- Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion.

Composition-- The California Agriculture - Statistical Review 1990 (California Department of Food and Agriculture, 1991) indicated that there were 648,700 acres of vine crops grown in California during 1990. Approximate acres of these crops is listed below:

Boyenberries	500	acres
Olallieberries	200	"
Raspberries	1,700	"
Grapes	639,000	"
Kiwifruit	7,300	"
TOTAL	648,700	acres

The understory in vineyards usually consist of bare soil (controlled by tillage and/or herbicides) or a cover crop of herbaceous plants. The cover crop can be composed of either natural or planted domesticated herbaceous plants. Natural herbaceous plants commonly consist of perennial grasses such as bermuda; or annual grasses such as soft chess, annual ryegrass, johnsongrass, wildoats, red brome, red fescue, barnyardgrass, and others; or forbs such as wild mustard, fiddleneck, and filaree, depending on seed sources in the area. Numerous grasses and legumes are planted as cover crops in vineyards either as single species or in mixes. Cover crops of domesticated grasses and legumes generally fall into four categories (Finch and Sharp, 1981):

- 1) Annually seeded winter growing grasses and legumes, such as, cereal rye, barley, annual ryegrass and purple vetch;
- 2) Reseeding winter annual grasses and legumes, such as, Blando brome, zorro annual fescue, Wimmerra-62 ryegrass, annual bluegrass, lana woolypod vetch, rose clover, crimson clover, bur clover, subclover, and black medic;

- 3) Summer annuals, such as, Sudan grass, grain, sorghums, and California blackeye bean; and
- 4) Perennial grasses and legumes, such as, tall fescue, creeping red fescue, orchardgrass, perennial ryegrass, narrowleaf trefoil, Salina strawberry clover, and ladino clover.

Other Classifications-- Most vegetation classification systems include vineyards in more general categories, such as, Agriculture (California Department of Fish and Game, 1966), Urban/Agriculture (Parker and Matyas, 1981).

Habitat Stages

Vegetation Changes-- Vineyards are usually composed of young (2) or mature (3) shrub size classes and have sparse (S) or open (O) canopy closure classes. They usually have some growth of herbaceous understory.

Duration of Stages-- Duration of vineyards vary, depending on species. Generally, grapes will persist for over 40 years and will be replaced usually because of disease or abandoned because of economics.

Biological Setting

Habitat-- Vineyards are typically associated with other agricultural types such as Irrigated Grain and Seed Crops (GRI), Row and Field Crops (RFC), Pasture (PAS), and some are near urban (URB) types. They are frequently associated with Valley-Foothill Riparian (VRI) areas, shrub habitats (Mixed chaparral (MCH)), herbaceous types, such as, Annual Grasslands (AGS), a few tree types, such as, Valley-Foothill Hardwood (VFH), Valley-Foothill Hardwood-Conifer (VHC), and Ponderosa Pine (PPN).

Wildlife Considerations-- Vineyards have been planted on deep fertile soils which once supported productive and diverse natural habitats. Larger and more diverse populations of wildlife were also supported by these native habitats. However, some species of birds and mammals have adapted to the vineyard habitats. Many have become "agricultural pests" which has resulted in intensive efforts to reduce crop losses through fencing, sound guns, or other management techniques. Wildlife, such as, deer and rabbit browse on the vines; other wildlife such as squirrel and numerous birds feed on fruit. Some wildlife (e.g. morning dove) are more passive in their use of the habitat for cover and nesting sites. Vineyards can be especially beneficial to wildlife during hot summer periods. Because they are deciduous and relatively short, compared to orchards, they do not provide significant cover during cold and wet winter months. Water can be beneficial in irrigated vineyards. Many wildlife species act as biological control agents by feeding on weed seeds and insect pests. Raptor perches have been successfully used to attract raptors that feed on rodents and other crop pests. The literature is generally lacking on wildlife

associated with these habitats except as it relates to pests and pest control. Poison baits are often used to control birds and other animals that feed on grapes and berries.

Physical Setting

Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems. Most vineyards are in valley or foothill areas.

Distribution

In 1990 there were about 648,700 acres of vine crops grown in California.

Literature Cited

- California Department of Fish and Game. 1966. California fish and wildlife plan.
California Dep. Fish and Game, Sacramento.
- California Department of Food and Agriculture. 1991.
- Finch, C. N., and W. C. Sharp. 1981. Cover crops in California orchards and vineyards.
U.S. Dep. Agric., Soil Cons. Serv., Davis, Calif.
- Parker, I., and W. J. Matyas. 1981. CALVEG: a classification of California vegetation.
U.S. Dep. Agric., For. Serv., Reg. Ecol. Group, San Francisco.