

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

DRYLAND GRAIN & SEED CROPS Ronald F. Schultze

Vegetation

Structure-- Vegetation in the dryland (nonirrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring.

Composition-- The California Agriculture - Statistical Review 1990 (California Department of Food and Agriculture, 1991) reported that 200,000 acres of barley, 40,000 acres of oats, and 614,000 acres of wheat were grown in California, for a total of 854,000 acres of grain and seed crops. About 25% of the wheat and 50-60% of the barley is grown as nonirrigated grain and seed crops (GRN) in California. Cereal rye is another type of nonirrigated grain and seed crop, but there was no report on the acreage produced in 1990.

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

Habitat Stages

Vegetation Changes-- Dryland grain and seed crops do not conform to normal habitat stages. Instead, these crops are regulated by the crop cycle in California. They are all annuals. In many areas of the state a dryland crop is grown one year, then the land may be fallowed (not planted) for one or more years. The grain stubble and fallowed land may be grazed by livestock. However, the practice of grazing may reduce the vegetative cover of soil and lead to erosion problems, therefore grazing if practiced must be done with careful consideration of the erosion problem, especially on steep slopes and in wind erosion prone areas. Grazing also reduces the value of the vegetation as cover and food for wildlife.

Duration of Stages-- Dryland grain and seed crops in California are annuals. Usually they are planted in the fall and harvested the following spring. If fallowed, volunteer native or naturalized herbaceous species grow.

Biological Setting

Habitat-- Dryland grain and seed crops occur in association with orchards, vineyards, pasture, urban, and other wildlife habitats such as riparian, chaparral, wetlands, desert, and herbaceous types.

Wildlife Considerations-- Dryland grain and seed crops are usually established on fertile soils, which historically supported an abundance of wildlife. Grain crops have reduced the wildlife habitat richness and diversity. Many species of rodents and birds have adapted to croplands and are controlled by fencing, trapping, and poisoning to prevent excessive crop losses (California Department of Food and Agriculture, 1975). Hawks, owls, and other predators feed on the rodents in these areas. Prior to establishing State and Federal wildlife refuges, waterfowl depredation of these crops was extensive. That problem has been essentially eliminated; however, some species of waterfowl feed on the green foliage during winter months. Deer, elk, antelope, and wild pigs forage in grain fields and can cause depredation problems. Pheasants introduced to the cropland habitat have experienced recent population declines owing to changes in crop patterns and cultural practices for growing small grains. Changes include clean farming, double cropping, and chemical control of crop diseases and pests rather than leaving land fallow in alternate years.

Physical Setting

Nonirrigated grain and seed crops are often located on flat to gently rolling terrain. When flat terrain is put into crop production, it usually is leveled to facilitate irrigation. Rolling terrain is either dry farmed or irrigated by sprinklers. Soils often dictate the crops grown. Barley can grow on poor quality soils, such as, saline or alkaline soils. Climate also influences the types of crops grown. Only hardy crops such as potatoes, barley, cereal rye, and wheat do well in the short growing season in the Klamath Basin; whereas, in the Imperial Valley, a variety of crops grow over an eleven month, frost-free growing season.

Distribution

There were over 854,000 acres of barley, oats and wheat grown in California in 1990. Cereal rye is also grown, especially in northern California, but the amount grown in 1990 was not reported by the California Department of Food and Agriculture.

Literature Cited

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