

Alpha Farm

is a 429 acre property. It is leased to several agricultural producers who raise sheep and cattle, as well as farm hay. The farm has holding ponds that can be filled during the winter and spring to provide water for summer irrigation. Summer irrigation allows ranchers to keep the pasture green and grow multiple hay crops in a season. Roseland Creek crosses the property on its way to the confluence with the Laguna de Santa Rosa. Seasonal wetlands and valley oaks dot the landscape. Alpha Farm has a 90 acre wildlife area on its western border with the Laguna de Santa Rosa that receives no irrigation or farming. A number of special management projects have occurred in the Lower Alpha Natural Area as well as throughout the greater farm.



Projects

Roseland Creek

Roseland Creek received exclusionary fencing when the property was purchased in 1979. This allowed for the natural regeneration of vegetation along the creek that could not have become established if livestock had access the bank. The vegetation immediately adjacent to the banks of creeks is referred to as riparian. Riparian habitat occurring along stream corridors is typically deciduous. The common trees of the Laguna riparian zone and some of its tributaries include valley oak, ash and different willow species. Other common riparian trees found in the greater Russian River watershed include elderberry, dogwood, hawthorn, box elder, cottonwood, buckeye, bay, big leaf maple and black oak. Riparian canopy tends to be multi-level with tall trees such as valley oaks emerging out of a dense layer of ash and willow. Shrubs create the canopy layer below the trees. Some common native shrubs in the Laguna and tributaries are wild rose, blackberry, coyote bush, poison oak and snowberry. Riparian vegetation provides important food, shelter and shade for both aquatic and terrestrial wildlife. The corridor furnishes animals with a route to migrate or disperse under cover.

Riparian and in-stream habitats support each other, providing necessary resources. Stream-side vegetation is rooted in rich soil, obtaining growth nutrients. The roots of trees and shrubs help hold the soil in place, preventing erosion. Leaves drop into the water, supplying food for aquatic microorganisms and insects. Insects and other invertebrates are consumed by fish that are in turn consumed by other animals. Organic matter is broken down by decomposers and returned to replenish the soil. Dense riparian canopy shades the water, preventing exposure to the sun, and resulting in a significantly lower water temperature. Many organisms have a narrow range of tolerance

for temperature. Colder water holds more dissolved oxygen, a critical factor for many animals, especially certain species of fish.

Alpha Wildlife Area

Established in the 1985, the most western area of the farm borders the Laguna de Santa Rosa. A series of waterfowl ponds and marsh habitat was installed in 1985. The purpose was to add to the wetland acreage and complexity adjacent to the Laguna. The Laguna de Santa Rosa is part of the Pacific Migratory Flyway. Millions of birds migrate annually from winter homes to summer nesting grounds. Most of the waterfowl using the Laguna for a portion of the year or as a brief stopover take journeys of more than 2000 miles to the Alaskan tundra or northern Canada and back in a year.



The Alpha Wildlife area received native tree plantings in 1985, 1992 and 1994. Over 2000 valley oaks have survived to date, providing habitat value to the area. A grazing management program is being researched in the wildlife area. Some introduced species act invasively and severely reduce the number of native grasses and wildflowers found in California. To control these species and the smothering biomass they create we are experimenting with grazing. A graduate student from Sonoma State University is currently conducting an experiment to access the benefits of grazing in the seasonal wetlands called vernal pools that occur in the wildlife area. A rookery of great-blue herons and double-crested cormorants is monitored and the data is used by Audubon Canyon Ranch as part of the long-term study of heron/egret populations in counties of the North Bay area.

Oak Regeneration

It is difficult to achieve oak regeneration on pastures that have year around grazing. However, it is essential that the heritage valley oak trees on the farm have replacements. Mature trees on the farm are likely to be over 200 years old. The valley oak is a species of extreme ecological importance in the grasslands. It provides home and food to many diverse organisms. To ensure that a future generation of oaks will survive on the farm a program has begun to fence single trees and groves. Valley oak seedlings of local genetic stock are planted and maintained with weeding and summer watering for the first two years. When the trees reach approximately ten years of age the fencing can be removed and used again on another group of trees.



Invasive Species

Invasive species have the ability to thrive and spread aggressively outside of their natural range. Plants imported to new habitats have the ecological advantage of being introduced without their natural predators. The insects, diseases, parasites and foraging animals that prey on them are no longer present. Weed management requires multiple tools including, removal by hand, repeated mowing, grazing, burning and herbicide. All these management strategies have been employed on Alpha Farm. The species of special concern include perennial pepperweed (*Lepidium latifolia*), poison hemlock (*Conium maculatum*), bull thistle (*Cirsium vulgare*) and tall fescue (*Festuca arundinacea*).