



Fire is a constant in the California landscape. Shown above, an area of Point Reyes National Seashore after the fire of October 1995.

Idyllwild, site of a devastating fire in 1996, and neighboring communities.

Funded with a 3-year grant from UC, California Department of Forestry, Apple Computer and the Federal Emergency Management Agency, the Mountain Communities Firesafe Project has evolved from painstaking research and ecological data gathered from some 6,000 properties over 12 years. The data were compiled using ground-based video images, airborne and satellite images and dozens of unique cartographic models developed through geographic in-

formation systems software.

The Mountain Communities Firesafe Project lets property owners evaluate current fire hazards, such as buildup of highly flammable chaparral, and test the performance of particular fire prevention measures in a digital "virtual forest," without actually having to alter their land. Data from this project will also give fire preven-

tion officials and land managers a powerful tool for enhanced ecosystem management. Those with Internet access can visit the Firesafe Project and view some of its "virtual forests," by going to its website: www.tahquitz.org.

Some UC researchers are addressing the social and cultural aspects of fire management. UC Davis education specialist Joan Wright, UC Berkeley rangeland ecologist Lynn Huntsinger and retired UC Davis wildlands specialist Theodore E. Adams Jr. have produced a booklet and video titled *How Can We Live With Wildland Fire?* Meant as a community discussion guide, it helps communities decide how to address fire hazard by posing three policy approaches for discussion and highlighting the pros and cons of each. The guide has been used throughout California and Nevada and is available from UC's California Communities Program. The team also conducted interviews with elected officials, homeowners, firefighters and others in San Bernardino, Malibu, Quincy, Tahoe, Oakland and Marin and wrote summaries of local perceptions of fire hazard and how local issues influence community response. These write-ups are also available.

On the Berkeley campus, graduate students have established the Wildland Fire Research Group to foster and promote UC Berkeley research on fire management issues. The group will host a seminar series this fall. For information contact Tracy Benning (510) 643-2226; tbenning@nature.berkeley.edu.

— Jill Goetz

For the birds . . .

Farmers accommodate wildlife

Farmers often clash with environmentalists over issues such as land and water, but farmers who are also environmentalists are finding compatibility between farming and wildlife.

The California Waterfowl Association (CWA) is working with 18 agricultural landowners in the Sacramento Valley, who have built brood ponds for waterfowl. Eight have built permanent ponds, while 11 flood fields in the spring. CWA is comparing the year-round ponds to spring flooding to determine which is more beneficial.

Evidently if farmers build ponds, wildlife will come. Dawn Harris, a student monitoring the ponds for CWA, has observed 65 different bird species, including 11 waterfowl species, using the human-made ponds. "We have observed many species with special status at the federal or state level, including tricolored black-bird, Swainson's hawk, white-faced ibis, giant garter snake, and a bald eagle," says Greg Yarris, CWA director of waterfowl programs.

CWA is also conducting rotational grazing projects with some cattle ranchers, who have put in fencing and rotate the herds through the

fenced off areas, assuring undisturbed area for nesting habitat and high quality forage for cattle.

In this issue, UC scientists describe another way ranchers can help migratory waterfowl. In a study conducted at the Ash Creek Wildlife Area in Lassen and Modoc counties, they found that harvesting wild hay after nesting and brood-rearing enhances the abundance and diversity of birds that nest near wetlands (see page 12).

Historically, the Central Valley had more than 4 million acres of wetlands, but over the years they were drained for agricultural and urban development. Today only about 350,000 acres of natural wetlands remain so efforts are being made to restore habitat.

Most farmers who cooperate with CWA are duck hunters, but there are a few who are embracing wildlife on a different level, says CWA president Bob McLandress. For example, McLandress was surprised to learn his Woodland neighbor Kevin Timothy was spending his lunch hours monitoring wood duck boxes.

"To me it's more therapeutic," the processing tomato grower explains. Timothy enjoys shooting away predators that try to take over the nests, cleaning out the boxes and tallying the eggs. "I love seeing wildlife," he says. "I spend 12 to 14 hours day in the field and I see them everyday. If I don't see them, I want to know what's wrong."

Wood ducks stay in the box less than 24 hours after hatching so one must have good timing to see the babies. "Once you see those little wood ducks, they will take your heart," Timothy says.

He also leaves growth along waterways and waits as long as he can to harvest his wheat so mallards will have places to nest.

Rice growers in the Sacramento area create habitat for waterfowl by flooding their fields in the winter. UC studies show that rice fields managed as wetlands can provide as much as 600 pounds of forage per acre, 80% of the amount of food found in natural wetlands.

Other approaches are being tried on dairy land. Joseph Gallo Farms is located along the 160,000 acres of contiguous wetlands of the Grassland Ecological Area and the San Luis National Wildlife Refuge Complex. Gallo Farms sold to the Fish & Wildlife Service development rights to 2,000 acres along the core of these wetlands and began restoring wetlands and integrating them with their pastures.



Dave Van Baren

Joseph Gallo Farms and other growers delay harvest to allow birds to nest in the fields. Gallo has also restored wetlands for waterfowl.

"Irrigated pastures are habitat for waterfowl, but we also graze our heifers there," says Randy Riviere, director of environmental affairs for the 20,000-cow dairy. "The geese and cranes also like the cereal grains so it's dual purpose."

Having worked as a production manager for Tri Valley Growers and private lands manager for the Fish and Wildlife Service, the wildlife biologist knows both sides of the business. While trying to achieve environmental goals, he is familiar with the operational constraints and human factors in farming.

Mike Gallo, who runs the operation, uses what Riviere calls "adaptive management." When tricolored blackbirds began nesting in their silage fields, they delayed harvest and harvested the crop as grain instead.

Mixing farming with wildlife protection is "politically smart," McLandress observes, "and will be an important consideration in making increasingly difficult decisions about land and water use in the next century." — Editor



Dave Van Baren