



ACR Fire Ecology Program

Restoring Ecosystem Health and Improving Wildfire Safety

A renewed approach to fire that can improve human safety, wildlife habitat, vegetative health and balance, and overall ecosystem services.

Audubon Canyon Ranch, through its new Fire Ecology Program, is taking a leadership role in the North Bay to restore ecosystem health and improve wildfire safety. Working with various agencies and land managers, ACR's new program, led by ACR's Fire Ecologist Dr. Sasha Berleman, will address hazardous fuel loads and declining ecosystem health through the coordination of cooperative, ecologically planned, scientifically monitored, and safely implemented controlled burns.

For the first time in the Bay Area, ACR will develop and host a Prescribed Fire Training Exchange (TREX) for diverse regional agencies and land managers. TREX is a nationwide, interagency, cooperative prescribed fire training and implementation program created in 2008 by the Fire Learning Network.

ACR's proactive role to restore North Bay landscapes

Audubon Canyon Ranch protects over 5,000 acres in Marin, Sonoma and Lake Counties. Our core nature preserves exist in a matrix of urban, rural and open space areas. It is more important than ever that we take a proactive role in our relationship with fire in these landscapes to restore ecosystem health and to improve wildfire safety for our own properties and those of our neighbors. Roughly 95 percent of ACR's Modini Ecological Preserve, for example, burned in the 2004 Geysers wildfire. High fuel loads in the lower Mayacamas range have built up since the last major fire in 1964. In addition, we've documented reductions in native plant diversity and oak tree recruitment in our grasslands and oak woodlands due to the build up of thatch and increased presence of fire-intolerant pests (such as oak acorn weevils and sudden oak death). With proper timing and preparation, these landscapes can be safely burned at low-intensity to remove excess fuel and return natural processes to the land. This reduces the potential for catastrophic wildfires while also promoting native species such as a diverse array of wildflowers, many of which are fire dependent, improving oak recruitment, reducing thatch and invasive species, slowing spread of sudden oak death, and improving habitat for wildlife.



The ACR Fire Ecology Program will:

- develop a prescribed fire and fuels treatment program for ACR's preserves with a prioritized schedule and long-term plan for bringing fire back into its preserves as a natural ecosystem process and management tool;
- lead collaboration with private and public agencies and land managers across the North Bay to bring low-intensity, safe, controlled fire back into landscapes throughout our region and across our borders;
- develop and host a North Bay Prescribed Fire Training Exchange (TREX) module with the collaboration of the Northern California Prescribed Fire Council – the TREX program will be a biannual one-week event bringing together diverse agencies and land managers to conduct controlled burns throughout the region with all participants offering some form of training to others, all participants receiving training and controlled burn experience, and leading community outreach and media communications strengthening community cohesiveness, support and education around regional fire issues;
- design and implement a scientific research and monitoring program for fire effects with methods being tailored to site specific needs, and publish results in peer-reviewed journals, ACR newsletters, and general conferences;
- lead interagency meetings, host community meetings and give general presentations to engage and educate the public, facilitate conversation, and garner support for safe and ecologically valuable use of controlled burning.

Frequently Asked Questions

The Role of Fire in the Ecosystem

Why is fire important to the ecosystem?

Fire is a core ecological process in most California ecosystems. For thousands of years, Native Americans utilized fire in California as a tool to manage landscapes for food, textile production, and improved wildlife habitat. In the North Bay specifically, nearly all of our terrestrial ecosystems depend on site-specific fire regimes. Here, plant species are nearly all adapted to specific fire types and animal species depend on effects of fire to thrive and coexist in balance. The healthy function of our ecosystems cannot be untied from this core ecosystem process. After over a century of fire suppression, however, California landscapes are in a dire fire deficit. Where fire has been long suppressed, we struggle with threatened human safety as tremendous wildfires become imminent in the face of accumulating fuel loads and lengthened fire seasons. Fire agencies, land managers and researchers have learned over recent decades that fire cannot be prevented, only postponed, often with drastic consequences.

How safe are controlled burns?

No fire is completely safe. However, because they are carefully monitored and managed, controlled burns rarely create unintended consequences. In 2012, for example, the National Interagency Fire Center reported that 16,626 controlled burns treated 1,971,834 acres. Of those 16,626 fires, only 14 exceeded the defined perimeter (0.08%). ACR, in collaboration with CalFire and local fire departments, will have adequate resources on site to quickly control any unexpected condition.

What about the smoke?

Controlled burns are managed to minimize smoke impacts. Smoke and emissions from controlled burns are significantly less negatively impactful than those from wildfires. The Bay Area Air Quality Management District has strict controls on when prescribed burns may occur in order to ensure that weather conditions are appropriate to dissipate the smoke. We will not be able to proceed with the burn until we get a green light from the Air District the morning of the burn. Additionally, if smoke somehow unexpectedly becomes a public health problem, contingency response plans are in place to reduce smoke problems, which include extinguishing the fire if necessary.

What about animals living in the burn zone?

Animals that live in California's landscapes coevolved with regular fires in their native habitat. Many of these animals even depend on fire to maintain their habitat. During a burn, research has shown that ground burrowing animals typically survive fires by staying in their burrows until the fire has passed. Additionally, controlled burns are specifically timed to avoid nesting bird season, in order to ensure no negative effect. Additionally, in the year following a controlled burn in grassland or oak savannah, an increase in the presence of deer is commonly noted due to improved forage quality.

LEADING OUR PROGRAM:

Sasha Berleman, PhD, ACR Fire Ecologist

ACR's Dr. Sasha Berleman recently completed a PhD in Scott Stephens' wildland fire science research lab at UC Berkeley. She conducted her PhD research on prescribed fire use in California landscapes for restoration of ecosystem health. She has been an active participant in Prescribed Fire Training Exchanges (TREX) since 2010, with most being located in Northern California (Mt. Shasta and Klamath regions). She is a qualified firefighter with "Fire Effects Monitoring" and "Squad Boss" taskbooks and approximately 600 hours of hands-on prescribed fire experience. In addition to her PhD work, she has been actively involved in fire ecology and fire-use in the North Bay region since 2011, planning prescribed fire and monitoring projects with managers at Mitsui Ranch of Sonoma Mountain Ranch Preservation Foundation and at Pepperwood Preserve. Sasha is a board member of the Central Coast Prescribed Fire Council.



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