

Sustainable Forestry Delivers Wildlife, Carbon and Wildfire Benefits

BIODIVERSITY BENEFIT OF FUEL REDUCTION TOO OFTEN OVERLOOKED

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At the height of California's next fire season, there will be significant focus on public safety, firefighting costs and carbon emissions as smoke plumes fill the sky.



⬆ While some species thrive in burned forest conditions, large-scale severe wildfire limits biodiversity.

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That makes now the time to reduce fuel loads with active, sustainable forest management.

Land management policies over the last 80 years have set the stage for a perfect storm across Northern California forestlands. Not only are millions of acres packed with uncharacteristic fuel loads, the nature of those fuels represents a particular danger: a continuous fuel supply both horizontally and vertically that facilitates the rapid spread of high-intensity wildfire.

Severe wildfires release to the atmosphere tremendous amounts of carbon that had been stored in trees, shrubs, snags and woody debris. Severe wildfire also diminishes the ability of forestlands to recapture carbon following the fire as brush fields and decaying trees take up far less carbon than healthy forests. Longer flame lengths also lead to higher suppression costs and greater detriment to wildlife habitat.

We can't lose sight of the influence wildfire has on wildlife habitat. Wildfire, for instance, may have severe short-term impacts on spotted owl habitat. The 2007 Moonlight Fire incinerated 97 percent of spotted owl nesting habitat and 88 percent of foraging habitat in the 65,000-acre burn perimeter.

Many species experience a spike in mortality during severe wildfire. And while certain species such as woodpeckers and flycatchers

thrive in post-fire landscapes, many other species that need vegetation for food and cover are displaced.

Continuous fuels present greatest danger

The real danger lies in the continuity of fuels. A century of aggressive fire suppression and decades of significantly restricted timber harvest have led to intermixed fuels and many forest stands of nearly the same age class. The resulting homogeneous landscape supports lower biodiversity and is dangerous because it facilitates the spread of large-scale wildfire. In order to protect carbon stocks, wildlife habitat and human communities, we need to break up the fuels and restore heterogeneity to the landscape.

In Northern California, fire itself has made now the opportune moment to act.

Lightning storms in 2008 ignited scores of fires across Northern California. Some burned off surface fuels and effectively lifted the forest canopy and disrupted fuel continuity. In doing so, Mother Nature established a backbone for treatments that we could leverage to restore resilient forests to the landscape. In other fires, the vertical and horizontal fuel buildup allowed for very severe fire effects.

Land managers have a diverse set of proven tools at their disposal to reduce fuel loads and sustain healthy forest ecosystems. Sustainable

harvesting, low-intensity prescribed fire, mastication and careful regeneration can help develop forests that are less susceptible to high-intensity wildfire.

But too often land managers' hands are tied and tools are taken away. When we should be acting with a sense of urgency, litigation and appeals continually block or delay fuel-reduction efforts.

The Moonlight Fire gained intensity in dense stands slated for fuel reduction treatments that never happened. More than 100 appeals have been filed against fuel reduction and forest restoration on the congressionally approved Herger Feinstein Quincy Library Group Pilot Project. The USDA Forest Service has estimated that some 40 percent of its resources are diverted due to litigation and appeals.

Meanwhile, severe wildfire is increasing in California.

Learning from experience

We have learned through the Cone Fire and others that fuel reduction efforts can lower wildfire severity. We have witnessed in the McNally, Uncles Complex and Iron Complex fires what happens when continuous fuels are

allowed to accumulate in ecosystems that have historically been maintained by low-intensity fire.

We've also learned that restricting fuel treatments in riparian areas, once thought necessary to protect shade sources and water quality, may have adverse consequences. For centuries, fire moved through watersheds without observing 300-foot buffers, naturally revitalizing vegetation and recruiting into watercourses the large woody debris that many aquatic species prefer. During the Angora Fire, flames that appeared to be reducing in severity gained speed and intensity in protected riparian zones.

We need to get past the paralysis and regulatory structure that takes much-needed tools away from land managers. Regulations must provide the flexibility to act on what we've learned and the opportunities that present themselves to conserve forest resources.

With biodiversity, carbon sequestration and community safety benefits in the balance, California's leaders must develop policies that encourage land managers to address fire threats before the fire begins. ■



⤴ Severe wildfire poses a significant threat to spotted owl habitat.

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