



## Research Brief for Resource Managers

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### Private landowners in California face loss and choose to reforest after high-severity wildfire

*Waks, Lulu, Kocher, Susan D. and Lynn Huntsinger. 2019. Landowner Perspectives on Reforestation following a High-Severity Wildfire in California. Journal of Forestry 117(1):30-37, doi: 10.1093/jofore/fvy071*

As the size and frequency of high-severity wildfires in California increases, the reforestation decisions made by nonindustrial forest landowners will have greater implications for the future of California forests and their potential to sequester carbon. Waks *et al.* used qualitative interviews to examine landowner responses to a reforestation program following a devastating wildfire in the central Sierra Nevada.

The fire occurred in fall 2014 in the mixed conifer forest of the western slope of the Sierra. A year and a half later, a nearby Resource Conservation District (RCD) was awarded \$1.9 million in Greenhouse Gas Reduction Funds through a CALFIRE grant to design and implement a reforestation program on nonindustrial private forest (NIPF) properties within the burn perimeter. Participation in the program was voluntary and free to those NIPF landowners needing reforestation, and all planning, site prep, and planting was conducted by RCD staff or their hired contractors. In 2017, almost three years after the fire, Waks *et al.* interviewed 27 of these landowners.

25 of the 27 interviewees had decided to participate in the RCD's program, though all 27 wanted to replant at least portions of their properties. The majority wanted to plant the same suite of species as existed pre-fire, and people

#### Management Implications

- Reforestation after high-severity wildfires in the Western United States is needed to maintain forests and sequester carbon to mitigate climate change.
- Owners of forestland burned in high-severity fires face many challenges in re-establishing a forest on their properties.
- The area-wide reforestation program studied was free to the landowners and consequently resulted in more acres reforested than would have been otherwise.
- Reforestation programs need to be sensitive to the powerful emotions landowners feel about forest loss.
- Outreach to nonindustrial private forest landowners should integrate information on planting for climate change mitigation with planting that is adapted to climate change.

frequently said they wanted to “put the forest back the way it was”.

Many landowners experienced an intense and lasting emotional response to the loss of their forest. The term “solastalgia” aptly describes the suffering felt by those landowners. Coined in 2003 by environmental philosopher Glenn Albrecht, solastalgia is:

*“the pain experienced when there is recognition that the place where one resides and that one*

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*loves is under immediate assault. It is manifest in an attack on one's sense of place, in the erosion of the sense of belonging to a particular place and a feeling of distress about its transformation. It is an intense desire for the place where one is a resident to be maintained in a state that continues to give comfort or solace" (Albrecht 2005).*

For some, solastalgia was likely a strong motivator to restore the forest to its pre-fire condition.

Many landowners recognized the value of planting trees for climate change mitigation - including improved air quality and reduced greenhouse gases. Few, however, considered the potential benefits of adapting reforestation prescriptions in light of climate change - that is, what species planted in what densities might be more resilient to a warmer, drier environment. Some saw their properties as too small of be of relevance to a global issue like climate change. In situations for which involvement of professional foresters is not required, unlike in this project, it is possible that a desire to "put the forest back the way it was" could impede the use of climate-adapted reforestation practices.

A number of factors led to the reforestation project not being completed until spring 2018 - three and a half years after the fire. Although reforestation programs typically require some time to implement, a project of this scale, involving a government agency and many

landowners, requires additional time to work with the granting agency and the many individuals, and to coordinate across multiple parcels. Almost half of the interviewees spoke about the slow pace of implementation. For some, in particular those living onsite, the delays exacerbated their distress.

When asked what they would have done were it not for the free program, one third of the landowners said they would have taken no action to reforest; to them, alternative state and federal programs such as the California Forest Improvement Program (CFIP) or the Environmental Quality Incentive Program (EQIP) felt daunting or downright impossible due to the required upfront costs and logistical complexity. Another third said they would have tried to do the work themselves as able over time. The remaining third would have pursued the government programs despite the challenges.

The free area-wide reforestation program offered by the RCD increased the area replanted after a high-severity wildfire by at least a third, resulting in more forest area restored and greater potential carbon sequestered. Outreach to NIPF landowners that discusses climate-adapted reforestation and management would promote planting of more fire-resistant forests. Loss of trees to wildfire causes emotional distress for many NIPF landowners, and reforestation programs such as the one in this study may aid the healing process.



Figure 1: Burn area three years after the wildfire. Note the regrowth of dense shrubs that makes reforestation more difficult and costly. Photo credit: Lulu Waks.