



Research Brief for Resource Managers

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Social Fragmentation and wildfire management: Exploring the scale of adaptive action

Paveglio, Travis B., Matthew S. Carroll, Amanda M. Stasiewicz, Catrin M. Edgeley. 2019. Social fragmentation and Wildfire Management: Exploring the Scale of Adaptive Action. International Journal of Disaster Risk and Reduction. 33(2019)131-1241. <https://doi.org/10.1016/j.ijdrr.2018.09.016>

A goal of many land managers throughout the United States is to create fire-adapted communities in wildfire-prone ecosystems. Fire-adapted communities are those that can prepare for, respond to, and recover from wildfire events with minimal losses of valued resources and minimal need for fire suppression measures. As current and predicted wildfire patterns change, managers and researchers have begun to consider the scales at which fuels treatments aimed at reducing fire risks are effective. Scales of effective management, however, are greatly influenced by the distribution of human populations. Furthermore, the social diversity and differences in perspectives regarding land management within distributed human populations can impact the success and implementation of fuels treatments. The authors of this paper looked to address ways that diverse human populations and local social dynamics can hinder or promote the scales at which fire adapted communities can be established.

Methods

To understand how diverse social groups can contribute to social fragmentation, researchers conducted focus groups with residents in two counties: Bonner County, Idaho, and Pend Orielle

Management Implications

- Fire mitigation projects are limited by social fragmentation (i.e., differing human groups) across a landscape.
- The scale at which projects are designed and implemented should be flexible and reflect what is actually possible on a landscape given current social dynamics.
- Promoting interactions that facilitate a sense of community between stakeholders may increase collaboration needed to implement fuels reduction projects.

County, Washington. In this context, social fragmentation refers to differences in human values, perspectives, skills, and relationships across a landscape. The two counties were chosen as study sites because 1) both counties were affected by the Kaniksu Complex fires of 2015 and 2) they shared many similarities, including the presence of amenity migration (new residents moving into wildlands) and recreational properties, standing histories of timber and agriculture industries, and high proportions of public lands used for recreation and resource extraction. The focus groups asked participants pointed questions regarding areas of high fire risks, reasons for high fire risk areas, and actions that were taken to mitigate fire risks.

Results

Based on the responses of focus group participants, the diversity of residents in each county greatly impacted the approaches that were taken in specific communities to address wildfire management. Lack of communication between landowners, as well as a lack of willingness to collaborate with others, often constrained what management actions were actually implemented on a landscape. It was emphasized by participants that the histories of land use and different perspectives among landowners greatly influenced the social fragmentation in an area. Examples of land use differences include increasing trends of amenity migration and tourism in an area that also contained timber and ranching operations. These differences create conflicting management objectives and social barriers in an area that keep neighbors from interacting. Finally, operational constraints, such as a lack on local timber mills, could greatly limit the capacity for fuels reduction in an area.

Discussion and Conclusion

To overcome these differences and facilitate collaboration between stakeholders, it was emphasized that an idea, or feeling, of “community” must be developed in an area. The scale at which this feeling should be developed depends on the scale at which social fragmentation occurs. Sometimes, this scale could be as small as between neighboring families. Creating a sense of community could be done by collaborating with homeowner’s associations, engaging with tribal bodies and rancher associations, and working across family groups. Flexibility in 1) prescriptions across a landscape and 2) the authority that implements said prescriptions may also encourage engagement in fuels reduction projects by individuals that may otherwise refuse to participate. In order to increase participation by many stakeholders, messages about fuels reductions and strategies used should to be tailored to the interests of each community.

It was also emphasized that social diversity does not always negate social fragmentation. Different ideas and skills can help strengthen the comradery and knowledge within a community, while homogeneity, or social cohesion among

residents’ points of view, may negatively contribute to an area’s ability to implement adaptation strategies. For example, if a community is dominated by a perspective that discredits the benefits of fuels reduction projects, or does not possess the skills needed to implement a project, it may prevent them from taking mitigation actions.

Researchers attempting to understand why scientific literature on fuels reduction does not translate into real-world action in a given area must recognize the lasting impacts of histories and ongoing patterns of social fragmentation. The recognition of a need for fuels reduction may exist in a community but social fragmentation and conflicting management objectives may prevent actions from being taken. For future research, combining data regarding site-specific social fragmentation with data that quantifies the performance of wildfire preparedness and response can provide insights on local social dynamics. Based on their understanding of social fragmentation, land managers can adjust the timelines or strategies of their projects to meet their goals of establishing fire adapted communities. Managers can also make an effort to incorporate local perspectives and social contexts early into decision-making processes to develop the connections and trust needed to implement management plans on larger scales.

Overall, the researchers emphasized that there is no “best scale” to deploy projects at, as social dynamics and fragmentation influence the range of actions that can be used to address wildfire at landscape scales.



Photo: Example of decreasing social fragmentation in Northern California included building connections between multiple organizations and social groups.

