



# Understanding Support for Regulatory Approaches to Wildfire Management

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## Key Findings

### Support for regulations on property owners

- As belief that most fire risk in the area emerges from human ignitions increased, so did support for regulations on property owners (e.g., requiring homeowners in high risk areas to reduce vegetation on their property or retrofit their properties with fire resistant materials) (Table 1).
- Older residents and part-time residents were more likely to support such regulations, as were those who perceived wildfire as a healthier component of the landscape and those who agreed that wildfire would negatively impact the area (Table 1).

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### Support for limiting firefighting resources

- As residents' participation in collaborative wildfire actions increased so did support for restricting firefighting resources to homeowners who do not perform sufficient mitigation on their land (e.g., fuel reduction or landscaping to reduce wildfire risk) (Table 2). Support for such restrictions also increased as support for regulations on property owners increased.
- As the perception of fire as a healthy component of the landscape increased, so did support for restricting firefighting resources (Table 2). This effect was enhanced among residents who perceived impacts of fire on their area to be more negative.

**Keywords.** wildfire, land-use planning, wildfire: mitigation, wildfire: regulation, landscape-level management, policy support

### Home ignition zone mitigation

- The more residents had participated in collaborative wildfire actions (e.g., participated in a fuels reduction program or helped to develop an evacuation plan), and wildfire program actions (e.g., received a professional risk assessment on their property), the more likely they were to perform home ignition zone mitigations such as trimming trees.
- The more residents believed that most wildfires were ignited by humans on public lands, the more likely they were, again, to perform such home ignition zone mitigation. As age increased, the likelihood of performing home ignition zone mitigation decreased. Likewise, part-time residents were less likely than full-time residents to perform such mitigations. Residents who had been in the area for longer were also more likely to perform home ignition zone mitigation.

Effective wildland fire management increasingly entails fostering [shared stewardship](#) of the landscape across ownership boundaries, and enacting collaborative strategies that require management responsibilities distributed among public agencies, local governments and private residents. However, promoting such shared stewardship requires a greater understanding of the interactions between public agencies, local governments, and private residents. In particular, shared stewardship could be enhanced through a better understanding of the contributions that private landowners are willing to make, given their perception of wildfire risk, their

experience participating in collaborative land management, and the mitigation actions they have already taken on their land. [Prior research](#) found that private residents living at the wildland-urban interface are highly diverse in terms of residency, risk perception and, importantly, their support for regulatory and collective action in the face of wildfire threat. Therefore, understanding which groups of residents are likely to be more supportive of or resistant to such actions is key to developing collaborative strategies.

In an effort to address this gap in understanding, researchers surveyed 744 residents of [Pend Oreille County](#),

Washington, in August 2018 to better understand the relationships between private landowners' support of land-use planning regulations, their participation in various wildfire programs, and their perceptions about sources of wildfire risk where they live (Figure 1). Past research has [indicated that distinct populations of residents](#) in Pend Oreille County might express varying levels of support for land-use planning or private property mitigations given the diversity and range of populations grappling with the challenges of wildfire management and the role of fire on their landscape.

## Factors that Correlated with Support for Property Regulation

**Human ignition private.** "Most of the fire risk in this area comes from human ignitions on private land"

**Healthy wildfire.** "Wildfire would improve the health of this landscape"; "Wildfire is a natural and healthy part of this landscape"

**Wildfire impact.** "Wildfire would make this area less attractive"; "This area would not feel like home any more if a wildfire burned through it"; "I would consider moving away if a wildfire impacted this area"

**Age.**

**Part-time residency status.**

Table 1. List of factors found to be significantly correlated with support for property regulation. Data obtained from Table 4 in Paveglio et al. (2021).

## Factors that Correlated with Support for Restricting Firefighting Resources

**Collaborative wildfire actions.** Examples include: attended or organized a wildfire information event, or participated in a fuels reduction program.

**Regulation support.** “Homeowners in high fire risk areas should be required to reduce vegetation on their property to reduce their wildfire risk”; “Regulations should prohibit building homes near wildland areas where they could be burned by fires”; “Homeowners in high fire risk areas should be required to build or retrofit their properties with fire resistant materials to reduce their wildfire risk”

**Healthy wildfire.** “Wildfire would improve the health of this landscape”; “Wildfire is a natural and healthy part of this landscape”

**Healthy wildfire × wildfire impact.** See description of independent factors in Table 1.

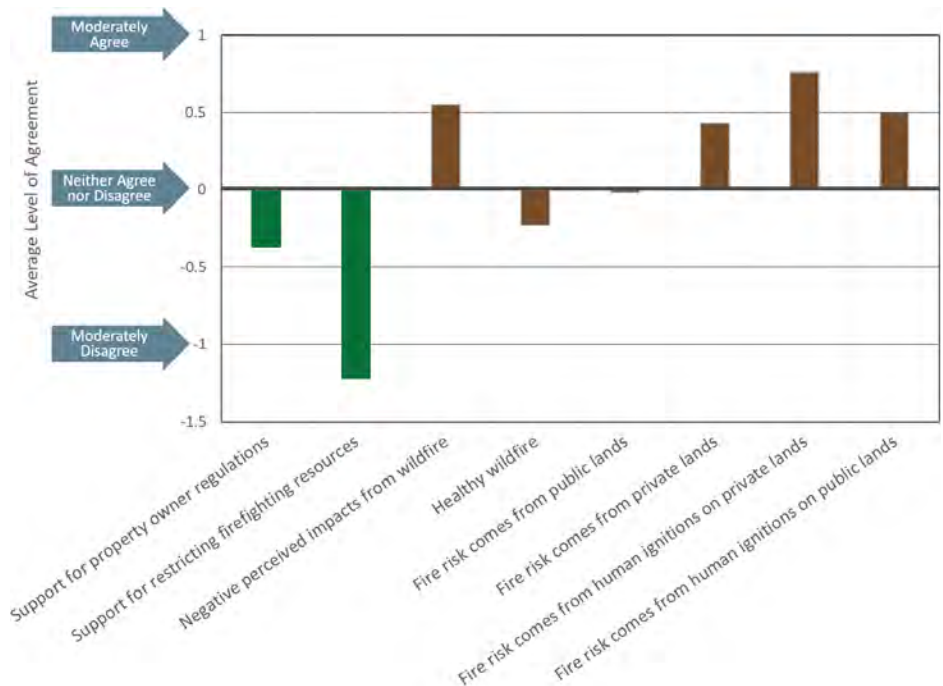
**Table 2.** List of factors found to be significantly correlated with support for restricting firefighting resources to private landowners. Data obtained from Table 5 in Paveglio et al. (2021).

### Management Implications

Land managers and fire professionals should be aware that regulatory approaches to wildfire risk management **may not be supported by all populations**, especially rural populations such as those found in Pend Oreille County (Figure 1). Many residents may oppose regulation, potentially influencing policy makers and land managers who might attempt to adopt and enforce such regulation. However, the relatively high level of residents performing some form of voluntary mitigations on their properties provides an indication that segments of the population are willing to address wildfire management.

Residents will likely need to be convinced of the need for formal regulations if policy-makers hope to reap their potential benefits. A shared recognition of need must be reinforced by agreement among residents because enforcement of regulations may not be feasible given local government budgets and the number of staff needed to monitor such arrangements. As such, public opinion and perceptions of wildfire risk will be important factors in developing shared stewardship over fire prone landscapes.

Interestingly, these results point to a positive relationship between participation in outreach or collaborative programs and performance of home ignition zone mitigations that such programs often advocate. Therefore, a route via which managers and fire professionals might promote the uptake of efficacious domestic measures to combat wildfire is through increasing engagement with such programs where they exist, and where they are feasible. Furthermore, those who wish to build support for regulations on property owners or support for restricting



**Figure 1.** Average level of agreement in responses from residents of Pend Oreille County. Level of agreement options included: 2 = Strongly agree; 1 = Moderately agree; 0 = Neither agree nor disagree; -1 = Moderately disagree; -2 = Strongly disagree. Respondents commented on their support for regulatory actions (green bars), and on their perceptions of factors (brown bars) that were analyzed to evaluate their correlation with support for regulation or for restricting firefighting resources. Data obtained from Table 1 in Paveglio et al. (2021).

firefighting resources should take note of the variables that are associated with such support. For example, younger residents appear less likely to support regulations on property owners than older residents. A communications campaign targeted towards younger landowners could, in theory, increase overall support for such regulations in this location. However, it is significant that landscape-level approaches cannot necessarily be dictated by

approaches that oversimplify the diverse and complex considerations that influence different residents' perceptions of and reactions to wildfire. Regulatory and crisis management approaches that work in one community, for example, are unlikely to have uniform effects when applied to other communities. Diversity requires that such approaches be tailored to the demographic and perceptual characteristics of the community in question.

### Foundational Publication

Paveglio, T. B., Stasiewicz, A. M. & Edgeley, C. M. (2021). *Understanding support for regulatory approaches to wildfire management and performance of property mitigations on private lands*. Land Use Policy, 100, 104893. <https://doi.org/10.1016/j.landusepol.2020.104893>