

Factors Affecting Property Owner Decisions about Defensible Space

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Abstract: The term defensible space refers to that area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and allow fire fighters to safely operate. Research results clearly demonstrate that defensible space improves the probability of house survival during wildfire. Despite educational efforts by fire fighting agencies, many property owners living in high fire hazard environments have been slow to adopt defensible space practices. Based on the findings of four surveys involving property owners living in high fire hazard areas in California and Nevada, fifteen factors were identified that influence decisions to adopt defensible space practices. These factors were: lack of awareness, denial, fatalism, futility, irresponsibility, inability, lack of incentives, insurance, lack of knowledge, aesthetics, unnaturalness, disposal of slash, discomfort, illegality, and lack of ownership. If the goal is to have property owners employ defensible space practices, it is important to understand the factors that affect their decisions to take action. Once these factors are understood, resources can be strategically directed to address the real reasons for property owner failure to implement defensible space practices.

Introduction

“Defensible space” refers to that area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and allow fire fighters to safely operate. Typically, creating a defensible space involves thinning of flammable native trees and shrubs, removal of dead vegetation, and planting of more fire resistant plant materials around the house. The defensible space concept conveys several important ideas including homeowner responsibility, being proactive, vegetation management, house survivability, and firefighter safety.

To fire prevention agencies, having an effective defensible space is essential to living more safely in high fire hazard environments. In recent decades, considerable effort has been expended by these entities to encourage property owner implementation of defensible space practices. Despite this effort, people living in high fire hazard areas have been slow to adopt these practices. The resulting frustration of fire fighters and extension workers is captured in the following statement from a University of California publication:

This information has not only been available to the public, it has been poured over them... and many I – Zone (i.e., wildland/urban interface zone) residents have gotten the message, they just don't act on it.

Adams et al. 1997

What factors deter property owners from taking the actions necessary to create a defensible space? Answering this question is key to achieving widespread implementation of defensible space practices. Hodgson (1996) suggests that in order for individuals to take action, they must have the motive, means, and opportunity. When one of these (i.e., motive, means, or opportunity) is lacking, action will not occur.

If the goal is to have property owners employ defensible space practices, it is important to understand the factors that affect their decisions to take action. Based on a review of four surveys involving property owners living in high fire hazard areas of California and Nevada and the authors' personal experiences, this paper reports on fifteen factors that influence property owner decisions to adopt defensible space practices and categorizes them by the factor types of motive, means, and opportunity.

Identification of Factors

The identification of factors that affect homeowner implementation of defensible space practices were primarily derived from review of the following publications and project reports:

“Fire Hazard: The Dimension of Resident’s Attitude” (Loeher 1984): This article summarizes a PhD Dissertation that evaluated residents’ beliefs regarding fire hazards and expectations of their fire service in the Santa Monica Mountains of southern California.

“Strategies for and Barriers to Public Adoption of Fire Safe Behavior” (Hodgson 1995): Hodgson assesses public perception of defensible space by surveying homeowners living in high fire hazard areas near the northern California communities of Grass Valley and Paradise after a wildfire event.

“Report of the Living With Fire Survey Results” (Alan Bible Center for Applied Research 1998): In this survey, 462 randomly selected residents of high fire hazard neighborhoods in western Nevada were interviewed to determine their attitudes and knowledge levels concerning wildfire and defensible space.

“Preliminary Results: Incline Village Fire Survey” (McCaffrey 1999): As part of her PhD Dissertation, McCaffrey surveyed approximately 100 residents of the Lake Tahoe community of Incline Village to determine their beliefs about the wildfire threat and the actions necessary to reduce the hazard.

From this review, thirteen different factors affecting property owner decisions to implement defensible space were identified. Two additional factors, based on the experiences of the authors, were also added. Please note that the factors listed below are not presented in any particular order (i.e., Factor 1 is not necessarily more important than Factor 2, etc.). The factors, however, are presented according to type: motive, means, or opportunity.

Factors Affecting Property Owner Decisions about Defensible Space

Motive Factors

Unaware (“I didn’t know there was a wildfire threat to my neighborhood”): Some property owners do not realize they live in a high fire hazard area. This lack of awareness is often associated with people who have recently moved to the area. Without the knowledge that a threat exists, there will be no motivation to take action. Loehner (1985) did not consider this an important reason in explaining why property owners failed to create a defensible space and stated “residents are better informed about their exposure to risk than they are given credit for...” Similar conclusions can be drawn from the other surveys. For the most part, property owners living in high fire hazard areas are aware of the threat.

Denial (“It won’t happen to me” or “I don’t believe it”): Despite awareness of the wildfire threat, some individuals will refuse to acknowledge that they are at risk. This attitude is similar to the chain smoker that is familiar with the health risks, but chooses to ignore the ramifications. When asked, “Why don’t people implement defensible space practices?” a small percentage of Incline Village respondents answered because they thought the danger had been exaggerated or that wildfire was unlikely (McCaffrey 1999).

Fatalism (“It’s all fate. When your number is up, it’s up”): The review of the survey results suggests a few property owners do not implement defensible space practices because they are fatalists (i.e., whether a house burns or not is a matter of luck). Hodgson (1995) found that less than one in ten of the property owners

surveyed were fatalistic. Obviously, individuals who put their fate in hands of “Lady Luck” may not be motivated to take action.

Futility (“It won’t make a difference”): Although there is good information to the contrary, a number of property owners do not create defensible space because they feel it will not be effective in protecting their homes from wildfire. About 20% of the people surveyed by Hodgson (1995) did not think defensible space would help save their property. Property owners that do not believe defensible space will be effective will lack the motivation to take action.

Irresponsibility (“It’s not my job”): Some property owners may be aware of the wildfire threat, but do not take action because they do not consider it their responsibility. These individuals often believe it is the fire department’s job to protect their home from wildfire. Sometimes coupled with this belief is a misconception about the abilities of firefighters to control an intense wildfire. Loeher (1985) considered this a major factor in Santa Monica Mountain property owners’ decisions to not create a defensible space. He stated, “What is astonishing is that 37% (i.e., of homeowners surveyed) felt no sense of responsibility whatsoever...” Approximately one-third of the survey respondents felt that “public officials” were solely responsible for minimizing the wildfire threat. In contrast, 90% of the western Nevadans surveyed believed that property owners had a “high” or “very high” level of responsibility for reducing the wildfire threat to their homes.

No Incentives (“If it was really important, my insurance company would give me a break on my premium”): Although probably only a contributing factor, a few property owners felt that the costs of implementing defensible space concepts should be offset by lower insurance rates. About 70% of Incline Village residents thought that homeowners with an effective defensible space should have reduced insurance premiums (McCaffrey 1999).

Insurance (“So what, my insurance company will build me a new house”): Some property owners discount the need to create a defensible space because their homes are adequately insured. A veteran California fire fighter states, “There are people out there who take care of some of their serious valuables like pictures and things that they can’t replace; once they find secure places for them, they don’t care if the house burns down.” The loss of a well-insured house to wildfire may also present an opportunity to some people. After the 1991 Tunnel Fire near Oakland, California, about 66% of the people who lost homes decided to rebuild on the same site. The houses they rebuilt were 28% larger than the original structures (Adams et al. 1997).

Unnatural (“It’s wrong to cut trees”): There are property owners that are opposed to the removal of trees and other native vegetation because they value the wildland look, wish to minimize disturbance to the natural setting, and/or believe it will degrade wildlife habitat near their homes. Hodgson (1995) found that about a third of the property owners surveyed believed that one should make as

few changes to the natural landscape as possible. Western Nevadans felt that potential conflicts with the naturalness of the landscape were a major reason why people did not create a defensible space (Alan Bible Center for Applied Research 1998).

Aesthetics and Function (“*It won’t look good*”): People value the landscapes surrounding their homes for reasons other than just defensible space. There is a perception by some property owners that an effective defensible space will result in an unattractive landscape that will not compliment their home or contribute to their property value. There is also a perception that landscape functions or uses, such as privacy hedges, shade trees, and windbreaks, would not be compatible with defensible space concepts.

Discomfort (“*I don’t want to because of snakes, lyme disease, poison oak, etc.*”): Hodgson (1995) found that some residents were reluctant to create a defensible space because of perceived hazards of working outdoors in a wildland setting. Since a large number of the people moving to wildland areas have urban backgrounds, there may also be an exaggerated perception of risk associated with these potential hazards.

Means Factors

Cost (“*I don’t have the time or money to do it*”): The costs (i.e., money and time) of implementing defensible space practices are considered by some to outweigh the benefits of reduced fire threat. Hodgson (1995) concluded that the perceived monetary expense, labor, and time requirements were major barriers to creating a defensible space by northern California residents. In western Nevada, the cost factor was believed to be a less important deterrent to defensible space implementation (Alan Bible Center for Applied Research 1998).

Unknowledgeable (“*I don’t know what to do*”): A lack of knowledge concerning how to implement defensible space practices prevents some property owners from creating defensible space. Loehner (1985) found that Santa Monica Mountain homeowners were uncertain about which wildfire threat reduction practices were most worthwhile and how to implement them. Western Nevada property owners felt that lack of knowledge was an important reason for the failure of some property owners to create a defensible space (Alan Bible Center for Applied Research 1998). Hodgson (1995) found that about two-thirds of the residents thought they would need to learn new things about landscaping in order to create an effective defensible space, but over half thought defensible space concepts would be easy to understand.

Disposal (“*I don’t have an easy way to get rid of that stuff*”): An important factor for some property owners is the inability to dispose of the plant material generated by the creation of a defensible space. Hodgson (1996) states, “Brush

disposal is perhaps the thing that fire protection officers need to pay the most attention to; it is the most difficult and dangerous of the problems land owners face in converting their property.” If property owners do not have the means to dispose of the slash, they may not create a defensible space in the first place.

Opportunity Factors

Illegal (“It’s against the law”): In some areas, federal laws, local ordinances, and homeowner association restrictions inhibit or prevent the creation of defensible space. Property owners do not have the opportunity to implement defensible space practices if it is illegal.

Lack of Ownership (“The problem is on my neighbor’s property”): In certain instances, the presence of flammable vegetation on an adjacent parcel can pose a threat to a property owner’s house. Without the cooperation of the adjacent landowner, an individual does not have the opportunity to create an effective defensible space.

Application to Extension Programming

If the goal is to have property owners employ defensible space practices, it is important to understand the factors that prevent them from taking action. Once these factors are understood, extension resources can be strategically directed to address the real reasons for property owner failure to create a defensible space. Extension programs do little good if the objective is motivation and the problem is lack of opportunity or means. When developing extension programs aimed at achieving widespread adoption of defensible space practices, be sure to address the real problem.

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