

# **Homeowner response to local wildfire hazard mitigation policies**

## **Focus Group Report**

### **Prepared for**

#### **USDA Forest Service Northern Research Station**

#### **Submitted and Prepared by**

Greg Winter  
Principal Investigator  
Cornerstone Strategies, Inc.  
Bellingham, WA

Christine Vogt, Ph.D.  
Principal Investigator  
Michigan State University  
Dept. of Community,  
Agriculture, Recreation and  
Resources Studies  
East Lansing, MI

Sarah McCaffrey, Ph.D.  
Principal Investigator  
USDA Forest Service  
Northern Research Station  
Evanston, IL

---

**September 2007**

## Table of Contents

<b>Executive Summary</b> .....	<b>3</b>
<b>Acknowledgements</b> .....	<b>4</b>
<b>Introduction</b> .....	<b>5</b>
<b>Overall study objectives</b> .....	<b>5</b>
<b>Study Sites</b> .....	<b>6</b>
<b>Methods</b> .....	<b>7</b>
Data collection .....	7
Data processing.....	7
Data analysis .....	7
Resident homeowner focus groups .....	7
Agency fire manager focus groups .....	8
<b>Findings Summary</b> .....	<b>9</b>
<b>Detailed findings</b> .....	<b>10</b>
Defensible space compliance factors .....	10
Desired vegetation versus firesafe landscape .....	10
Erosion prevention versus firesafe landscape .....	10
Yard waste disposal.....	11
Cost of compliance.....	11
“Others” elevate the risk .....	12
People who “don’t understand” .....	12
Vacationers and renters .....	12
Kids .....	<b>Error! Bookmark not defined.</b>
Newcomers .....	13
Absentee/seasonal owners.....	13
Share the burden .....	13
Government roles and responsibilities.....	13
Homeowner responsibilities .....	13
Shared responsibility.....	18
Mandatory regulation may be justified.....	20
How to implement local policies .....	22
Fair and uniform enforcement.....	22

On-site consultation .....	22
Direct mail communication .....	22
Communication messages need to be repeated often .....	22
Other local policies are needed .....	23
Planning and zoning and building code considerations.....	23
<b>Comparison between sites .....</b>	<b>24</b>
Vegetation management policy acceptance factors.....	24
Vegetation management policy compliance factors.....	26
<b>Conceptual Model of Vegetation Management Policy Acceptance and Compliance.....</b>	<b>27</b>
<b>Appendix A: Homeowner focus group recruitment materials</b>	
<b>Appendix B: Focus group interview question guide</b>	
<b>Appendix C: Draft Phase II Survey Questionnaire</b>	

# Executive summary

Recently enacted federal and state policies provide incentives for local jurisdictions to manage risks associated with wildland fire. This has led to an array of local-level policies designed primarily to encourage homeowners to create fire-safe landscapes.

Previous studies of WUI area homeowners have examined perceptions and attitudes toward public land management policies, and individual risk mitigation practices, but not about support for and compliance with local-level defensible space policies.

This qualitative phase of a larger study used focus interviews with homeowners in three diverse communities to explore this research question: What attributes of local-level wildland fire policies are associated with homeowner support for and compliance with defensible space guidelines or regulations?

Research sites were chosen largely for their wildland fire policy diversity: Oakland, California has long-standing mandatory defensible space ordinance recently enhanced by voter approved tax assessment district that provides added inspection, enforcement and homeowner services (e.g. additional yard waste disposal). Ruidoso, New Mexico is in the process of establishing a mandatory defensible space ordinance, but has not yet implemented it city-wide. Grand Haven, Michigan has no mandatory regulations, but recently partnered with Michigan Cooperative Extension to develop defensible space guidelines and education materials specifically for WUI area homeowners along the fire-prone shoreline of Lake Michigan.

Despite their community's local-level policy diversity and the diversity of risk severity across communities, homeowners from all three sites expressed common conceptual reasoning to evaluate these policies. First, wildfire risk mitigation is widely considered to be a shared responsibility of landowners and government, with certain responsibilities assigned to each group. Second, the appropriateness of mandatory landscaping regulations to effect defensible space objectives is associated with beliefs about legitimate roles of government, and individual property rights, each of which may be attenuated based on the severity of the wildfire risk. Third, homeowners recognize that both groups – public agencies and homeowners – have land management objectives that conflict with defensible space objectives, and these conflicts hinder support for and compliance with defensible space guidelines and regulations.

These findings led to a proposed conceptual model of vegetation management policy acceptance and compliance. Researchers operationalized the model components in a draft survey questionnaire that will be used in the second phase of this project.

## Acknowledgements

The authors of this report would like to acknowledge the help and support of the following individuals and organizations:

- ❖ Funding for this project was provided by the Joint Fire Science Program, a collaborative research program of the U.S. Departments of Agriculture and Interior.
- ❖ Site cooperators at each of the research site have provided ongoing support (and patience):
- ❖ Grand Haven, Michigan
  - Mark Hansen, Michigan State University Cooperative Extension
  - Grand Haven Township
    - Fire Department staff: Chief Rich Sczepanek
    - Denise Chalifoux, Grand Haven Township Assessor
- ❖ Oakland, California
  - Wildfire Prevention Assessment District staff: Kristine Shaff, Public Outreach Coordinator and Leroy Griffith, Assistant Fire Marshall
- ❖ Ruidoso, New Mexico
  - Rick Delaco, Village Forester
- ❖ Larimer County, Colorado
  - Tony Simons, Emergency Management Specialist
  - Larimer County Assessor's Office

## Introduction

In the summer and fall of 2006, nine focus groups were held in three selected sites to elicit and document the range of perspectives, concepts and lexicon related to the wildland fire hazard and local hazard mitigation programs in each community. Resulting focus group data are being used to develop a conceptual model of WUI homeowners' support for, and compliance with local wildland fire mitigation programs, especially those designed to increase defensible space landscape practices. In the next phase of this research project, that data will be used to develop a quantitative survey instrument to collect data from a large sample of homeowners in these and other communities.

This report summarizes the transcription, coding and analysis of remarks from these focus groups. It is an intermediate work product for use in the development of the Phase II survey instrument. A subsequent report in the form of a journal manuscript will follow.

## Overall study objectives

1. Employ qualitative research methods to explore the motives and meanings of community risk managers' decisions to implement particular types of wildland fire hazard mitigation laws, policies and incentives; and high-risk WUI residents' intended and actual behavior in response to those programs.
2. Construct a conceptual model of the factors that influence individuals' decisions to practice and support (or not) local wildland fire management policy based on the qualitative findings and the relevant literature.
3. Develop and test individual measures (survey questions and scales) to develop a set of reliable and valid indicators of attitudes, understanding, beliefs and motivations, and other compliance factors related to local laws, policies and incentives that comprise the conceptual model variables.
4. Construct and employ a quantitative survey instrument to test and refine the conceptual model of the causal factors and processes by which individuals adjust to the wildland fire hazard in response to the local laws, policies and incentives.
5. Test and refine the conceptual model to construct a matrix of policy options and associated success factors based on public perceptions explored qualitatively and measured quantitatively.
6. Transfer findings to researchers and federal, state and local risk managers via a range of publications and presentations.

## Study sites

Three research sites were chosen largely for their wildland fire policy diversity:

- **Oakland, California** has long-standing mandatory defensible space ordinance recently enhanced by voter approved tax assessment district that provides added inspection, enforcement and homeowner services (e.g. additional yard waste disposal).
- **Ruidoso, New Mexico** is in the process of establishing a mandatory defensible space ordinance, but has not yet implemented it city-wide.
- **Grand Haven, Michigan** has no mandatory regulations, but recently partnered with Michigan Cooperative Extension to develop defensible space guidelines and education materials specifically for WUI area homeowners along the fire-prone shoreline of Lake Michigan.

*Table 1. Study site characteristics*

Site	Wildfire risk	Vegetation management policies
Grand Haven, Michigan	Low-moderate: primarily along a narrow band of Lake Michigan shoreline and exacerbated by dune grass vegetation	Education-only, primarily in conjunction with Cooperative Extension
Ruidoso, New Mexico	High: extensive WUI area with high fuels loading; considered to be one of the highest risk WUI communities in the country	New, mandatory property owner vegetation management ordinance; it is being implemented city-wide in stages; unlimited yard waste pick-up and disposal program
Oakland, California	High: extensive WUI at urban-level densities; site of the catastrophic Oakland Hills Firestorm of 1991.	Long-standing mandatory vegetation management ordinance bolstered recently by the creation of the Oakland Hills Wildfire Prevention Assessment District, a special purpose government that enforces the ordinance, annual inspects all properties, and provides yard waste disposal services

*Note: This qualitative phase of the research initially was designed to include Larimer County, Colorado. Researchers did consult with agency representatives at this site; however, given difficulties encountered in recruiting focus group participants within project time constraints and the general consistency of issues raised in the homeowner focus groups in the three other sites, it was decided to restrict the research activity at this site to the second phase quantitative study.*

## Methods

### Data collection

Homeowner focus group participants were recruited at random from a sample frame of resident homeowners extracted from each county's tax assessor database. Researchers used advance letters with return postcards (to indicate level of interest in participating) and follow-up phone calls to recruit volunteer participants (Appendix A). Focus group size ranged from 6 – 12 participants, averaging 7.5 per each of the 6 groups (Table 2).

**Table 2. Resident focus group participants by area**

Site	Groups	Participants
Grand Haven, Michigan	2	18
Ruidoso, New Mexico	2	15
Oakland, California	2	12
Total	6	45

Focus group data consists of the moderated group discussions, each of which followed a standard interview (Appendix B). The interview guide was designed to elicit discussion of the local wildland fire risk, wildland fire risk factors, homeowner risk mitigation actions, and knowledge and perspectives on the local community's wildland fire risk mitigation programs. Participants were also asked to share their perspectives on risk mitigation programs that exist in other communities.

### Data processing

Focus group discussions were audio-recorded and transcribed. In all but one case, the analyst used transcript-based coding to analyze the data. In one case, the audio taping equipment failed and the analyst relied on the detailed notes of the recorder/observer.

### Data analysis

#### Resident homeowner focus groups

Transcribed focus group discussion remarks by individual participants were coded according to a hierarchical framework that emerged during several coding iterations. First, the analyst assigned one or more *concepts* to each remark (Table 3).

Next, the *theme* or subject of each remark was recorded. For example, if the remark was assigned to the *concept* "acceptance," the *theme* code would refer to the object of acceptance, such as "prescribed burning." Finally, one or more individual *elements*

of each *theme* were discerned from the comments. An example excerpt from a focus group transcript is shown in Table 3.

Finally, the codes for all transcripts were combined and sorted for data reduction and analysis. Data were analyzed using crosstabulation to find common themes and factors across sites.

**Table 3 Focus group participant remark coding by concept**

Concept	Theme	Element	Example transcript remark
Agency role/responsibility	Communication/ education	Show homeowners very specifically what to do to create defensible space	"...the other thing that's critical is the availability of [the fire chief] to take a half an hour with you and sit down and say, "Okay, for your house, consider this."
Homeowner role/responsibility	Organize/ form associations	Set norms/ Educate neighbors	"Sometimes a little peer pressure is good for the soul."
Risk factor	Access	Parking (as egress/ingress obstruction)	"A very simple, doable thing would be to forbid parking on one side of the street to allow access."
DS barrier	Yard waste	Lack of disposal options	"I can't get rid of [yard waste] easily – let's put it this way – economically."
Mandatory DS regs	Support for	Public safety function of government can outweigh property rights	"How great is the risk in communities that don't have [mandatory DS regulations]? The risk isn't as high as it is here, so people don't react. We didn't either until we had enough fires, and after that, we got the ordinance."

*Note: Some of the focus group participant quotations in the "Detailed Findings" sections below include [bracketed text]. The brackets indicate that the quote was edited to make sense to the reader. For example if a focus group participant uses the word "it" to refer to something that was recently discussed, but is not included in the actual section of remarks quoted, we substitute the specific concept for the nonspecific word or phrase. In a few cases it was necessary to paraphrase the whole quotation when we had to rely on handwritten notes rather than the tape-recording or transcript. Finally, brackets are also used to indicate that we started a quoted remark in mid-sentence.*

### **Agency fire manager focus groups**

The primary purpose of the agency focus groups was to familiarize the researchers with the local area, especially with respect to local forest and fire management issues, fire history and current and planned use of various fuel treatments. Additionally, the focus groups presented excellent opportunities to elicit fire manager perceptions of local homeowner support and compliance factors. Therefore, the agency fire manager focus group transcripts were analyzed by the same coding scheme as above. These data are not presented in this report. They were used primarily to help the researchers understand the local context and conditions and to develop the homeowner focus group question guide.

## Findings summary

### **Compliance related to competing objectives, yard waste disposal and cost:**

Defensible space compliance – whether mandatory regulations or voluntary guidelines – is determined primarily by degree land use objectives that compete with firesafe landscape objective; options for yard waste disposal; and cost.

**“Others” elevate the risk:** Focus group participants perceive that certain population subgroups comprise a large group of “others” that heighten the risk to their neighbors by not complying with defensible space regulations or guidelines, or by practicing other unsafe fire-related behavior.

**Share the burden:** Landowners and government agencies share the responsibility to manage WUI fuels. Each group and subgroups have specific roles and responsibilities. Local government is responsible for communicating with property owners about local WUI policies, showing property owners exactly how to comply with vegetation management rules or guidelines, and enforcing compliance. Like other property owners, they are also responsible for vegetation management on their own open space properties. Homeowners are responsible for vegetation management, for monitoring their neighbor’s compliance and for setting norms to encourage neighbor compliance. Homeowners also have the responsibility to pay for local risk mitigation programs through taxes or fees.

**Mandatory regulation may be justified:** Mandatory vegetation management regulations are at odds with strict conceptions of property rights and personal liberties; however, such ordinances can be justified when the underlying wildfire risk is high, there is an acknowledged public safety role for local government, and it is also acknowledged that individual noncompliance puts others (neighbors) at risk.

**How to implement local policies:** If mandatory regulations are justified, they should be enforced fairly, and uniformly. Some suggest such a policy should be determined by a public vote. Whether voluntary or mandatory (but especially if mandatory), local enforcement personnel should make themselves available for one-on-one consultations with property owners to show them specifically how to comply. Mailed letters to each property are a good way to ensure the message is received. Education and communication efforts should be repeated often for maximum impact and to catch newcomers and seasonal visitors.

**Other local policies are needed:** Defensible space policies alone aren’t enough to comprehensively respond to the WUI problem in high risk areas. Local governments need to incorporate WUI concerns into their comprehensive planning processes and zoning regulations. Continuing to build in high risk areas and/or to allow high risk construction practices exacerbates community risk.

## Detailed findings

### Defensible space compliance factors

Homeowners express a variety of objectives for their landscaping and yard maintenance efforts: native plant communities, well-manicured outdoor space, views, privacy and fire safety. To some, the objective of fire safety precludes other objectives. The two objectives most commonly perceived as competing with fire safety are (1) **desired vegetation or vegetation arrangement**, and (2) **erosion control**.

#### Desired vegetation versus firesafe landscape

*As far as codes that would have me submit my lot for instance, I'm better because of what's there. I want the leaves falling on the ground within three feet of my home and I want the trees closed in. That's why I'm there. If it wasn't for that, I wouldn't be there. So, no, I don't want to be assessed. I don't think that that would necessarily motivate me to change what I have. (GH2)*

*But there's nothing that information I've really gotten that says, other than if I want to cut the shrubs away from my house, which I don't particularly want to do. (OK1)*

*We're talking about some people giving up a view. There's going to be some give and take. We're all going to have to compromise at some point. My neighbors may be looking directly into my house at some point, because I have to cut something down. And, who's going to agree with that? (OK2)*

*I've lived in the same place for all these years and, yeah, I thin, but I just hated the idea of somebody coming in and telling me that I was going to have to axe 50% of the trees in my back yard. (RU1)*

*Trees are supposed to be 20 feet apart, and we have a lot of tree huggers up here, "Oh, that's my tree, you can't cut it down." To be honest, when I first moved up here, there was a big one right outside my window and Jim said, "That tree's got to go." I was like, "Why do I have to let the tree go?" (RU2)*

#### Erosion prevention versus firesafe landscape

*[We could remove dunegrass, but that is in conflict with the need to prevent erosion and in conflict MDEQ rules]. (GH1)*

*I had to hire someone who could clear that entire yard. Now, every year, I have to go down and clear it again because immediately all the leaves come back. And now I have the reverse problem when winter comes. I have to worry that the hillside is going to wash away, because of the rain. (OK1)*

*I clear my yard, but on the other hand, I have the other problem now when the rains come, I'm afraid the hillside is going to wash away. So it becomes this thing where you have to kind of balance the fact that the fire with the water – and they're still concentrating on the fire – that they're not concerned about the other factors that go into it. And I'm worried about those as well. (OK1)*

*Participant A: The other thing is we're having an erosion problem. We're watching the mountain kind of slide down because it's very steep.*

*Participant B: Well, [the Village Forester] is real good about talking with you. You get out there and you say, well, no, he says, "That tree's got to go and that tree's got to go." And you say, "Well, now, does that tree really have to go?" And you can talk him out of it. If you'll do this, he'll do that. So, he'll work with you on it. (RU1)*

Two homeowner compliance factors related to the feasibility of firesafe landscaping are **yard waste disposal options** and **costs of compliance**. In Grand Haven, where there are no community yard waste disposal programs, residents cited this as an obstacle to complying with defensible space guidelines. On the other hand, in Oakland and Ruidoso, each city offers frequent curbside pickup of yard waste. These programs are cited as key elements of the local programs that facilitate firesafe landscaping.

### **Yard waste disposal**

*I live next to a park and there is tons of undergrowth in the area. What are you supposed to do with it? You can't dispose of it in this area. (GH1)*

*[I] have to burn my [yard waste]. I can't get rid of it easily, let's put it this way, economically, for me. So, I use it as a campfire supply of wood. (GH2)*

*There are also programs that you get every week. Your green waste. I've got six green bins that they pick up each week. You can also get a chipping program that would provide chippings services in the community. (OK1)*

*Participant A: When they've got the [yard waste disposal service] and you didn't have to haul your pine needles, that was a huge improvement, because you've actually got something you can do with [the waste].*

*Participant B: Because you can clean your own dead branches and your own pine needles.*

*Participant A: And put them in a big pile and the truck comes and picks them up.*

*Participant C: That's a big plus. The Village bill went up a few dollars, it's worth every penny, so you don't think you have to have a pickup truck and go to the dump to remove your slash, it's right there available to put on the street. (RU1)*

### **Cost of compliance**

Some WUI homeowners express concerns over the costs of compliance with mandatory programs, especially the costs of doing more than the minimum required firesafe landscaping.

*Every year [the fire department inspectors come] and they assess our house and tell us what we need to get rid of. So, I expect that this is a minimum amount of prevention, that it's a very likely thing to happen, that if a fire starts, our house can go up. So, we take it seriously. Like I said, there's so many eucalyptus trees. And I know they're not native. If it wasn't so expensive, I'd cut them down already. They'd be gone. But we've had a couple of estimates. It's pretty pricey. (OK2)*

*Participant A: ...If there were a program based on financial status...You know, if you can afford it, great, pay for it; but make an application to where it's like, you know, here are my funds, to where there is 100% upfront or maybe the village has a crew that could do it for them. What if it's an elderly person that can't rake, can't get out there and do that and they're on a fixed income?*

*Participant B: I'm real concerned about that, because I know who my neighbors are, those who live there full-time like I do, and I know where they work and I know what their incomes are. And I'm telling you, we don't have the money there. And I know there is some money in the village coffers to help pay for any of it.*

*Participant C: I think it would be a critical part of any solution is to have some funds available. (RU1)*

### **“Others” elevate the risk**

Certain population subgroups comprise a large group of “others” who participants believe heighten the risk to their neighbors by not complying with defensible space regulations or guidelines, or by practicing other unsafe fire-related behavior. (We emphasize that these are the participants’ perceptions, which may or may not be true.)

#### **People who “don’t understand”**

*I came [to this focus group] because of a concern over people [who may not] understand the fire danger from beach fires, fireworks and the west winds, fires in people’s yards that spread. (GH1)*

*[O]ur neighbor across the street is a foreigner and he burned the leaves in his yard one year. And we freaked out and ran over there like – You don’t do that here! And we laughed about it later but – of course my neighbors and I, we kind of sat around and said – No, that wasn’t funny. (OK2)*

#### **Vacationers and renters**

*And then there’s transient rental occupancy where people come, and they don’t understand the dangers of the water in Lake Michigan, they don’t understand the dangers of fire on the beach. So, they add extra risk for the rest of us who take it more careful because we understand those things. (GH2)*

*People come up here on vacation and they’re not thinking about the risk. (GH2)*

*We had some renters from somewhere, I don’t know where they were from, but they had a fire in the fireplace, and they got ready to leave at 10:00 the next morning and, I mean, they built the fire that morning, and they opened the window, tossed the logs out, burning logs out the window. (RU1)*

In response to moderator asking participants to list local wildland fire risk factors:

*Participant A: Uneducated visitors.*

*Participant B: Tourists.*

*Participant C: When they come up from Texas they don’t understand. (RU1)*

## Children and young adults

*[T]he fires that we have had on the beach. They were mostly started by kids with beach fires or playing around. (GH2)*

*[T]here's a lot of kids that come in, and nobody controls them. They do whatever they want, and it seems like people are turning and look the other way... I have seen neighbors' kids light a fire on a piece of string and twirl it, you know, throwing cigarettes out, and nothing's ever been done. (RU1)*

*Some kids thought it was a big hoot to go out and jump out of their car and start a fire in the dumpster that was just a little ways away from us. That could have started a wildfire. (RU2)*

## Newcomers

*My concern is that there's a change out in people. You say, well people know. They don't know, because on our street there were 23 houses before the fire. Now there's 28. But, we're mobile, right? So, the majority of the people on the street were not there for the fire. I've had neighbors tell me, "oh, there's never going to be another fire." Maybe that's the lie they have to tell themselves to buy a house up there. (OK1)*

## Absentee/seasonal owners

*I will say that there is a lot of empty lots still over in my area. And, if they did not require them to clear, that nothing would get done in those lots, because they're absentee people who don't want to do anything with those lots. (OK1)*

*We also have the problem of so many people owning property who don't live here... We have trees that need to be cut that aren't tended to because nobody lives there. People come one weekend a year. What do they care? They're not taking care of their stuff. They're not clearing up the pine needles; they're not taking care of their property. It's a mess. (RU1)*

*But the neighbors to the back, those lots are just lots, and they've never been cleaned. And I think those people live in El Paso. (RU1)*

*People are very uneducated that don't live here full-time and they're not that aware. We get a lot of visitors, lots and lots of part-timers that just don't think of those things. (RU2)*

## Share the burden

Homeowners and government agencies share the responsibility to manage WUI fuels. Each group (and subgroups) have specific roles and responsibilities.

### Homeowner responsibilities

Homeowners are responsible for vegetation management, for monitoring their neighbor's compliance and for setting norms to encourage neighbor compliance. Homeowners also have the responsibility to pay for local risk mitigation programs through taxes or fees.

## **Emergency preparedness**

*I think that safety is also another factor that there needs to be safety plans. And to me that's a crucial part of life along the shore. And we don't have it, at least in [our subdivision]. It's something I'd like to see get developed. We only have one-way roads. Okay, everybody's going to be wanting to go out as the fire department is trying to come in. So, what would be a proper evacuation? (GH2)*

*I've learned a lot of lessons from [the Firestorm], such as to be prepared. And that you have to take responsibility, not depend on somebody else, but that we are going to be the ones saving ourselves and saving our neighbors (OK1)*

*[Emergency response training our homeowner association received] taught us how to put out fires in our own neighborhood, how to handle hose equipment, how to have someone stationed to listen to the emergency radio that the neighborhood has available and have all our equipment stored in someone's house, so that we can be a help rather than either running around like headless chickens or even worse. (OK2)*

*If you live in, you know, Louisiana, you're going to have hurricanes; if you live in California you're going to have earthquakes; if you live in Kansas or West Texas, you're going to have tornados, and there's no place that's free of natural disaster. And so if you just prepare, if you're aware of the things, then most of the time you can handle that. (RU2)*

## **Set norms, educate neighbors, visitors**

*[O]ur association [has] rules and regulations. [They're] voluntary, but within the community we try to educate each other. But, education, rules on fireworks. Does everybody follow? No. But, you remind people. And the education...the [homeowner associations] that are there are very important to the education process, to actually implementing the pressures on individuals and persons to do the right thing. It can't be done because someone wrote a law over here. (GH2)*

*A few years ago, there was an open program called CORE: Citizens of Oakland Responding to Emergencies. And they organized the neighborhoods and the people came together. They got first aid lessons. They got basic fire training and things like that. (OK1)*

*I'd offer to help my neighbor if I could see that they hadn't done anything about their vegetation. And they don't do anything and I call them again and call them again. And, if they don't do anything, I'll may call the fire inspector to have them deal with the issue, or offer to go out and work the neighbor on the problem. (OK1)*

*If there are renters, if there are visitors, then the people in the neighborhood, if they care, they will say get rid of your charcoal fire or I'm calling the police. (RU2)*

*Now, you're usually nice the first time, but you also go by and say, "Do you know, we could help you find somebody to help clean up your lot, but this has got to be done." (RU2)*

*My neighbor, when he had that fire going, I went up to him and I said, "You know, if you catch your house on fire because you haven't trimmed your trees, I'm not going to be spraying water on yours. I'm going to be spraying water on mine, because we've done what we need to do." Because a lot of them haven't done it. And then my next-door neighbor*

*went, "Well, what are you doing, Jim?" And he told him and he got somebody out within two weeks to get his lot cleaned up. So, it's just a matter of educating people, and it only takes one fire in the neighborhood and we can all go up. So, we're all in this together. (RU2)*

### **Defensible space compliance**

*When we had the fire chief come to talk to the homeowners association, we sent out things to the homeowners about what to have within six feet of the house, what to have within 30 feet of the house and we tried to take the best advice that we could get and make sure that our people know about it. (GH2)*

*I think people in Oakland – if you own a house, you're aware that you have to leave a defensible space. (OK1)*

*[H]omeowners themselves should take a lot on their hands too. Whether they clear it and put it in a pile and let the forestry come in and grind it up, something. (RU1)*

*Rake your pine needles, trim your trees up as far as you can to get rid of the ladder fuel. Do the things that homeowners need to do. (RU2)*

### **Government roles and responsibilities**

Local government is responsible for communicating with property owners about local WUI policies, showing property owners exactly how to comply with vegetation management rules or guidelines, and enforcing compliance. Like other property owners, government agencies are also responsible for vegetation management on their own open space properties.

### **Communication and education**

#### ***Distribute written communication to homeowners***

Homeowners express a strong preference for, and most readily acknowledge receiving, information about WUI policies via written communication from the agency responsible for WUI policy and enforcement. While they acknowledge many other appropriate forms of communication (e.g., media advertisements, signage), direct communication via letters to homeowners ensures that the message is delivered.

*[The Township should send letters to homeowners each summer to discuss the wildfire threat]. (GH1)*

*The fire department sends out information about the annual vegetation management program. (OK1)*

*[Upon learning from another participant that there are several free yard waste disposal services offered by the City]: Send a flier to everybody. I'm just learning about this now. I just learned the other day that you could put more than one green bin. I never knew that. (OK2)*

*We get the letter every year warning us that the weed Nazis are coming on June 1. That's a good thing. (OK1)*

*I got a letter that requires so much of the debris and everything to be cleared. And I called somebody and they came and cleaned it, and I got the confirmation from the City that it was an approval. (RU1)*

### **One-on-one consultation with homeowners and homeowner associations**

Participants appreciate that agencies responsible for developing vegetation management rules or guidelines have a responsibility to make their staff available to consult one-on-one with homeowners to show them exactly how they can create defensible space on their property.

*The other thing that's critical – and this is probably an offshoot of education – is the availability, in this case of [our fire chief], his willingness to sit down, take an hour or half an hour and sit down with you and say, "Okay, for your house consider this." And, I'm not sure all fire chiefs would have the time to do that. I mean, obviously, it makes their job easier if they can prevent fires. But, still, that was something that was very important: availability. (GH2)*

*I would like to have them come [to my property] and suggest what we should be doing that's reasonable, like trim around this. I would like to know what those things are. (GH2)*

*We're seeing progress in the wildfire prevention district in terms of that yearly inspections, with the firefighters going out and meeting with the homeowners (OK1)*

*I work at home – the dog barks when they're there. So, I go and talk to them and I don't know who they are, really. But I guess they're [with the] fire department. These guys do walk around our house....[A]nything I know about the fire issues in this area, which isn't much, I learned from those guys....You know, they would say, "You could do a little bit here, a little bit there." It's almost like they're giving me a haircut or something. (OK1)*

*[W]e have the fire department come...every year they come and they assess our house and tell us what we need to get rid of. (OK2)*

*I called the village. They came and checked my lot, they marked the trees for me to cut down and the trees to leave up. (RU1)*

*[The Village has] come out and checked me twice and said it's fine. (RU1)*

*I'll give [the Village Forester] some credit that he at least came and visited with people and spoke to different groups and made himself available. And that made it more possible for people to cooperate and want to do the right thing. (RU2)*

*The village was very, very positive in saying we will come to your homeowner's association, we will come and visit with different people, make an appointment. We will tell you what needs to be done and what trees you can keep. You don't have to cut down everything. And that was a very good thing that eased our neighbors in that instance. (RU2)*

### **Neighbor compliance**

Homeowners at each site recognized the need to sometimes have a third party, such as a local government or fire department official to intervene when a neighbor is not complying with WUI defensible space or safety policies. While some are willing to confront their neighbors with these concerns, even they acknowledge that, in some cases, it is necessary to have a government official emphasize the seriousness of the situation.

*[Fire department can talk to neighbors who don't comply rather than having neighbors telling on neighbors.] (GH1)*

*I couldn't go to my neighbor's and say, "Now, listen, this is a goddamn mess over here and you gotta do something." They'd say, "Get out of here!" Or they'll ostracize me. But if somebody from the fire department who's the third party government says something...Look, it's whole other animal. (OK2)*

*Participant A: [W]hen the neighbor comes and you can actually say, look, even the City says you're not in compliance and you're putting the neighborhood at risk. Can I help you do something about this? What can we do to make our neighborhood safer?*

*Participant B: I think that's a good idea, because that's going to stop neighbors from feuding. And instead of feuding, work with each other. I think she's got a good idea there, as far as like the City coming out, or the County, and letting us know who's doing the job and who's not. (RU2)*

### **Compliance, enforcement**

While neighbors can monitor each other and help to set norms of behavior, local government is primarily responsible for ensuring compliance with WUI defensible space rules or guidelines.

*[Fire department educators should do audits of homeowner compliance.] (GH1)*

*[The fire department publishes the names of people who are caught without having a burn permit.] (GH1)*

*[D]o you remember the whole thing that the newspaper did a few months ago? It was actually for properties that were junked out and they basically -- let's embarrass them in the newspaper to clean up the property. They took photographs and put the address, and basically a little embarrassment factor to go clean up your property. Well, it did work on -- if you saw firewood and all this stuff piling up over someone's property and then mail it to the homeowner, guess who made the front page today? I don't know, sometimes a little peer pressure is good for the soul. (RU1)*

*The fire inspector comes around and inspects the property and gives you a pass-fail. (OK1)*

*I will say that there is a lot of empty lots still over in my area. And, if they did not require them to clear, that nothing would get done in those lots, because they're absentee people who don't want to do anything with those lots. So, yeah, it's a great thing now that it's a requirement. (OK1)*

*[E]very year [the fire department] come[s] and they assess our house and tell us what we need to get rid of. (OK2)*

*The City could do a hell of a lot better job of forcing people to comply with the brush clearance. Perfect example: two houses up from me, an elderly lady owns the house. She lives in a rest home. It's rented out or leased out under the auspices of her nephew or whatever who lives in San Francisco. Firemen came through as they always do in June and cited her house as they always do and it's just now getting addressed. That's every year. (OK2)*

*Voluntary only works with a core group of people that are like these people here that the brains, interest and time or energy to invest in it. The majority of the people will always blow it off unless they're required to do so. If there's a sword hanging over their head, financially, regulation or some other way. (OK2)*

*There is a lot of vacant lots and they have an edict that they sent out, letters to all the people who own those lots that they will be cleaned or we will clean them for you and send you the bill, and if you don't pay the bill, we'll put a lien on your property. (RU2)*

*Why can't [the Village] follow up every six months, let's say, to each neighborhood, the following lots are in compliance, the following lost are not in compliance. So when we look across the street, we know and we can go to the City and say why are you not enforcing this? (RU2)*

*Participant A: When the neighbor comes and you can actually say, look, even the City says -- I know I've cussed at you before, but even the City says you're not in compliance and you're putting the neighborhood at risk. Can I help you do something about this? What can we do to make our neighborhood safer?*

*Participant B: I think that's a good idea, because that's going to stop neighbors from feuding. And instead of feuding, work with each other. I think she's got a good idea there, as far as like the City coming out, or the County, and letting us know who's doing the job and who's not. (RU2)*

### **Shared responsibility**

WUI homeowners readily recognize that WUI hazard mitigation and response is a shared responsibility. As indicated above, they assign various responsibilities to property owners and to local government (and other agencies). Commonly, homeowners explicitly describe this shared responsibility as a kind of “deal” that is only fair if each participant (homeowner, government) agrees to fulfill certain responsibilities.

*If [the township] were to require these things, I guess I would expect that, in return for requiring me to keep my piece of property safe, that there would be some involvement to make sure they can get the equipment needed to fight a fire into my place...So, don't ask me to spend a lot of time and money to make my place fireproof, because they can't get to it to fight it. (GH2)*

*Participant A: Regarding the need for a new water line and fire hydrants in participant's subdivision: It's too big a project for the property owners to bear alone, and a bigger portion from government agencies would help us do that. We want to do it. And we're willing to pay to do it. But it's just too big a burden.*

*Participant B: is there a way for some municipal agency to match funds with homeowners, so that up to a certain point. I don't know, up to \$30,000 or whatever the ceiling would be, that the governmental agency would pay half and the homeowners would pay the other half? (GH2)*

*I think homeowners, or even individuals, can do a lot to – I noticed, after the firestorm, that neither the City nor the state were adequately maintaining their properties. (OK1)*

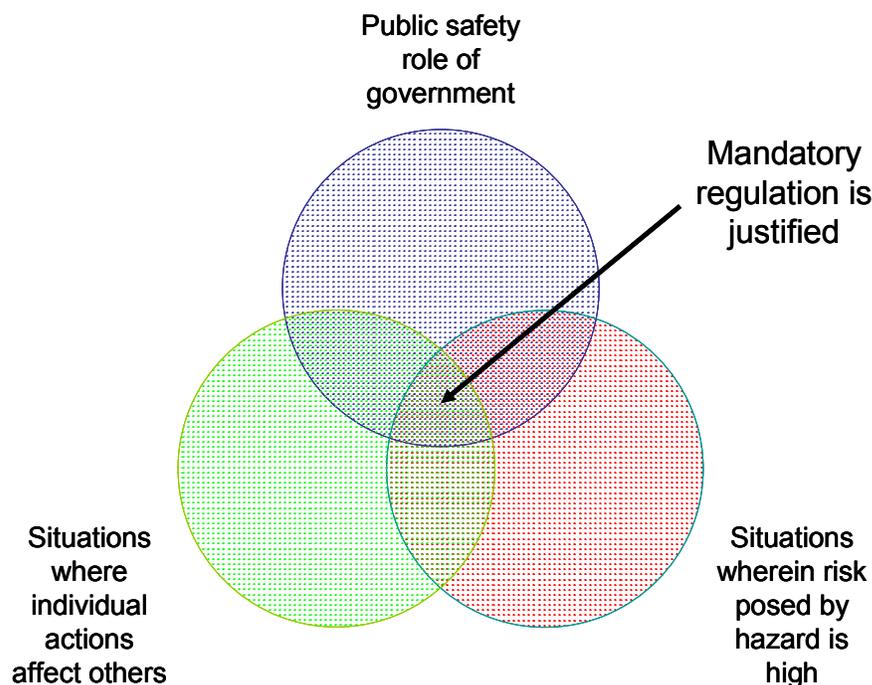
*The purpose of government, particularly local governments, is twofold. One is, with its police powers, to protect the people. But, you can extend that, then, two, to safety. And that is the main purpose of government, as far as I'm concerned. And, as a result of having those two roles, which this is typical governmental roles on the nonfederal levels, so everything else down. They have a duty to protect us. By the same token, government doesn't just happen. We have, then, the responsibility to fund this, so that this protection can proceed. (OK2)*

*If citizens do it and government doesn't, I mean, they have to go by their own regulation, too. (RU1)*

*Let's say the Village of Ruidoso [has] every single one of us with the most beautiful perfect lots in the world, but the Forest Service doesn't get their act together, what's the point? (RU1)*

## Mandatory regulation may be justified

Mandatory vegetation management regulations are at odds with some conceptions of property rights and personal liberties; however, such ordinances can be justified when the underlying wildfire risk is high, there is an acknowledged public safety role for local government, and it is also acknowledged that individual noncompliance puts others (neighbors) at risk.



*Legislating morality, legislating behavior, legislating individual rights, I think is a hot button in today's environment. And...then the willingness to pay additional taxes to perform that legislation, I don't know if there's anyone who would be willing to quickly raise their right hand right here to enforce that. (GH2)*

*The government is supposed to protect us, but, as we were discussing earlier ... anytime the government is saying, "We're going to do this to protect you", you have a huge number of people saying, "We don't want you to do that. You're infringing on our rights." (OK2)*

*The village came out and said, well, this is what we're going to do, we all dug our feet in saying you can't tell me to do that to my property. (RU2)*

*A lot of the people don't like the government being involved, too involved in their business, and they'll be more resistant to thinks like that. It just has to come across differently than the first stuff that came out that was so nasty, because that was being like they were being dictated to instead of this is what's best for you, without it coming down as this is the government telling you what to do. Even though it may be, you just have to market it a little better. (RU2)*

*[I don't have a problem with regulations as long as they're for the common good, and public safety is for the common good.] (GH1)*

*[T]here is a line between personal property rights and government enforcement. And, I believe that people should be responsible for their properties and be responsible in terms of their community responsibility.(OK1)*

*Voluntary only works with a core group of people that are like these people here that the brains, interest and time or energy to invest in it. The majority of the people will always blow it off unless they're required to do so. If there's a sword hanging over their head, financially, regulation or some other way. (OK2)*

*The fundamental need is to realize human nature. And human nature is the same everywhere. People are not going to – most people are not going to do anything unless it's convenient for them and they want to do it, not because they must. (OK2)*

*Well, how great is the risk in those communities that don't have rules? How great is the risk? The risk isn't as high as it is here, and so everybody doesn't react. We didn't either until we had enough fires all around the perimeter of the village, and after that is when we got the ordinance. (RU1)*

*I think there should be regulations. Not to cram it down your throat, but you have to have a certain amount, I would think, for protection of community. (RU1)*

## How to implement local policies

If mandatory regulations are justified, they should be enforced fairly, and uniformly. Some suggest such a policy should be determined by a public vote. Whether voluntary or mandatory (but especially if mandatory), local enforcement personnel should make themselves available for on-site consultations with property owners to show them specifically how to comply. Mailed letters to each property are a good way to ensure the message is received. Education and communication efforts should be repeated often for maximum impact and to catch newcomers and seasonal visitors.

### Fair and uniform enforcement

#### On-site consultation

*[T]he village was very, very positive in saying we will come to your homeowner's association, we will come and visit with different people, make an appointment. We will tell you what needs to be done and what trees you can keep. You don't have to cut down everything. And that was a very good thing that eased our neighbors in that instance. (RU2)*

*: I can't remember how I heard about cleaning up the yards, and I called the village. They came and checked my lot, they marked the trees for me to cut down and the trees to leave up. (RU1)*

*I think the other things that critical, and this is probably an offshoot of education, is the availability, in this case, [the fire chief's] willingness to sit down, take an hour or half an hour and sit down with you and say – Okay, for your house consider this. And, I'm not sure all fire chiefs would have the time to do that. I mean, obviously, it makes their job easier if they can prevent fires. But, still, that was something that was very important: availability. (GH2)*

*I would like to have them come in and suggest what we should be doing, that's reasonable, like trim around. I would like to know what those things are. (GH2)*

*We're seeing progress in the wildfire prevention district in terms of that yearly inspections, with the firefighters going out and meeting with the homeowners... they kind of take a more educational approach in the inspection. (OK1)*

#### Direct mail communication

*We get the letter every year warning us that the weed nazis are coming on June 1. That's a good thing. (OK1)*

*With the new regulations [my absentee owner neighbors] have all cleaned up, because whether you live here or not, the mail goes to the property owner, they have a deadline to clean it up whether they ever come here. And all my neighbors have. (RU1)*

#### Communication messages need to be repeated often

*Education is number one. And it's education in a sense that one time doesn't do it. It's got to be a programmatic process. (GH2)*

## **Other local policies are needed**

Defensible space policies alone aren't enough to comprehensively respond to the WUI problem in high risk areas. Local governments need to incorporate WUI concerns into their comprehensive planning processes and zoning and building regulations. Continuing to build in high risk areas and/or to allow high risk construction practices exacerbates community risk.

## **Planning and zoning and building code considerations**

*When we set up a building code ...I think it deals only with the structure. And I would wonder if – it's a one-time thing only – if the building code could also take into account what the fire threat is and, in Lake Shore homes the building code would require a proper kind of landscaping or fireproofing around the outside. (GH2)*

*There's another broader policy issue and that is that our planning department allows ... people to build on very steep property that heretofore would not be considered buildable. But, it's on these narrow streets that are already heavily impacted by the traffic to begin with. And, also, a lot of houses in the Montclair area are rented out to people or to students, so that you normally just have a family with one or two cars, but you may have three or four people with three or four cars. So, I don't think that our planning and zoning is dealing with the issue. And it's very hard to try to create 20-foot wide roads when they weren't that way to begin with and you've got houses there. So, it's not just the fire department vegetation management. But it's some of the policy issues that the City needs to really take a harder stand on. (OK1)*

## Comparison between sites

### Vegetation management policy acceptance factors

Homeowners evaluate WUI vegetation management policies based on their perceptions of the wildfire risk severity, attributes of the policy's specific rules and guidelines, how the policy is implemented, the extent to which the policy's objectives compete with other land use objectives, costs associated with compliance, and homeowners insurance policy considerations (Table 4).

*Table 4 Key policy acceptance factors evident by study site*

Vegetation management policy acceptance factor	Voluntary vegetation management Grand Haven, MI	Recently enacted mandatory vegetation management (not fully implemented) Ruidoso, NM	Long-term, fully implemented mandatory vegetation management Oakland, CA
<b>Perceived risk severity</b>	✓	✓	✓
<b>Rules and guidelines</b>			
Perceived fairness: apply to all who contribute to the risk	✓	✓	✓
Beliefs about appropriate roles of government: protect public safety and property rights	✓	✓	✓
Public safety function of government can outweigh property rights	✓	✓	✓
Beliefs about the deleterious wildfire effects one property owner's landscaping can have on neighbors		✓	✓
Mandatory policy should be put to a vote of the people	✓		✓
The WUI problem should be addressed through comprehensive plans and/or zoning ordinances	✓	✓	✓
Insurance requirements can be a substitute for mandatory local government ordinance requiring fire-resistant vegetation management	✓		
Public/homeowner education can be a substitute for mandatory local	✓		

government ordinance requiring fire-resistant vegetation management			
Enforce existing laws to control ignition sources instead of making new ones (e.g. fireworks, burn permits)	✓		
Both rules and guidelines can serve to provide property owners a justification to report unsafe landscape practices to authorities who can intervene on homeowner's behalf	✓	✓	✓
<b>Policy implementation</b>			
Perceived fairness: it is enforced evenly and fairly, and enforcement balances fire-resistant objective with other landscaping objectives		✓	✓
Consultation: local officials/experts should be available for one-on-one, on-site consultation	✓	✓	✓
Communication: local government should communicate via letters to individual property owners about compliance options (whether rules or guidelines)	✓	✓	✓
Homeowner/neighborhood associations can be instrumental in boosting compliance with rules or guidelines	✓	✓	✓
Cost: provide options for financial assistance as an incentive and/or to make it more likely that low-income households can comply	✓	✓	✓
Yard waste: provide options for convenient and low-cost yard waste disposal	✓	✓	✓

## Vegetation management policy compliance factors

Homeowner vegetation management policy compliance is primarily associated with three major factors: the extent to which the homeowner's own land use objectives are in apparent conflict with vegetation management rules or guidelines; the costs of compliance; and homeowner insurance considerations (Table 5).

*Table 5 Key compliance factors evident by study site*

Vegetation management compliance factor	Voluntary vegetation management Grand Haven, MI	Recently enacted mandatory vegetation management (not fully implemented) Ruidoso, NM	Long-term, fully implemented mandatory vegetation management Oakland, CA
<b>Competing objectives</b>			
Competing objective: desired vegetation versus fire-resistant landscaping	✓	✓	✓
Competing objective: erosion control versus fire-resistant landscape	✓	✓	✓
<b>Cost</b>			
Yard waste disposal options	✓	✓	✓
Cost of compliance (especially first time)	✓	✓	✓
Maximum compliance requires credible sanction(s)		✓	✓
<b>Insurance</b>			
Insurance companies have a legitimate role in requiring compliance with fire-resistant vegetation management	✓	✓	✓
Insurance companies are requiring homeowners in my community to comply with fire-resistant vegetation management		✓	✓
Insurance requirements can be a substitute for mandatory local government ordinance requiring fire-resistant vegetation management	✓		

## Conceptual model of vegetation management policy acceptance and compliance

These findings comprise the elements of the conceptual model of vegetation management policy acceptance and compliance proposed in Table 6. One purpose of developing this model is to test its validity using a random sample survey in each of four communities: the three communities used for the focus group study (Grand Haven, MI; Ruidoso, NM; and Oakland, CA) and Larimer County, CO<sup>1</sup>.

An intermediate step between proposing this model and operationalizing its components using a written survey instrument is the development of hypotheses that survey measures will test. The hypotheses implied by the “+” and “-“ signs in parentheses after each factor in Table 6.

Generally speaking, policy acceptance factors are actual or perceived attributes of the rules and/or guidelines that comprise the vegetation management policy that homeowners use to evaluate acceptability of the policies. Compliance factors are homeowner perception of the impacts (costs, benefits, tradeoffs) a policy will have on his/her own household.

NOTE: “Q” NUMBERS IN PARENTHESES IN TABLE 5 CORRESPOND TO ASSOCIATED MEASURES IN THE DRAFT VERSION OF THE PHASE II SURVEY INSTRUMENT (See Appendix C).

---

<sup>1</sup> Larimer County has a mandatory vegetation management ordinance that only applies to new homes at the time of construction. There is no mandatory requirement for maintaining defensible space thereafter. Originally, this site was slated for inclusion in the focus group research phase; however, logistical problems prevented this from occurring.

**Table 6 Conceptual model of vegetation management policy acceptance and compliance**

Vegetation management policy acceptance factors		Vegetation management policy compliance factors
<b>Policy attributes</b>		<b>Cost (-)</b>
Perceived fairness (+)	It applies to everyone who contributes to the risk (Q12)	Cost of labor (own or contractor) to perform the cutting, thinning, etc. (Q8e)
Beliefs about the appropriate roles of government (+/-)	<ul style="list-style-type: none"> <li>■ Police powers to enforce public safety and property rights (Q16a-d)</li> <li>■ Mandatory policies should be put to a vote</li> </ul>	Cost (\$/convenience) of yard waste disposal (Q7a-e)
Perceived risk severity (+)	Support for mandatory policies increases with risk (Q3-5)	<b>Insurance (+/-)</b>
Beliefs about effectiveness (+/-)	DS rules/guidelines are effective (Q15)	Insurance is a substitute method of hazard adjustment (-) (Q8d); Insurance policy may require compliance with veg. mgmt. rules or guidelines (+) (Q9g, Q11d)
Attitude toward policy (+/-)	Policies are viewed as positive, negative, or neutral (Q14)	
<b>Policy implementation factors</b>		<b>Competing objectives (-)</b>
Perceived fairness (+)	Enforced evenly and uniformly (Q16e; Q13)	Homeowner objectives (e.g. views, erosion control) (Q8c)
Consultation (+)	Local officials/experts should be available for one-on-one, on-site consultation (Q14c, Q9c)	
Communication (+)	Local government should communicate via letters to individual homeowners about compliance options (Q9n, Q14a,b)	<b>Outcome beliefs (+/-)</b>
Cost (+)	<ul style="list-style-type: none"> <li>■ Financial assistance options for low-income households (Q7g, Q14h)</li> <li>■ Convenient, low-cost yard waste disposal (Q7a-h)</li> </ul>	Beliefs about the benefits and/or effectiveness of vegetations mgmt actions to household (Q8, Q15)
<b>Complimentary or competing policies</b>		
Beliefs about the effectiveness of alternative policies (-)	<ul style="list-style-type: none"> <li>■ Building codes</li> <li>■ Comprehensive planning, zoning codes</li> <li>■ Fire safety laws (e.g. fireworks)</li> <li>■ Education-only</li> <li>■ Private insurance</li> <li>■ Mandatory policies have higher compliance</li> </ul>	<b>Mandatory policy (+)</b>
		The policy requires compliance (Q9i; Q11)

## **Appendix A: Homeowner focus group recruitment materials**



MICHIGAN STATE  
UNIVERSITY



October 4, 2006

Dear Ruidoso homeowner:

**We need your help!**

I am part of a team of researchers conducting a study of home fire safety in the Village of Ruidoso. We have been working cooperatively with the Village of Ruidoso Forestry Department and with the USDA Forest Service. *Our research team wants a better understanding of homeowners' thoughts and opinions about the risk of wildfire, homeowner responsibilities, and the local rules about tree thinning and forest fuels management. That's why we are conducting several focus group interviews near your home this summer.*

We hope you or someone in your household is interested in these issues and would be willing to discuss them with us and a few of your neighbors for about an hour or so. We are interested in discussing wildfire risks with both permanent and seasonal Ruidoso homeowners. *You do not need to have any special knowledge about this topic*, just a willingness to help our research study which we hope will result in increased safety in Ruidoso and in other communities nationwide.

The study is being conducted by the USDA Forest Service and Michigan State University with help from a private consulting firm (*Cornerstone Strategies, Inc.*). The research team will conduct three focus group interviews in Ruidoso. **We invite you to participate** in one of these small group meetings at one of the following times:

**Friday, Oct. 27 at 7:00 PM or Saturday, Oct. 28 at 10:00 AM or Saturday, Oct. 28 at 1:00 PM**

Your participation is voluntary. You will be reimbursed for your time with a *modest stipend of \$25.00* in cash and a promise that the discussion will last no longer than 90 minutes. Your name will not be used in any reports produced from these interviews. Seats are limited so please contact me to reserve your place as soon as possible.

Please read the information sheet on the back of this letter, and then call me at **1-866-676-4601** if you are willing to participate or if you have any questions. **Or you may return the enclosed postcard** and we will call you to arrange for your participation. Please feel free to share this with your neighbors too.

Sincerely,

**Greg Winter**

Research Director  
Cornerstone Strategies, Inc.

## Questions and Answers About the Focus Group Interviews

### Why a Focus Group Interview?

In cooperation with the Village of Ruidoso Forestry Department, researchers from Michigan State University, the U.S. Forest Service, and Cornerstone Strategies, Inc., an independent research firm, are interested in how homeowners living in fire-prone landscapes think about different ways the fire risk can be managed. Interviews with small groups of homeowners allow researchers to discuss these issues in great detail, allowing for a thorough understanding of how homeowners think about and are affected by the risk of wildfires in their communities.

### How was I selected?

You were selected from a list of people who own homes in the areas in and near Ruidoso that are most likely to be affected by wildfires. You may be either a permanent resident or own a vacation home in Ruidoso. We very much want **both seasonal and permanent residents** to participate in these focus groups. That's why we have scheduled two of them on a weekend.

### Where is the focus group meeting?

All focus groups will take place at the Comfort Inn, 2709 Sudderth Dr, Ruidoso, New Mexico.

### How will this work?

If you would like to help us with this study, please call **Greg Winter**, the research director of Cornerstone Strategies, a research firm that is assisting with this project. That **toll-free number is (866) 676-4601**. Please leave a message including your name and phone number and indicate which of the three focus groups you can attend (dates and times are listed in the attached letter). Or you can return the postage-paid postcard that is enclosed with this notice. Finally, you may also email your information to [gregw@cstonestrategies.com](mailto:gregw@cstonestrategies.com). *If you choose to email, please make sure that the words "Ruidoso wildfire" are in the subject line.*

At the focus group meeting, you and about eight other Ruidoso homeowners will sit at a table for about an hour and discuss issues related to fire protection and local fire management policies. A member of our research team will lead the discussion. You will be called a day or two before the meeting as a reminder.

Your participation is voluntary. **Special knowledge of the topics discussed is NOT necessary**. You don't need to bring anything to, or prepare for the group interview; just show up at the time and place agreed to. At the beginning of the group interview, you will be given an opportunity to ask questions about the process and our study. Light refreshments will be provided. At the conclusion of the interview you will receive a cash payment of \$25.00 to reimburse you for your time and as a token of appreciation for your help.

### Can anyone in my household participate?

Yes. But we have to limit participation to one person per household. Any adult (18 years or older) in your household may participate. You are also encouraged to share this information with your neighbors and encourage a member of their households to participate. They will have to call the toll-free number to schedule a seat in one of the focus groups.

*Thank you very much for your help with this important project!*

Please indicate below which focus group meeting you can attend. Also, please be sure to add your name, address, phone number and email address (optional) so that we may confirm your attendance. Thanks for your help!

Please check the meeting you can attend:

- Fri., Oct. 27, 7:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 10:00 AM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 1:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso

Name: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone number: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Please indicate below which focus group meeting you can attend. Also, please be sure to add your name, address, phone number and email address (optional) so that we may confirm your attendance. Thanks for your help!

Please check the meeting you can attend:

- Fri., Oct. 27, 7:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 10:00 AM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 1:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso

Name: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone number: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Please indicate below which focus group meeting you can attend. Also, please be sure to add your name, address, phone number and email address (optional) so that we may confirm your attendance. Thanks for your help!

Please check the meeting you can attend:

- Fri., Oct. 27, 7:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 10:00 AM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 1:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso

Name: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone number: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Please indicate below which focus group meeting you can attend. Also, please be sure to add your name, address, phone number and email address (optional) so that we may confirm your attendance. Thanks for your help!

Please check the meeting you can attend:

- Fri., Oct. 27, 7:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 10:00 AM at Comfort Inn, 2709 Sudderth Dr, Ruidoso
- Sat., Oct. 28, 1:00 PM at Comfort Inn, 2709 Sudderth Dr, Ruidoso

Name: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone number: \_\_\_\_\_  
E-mail: \_\_\_\_\_

## **Appendix B: Focus group interview question guide**

## 2006 JFSP Defensible Space Research Focus Group Interview Protocol

### Focus Group Introduction:

Good morning everyone. I'm \_\_\_\_\_ and I work for a research firm called Cornerstone Strategies. *[introduce others representing the research project]*. This focus group meeting is part of a research project that will examine local programs designed to reduce the risk of damage to homes from wildfires. The Oakland Hills is one of four communities around the country where this research is being conducted.

The Ruidoso Forestry Department is our local cooperators and we hope that this project is one way we can help them continue to partner with local residents to reduce local wildfire risks. In addition to listening to your comments, we also will use today's discussion to develop a survey that will be mailed to households in the area. That phase of this research will likely take place next spring.

This series of group interviews is sponsored by the US Forest Service and the US Department of the Interior. For today's discussion, we want to know your thoughts on issues that are important to many communities nationwide. Whether you know it or not, as local property owners, you are an important part of local wildfire risk reduction. We'll talk about this in a few moments. First, let me tell a few details about this focus group meeting.

Some of you may wonder why you were invited to participate. For the most part, your names were selected at random from a list of property owners. Some of you may have been invited by others who received a letter of invitation.

Now, here's how today's discussion will work: I will ask a few questions to help our research team get to know you and your community. Then we'll focus the discussion to more specific issues related to wildfire risks and programs to reduce those risks.

There are no right or wrong answers to the questions I'll be asking. Please share your opinion even if it differs from what others have to say.

There are just a few guidelines that will help make the discussion more pleasant and useful. Please speak up so that all of us can hear what you have to say. We are tape-recording the discussion so that we don't miss anyone's comments; so it's important that only one person speak at a time. We'll be on a first name basis, but no names will appear in any reports. Please remember that we're just as interested in negative comments as positive ones.

Construct	Question
Local context	1. Let's go around the room and introduce each other. Just tell us your first name and a little about why you decided to live in this area and describe the area where your home is located.
	2. How has this area changed since you've moved here?
Fire knowledge/experience, risk perception, individual practices	3. What experiences have you had with wildland fires? By wildland fire, I mean forest fires, grass fires or other uncontrolled fires that occur outdoors.
	4. To what extent do you think you are at risk of losing your home to a wildland fire here in Ruidoso? What are the biggest risk factors?
	<p>5. What can homeowners do to protect their homes from these risks?</p> <p>6. Describe any local educational programs to inform people about the wildfire risk and things homeowners can do to protect their homes from wildfires.</p> <p>7. <b>[Introduce the recommended practices]</b>. Of these protection measures, which ones have you done?</p> <p>What about your neighbors?</p> <p>8. What role do government agencies and other organizations have in increasing the number of homeowners who practice these protection measures?</p> <p>How well is this being done by local agencies and organizations?</p>
Perceived costs, benefits, effects of defensible space policies	<p>9. What are the costs and benefits to individual homeowners of complying with these protection measures?</p> <p>10. What could government agencies or other organizations do to make it easier or more likely that you and your neighbors would implement these measures?</p> <p>11. In some areas of the country, local or state governments <b>do not require</b> that homeowners or builders comply with these measures.</p> <p>What do you think about that approach to managing these risks?</p> <p>12. To what extent do you think complying with these protection measures would this affect your homeowners insurance coverage and premiums that you pay?</p>

**Appendix C: Draft Phase II survey questionnaire**

# Living with Wildfires in [CITY/COUNTY]



## WHAT DO YOU THINK?

**A community-wide survey about fire management in the [INSERT PLACE HERE]**

This survey is part of a research project designed to help local officials understand the public's views on wildfire fire management so they can develop better fire protection programs. This research is funded by the USDA Forest Service, Northern Research Station and the Joint Fire Science Program. Please answer all of the questions and add any comments in the space provided on the last page of the survey.

Please return the survey in the postage paid envelope when you are finished.

Thanks for your help!

Department of Community, Agriculture, Recreation and Resource Studies  
131 Natural Resources Building  
Michigan State University  
East Lansing, MI 48824-1222

**THIS PAGE WILL DISPLAY THE PRA INFORMATION**

**Q1. On a scale from 1 to 5, how concerned are you about each of the following issues in [CITY/COUNTY]:** (please use the scale of 1=Not concerned, 5=Very concerned)

	Not Concerned			Very concerned	
Local economy	1	2	3	4	5
Quality of local public schools	1	2	3	4	5
[CITY/COUNTY] budget	1	2	3	4	5
Threat of wildfires in local area	1	2	3	4	5
Crime in local area	1	2	3	4	5
Access to health care	1	2	3	4	5
Health of the local environment	1	2	3	4	5

**Q2. On a scale from 1 to 5, please rate the quality of following in [CITY/COUNTY]** (please use the scale of 1=No influence, 5=Much influence)

	Poor			Excellent	
The [CITY/COUNTY]'s financial management	1	2	3	4	5
Overall [CITY/COUNTY] government services	1	2	3	4	5
The quality of services provided by local fire department	1	2	3	4	5
Local services to prevent and protect the community from wildfires	1	2	3	4	5
Local services to educate homeowners about wildfire protection and prevention	1	2	3	4	5

**Q3. How likely do you think it is that a wildfire will occur near your neighborhood in the next five years?** (please ✓ one)

- Very unlikely     Unlikely     Somewhat likely     Likely     Very likely

**Q4. How likely do you think it is that a wildfire will damage your home in the next five years?** (please ✓ one)

- Very unlikely     Unlikely     Somewhat likely     Likely     Very likely

**Q5. How concerned are you that a wildfire could change the quality of your life?** (please ✓ one)

- Very unlikely     Unlikely     somewhat likely     Likely     Very likely

**Q6. Concerning [CITY/COUNTY], are the following required by local wildfire safety laws?**  
 (please ✓ one box for each item)

	Yes	No	Not sure
Fire-resistant construction materials for all new homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire-resistant landscaping and vegetation for new homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire-resistant landscaping and vegetation for existing homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual fire department inspection of landscaping for fire safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q7. Are the following vegetation management incentives offered to homeowners in [CITY/COUNTY]?**  
 (please ✓ one box for each item)

	Yes	No	Not sure
Monthly or more frequent curbside pick-up of <u>un</u> limited amount of yard waste (trimmings, branches, leaves, needles, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly or more frequent curbside pick-up of <u>limited</u> amount of yard waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less frequent curbside pickup of yard waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A free drop-off site where I can take my yard waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A pay drop-off site where I can take my yard waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home visits by [CITY/COUNTY/] or fire department official to offer free advice about fire-resistant landscaping options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial assistance to property owners to help with costs of fire-resistant landscaping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not sure whether or not any of these are offered in [CITY/COUNTY]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q8. Please indicate your level of agreement with each of the following statements about managing the vegetation on your property for wildfire protection.**  
 (please use the scale of 1=Strongly disagree, and 5=Strongly agree)

	<b>Strongly disagree</b>			<b>Strongly agree</b>	
It's a good way to protect my home in case of a wildfire	1	2	3	4	5
It improves the way my yard looks	1	2	3	4	5
It interferes with other things I want from my yard	1	2	3	4	5
It makes sense to do because insurance can't replace everything	1	2	3	4	5
It costs too much to do it right	1	2	3	4	5
It's hard to do the first time, but it's easy every year after	1	2	3	4	5
It makes my yard more attractive to wildlife	1	2	3	4	5
I don't really know how to go about managing my yard for fire safety	1	2	3	4	5
I don't know what to do with all the yard waste it creates	1	2	3	4	5

**Q9. To what extent has each of the following influenced your household's actions to protect your home from wildfires using vegetation management techniques?**  
 (please use the scale of 1=No influence, 5=Much influence)

	No influence			Much influence	
	1	2	3	4	5
Fire department	1	2	3	4	5
City, town, or county government	1	2	3	4	5
Fire or forestry department official visiting with me at my home	1	2	3	4	5
Neighborhood or homeowner's association	1	2	3	4	5
Insurance company (educational materials)	1	2	3	4	5
Insurance company (cost of coverage)	1	2	3	4	5
Insurance company (discounts for fire-resistant landscaping/vegetation)	1	2	3	4	5
Insurance company (possibility of losing home coverage)	1	2	3	4	5
Newspaper ads/announcement	1	2	3	4	5
A local ordinance that requires I take these actions	1	2	3	4	5
Talking to an individual neighbor	1	2	3	4	5
Observing neighbors' actions	1	2	3	4	5
University or cooperative extension	1	2	3	4	5
A letter my household received telling us what to do	1	2	3	4	5
A member of my family	1	2	3	4	5
A realtor	1	2	3	4	5
A home builder or developer	1	2	3	4	5

**Q10. The following list includes possible features of your home in [CITY/COUNTY] and actions that your household may have taken for the purpose of protecting your home from wildfires, or for some other reason (e.g. yard beauty/aesthetics), or protection from other natural hazards.**

For each item, please insert the number (1-5) of the choice below that BEST explains if, or why, your household took that action. The choices are:

1. This doesn't apply to my home
2. Previous owner or builder made that improvement
3. My household made the improvement (or takes the action) primarily for wildfire safety reasons
4. My household made the improvement (or takes the action) primarily for other reasons
5. Haven't done this to my home

In the spaces below,  
please insert one  
number (1-5) that  
corresponds to the  
list above



Roof and rain gutters are kept free of leaves, needles, and twigs	
Overhanging and dead branches are removed within 10 feet of roof	
Firewood and lumber is stacked at least 30 feet from all buildings	
A green grass area is maintained at least 30 feet around house	
Trees and shrubs have been thinned out within 30-50 feet of house	
Removed shrubs and lower tree branches that could, carry flames from the ground into the crown of the trees	
House has a fire-resistant roof (e.g. asphalt shingles or metal)	
Dead vegetation, leaves, and needles are cleared at least 30 feet from home	
House construction materials (e.g. siding, porches and decks) are fire-resistant	
Underside of deck is enclosed to keep debris from collecting underneath	
Landscaped yard with fire-resistant vegetation	

**Q11. For the actions mentioned above in Q10 that your household has taken PRIMARILY FOR WILDFIRE SAFETY reasons, which of the following describe why you took these actions? (please check all that apply)**

- My household did not take any of the actions
- Voluntarily took one or more of these actions
- Took one or more actions because it was required by law
- My insurance company requires one or more of these actions
- I did not take any actions primarily for wildfire safety reasons

**Q12. For overall community wildfire protection in [CITY/COUNTY], how important is it that each of the following organizations or groups manage vegetation for wildfire safety on land that they own or manage? (please use the scale of 1=Not important, 5=Very important)**

	Not important			Very important	
My immediate neighbors	1	2	3	4	5
Owners of vacant lots in my neighborhood	1	2	3	4	5
Seasonal or vacation homeowners	1	2	3	4	5
My own household	1	2	3	4	5
[CITY/COUNTY] government	1	2	3	4	5
Federal or state agencies	1	2	3	4	5
Utility companies	1	2	3	4	5
Local parks	1	2	3	4	5
Businesses	1	2	3	4	5

**Q13. How well do the following groups maintain their vegetation for fire safety on the property they own or manage? (please use the scale of 1=not well at all, and 5=very well)**

	Not well at all			Very well	
My immediate neighbors	1	2	3	4	5
Owners of vacant lots in my neighborhood	1	2	3	4	5
Seasonal or vacation homeowners	1	2	3	4	5
My own household	1	2	3	4	5
[CITY/COUNTY] government	1	2	3	4	5
Federal or state agencies	1	2	3	4	5
Utility companies	1	2	3	4	5
Local parks	1	2	3	4	5
Businesses	1	2	3	4	5

**Q14. How would you rate your general attitude toward each of the following fire protection approaches?**

(please use the scale of 1=extremely negative, and 5=extremely positive)

	Extremely negative			Extremely positive	
Local government distributing educational materials to homeowners to encourage them to maintain their vegetation for fire safety	1	2	3	4	5
A presentation by local government officials to my neighborhood or homeowners association about maintaining vegetation for fire safety	1	2	3	4	5
A visit to my home by a local government official to show me how to manage the vegetation on my property for fire safety	1	2	3	4	5
Local ordinances that require builders of NEW homes in high wildfire risk areas to landscape for wildfire safety.	1	2	3	4	5
Local ordinances that require homeowners in high wildfire risk areas to manage their vegetation for fire safety	1	2	3	4	5
A special taxing district in high wildfire risk areas to pay for enforcement of a local ordinance that requires homeowners to manage their vegetation for fire safety	1	2	3	4	5
Curbside pickup of any yard waste that results from managing vegetation for fire safety	1	2	3	4	5
Programs that will help homeowners with the cost of maintaining vegetation for fire safety if the homeowner will manage vegetation beyond the minimum standards	1	2	3	4	5
Programs that will help lower-income households with the cost of maintaining vegetation for fire safety	1	2	3	4	5
Homeowners insurance policies that require homeowners to maintain their vegetation for fire safety	1	2	3	4	5

**Q15. In your opinion, how effective are the following fire safety actions in reducing the risk of severe damage to your home if a wildfire occurred in your neighborhood?  
(please use the scale of 1=not effective, and 5=very effective)**

	Not effective			Very effective	
Roof and rain gutters are kept free of leaves, needles, and twigs	1	2	3	4	5
Overhanging and dead branches are removed within 10 feet of roof	1	2	3	4	5
Firewood and lumber is stacked at least 30 feet from all buildings	1	2	3	4	5
A green area is maintained at least 30 feet around house	1	2	3	4	5
Trees and shrubs have been thinned out within 30-50 ft. of house	1	2	3	4	5
House has a fire-resistant roof (e.g. asphalt shingles or metal)	1	2	3	4	5
Removed shrubs and lower tree branches that could, carry flames from the ground into the crown of the trees	1	2	3	4	5
Dead vegetation, leaves, and needles are cleared at least 30 feet from house	1	2	3	4	5
House construction materials (e.g. siding, porches and decks) are fire-resistant	1	2	3	4	5
Underside of deck is enclosed to keep debris from collecting underneath	1	2	3	4	5
Landscaped yard with fire-resistant vegetation	1	2	3	4	5

**Q16. Please indicate your level of agreement with each of the following statements about the role of local government.** (please use the scale of 1=strongly disagree, and 5=strongly agree)

	Strongly disagree			Strongly agree	
Generally speaking, local government should promote community health and safety.	1	2	3	4	5
Local government has the responsibility to require property owners to manage their property in a way that does not endanger their neighbors or the community.	1	2	3	4	5
Local government may require property owners to manage their property in a certain way, but only if the risk to neighbors is very high.	1	2	3	4	5
Local government does not have the right to tell property owners how to manage their property.	1	2	3	4	5
Local government has the right to require property owners to manage their property in certain ways if the rules are enforced fairly and consistently.	1	2	3	4	5

**Q17. How long have you owned a home in [CITY/COUNTY]?**  
(please fill in a number, IF LESS THAN ONE YEAR, WRITE "<1")

\_\_\_\_\_ YEARS

**Q18. Which of the following best describes your residential status in [CITY/COUNTY]?**  
(please ✓ one)

- I am a full time, year-round homeowner in [CITY/COUNTY].
- I am a full time, year-round renter in [CITY/COUNTY].
- I own a vacation home in [CITY/COUNTY]. My primary place of residence is in \_\_\_\_\_ zip code
- None of the above describes my residential status in [CITY/COUNTY].

*Please explain:* \_\_\_\_\_

**Q19. What is your present employment status? (Please ✓ one)**

- Employed, full-time
- Retired
- Unemployed
- Student
- Employed, part-time
- Self-employed
- Homemaker
- Other \_\_\_\_\_

**Q20. Are you?** (please ✓ one)

- Male     Female

**Q21. What is your age?** (please fill in a number)

\_\_\_\_\_ YEARS OLD

**Q22. Which of the following is closest to your total household income?** (Please ✓ one)

- Less than \$20,000  
 \$20,000 - \$39,999  
 \$40,000 - \$59,999  
 \$60,000 - \$79,999  
 \$80,000 - \$99,999  
 \$100,000 or more

**Q23. Which of the following best describes your home in [CITY/COUNTY]?**

(please ✓ one)

- |  |   |
|--|---|
| <input type="checkbox"/> Single family house | <input type="checkbox"/> Other multi-family unit (e.g. duplex, triplex) |
| <input type="checkbox"/> Condominium         | <input type="checkbox"/> Manufactured or mobile home                    |
|  | <input type="checkbox"/> Other type of house                            |

**Q24. If you would like to tell us anything else, please use the space below.**

**Thank you for your participation. Your answers are very helpful.**

If you have any questions, please contact:

**Dr. Christine Vogt**, Department of Community, Agriculture, Recreation and Resource Studies, 131  
Natural Resources Building, Michigan State University, East Lansing, MI 48824-1222;  
Phone: (517) 432-0318 or Email: [vogtc@msu.edu](mailto:vogtc@msu.edu)