

Household Natural Hazards Preparedness Survey

Survey Report for:

(The Mid-Columbia Region)

Gilliam County, Oregon
Hood River County, Oregon
Morrow County, Oregon
Sherman County, Oregon
Umatilla County, Oregon
Wasco County, Oregon
Wheeler County, Oregon

Prepared by:

**Oregon Natural Hazards
Workgroup**

Community Service Center
1209 University of Oregon
Eugene, OR 97403-1209
Phone: 541.346.3889
Fax: 541.346.2040
Email: onhw@uoregon.edu
<http://www.oregonshowcase.org>

August 2006



Special Thanks & Acknowledgements

The Community Service Center would like to thank the following individuals for their assistance on this project:

Chris Fitzsimmons, Gilliam County

Ray Denny, Umatilla County

Carla McLane, Morrow County

Dennis Olson, Umatilla County

Michael Pasternak, Hood River and Wasco Counties

Shawn Payne, Sherman County

Marj Sharp, Wheeler County

Project Manager:

Kamala Englin, Oregon Natural Hazards Workgroup

Project Advisors:

Krista Mitchell, Project Coordinator, Oregon Natural Hazards Workgroup

André LeDuc, Director, Oregon Natural Hazards Workgroup

Robert Parker, Managing Director, Community Service Center

This survey was developed and implemented as part of a regional planning initiative funded through the Federal Emergency Management Agency's Pre-Disaster Mitigation Competitive Grant Program. The Mid-Columbia Region grant was awarded to support the development of natural hazard mitigation plans for the region. The region's planning process utilized a seven-step planning process, plan framework, and plan development support (including the development of this report) provided by the Oregon Natural Hazards Workgroup at the University of Oregon.

Appendix C: Household Risk Perception Survey

Survey Purpose and Use

The purpose of the survey is to gauge the overall perception of natural disasters, determine a baseline level of loss reduction activity for residents in the community, and assess citizen's support for different types of individual and community risk reduction activities.

Data from this survey directly informs the natural hazard planning process. Counties in the Mid-Columbia region can use this survey data to enhance action item rationale and ideas for implementation. Other community organizations can also use survey results to inform their own outreach efforts. Data from the survey provides the counties with a better understanding of desired outreach strategies (sources and formats), a baseline of what people have done to prepare for a natural hazard, and desired individual and community strategies for risk reduction.

Background

The Federal Emergency Management Agency (FEMA) published Interim Rule 44 CFR Part 201 in February 2002, requiring all states and communities to develop natural hazard mitigation plans by November 2003. These planning and mitigation requirements for states and communities are being accomplished through the Pre-Disaster Mitigation Program (PDM). Oregon Natural Hazards Workgroup (ONHW) at the University of Oregon, as the coordinator of the *Partners for Disaster Resistance and Resilience: Oregon Showcase State Program*, is working with Oregon Emergency Management (OEM) and the PDM Program to assist local governments with their natural hazard mitigation planning efforts. As part of the PDM Program, ONHW is assisting the Mid-Columbia region of Oregon with the citizen involvement components of the natural hazard mitigation planning process.

Citizen involvement is a key component in the natural hazard mitigation planning process. Citizens have the opportunity to voice their ideas, interests and concerns about the impact of natural disasters on their communities. To that end, the Disaster Mitigation Act of 2000¹

¹ National Archives and Records Administration. 2002. Federal Emergency Management Agency 44 CFR Parts 201 and 206 Hazard Mitigation Planning and Hazard Mitigation Grant Program; Interim Final Rule in Federal Register.

requires citizen involvement in the natural hazard mitigation planning process. It states:

An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

1. An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.
2. An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process.

The benefits of citizen involvement, according to Bierle², include the following: (1) educate and inform public; (2) incorporate public values into decision making; (3) improve substantially the quality of decisions; (4) increase trust in institutions; (5) reduce conflict; and (6) ensure cost effectiveness.

Methodology

To conduct the household survey, ONHW adapted the eight page survey administered statewide in 2002 to better understand the perceptions of risk to natural hazards held by citizens, as well as the level of preparedness and types of risk reduction activities in which citizens have engaged. (See Appendix A) For the Mid-Columbia region survey, ONHW adapted the statewide survey to include questions about citizens' support for different types of community planning actions. Planning actions mentioned included protecting critical facilities, disclosing natural hazard risks during real estate transactions, and the use of tax dollars to compensate land owners for not developing in hazardous areas.

The survey was sent to 1200 households in the Mid Columbia Gorge region, which includes: Hood River, Wasco, Sherman, Gilliam, Wheeler, Morrow and Umatilla Counties. The households were randomly selected and population weighted based on mailing lists provided to ONHW by each of the counties. The following table documents the individual county list sources.

Table 1.1: County Mailing List Sources, 2006

² Bierle, T. 1999. "Using social goals to evaluate public participation in environmental decisions." *Policy Studies Review*. 16(3/4) ,75-103.

County	List Source
Gilliam	911 Addressing
Hood River	Voter Registration
Morrow	Voter Registration
Sherman	Sherman County Ambulance Service Membership List
Umatilla	Voter Registration
Wasco	Wasco County GIS: Tax Lot Database
Wheeler	Voter Registration

Source: Oregon Natural Hazards Workgroup

The mailing contained a cover letter, the survey instrument, and a postage-paid return envelope. Completed surveys were returned to ONHW. A second mailing was sent to households who did not respond to the first mailing, approximately three weeks later. ONHW received 276 valid responses, for a 23% response rate.

Limitations

The study identifies key issues about how members of the Mid-Columbia communities perceive their risk to natural hazards, providing a snapshot of those perceptions at a single point in time. As such, survey responses may reflect external issues, such as heightened concern about terrorism and the current state of the economy. This study was not intended to be representative of the perceptions of all residents, and cannot be generalized to the public.

A challenge is that the survey was not tailored to each community in which it was implemented and natural hazards are not evenly dispersed throughout the state. For example, the survey asked respondents about their level of concern about coastal erosion. Coastal erosion is only an issue in coastal areas of the state. Not surprisingly, the level of concern for coastal erosion is highest in coastal communities and is less significant for those who do not live there. Thus, coastal erosion is a specific concern for respondents who live near this hazard that they are susceptible to every day, just as those who live in the floodplain or near a volcanic hazard may have increased awareness of those hazards.

Organization of Report

The survey results are organized into the following sections:

Characteristics of Survey Respondents: This section reports information about respondent characteristics including: educational attainment, home ownership, age, and household income.

Perception of Risk: This section creates a profile of survey respondents and identifies:

- The hazards experienced;
- General level of concern over natural hazards risk;

- Respondent perceptions of threats posed by natural hazards;
- Perceptions of the effectiveness of various education and outreach material in raising natural hazard awareness; and
- Preferred avenues for information dissemination.

Level of Preparedness: This section provides an overview of household level natural hazard preparedness activities in the Mid-Columbia region.

Natural Hazard Risk Reduction: This section describes the types of structural and nonstructural measures that are being implemented by survey respondents, and the types of resources or programs that might increase risk reduction activities.

Community Natural Hazard Preparedness: This section describes citizens' priorities for planning for natural hazards and the community-wide strategies respondents support.

Written Responses to Open-Ended Questions: This section includes the transcripts of the open-ended questions and comments.

Characteristics of Survey Respondents

Demographic questions provide a statistical overview of the characteristics of the respondents. This section of the survey asked respondents about their age and gender, their level of education, and how long they have lived in Oregon. The survey also included questions regarding respondents' present housing.

There were 276 people who responded to the survey giving the survey a 23% response rate. Of the seven counties the survey was mailed to, the most surveys returned came from residents of Umatilla County (51.9%). This is not surprising as Umatilla has by far the greatest number of residents in the region with 70,548 of the 131,141 Mid-Columbia residents (2000 U.S. Census). Proportionally, the highest percentage of respondents per county was in Wheeler County where 0.5% of the total population responded to the survey.

Table 2.1 shows the percentage of people who responded to the survey by county.

Table 2.1. Percent of Surveys Received Per County

County	Percent of surveys received
Gilliam	3%
Sherman	3%
Wheeler	3%
Morrow	7.5%
Hood River	13.4%
Wasco	18.3%
Umatilla	51.9%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006).

Gender and Age

Women accounted for 57% of survey respondents even though they represented less than 50% of the population in the region according to the 2000 Census. The median age of survey respondents was 61 years even though the median age of Mid-Columbia residents, according to the U.S. Census,³ was 39.5. Table 2.2 compares the ages of survey respondents to the 2000 U.S. Census. This shows that younger people were underrepresented while older people were overrepresented.

Table 2.2. Percentage of Mid-Columbia Population and Survey Respondents in Each Age Classification (persons 20 and over)

Age Category	Mid-Columbia (from U.S. Census)	Survey Respondents
20-24	4.6%	1.5%
25-34	10.7%	5.2%
35-44	14.9%	8.4%
45-54	14.5%	24.3%
55-59	5.5%	14.9%
60-64	5.1%	16.4%
65-74	8.6%	14.5%
75-84	5.6%	10.7%
85 & over	1.9%	3.0%

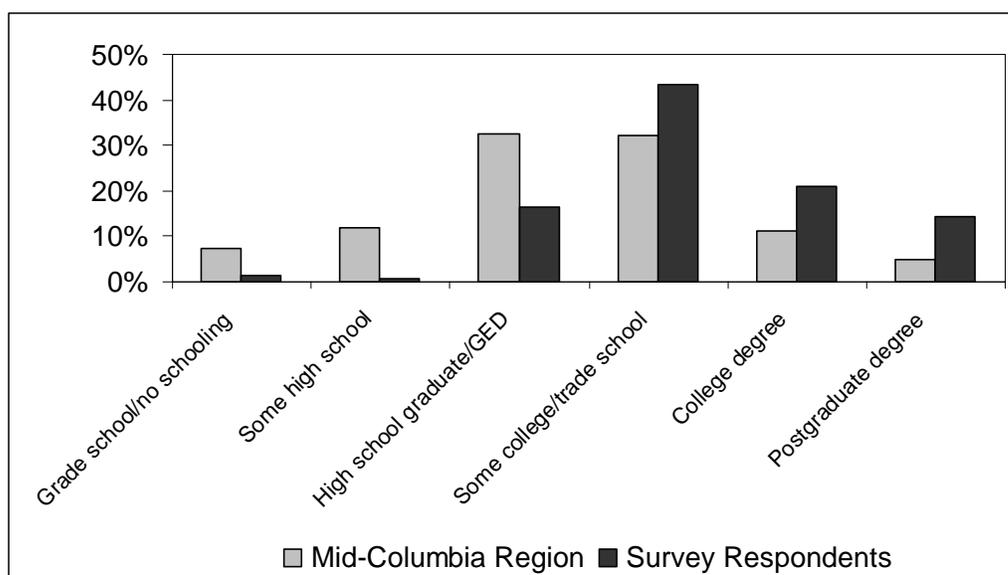
Source: U.S. Census Bureau: www.census.gov (2000) and Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006).

³ U.S. Census data presented in this report is an average of data from each of the seven counties represented in the Mid-Columbia region.

Level of Education

In general, survey respondents were relatively well educated. Figure 2.1 compares the level of education of survey respondents with the 2000 U.S. Census. About 79% of survey respondents have had some college or trade school or have a college or postgraduate degree. In contrast, figures from the Census show that an average of 48% of Mid-Columbia residents have attended some college or trade school or obtained an associate, bachelor or postgraduate degree. Therefore, survey respondents were more likely to have completed a higher educational level than the overall population of the Mid-Columbia region.

Figure 2.1. Level of Education of the Mid-Columbia Population and Survey Respondents

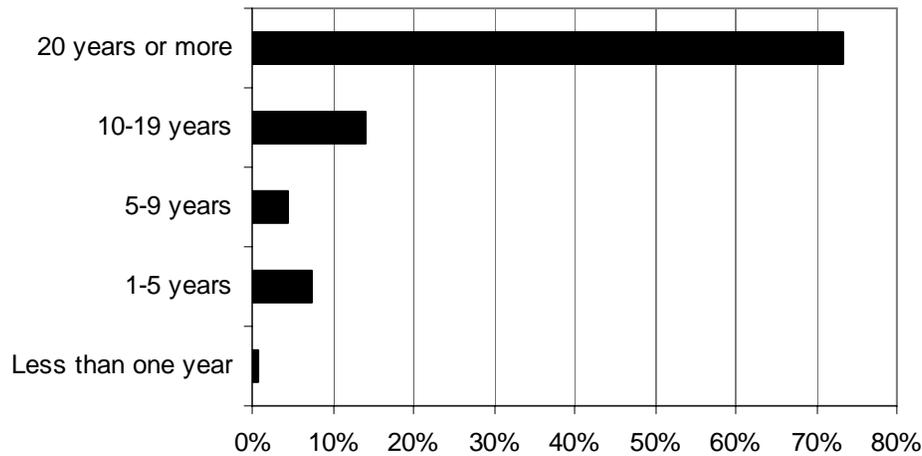


Source: U.S. Census Bureau: www.census.gov (2000) and Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Oregon Residency

Over 73% percent of survey respondents have lived in Oregon for 20 years or more (see Figure 2). Respondents who have lived in Oregon for fewer than 20 years have most commonly moved from California (18%), Washington (17%), and Colorado (5%).

Figure 2.2. Length of Time Survey Respondents Have Lived in Oregon



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Housing Characteristics

Homeownership is an important variable in education and outreach programs. Knowledge of the percentage of homeowners in a community can help target the programs. Additionally, homeowners might be more willing to invest time and money in making their homes more disaster resistance. Table 2.3 compares the percentage of homeowners from the survey and the U.S. Census. Almost 88% of survey respondents are homeowners, compared to the 66% reported by the U.S. Census. The survey sample over represents the number of homeowners and considerably under represents the number of renters.

Table 2.3. Percentage of Mid-Columbia Population and Survey Respondents Who Own or Rent Their Home

	Mid-Columbia	Survey Respondents
Occupied housing units		
Owner-occupied housing units	66.0%	87.7%
Renter-occupied housing units	34.0%	12.3%

Source: U.S. Census Bureau: www.census.gov (2000) and Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Almost 74% of survey respondents live in single-family homes, 16% live in manufactured homes, 3% in apartments, and 3% live in duplexes. In addition, 77% said they have access to the internet.

Perception of Risk

It is helpful to understand community members' experiences and perceptions of risk to natural hazards to make informed decisions about natural hazard risk reduction activities. The survey asked respondents for information regarding their personal experiences with natural disasters and their level of concern for specific hazards in the Mid-Columbia region. The primary objective of these questions was to create a "natural hazard profile" of respondents to better understand how Mid-Columbia residents perceive natural hazards.

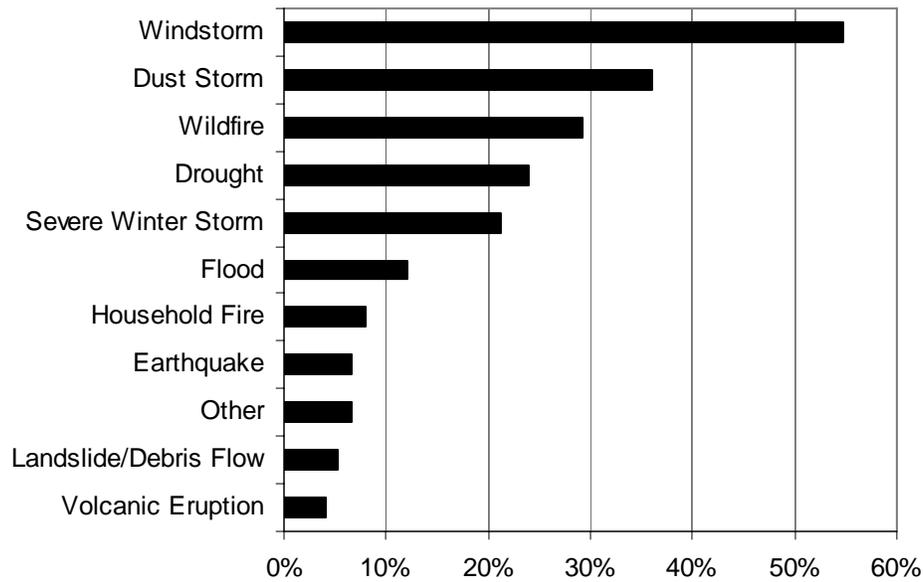
To understand the effectiveness of current outreach activities regarding home and family safety, the survey asked respondents about the types of information they receive on how to make their home and family safer. By identifying communication tools that have been effectively used in the past, local government agencies and organizations can continue to make use of or augment the use of these outreach materials.

General Level of Concern

The survey results indicate that about 27% of the respondents or someone in their household has personally experienced natural disasters in the past five years or since they have lived in the community in which they currently reside.

Of those respondents who have experienced a natural disaster in the last five years, 55% experienced windstorms, 36% experienced dust storms, and 29% experienced wildfires. Figure 3.1 illustrates the disasters experienced in the past five years in the Mid-Columbia region.

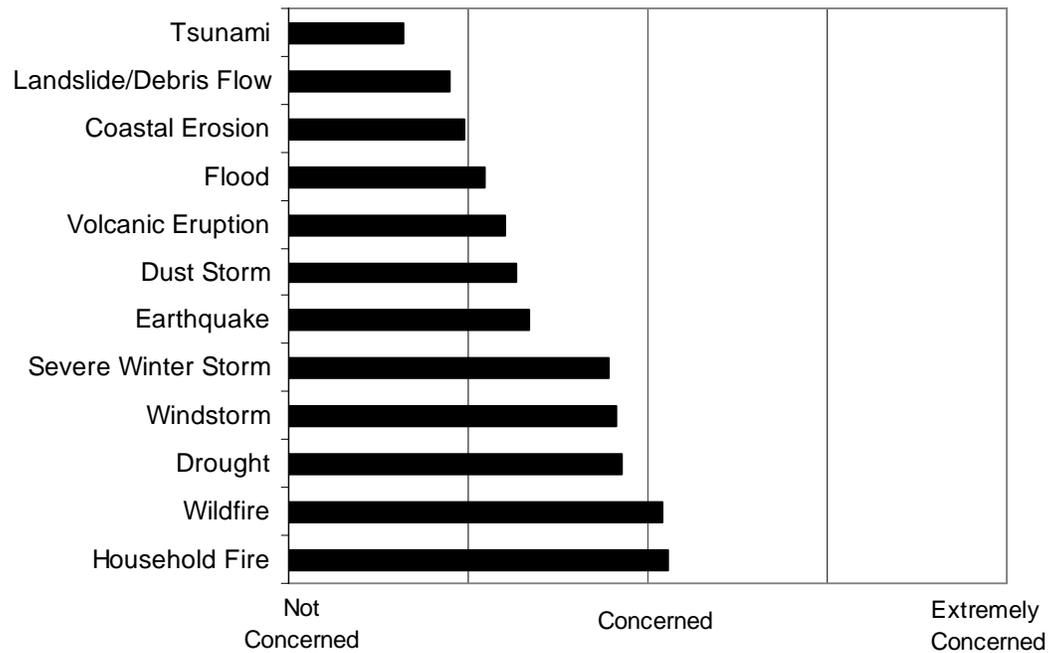
Figure 3.1. Percent of Disasters Experienced by Survey Respondents Within the Past Five Years



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

The survey asked respondents to rank their personal level of concern for specific natural disasters affecting their community. Figure 3.2 shows the general level of concern about natural hazards in the Mid-Columbia region.

Figure 3.2. Survey Respondents' General Level of Concern about Natural Hazards in the Mid-Columbia Region



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Even though windstorms were the most common natural disaster experienced by survey respondents, results show that respondents were most concerned about household fire and wildfire. The respondents are least concerned about landslide/debris flows and tsunamis. See Table 3.1.

Table 3.1. Survey Respondents' Level of Concern Regarding Natural Hazards in the Mid-Columbia Region

Hazard Type	Extremely Concerned	Very Concerned	Concerned	Somewhat Concerned	Not Concerned
Drought	9%	20%	33%	24%	15%
Dust Storm	5%	12%	26%	17%	40%
Earthquake	5%	11%	26%	30%	28%
Flood	3%	10%	22%	26%	40%
Landslide/Debris Flow	1%	7%	19%	27%	46%
Wildfire	17%	24%	26%	18%	15%
Household Fire	19%	18%	32%	21%	11%
Tsunami	3%	5%	11%	17%	64%
Volcanic Eruption	5%	8%	21%	32%	33%
Wind Storm	9%	21%	27%	30%	13%
Coastal Erosion	9%	21%	27%	30%	13%
Severe Winter Storm	8%	20%	31%	26%	16%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

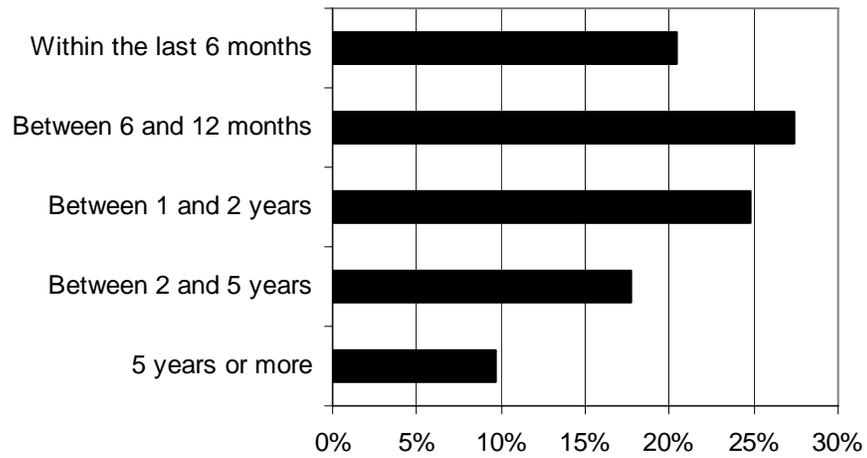
Information Distribution

One of the objectives of the survey was to assess the amount and effectiveness of outreach activities focusing on natural hazards. The survey asked a series of questions on information and outreach.

Recent information and sources

Over 46% of respondents indicated that they have received information regarding home and family safety at some time in the past. Of those who have received information, 20% received the information within the last six months and 27% received information six months to one year ago (see Figure 3.3). This suggests that, while outreach is occurring, it is reaching fewer than half of the households in the Mid-Columbia region and that many of the households have not received any information in over a year.

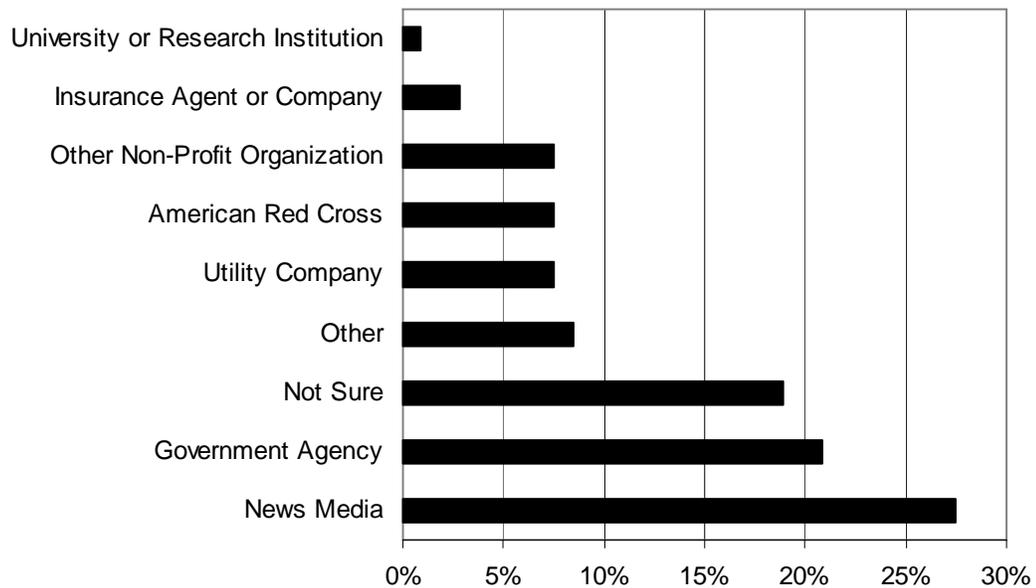
Figure 3.3. Survey Respondents' History of Receiving Information on Family and Home Safety



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Of the respondents who received information on natural hazard preparedness, the news media (26%) and government agencies (21%) were the sources that supplied the most respondents with information. Figure 3.4 shows the sources respondents last received information from.

Figure 3.4. Sources of Respondents' Most Recent Information



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Preferred Sources and Formats of Information

To develop and implement effective outreach and education activities, it is important to understand the mechanisms for information dissemination. It is interesting to compare the sources of information with which sources the respondents perceive to be the most trustworthy. Only 7.5% said they last received information from the American Red Cross yet the Red Cross was the most trusted source of information (40%). The second most trusted source was the utility company (38%) which also had only 7.5% of respondents stating that that was where their last safety information came from. Table 3.2 shows the sources respondents trust the most for providing this information.

Table 3.2. Survey Respondents' Most Trusted Sources of Information on Household Preparedness

Source	Percent of Respondents
American Red Cross	40%
Utility company	38%
University or research institution	34%
Insurance agent or company	34%
Government agency	31%
News media	28%
Other non-profit organization	14%
Not sure	14%
Other	7%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

When asked what the most effective way was to receive information, respondents indicated that television news (53%), mail (49%), and newspaper stories (48%) were the most effective. Table 3.3 shows the effectiveness rating of information dissemination methods presented in the survey.

Table 3.3. Survey Respondents' Rating of Various Information Sources in Terms of Outreach Effectiveness

Source	Percent of Respondents
Television news	53%
Mail	49%
Newspaper stories	48%
Radio news	38%
Fact sheet/brochure	35%
Fire department/rescue	30%
Internet	23%
Public workshops/meetings	20%
University or research institution	17%
Schools	15%
Newspaper ads	11%
Television ads	11%
Books	9%
Radio ads	8%
Chamber of Commerce	8%
Magazine	7%
Outdoor advertisement	7%
Other	6%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Level of Preparedness

There are many steps people can take to prepare their households for a natural disaster or emergency. Preparing for a disaster can improve the safety and comfort of the members of a household immediately following a natural disaster or emergency. The survey asked respondents about what steps their households have taken or plan to take to increase their disaster preparedness.

Types of Household Preparedness Activities

Forty-five percent of respondents talked with members of their households about what to do in the case of a natural disaster or emergency. In addition, 41% were trained in first aid or CPR during the past year and 37% prepared a “Disaster Supply Kit” which entails storing extra food, water, and other emergency supplies. Table 4.1 summarizes the activities respondents indicated they have done, plan to do, have not done, or were unable to do to prepare for natural disasters.

Table 4.1. Survey Respondents’ Household Disaster Preparedness Activities

Preparedness Activity	Have Done	Plan To Do	Not Done	Unable To Do
Attended meetings or received written information on natural disasters or emergency preparedness?	32%	4%	59%	5%
Talked with members in your household about what to do in case of a natural disaster or emergency?	45%	12%	40%	3%
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	29%	17%	51%	2%
Prepared a "Disaster Supply Kit" (Stored extra food, water, batteries, or other emergency supplies)?	37%	22%	40%	1%
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	41%	4%	52%	3%

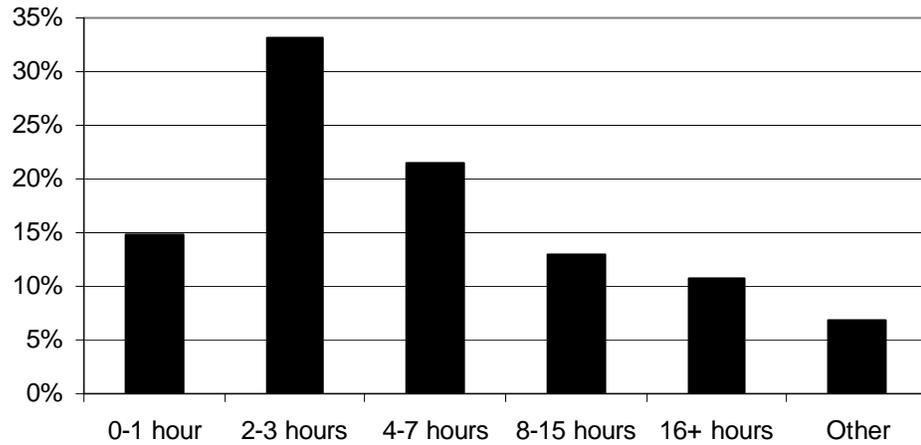
Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Willingness to Participate in Risk Reduction Activities

Understanding how much time per year respondents are willing to spend on preparing themselves and their households for a natural disaster or emergency event can help a community focus its educational efforts. Over 33% of the respondents said they would be willing to spend two to three hours per year preparing themselves and about 21% said they would be willing to spend four to seven hours per year on

preparedness activities. Figure 4.1 shows the number of hours per year the respondents were willing to spend preparing themselves and/or their households for a natural disaster.

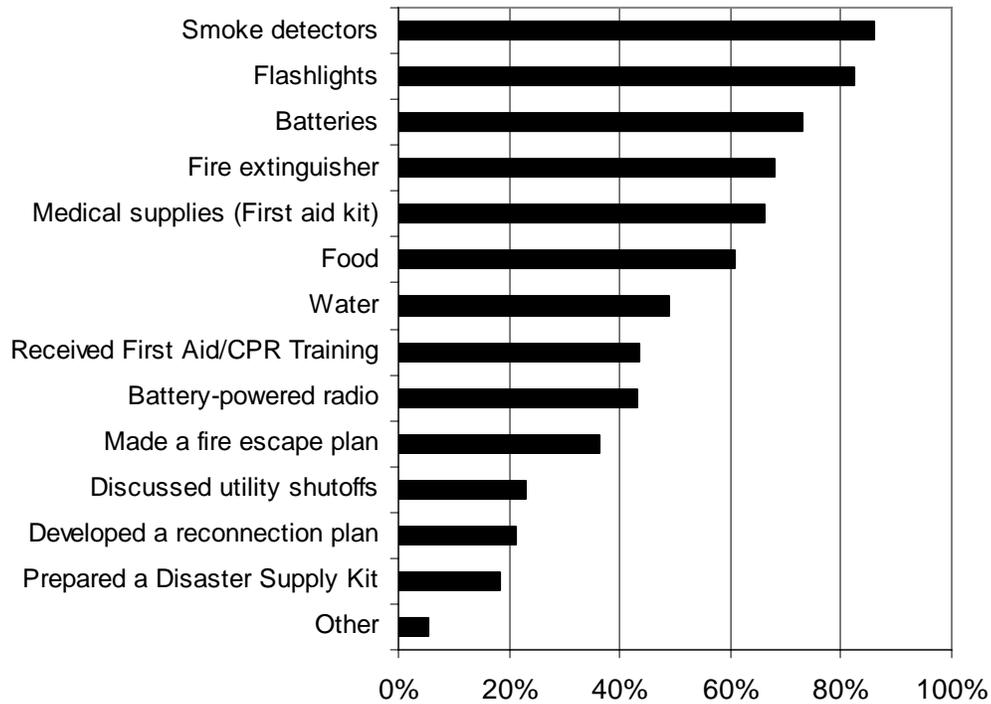
Figure 4.1. Hours Per Year Survey Respondents Were Willing to Spend on Preparedness Activities



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Figure 4.2 illustrates the steps respondents have taken to be better prepared for a natural disaster or emergency event. Placing smoke detectors on every level of the home (86%) and having flashlights in the home (83%) were the most common preparedness action taken. Preparing a disaster supply kit (18%) and developing a plan to reconnect with household members (21%) were the least common actions taken.

Figure 4.2. Preparedness Steps Taken by Survey Respondents



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Property and Financial Recovery

The need to have adequate provisions for financial and property recovery when natural disasters do occur is a necessary component of natural hazard preparedness. Twelve and a half percent of the respondents indicated they have flood insurance leaving 88% without it. However 73% of those who don't have flood insurance indicated the reason is because their home is not located in the floodplain and 8% felt it was not necessary. More people have earthquake insurance. Nineteen and a half percent of respondents indicated they have earthquake insurance. The top two reasons given by those who don't have earthquake insurance were that they never considered it (35%) or that it is not necessary (25%).

Table 4.2. Survey Respondents' Reasons For Not Having Flood and/or Earthquake Insurance

Flood Insurance	Percent of Respondents	Earthquake Insurance	Percent of Respondents
Not located in the floodplain	73%	Never considered	35%
Not necessary	8%	Not necessary	25%
Too expensive	6%	Not familiar	13%
Never considered	4%	Too expensive	10%
Other	4%	Other	8%
Not familiar	4%	Not available	5%
Deductibles too high	2%	Deductibles too high	4%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Natural Hazard Risk Reduction

This chapter provides information on the long-term risk reduction activities Mid-Columbia residents have already taken or are willing to take. This chapter also explores the dollar amount respondents are willing to spend in order to reduce risks and the types of incentives that would motivate the respondents to take risk reduction steps.

Home and Life Safety

Only 34% of the respondents considered the possible occurrence of a natural hazard when they bought or moved into their current homes. While 34% of the respondents indicated they would be willing to spend more money on a home that had disaster-resistant features, almost 43% said they did not know whether they would be willing.

Almost 66% of respondents indicated they are willing to make their home more resistant to natural disasters. Table 5.1 illustrates how much respondents are willing to spend to better protect their homes from natural disasters.

Table 5.1. Amount Survey Respondents Are Willing to Spend

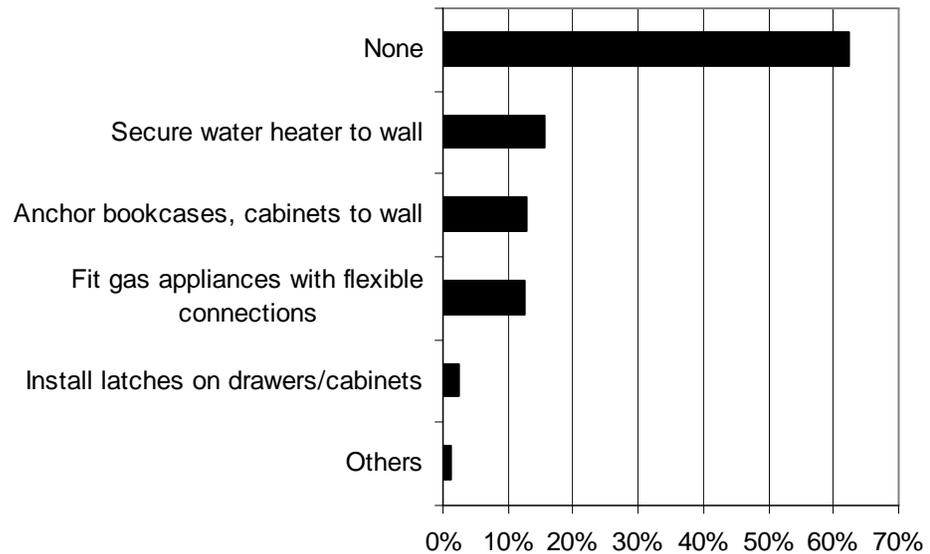
Amount	Percent of Respondents
Less than \$100	4%
\$100-\$499	8%
\$500-\$999	6%
\$1000-\$2499	15%
\$2500-\$4999	6%
\$5000 and above	4%
Nothing	3%
Don't Know	39%
What ever it takes	6%
Other	8%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Nonstructural and Structural Home Modifications

While 62% of respondents said they have not completed any nonstructural modifications in their homes to prepare for earthquakes, Figure 5.1 shows that some respondents have taken such steps as securing water heaters to the wall and fitting gas appliances with flexible connectors.

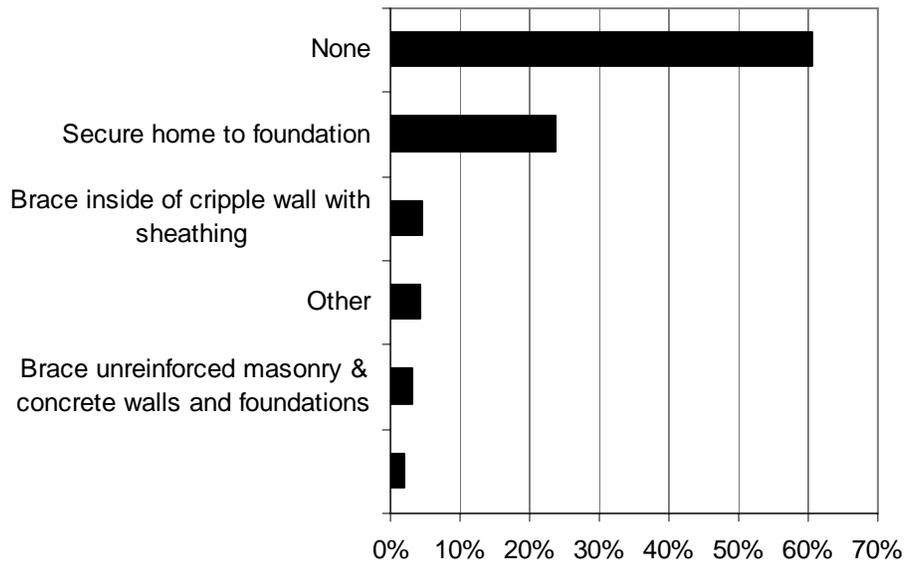
Figure 5.1. Nonstructural Modifications Survey Respondents Have Made to Their Homes



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Respondents also reported making some structural modifications to make their homes more resistant to earthquakes. However, almost 61% of the respondents have not completed any structural modifications. Figure 5.2 indicates that the most common step taken is securing the home to the foundation.

Figure 5.2. Structural Modifications Survey Respondents' Have Made to Their Homes



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Incentives

Approximately 67% of the respondents indicated that tax breaks or incentives would motivate them to take additional steps to better protect their homes from natural disasters. Over 59% also indicated that insurance discounts would be a motivator (See Table 5.2).

Table 5.2. Survey Respondents' Preferred Incentives for Protecting Homes

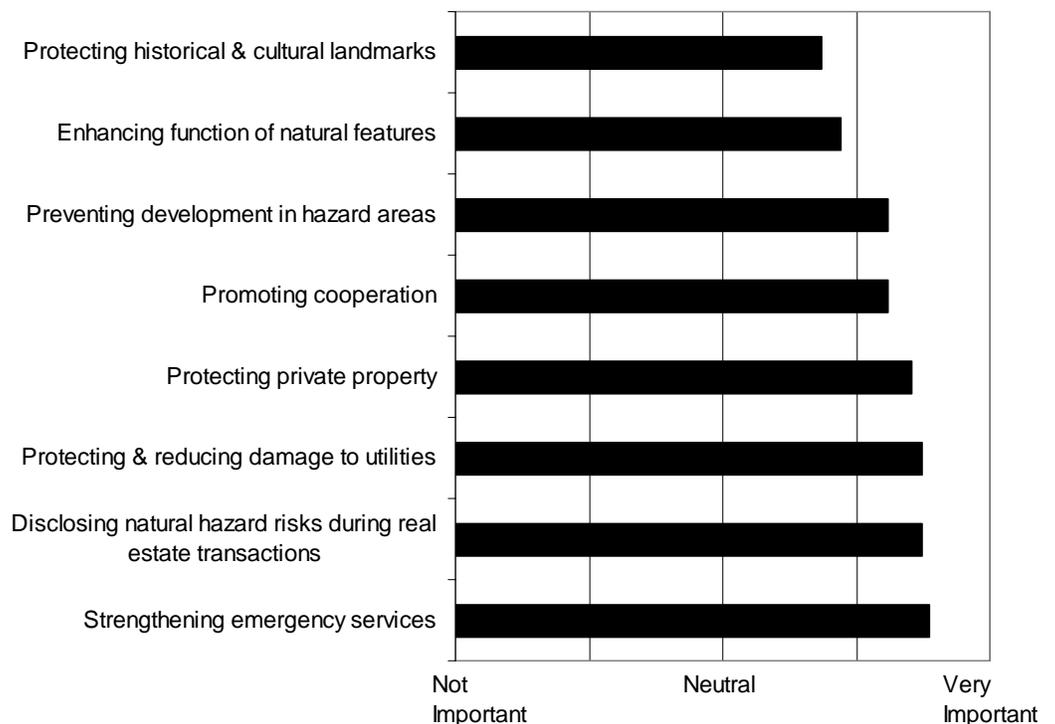
Incentive	Percent of Respondents
Tax break or incentive	67%
Insurance discount	59%
Low interest rate loan	25%
Mortgage discount	23%
None	17%
Lower new home construction costs	17%
Other	6%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Community Natural Hazard Preparedness

To assist those preparing the communities' natural hazard mitigation plans, it is essential to understand the importance community members place on specific community-level risk reduction actions. These questions could help Mid-Columbia communities determine their citizens' priorities when planning for natural hazards. They also provide an idea of which types of strategies to reduce the communities' risk the citizens would be willing support. Figure 6.1 illustrates the important respondents placed on each statement.

Figure 6.1. Survey Respondents' General Level of Importance for Goal Statements



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

As shown in Table 6.1, 96% of respondents indicated that it is very important or somewhat important for the community to protect critical facilities. In addition, over 91% indicated that it is very important or somewhat important to protect and reduce damage to utilities and strengthen emergency services.

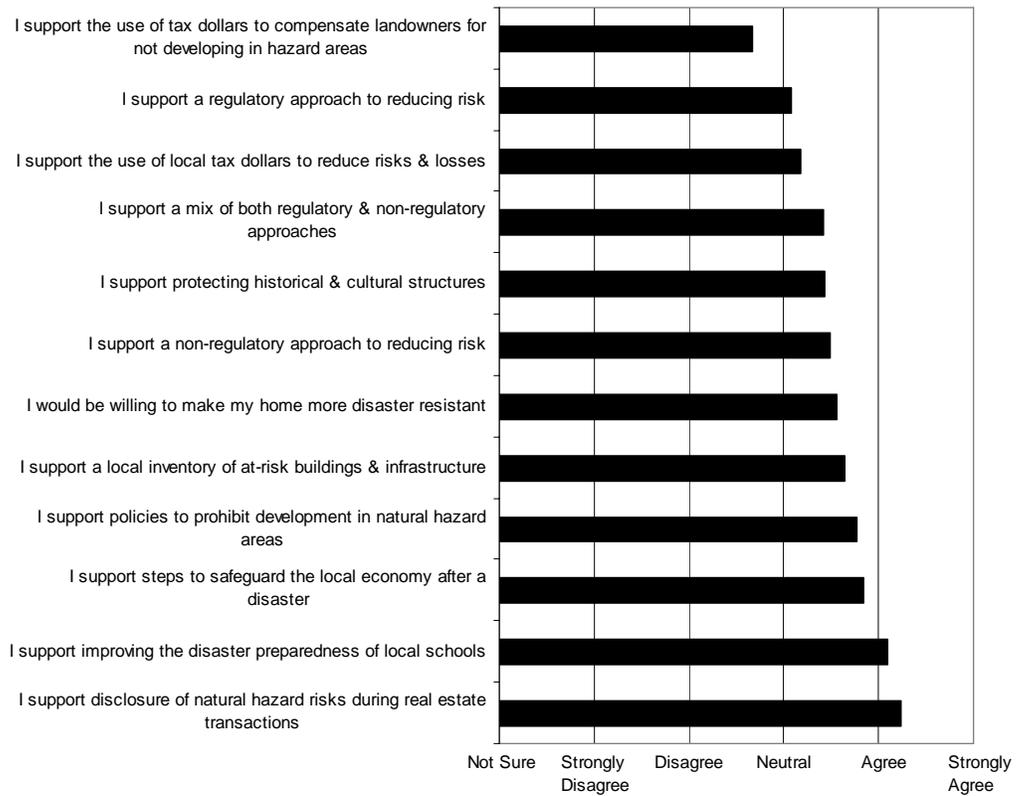
Table 6.1. Survey Respondents' Goal Prioritization

Statements	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	58%	31%	10%	0%	2%
Protecting critical facilities	81%	15%	3%	1%	0%
Preventing development in hazard areas	48%	33%	15%	2%	2%
Enhancing the function of natural features	33%	36%	21%	5%	5%
Protecting historical and cultural landmarks	22%	44%	22%	8%	3%
Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	47%	34%	16%	3%	1%
Protecting and reducing utility damage	61%	31%	7%	1%	1%
Strengthening emergency services	66%	26%	6%	2%	1%
Disclosing natural hazard risks during real estate transactions	64%	25%	9%	1%	1%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

There are a number of activities a community can undertake to reduce the risk from natural hazards. These activities can be both regulatory and non-regulatory. Figure 6.2 shows respondents' general level of agreement regarding the community-wide strategies included in the survey.

Figure 6.2. Survey Respondents' General Level of Agreement Regarding Community-wide Strategies



Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Table 12 illustrates that 85.8% of the respondents strongly agree or agree that they support improving the disaster preparedness of local schools. Also, 85% said they strongly agree or agree that they support disclosure of natural hazard risks during real estate transactions.

Table 6.2. Survey Respondents' Agreement Regarding Community-wide Strategies

Strategies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Sure
I support a regulatory approach to reducing risk	11%	34%	25%	17%	9%	5%
I support a non-regulatory approach to reducing risk	18%	41%	26%	9%	1%	6%
I support a mix of both regulatory and non-regulatory approaches to reducing risk	18%	36%	28%	12%	3%	4%
I support policies to prohibit development in areas subject to natural hazards	26%	45%	15%	10%	2%	2%
I support the use of tax dollars (federal and/or local) to compensate land owners for not developing in areas subject to natural hazards	9%	21%	23%	26%	17%	4%
I support the use of local tax dollars to reduce risks and losses from natural disasters	7%	42%	26%	14%	7%	4%
I support protecting historical and cultural structures	12%	42%	34%	8%	3%	3%
I would be willing to make my home more disaster-resistant	9%	53%	30%	4%	1%	3%
I support steps to safeguard the local economy following a disaster event	14%	63%	20%	2%	0%	2%
I support improving the disaster preparedness of local schools	30%	56%	11%	2%	0%	1%
I support a local inventory of at-risk buildings and infrastructure	14%	51%	29%	3%	0%	3%
I support the disclosure of natural hazard risks during real estate transactions	44%	41%	11%	3%	0%	1%

Source: Household Natural Hazards Preparedness Survey, Oregon Natural Hazards Workgroup, (June 2006)

Written Responses to Open-Ended Survey Questions

Q1.1 Which of these natural disasters have you or someone in your household experienced?

These are the “other” responses:

- Ice storm on top of heavy snow
- Hail storm
- Not in but only sideline observer – my grandson fought the wildfire
- Hail & wind
- Minor drought

Q3.2 From whom did you last receive information about how to make your household and home safer from natural disasters?

Several people mentioned various governments or agencies as the last source of information:

- City of Pendleton
- Local fire department
- Volunteer fire department
- CSEPP (Chemical Stockpile Emergency Preparedness Program)

Other non-governmental organizations were also mentioned as sources including:

- Employee newsletter
- Boy Scout merit badge
- Church of Jesus Christ of Latter Day Saints
- School

Some respondents also mentioned more informal sources of information:

- Online internet
- Common sense
- Friends & neighbors
- Fire & heater smoke alarms
- When we lived in California

Q4 Who would you most trust to provide you with information about how to make your household and home safer from natural disasters?

The most often mentioned other source for information was various local agencies including three people mentioning the fire department. Other specific local sources included the Gilliam County Sheriff's Department and Sherman Health. Other comments include:

- Not sure, not government or university
- Radio
- Google.com
- Home owners
- Local task force/focus groups w/professional disaster relief
- Self (2)
- Gilliam Co Sheriff Dept
- Sherman Health
- Wildfire is the only disaster applicable to this area
- Combination of above (referring to all the categories listed in the survey question)
- Fire dept. (3)
- Others who have been through natural disasters
- Local help
- Local agency

Q5 What is the most effective way for you to receive information about how to make your household and home safer from natural disasters?

Some of the "other" responses to this question can be categorized into local government or agency sources:

- Sheriff Department
- Local tribal readiness office
- Local agency
- Local government.

Two federal sources were also mentioned:

- US Forest Service
- Army depot.

Two people listed church-related resources:

- Church officials
- www.lds.org (Latter Day Saints).

Another two people mentioned alarm systems:

- Local alarm systems

- Radio alert system

Other responses included:

- Observation
- Grants
- Not sure I need to be communicated to

Q7 Building a disaster supply kit, receiving First Aid training and developing a household/family emergency plan are all inexpensive activities that require a personal time commitment. How much time (per year) are you willing to spend on preparing yourself/household for a natural disaster or emergency event?

In response to this question, one person wrote, “we are ready.” Many of the other responses fit into a category of “whatever it takes” or “as much as necessary”:

- Whatever it takes (4)
- This is ongoing
- As much time as needed to get the job done
- As necessary (2)
- More.

Other responses were:

- Done these at an early age. None available in this remote area. We are at the exit age of life.
- I was in a security position for 12 years. I learned on the job.
- Disabled (2)
- Live alone
- We are ready

Q8 What steps, if any, have you or someone in your household taken to prepare for a natural disaster?

Several respondents wrote about extra supplies and safety mechanisms, including:

- Keep one vehicle full of gas, have backup generator, have cooking fuel & heating fuel on hand, have backup solar charger for all batteries, have extra clothes & food packed in a vehicle at all times & water purification (Storing things)
- Medicine
- Bought walkie talkies w/8 mile radius
- Extra fuel for heat
- Have all above but not in one spot
- Installed gas powered fire pump on 2000 gal swimming pool

- Gasoline, kerosene, firewood, tent & bedrolls, vehicles, cooking utensils
- Purchased generator, water filtration, home fire sprinklers, reduced/removed combustible vegetation around home, metal roof – non-combustible siding, weather alert radio.

Three people mentioned emergency plans:

- Discussed areas of evacuation (escape plans and action planning)
- We are in CSEPP notification area for evacuation from nerve gas leak at the Umatilla Army Depot. (We are prepared to shelter in place also.)
- I think a plan for neighbors who are disabled would be wise or at least know who is and where they are. Animals should be taken into account also.

The other responses were:

- Not really prepared
- Caregiver takes care of these things
- There will be no phones or electric

Q9.1 If “NO”, what is the main reason your household does not have insurance for flood events?

Four people mentioned that they don’t need flood insurance:

- I live in the desert
- Not sure TD has ever flooded. Less than 2 yrs in the area.
- Only Noah’s flood could reach this high
- Thought we were in a floodplain, but found we aren’t

Three people said they were not able to acquire flood insurance or it was not offered to them:

- Can’t get it
- Not obtainable
- Not offered (2)

Three people had other comments:

- Landlord’s responsibility
- Government program
- Risk versus benefit (meaning the probability of risk is not high enough to receive benefits)

Q10.1 IF “NO”, what is the main reason your household does not have earthquake insurance?

Many of the respondents who do not have earthquake insurance said that it was unnecessary for them to purchase because:

- Not located on a fault

- 70 to 80 yrs never had more than a tremor, if that
- We live on a mountainside!
- Not concerned/do not need it (5)

One respondent said he or she “plans to look into it” and two people said they were unable to obtain it:

- Can’t meet requirements by insurance company to get coverage because house is older
- Plan to look into it
- No response from insurance company.

There were two other comments:

- Policy speaks to collapse
- Risk versus benefit (meaning the probability of risk is not high enough to receive benefits)

Q13.1 How much are you willing to spend to better protect your home from natural disasters?

Many of the written responses were about how much the respondents could afford and how necessary the protection was.

- As I can do it
- Would depend on situation or feel the need for
- Whatever I can afford
- Would depend on what we could afford versus protection we would be provided
- It depends on how necessary it is and how much it would cost
- Being retired – within reason
- Will try cheapest way

One respondent mentioned that financial assistance would be necessary in order for him or her to protect the home:

- Would need financial assist. To get protection.

In addition, three respondents would not spend additional money to protect their homes. They provided a couple reasons for this:

- We’re in a 30 yr old double wide. Only one insurance co will cover it. We’d buy a newer one.
- Don’t own our home
- Don’t need

Q14 What nonstructural or structural modifications for earthquakes have you made to your home?

Three people wrote about additional nonstructural modifications to their homes. These were:

- Created a fire fuel free zone around home
- Large anchor bolts
- Fire & smoke detectors

There were more written responses about structural home modifications. They ranged from removal of a hazardous fireplace, to structural advantages built into new additions, to living in a recently build homes that were constructed with hazards in mind. Comments included:

- New addition is well secured to foundation
- Removed non-functional chimney
- Restored 100 year old house, mainly structural improvements
- New home built 2003-04
- All done at construction
- Heavier roofing, ty down, ext
- Built barn between house and rim above us.

Q15 Which of the following incentives, if any, would motivate you to take additional steps to better protect your home from a natural disaster?

Many of the respondents discussed why they did not take additional steps to protect themselves rather than discussing motivational techniques. Renting a home can be a disincentive to take additional steps to better prepare a home from a natural disaster. Four people wrote about renting a home as a reason for not taking additional steps:

- I rent (2)
- Move to a house – we currently live in a rented 2-story apartment
- Will own home in about 1 yr, wish I had this info earlier

Other reasons for not taking additional steps included:

- If I lived in a fault zone, if I lived in a flood plain, if I were not surrounded by irrigated land. (If the respondent lived in a fault zone or flood plain, he or she would be motivated to take additional steps.)
- Our home is solid & built well
- My plan is to build a new home.

Seven people did mention what would motivate them to take additional safety preparedness steps:

- Rental deduction
- Local grant money specific to local needs (ie, high hazard area = high grant for modifications)
- To know more about efficiency for gas heater & gas hot H₂O tank, to get credit for installation of more efficient furnace. Contractor did not know or advise us.

- Just do it!
- Safety of my family
- Shared cost program
- Free

One person never thought about it before and said:

- Just thought everyone did those (took steps to protect the home) – never really thought about it.

Q17 Are there any other issues regarding the reduction of risk and loss associated with natural disasters that you feel are important?

This question received comments covering several main themes including: location of development, maintenance techniques, regulations and government, man-made disasters, education/communication, personal responsibility and choice, and insurance. Many respondents discussed multiple topics in their comments. In these situations, the comment has been listed twice with a reference to where the comment is also located.

The **location of development** in natural hazard areas was a concern for some respondents. Some respondents felt that development in known hazard areas should be discontinued or reduced. Here are their comments:

- Its common sense to prohibit development in disaster-prone areas – planning departments should consider this as a matter of course in their zoning decisions just as they should consider the ability of a region to sustain development with regard to water, sewage, power, infrastructure, etc. To compensate any landowners not to develop in areas subject to natural disaster is to allow blackmail & is bad public policy.
- Not building in flood plains. Clearing debris, timber, etc., around homes & outbuildings. (This statement is also included in the following section on maintenance.)
- Don't build a whole city under water level
- Reducing houses in forested areas and floodplains
- The development in areas known to flood such as lower Oregon City & portions of Keizer should not be continued. Many developments along the coast are very vulnerable to a tsunami. Those areas will be hit someday. I have seen a tsunami years ago and it will be worse than anyone thinks.
- I feel that people should be given information regarding building homes in flood plains and new construction in these areas should be discouraged or prevented & society should not bear the cost of developers and individuals who choose to build in these areas. (This comment is also listed in the education/communication section.)
- Many of the potential disasters we face are not natural, i.e. human-caused wildfire. Limit home construction in interface area or require fire-safe construction, ingress, egress, utilities, etc. Safety cannot be legislated; it must be an attitude of society. We should not expect or

tolerate human-caused hazards. (This comment is also in the human-caused, man-made section.)

Other people suggested **methods of prevention or maintenance** that reduce natural hazard risk.

- Construction projects by state and fed government that can create flooding landslides. Poor fill & cut design by forest logging, state highway coast for example.
- When fields are plowed by highways & the winds are high it causes severe dust storms. I feel that if trees are planted at the edge of the fields, there would be less accidents.
- Not building in flood plains. Clearing debris, timber, etc., around homes & outbuildings. (This statement is also located in the location of development section).
- One should never plant large trees around the house; during a wind storm large branches come down causing considerable damage.
- Tree removal in flood area in city limits of Pilot Rock – once bridges get blocked up damage risk increases. Regulations can prevent repairs/corrections. (This comment is also in the role of government and regulation section.)
- Reasonable road and address signs so emergency vehicles can find addresses, etc. (Double sets of confusing mileposts installed by ODOT on the Cow River Gorge Historic Highway, old Highway 30, are particularly stupid & dangerous.) Note: The mileposts do not match up to maps.

Several respondents had strong feelings about the **role of government and regulation** in natural hazard preparedness and disaster recovery.

- Tree removal in flood area in city limits of Pilot Rock – once bridges get blocked up damage risk increases. Regulations can prevent repairs/corrections. (This comment is also in the methods of prevention or maintenance section.)
- Keep the public informed of risks without making restrictive laws. (This comment is also in the communication/education section.)
- Warnings to citizens, if possible, to get prepared. Communities should annually or more often require its citizens where to go, what to do, etc, etc. There should be regular checking and double-checking by county, state, and federal authorities to see that cities are complying and penalized if not.
- Intelligent public officials who can do the job they get paid for doing
- What is the Bureau of Rec, water master office, & my fire district doing to protect my home?!
- Reduce the impression that FEMA is intended to come to the rescue. Make all people more aware of their surroundings and their risks and their own personal responsibility. More government is not the solution,

only a tool. (This comment is also in the communication/education section.)

- Reinstate Clinton's FEMA; do away w/George Bush's
- I believe that the insurance industry should have policies for coverage in place that would influence building in hazardous areas. Couple that with regulated full disclosure for real estate sales and there should be no need for regulatory legislation. (This comment is also in the insurance section.)
- Replace FEMA with a grant program to local emergency agencies
Other people were more concerned about **human-caused or man-made disasters**. A few people expressed the opinion that there is nothing that can be done to prevent natural disasters.
- Many of the potential disasters we face are not natural, i.e. human-caused wildfire. Limit home construction in interface area or require fire-safe construction, ingress, egress, utilities, etc. Safety cannot be legislated; it must be an attitude of society. We should not expect or tolerate human-caused hazards. (This comment is also located in the location of development section.)
- Not worried about natural disasters, only man-made
- I really feel that there isn't much we can do to prevent acts of God. If they happen, we'll deal with it. Lookat Katrina – they did what they could & will pick up the pieces as well as they can.
- I am not as worried about natural disasters as I am about man destroying the earth with his inability to pull his head out of his greedy ass.
- There is nothing you can do to prevent natural disasters (acts of God) other than plan what to do if one happens to occur – plan, be prepared, & be informed.

Education and communication always play important roles in preparedness and recovery responses. People's comments on education and communication ranged from household communication to community preparedness training to including Spanish in communications.

- Realistic education for adults & children. NOT SCARE TATICS, no one believes them.
- Good communication system with monolingual Spanish speakers must be established in Hood River.
- Reduce the impression that FEMA is intended to come to the rescue. Make all people more aware of their surroundings and their risks and their own personal responsibility. (This comment is also in the regulation and government section.)
- "Use your head" and be prepared for oncoming disaster. Listen to media reports informing you that a disaster is forecast. Many Katrina victims had prior warning, but did not take it seriously enough.

- Communication ability
- Having a list of what to have on hand for different emergencies and knowing where to go in case of disaster. Should have a week each year for learning & having the info offered to those who would like it.
- I feel that people should be given information regarding building homes in flood plains and new construction in these areas should be discouraged or prevented & society should not bear the cost of developers and individuals who choose to build in these areas. (This comment is cross-listed in the location of development section.)
- Yes – it would be nice if everyone in our local community were educated on what to do and where to go for shelter or whatever.
- Keep the public informed of risks without making restrictive laws. (This comment is also in the regulation and government section.)
- The training of community members for service with the Red Cross provided locally on a regular schedule.

Three people talked about **personal responsibility and choice**. If people know that their home is in a hazard area, it is their responsibility to plan and prepare for the hazard.

- This is a lot like seatbelts and crash helmets – if anyone chooses to ignore these protections it should be on their head – no help if disaster strikes.
- Plan ahead!!! Responsibility for your own – then can help others.
- Disclose risk at public meetings. Make it clear that if you choose to live in at-risk area, you are not guaranteed bail-out from your problems. There are no guarantees in life.

Some people want the role of **insurance** companies to be increased or to expand their coverage areas.

- I believe that the insurance industry should have policies for coverage in place that would influence building in hazardous areas. Couple that with regulated full disclosure for real estate sales and there should be no need for regulatory legislation. (This comment is also located in the regulation and government section.)
- I think there should be insurance coverage readily available for outlying areas at a reasonable cost.
- I wish the insurance companies would just include them in their policies

Large-scale disaster planning and health care were the concerns of the some respondents.

- Adequate health care people and places for people affected
- In more populated areas the issue of riots & looting should be looked at. If there is an extreme & widespread disaster there will be unlawfulness and citizens should include how to avoid & protect themselves, family,

and property if need be. I feel that this is a “real” threat and byproduct of disasters in populated areas.

- The people, how to help them out during a nationwide disaster
- Stop the greed & graft when donated monies are given to aid disaster victims. Accountability for funds and actions or all this is just activity to create jobs that do nothing.
- What to do about seniors? Their meds – oxygen? Where to take them? How to get to them in a frontier area?

A few people mentioned **smaller-scale hazard warnings and preparation requirements**.

- Early warning for storms – other known existing problems – floods – etc.
- People living in flood places should be required to have boats & life jackets, one per person
- Affordable gas masks and transportation

Some respondents discussed **specific natural hazards** and how they would affect the region.

- Snow pack in mountains. Heavy rains on snow may cause flooding. Flooding over riverbanks & dikes.
- Earthquakes would totally isolate this community from outside help. Air services would be #1. We have wildfire around here, so are fight them! Floods would be minimal! One little river here!
- Forest fires. I live in an area with lots, lots, lots of trees. I live in the timber.

There were also a few unclassifiable responses.

- Protecting pets + livestock + wildlife
- Reduce traffic of toxins; reduce production of toxins, radioactive, etc.
- Using all means available to stop wildfires
- What helps are available?

Finally, one respondent said:

- Everything is pretty well covered.

Q21 Please indicate your level of education.

Only one response was in the “other” category:

- Specialty training

Q25 If you have lived in Oregon for less than 20 years, in what state did you live before you moved to Oregon?

The answer to this question was interesting because although the survey specifically listed California, Washington, and Idaho more respondents moved to the Mid-Columbia region from Colorado than Idaho (5.1% versus 3.4%).

Here are the responses:

- Arizona (2)
- Colorado (6)
- Kentucky
- Maryland
- Massachusetts
- Michigan
- Montana (4)
- Nevada
- New Jersey
- New Mexico
- Tennessee
- Texas
- Washington
- Wyoming
- Norway

Q28 Do you rent/own a:

- Ranch (2)
- Stick-built addition to manufactured home
- 19 ft travel trailer
- 2½ story home built in 1915
- Commercial building with living quarters
- We live/own our dwelling which is a duplex as well as an additional duplex
- Forest/grazing property

Please feel free to provide any additional comments in the space provided.

Three respondents discussed the need for **emergency education for the public and officials**. They felt they either lacked the information on how a particular hazard could affect their area or what to do/where to go in the case of an emergency.

- More than half of our town's houses are built on a hillside above the Columbia River. We also have a dam, and are of relative distance to Mt. Hood. Should the dam break, probably the lower half of the town would be wiped out within minutes. I'm not sure about the rest of the town on the hillsides. Should there be an earthquake, I'm not sure how that would affect us all. Wildfires are a hazard around us, more outside of our

city than directly in it. Should Mt. Hood suddenly erupt, well, I'm not sure what all that would affect in our town. To be honest, there are many natural disasters that could cause us all to be concerned 24/7, but which ones are more likely here? And how do you prepare for just the ones that might affect your area when you aren't sure which to prepare for? It would be nice to know the likelihood of each disaster in our area so we would know better how to prepare. Although, I must admit, your survey made me realize that I haven't done much to prepare at all. And that I should have done more by now. I will get started doing what I can!

- All of us living close to the Columbia River need to be educated on what to do and where to go – if The Dalles Dam or the John Day Dam were to rupture – if Mt. Hood were to rupture – or if an earthquake were to happen – we're not educated on what or where to go in our local areas.
- I feel that in our rural area we are not prepared for any kind of disaster. I really don't think that our leaders really know what they are going to do in actual case of a real disaster. We need more education on this. This does affect rich & poor. Thank you (comment also in govt.)

Several respondents discussed the importance of people taking **individual or personal responsibility** for their choices or actions. They stressed the importance of being responsible for themselves and their families rather than expecting an outside source to safeguard themselves and their possessions and provide compensation for destroyed property.

- Tax money should be used as little as possible. Individuals need to take more responsibility for safeguarding their own possessions. I would much rather pay for (or lose) for myself than to be forced to help pay for someone's loss if that person neglects to do what he can to protect his own things. Citizens must be willing to live with the consequences of his decision to build/live where a natural disaster may occur. Until or unless a person is forced to live in a dangerous area, it is that person's responsibility to safeguard his possessions. The government's responsibility is to inform the citizens of any dangers or considerations of living/building in a disaster zone. From there, it's the citizen's decision and risk.
- A lot of questions do not apply to us. As for insurance, we are insurance poor. Also, we live in a rural area. Nearest neighbor a mile away, so we have to take care of ourselves and glad of it.
- Because we live in the country, we probably feel that basically we are responsible for ourselves, except for fire, police, & ambulance, which our taxes and insurance help to pay for. Therefore, we feel that basically all people should be responsible for themselves. But, we realize that isn't reality, especially in towns, and that most services must be provided in order to people to survive. So, plan for the worst disaster and go from there. Good luck!
- 1) I feel very strongly that homes destroyed by floods in flood zones not be allowed to be reconstructed in the flood zones. Those who do shouldn't expect insurance companies to cover their homes, nor receive federal or

state aid to rebuild. 2) Each of us has to take personal responsibility in the location of our homes and our preparedness in meeting natural or other disasters and shouldn't expect governmental agencies to fully bear the burden of the costs to rebuild. 3) Volunteer fire departments in our area have been training for a variety of disasters, receiving funding through FEMA grants to do so. They should be commended for their efforts. (Hood River Area, WSFD.) (This comment is also located in the location of development section.)

- Early childhood education should stress the importance of individual responsibility for a safe environment. Nowhere except the U.S. can you cause a fire and not only not be shunned by society, but we will help you rebuild. Allowing building construction in flood, fire prone areas without adequate regard for bldg. techniques to reduce or eliminate major risk factors is ridiculous. This not only puts owners lives and property at risk but that of their neighbors and the emergency responders who are expected to protect us from ourselves.
- I believe timber land owners should be responsible for the fire threat on their property. They should have a fire prevention plan and clean up plan for their properties. Thinning, brush work, etc.

Two people thought changes to current **insurance** policies would be beneficial.

- Oregon's land use laws have addressed some of these problems which they have not done. They were hi-hacked by environmental extremists, & are no longer supported by the people of Oregon. I do not really trust the government to do the right thing. I would buy flood insurance if it was available from private companies. Actually, homeowners insurance should be expanded to cover all perils. (This comment is also located in the government section.)
- A lot of questions do not apply to us. As for insurance, we are insurance poor. Also, we live in a rural area. Nearest neighbor a mile away, so we have to take care of ourselves and glad of it.

Several respondents had comments about the **location of development** and related **planning and development codes**.

- 1) I feel very strongly that homes destroyed by floods in flood zones not be allowed to be reconstructed in the flood zones. Those who do shouldn't expect insurance companies to cover their homes, nor receive federal or state aid to rebuild. 2) Each of us has to take personal responsibility in the location of our homes and our preparedness in meeting natural or other disasters and shouldn't expect governmental agencies to fully bear the burden of the costs to rebuild. 3) Volunteer fire departments in our area have been training for a variety of disasters, receiving funding through FEMA grants to do so. They should be commended for their efforts. (Hood River Area, WSFD.) (This comment is also in the personal responsibility section.)
- Build where one wants does not mean we need to provide services or \$\$ when a disaster happens.

- Large expenditures for this sort of thing are unnecessary. 9-11 and Katrina have given much of our government agencies and education facilities a reason to spend money on things that may or not happen. All in the name of planning. (comment is also in funding section)
- Unfortunately, the scope of natural disasters is such that you can't depend on individual land owners to be able to do what needs to be done to be ready to be prepared. Building codes, zoning & properly educated planning staff at the local level need to set policies to support communities in this regard. Citizens should have cost-efficient resources available to them to deal with these issues as they can incorporate them into their lives (ie, a "lending library" of information, grants for funding improvements, staff to advise them, etc.). This is waving a "magic wand" but hey, you asked! :) (Also in
- We really need to enforce/create zoning and building codes that keep development out of natural resources; streams, river areas, & forest land. We should not authorize development in these areas. (also in location of dev section)

Concerns about **money** (how to spend it and who pays) are frequently contentious issues.

- Large expenditures for this sort of thing are unnecessary. 9-11 and Katrina have given much of our government agencies and education facilities a reason to spend money on things that may or not happen. All in the name of planning.
- I feel contingency funds should be set aside by the state for allocations to cities and counties in need of emergency services due to natural disasters. Fund could be used for prevention every so many years if natural disasters do not occur within that time period
- 1) Our home is located on 10 acres; 12 miles from fire dept (all uphill) – rural locations are subject to wildfire – our neighbor accidentally started a wildfire near our house. 2) Far too much effort and public money goes for flood protection of properties within the floodplains – perhaps we cannot protect every fool from their foolishness. 3) The Oregon State Police (Fire Marshall) spends much money gathering data about small amounts of propane, etc – the information IS NOT EVEN USED BY LOCAL FIRE DEPTS, too much paperwork.
- Tax money should be used as little as possible. Individuals need to take more responsibility for safeguarding their own possessions. I would much rather pay for (or lose) for myself than to be forced to help pay for someone's loss if that person neglects to do what he can to protect his own things. Citizens must be willing to live with the consequences of his decision to build/live where a natural disaster may occur. Until or unless a person is forced to live in a dangerous area, it is that person's responsibility to safeguard his possessions. The government's responsibility is to inform the citizens of any dangers or considerations of living/building in a disaster zone. From there, it's the citizen's decision and risk. (This comment is also in the individual responsibility section.)

Some respondents commented about the capability and role of **government** in natural hazard preparation and after natural disasters. The lack of **emergency services** was also mentioned.

- After New Orleans, I do not think government is capable of doing anything intelligent about natural disaster.
- I would hope government is more prepared to help our community better than they did down south – how sad it was to watch on the news.
- I feel that in our rural area we are not prepared for any kind of disaster. I really don't think that our leaders really know what they are going to do in actual case of a real disaster. We need more education on this. This does affect rich & poor. Thank you. (This comment also in the education section.)
- Gilliam County, Condon has 911, Sheriff Dept & no Red Cross. So the Sheriff Dept has it all. Red Cross will not come to Condon.
- 1) I feel very strongly that homes destroyed by floods in flood zones not be allowed to be reconstructed in the flood zones. Those who do shouldn't expect insurance companies to cover their homes, nor receive federal or state aid to rebuild. 2) Each of us has to take personal responsibility in the location of our homes and our preparedness in meeting natural or other disasters and shouldn't expect governmental agencies to fully bear the burden of the costs to rebuild. 3) Volunteer fire departments in our area have been training for a variety of disasters, receiving funding through FEMA grants to do so. They should be commended for their efforts. (Hood River Area, WSFD.) (This comment is also in the location of development section.)
- Oregon's land use laws have addressed some of these problems which they have not done. They were hi-jacked by environmental extremists, and are no longer supported by the people of Oregon. I do not really trust the government to do the right thing. I would buy flood insurance if it was available from private companies. Actually, homeowners insurance should be expanded to cover all perils. (This comment is also located in the insurance section.)

Another theme for some comments was **types of hazards** that should or should not be considered both in the Mid-Columbia region and Oregon.

- More relevant to this area of flat, irrigated former-desert are the risks of traffic accidents in dense fog or blowing dust.
- This whole county is dangerous because of Rimrock and deep canyons, and rough country. Population is very low here. Population is poor. Earthquakes would block all highways, dam the John Day River, and take out power. If terrorists bomb Hanford, traffic would be diverted through here and we don't have EMS/law enforcement to deal with it. The state would have to step up to the plate!
- It is difficult to imagine my level of "concern" when comparing life threatening events (e.g. volcanic eruption) with mere annoying problems (e.g. wind storm)(and economic disaster (drought). Also, my concerns are

more with events that have virtually no warning (tsunami) and those that have adequate warning (winter storm). The strategies to mitigate a bad outcome need to be different.

- Oregon is far too diverse a state to consider a “natural hazard” common to all parts of the state. Compare west of the Cascades to the high desert, or the Portland area with the rest of Oregon.

Several people offered **suggestions** about the types of preparation that should be made or considered.

- The best preparedness for our area where we have so much wind, windstorms, & hail storms, the Umatilla Army Depot (chemical depot) would be a storm cellar. I’ve lived in this area since 1940 & I’ve seen many kinds of storms, & wished I had a storm cellar.
- 1) To prevent wildfire spread, farmers who take CRP program should have fire buffer strip built into the CRP program – requiring the farmers to keep strips effective – we had the 60,000 acre fire a few years ago – we were lucky – buffer strips are the only way we will control this – too many farmers are not farming wheat anymore. 2) OLD cottonwoods fall into creek, plug channel & bridges – city of Pilot Rock needs to enforce floodway rules established by FEMA, and “oversee” a channel manage program – Pilot Rock has 4 bridges & foot bridges that can plug during floods – this can be done – everyone’s afraid of regulatory agencies giving out fines. To identify hazards is easy – no one wants to follow through.
- In some areas the flood plain designation appears to be given in a non-scientific manner. I have family in the Spokane County area – they have a 10 acre parcel which is surrounded by land that has been completely developed in the past 2 decades. They have been informed that their parcel is the “flood plain” and cannot be developed/a large percentage must be left undeveloped. Geologically the county does not seem to need any proof other than the necessity of no other undeveloped space left to absorb H₂O. I agree that flood plains should not be developed, but there needs to be a more scientific & comprehensive plan. Land owners who have left space undeveloped should also then be reasonably reimbursed. It benefits us all to have some earth to re-absorb water, but a single land owner should not be financially punished.

Two respondents wrote to say **thank you**.

- It’s about time someone did this. Way to go! Keep up the great work!
Sincerely, a thoughtfully concerned citizen, wife, and parent.
- Good luck on the survey

Finally, this last section contains **miscellaneous** comments.

- If I’d ever been in a disaster I’m sure some of my answers would be different. Was in storm in N.C., tho it was just heavy rains so went to movie at Base. It was cut short so went home & put rugs under the doors. Next AM all TV antennas were bent over & a new piece just completed a few months was lifted off the pilings & set down whole ¼ mile away. The fishing store & another building connected to pier were ok & they later

made them into rooms where we stayed for 2 nights for my husband's discharge papers & came then after 20 years in the Navy but last 5 yrs were spent at Marine bases since my husband was in Medical & Marines only have fighting men. 3 of my children attended U of O.

- 1) One question, why are you asking these questions? Do you know of a real disaster that's coming our way? I have heard before of the United States being split into 3 pieces from a severe earthquake. Most of California is man-made islands put together and the plates are very bad. Also New York & New Jersey are also in danger of shifting. Also along the Mississippi River. This is why I've been prepared for years. Not as much as I would like because of finances. Oregon will have its problems mostly with volcanoes & wildfires. Also coastal tsunamis.
- I know of a patented solution that, when sprayed on wood, will render it inflammable even when gasoline is applied and ignited. Why its sale and usage was somewhat squashed at the onset of its production is no mystery is it?
- The State of Oregon needs to protect the trees from being cut down, and not just timber forests either! Someone needs to stand up and protect the Columbia Gorge from a sewage dump. Has anyone taken into account the damage that will be done once the Warm Springs reservation builds their bloody casino? All the trash and pollution will destroy the salmon habitat for breeding grounds! We need to protect/save gas resources by raising the legal primary age limit to 18 years instead of 16 years. This would cut crime and teenage pregnancies!
- Please explain what the last question has to do with natural disaster.