

# Executive Summary

Clackamas County Emergency Management developed this multi-jurisdictional Natural Hazards Mitigation Plan in an effort to prepare for the long term effects resulting from natural hazards. This plan was developed with and for the following jurisdictions: Canby, Damascus, Estacada, Gladstone, Happy Valley, Johnson City, Lake Oswego, Milwaukie, Molalla, Oregon City, Sandy, West Linn, and Wilsonville. It is impossible to predict exactly when these hazards will occur, or the extent to which they will affect the community. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to create a resilient community that will benefit from long-term recovery planning efforts.

The Federal Emergency Management Agency (FEMA) defines mitigation as “. . . the effort to reduce loss of life and property by lessening the impact of disasters . . . through risk analysis, which results in information that provides a foundation for mitigation activities that reduce risk.” Said another way, natural hazard mitigation is a method of permanently reducing or alleviating the losses of life, property, and injuries resulting from natural hazards through long and short-term strategies. Example strategies include policy changes, such as updated ordinances, projects, such as seismic retrofits to critical facilities; and education and outreach to targeted audiences, such as Spanish speaking residents or the elderly. Natural hazard mitigation is the responsibility of the “Whole Community” - individuals, private businesses and industries, state and local governments, and the federal government.

*44 CFR 201.6 – The local mitigation plan is the representation of the jurisdiction’s commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. . . .*

## Why Develop this Mitigation Plan?

In addition to establishing a comprehensive community-level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K) and the regulations contained in 44 CFR 201 require that jurisdictions maintain an approved NHMP in order to receive federal funds for mitigation projects. Local and federal approval of this plan ensures that the county and listed cities will remain eligible for pre- and post-disaster mitigation project grants.

*44 CFR 201.6(a)(1) – A local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants . . .*

# Who Participated in Developing the Plan?

The Clackamas County Natural Hazard Mitigation Plan is the result of a collaborative effort between the County, cities, special districts, citizens, public agencies, non-profit organizations, the private sector and regional organizations. A project steering committee guided the plan development process. The project steering committee included representatives from the following organizations.

- Clackamas County Emergency Management
- Clackamas County Department of Transportation and Development
- Clackamas County Geographic Information Systems
- Clackamas County Soil and Water Conservation District
- Clackamas County Sustainability
- Clackamas County Water Environment Services
- Clackamas County Community Health
- Oregon Department of Forestry
- Clackamas Fire District #1
- Tualatin Valley Fire and Rescue
- Rivergrove Water District
- Clackamas Providers\*
- Hoodland Fire\*

*44 CFR 201.6(c)(1) – Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

\*Indicates that members were invited to meetings but did not participate in the 2012 update process

The County Administrator is identified as the plan's convener; for the 2012 update the County Administrator designated Clackamas County Emergency Management to convene the planning process. The County Administrator (or staff designee) will continue to serve as the lead in implementing, maintaining and updating the NHMP. Public participation played a key role in the development of goals and action items. To ensure that these opportunities will continue, the County and participating jurisdictions will:

- Post copies of their plans on corresponding websites and in local libraries;
- Place articles in the local newspaper directing the public where to view and provide feedback;
- Use existing newsletters such as schools and utility bills to inform the public where to view and provide feedback; and
- Clackamas County Emergency Management will host a booth at the Clackamas County Fair on August 19<sup>th</sup>, giving the public a chance to provide feedback on the plan. Two brief presentations (one in the morning and one in the afternoon) will be made informing the public on the importance of the county's Natural Hazard Mitigation Plan.

In addition to the involvement activities listed above, the county's multi-jurisdictional Natural Hazard Mitigation Plan has been archived and posted on the Partnership website via the University of Oregon Libraries' Scholar's Bank Digital Archive.

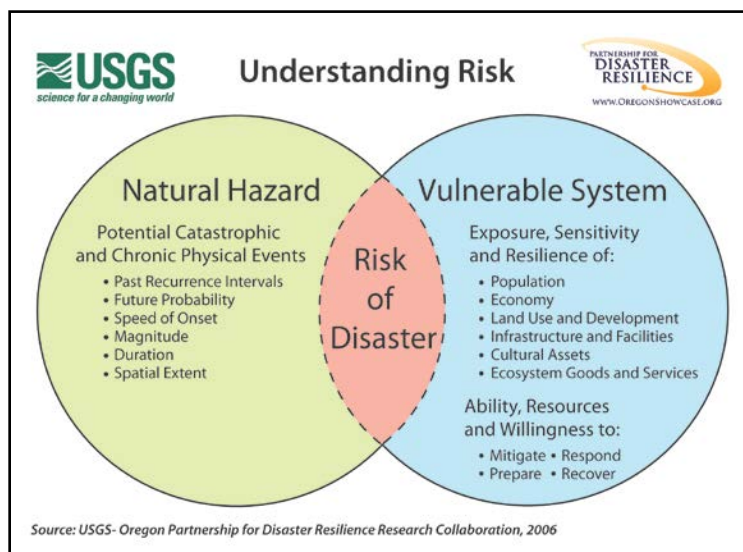
## How Does this Mitigation Plan Reduce Risk?

*44 CFR 201.6(c)(2) – A Risk Assessment that provides the factual basis for activities proposed in the strategy*

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This natural hazard mitigation plan is intended to assist Clackamas County and the cities of: Canby, Damascus, Estacada, Gladstone, Happy Valley, Johnson City, Lake Oswego, Milwaukie, Molalla, Oregon City, Sandy, West Linn, and Wilsonville to reduce the risk from natural hazards by identifying resources, information, and strategies for risk reduction. It is also intended to guide and coordinate mitigation activities throughout the County. A risk assessment consists of three phases: hazard identification, vulnerability assessment, and risk analysis, as illustrated in the following graphic.

**Figure i.1 Understanding Risk**



Source: OPDR

By identifying and understanding the relationship between natural hazards, vulnerable systems, and existing capacity, communities in Clackamas County are better equipped to identify and implement actions aimed at reducing the overall risk to natural hazards.

## What is the County's Overall Risk to Hazards?

Clackamas County conducted a risk assessment to evaluate the probability of each hazard as well as the vulnerability of the community to that hazard. The Steering Committee used the results of the county process to compare risk and vulnerability. Table i.1 below presents the overall risk assessment for Clackamas County including both the county's hazard analysis and relative risk. The hazards are listed in rank order based on the relative risk scores from high to low, taking consideration for past historical events, vulnerability to populations, the

maximum threat, and the probability, or likelihood of a particular hazard event occurring. Note that the total threat rankings may differ from the relative risk ranking. The top three hazards based on total threat are (1) Cascadia Subduction Earthquake, (2) Winter Storm, and (3) Crustal Earthquake.

**Table i.1: Risk Assessment Summary**

Hazard	Probability Total	Vulnerability Total	Total Threat Score	Severity Impact Score	Relative Probability	Relative Risk	Hazard Ranking
Flood	63	20	139	2.80	4.5	12.60	1
Winter Storm	56	30	160	2.80	4.0	11.20	2
Wildfire	49	25	130	3.00	3.5	10.50	3
Landslide/Debris Flow	63	15	112	2.20	4.5	9.90	4
Windstorm	42	15	121	2.95	3.0	8.85	5
Earthquake - Cascadia	14	50	164	4.50	1.0	4.50	6
Drought	28	10	60	2.00	2.0	4.00	7
Volcano	14	35	101	3.15	1.0	3.15	8
Earthquake - Crustal	7	45	146	4.50	0.5	2.25	9
Extreme Heat	14	20	90	1.50	1.0	1.50	10

Source: Clackamas County Hazard Mitigation Advisory Committee: Risk Assessment Steering Committee Meeting, February 14, 2012 and OEM Hazard Analysis Update Meeting, April 25, 2012

## What is the Plan's Mission?

The mission of the Clackamas County Natural Hazards Mitigation Plan is to, "Promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards."

## What are the Plan Goals?

The plan goals describe the overall direction that the participating jurisdiction's agencies, organizations, and citizens can take toward mitigating risk from natural hazards.

- Protect life and property
- Enhance Natural Systems
- Augment Emergency Services
- Encourage Partnerships for Implementation
- Promote Public Awareness

*44 CFR 201.6(c)(3)(i) – A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*

## How are the Action Items Organized?

The action items are organized within an action matrix (located at the end of this Summary), which lists all the multi-hazard and hazard-specific action items included in the mitigation plan. Data collection, research and the public participation process resulted in the

*44 CFR 201.6(c)(3)(ii) – A section that identifies and analyzes a comprehensive range of specific mitigation actions . . .*

development of the action items. The Action Item Matrix portrays the overall plan framework and identifies linkages between the plan goals, and actions. The matrix documents the title of each action along with, the coordinating organization, timeline, and the plan goals addressed.

## How will the plan be implemented?

The plan maintenance section of this plan details the formal process that will ensure that the Clackamas County Natural Hazards Mitigation Plan remains an active and relevant document. The plan will be implemented, maintained and updated by a designated convener. The convener is responsible for overseeing annual review processes. Cities and special districts developing addendums to the county plan will also designate a convener and will work closely with the county convener to coordinate the plans. The plan maintenance process includes a schedule for monitoring and evaluating the plan annually and producing a plan revision every five years. The plan maintenance section also describes how the communities will integrate public participation throughout the plan maintenance process.

*44 CFR 201.6(c)(3)(iii) – An action plan describing how the actions . . . will be prioritized, implemented and administered . . .*

*44 CFR 201.6(c)(4) – A plan maintenance process*

## Plan Adoption

After the plan is locally reviewed and deemed complete, the County Administrator or designee submits it to the State Hazard Mitigation Officer at Oregon Emergency Management. Oregon Emergency Management reviews the plan and submits it to the Federal Emergency Management Agency (FEMA – Region X) for review. This review will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201.6. Once the plan is pre-approved by FEMA, the county formally adopts the plan via resolution. The individual jurisdiction's conveners will be responsible for ensuring local adoption of the Clackamas County multi-jurisdictional Natural Hazards Mitigation Plan and providing the support necessary to ensure plan implementation at the local level. Once the resolutions are executed at the local level and documentation is provided to FEMA, the plan is formally acknowledged by FEMA and the county gains (or maintains) eligibility for the Pre-Disaster Mitigation Grant Program, the Hazard Mitigation Grant Program funds, and the Flood Mitigation Assistance program funds.

*44 CFR 201.6(c)(5) – Documentation that the plan has been formally adopted by the governing body of the jurisdiction . . .*

*44 CFR 201.6(d) – Plan review [process]*

The accomplishment of the Natural Hazards Mitigation Plan goals and actions depends upon maintenance and implementation by a competent Steering Committee and adequate support from the county and city departments reflected in the plan in incorporating the outlined action items into existing county plans and procedures. It is hereby directed that the appropriate county departments and programs implement and maintain the concepts in this plan. Thorough familiarity with this NHMP will result in the efficient and effective implementation of appropriate mitigation activities and a reduction in the risk and the potential for loss from future natural hazard events.

**Clackamas County Multi-Jurisdictional NHMP Adoption Dates**

<b>Jurisdiction</b>	<b>Local Adoption Date</b>	<b>Plan Valid Through</b>
Clackamas County		
City of Canby		
City of Damascus		
City of Estacada		
City of Gladstone		
City of Happy Valley		
City of Johnson City		
City of Lake Oswego		
City of Milwaukie		
City of Mollala		
City of Oregon City		
City of Sandy		
City of West Linn		
City of Wilsonville		

To be completed by Clackamas County NHMP Plan Convener upon local plan adoption.