

# Section I: Introduction

This section provides a general introduction to natural hazard mitigation planning in Clackamas County. In addition, Section I: Introduction addresses the planning process requirements contained in 44 CFR 201.6(b) thereby meeting the planning process documentation requirement contained in 44 CFR 201.6(c)(1). The section concludes with a general description of how the plan is organized.

## What is Natural Hazard Mitigation?

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, such as mitigation brochures targeted toward Spanish speaking or elderly audiences. Natural hazard mitigation is the responsibility of the “Whole Community” - individuals, private businesses and industries, state and local governments, and the federal government.

Engaging in mitigation activities provides jurisdictions with a number of benefits, including reduced loss of life, property, essential services, critical facilities and economic hardship; reduced short-term and long-term recovery and reconstruction costs; increased cooperation and communication within the community through the planning process; and increased potential for state and federal funding for recovery and reconstruction projects.

## Why Develop a Mitigation Plan?

It is impossible to predict exactly when natural hazard events will occur, or the extent to which they will affect community assets. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural hazards.

Clackamas County initially developed a multi-jurisdictional Natural Hazards Mitigation Plan (NHMP) in an effort to reduce future loss of life and damage to property resulting from natural hazards. In 2002, Clackamas County became the first county in the nation to have a FEMA approved NHMP. As part of the 2007 update to the plan, the county’s first Community Wildfire Protection Plan (CWPP) supplemented the Wildfire chapter. The county developed this current update to the plan with and for the following jurisdictions: 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.

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 certain types of federal mitigation funds. 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.

## **What Federal Requirements Does This Plan Address?**

The Disaster Mitigation Act of 2000 (DMA 2000) is the latest federal legislation addressing mitigation planning. It reinforces the importance of mitigation planning and emphasizes planning for natural hazards before they occur. As such, this Act established the Pre-Disaster Mitigation (PDM) grant program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). Section 322 of the Act specifically addresses mitigation planning at the state and local levels. State and local jurisdictions must have approved mitigation plans in place in order to qualify to receive post-disaster HMGP funds. Mitigation plans must demonstrate that their proposed mitigation measures are based on a sound planning process that accounts for the risk to the individual and their capabilities.

As stated in 44 CFR 201.6, the Natural Hazards Mitigation Plan is a representation of Clackamas County'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. Subsection (a) states that in order to apply for and receive mitigation project grants under all mitigation grant programs, a local government must have a mitigation plan approved pursuant to this section. Subsection (b) states that an effective plan is one that includes an open public involvement process, for the public to comment on the plan prior to plan approval. Subsection (c) requires that the plan includes proper documentation of the planning process, a risk assessment providing a factual basis for activities proposed in the strategy to reduce the risk to life and property, a mitigation strategy that provides the county's blueprint for reducing the potential losses identified in the risk assessment, and a plan maintenance process that describes how the plan will be maintained, monitored, and updated within the five-year cycle.

## **What is the Policy Framework for Natural Hazards Planning in Oregon?**

Planning for natural hazards is an integral element of Oregon's statewide land use planning program, which began in 1973. All Oregon cities and counties have comprehensive plans and implementing ordinances that are required to comply with the statewide planning goals. The challenge faced by state and local governments is to keep this network of local plans coordinated in response to the changing conditions and needs of Oregon communities.

Statewide land use planning Goal 7: Areas Subject to Natural Hazards calls for local plans to include inventories, policies and ordinances to guide development in or away from hazard

areas. Goal 7, along with other land use planning goals, has helped to reduce losses from natural hazards. Through risk identification and the recommendation of risk-reduction actions, this plan aligns with the goals of the jurisdiction's Comprehensive Plan, and helps each jurisdiction meet the requirements of statewide land use planning Goal 7.

The primary responsibility for the development and implementation of risk reduction strategies and policies lies with local jurisdictions. However, resources exist at the state and federal levels. Some of the key agencies in this area include Oregon Emergency Management (OEM), Oregon Building Codes Division (BCD), Oregon Department of Forestry (ODF), Oregon Department of Geology and Mineral Industries (DOGAMI), and the Department of Land Conservation and Development (DLCD).

## **How was the Plan Developed?**

Clackamas County's first Natural Hazards Mitigation Plan was developed and approved in 2002. Then in 2007, it went through its first update cycle. The 2011 plan update process marks the 2<sup>nd</sup> update, and the third version of the county's NHMP. This updated NHMP will consolidate and replace prior versions of the plan.

### **2011 Plan Update Process**

Clackamas County funded the 2011 update of the Natural Hazards Mitigation Plan through a 2011 Pre-Disaster Mitigation (PDM) Planning Grant from FEMA. The Oregon Partnership for Disaster Resilience (OPDR) and Oregon Emergency Management utilized the PDM planning grant to update eight counties' mitigation plans in the Columbia Gorge region.

The Clackamas County Emergency Management office, with support from the Hazard Mitigation Coordinator and a dedicated Resource Assistance to Rural Environments service member, served as the convener for Clackamas County's Natural Hazards Mitigation Plan update process. The Hazard Mitigation Coordinator developed a new plan steering committee to review and update the mitigation plan and to oversee the planning process. The committee included both existing members from the prior plan updates and new partners to ensure that county departments and special districts maintained active participation in the process. Between October 2011 and July 2012, the steering committee convened for five update meetings. Appendix B: Planning and Public Process includes meeting materials and sign-in sheets for each of the plan update meetings.

#### **CLACKAMAS COUNTY PLAN UPDATE INTRODUCTORY MEETING (OCTOBER 2011)**

On October 18, 2011, the Hazard Mitigation Advisory Committee (HMAC) reconvened for an introductory meeting with OPDR and the RARE participant, to provide an overview of the plan update process. The purpose of the meeting was to (1) give an overview of the plan update process, (2) identify strategies for community involvement during the update process, (3) discuss the role of OPDR and the RARE participant during the update process, and (4) discuss the role of each city and the update process for the city addenda.

#### **CLACKAMAS COUNTY RISK ASSESSMENT MEETING (FEBRUARY 2012)**

On February 14, 2012, HMAC met for a work session to go over and update the county's hazard analysis. The purpose of the meeting was to (1) identify community vulnerabilities for each hazard addressed in the plan, (2) identify the relative risk for each hazard likely to affect the county, (3) gather information for the drought and extreme heat hazards. Using

information gathered from this meeting, the RARE participant updated the hazard analysis to include relative risk scores.

#### **CLACKAMAS COUNTY HAZARD ANALYSIS MEETING (APRIL 2012)**

On April 25, 2012, county representatives and special districts of the HMAC met for a work session to review and update the county's hazard analysis. The purpose of the meeting was to (1) gather and update hazard history and probability and vulnerability estimates for each of the hazards identified in the county, and (2) update the hazard analysis matrix for each of the hazards. The information gathered at this meeting was used to update the Risk Assessment and Hazard Analysis portion of the plan. The HMAC reordered the hazards in terms of their overall relative risk and impact severity on the county, and used to identify which hazards were the biggest threats to the county.

#### **CLACKAMAS COUNTY MITIGATION STRATEGY MEETING (MAY 2012)**

On May 21, 2012, HMAC met once again to review and update the NHMP's mitigation strategy. The purpose of this work session was to (1) review and update the mitigation plan's mission statement and goals, (2) determine the status and progress of the 2007 mitigation plan's action items, and (3) discuss new action items for the 2012 plan update.

#### **CLACKAMAS COUNTY MITIGATION STRATEGY MEETING (JUNE 2012)**

An HMAC work session was held on June 28, 2012 to review and update the plan implementation and maintenance schedule. The purpose of this meeting was to, (1) identify a convener and coordinating body for continued plan implementation, (2) review and update the plan's method and schedule for monitoring and evaluating the plan, (3) discuss the process for prioritizing mitigation action items, (4) review and edit the finalized sections of the NHMP.

#### **CITY NHMP ADDENDUM UPDATE MEETINGS**

In addition to the county specific work sessions, the Hazard Mitigation Coordinator facilitated meetings in each of the cities with addendums to the Clackamas County NHMP. Because the majority of cities in the county developed their addenda within the last two years (under FEMA HMGP# 1733.0005), these meetings provided cities with an opportunity to review and incorporate updated county information into their respective addenda. In addition, the meetings served to re-engage cities in the mitigation planning process and assess progress to date. Between May and June 2012, the RARE participant met with city steering committees to review the updated county risk assessment, discuss local mitigation planning progress and review and update the city mitigation strategy. Appendix B: Planning and Public Process includes meeting materials and sign-in sheets for each of the plan update meetings. Table 1.1 below lists the cities and the dates of each meeting. In some cases, individual cities convened additional steering committee meetings.

**Table 1.1: City NHMP Addendum  
Update Meeting Dates**

<b>City</b>	<b>Meeting Date</b>
Milwaukie	May 29, 2012
Estacada	May 30, 2012
Molalla	May 30, 2012
Johnson City	June 1, 2012
Happy Valley	June 5, 2012
Oregon City	June 6, 2012
West Linn	June 6, 2012
Wilsonville	June 8, 2012
Lake Oswego	June 11, 2012
Gladstone	June 12, 2012
Sandy	June 12, 2012
Canby	June 13, 2012
Damascus	June 13, 2012

Source: Clackamas County

#### **PUBLIC OUTREACH AND PARTICIPATION**

Public outreach began early on and in the fall of 2011; the Oregon Partnership for Disaster Resilience (OPDR) distributed a mailed survey to 7,500 random households throughout an eight county region in Northern Oregon; 2,500 Clackamas County households received the survey. OPDR developed and distributed the survey in partnership with the University of Oregon's Resource Assistance for Rural Environments (RARE) Program. The voluntary survey consisted of 24 questions divided into four sections: natural hazard information; community vulnerabilities and hazard mitigation strategies; mitigation and preparedness activities in your household; and general household information. OPDR and RARE designed the survey to determine public perceptions and opinions regarding natural hazards. Questions also focused on the methods and techniques survey respondents prefer to use in reducing the risks and losses associated with natural hazards. Appendix E: Regional Hazard Mitigation Public Opinion Survey includes the survey instrument and results from the regional household preparedness survey.

During the final stages of the NHMP update, the HMAC hosted a booth at the Clackamas County Fair during the summer of 2012 to involve the public in the plan update process. The booth had draft copies of the updated NHMP and allowed for the public to review and make comments. A PowerPoint presentation regarding the plan update process was playing on a loop for the public to watch.

Clackamas County Emergency Management also utilized their social media platforms to involve the public. Posts were made to Facebook encouraging the public to follow the link provided by the Oregon Partnership for Disaster Resilience, and provide comments and feedback on the draft NHMP.

In accordance with the CFR, this planning process: (1) provides an opportunity for the public to comment on the plan during the drafting stage, (2) gives neighboring communities, local

and regional agencies a change to become involved in hazard mitigation activities, and (3) reviews and incorporates, where appropriate, existing plans, studies, reports, and technical information.

## How is the Plan Organized?

Each volume of the mitigation plan provides specific information and resources to assist readers in understanding the hazard-specific issues facing county citizens, businesses, and the environment. Combined, the sections work in synergy to create a mitigation plan that furthers the community's mission to *promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards*. This plan structure enables stakeholders to use the section(s) of interest to them.

### Volume I: Multi-jurisdictional Natural Hazard Mitigation Plan

#### **SECTION 1: INTRODUCTION**

The Introduction briefly describes the countywide mitigation planning efforts and the methodology used to develop the plan. City specific planning efforts are documented in Volume III: City/Special District Addendums.

#### **SECTION 2: COMMUNITY RISK ASSESSMENT**

Section 2 provides the factual basis for the mitigation strategies contained in Section 3. This section provides an overall description of Clackamas County. The section includes a brief community profile, discussion of the government structure, listing of existing plans, policies, and programs, listing of community organizations, summary of existing mitigation actions, and an overview of the hazards addressed in the plan. This section allows readers to gain an understanding of the County's sensitivities – those community assets and characteristics that may be impacted by natural hazards, as well as the County's resilience – the ability to manage risk and adapt to hazard event impacts. A Community Overview for each participating city and special district is located in Volume III: City/Special District Addendums.

#### **SECTION 3: MISSION, GOALS AND ACTION ITEMS**

This section documents the plan vision, mission, goals, and actions and also describes the components that guide implementation of the identified mitigation strategies. Actions are based on community sensitivity and resilience factors and the hazard assessments in Section 2 and the Hazard Annexes. City and special district - specific action items are located in Volume III: City/Special District Addendums.

#### **SECTION 4: PLAN IMPLEMENTATION AND MAINTENANCE**

This section provides information on the implementation and maintenance of the plan. It describes the process for prioritizing projects, and includes a suggested list of tasks for updating the plan to be completed at the semi-annual and 5-year review meetings. The participating cities and special districts will utilize this implementation and maintenance process as well.

## **Volume II: Hazard-Specific Annexes**

The hazard annexes describe the risk assessment process and summarize the best available local hazard data. A hazard summary is provided for each of the hazards addressed in the plan. The summary includes hazard history, location, extent, vulnerability, impacts, and probability.

The hazard specific annexes included with this plan are the following:

- Drought;
- Earthquake;
- Flood;
- Landslide/Debris Flow;
- Severe Weather;
- Volcanic Event; and
- Wildfire.

## **Volume III: City/Special District Addendums**

Volume III of the plan is reserved for any city or special district addendums developed through this multi-jurisdictional planning process. Each of the cities with a FEMA approved addendum went through an update to coincide with the county's update. As such, the five-year update cycle will be the same for all of the cities and the county.

The plan includes city addenda update appendixes for the following jurisdictions:

- Canby;
- Damascus;
- Estacada;
- Gladstone;
- Happy Valley;
- Johnson City;
- Lake Oswego;
- Milwaukie;
- Molalla;
- Oregon City;
- Sandy;
- West Linn; and
- Wilsonville.

## **Volume IV: Resource Appendices**

The resource appendices are designed to provide the users of the insert County name multi-jurisdictional Natural Hazards Mitigation Plan with additional information to assist them in understanding the contents of the mitigation plan, and provide them with potential resources to assist with plan implementation.

### **APPENDIX A: ACTION ITEM FORMS**

This appendix contains the detailed action item forms for each of the mitigation strategies identified in this plan.

## **APPENDIX B: PLANNING AND PUBLIC PROCESS**

This appendix includes documentation of all the countywide public processes utilized to develop the plan. It includes invitation lists, agendas, sign-in sheets, and summaries of Steering Committee meetings as well as any other public involvement methods.

## **APPENDIX C: COMMUNITY PROFILE**

This report was developed by the RARE participant and it serves to inform the mitigation strategy. Using the best available data, the community profile includes demographic, infrastructure and economic information about the county. In addition to describing characteristics and trends, each profile section identifies the traits that indicate sensitivity to natural hazards.

## **APPENDIX D: ECONOMIC ANALYSIS OF NATURAL HAZARDS MITIGATION PROJECTS**

This appendix describes the Federal Emergency Management Agency's (FEMA) requirements for benefit cost analysis in natural hazards mitigation, as well as various approaches for conducting economic analysis of proposed mitigation activities. This appendix was developed by OPDR. It has been reviewed and accepted by the Federal Emergency Management Agency as a means of documenting how the prioritization of actions shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

## **APPENDIX E: REGIONAL HAZARD MITIGATION PUBLIC OPINION SURVEY**

This appendix includes the survey instrument and results from the regional hazard mitigation public opinion survey implemented by OPDR. The survey aims to gauge household knowledge of mitigation tools and techniques to assist in reducing the risk and loss from natural hazards, as well as assessing household disaster preparedness.

## **APPENDIX F: VULNERABILITY ANALYSIS TABLE**

This appendix is a comprehensive table, developed by the county's GIS department. The table is an analysis of the percentage of hazard vulnerabilities within the county in regards to potentially impacted parcels, potentially impacted locations, infrastructure, and economic development.

## **APPENDIX G: CLACKAMAS COMMUNITY WILDFIRE PROTECTION PLAN**

This appendix is the adopted Community Wildfire Protection Plan. The contents of this appendix help supplement the wildfire hazard section as well as provide action items for the Hazard Mitigation Advisory Committee to follow.

## **APPENDIX H: GRANT PROGRAMS**

This appendix lists state and federal resources and programs by hazard.