

# ***Cannon Beach Post-Disaster Recovery Planning Process Report***

**Lead Agencies:**



**Prepared by:**



**Oregon Natural Hazards Workgroup**

1209 University of Oregon

Eugene, OR 97403-1209

Phone: 541.346.2878

Fax: 541.346.2040

Email: [onhw@uoregon.edu](mailto:onhw@uoregon.edu)

<http://darkwing.uoregon.edu/~onhw>

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**Oregon Natural Hazards Workgroup –  
Community Service Center, University of Oregon**

# Executive Summary

The events of the 2004 Sumatra earthquake and tsunami as well as Hurricane Katrina in 2005 have proven that most communities are ill-prepared to undertake the long-term post-disaster recovery and reconstruction efforts necessary to bring a community back to normal following a catastrophic event. The importance of this issue to coastal communities in the Pacific Northwest is heightened due to its location along the Cascadia Subduction Zone where the Juan de Fuca plate meets the North American plate. Earthquakes generated along this 800 mile fault have far more widespread effects than other types of quakes in the region and have the potential to result in catastrophic impacts on coastal communities due to the generation of local tsunamis.

Recognizing the importance of these issues, the Oregon Natural Hazards Workgroup at the University of Oregon's Community Service Center, Cascadia Regional Earthquake Workgroup, the US Geological Survey, and Oregon Emergency Management partnered in an effort to better prepare coastal communities in the Cascadia Region for the short-term recovery and long-term reconstruction efforts communities may face as a result of a catastrophic Cascadia Subduction Zone event.

This effort involved the partners listed above in a variety of ways and resulted in the development of four distinct products. The project was broken into three main phases, which included:

- **Phase 1** – Develop a process for conducting a community post-disaster recovery planning forum and implement a pilot project that would result in the identification and prioritization of a community's long-term recovery issues, while developing potential solutions.
- **Phase 2** – Documentation of the lessons learned from developing and implementing the community post-disaster recovery planning forum in the pilot community.
- **Phase 3** – Creation of a Community Post-Disaster Recovery Planning Forum Manual for Cascadia Regional communities to document their own post-disaster long-term recovery issues and start the local planning process.

Each of the three phases is described in more detail below.

## Phase 1 – The Process & Pilot Project

The City of Cannon Beach, the Oregon Natural Hazards Workgroup (ONHW) at the University of Oregon, the United States Geological Survey (USGS) and the Cascadia Regional Earthquake Workgroup (CREW) developed and implemented a Community Post-Disaster Recovery Forum designed to (1) gather public input on disaster recovery

issues and (2) develop potential recommendations to address those issues. The City of Cannon Beach served as a pilot community for the implementation of the post-disaster recovery planning process. The intent of this phase was to develop and implement a process that could be replicated in other coastal communities located along the Cascadia Subduction Zone. The intent of the pilot project in Cannon Beach was not to produce a plan, but to identify strategic activities the community could engage in to better prepare for the recovery issues they may face.

Phase One includes two main products – a community post-disaster recovery planning forum report and a case study report, each of which are described in more detail below.

## **Post-Disaster Recovery Planning Process Report**

The purpose of this report is to describe the process used to conduct a community post-disaster recovery planning forum aimed at addressing a catastrophic disaster event. The report highlights methods used to implement and document the forum process in Cannon beach and findings from a post-forum participant evaluation. This document is intended to serve as the basis for the development of the Forum Manual and Lessons Learned reports described in Phases Two and Three. This report is complete as of June 30, 2006. The report is organized into the following sections:

- Section 1: Introduction – This section highlights the importance of and recommended steps involved in post-disaster recovery planning.
- Section 2: Methodology – This section describes the methods used to implement the community post-disaster recovery planning forum and includes the tasks performed prior to the forum, during the forum and after the forum.
- Section 3: Post-Forum Evaluation – This section summarizes the key findings from forum participant interviews conducted following the forum.
- Appendix A :Forum Materials – This appendix includes the forum agenda and handouts utilized during the forum.
- Appendix B: Participatory Process – This appendix includes a detailed summary on participatory process research.
- Appendix C: Post-Forum Evaluation Transcripts – This appendix includes the verbatim responses to the forum participant evaluation conducted via telephone following the forum.

## **Cannon Beach Case Study Report**

The purpose of this report is to document the community post-disaster recovery planning forum outcomes in Cannon Beach as a case study.

This report can be used by the City to guide the implementation of long-term post-disaster recovery planning activities. Additionally, the city can use the report as a foundation to develop a local mitigation plan to meet the requirements set forth in the Disaster Mitigation Act 2000. The Case Study is also an important resource for the development of the Forum Manual and Lessons Learned Report as described in Phases Two and Three. This report is complete as of June 30, 2006. This report contains recovery planning-related research, information, and findings specific to Cannon Beach and includes the following sections:

- Section 1: Community Profile – This section describes Cannon Beach in terms of geography, population, economy, land and development and critical facilities and infrastructure.
- Section 2: Existing Policy Framework for Post-Disaster Recovery – This section documents plans and policies that already exist within Cannon Beach that could be utilized to implement post-disaster recovery planning-related activities.
- Section 3: Forum Outcomes – This section documents the issues and priorities that Cannon Beach forum participants identified during the planning process.
- Section 4: Post-Disaster Recovery Framework and Recommendations – This section provides an overview of how Cannon Beach can organize to plan for long-term post-disaster recovery and also outlines specific activities that can be implemented locally.
- Appendix A-D: Individually Identified and Prioritized Issues – This section lists all of the individual issues identified by forum participants for each of the four themes – population, economy, critical facilities and infrastructure, and land and development.

## **Phase 2 – Lessons Learned Manuscript**

Based on the experiences in Cannon Beach and both reports from Phase One, the ONHW and the USGS will develop a lessons learned report that will identify where the forum methodology worked well and where it needs improvement. The lessons learned manuscript will also identify next steps aimed at improving the community post-disaster recovery planning forum methodology so that it may be implemented in other communities in the future. Development of the manuscript will begin in early summer 2006 and is expected to be complete in the fall.

## **Phase 3 – Post-Disaster Recovery Planning Manual**

Based on the experiences in Cannon Beach and both reports from Phase One, the ONHW, CREW, and USGS will develop a community post-disaster recovery planning forum manual that can be used to develop

and implement community post-disaster recovery planning forums in other communities facing catastrophic disaster threats. Development of the manual will begin in early summer 2006 and is expected to be complete in the early 2007. The manual will be organized according to the following ten steps:

1. Garner Political Will
2. Invite Participants
3. Data Collection
4. Pre-Forum Logistics
5. Forum Facilitation – Day 1: Issue Identification
6. Summary of Issues
7. Forum Facilitation – Day 2: Strategy Development
8. Summarize Key Findings
9. Develop Recommendations
10. Develop Work Plans

# Section 1: Introduction

The City of Cannon Beach, the Oregon Natural Hazards Workgroup (ONHW) at the University of Oregon, the United States Geological Survey (USGS), and the Cascadia Regional Earthquake Workgroup (CREW) hosted a Post-Disaster Recovery Forum designed to (1) gather public input on disaster recovery issues and (2) develop potential recommendations to address those issues. The Cannon Beach forum served as a pilot project aimed at developing a post-disaster recovery planning process that could be replicated in other coastal communities located along the Cascadia Subduction Zone. The intent of this pilot project in Cannon Beach was not to produce a plan, but to identify strategic activities the community could engage in to better prepare for the recovery issues they might face.

The purpose of this report is to describe long-term, catastrophic post-disaster recovery planning, the methods used to implement and document the post-disaster recovery planning forum process in Cannon beach, and findings from a post forum participant evaluation. The report is organized into the following sections:

- Section 1: Introduction
- Section 2: Methodology
- Section 3: Section 6: Post-Forum Evaluation
- Section 4: Conclusions and Next Steps
- Appendices:
  - A. Forum Materials
  - B. Participatory Process
  - C. Post-Forum Evaluation Transcripts

## Project Partners

Project funding was provided through a partnership with the CREW, USGS Science Impact, and ONHW at the University of Oregon's Community Service Center.

## ONHW

Since 2000, ONHW has worked with state and local governments and the private sector to coordinate efforts and build capacity for the identification, evaluation and implementation of risk reduction efforts statewide. This is accomplished through the development and

coordination of *Partners for Disaster Resistance & Resilience: Oregon Showcase State* initiative. The Partnership is a coalition of public, private, and professional organizations working collectively toward the mission of creating a disaster resilient state. ONHW coordinated the development of the forum process and presentation materials, University of Oregon's graduate students served as the lead facilitators during the forum, prepared a technical memo outlining initial results from the forum, and developed this summary report.

## **CREW**

CREW is a group of private and public representatives whose goal is to reduce the effects of earthquake events on Cascadia Region communities. CREW helped fund the project and contributed scientific data; in particular, the *Cascadia Subduction Zone Earthquakes: A Magnitude 9.0 Scenario*, which provided participants with background information on the potential risks they face. CREW intends to use the information gathered at this forum to work with ONHW in developing a "How-to" guide for coastal cities to conduct post-disaster recovery forums of their own.

## **USGS**

The USGS provides scientific data to diminish loss of life and property from natural disasters and to manage natural resources. USGS helped fund the project through the Science Impact Program. They prepared maps and other presentation materials, and co-facilitated the forum. USGS will use the information gathered at the forum and from the report to develop a lessons-learned report. This report will examine the strengths and weaknesses of the data that was presented and the entire forum process.

## **OEM**

Oregon Emergency Management (OEM) houses the Earthquake and Tsunami Program, which directs the Earthquake Hazard Reduction Program, supports the Seismic Commission, and aims to increase tsunami awareness and preparedness. The Earthquake and Tsunami Program Coordinator discussed how disasters can impact communities at the forum.

## **Cannon Beach (Case Study)**

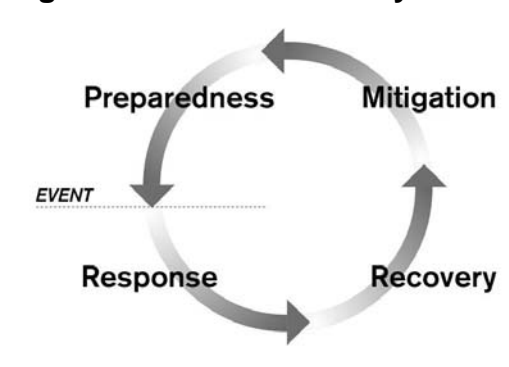
The City of Cannon Beach volunteered to be the pilot community for the post-disaster recovery forum. The City is well-informed about potential tsunami and earthquake risks and saw the post-disaster recovery forum as an opportunity to raise community awareness and interest in recovery planning and to further its existing emergency management-related efforts.

# Long-Term Post Disaster Recovery Planning for Catastrophic Disaster Events

## Disaster Cycle

In order to understand long-term post-disaster recovery planning for catastrophic disaster events, one must understand the position it occupies in the four-stage disaster cycle: preparedness, response, recovery, and mitigation (Figure 1.1). A prepared community has mitigated risks, is equipped to respond to the event, and easily implements recovery efforts if a plan is in place. It is helpful to think of the disaster cycle as a simple equation. Every risk or vulnerability addressed today reduces the overall exposure, which decreases response needs and lowers the recovery costs from future events.

**Figure 1.1 The Disaster Cycle**



Source: Oregon Natural Hazards Workgroup, 2006

The phases are not absolute, but general definitions include:

**Preparedness** – Preparedness refers to activities, programs, and systems developed prior to a disaster, and are designed to build and enhance capabilities at individual, business, community, state, and federal levels to support the response to and recovery from disasters.

**Response** – Response begins as soon as a disaster event occurs. Response includes the provision of search and rescue, medical services, and access control as well as repairing and restoring communication and data systems during a crisis. A coordinated response plan can help reduce casualties, damage, and decrease recovery time.<sup>1</sup>

**Recovery** – Recovery operations provide for basic needs and to restore the community. There are two components in the recovery phase. During the first phase, infrastructure is examined, and repairs are conducted to restore water, power, communication, and other utilities. The second phase includes returning to normal functions and addressing future disasters. The process of recovery can take months or even years to accomplish, depending on the event.

**Mitigation** – Mitigation is the act of reducing or eliminating future loss of life and/or property, and/or injuries resulting from hazards through



short and long-term activities. Mitigation strategies may range in scope and size; however, no matter what the size, effective mitigation activities have the potential to reduce the vulnerability and/or exposure to risk and impact of disasters.

## **Long Term Post-Disaster Recovery Planning – Defined**

Post-disaster recovery planning is defined as providing a blueprint for restorations of a community after a disaster occurs. This can be done through long and short-term strategies, that might include planning, policy changes, programs, projects, and other activities such as business continuity planning. Post-disaster recovery planning is a shared responsibility between individuals, private businesses and industries, state and local governments, and the federal government.

Post-disaster recovery planning defines a community’s vision of how it would like to rebuild in the aftermath of a disaster. If a community engages in post-disaster recovery planning prior to the event, it can more effectively direct outside redevelopment resources from federal, state, or other regional authorities once the disaster occurs. This way, community redevelopment and recovery takes place in a manner that is consistent with community values.

## **Why Plan for Post-Disaster Recovery?**

It is impossible to predict exactly when natural disasters will occur, or the extent to which they will affect a community. However, with careful planning, coordination, and collaboration, public agencies, private sector organizations, and citizens within the community can efficiently respond to the issues that result from natural disasters. Post-disaster recovery planning that takes place before a disaster can help a community more effectively respond to and recover from natural disasters. Establishing recovery strategies prior to the event helps ensure that communities are rebuilt according to the vision that is shared by and benefits all community members.

Research has shown that reducing risk from natural disasters requires the integration of land use planning, coordination by government, and extensive public participation.<sup>2</sup> An integrated approach is most effectively achieved through a collaborative planning process that includes a full range of decision-makers with a stake in the issues (stakeholders).<sup>3</sup> These stakeholders include local government staff, elected officials, business interests, property owners, and interest groups. D.S. Mileti notes that it takes time and money to involve stakeholders, but the long-term savings compensate for this investment because the resulting mitigation options are more likely to be accepted.<sup>4</sup> Similarly, R.J. Burby emphasizes that the involvement of a broad base of stakeholders builds partnerships and constituencies. The Federal Emergency Management Agency (FEMA) points out that this more collaborative approach “goes well beyond the scope of traditional emergency management and touches areas of planning, development, economics, education, critical care, and cultural facilities.” FEMA’s how-

to guide suggests that putting this concept into operation depends upon the participation of the entire community.<sup>5</sup> Public participation can supply valuable information to planners as well as help maintain a positive relationship with the public.<sup>6</sup> The exchange of information and common interests can create a significant sense of ownership in the community.

## How to Plan for Post-Disaster Recovery?

In order to identify post-disaster recovery issues and potential strategies, a systematic approach is necessary to guide the planning process. The Natural Hazards Research and Applications Information Center (NHRAIC) at the University of Colorado at Boulder’s Holistic Disaster Recovery Guide highlights a ten-step approach to post-disaster recovery planning.

The steps outlined in Table 1.2 below can assist communities in creating complete post-disaster recovery plans. It highlights key steps that should be taken to prepare a long-term recovery plan, such as involving the public, identifying issues and opportunities, and setting goals. The Cannon Beach Forum pilot project was not intended to result in a long-term post-disaster plan but rather to serve as a foundation for the community to start the planning process for both recovery planning and mitigation.

**Table 1.2 – 10 Step Disaster Planning Process**

<b>10-Step Disaster Planning Process</b>	
Step 1. Get Organized	<ul style="list-style-type: none"> <li>▪ Assign roles and responsibilities</li> <li>▪ Gather and prepare materials</li> </ul>
Step 2. Involve the Public	<ul style="list-style-type: none"> <li>▪ Include stakeholders</li> <li>▪ Incorporate the public process into all aspects of the planning process</li> <li>▪ Reach those not historically represented</li> </ul>
Step 3. Coordinate with Stakeholders	<ul style="list-style-type: none"> <li>▪ Contact stakeholders (private entities, government, non-profits, neighborhood associations, etc.)</li> </ul>
Step 4. Identify Post-disaster Problems	<ul style="list-style-type: none"> <li>▪ Brainstorm potential issues.</li> <li>▪ Get a full picture of what each issue entails</li> </ul>
Step 5. Evaluate Problems and Identify Opportunities	<ul style="list-style-type: none"> <li>▪ Use several approaches to identify each problem and opportunity.</li> <li>▪ Identify opportunities, independent of cost or feasibility</li> </ul>
Step 6. Set Goals	<ul style="list-style-type: none"> <li>▪ Agree to and focus on realistic possibilities.</li> <li>▪ Choose measures consistent with public and stakeholder needs.</li> <li>▪ Develop and prioritize a broad list of possibilities.</li> <li>▪ Establish goals that strive to align with the community’s vision.</li> </ul>

Step 7. Develop Strategies	<ul style="list-style-type: none"> <li>▪ Determine what is to be accomplished</li> <li>▪ Identify lead agencies/ entities</li> <li>▪ Action needed on the local level</li> <li>▪ Form partnerships that will enhance effectiveness.</li> </ul>
Step 8. Plan for Action	<ul style="list-style-type: none"> <li>▪ Summarize issues</li> <li>▪ Organize next steps</li> <li>▪ Identify roles and responsibilities</li> <li>▪ Seek Funding</li> </ul>
Step 9. Get Agreement on the Plan of Action	<ul style="list-style-type: none"> <li>▪ Determine internal and external partners</li> </ul>
Step 10. Implement, Evaluate and Revise	<ul style="list-style-type: none"> <li>▪ Create a formal monitoring process</li> <li>▪ Include stakeholders in reviews</li> </ul>

Source: Natural Hazards Research and Applications Information Center. "The Informer." January 2002: Number 3.

## Integration of Science and Process

The use of scientific data is an important tool in the public process and recovery planning. Science adds credibility to the process by setting the foundation upon which to base future actions. In relation to recovery planning, risk assessment science is valuable because it determines the geographic and geologic risks so that appropriate strategies can be devised to address them.

USGS, CREW, and OEM provided critical information on how an earthquake and tsunami might impact Cannon Beach in the form of the CREW 9.0 Scenario. The Scenario is based on computer modeling funded by CREW and on other research about earthquakes in the region. It is intended to help government agencies, businesses, and families understand the potential effects of a subduction earthquake. It is only a general assessment of how the region might fare in a M9.0 earthquake. The information in the Scenario can be used to help the region set priorities among the many steps that can be taken to make communities safer.

USGS presented data on how the effects of a disaster would specifically impact the population, economy, critical facilities and infrastructure, and land and development.

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<sup>1</sup> Oregon Natural Hazards Workgroup, The Disaster Cycle – informational flyer, January 20, 2006.

<sup>2</sup> Burby, R J. (1998). *Cooperating with nature: confronting natural hazards with land-use planning for sustainable communities*. Washington, D.C.: Joseph Henry Press.

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Mileti, D.S. (1999). *Disasters by design: a reassessment of natural hazards in the United States*. Washington, D.D.: Joseph Henry Press.

Platt, R.H. (1999). *Disasters and democracy: the politics of extreme natural events*. Washington, D.D.: Island Press.

<sup>3</sup> Burby, R.J. (2002). *Making plans matter: Citizen involvement and government action*. *Journal of the American Planning Association*, 69 (1), 33-49.

Mileti, D.S. (1999). *Disasters by design: a reassessment of natural hazards in the United States*. Washington, D.D.: Joseph Henry Press.

<sup>4</sup> Mileti, D.S. (1999). *Disaster by design: a reassessment of national hazards in the United States*. Washington, D.C.: Joseph Henry Press.

<sup>5</sup> FEMA. (2001). *Mitigation Resources for Success* (Publication FEMA 372). Washington, D.C.: Federal Emergency Management Administration.

<sup>6</sup> Dandekar, Hermalata C. *The Planners Use of Information* (Chicago, Illinois: Planners Press, 2003), 189.

# Section 2:

## Forum Methodology

The Cannon Beach Post-Disaster Recovery Forum brought together stakeholders to discuss important issues related to post-disaster recovery in their communities. The Forum was held on Thursday, March 2, 2006 at the Surfsand Resort Ballroom in Cannon Beach, Oregon, and provided an opportunity for stakeholders from a variety of backgrounds to: 1) assess the community's current capacity for post-disaster recovery and 2) develop strategies to increase capacity throughout the community. Forty-two stakeholders attended the forum sponsored by the Oregon Natural Hazards Workgroup (ONHW), the United States Geological Survey (USGS), the Cascadia Region Earthquake Workgroup (CREW), and Oregon Emergency Management. This section describes the forum methodology; it is divided into three parts: (1) pre-forum activities, (2) forum activities, and (3) post-forum activities.

### Pre-forum Activities

Pre-forum activities included three main tasks: 1) participant identification, 2) development of forum materials, and 3) participant invitations.

#### Participant Identification

In order to identify participants, USGS and ONHW created a general list of representative stakeholder groups (i.e., public works, local government, and utilities) that would play a role in post-disaster recovery. The City of Cannon Beach then identified individuals who represent the various stakeholder groups.

#### Development of Forum Materials

Prior to the forum, ONHW and USGS developed a community profile that included demographic and economic information that highlighted potential vulnerabilities in Cannon Beach based on community characteristics, such as population, economy, critical facilities and infrastructure, and land and development. This information was used in the forum presentations to provide background on current conditions in Cannon Beach.

#### Participant Invitations

During January and February, each participant received a telephone call from City staff informing them of the forum, a formal invitation, an information packet, and an RSVP call from ONHW. The information packet included:

- Background information specifically relating to the forum process;
- The Cascadia Region Earthquake Workgroup’s (CREW) *9.0 Scenario*; and
- The *Natural Hazards Informer* from the Natural Hazards Research and Applications Information Center at the University of Colorado at Boulder.

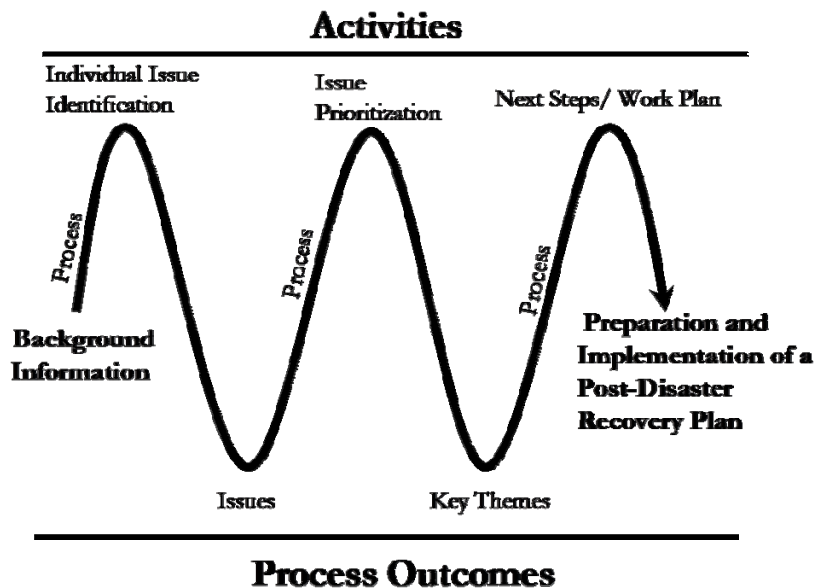
CREW’s *9.0 Scenario* is a publication that presents three possible scenarios, depending on geographic location, that might occur in the event of a Cascadia Subduction Zone (CSZ) earthquake. The *Natural Hazards Informer* is a publication that highlights current knowledge, tools, and strategies for post-disaster recovery. Providing this information prior to the forum gave participants an understanding of the importance of natural hazard recovery as well as the forum process.

In addition to the pre-forum materials, ONHW also created an inventory of existing city plans, policies, and programs that could be utilized to guide and implement post-disaster recovery activities identified during the forum.

## Forum Activities

This section describes the activities that took place during the forum. The forum was broken into four components: 1) background information, 2) issue identification, 3) issue prioritization and 4) next steps. Figure 2.1 illustrates the activities and outcomes of the forum. Each of the activities and outcomes will be described in more detail in the following sections.

**Figure 2.1: Post-Disaster Recovery Planning Forum Process**



Source: ONHW, 2006.

## **Background Information**

The forum opened with background information provided by ONHW, CREW, and USGS. This included:

- Welcome and Introductions
- Logistics and Process presented by ONHW
- Cascadia Region Earthquake Workgroup (CREW) Scenario 9.0 Overview
- Post-Disaster Recovery Overview

## **Issue Identification**

To gather stakeholders' opinions on issues effecting Cannon Beach, ONHW and USGS conducted an issue identification process that included four worksheets. The issue identification worksheets were based on the four following themes.

- Population;
- Economy;
- Land and Development; and
- Critical Facilities and Infrastructure.

USGS presented a brief PowerPoint presentation on each theme that included relevant maps and data sets illustrating potential community vulnerabilities. For example, one graphic on the economy theme showed the percentage of Cannon Beach businesses that are located in the tsunami inundation zone. Each theme presentation took approximately 20 minutes. The maps were displayed on large posters located around the room and color copies were given to participants . After each presentation, participants created a list of issues by filling out a worksheet for that theme.

The issue identification process began with general identification and became more specific as participants prioritized and developed action items. The worksheets were used to identify issues in relation to each theme.

## **Issue Prioritization**

Once participants identified all the issues related to the particular theme, they prioritized their top three issues on the worksheets by circling them. Participants then wrote those top three issues on a card. The cards were collected, placed on a wall, and categorized by theme. This process was repeated for each theme, resulting in a visual wall of key issues. This visual representation allowed stakeholders to see the priorities of their fellow community members. The cards were color

coded for more efficient issue analysis following the forum. ONHW organized the issues into key themes for use in the next steps identification process.

## **Next Steps**

The purpose of the next step process was to move from issues to action by identifying next steps that could be taken to address the issues identified and prioritized earlier in the forum. Participants were placed in groups based on their areas of expertise - Population, Economic, Critical Facilities & Infrastructure, and Land & Development. Each group reviewed prioritized issues for their particular theme and began to identify next steps using a standardized next steps form. The form was designed to generate group discussion by asking participants to identify how the action would be implemented, who would coordinate it, and who could serve as internal and external partners.

After the next step form was complete, a spokesperson from each group was identified to share the identified next step with all the forum participants.

## **Post Forum Activities**

Post forum activities included: 1) issue analysis, 2) stakeholder interviews, and 3) development of findings and recommendations. These activities resulted in a summary of issues and next steps identified by stakeholders. In addition, the forum process was evaluated to determine which components of the forum were most effective and what could be improved.

## **Issue Analysis**

ONHW collected and summarized a total of 679 individually identified issues from the worksheets and 156 prioritized issues from the cards. Based on the summarized issues, ONHW identified key themes that were commonly identified by forum participants. These key findings were documented and utilized to develop the recommendations.

## **Stakeholder Interviews**

The purpose of the interviews was to determine the strengths and weaknesses of the forum process, gather suggestions for improvement, identify next steps for Cannon Beach, and discover potential barriers to implementation. Open-ended interview questions were developed to determine which components of the forum were effective and which could be improved. Approximately 6 weeks after the forum, ONHW contacted participants through email to set up appointments for telephone interviews. A copy of the questions was included in the email. Participants were asked to evaluate the effectiveness of the each component of the forum:

- Pre-information packet;
- Issue identification process;



- Next steps group process; and
- Lessons learned.

Information gathered from these interviews was documented and summarized. Key findings from these interviews are included in Section 6 of this report.

## **Recommendations**

ONHW utilized applied research, the forum outcomes – including prioritized issues and next steps -- as well as the interview findings to develop a set of recommended steps that Cannon Beach can take to address the post-disaster recovery issues identified in the forum. These recommendations can be found in Section 4 of the Cannon Beach Summary Report.

# Section 3:

## Post Forum Evaluation

In order to assess the effectiveness of the forum, ONHW conducted 29 stakeholder interviews with participants to gather input on the forum process and to document any local action that has taken place as a result of the forum. Input on the forum process will be utilized by ONHW, CREW, and USGS to improve upon the forum process and to develop a “how-to-guide” for other communities to use in developing and implementing similar forums. Information on local action gathered from the interviews was used to develop the recommendations found in Section 7. This section will discuss the results and the key themes of the interviews.

### Methods

Twenty-nine of the 42 forum participants completed telephone interviews. Interviews were either transcribed by hand or by computer. They were all transferred onto a template and analyzed for common themes.

The questions were designed to be open-ended and to prompt discussion and were field-tested by ONHW in order to further refine them prior to use in the interviews. Stakeholders were contacted by email, and the survey questions (see Appendix C for questions) were included as an attachment. Interviews were completed by ONHW in April of 2006, approximately six weeks after the forum. Each interview lasted approximately 20 minutes.

### Interview Participants

The following individuals participated in the stakeholder interviews:

- Karolyn Adamson, Emergency Preparedness Committee
- Al Aya, Citizen
- Rainmar Bartl, City of Cannon Beach
- Sandy Brown, Seaside School District
- Steve Carter, Oregon Department of Transportation
- Paulina Cockrum, Providence Hospital
- Tevis Dooley Jr., City of Cannon Beach
- Rich Elstrom, North Coast Home Builders Association
- Cruz Flores, City of Cannon Beach

- Julie Flues, American Red Cross
- Joy Gannon, City of Cannon Beach
- Debbie Guerra, Pacific Power
- Gene Halliburton, City of Cannon Beach
- Don Hull, Emergency Preparedness Committee
- Mike Jackson, Neighborhood Association
- Ron Kinsley, National Guard
- Margo Lalich, Clatsop County Health & Human Services
- Tim Lindsey, City of Cannon Beach
- Rich Mays, City of Cannon Beach
- Tom Mauldin, Cannon Beach Gazette
- Doug McGillivray, Pacific Corp
- Mike Morgan, Clatsop Community Action
- Loren Powers, US Postal Service
- Jay Raskin, City of Cannon Beach
- Dean Reiman, Chamber of Commerce
- Cleve Rooper, Cannon Beach Rural Fire Protection District
- David Rouse, City of Cannon Beach
- Linda Beck Sweeny, Cannon Beach Vacation Rental
- Gene Strong, Clatsop County Emergency Management

## Findings

This section describes the common themes identified by interviewees. The interview questions were designed to gather information on the following topics:

- Reasons for attending;
- Pre-Forum Information Packet;
- Introduction and Issue Identification Process;
- Next Steps Identification Process; and
- Lessons learned.

## Reasons for Attending

Participants were asked to explain why they attended the forum. The following were the common reasons:

- As a job requirement;
- Personal interest in being informed of Cannon Beach’s role in post-disaster recovery;
- Previous involvement and a desire to continue to be involved; and
- Sense of responsibility for a segment of the community, be it the elderly, businesses or children.

**“Cannon Beach is very proactive in terms of disaster preparedness. People were interested in taking it to the next level.”**

**“Based on my line of work, I wanted to be involved and be able to keep lifelines open in case of emergency.”**

## Pre-Forum Information Packet

Participants were provided with an information packet prior to the forum. This packet included:

- Background information specifically relating to the forum process;
- The Cascadia Region Earthquake Workgroup’s (CREW) *9.0 Scenario*; and
- The *Natural Hazards Informer* from the Natural Hazards Research and Applications Information Center at the University of Colorado at Boulder.

Questions in this section were geared toward evaluating the effectiveness of the pre-forum information packet. Stakeholders also provided input on additional information that would have been helpful in the pre-information packet.

**“It (packet) helped organize thoughts and get a specific idea of what the forum was about.”**

**“I think we could have jumped ahead to more of the meat and to what types of things we were doing or to what other communities have done for post-disaster recovery.”**

## Strengths

- ***Helpful in preparing.*** The majority of participants reviewed the pre-information packet before the forum, and felt that it helped them in their preparation for the forum.

- **CREW 9.0 Scenario.** Specifically, several participants found the Cascadia Subduction Zone article helpful in realizing the devastation that could occur in the wake of a 9.0 magnitude earthquake off the coast.
- **Range of issues.** It helped in identifying the range of topics when discussing post-disaster recovery, and helped in disclosing what the forum was going to be about.

Many participants indicated that they already knew about the information presented in the packets. Few indicated that there were major weaknesses in the information packet’s content.

### Suggestions

Only two respondents felt that the pre-forum packet was not helpful. When asked if anything else would have been beneficial in preparing stakeholders for the forum, the following suggestions were given:

- An agenda of forum events;
- More information, such as maps and data;
- Clearer distinction between response and recovery;
- Specific recovery examples, including potential timelines for recovery actions;
- Examples of scenarios; and
- A shorter information packet.

### Introduction and Issue Identification Process

The forum was designed to prepare participants to identify issues related to post-disaster recovery. To gather stakeholders’ opinions on issues effecting Cannon Beach, ONHW and USGS conducted an issue identification process that included four worksheets. USGS presented a brief PowerPoint presentation for each theme that included relevant maps and data sets. The following is a brief synopsis of participant-identified strengths and weaknesses of the forum introduction, identification process, and the USGS data.

**“It shows you that people have wide ranging viewpoints on what is important and what is necessary.”**

**“We got bogged down with response.”**

## Strengths

- **Group benefits.** Being with a group helped spark interest. The group brought up a range of issues and encouraged participation.
- **Engagement.** This portion was helpful in stimulating the thought process of participants. It organized themes and brought the most important ones to the surface. Everyone was engaged as a result.
- **Timely process.** This process got all thoughts out quickly, and was a great way to narrow down ideas. By thinking quickly, ideas were not dwelled on.
- **Diverse views.** The issue identification cards showed the range of issues from participants.
- **Visuals.** The handouts, posters displayed around the room, and presentations were beneficial in the issue-identification process.

## Weaknesses

- **Too academic and overwhelming.** The introduction to the day's process was felt by many to be too academic. The information was overwhelming and the big picture was not in sight.
- **Time constraints.** There was too little time for discussion, or there was too little time to complete the worksheets. Participants desired a different approach allowing more interactive participation.
- **Clarification.** There was an element of confusion among many participants. More structure was needed in the issue-identification process, as well as clarifying what the outcomes of the process would be. They felt it took too long to get everyone on the same page.
- **Visuals.** Some thought that the presentation was hard to see.
- **Information.** Some felt that the materials used by USGS were not helpful. They felt that it was too academic, or conversely, felt the information was already known.
- **Excess paperwork.** Too many handouts were given.

## Suggestions

- Include information that was presented by USGS to stakeholders in the pre-information packet.
- Send case studies of other communities that are similar to Cannon Beach.

- Show an example or go over the first worksheet together. Give more context of the problem.
- Create a different format that encourages active participation.
- Have the data included on the worksheet.
- Group prioritized issues together and then vote on the broader issues.
- Take more time for the entire forum, over two days even.
- Make groups smaller to improve results.

## Next Step Action Identification Process

Participants provided comments related to the next step identification process. The purpose of this exercise was to identify next steps that could feasibly address issues identified in the previous session.

**“Gave an opportunity to meet people who I’ll be working with in the event of a natural disaster.”**

**“I think that the facilitation was probably weak, it wasn’t the facilitator’s fault, but it was really hard to get people to identify anything. People got into the minute details of how we’re going to open the gates on a road to have people evacuate. I’m not sure how you get past that.”**

### Strengths

- ***Diversity.*** The process introduced participants to a diverse array of information. There were many viewpoints at the table.
- ***Engagement.*** Participants were positive about their opportunity to participate and become engaged. This was a chance to focus on one topic and actually develop ideas.
- ***Networking.*** There was a broad spectrum of knowledge represented at each table. This also gave participants the chance to network.
- ***Group size.*** Many felt that the size of the group was adequate, but that it should be no bigger.
- ***Consideration of opinions.*** Stakeholders felt their opinions were heard.

### Weaknesses

- ***Organization.*** They desired more structure and more clarity about the goals they were trying to accomplish.

- ***Better facilitation.*** A desire for better facilitation and a better knowledge base about Cannon Beach from the facilitators.
- ***Slow start.*** The process was slow to start.
- ***Time constraints.*** This was a major issue for some.
- ***Group size.*** Some participants felt groups were too big.

### **Suggestions**

- Better guidelines on what to accomplish in time given.
- Timeline of events happening to create a framework for ideas.
- Real world examples to help guide thought.

### **Lessons Learned**

This section is broken down into three sections: (1) stakeholder’s role in post disaster recovery planning; (2) barriers to implementing next steps; and (3) the City’s role in implementing the next steps.

#### **Stakeholders’ Roles in Post Disaster Planning**

The following highlights participant responses about their roles in post-disaster recovery.

- Forming partnerships with other organizations both public and private.
- Raising awareness of employees, citizens, tourists, and/or youth.
- Taking a lead on critical facilities, and coordinating efforts on how to rebuild. Specifically, this was mentioned with reference to water systems, roads, and electricity.
- Creating plans for post-disaster recovery which, depending on their organization, would be internal or with the City.

#### **Barriers to Implementing Next Steps**

Stakeholders identified the following barriers to implementing the identified next steps:

- Apathy and resistance to change are major barriers. Stakeholders identified a need for educational outreach to increase awareness and motivation.
- Time and money to hire staff, hold extra meetings, etc.
- Land battles over where to develop, or relocate vital infrastructure.
- Finding a lead in efforts to create a plan, and forming partnerships to implement next steps and create a viable plan.
- Looking at the problem as regional, rather than local.



## **The City's Role**

The following are the main themes that were identified regarding the City of Cannon Beach's role in post-disaster recovery.

- Many participants felt the City has a major role in implementing next steps.
- A committee should be created to aid in producing a more specific list of opportunities and constraints.
- Many see City leadership as a challenge because of the many other roles it takes on.

# Section 4:

## Conclusions and Next Steps

The purpose of this section is to briefly summarize the conclusions drawn from the implementation of the Cannon Beach Post-Disaster Recovery Planning Forum pilot project and to outline next steps.

Overall, the forum was well received by participants in Cannon Beach and participation greatly exceeded the expectations of the facilitators. The findings of the post-forum evaluation suggest that modifications to the process will be required to improve the forum process in the future. In addition, the pilot project in Cannon Beach involved the resources of several partners and took place in a community where awareness of the risk and the importance of planning already existed. These factors may not exist in other communities in the Cascadia Region, therefore, it is important to simplify the process (Phase 2) and provide clear guidance to other communities on how to develop, implement and document the outcomes of local post-disaster recovery planning forums (Phase 3).

**Phase 2** – Documentation of the lessons learned from developing and implementing the community post-disaster recovery planning forum in Cannon Beach. Phase 2 is set to begin in the summer of 2006.

**Phase 3** – Creation of a Community Post-Disaster Recovery Planning Forum Manual for Cascadia Region communities to utilize in documenting their own post-disaster long-term recovery issues and start the local planning process. Phase 3 is set to begin in the summer of 2006.

# Appendix A: Forum Materials

The following Appendix includes materials utilized at the forum.

**Meeting:** The Cannon Beach Post-Disaster Recovery Planning Forum  
**Date:** Thursday March 2, 2006  
**Time:** 10:00 a.m. -- 3:00 p.m.  
**Location:** Surfsand Resort Ballroom, 148 W. Gower St., Cannon Beach, OR

---

## AGENDA

1. Welcome and Introductions *(20 minutes)*
  - Jay Raskin, Cannon Beach City Council
  - Andre LeDuc, Oregon Natural Hazards Workgroup, University of Oregon
2. Logistics and Process *(15 minutes)*
  - Andre LeDuc
3. Cascadia Region Earthquake Workgroup (CREW) Scenario 9.0 Overview *(10 minutes)*
  - Jay Wilson, Oregon Emergency Management
4. Post-Disaster Recovery Overview *(10 minutes)*
  - Andre LeDuc
5. Issue Identification Exercise *(95 minutes)*
  - Nate Wood, United States Geological Survey
6. Lunch *(45 minutes)*
7. Morning Session Summary *(15 minutes)*
  - Nate Wood
  - Andre LeDuc
8. Introduction to Afternoon Session *(10 minutes)*
  - Krista Mitchell, Oregon Natural Hazards Workgroup, University of Oregon
9. Functional Group Break Out *(60 minutes)*
  - Facilitated by University of Oregon Research Team
10. Forum Summary and Conclusion *(20 minutes)*
  - Andre LeDuc
  - Nate Wood
  - Jay Wilson
  - Jay Raskin

*Welcome to the March 2<sup>nd</sup> 2006  
Post-Disaster Recovery Planning Forum:  
Cannon Beach Pilot Project*

Sponsored by:







www.OregonShowcase.org







## Forum Logistics & Process

### Logistics

- Restrooms
- Exits
- Breaks
- Lunch
- Worksheets



### Agenda

- CREW Scenario Overview
- Post-Disaster Recovery Overview
- Issue Identification Exercise
  - Population
  - Economy
  - Land & Development
  - Infrastructure & Critical Facilities
- Lunch
- Functional Group Break Out
- Summary & Conclusions









The time is upon us when scientists, planners, and designers must focus their combined knowledge and talents on the problems of land use and the environment. Indeed, so knotty are the demands of today's problems that no one field can afford to tackle them single-handedly...

The solution seems to lie not so much in requiring broader training for each of us – though that would be helpful – but in more effective teamwork and communication among planners, scientists, and designers.

William M. Marsh  
Environmental Analysis for Land Use and Site Planning 1978

## What is a catastrophic event?

The National Response Plan describes a catastrophic event as likely to “almost immediately exceed resources normally available to State, local, tribal, and private-sector authorities in the impacted area”....

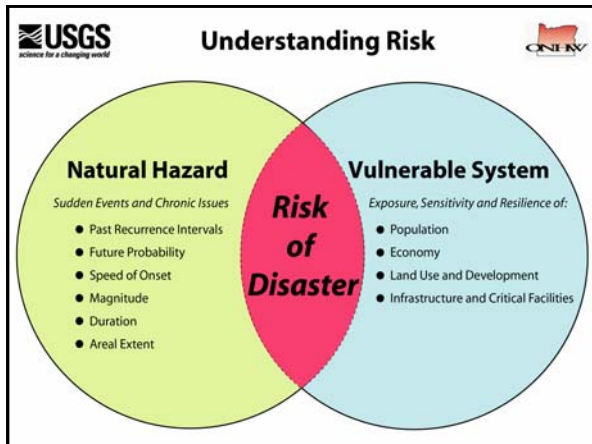



## The Ten Step Process for Local Holistic Recovery



1. Get Organized
2. Involve the Public
3. Coordinate with Stakeholders
4. Identify Post Disaster Problems
5. Evaluate Problems and Identify Opportunities
6. Set Goals
7. Develop Strategies
8. Plan for Action
9. Get Agreement on the Plan for Action
10. Implement, Evaluate, and Revise



**Steps 1 & 2**

1. Get Organized
  - Assign roles & responsibilities
  - Gather & prepare materials
2. Involve the Public
  - Include Stakeholders
  - Incorporate public process into all aspects.
  - Reach those not historically represented.

**3. Coordinate with Stakeholders**

- Contact stakeholders:
  - Private entities
  - Government
  - Non-profit groups
  - Neighborhood Associations
- Diversity can help:
  - Build imaginative solutions
  - Strengthen capabilities for implementation
  - Develop Local Capacity

**4. Identify Post-Disaster Problems**

- Brainstorm potential disaster-caused issues.
- Gain a full picture for each identified issue:
  - Assess present and future vulnerabilities as a coastal community
  - Pinpoint social inequity
  - Identify concerns from the public

**5. Evaluate Problems & Identify Opportunities**

- Stimulate Thinking- Get Creative!
- Identify opportunities independent of cost or feasibility
- Use multiple approaches to address each problem and opportunity

## 6. Set Goals

- Agree and focus on realistic possibilities
- Chose measures consistent with public and stakeholder need
- Develop and prioritize a broad list of possibilities
- Establish goals that strive to reach the community's vision



## 7. Develop Strategies

- Develop next step strategies for each issue:
  - What is to be accomplished
  - Lead agencies/entities
  - Action needed on the local level
  - Partnerships that will enhance effectiveness

## Steps 8 & 9

- Plan for Action
  - Summarize issues
  - Organize next steps
  - Identify roles and responses
  - Seek funding
- Agreement on Plan of Action
  - Partners: internal and external



## 10. Implement, Evaluate, and Revise

- Why do this step?
  - To ensure all opportunities are maximized.
  - To hold people/entities responsible for implementing the various aspects of recovery
- Create a formal monitoring process
- Include stakeholders in reviews

## Today's Forum

1. Get Organized
2. Involve the Public
3. Coordinate with Stakeholders
4. Identify Post Disaster Problems
5. Evaluate Problems and Identify Opportunities
6. Set Goals
7. Develop Strategies
8. Plan for Action
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## Cannon Beach Post-Disaster Recovery Forum March 2, 2006

### CREW Cascadia Scenario Overview and Implications from Hurricane Katrina


Jay Wilson  
Earthquake and Tsunami  
Program Coordinator  
jmwilson@oem.state.or.us



## Scenario Overview

### Earthquake


- Magnitude 9+
- Cascadia Subduction Zone
- Northern California to British Columbia
- Shaking for 4-5 minutes
- Long frequency ground waves
- Liquefaction - Coast and estuaries
- Landslides - Hwy 101 and Coastal Range
- Coastal subsidence ~3 ft
- No Warning



## Scenario Overview

### Tsunami

- Initial wave arrival in 20-30 minutes
- Earthquake is the warning to evacuate
- Average inundation 30 - 40 feet
- Sequence of tsunamis for 10 -12 hours
- Largest tsunami may not be the first
- Debris and velocity of waves will obliterate structures and infrastructure
- Damage along coast similar to Banda Aceh, Sumatra
- People that encounter 2-3 feet of water will likely perish



## Initial Response – Hours/Days



All Photos: [www.fema.gov](http://www.fema.gov)

## Initial Response – Weeks



## Neighborhoods - Damage



### Neighborhoods - Recovery



### Infrastructure - Damage



### Infrastructure - Recovery



### Utilities - Damage



### Utilities - Recovery



### Schools - Damage





## Schools - Recovery



## Business - Damage



## Business - Recovery



## Debris Management



## Land Use and Redevelopment



## Post-Disaster Recovery Forum

### Issue Identification and Prioritization

Cannon Beach, Oregon  
March 2nd, 2006

## Session Overview

### Themes

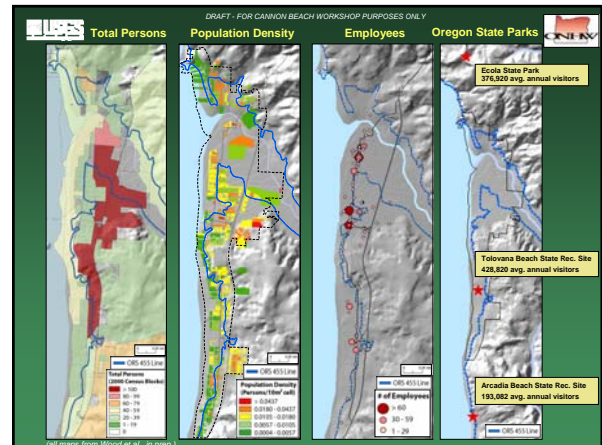
- Population
- Economy
- Land Use and Development
- Infrastructure and Critical Facilities

### Process for each theme

- 1) Nate gives overview of concepts and map/data resources
- 2) You individually brainstorm and list on worksheet all potential issues
- 3) You circle the top three issues for the theme on your worksheet
- 4) You write down the #1 issue on a snow card
- 5) You hand the snow card to a facilitator
- 6) Facilitators then group similar issues within each theme on the wall

## Theme Overview - Populations

- Where are the high population densities for residents?
  - Are any in the tsunami inundation zone?
- Are special-needs populations in the inundation zone?
  - Elderly
  - Disabled
  - Non-English speaking
  - Children
- Where are there significant non-residential populations?
  - Employees
  - Tourists



## Demographic Profile of Cannon Beach, Oregon

	In Tsunami Zone	City Total	% of Total Population
Total population (Census blocks)	693.20	1523.20	45.51
Total population (Diasymmetric map)	738	1523.20	48.45
Median age	51.79	50.34	(N.A. = 35.3)
African American population	2.80	2.80	0.4
Native American population	2.79	13.25	0.4
Asian population	2.40	4.93	0.4
Hispanic population	23.95	152.63	3.5
Population under five years old	28.23	74.27	3.8
Population over 65 years	136.23	253.03	19.7 (N.A. = 12.4%)
Average people per household	1.95	1.97	
Houses	303.68	681.26	44.6
Renter-occupied housing units	41%	39%	
Females	373.35	816.60	53.9%
Female-headed households, with children, no spouse present	4.3%	4.8%	

*(Wood, in preparation)*

### Population Projections for Cannon Beach

- Historic growth: 3.03% average annual growth rate 1960 to 2000 (PSU PRC)
- Recent growth: 3.90% from 2000 (1,588) to 2004 (1,650 – estimated) (PSU PRC)
- Increase of 271 people between 2000 and 2020, from 1,588 to 1,859 (Clatsop Co. estimates)
- Population Projection for 2025 = 1,946 (OR Economic Analysis Dept.)
- Population increase by 296 people from 2004 to 2025 (OR Economic Analysis Dept.)

## Potential Recovery Issues to Consider - Populations

### General

- Necessary to restrict access to certain areas and/or city services
- Social and family services disrupted (ex. child care, elderly care)
- Medical facilities in the inundation zone are damaged/unusable
- Those without insurance left with large costs
- Some may choose to leave the community and relocate
- Temporary shelters inadequate
- Non-residents overload established emergency systems

### Elderly and disabled:

- Lack of medical care, mobility and recovery network

### Non-English speaking populations

- May not understand response/recovery information and unsure where to get help

### Single parent families

- Unable to have basic needs met without support from social services
- Only source of income may be eliminated

### Poor households

- Unable to have basic needs met without support from social services

### Children

- Especially vulnerable to disease, trauma, and other health issues

### Other Issues??

Data on slides is for workshop purposes only and have not gone through a formal USGS review process.

**Theme Overview - Economy**

- Are businesses in the inundation zone?
  - What types of businesses?
  - Which ones are location-dependent and which can be relocated?
- What businesses represent significant components of your community's economy?
  - Employees
  - Sales volume
  - Tax base
- Are alternate commercial spaces available if current stock is damaged?

**Tax Parcel Value (\$)**

Tsunami Zone	City Total	%	
Tax Parcel Value	604,621,663	877,149,366	68.93%

*(Wood in prep; data from Clatsop County Tax Assessor's Office)*

**% of Parcel Value in Tsunami Hazard Zone Grouped by Zoning**

**Parcel Values (\$)**

- > 1 million
- \$500 - 999K
- 400 - 499K
- 300 - 399K
- 200 - 299K
- 199 - 200K
- 1 - 99K

*(Map and graph from Wood et al., in prep.)*

**Economic Profile of Cannon Beach, Oregon**

Industry Classification	% of Businesses	% of Employees	% of Sales Volume (\$)
Construction	2	1	1
Manufacturing	1	1	1
Wholesale Trade	1	1	1
Retail Trade	15	10	10
Transportation/Warehousing	1	1	1
Information	1	1	1
Finance and Insurance	1	1	1
Real Estate and Rental/Leasing	1	1	1
Professional Services	1	1	1
Management of Companies	1	1	1
Administrative Services	1	1	1
Educational Services	1	1	1
Health Care and Social Assistance	1	1	1
Arts, Entertainment, and Recreation	1	1	1
Accommodation and Food Services	15	10	10
Other Services (except Public Admin.)	1	1	1
Public Administration	1	1	1
Unnamed	1	1	1

	Tsunami Zone	City Total	%
Businesses	145	185	78.4%
Employees	1189	1476	80.6%
Sales Volume	\$85,074,000	\$107,980,000	78.8%

**Projected Increases in Clatsop County by 2014:**  
 (Source: Oregon Employment Department)

- 1) Educational and health services employment: 24%
- 2) Professional and business services employment: 23%
- 3) Leisure and hospitality employment: 20%

*(Wood, in prep; data from USGS, 2005)*

**Potential Recovery Issues to Consider - Economy**

- Immediate business disruption
  - Commercial buildings damaged and unusable
  - Businesses disrupted
  - Lack of tourism short-term
  - Unemployment and/or workforce leaves
- Rebuilding commercial sector
  - Economic incentives needed to encourage redevelopment
  - Major portion of the commercial sector located in disaster zone
  - Must maintain draw as a tourist destination post-disaster or if retail shops need to be relocated
- Other Issues?

**Theme Overview – Land Use and Development**

- Do current development patterns or land use plans minimize development in the inundation zone?
- Is your community growing or projected to grow denser in the inundation zone?
- Are there policies in place to address post-disaster redevelopment?
- Is the community capable of providing temporary shelter and housing outside of the inundation zone?

**Theme – Land Use and Development**

**% of Land Cover Type (by area)**

Land Cover Type	Tsunami Zone	City Total
Bare Land	15	10
Forest	35	30
Wetland	10	10
Grassland	5	5
Scrub/shrub	5	5
High Intensity Developed	5	5
Low Intensity Developed	5	5

*(Maps and graph from Wood et al., in prep.)*

**NLCD/CAP 2000**

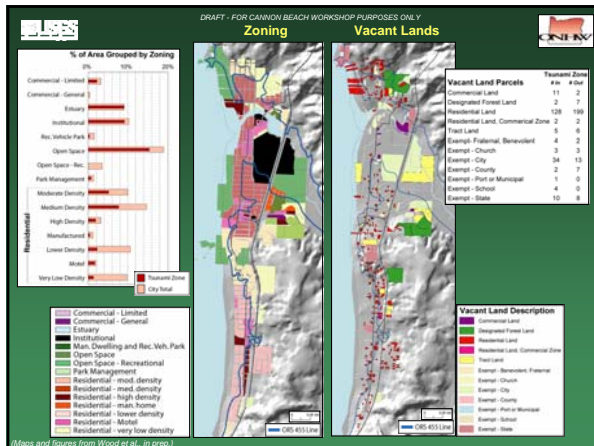
- Bare Land
- Cultivated Land
- Forest
- Wetland
- Grassland
- Deciduous
- High Intensity Developed
- Low Intensity Developed
- Uncombed Shore

**NLCD/CAP 1995 - 2000**

- Natural
- Natural to High Intensity Dist.
- Natural to Low Intensity Dist.
- High Intensity Developed
- Low Intensity Developed
- Water

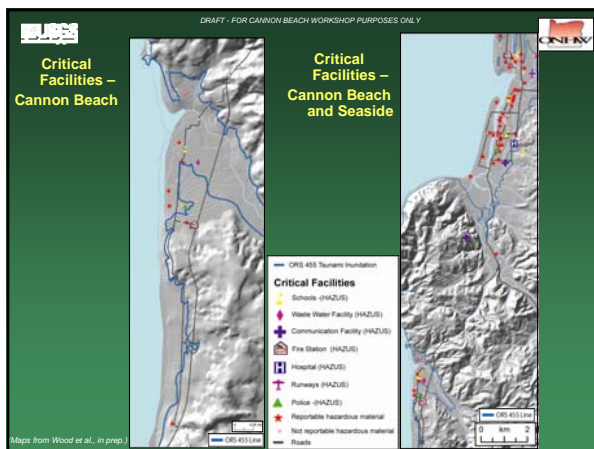
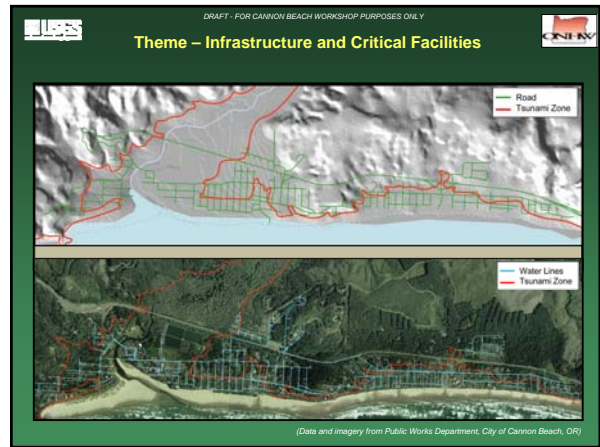
OR 455 Tsunami Line





- DRAFT - FOR CANNON BEACH WORKSHOP PURPOSES ONLY
- ### Potential Recovery Issues to Consider – Land Use
- Changes in landforms
  - Some areas uninhabitable
  - Disagreement over where and how to rebuild
  - Environmental damage
  - City government disrupted
  - Houses condemned
  - Zoning changes
  - UGB expansions
  - Others??

- DRAFT - FOR CANNON BEACH WORKSHOP PURPOSES ONLY
- ### Theme Overview – Infrastructure and Critical Facilities
- What infrastructure and critical facilities are in the inundation areas?
  - What critical facilities will be operational post-disaster?
    - Emergency Services
    - Electrical system – land lines or cell towers
    - Waterlines
    - Sewage treatment
    - Stormwater systems
    - Gas stations
    - Hospitals
    - Road networks
  - Will critical facilities be accessible post-disaster?
    - Damaged roads and bridges
    - Debris on roads and bridges
  - What critical facilities and infrastructure need to be operational first?



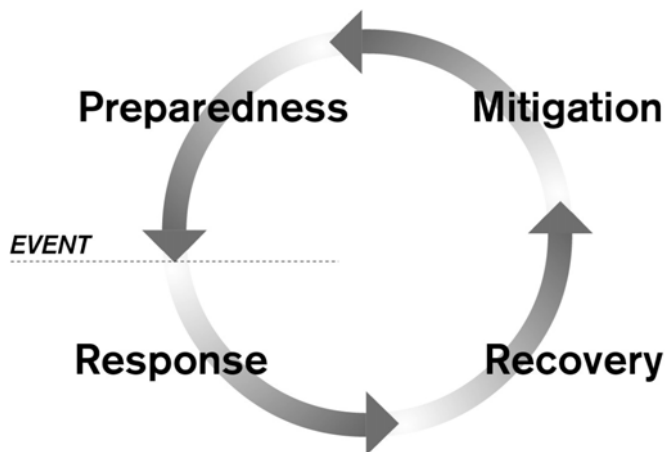
- DRAFT - FOR CANNON BEACH WORKSHOP PURPOSES ONLY
- ### Potential Recovery Issues to Consider - Infrastructure
- **General damage and/or loss of service**
    - Broken pipes, inoperable services
    - Downed and/or damaged lines or cell towers
    - Gas stations inoperable
    - Roads, bridges and railroads damaged and/or covered in debris
    - Waterlines broken
    - Wastewater system inoperable
    - Airport or ports/harbors unusable
    - Medical facilities operable
  - **Impaired roads cutting off access to critical facilities**
    - Fire and emergency services unable to respond
  - **Post-disaster capital improvement projects need to be prioritized**
    - Public works department overloaded
    - Limited recovery funds
  - **Stormwater system not functioning**
    - Flooding and drainage patterns altered
  - Others??

Data on slides is for workshop purposes only and have not gone through a formal USGS review process.

## The Disaster Cycle

The emergency management profession and FEMA have used the concept of the disaster cycle (Figure 1-1) to describe the phases of a disaster. Although described as separate phases, each phase is tied to the others. It is helpful to think of the disaster cycle as a simple equation. Every risk or vulnerability we mitigate today reduces our overall exposure whereby decreasing the pressure on the response side of the disaster cycle and lowering our recovery costs from future events. This section defines the four phases and describes plans and activities associated with them. The four phases, Response, Recovery, Preparedness, and Mitigation can be described as follows:

**Figure 1-1: The Disaster Cycle**



### Response

Response begins as soon as a disaster event occurs. Response is the provision of search and rescue, medical services, and access control as well as repairing and restoring communication and data systems during a crisis. A coordinated response plan can help reduce casualties, damage, and decrease recovery time. Examples include emergency operations plans and business continuity plans and established networks of first responders.

### Recovery

Recovery operations provide for basic needs and restore the community. There are two components in the recovery phase. During the first phase, infrastructure is examined, and repairs are conducted to restore water, power, communication and other utilities. The second phase includes returning to normal functions and addressing future disasters. The process of recovery can take months or possibly years to accomplish depending upon the event. An example would be the development of a post-disaster recovery plan.

### Preparedness

Preparedness refers to activities, programs, and systems developed in advance of a disaster designed to build and enhance capabilities at an individual, business, community, state and federal level to support the response to and recovery from disasters. Example strategies might include developing awareness and outreach campaigns and training targeted to individuals and businesses on personal and professional responsibility to be self sufficient for at least 72 hours post-disaster.

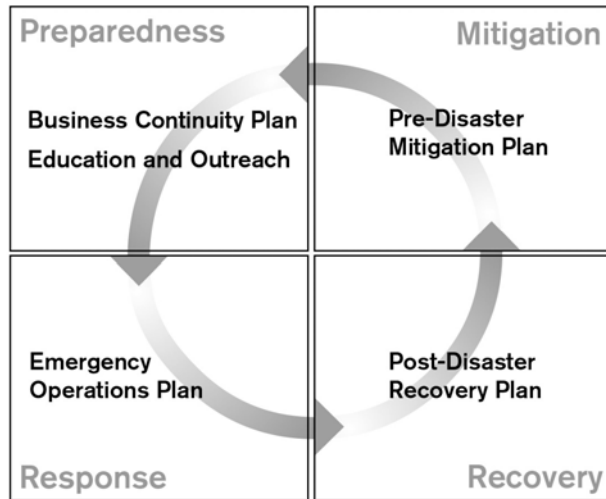
### Mitigation or Risk Reduction

Mitigation is the act of reducing or eliminating future loss of life and/or property, and/or injuries resulting from hazards through short and long-term activities. Mitigation strategies may range in scope and size; however, no matter the size, effective mitigation activities have the potential to reduce the vulnerability and/or exposure to risk and impact of disasters. Example mitigation activities for flooding include acquiring, elevating, or relocating structures; for seismic include building code, retrofitting buildings or infrastructure and non-structurally retrofitting labs and offices; and for wind or winter storms include under grounding power lines and tree replacement programs.

## Emergency Management Plans

To effectively reduce risk, all phases of the disaster cycle need to be carefully evaluated, and plans need to be developed to provide guidance for each of the phases. Crucial plans include: (1) pre-disaster mitigation plan; (2) emergency operations plan; (3) comprehensive business continuity plan; and (4) post-disaster recovery plan. As the University of Oregon enhances its emergency management system, it will need to develop this entire compilation of plans and a management strategy to make sure they stay current and integrated over time.

**Figure 1-2: The Disaster Cycle with Corresponding Plans**



### Pre-Disaster Mitigation Plan

This type of plan is designed to assist a community in reducing its risk to natural hazards by identifying resources, information, and strategies for risk reduction. This plan provides a foundation to reduce risk by outlining methods to mitigate risk throughout the community.

### Emergency Operations Plan (EOP)

The EOP is designed to provide a management tool to facilitate timely, effective, efficient, and coordinated emergency response to disaster situations. The EOP is critical for the first few hours and days after a disaster event. Lines of communication, critical infrastructure, and means of identifying emergency procedures are all outlined in this plan.

### Comprehensive Business Continuity Plan

A business continuity plan is designed to identify vital business functions and systems, and present a framework for prioritizing and restoring these functions after a disaster. The business continuity plan outlines how the government or business will maintain critical operation during and event and restore business functions after the disaster event.

### Post Disaster Recovery Plan

A post disaster recovery plan paired with a mitigation plan can help to break the cycle of increasing disaster costs by planning for stronger, smarter redevelopment process before the disaster occurs. This plan provides guidance for post-disaster redevelopment policies and procedures before the event so that sustainable redevelopment actions can be taken quickly.

In a perfect world the four phases would be given equal attention, integrated, and updated as the community or the risks change. The reality is that with limited funding and competing issues most communities have developed different components (e.g. emergency operations plan and procedures and a mitigation plan) rather than a complete suite of plans, strategies, or a system. A systems approach to risk reduction could offer communities a coordinated support network aimed at building local capacity to address risk reduction in a holistic and sustainable fashion. This type of collaborative structure would generate mitigation activity that could not be as effectively accomplished by any single group or entity working independently. The systems approach to risk reduction is based upon building local capacity by providing communities with delivery systems for resources, training, and technical support.



# Issue Identification Worksheet

<b>Land and Development</b>			
<p>Instructions: Identify specific response and recovery issues your community could face in the event of a tsunami in the left hand column below. For each issue, use the columns on the right hand side to check the potential period of time each issue could affect the community. Check all that apply.</p>			
<b>Issues</b>	Community Impacts Felt (Check all that apply)		
	0- 72 hours - Response	72 hours - 1 month - Response/Recovery	1 month - on-going - Recovery
<b>Framing Questions:</b> <ul style="list-style-type: none"> <li>• Do current development patterns or land use plans minimize development in the inundation zone?</li> <li>• Is your community growing or projected to grow denser in the inundation zone?</li> <li>• Are there policies in place to address post-disaster redevelopment?</li> <li>• Is the community capable of providing temporary shelter and housing outside of the inundation zone?</li> </ul>			

# Issue Identification Worksheet

## Infrastructure & Critical Facilities

Instructions: Identify specific response and recovery issues your community could face in the event of a tsunami in the left hand column below. For each issue, use the columns on the right hand side to check the potential period of time each issue could affect the community. Check all that apply.

Issues	Community Impacts Felt (Check all that Apply)		
	0- 72 hours - Response	72 hours – 1 month – Response/Recovery	1 month – on-going – Recovery
<b>Framing Questions:</b> <ul style="list-style-type: none"> <li>• What infrastructure and critical facilities are in the inundation areas?</li> <li>• What critical facilities will be operational post-disaster?</li> <li>• Will critical facilities be accessible post-disaster? Will certain access roads and bridges be damaged? Will there be significant debris on access roads and bridges?</li> <li>• What critical facilities and infrastructure need to be operational first?</li> </ul>			

# Issue Identification Worksheet

Economic Assets			
Instructions: Identify specific response and recovery issues your community could face in the event of a tsunami in the left hand column below. For each issue, use the columns on the right hand side to check the potential period of time each issue could affect the community. Check all that apply.			
Issues	Community Impacts Felt (Check all that apply)		
	0- 72 hours - Response	72 hours - 1 month - Response/Recovery	1 month - on-going - Recovery
Framing Questions: <ul style="list-style-type: none"> <li>• Are businesses in the inundation zone? What types of businesses? Which ones are location-dependent and which can be relocated?</li> <li>• What businesses represent significant components of your community's economy, in terms of employees, sales volume, or tax base?</li> <li>• Are alternate commercial spaces available if current stock is damaged?</li> </ul>			

# Issue Identification Worksheet

## Human Population

Instructions: Identify specific response and recovery issues your community could face in the event of a tsunami in the left hand column below. For each issue, use the columns on the right hand side to check the potential period of time each issue could affect the community. Check all that apply

Issues	Community Impacts Felt (Check all that apply)		
	0- 72 hours - Response	72 hours -- 1 month -- Response/Recovery	1 month -- on-going -- Recovery
Framing Questions: <ul style="list-style-type: none"> <li>• Where are the high population densities for residents? Are any in the inundation zone?</li> <li>• Are there special-needs populations in the inundation zone? (Examples – Elderly, disabled, minorities, children, and infants)</li> <li>• Where are there significant non-residential populations? (Examples – Residents, Employees, Tourists)</li> </ul>			

## Next Step Proposal Form

This form will assist you with identifying next steps to address post-disaster recovery issues. Please see the reverse for term definitions. Example: if an identified issue is development (economic or residential) within the tsunami inundation zone, what are possible next steps that the community can take to address this issue. Potential next steps include creating policies that would encourage future development outside the inundation zone.

<b>Theme:</b>	
<b>Identified Issue:</b>	
<b>Ideas for Implementation:</b>	
Could the suggested next step fit within existing plans or policies?	
Can the next step be implemented by coordinating with other agencies or community organizations?	
<b>Coordinating Organization:</b>	
<b>Internal Partners:</b>	<b>External Partners:</b>
<b>Form Submitted by:</b>	

## Form Definitions

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### **Theme:**

The forum's issue identification process utilized four themes to categories issues. The themes include: (1) population, (2) economy, (3) land and development, and (4) infrastructure and critical facilities.

### **Identified Issue:**

Document the identified issue.

### **Ideas for Implementation:**

Ideas for implementation serve as the starting point for taking action. This information offers a transition from theory to practice. Ideas for implementation could include: (1) collaboration with relevant organizations, (2) alignment with existing plans and policies, and (3) creation of new plans and policies.

The ideas for implementation are just that: ideas. They do not necessarily prescribe the exact steps that the City or its partners should take to implement a particular next step. When a next step is implemented, more work will probably be needed to determine the exact course of action.

### **Coordinating Organization:**

The coordinating organization is the public agency with authority to implement the identified action. It can also be an agency that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation.

### **Internal Partners:**

Internal partner organizations are departments within the City that may assist in the implementation of an action item by providing relevant resources (time, budget, staff, data, etc.) to the coordinating organization.

### **External Partners:**

External partners are organizations or jurisdictions that can assist with implementation of action items in various functions. They may include local, regional, state, or federal agencies, as well as local and regional public and private sector organizations.

# Appendix B

## Public Participation Processes

The goal of the Cannon Beach Post-Disaster Recovery Forum was to initiate the public in a dialogue on recovery planning. The forum was a vital step in the planning process (and is step two in the 10-step disaster planning process) because public participation improves plans by developing consensus, establishing community support, and acquiring local knowledge and insight. There are many approaches to the public participation process. However, some approaches are more useful in recovery planning than others. Participatory Research Action, Collaborative Learning, and Multi-objective Management and Planning are three techniques that are well-suited to recovery planning. The following section discusses the process, strengths, relation to recovery planning, and challenges for each of these three methods.

### Participatory Action Research

Participatory Action Research (PAR) is an important tool in the public process that focuses on educating, involving, and empowering the public. It is different from traditional research in that participants, in this case, stakeholders, are equal in their opportunity to contribute. PAR seeks to create independent, educated, self-sustaining decision making bodies. The PAR process uses techniques such as modeling, matrix ranking, and participatory mapping.<sup>i</sup> The basic process is as follows:

1. Define the problem;
2. Generate ideas on the specific issue to be discussed;
3. Share and record ideas generated from individual participants in a round-robin format;
4. Evaluate ideas generated through a group discussion; and
5. Work towards a general consensus to find solutions.

This process helps fill gaps in existing knowledge as well as incorporating local knowledge sources.

Effective PAR results in an able-body citizenry, with the power to analyze and challenge decisions that happen within their community. This allows individuals with specific skill sets,

expertise, and knowledge to fuse together in a group setting and engage in a learning process to produce a qualitative and personalized solution. This approach is cost effective, while at the same time resulting in a body of stakeholders that can make decisions on their own.

### **Collaborative Learning**

Daniels and Walker define collaborative learning as a systems approach to public participation with aspects of mediation and dispute resolution for controversial issues.<sup>ii</sup> Other literature focuses on the experiential nature of the process and how the group involved in planning learns together as the process advances.<sup>iii</sup> NHRAIC specifically mention collaborative learning as an effective approach to public involvement in decision-making related to post-disaster recovery planning.<sup>iv</sup>

The three phases in a collaborative learning process are:

1. Developing common understanding;
2. Determining how issues relate to one another; and
3. Evaluating suggested strategies.<sup>v</sup>

Traditional participation is more rigid and focused in its structure. Collaboration relies on open communication, using skills such as listening, questioning, clarifying, feedback, and dialogue.<sup>vi</sup> These strategies are intended to find common interests and a more complete understanding of the issue.

The mix of highly technical information with place-specific policy and programmatic information necessitates a broad dialogue to ensure that all issues are considered. This can be most effectively accomplished through an open community discussion coupled with scenario visualization and strategy evaluation as described by Daniels and Walker.

### **Multi-Objective Management**

Multi-objective planning and management brings together varying groups to collaborate on a single issue. Multi-objective planning is advantageous because it typically addresses a problem while simultaneously tackling other community concerns.

The steps below help guide the process:

1. Keep efforts locally based;
2. Think of the issue in context of the larger picture;
3. Think outside the box about the problem. Use all available resources to creatively solve the problem;



4. Identify other community groups that are also affected by the problem and try and cooperate solving the issue together;
5. Get advice from government agencies and private organizations; and
6. Build partnerships on all levels.

The basic facet of multi-objective planning is to bring people together who have an interest in the issue (though it may not be their primary focus) and to see how various community needs can be met by a certain outcome. In this type of planning process, many groups are brought together including the public, private business, government, non-profits, and neutral facilitators to guide the process.<sup>vii</sup>

### Summary of Public Processes

There are many ways to involve the public in the planning process. As evidenced in the Cannon Beach Post-Disaster Recovery Forum, it is usually a combination of many techniques that best facilitates the development of ideas. The Post-Disaster Recovery Forum used components of each the PAR approaches to understand what local stakeholders can add to recovery planning; it employed collaborative learning techniques to explore options for improvement and to exchange information; and utilized multi-objective management and planning to provide stakeholders the opportunity to collaborate on an issue. The varying techniques enhanced the generation of ideas by connecting people to the issues as well as guiding the discussion process.

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<sup>i</sup> A. Cornwall and R. Jewkes, "What is Participatory Research?," *Soc. Sci. Med.*, no 14 (1995): 1667-1676 in Chapter 3: *Participatory Process in Disaster Recovery* 3-4.

<sup>ii</sup> Daniels, S.E. and Walker, G.B. "Collaborative learning: Improving Public Deliberations in Ecosystem-Based Management" *Environmental Impact Assessment Review*, Volume 16 (1996): p. 71-102.

<sup>iii</sup> a. Allen, W.J., O.J.H. Bosch, R.G. Gibson, and A.J. Jopp. "Co-learning our way to sustainability:: An integrated and community-based research approach to support natural resource management decision-making." In *Multiple Objective Decision Making for Land, Water and Environmental Management*. S.A. El-Swaify and D.S. Yakowitz, Eds. Chap. 4, p. 51-59. Boston: Lewis Publishers, 1998.

b. Berkeley, E., K.P. Cross, C.H. Major. *Collaborative Learning Techniques: A Handbook for College Faculty*. Hoboken, NJ. Jossey-Bass Publishing, 2004.

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<sup>iv</sup> Natural Hazards Research and Applications Information Center. *Holistic Disaster Recovery: Sources of Information*. Boulder, CO: 2001.

<sup>v</sup> Daniels, S.E. and Walker, G.B. “Collaborative Learning: Improving Public Deliberations in Ecosystem-Based Management” *Environmental Impact Assessment Review*, Volum 16 (1996): p. 71-102.

<sup>vi</sup> Glaser, Tanya, “Steven Daniels and Gregg Walker, Collaborative Learning: Improving Public Deliberation in Ecosystem-Based Management. A Summary” <http://www.colorado.edu/conflict/transform/daniels.htm>

<sup>vii</sup> Public Entity Risk Institute, *Holistic Disaster Recovery: Ideas for Building Local Sustainability after a Natural Disaster* (Publisher, Date), 3-5.

# Appendix C:

## Stakeholder Interview

### Transcripts

1. Did you have a chance to review this material prior to the forum?  
(Yes/No)

- Responding yes – 22
- Responding no – 2

2. Was this information helpful in preparing for participating in the forum?  
Please explain your response. (Yes/No)

- New take on the information, specifically sustainable communities. Hadn't read anything like that, about what makes a sustainable community.
- Information gave a better idea of what to anticipate at the forum.
- Yes, the glossy piece was helpful in giving more structured information.
- Yes, but I knew what was to be expected from the forum.
- Yes this was very beneficial. It was nice to get something besides an agenda before a meeting. It was a good way to understand what the forum was going to be about.
- Sets the premise. Sets the basics and topics prior to the meeting. It made the forum a lot better.
- Didn't get the packet.
- Very helpful
- A good overview.
- Yes, got me thinking about disasters within our community.
- I think it would have been except I am very familiar with that information.
- I know the information inside out.
- Already very familiar with the subject
- Somewhat helpful
- Yes, I think the scenario article was really well written.
- It just got me thinking about the topic.
- Yes, but much of it I had come across already.
- Yes. The packet gave me information about the purpose and content of the forum
- I was pretty knowledgeable already
- Cascadia document was very good.
- Disappointed in the informer article
- Good overview of the science and potential impacts of the disaster

- A good place to start
  - Materials on how to apply to local context
  - It would have been helpful to clearly distinguish between response and recovery
  - Specifically, CSZ technical info was helpful
  - 6 principles of sustainable recovery and 10 steps article were helpful
  - Yes, it was good
  - The article about disaster potential was an eye-opener
  - Identified a range of things.
  - Well, not really
  - I felt it was old information
  - I was already familiar with most of that info.
  - It helped organize thoughts and get a specific idea of what the forum was about
  - It was spent to much time explaining the methodology of it, over justifying why you were doing the forum, we live here, we know why the forum was done, the first hour of the forum was spent telling about the process, it put us to sleep.
  - It was helpful in a general way.
  - We had a knowledgeable group of people.
  - Gear material so it was more specific to our situation.
  - Think we could have jumped ahead to more meat to what types of things we were doing or to what other communities have done for post-disaster recovery would have been more helpful.
  - On the surface it's great to say we're going to have a forum on recovery planning, but that in reality doesn't tell me much, so it was nice to see if it was worthwhile to pay my employee to work while I went to the forum.
  -
3. What other resources would have been beneficial to prepare you for participating in this forum?
- An agenda for the forum would be useful / get the mindset correct for long term recovery needed to be distributed to people before the forum / emphasize the recover process more
  - None
  - Yes USGS and raw data to be included in the information packet would be better... more specific information...Cannon Beach specific information.
  - Maps/data- between Cannon Beach and the Jetty (?). County wide maps of Clatsop County and Tillamook County.
  - Yes information on: post disaster recovery, differences between response and recovery, and websites for information.
  - Pamphlet (Disaster resistance by design is good) natural hazard informer article good good background set the article summed it up.
  - Don't think so...it was good
  - I don't think I would have done more research on my own time.
  - The amount of information you sent was adequate.
  - I think it was well put together.

- Pamphlet about Cascadia was really good.
  - If I didn't know anything about it at all, it would be a great jumping off point.
  - Nothing
  - I don't think so.
  - Nothing specifically, more detail is always welcome.
  - But there is a point when you begin to infringe upon people's time.
  - A shorter version of the pre-forum packet would have been helpful.
  - More generic info about the stages of disaster
  - Data on all cycles, not just recovery
  - Can't send out too much information. That was a good amount in the packet
  - A description of exactly what has happened in previous events both here and elsewhere.
  - An example of a timeline of how long things would take to happen and what activities depend on what.
  - I was already familiar with most of the issues
  - Some info on the forum process
  - The technical information was adequate
  - It would have been helpful to have a list of those who had been invited to give an idea of how broad the group was
  - Would liked to have seen the individuals conducting the forum know more about the community, the break out group didn't have a clue about the community, infrastructure is a piece of cake, what do the businesses do?
  - Really specific examples of post-disaster recovery efforts, this is something relevant for us, more examples of communities that might have had problems.
  - Information on post-disaster recovery
  - Information on the difference between response and recovery
  - Maps and data shown at the workshop.
  - Um, you know, I don't think there was anything. I think it was pretty comprehensive. I'm not sure what else you could have sent. There was a lot to review anyway. It's kind of dovetailed into other things that I've participated in.
  - No not really
  -
4. What factors lead you to participate in the forum?
- Had been the Chair on the Cannon Beach Emergency Preparedness Committee, so her role is pretty evident. I started this committee 10 years ago. But the others are there most likely for the awareness.
  - Directed by supervisor to attend / job requirement
  - We have done much work on mitigation and to network in a community was helpful. We, the people who we talking about this, are the plan at this point.
  - Invitation the issue is terribly important.

- Because I was invited. I am in charge of a facility that has access to equipment and people (EOC and OR National Guard) that will be an integral part in the recovery process.
- because I have a sense that there is a good chance for a tsunami or earthquake, so attending would be helpful.
- By default, manager replacement.
- For emergency preparedness, [I] recognize the scope of the contents of the forum.
- People are generally aware of what's going on in the community
- Cannon Beach is very proactive in terms of disaster preparedness. People were interested to take it to the next level.
- I came because of my position as school principle.
- Because I'm president of the fire district and my primary responsibility is the tsunami hazards.
- Our agency has a responsibility to coordinate health services in the area and I felt it was important for me to be there.
- How are we going to respond long term.
- We need to look beyond just today.
- Because I think in planning of everything we need to have plans of recovery.
- Because aside from the fact I'm on the city council I have been interested in disaster preparedness in Cannon Beach for some time
- Moving rapidly is extremely difficult. It is difficult for my wife to move quickly independently, I'm thinking about people in similar positions. I want to this to be taken to account.
- Aged people are my main concern.
- I wanted to do something to raise community consciousness to the potential and get out information and education.
- I realize there is a clear hazard for the coast and wanted to be involved
- Based on my line of work I wanted to be involved and be able to keep lifelines open in case of an emergency,
- Wanted to see community's input and get ideas for a framework
- His position at the city
- The agencies involved had a good reputation
- My position
- Knew tsunamis were an issue
- Large retirement population
- There is a high level of volunteer engagement
- It's just the way Cannon Beach is
- There has been a lot of interest in the community
- It adds to what Cannon Beach is trying to do
- Because I was asked to
- Have a continuing interest in emergency preparedness.
- Has been involved through homebuilders group.
- Having read the advanced information, I was hoping that I could get new information that could help me in case of an emergency and to get information on how to help the community. I was

hoping that there would be new information that I could utilize with that goal in mind.

- Jay was the forum coordinator for the City.
- Um, well, partly my job. I have emergency management for our company. So, I have been participating in a lot of hazard mitigation planning. We do a lot of emergency preparedness as well as business continuity responsibility
- And, having to evacuate twice in the last 6 years was a motivator too.
- I live here and have a business here.
- I'm president of the Chamber of Commerce and wanted to know how it would affect my community

5. Please describe the strengths of this issue identification process.

- Dot voting most interesting process because it allows what others thought and felt
- This showed that people are new to the emergency preparedness planning.
- This seemed like a standard brainstorming procedure.
- Good format, encourages audience participation so people feel their making a contribution and having a voice very well received.
- Each person was given a chance to voice an opinion- great idea.
- Good way to organize our thoughts.
- Gives a clear framework or guideline to the discussion.
- Focus on general theme / idea of the forum.
- Several: greatest benefit is getting everybody up and engaged.
- Issues identification was a decent way of prioritizing what people are thinking.
- Kept people interested
- It was well-organized, natural flow
- Helped to get people thinking in terms of the recovery model
- Raising awareness
- A great way to narrow down to the core issues since we are such a diverse group.
- Great tool.
- A good way to do it.
- I think it broke the material down in a way that people understood, developed an organization in people's minds in what needs to be thought about.
- Snowcards would have been sufficient.
- It was good to have everything out in the open, but the worksheets were not necessary
- Too time consuming.
- Identifying issues such as what present facilities and infrastructure exist
- When you think about planning you need to avoid the tunnel vision of having just one group do the planning.
- Working with other people will spark interest.

- Not one person can think of all the potential issues
- Well, the variety of view points was really great.
- Snowcards and dot voting were helpful.
- It was helpful to get responses up on the wall and see the range of responses
- Not a good process
- Everyone already knew these issues and agreed
- All of the separate pieces fit together well (worksheets, snowcards, and dots)
- For a large group to identify issues it was very helpful
- It was important to set priorities through snowcards
- The exercises identified overall issues
- Brainstorming is a reasonable way to start.
- Not thorough, but a good start
- It got my thoughts out.
- Everyone already knew these issues and agreed
- People understood these necessities
- Not a whole lot of benefit
- The process gave a good start to organizing thoughts about recovery
- It made recovery planning more clear
- It was not easy
- Themes popped out due to repetition
- It shows you that people have a wide ranging view point on what is important and what is necessary. An anti-growth individual had a very different view point than me, obviously everyone is concerned with safety.
- It was helpful because it made you start thinking about what is the most important one
- It's easy to do the list
- Good exercise to identify the most important
- I think it because it was so quick it made you not ponder on things too much. We get tied up in the detail of things, rather than looking at the big picture.
- There was a fair amount of agreement between people and we found commonalities which was a good exercise.

6. Please describe the weaknesses of the issue identification process.

- a. How could this process have been improved?
  - It took a while for everyone to get on the same page.
  - In the intro I was unsure of where I was heading. There was a lot of facts, need more structure.
  - There was confusion over what was going to happen that day. This is a brand new model that I haven't seen before, and it took a while for everyone to get used to what we were doing.
  - Hard to stay on the topic of recovery issues don't know?
  - I would have done the dot voting differently
  - Lobster for lunch – no suggestion.
  - Don't know how, maybe a little more room to move around.



- Too much for me to read in a short span of time that was provided.
- Keep everyone on the same page.
- Time was limited
- Get people more active.
- Worksheets = roadmap.
- Hard to get it going... need a primer?
- If you had prior information on ¼ of the topics presented and the issue identification worksheets [sent to us in advance]
- Overall, it was good.
- Encourage the continuation of the group participation
- The only thing that happened was I thought our generated list had some response issues.
- If there was some way to eliminate response before going into the afternoon session.
- We got bogged down with response.
- Quietly surprised that a lot of people understood the process.
- As the presentation, assumed we were familiar with the process.
- One thing that confused me, was that somehow I didn't catch on to the fact that we were supposed to put down points on the board.
- More task oriented activities rather than just discussing the topic generally
- Too much time spent on the introduction.
- Maps had too much detail.
- Larger worksheets.
- Data on the worksheets,
- It would be beneficial if the facilitators were more strict; more assertiveness.
- More time allowed for each stage.
- Group similar snowcards and vote on broader issues
- Did not discover anything unique
- Open ended scribbling was not productive...just repetitive
- Meeting would be to work through these issues, prioritizing and assigning responsibility
- Bring issues to the community
- Create a framework beforehand on what to do
- Try to stay away from drastic overlap
- The population theme bled over in to all the others
- It was missing some information on exactly what the process was going to be like and what was going to be covered.
- We were inundated with worksheets
- Went to quickly to think thoroughly and organize thoughts
- Too large of a group
- Narrow down the focus
- Hold separate meetings
- Use diversity of interests and encourage interaction
- Make it clear that it is just a brainstorming session and not final ideas
- Too big of group

- More free-thinking
- Have a discussion around the table to draw out ideas.
- It showed an awful lot of people were not prepared for this meeting. Disturbed by the whimsical comments made. They make light of disasters.
- Methodology should have given us a sheet of paper in advance and done away with it all together. That took 67 minutes and it was a waste of my time. We all know how to read, don't treat us like third graders and tell us how we're going to gather this information, get to the point of the aspect and get us the information that is going to be beneficial to us. All I care about is game day. Give us usable information. Some of us have education and don't associate me with other people who don't.
- If we would have had more context about what happens after the disaster, go beyond identifying the issues
- To bring something for us to react to more,
- Some of us struggled with what is it you really want on the forms. You felt that you had to have three or four things when sometimes you really had one.
- It would have been helpful for maybe to have gone through the first worksheet as a table exercise or as a group, do it all together. That would have been a little bit more helpful. To clarify the process. There were a lot of people coming from different backgrounds.
- You probably have a skewed guy here because I've done a lot of training at UofW and Washington State so the format of the exercises, I wonder if there could be a more refreshing way to present these exercises. It accomplished what it needed to accomplish though.

7. Do you feel your opinions were heard in this process?

- Yes responses – 14
- No, don't know how to improve or change the process with so many people.
- I didn't sound off. I was interested in what came out of the group.
- In dealing with the public I'm always curious about what they will say. What are their interests.
- Yes, within my group.
- I would have like to more to discussion time.
- Yes, not all but maybe one of his ideas will stand out
- Not really. There was some cookie cutter answers. A couple of good questions were asked, some people backed off right away because it was such an academic approach to the issue. Mike Clark had a good question that he asked early on. It wasn't given enough time to be addressed. Too rigid of a structure. Let's get right into the post-disaster. Get right to it, don't beat around the bush until three hours later.
- Do away with all of the methodology, very few people were even remotely interested in that. Give us a single sheet of the

information, we want to talk about post-disaster recovery. Why did you need us there for five hours if all we're going to talk about is post-disaster recovery for 45 minutes?

- Yes, I liked the process and the development of the themes
  - The breakdown of them starts leading you to look at the event in different ways.
  - I'm not sure we had much of an opportunity to give our opinion, there were a lot of presentations in the morning and it wasn't until the afternoon that we got to talk.
  - You always have to have a baseline of information that people have to work from. I don't know if there was a way to improve that process. Providing information is a one way conversation. It was open enough for people to ask questions.
  - Most definitely yes.
8. Overall, how useful were the posters, presentations, and worksheets in this process?
- a. If not useful, how would you improve them for future use?
    - They were useful
    - Very useful, good information to understand
    - I did look at them during the breaks
    - This info for home study would be useful...the presentation seemed like it talked down to the audience
    - NO [not useful] send the info in advance to study first
    - Time should be better spent in group discussions.
    - These were all very good
    - Very good.
    - Very beneficial, embraced the presentation.
    - Jay should talk more.
    - Emphasized elements of presentation.
    - Good.
    - There was no speaking over people's heads
    - Well-prepared and interesting
    - Visual aids were understandable in laymen's terms
    - It was difficult to stack up all that paper.
    - A folder for all the paper would have been great.
    - Highly useful.
    - PowerPoint was well thought out, but I didn't use it as I filled the worksheets.
    - The handouts were too much paper and information overload.
    - Used the posters quite a bit
    - Lighting was poor for power point.
    - Multiple screens closer to people.
    - Some things were repetitive, but overall very useful.
    - I thought they were very helpful.
    - Got value from all of the materials
    - Not able to absorb information
    - Not very helpful, too hurried
    - Would have been good to include this in the packets
    - Very helpful

- Good presentation.
  - I already knew about most of the data
  - Not that useful
  - Break down into smaller groups
  - Small groups would allow use and interpretation of the data
  - Have resources about potential partners (federal, state, and local) and people who have dealt with these issues already and can offer assistance
  - They were useful
  - PowerPoint was difficult to view/hard to see
  - Handouts were easier to focus on
  - We would be stupid if we did not know about what was going to happen. We don't need two hours spent on what would be affected. This is post-disaster recovery, I attended a neophyte education on what would be affected once the tsunami hits. It's my responsibility to know what's going on. People left after lunch because it wasn't post-disaster.
  - I would put the real name on the forum, we want the information that is going to benefit us period. Very little time spent on post-disaster recovery, everyone would have to agree with that. It was about 45 minutes max. I guess that's a starting point, I hope that's a starting point. The title of the five hours was very misleading.
  - They were helpful would have been nice to have beforehand, hard to digest in a short period of time.
  - I think that for me I had problems understanding the data and how it was coming. As I get more and more into this I have a better understanding. I think sometimes you were sitting there going how do I apply this? Where are we going to be under water...the rest of it is just assumptions.
  - Obviously, they talk about what would be impacted, use landmarks to identify the impacts, that part of the realization is key (i.e. that you'll be in the inundation zone). As for utility, we look at what infrastructure we have at risk.
  - Very useful because it helped us get a physical reality of the potential for this. It's odd because just two weeks ago I traveled down the coast and thought back on the forum and looked at Crescent City and reflected back on the forum. It's hard to talk about this on the abstract, it's easier to get the community to think ahead if they can see the big picture. I'm also a real map person.
9. Please describe how the scientific data presented by the USGS assisted you in the issue identification process.
- They were all good, the materials used. But considering her role in the community I is considered ahead of the curve.
  - It might have been helpful if there was a scenario to use as an example of what could happen, and how mitigation can help this.
  - The posters provided good information
  - Didn't really help

- [No] didn't assist me at all.
- Really cool. More maps are always good, but I'm a military guy.
- Posters and powerpoint presentation was good, the handouts were not so much helpful.
- Powerpoint, pictures helped in visualizing the particular impact in a community.
- Posters...were great and handouts were great – emphasized the presentation.
- Scientific data was good, more data would be good, power point was [also] good.
- Primarily used the handouts
- The visuals brought some clarity to what would be covered and what to expect
- I used the large posters quite a bit.
- Some of the information was difficult to see.
- I used the posters and power point presentation while filling out the worksheets.
- I just briefly glanced at the posters, but I used the power point information and handouts.
- I used the maps quite often and it was good to have the inundation zone displayed visually.
- Referred to both the posters and the handouts
- The PowerPoints were well done
- Too much information to process
- Not helpful
- I has since followed up with Nate about the details of the data
- Maps were great
- All data was very helpful especially since I was new to the area
- Didn't use them very well, I have used for future reference
- Powerpoint was a good overview
- Looked at the large posters for details
- It was a lot of pretty pictures and colors with no meaning
- Hard to see posters and data
- The presentation were not that bad
- Helpful to see places where the disaster impacts will be
- Geographic orientation was helpful
- We already knew about 95% of it, it was a nice reminder
- Nice to see the designation of where people work and the percentage of people in the economy and where they were located in terms of the inundation zone.
- The graphic presentation was really valuable.
- Time constraints made them not as useful.
- The large posters – were good, but not much time to take a look at them, hard to see if you were far away from them
- The handout – black and white so information wasn't as clear, it was also too small
- Somewhat, send us all back to college, it was too academic, now you form these plans, simplify, lighten up dude.
- Really looking more realistically at what could happen here, it's not just a matter of some water coming down the street, it's a lot

of water that could cause damage and we could be isolated for a relatively long period of time. That's hard to get across to people if they can't see it visually.

10. What would make the information more useful in future workshops?

- The information is technical, statistical, dry- but you can figure out how to change that.
- Information good, but need smaller groups to get focused
- Put emphasis on mitigation up front. Talk about the disaster cycle.
- Prep work- present on what the community has already done, what it already has in place to deal with the issues discussed.
- Information to be sent at an earlier time.
- I'm not from the area (more north) so pictures of the area would have been helpful. I guess it depends on your audience.
- No too much information... just the right amount of information.
- [and] keep the same format.
- OEM – need to talk more
- ONHW – Andre was great, needed it in the next process concentration for the rest of the group.
- USGS – great but hard to understand – need more time in explaining maps.
- Copy of the powerpoint [would be good]
- Not much refinement needed
- It was very helpful to have facilitators at each table. Make sure they are active.
- Handouts were a little hard to read, too small.
- Power point was great and articulate.
- The span was good.
- No I think it was really complete.
- Nothing, I think the content was good.
- More time or less information during the presentation
- It was too compressed.
- Every motel room should have a very prominent sign and flyers that cover this information.
- I felt the entire presentation was oriented more towards recovery.
- With directions on what to do in the case of a tsunami.
- We need more signs with specific information rather than just images of waves.
- We have a very uninterested commercial industry.
- The first thing they will do is jump in their car and clog up the streets.
- I can't think of any good way to instill in them an appreciation for the potential of the tsunami or ways to get out of town.
- I can't think of any good way to instill in them an appreciation for the potential of the tsunami or ways to get out of town.
- During a tsunami, a great many tourists would be killed.
- Emergency supplies, just general information to encourage the public to make preparations and assemble an emergency kit. I

have a backpack and a rolling suit case. During the last tsunami warning my wife and I drove several blocks to a higher area, to our daughter's house...it was a party atmosphere no one was taking it seriously.

- I would focus more on response.
- Frankly I'm more concerned with response because you can't rebuild without survivors.
- Would have been better to have something to react to
- Draw out more specific concerns for each discipline
- Make it clear that the focus is recovery. His focus was on response.
- For ODOT, make it more specific to each profession
- Work all the way through the disaster cycle from response to recovery
- Better to do a simulation and had people react to a simulated event
- More time to absorb
- Presentation was fine
- Would be helpful to incorporate a time component, like an example of how long things would take to get repaired
- Overall, it was good
- Smaller audience
- Have resources available about groups that could be called on in disaster situation
- Go to a larger scale to narrow down on dense areas
- Show elevation
- Get to the point, post-disaster recovery means what, what does that mean to you, and give us the information that we can use. What does post-disaster recovery mean, it means that my employees will have a job and to my business will be able to continue
- Keying it to actual situations, tying it to past situations that people, when someone was in the midst of this, what proved to be important?
- I think maybe don't present as much information. Just give me the facts and give me the highlights.
- If people want to get more into the detail of things, either provide them the information that they can look at on their own. People will start to ask those questions. For most of those people they understood that there was a problem, we know that we're going to be in a whole lot of hurt from an earthquake and a tsunami.
- I really don't think so, again I thought it was well presented.
- Sequentially things fell into place as they should.

11. What were the strengths of the functional group process?

- The people were diverse, and it was interesting to see different viewpoints. We could all learn from each other.
- Hearing different perspectives different profession's perspectives

- It worked fine; I wouldn't go and change it. Maybe you'll try it a couple other times and then change it
- Groups were the right size
- Diversity of individuals is good
- Gave opportunity to meet people who I'll be working with in the event of a natural disaster.
- Good input from everybody
- Bringing different professions together, realizing each organization's strengths and weaknesses.
- Interaction / collaboration was good.
- Focused on a specific topic.
- Selection process was well done, had a good mix of people
- Nervous that the groups may have been too big, but after it got started it worked well
- I think it was good we were grouped by interest.
- Great to have a facilitator in each group.
- Nice to find out what services that we are provided.
- Good to be in a circle a better opportunity to share
- I think we settled into it pretty quickly no one was staring at the ceiling.
- I felt the group was very productive.
- I thought they did very well.
- Small workgroups are most useful
- Good number of people in the group
- Working with people that have over 30 years of experience.
- Broad spectrum of knowledge.
- Putting people together that have similar interests,
- The elderly are relying on medications there has to be some means of getting medications into them.
- The table I was at worked heavily on medical preparedness.
- They displayed a broad spectrum of concerns it was at that point that some of my interests began to come into play.
- Size of the group was small enough to facilitate discussion
- Good, accurate grouping of people based on expertise
- Did not attend afternoon session
- Group size was good, maybe a little too big, no more than 10-12 people
- Most people were interested and engaged
- It was open
- Good amount of participation
- Got people talking
- Good categorization of people
- This was the better session
- Interaction of the group to discuss the idea
- Further develop ideas through dialogue
- Test ideas. Throw them out and hear how it sounds to others
- I guess the fact that some people got to sit and talk about their differing viewpoints and what was important.
- Liked the ideas of the functional groups, our group was a bit weak, it was business, we had a lot more people who were



involved, had the press, the small business owner and downtown merchants weren't in the group.

- Well, I think that the strengths were that there was a diverse group of people sitting at each of the tables. We were trying to figure out how we fit into those groups. I was utilities put into financial group. It was fine though because I was able to get my message out to some of those people sitting at the table.
- To me, focusing on a specific category.
- Although in the sharing amongst the groups afterwards, there were common themes amongst all the groups. That's one of the most beneficial things in terms of planning because instead of running in a hundred different directions we came up with some common themes that would make for more expeditious planning.

12. What were the weaknesses?

- a. How could this process be improved?
  - Facilitator didn't keep on track- kept going down the response drain. Needed to be more guided.
  - Groups were too big, people had no chance to speak smaller functional groups would be better
  - Facilitation, we focused too much on response versus mitigation.
  - No time more time for discussions would be better
  - Skip the power point stuff
  - Not enough time
  - Collectively we could not get of the response thinking
  - Improve by: spending more time (1.5 to 2 days) for the forum to talk about response and recovery.
  - Difficult time focusing on the post disaster recovery (6 months after)
  - Grad students were friendly
  - Show a previous example with what a previous did don't recreate the wheel.
  - Hard to get people out of the response phase.
  - Lack of leadership in focus groups. Facilitator needed to keep us on track. The problem is caused by: not a lot of people with emergency management experience, people went of tangents, easily distorted, and difficulty in focusing.
  - Expose groups to different perspectives, mix up the people who were involved
  - Too many first responder-minded folks in one group
  - No, I think the process was good but I think we were bogged in the response.
  - During dot voting it would have been better to eliminate response issues.
  - None
  - Not enough time or structure to the functional groups.
  - People were going off on tangents...more structured with outline and map.
  - Better guidelines of what we were trying to accomplish.

- Time constraint, work area, breakout rooms...more usable space for props and people
- I would have liked to see more diversity, people from the commercial side.
- Needed more time spent going over these things and provide better focus.
- Some things were brought up like fisheries, which I felt was unrelated.
- Had a dominant person- Make sure all participants are able to voice opinions
- How people were classified was not always accurate
- Groups may have been a little too big
- Sent out questionnaires about where people's interests are and then classify them according to that
- Got off to a slow start
- Have a 5-10 minute overview and then dig into the specifics
- Some people were not in the right group
- The participants were not looking at the worst case scenario.
- Have real world resources for the group to use and work with
- Make sure everyone understands the potential scope of the disaster
- Not clear on desired outcomes
- More focus and more organization
- More detailed, specific agenda
- Didn't seem like the facilitator knew much about the community
- I think your group could be better educated about the community, post-disaster recovery, if someone had gathered this information about the community, how long are we going to be without a community, where are we in the pecking order of post-disaster recovery, this is how you apply for assistance, this is the timetable of when you can expect something to happen, we found out that FEMA is not responsive to disaster.
- It would have been nice to have something from FEMA or if they can't do anything tell us that, have someone there who has expertise in post-disaster recovery, that would really be helpful. They've been through it, not looking at it through an academic long-distance viewpoint.
- People who were in the group weren't the right people to be speaking about it directly. Eventually we kind of got at it.
- For economic group, be more careful about who the people are in the group and how well they will address what the issues are.
- I think that probably the facilitation piece of it, it wasn't the facilitators fault, but it was really hard to get people to identify anything. People got into the minute details of how we're going to open the gates on a road to have people evacuate. I'm not sure how you get past that.
- For the financial group, you probably had to give somebody a timeline, based on our assumptions, it looks like for the financial recovery piece of it you're looking at six months down the road. Give people a sense of time. People weren't aware of the

timeline. There had to be some kind of staged set, talk about what you would be doing in one month, two months, three months....A little bit more structure to get meaningful result.

- I'm not sure how it was for other groups, even though we had a specific category, the group was slow to figure out what it was they were supposed to do. We spent a lot of time rambling around on all kinds of things before we finally found what we were supposed to do.
- To be honest, I don't have any clear ideas on what could be done. I really don't have anything to add on that.

13. Do you feel your opinions were heard in this process?

b. If no, how could the process be changed to address this issue?

- Responding Yes – 8
- No need smaller groups
- Yes, very much so.
- Absolutely – good opportunity to say the things I had.
- Great to say what I had to say.
- Absolutely
- Yes, group size was good.
- Oh yeah. I was very interested in what everyone else had to say, but I did make a few comments.
- Yes, I work with these people, we're not strangers.
- Yes, it was good to hear the opinions of non-emergency planners too.
- Yes, Everyone's opinion was heard
- Oh yeah
- Yes, definitely, I spoke up
- Well, that's really not a, um, there wasn't time to really discuss it. There is a methodology here that we're supposed to follow it soured the whole aspect for me. It seemed like an academic exercise and not a way to do a post-disaster recovery plan.
- Bring in an expert on post-disaster recovery to give us some ideas. If a tsunami destroys the beach, most of the businesses would not survive. Let's put an appropriate name on the forum. Let's come in with someone who has legitimate information on post-disaster recovery. I think your intention was probably to set that phase.
- Oh yeah. I thought we spent a lot of time just trying to figure out what the most important things were just because of who we were.
- Oh yeah, I don't let people push me around.
- Oh yes, if nothing else in Cannon Beach, we all have opinions and we're use to voicing them.

14. Please describe what you see as your organization's role in post disaster recovery planning.

- a. What types of recovery actions would your organization likely take the lead on?
- To keep rising the awareness of the community of Cannon Beach.
  - Bring to the attention of the government the issues facing the recovery of a natural disaster
  - We do waterways, water (drinking/sanitary), and roadways
  - Re-establishing water systems, getting roads back up for in/out movement
  - We don't have a role, but the hospital is involved in County Wide planning involved in emergency preparedness.
  - Not wanting to publicize the problem – negative notion is bad for businesses
  - Turnover of employment and businesses – seasonal employment makes it hard for recovery planning. People turn over and businesses turnover. [Its] bad that you can't get people trained for an impact part of the community to respond is recovery.
  - A lot. Military tie in equipment/personnel. After an event, we are going to be responsible for rounding people up. But we may not be there (the troops). We will most likely be working on any plans too.
  - Getting people together to focus on specific recovery issues identifying the right issues.
  - We would be a major player at the local level.
  - We have a local emergency plan – postal service emergency plan.
  - We try to do what ever we can in the recovery process
  - HSPD directory 8 + 5 aid presidential aid?
  - Work at federal level to collaborate and implement plans.
  - Take over transportation fleet for relief effort
  - Take our facilities and turn them into relief centers – part of our national response plan / emergency operations plan)
  - Lots of businesses rely on our services ... private and corporate services.
  - Communication through the mail in emergency situations is how we contribute.
  - Putting up mailboxes after disasters has a psychological effect on people – community is being restored.
  - We have systems in place for temporary post office box... to get communication back
  - We distribute emergency medical supplies / everyone town has a postal office. IE: mailing / collaboration with health department to get medicine to these people.
  - Budget, personal, apathy...
  - Maintain community involvement
  - Get people together, just like the forum
  - City government must be a leader.
  - Maintain the diversity of groups that are working together
  - Collaborative, collective partnerships

- We provide a constant service even now without disasters.
- Education
- Forming partnerships
- Continuing with these activities in the recovery phase.
- We provide counseling and family services, meals, clothing, connections.
- I think it's reestablishing normality.
- Because we're not reconstructing buildings or economy but we will help things back to normal.
- Getting back to normal and people remain conscious of the danger.
- We're always concerned with education of the public.
- coordinating resources to rebuild infrastructure.
- rebuilding,
- Developing plans,
- Public rebuilding health and human services system.
- Health and medical piece.
- Putting things together such as plans and procedures.
- Planning process,
- Developing plans and forming networks.
- I honestly think the city is the only body that can carry the ball in this.
- I don't think you'll find a citizen or commercial group that is up to it.
- This must be government supported financially and in leadership.
- This interest needs to be maintained because the potential remains.
- The interest in tsunami has been peaked by Indonesia, but this interest is going to wane as time goes on.
- That can address all these issues education and raising the consciousness.
- I believe that the city should have a comparable individual that addresses emergency prep only.
- Anytime you talk about money people sort of pull in their heads like a tortoise.
- The city has an emergency prep committee which is doing as much as it can right now. I think this is a matter of such importance. Haystack rock is a big attraction. There is a Haystack preservation committee.
- We want to do them all. But we don't have a plan in place to undertake these actions.
- Want to get more specific.
- Everyday concerns take up most of your time rather than long-term planning.
- City already has a committee established, but it has been focused on response
- Next steps could be an outgrowth of that committee
- The City has many roles

- Already doing education and outreach for response. Recovery education will be different.
- It is necessary to form partnerships when this many groups are involved
- Developing plans are part of the role and function of government
- More than coordinator, City should be a leader
- City will be involved in all activities
- The forum was very valuable in meeting people and beginning to form partnerships
- Planning activities are most important
- Dealing with sick/injured people and providing assistance
- Developing plans
- His neighborhood group could initiate plans, but I think the efforts need to be more formal than that
- Forming partnerships
- Education and outreach
- They are already doing some tsunami preparedness education
- The 2 strong points that the homebuilders association could help on are forming partnerships and education and outreach
- Think about ways to partner
- Ideas are good, but action is difficult
- Well, I guess it all depends on if I still have a business, as much as I would like to, I'm not a Randolph Hearst, I could not operate my business purely based on savings. You should get a 9-18 month buffer, it doesn't work that way. What could I possibly do, I can't survive for more than 3 months. Did the forum help me with post-disaster recovery? No. Did anyone help me answer questions about post-disaster recovery?
- My role is educate the public. There was no new news to report to the community.
- Committees, complete the recovery plan, in order to do that is city committees
- We've made contacts with a broad base of people. Continue that contact.
- Our role is, because we're critical infrastructure, we, uh, we have to do what we do. We have to get the power back on. That's why we are trying to collaborate with the cities and counties and even other private businesses because that collaboration has to happen. You have to have people working together and have to participate. That's why we're pushing our way into these forums. Private utilities don't often get invited. Red cross gets invited, but utilities need to provide electricity. Government entities run in a vacuum.
- Restoration of power.
- By virtue of my role in the Chamber of Commerce, I have a leadership role in the town and that would come into coordinating bringing back basic businesses – grocery etc.
- Not so much from a business standpoint, I think most of my product will be destroyed. Rebuilding will be too painful to do.

- First and foremost, the safety and health of my immediate family.
- I'd place less emphasis on tourism on the 0-9 month recovery timeframe, we'll need to focus on other things.
- How do we get those up and running so secondary and tertiary businesses back too?
- What are the essential businesses in the community?
- The Chamber of Commerce could provide some kind of access to resources to businesses.

15. What opportunities exist to assist Cannon Beach in moving towards implementing these next steps?

- Cannon Beach needs a lot of money.
- Maintain awareness, fit into plans, consider future infrastructure.
- None of the opportunities were remembered – sorry?
- Ask: Where is the work going to be? In communications, services available, functionality? How will it be organized- evacuation sites?
- To develop plans and review plans
- All of the above! – specific to recovery planning.
- I don't know.
- Work on collaboration with business community and other department heads to develop plans to make sure everybody's interest is on the table.
- Reassess infrastructure
- See the deficiencies and build capital
- Revisit water supply [issues]
- Look at bridges between them and Seaside
- We already began to discuss what we are going to do as a corporate company in an event of emergency.
- How we / or local jurisdictions can help (already began).
- I have confidence that the council/manager are taking charge
- Get a clear picture of where we are going
- Bring together key folks
- Determine goals
- Develop an action plan.
- Leave out brainstorming and say here is a process for addressing this.
- A more structured facilitated forum with possibly the same players.
- I would like to see the chamber of commerce get more into business continuity or recovery plan so the economy is not wiped out.
- Plans to recover.
- Hotel and Motel people are responsive, but as far as shop owners I don't think they think very much about this issue.

- Business people are not taking this problem seriously.
- Adopt initiative and appoint a committee or task force.
- White paper that provides a recap of the meeting.
- Take the information and digest it
- A survey made about how many people are housebound and need to be evacuated.
- I would like
- to see a very intensive education program so that everyone will create a disaster kit. What should be in it and how should be it used.
- I cannot bring myself to think about recovery.
- Lay out a grid irrespective of current boundaries and plan based on the potential impact of a disaster.
- Core group - city government, county gov't, state emergency management, individuals that will not defend heir turf.
- Make sure the process is objective
- Cannon Beach should focus in on being the leader for the coast to push state and federal government to get a system in place.
- Could be done with a core group from Cannon Beach.
- Time and money
- Work on pre-disaster issues through facility location
- The City needs to identify roles in recovery
- Then move into describing specific responsibilities
- Develop plans and strengthen partnerships
- Get the forum summary report
- Outline the next steps that need to be done
- Identify ways to get it started and work together
- What are the main things that need to happen soon
- List steps to take to initiate these actions
- Set up a timeline
- Keep it simple
- Someone needs to come in with a lot of energy and time to get everyone motivated and get things started
- Take small steps and prioritize efforts
- I think we need to truly look at the aspects to return to a functioning community, which is not just municipal tax dollars, to look at how to make this a viable community, we need to keep businesses here, we need to address that issue, it has not been addressed. What happens to 97% of our business?
- General inertia, all sorts of other things to do, if anything the waning of public interest,
- Educate businesses on business continuity. The information that has been provided to a lot of these businesses has been so overwhelming financially for the businesses that they end up doing nothing. Get key services back in places so businesses can continue. Businesses need access to business records, need to have some kind of plan on what they're going to do
- We need to get people thinking about this [recovery planning] and think about it in realistic terms.



- Pacific Power offered to provide material to businesses on disaster recovery planning so that we don't have to reinvent the wheel.
- Boy, I'd love to say, to have a similar type of forum for the entire community, but my experience is that it's impossible to get people to turn out for that.

#### 16. What are barriers to implementing the next steps in Cannon Beach?

- And \$\$ is a big issue as well.
- Within the city limits there is not a lot of option to relocate vital structures. (Terrain/physical difficulties)
- n/a don't know?
- Organization- who's responsible for what.
- Raise our sights on mitigation planning
- Work with communities for long term recovery, particularly the business communities ie: chamber of commerce
- Looking at it from a regional perspective will help- taking into account Tillamook and Clatsop County
- There is a problem in every community- everyone is planning for themselves, there is no tie in with the county EOC.
- Seaside and Astoria have 911- looking at the region from a north/south perspective will cause trouble.
- More focus groups, better vision needed for post disaster recovery planning.
- Move together as a whole on the next steps in writing – and revisit it often to make it current / fluid.
- Don't know what they have done in Cannon Beach.
- They need to do more planning, policies, procedures ... I don't know.
- The community realized that they need to do more first responder type work
- Completely re-mapping inundation zones
- Everyone focuses on initial event, but can't forget long-term recovery
- Changes in data
- I think in terms of moving certain services outside of the area. Anything that involves land use in Oregon is going cause some issues.
- Money.
- People's time.
- Getting the reality out to people is essential.
- We know we're overdue.
- The average person is not aware of that.
- It could happen tomorrow or 10 years from now.
- Getting a sense of reality that the threat is real.
- There will always barriers, but funding is a major one.
- Time

- Financial restrictions
- Indifference, lack of concern for the immediacy of the problem.
- Established laws/boundaries
- Turf battles
- Property rights
- Zoning
- Training and exercises seem to be more response-oriented
- Developing plans
- Forming partnerships
- Education and outreach
- Hard to get people to accept the potential scope of the disaster when their whole lives are vested in businesses or homes that could be destroyed
- Not all stakeholders looking at or willing to accept worst case scenario
- People's resistance to change or perceived change
- Bureaucracy
- Necessary to guide efforts
- The tax base would be gone
- Money
- Small population
- Hard to incorporate it into city planning and operations
- Everyone has a full plate
- Finding a go-to. lead person to guide the efforts
- Apathy
- Government is resistant
- Need to be educated which leads to motivation
- The most important thing is to bring in some people and have them present on what businesses would need to do if a tsunami hits, where would they turn, how would they proceed? It would be great to have two or three examples, everyone's stories will be different. Where do we turn? None of us know.
- The City is taking this pretty seriously the City will try to complete the post-disaster recovery plan.
- So, whatever we're getting from this process we'll evaluate the information that's there and see where we need to go.
- We've already started talking about how to structure committees and how to get a viable plan.
- Emergency Planning Committee would take the lead, will bring in other City committees to talk.
- Sub-committees to address these too?
- What do we need to do to identify recovery issues.
- A whole list of things that we know that we can't do, identify things that we can and can't do and see what is the purview of state and county level
- How do we get the issues raised and answered at the higher level. Ex. how do we take care of visitors?
- I can't say it's small town mentality, that's not the issue there, I think that uh, it's just a process that everybody has to go through. Start with the basics, I don't know where they are at. I

haven't participated in any of there planning efforts at all. I don't know if they have a hazard mitigation plan.

- Civic lethargy. It's really hard to get people to realistically plan ahead, making sure that people understand that you still need to plan for bad events. It's amazing how many people aren't prepared for even "normal" winter seasons. It's hard to get people to understand that they need to prepare for the inevitability.

17. What key lessons or ideas did you take away from participating in the forum?

- Sustainable communities- looking at a decision and seeing the way it affects the whole community. Prior I had a dogmatic approach to looking at all these.
- Got to start somewhere having a wide variety of people to bring about ideas is a good thing
- Making contacts/networking.
- Involved in the process and learning more about mitigation.
- A lot is common sense, critical thinking. I am working on an evacuation plan right now and you just have to write down things to think about. Did you think about this? This? It makes sense to me but what if I'm not here?
- Value is in the people you meet / networking ... to keep the conversation going, no silver bullets gained.
- Cannon Beach is trying and taking the lead, but no other community is taking these steps
- We are not ready for a large disaster.
- Be in contact with certain key people who attended would be good.
- Forum partnerships is good.
- Topics brought up that stuck my mind and brought new knowledge that I should be thinking about. Don't forget recovery ... we need to look at that.
- Need more well rounded emergency management style.
- Don't know... Reconnect with local jurisdictions up and down the coast.
- Getting myself to think a little more long-range
- Hard to know realistic timeline and who knows exactly what will happen
- How will I address this if I lose all my records? Putting records in safe areas.
- I need to think ahead about what I will do for those kids.
- To me I came away thinking when this is over I am going to have kids that lose family members.
- It applies to the whole state.
- I think it was done excellently.
- I didn't hear a single criticism.

- I think that type of forum is extremely valuable to a community, I think it demonstrated very good planning in getting people there and the whole process.
- It will be useful in any community not just on the Oregon Coast.
- Didn't learn anything....I don't think people realized how extraordinary it was to get everyone in the same room to talk about one issue. I have never seen that happen.
- Time wasn't utilized as well as it could have been. Way too much time spent on data and information.
- First half of day was wasted. Should have been using the time to draft a template for a plan.
- The forum really should have been 1 to 2 days. You'll never have all those players in one room again.
- Looking at recovery...seeing that it's not just an individual or community process but look at global lessons from Katrina and Indian Ocean.
- Realizing we need an emphasis on post disaster rather than preparedness.
- The fact that there is somebody there that is capable of assembling the information that is essential to have and the ability to draw people to such a meeting.
- Must have leadership on what the town would look like, not having loud individuals getting their personal interests prioritized over broader issues.
- The real work is recovery and rebuilding. Rebuilding is where the real work starts
- Recovery would be really ugly. Uglier than evacuation and response.
- The best result was creating momentum to do things and implement changes
- Recovery will take a long time
- Comp plans need to be revised
- Similar to barriers
- Cannon Beach is light years ahead of the rest of the coast, but have a lot of work to do
- Then move on to getting the city back up and running
- First priority is to take care of people
- There are a number of interested parties of a diverse nature that are willing to work together
- This is such a tremendous afterthought, no one has done any planning or preparation whatsoever, I need to gather information so I can inform my readers and take care of my business. Since no one else is addressing these issues, I guess I have to do it.
- There are things you can do to mitigate things beforehand to mitigate problems.
- Putting a face with a name and that person knowing you, being able to call somebody up saying this is so and so and I need this. Basically they know that what you are requesting or passing on can be trusted. That's the benefit of any of these forums is the

communication piece of it. We all know that everybody has good intentions in emergency plans, but what it really boils down to is can I call you and ask you for this resource or can I call you and ask you to take care of this. But some of us as larger companies, because we have more resources and experiences, we would be more than happy to assist them or at least find the resource for them.

- Um, on a personal level, it made me really think more concretely about a plan for my family and myself. It made me really think about what would happen to my business. My guess is that I would be gone without any real potential to rebuild my business. It put it in concrete terms of what could truly happen. It's not just displacement from your home, but it could be anywhere from 6 months to 2 years from now to rebuild a community.

18. Is there anything else that I haven't asked you that you would like to share?

- We have all the good ideas – we need your information for our communities to influence post disaster recovery planning
- Idea: for an exercise create a disaster scenario to what ever local area and go through response, then recovery and then the next steps.
- Really enjoyed the PDRF – FEMA got its bang for the buck. Real advocate for university education collaborations.
- Also got to talk to ODOT – mark...
- Seaside had a tsunami evacuation map...[we are] working with seaside for better communications.
- Astoria post office now is supplied with generators from data gathered by Pacific Corp of “[electrical] down times” in a busy working period. [you can see the connection that we have made with pacific corp]
- I got to stay another day to visit our facilities and infrastructure [at Cannon Beach]
- I would enjoy going again. I learned a lot and were able to make contacts. I scheduled meetings with contacts (ie: Pacific Corp).
- No not really. Forum was worth going... I hope it works... I would attend a subsequent forum process.
- Nope, good job
- Gave me some things to think about.
- Eye opening.
- We shouldn't let this process die...we need to move towards a model that cities and nations can use.
- Moving more action oriented work groups.
- Pre and Post disaster planning are both important.
- Model planning process.
- No I think we had a pretty good conversation.
- A list of agencies from all levels that could be of assistance in post-disaster efforts will be extremely helpful

- Good to know who has already dealt with broad disaster recovery issues and be able to contact them
- I offer to help in any way
- Really good job
- Appreciate your efforts
- It is important to help people understand that what they can do individually will really help
- I would love to hear great motivational ideas
- It's good to understand the dangers
- I think what was good about this thing is that it was an eye opener for the individuals that were sitting there, but for the council members too. They're still citizens and residents there. So, the whole awareness piece of it is always important.
- I thought it was a beneficial day to me for many of the things we've talked about.
- It's something I'd like to participate in again especially any follow-ups.
- I'm not sure how we can have any community wide planning, I come back to how do you motivate the average citizen in the planning and recovery portion.