South Clatsop County Resilience Guide

January, 2015

Guidelines for Achieving Community Resilience

Prepared for:

Clatsop County and the communities of Seaside, Cannon Beach, Gearhart and Arch Cape and the Department of Land Conservation and Development North Coast Resilience Network Project

Prepared by:

Oregon Partnership for Disaster Resilience

A Program of the
Community Service Center

UNIVERSITY OF OREGON

This guide is available online at

http://www.oregon.gov/LCD/Pages/publications.aspx

or

http://www.oregon.gov/LCD/OCMP/Pages/Publications.aspx

Oregon Department of Land Conservation and Development
Jim Rue, Director
635 Capitol Street NE #150
Salem, Oregon 97301-2540

SPECIAL THANKS & ACKNOWLEDGEMENTS

The Oregon Partnership for Disaster Resilience at the University of Oregon developed this guide in collaboration with the Oregon Department of Land Conservation and Development and Oregon Sea Grant. This guide is based on the USAID publication:

How Resilient is Your Coastal Community? A Guide for Evaluating Coastal Community Resilience to Tsunamis and Other Hazards.

Project Leads:

- Principal Investigator: Jeffrey Weber, Oregon Coastal Management Program, Oregon Department of Land Conservation and Development.
- Co-Principal Investigator: Josh Bruce, Oregon Partnership for Disaster Resilience, Community Service Center, University of Oregon
- Co-Principal Investigator: Patrick Corcoran, Oregon Sea Grant, Oregon State University

Community Service Center Student Researchers:

- Jack Heide, Research Associate
- Casey Hagerman, Research Associate
- Jeramy Card, Research Intern
- Sarah Allison, Research Intern
- Geoff Ostrove, Research intern
- Angela San Filippo, Research Intern
- Nick Meltzer, Research Intern
- Ross Peizer, Research Intern

Financial Assistance

Financial assistance for this project was provided through a Coastal Resilience Networks (CRest) Program grant administered by the Office for Coastal Management in the National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972 as amended.

About the Community Service Center

The Community Service Center (CSC), a research center affiliated with the Department of Planning, Public Policy, and Management at the University of Oregon, is an interdisciplinary organization that assists Oregon communities by providing planning and technical assistance to help solve local issues and improve the quality of life for Oregon residents. The role of the CSC is to link the skills, expertise, and innovation of higher education with the transportation, economic development, and environmental needs of communities and regions in the State of Oregon, thereby providing service to Oregon and learning opportunities to the students involved.

About the Oregon Partnership for Disaster Resilience

The Oregon Partnership for Disaster Resilience (OPDR) is a coalition of public, private, and professional organizations working collectively toward the mission of creating a disaster-resilient and sustainable state. Developed and coordinated by the Community Service Center at the University of Oregon, the OPDR employs a service-learning model to increase community capacity and enhance disaster safety and resilience statewide.

About the Oregon Coastal Management Program

The mission of the Oregon Coastal Management Program (OCMP) is to work in partnership with coastal local governments, state and federal agencies, and other stakeholders to ensure that Oregon's coastal and ocean resources are manage, conserved, and developed consistent with statewide planning goals. To accomplish its mission, OCMP provides financial and technical assistance to coastal local governments for planning, capacity building, and special projects.

About Oregon Sea Grant

Oregon Sea Grant's mission is to develop and support an integrated program of research, outreach, and education that helps people understand, rationally use, and conserve marine and coastal resources. OSG activities respond to the needs of ocean stakeholders and act to stimulate the Oregon economy. Established at Oregon State University in 1971, OSG is one of 33 state programs within the National Oceanic and Atmospheric Administration's Sea Grant College Program, authorized by Congress in 1968.

SOUTHWEST CLATSOP COUNTY RESILIENCE GUIDE

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EXECUTIVE SUMMARY

Context

Oregon coastal communities are vulnerable to a range of natural hazards. Chronic hazards such as coastal erosion, winter storm events, and flooding occur on a regular basis. Climate related impacts such as ocean acidification and sea level rise pose potential "slow-change" threats that coastal communities are increasingly paying attention to. And geologic hazards – primarily earthquakes and tsunamis – pose the potential for catastrophic damage to coastal communities that can occur at any time. Reducing risk to such hazards is the cornerstone of community resilience. Communities can reduce risk by (among other things) reducing exposure to hazards *and* addressing sources of vulnerability. This guide is intended to support the implementation of measures to reduce risk by increasing community resilience.

Purpose

The Coastal Community Resilience Guide provides a structure communities can use in the review and revision of various laws and decisions that can affect resilience. It offers a frame of reference and aspirational goals for making intentional, thoughtful choices about how to plan for and respond to changes that may impact the community.

Objectives

The stated objectives of this project were to: 1) demonstrate an approach to multi-hazard resilience planning that both informs and involves local communities; and 2) establish a hazard resilience network.

Resilience Assessment

The resilience assessment is intended to illustrate the strengths and weaknesses for each partner community. The assessment evaluates the following ten community elements on a scale from 'absent' to 'good': Governance, Society and Economy, Coastal Resources, Land Use and Development, Hazard Awareness, Warning and Evacuation, Emergency Response, Transportation, Infrastructure, and Recovery.

Key Assessment Findings

The composite results across all participating jurisdictions show that average assessment scores largely fell within the 'fair' range. A notable exception was the recovery element which received the lowest score ('Poor but improving'). The 'Society and Economy' and 'Infrastructure' elements both fell in the 'Fair but declining' range. After reviewing the assessment data, recovery and socio-economic planning emerged as general priorities for the region. Refer to the individual community assessments for more detailed findings.

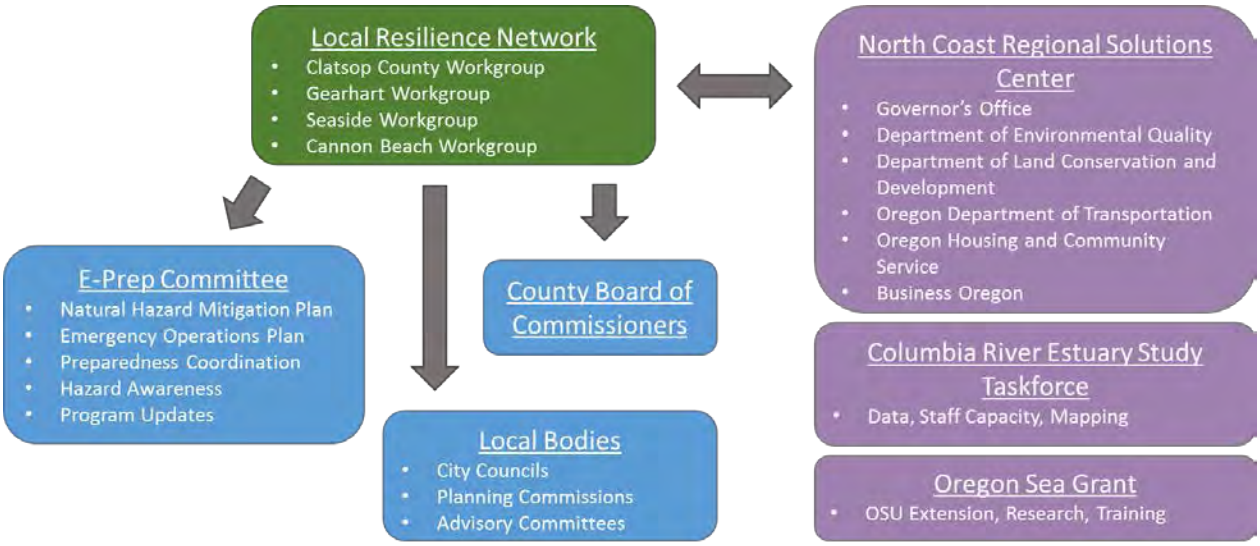
Resilience Goals

This guide includes a set of goals for each of the ten resilience elements. These goals were refined by the local work groups.

Element	Goal #1	Goal #2	Goal #3	Goal #4
Coastal Resources	Coastal resource management policies and plans are in place and regularly updated.	Coastal resources are actively managed to reduce impacts from disasters.	Community members are involved in making and fulfilling coastal resource plans.	Local governments and community members value coastal resources and actively invest in sustaining them.
Emergency Response	Emergency response roles are established and backed up at all levels of the community.	Basic emergency and relief services are available	Preparedness drills, simulations, and trainings are scheduled and regularly practiced community wide.	Community and volunteer organizations are identified, available, and prepared to support emergency response activities.
Governance	Community development policies, plans, and programs are implemented, monitored, and enforced in a participatory and process.	Basic government services are available and accessible to all.	Public and private sector organizational networks for planning, participation, and collaboration are established and used to manage for resilience.	Technical and financial resources are transparent and administered to support community actions across the public and private sector.
Critical Infrastructure	Community policies protect existing infrastructure, limit or replace existing infrastructure, and prevent the addition of infrastructure in natural hazard areas.	Infrastructure is built, maintained, or modified to meet or exceed regulations.	Community members are aware of the location and role of existing infrastructure in a disaster.	The community has the technical (i.e. knowledge, ability) and financial (i.e. budget) resources to modify or relocate infrastructure away from hazard zones.
Land Use and Development	The community has monitored and enforced land-use policies that reduce hazard risks.	The community has adopted local building code standards that reduce risks from hazards.	The community has policies and reward programs that lower risk by influencing the location and design of buildings.	Community education programs help residents and business owners know how to reduce their hazard risks.
Recovery	A community recovery plan exists that includes economic, environmental, safety, and security concerns of the community.	Recovery plans and processes are reviewed and evaluated on a regular basis.	Pre-established coordination processes exist at all levels of government (national, state, local).	Technical and financial resources are available to support community recovery.
Risk Knowledge	Community members understand the risks associated with identified hazards.	Risk assessments are updated regularly and include risks to all facets of the community (e.g., economy, land use, coastal resources).	Community members are involved in the risk assessment process.	Local policies and plans address all identified risks.
Society and Economy	The community has a local, independent, varied economy and supports an adequate number and variety of living-wage jobs.	The community is self-reliant (i.e. it does not fundamentally rely on outside resources for basic community needs).	The community has established networks (e.g. schools, church, and business) in place to aid and support areas impacted by disasters.	The community has the practical ability and money needed to recover if a major disaster occurs.
Transportation	Transportation plans consider hazard impacts and provide transportation options before and after a disaster.	Transportation infrastructure is planned and developed for current and future needs.	Community members are involved in transportation planning activities.	Technical and financial resources are available to maintain and update transportation plans.
Warning and Evacuation	Warning and evacuation systems include effective notification of at-risk populations (e.g. children, elderly, homeless, rural).	Physical warning systems and evacuation routes are in place and maintained.	The population knows what to do and where to go when notified and is ready and able to respond to warnings and evacuation orders.	Resources (financial, technical, organizational) are available to maintain and improve warning and evacuation systems.

Resilience Network

The primary network developed as part of this project consists of a set of local resilience working groups. As part of this effort, the local working groups identified key partners to assist with the ongoing convening and process facilitation. The following figure illustrates a conceptual model for how these entities might work together, including linkages to other, existing local groups. The model is intended for illustrative purposes only.



Resilience Actions

At the final project meeting on October 27, 2014, local workgroup members identified and prioritized resilience actions. Implementation of these actions will provide important, concrete, near-term focus for the local work groups. Identified resilience actions are listed below.

Clatsop County Resilience Actions

- Provide potable water options to community members during emergencies
- Provide redundant power/electrical service following a natural hazard event
- Provide redundant sanitary sewer facilities following a natural hazard event.

City of Gearhart Resilience Actions

-

Conclusion

Local application of the information, goals and network structure outlined in this guide will be yet another step that stakeholders in southwest Clatsop County are taking to increase community resilience. This can be achieved through the integration of the concepts in this guide within *existing* comprehensive, economic,

natural hazard, infrastructure and emergency operations planning activities. With continued focus and careful attention, Gearhart, Seaside, Cannon Beach and the unincorporated areas in the southern portion of the county can improve the social, economic and environmental resilience of their communities.

1. Introduction

> "Oregon citizens will not only be protected from life-threatening physical harm, but because of risk reduction measures and pre-disaster planning, communities will recover more quickly and with less continuing vulnerability …"
> **- Oregon Seismic Safety Policy Advisory Commission (OSSPAC)**

Background

In 2013, the Department of Land Conservation and Development Oregon Coastal Management Program (OCMP) received a grant from the National Oceanic and Atmospheric Administration (NOAA) to conduct a pilot project focused on improving community resilience to natural hazards, including hazards related to climate change. The project proposed two objectives: First, develop an approach to planning for community resilience at the local level; and second, establish a network of people, organizations, and communities to improve community resilience to coastal hazards. DLCD initiated this project in four participating communities: Clatsop County, Gearhart, Seaside and Cannon Beach. Several state agencies provided support throughout the life of the project.

This document primarily addresses the first project objective. Specifically, this guide provides a multi-level structure that local communities can use to increase their resilience to social, environmental and economic change. While a specific focus of this guide is resilience to natural disaster events, implementation of the guide will improve community resilience to other sources of dramatic change.

This guide is based in part on the U.S. Agency for International Development's Coastal Community Resilience (CCR) Guide created for international coastal communities after the 2004 Indonesian Tsunami.[1] OCMP partnered with the Oregon Partnership for Disaster Resilience at the University of Oregon and Oregon Sea Grant at Oregon State University to develop this guide for the partner communities.

Context

Oregon coastal communities are vulnerable to a range of natural hazards. Chronic hazards such as coastal erosion, winter storm events, and flooding occur on a regular basis. Climate related impacts such as ocean acidification and sea level rise pose potential "slow-change" threats that coastal communities are increasingly paying attention to. And geologic hazards – primarily earthquakes and tsunamis –

[1] U.S. Indian Ocean Tsunami Warning System Program. 2007. How Resilient is Your Coastal Community? A Guide for Evaluating Coastal Community Resilience to Tsunamis and Other Coastal Hazards. U.S. Indian Ocean Tsunami Warning System Program supported by the United States Agency for International Development and partners, Bangkok, Thailand. 144 p. http://pdf.usaid.gov/pdf_docs/pnadl291.pdf

pose the potential for catastrophic damage to coastal communities that can occur at any time. A Cascadia subduction zone earthquake and the resultant tsunami are of particular concern for Oregon and its coastal communities and residents. The Cascadia Subduction Zone is capable of producing a magnitude 9.0 (and even larger) earthquake, which would cause widespread damage throughout western Oregon and the Pacific Northwest. Such an earthquake will generate a large tsunami that will result in significant impacts to communities, infrastructure and natural systems along the coast.

This guide is intended to support the implementation of measures to improve community resilience to a Cascadia subduction zone event—both the earthquake and the resultant tsunami. Measures taken to improve community resilience to such an event will also likely improve a community's resilience to other sources of coastal change (e.g. coastal erosion, sea level rise, storm events, flooding, etc.).

What is Community Resilience?

Resilience is broadly defined as the ability of a person, system or community to anticipate, absorb, respond to and recover from changes or disruptions. Said another way:

> *"Resilience is the capacity of a system . . . to deal with change and continue to develop. It is about the capacity to use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking. Resilience thinking embraces learning, diversity and above all the belief that humans and nature are strongly coupled to the point that they should be conceived as one social-ecological system."*[2]

Characteristics or indicators of resilience include:

- Redundant infrastructure components
- Diverse social, economic and environmental systems
- Plans that anticipate and account for future threats
- Widespread engagement and participation in community resilience efforts

How does a Community Become Resilient?

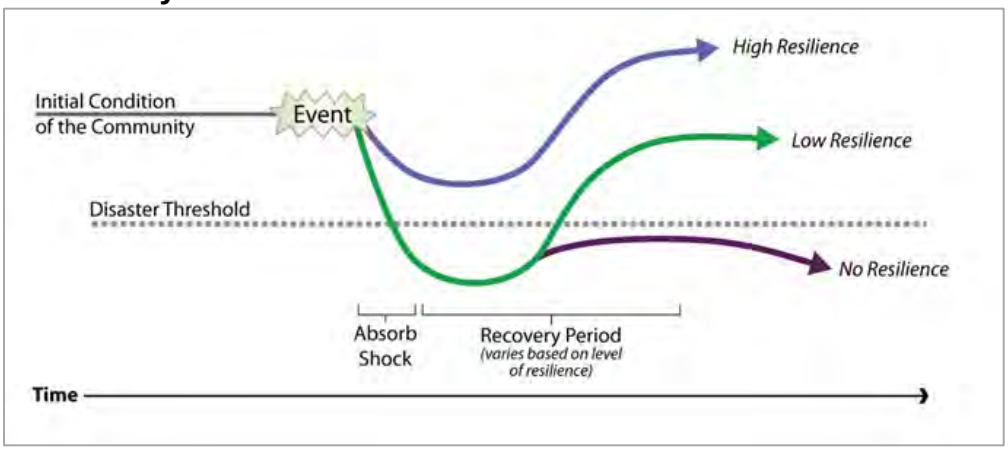
Community resilience involves anticipating and planning for threats as well as mitigating the impacts of and responding to hazard events when they occur. In Clatsop County and the three participating communities, emergency managers, community planners and other community stakeholders are already actively engaged in such activities. However, resilience also refers to a community's ability to adapt to and recover from hazard impacts. In this broader frame, community resilience can be understood to be the ability to quickly *restore* essential community functions such as social networks, business activities and public services after a disaster event. The figure below presents a schematic timeline of resilience.

[2] What is resilience? An introduction to social-ecological research. Stockholm Resilience Center, Stockholm University. http://www.stockholmresilience.org/download/18.10119fc11455d3c557d6d21/1398172490555/SU_SRC_whatisresilience_sidaApril2014.pdf.

The colored arrows represent the continuity and level of community functions. In a resilient community, such function is restored more quickly and fully than otherwise.

Resilience is achieved through the consistent application of key principles. To be effective, citizens, business leaders, community-based organizations, elected officials and government representatives (among others) need to apply these principles in their planning and community decisions. Finally, communities can build resilience by considering the interconnected nature of social, economic, and environmental systems.

Community Resilience Schematic Timeline



Source: Oregon Partnership for Disaster Resilience

In communities with low or no resilience, hazard events can destroy and consume community functions, resources and capacity resulting in a disaster. In a sense, resilience becomes evident in an emergency situation based on the capacity available in the community to support the regeneration of community systems and function after a disaster.

What is the Purpose of This Guide?

The purpose of this Coastal Community Resilience Guide is to provide an outline for communities to use in the review and revision of various laws and decisions that can affect resilience. It provides a frame of reference and aspirational goals for making intentional, thoughtful choices about how to plan for and respond to changes that may impact the community. Community partners can use this guide to develop measures to adapt, absorb, mitigate, eliminate, or accept change. Planning with resilience in mind will help address the broad range of natural hazards and other threats that coastal communities must contend with.

Minamisanriku Japan

Following the devastating effects of the 2011 Great Tohoku earthquake and tsunami event, the city of Minisanriku is developing a new vision for the city. Based on principles of resilience, the city is relocating key community assets to high ground and restoring low-lying areas to open space and habitat areas. The new vision is based on two levels - 100 year and 1,000 year - of tsunami protection.

Post-Tsunami Impacts - Minamisanriku, Japan

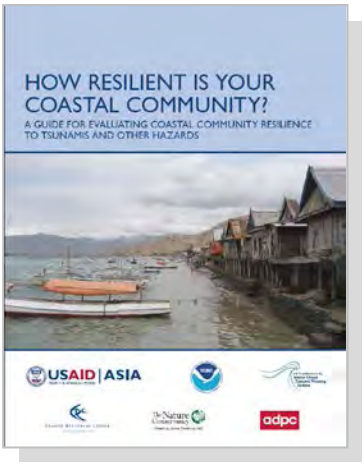
Source: Jay Wilson, Clackamas County Emergency Management; Oregon Seismic Safety Policy Advisory Commission

Post-Tsunami Vision - Minamisanriku, Japan

Source: Jay Wilson, Clackamas County Emergency Management; Oregon Seismic Safety Policy Advisory Commission

2. Resilience Assessment

This resilience assessment is intended to illustrate the strengths and weaknesses for each partner community. Community leaders can use the assessment findings to prioritize resilience planning activities and influence community policy and decision making. The assessments are based on a review of available information (plans, survey results, etc.) and input from local work groups and key stakeholders. In addition, the section outlines several "targets for resilience." The assessment findings are used to inform specific suggestions for each community.



Resilience Elements

The resilience guide for southwest Clatsop County based on the USAID guide, "How Resilient is Your Coastal Community?" Following the USAID structure, this section is organized according to 10 community-based resilience elements.[3] These elements were reviewed and revised early in the assessment process by the local workgroups. The process used is described in further detail below. The final set of elements identified by the local work groups are:

Governance

The governance element ensures that leadership, legal frameworks, and institutions support community involvement with government.

Society and Economy

The society and economy element ensures that communities are engaged in diverse and environmentally sustainable livelihoods that are resistant to hazards.

Coastal Resources

The coastal resource management element ensures that the active management of coastal resources (1) sustains environmental services and livelihoods, and (2) reduces risks from coastal hazards.

Land Use and Development

The land use and development element ensures that development practices reduce risks from hazards and complement environmental, economic, and community goals.

[3] The USAID guide uses the term "benchmarks."

Hazard Awareness

The risk knowledge element ensures that leadership and community members are aware of and use hazard and risk information when making decisions.

Warning and Evacuation

The warning and evacuation element ensures that the community is capable of receiving notifications and alerts of coastal hazards, warning at-risk populations, and acting on an alert.

Emergency Response

The emergency response element ensures that mechanisms and networks are established and maintained to respond quickly to coastal disasters and address emergency needs at the community level.

Transportation

The transportation element ensures that multi-modal transportation systems are built and maintained to meet community mobility needs pre- and post-event.

Infrastructure

The infrastructure element ensures that vital community facilities and services are built and maintained so that they remain available after an event.

Recovery

The recovery element ensures that plans are in place prior to hazard events, which accelerate disaster recovery, engage communities in the recovery process, and minimize negative environmental, social, and economic impacts.

> "Resilience forces us to think more strategically about how we plan, build and run our cities — and ensure that our systems are working for all citizens. If we are spending fortunes of money rebuilding and repairing after emergencies we'll never make a dent in any of our other goals — whether it's fighting disease outbreaks, social inequities, or rising unemployment.
>
> It is critical that we not just see resilience as something that we call on after a shock, but something we actively pursue — governments, private enterprise, and citizens — together in those moments in between…"
>
> *-- Judith Rodin, President, The Rockefeller Foundation,*
> *From a July 1, 2013 speech at The City Resilient Conference*

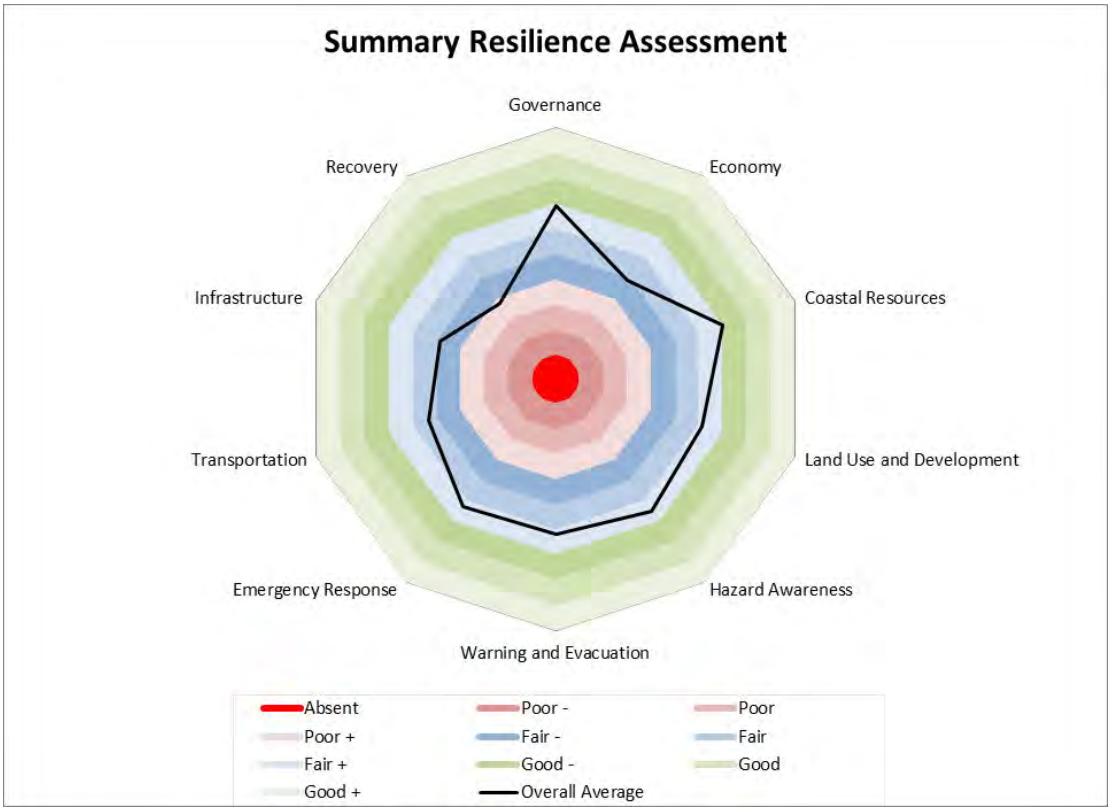
Community Resilience Assessments

These community resilience assessments provide snapshot results of resilience in each partner community. The assessment addressed the ten resilience elements described above, using several 'benchmarks' that form the aspirational component of this guide. Ideally, the assessment questions will be used to influence and prioritize each community's measures to improve resilience.

The assessment team utilized a survey and stakeholder interviews to assess local resilience. In winter 2013/2014, the team developed a survey tool that asked a series of questions about each resilience element. After testing and revising the survey, the team administered it to members of the local work groups in spring 2014 ("Stakeholder Survey"). To increase results, Patrick Corcoran (Oregon Sea Grant) and Patrick Wingard (North Coast DLCD Representative) administered the survey in the summer of 2014 through in-person interviews to additional local stakeholders in each community ("Stakeholder Interview"). Finally, members of the project leadership team completed the on-line survey ("Project Team"). This last step provided an outside (non-local) perspective on the benchmarks from individuals who participated in all stages of the resilience planning project.

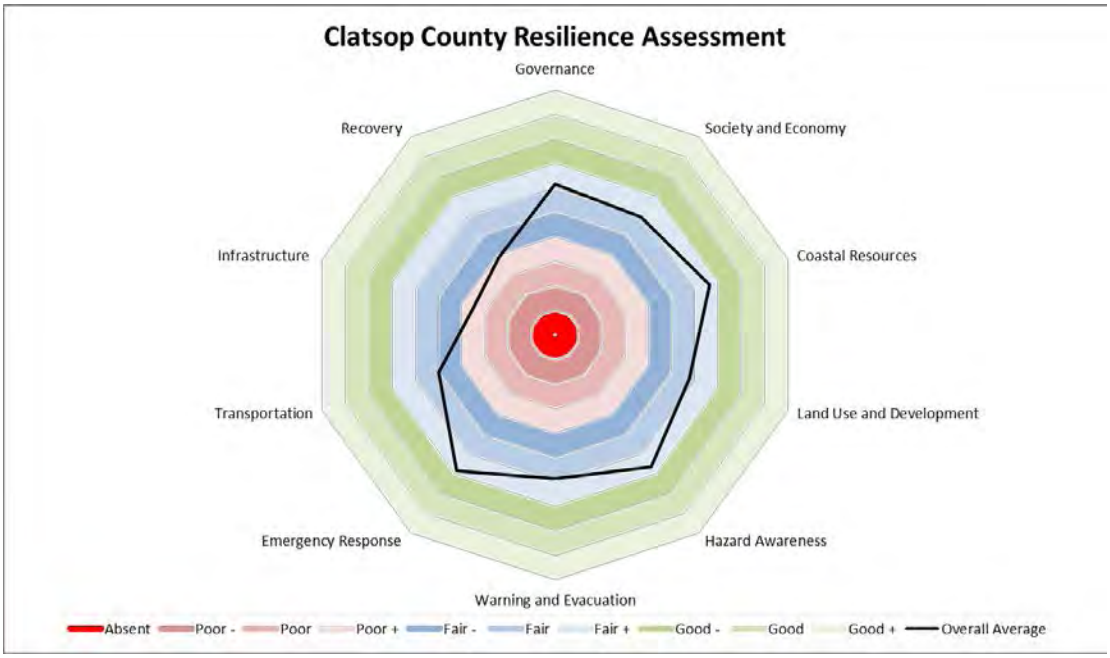
The following sections present the results of the assessment for each participating community. Considerable caution should be used in interpreting these results given the low number of responses. That said, some common trends did emerge. The overall resilience assessment summary diagram shows that the recovery and economy elements rated lower than other elements. This observation is consistent across all of the partner communities. Conversely, governance, hazard awareness, and coastal resources tended to rate slightly higher across the communities. Ultimately, the assessment suggests that there is a strong foundation for resilience in southwest Clatsop County, but that there is also considerable room for continual improvement.

Overall Resilience Assessment Summary Results:



The overall resilience assessment results show that across all planning elements, average scores largely fell within the 'fair' range. The recovery element had the lowest score ('Poor but improving') across categories. The 'Society and Economy' and 'Infrastructure' elements both fell in the 'Fair but declining' range. 'Governance' and 'Coastal Resources' both received scores on the line between the 'fair' and 'good' range. The following sections present findings and recommendations for each community.

Clatsop County Resilience Assessment Results:

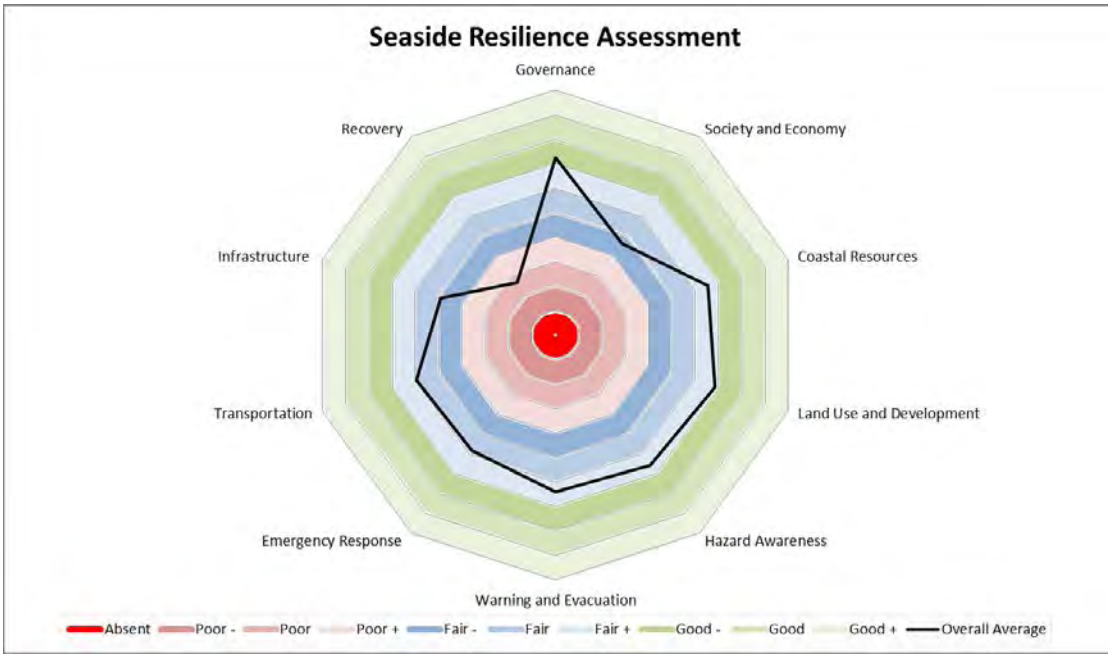


The research team received nine responses to the assessment questions specific to Clatsop County. The Clatsop County assessment results show that across all planning elements, average scores fell within the 'fair' range, the exception being infrastructure which fell within the 'poor' range. Emergency response and hazard awareness scores suggest that emergency management planning is having positive results county wide. Elements that could benefit from increased focus include infrastructure, recovery and land use planning. Reviewing answers to specific questions within the planning elements, specific suggestions for elements Clatsop County can focus on in the near term include:

- Build, maintain, modify or relocate infrastructure outside hazard zones;
- Develop recovery plans and make investments to support pre-disaster recovery activities;
- Implement land-use policies (e.g. hazard overlay zones) or programs (e.g. voluntary building codes) that limit construction in hazard areas or modify design or building practices to mitigate impacts.

At the final workgroup meeting, the local workgroup indicated that the results do not appear to represent the whole community given the small sample size. Specifically, the group felt that tourism was not adequately considered. In addition, the group suggested adding social networks as a specific measure of resilience. Finally, the group emphasized the importance of incorporating mitigation strategies into the land-use and development element.

Seaside Resilience Assessment Results:



The research team received eight responses to the assessment questions specific to Seaside. On average, most categories resulted in fair to good assessment scores. Recovery is clearly an area of focus for Seaside with responses in the 'poor' range. The society and economy element was also rated markedly lower than other elements. This suggests some attention to economic resilience could also be beneficial. The third lowest scoring element (on average) was infrastructure.

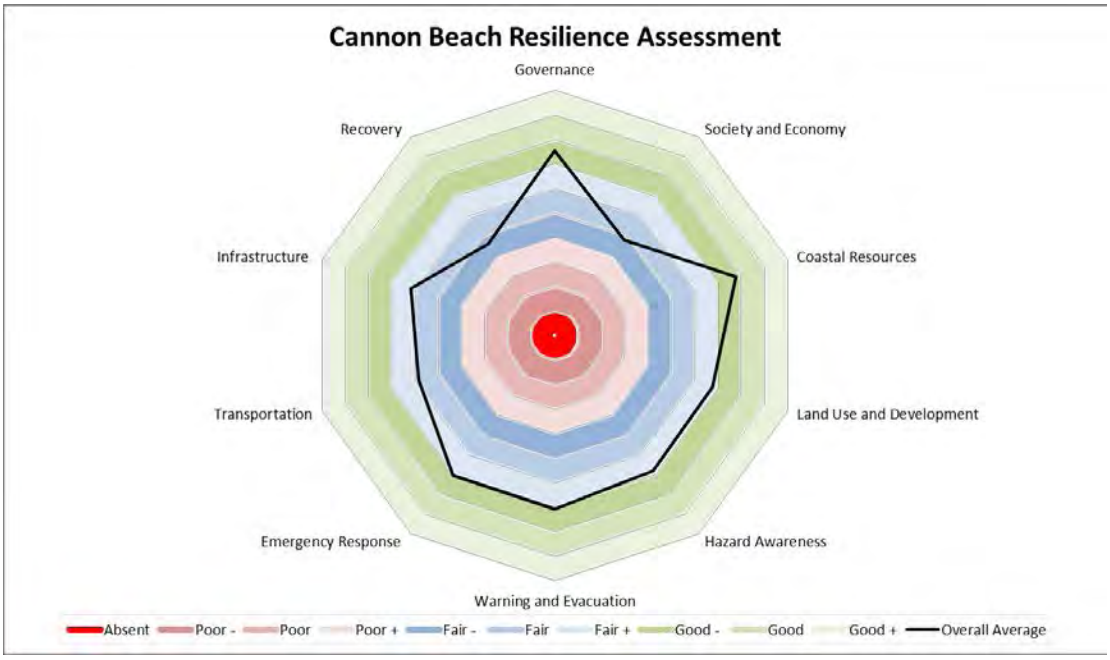
Reviewing answers to specific questions within the recovery, infrastructure and economy element categories, specific suggestions for elements Seaside can focus on in the near term include:

- Develop a disaster recovery plan and make investments to support pre-disaster recovery activities;
- Increase technical and financial capacity to modify or relocate infrastructure away from hazard zones;
- Increase economic self-reliance to reduce dependence on outside resources to meet basic community economic needs.

After reviewing the results, the local workgroups echoed concerns about how representative the results are given the small sample size and lack of participation by tourists. Additional suggestions made by members of the local workgroup include:

- Conduct a community workshop on resilience;
- Create and illustrate (through artwork) a unique resilience vision that is specific to Seaside;
- Identify funding streams to support resilience efforts.

Cannon Beach Resilience Assessment Results:



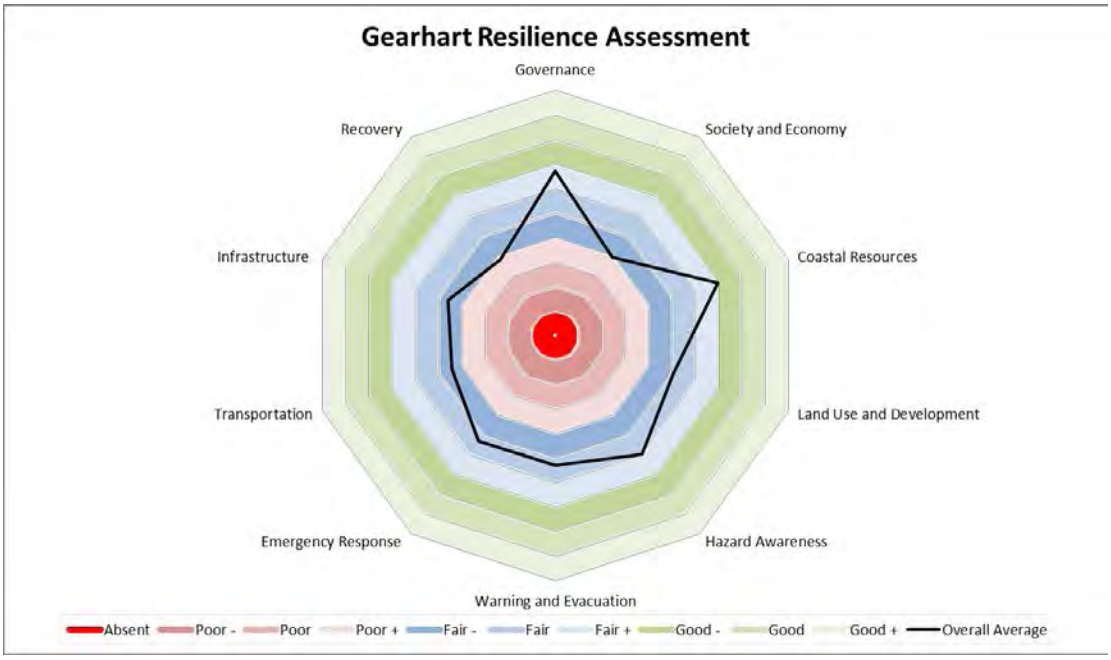
The research team received ten responses to the assessment questions specific to Cannon Beach. Cannon Beach's assessment suggests a fairly high level of resilience across community elements. Of specific note are the governance and coastal resource elements with average scores in the "good" range. Like Seaside, Cannon Beach has lower scores in the recovery and society and economy categories.

Reviewing answers to specific questions within the recovery and economy element categories, specific suggestions for elements Cannon Beach can focus on in the near term include:

- Develop disaster recovery plan and make additional investments to support existing pre-disaster recovery activities;
- Increase economic self-reliance to reduce dependence on outside resources to meet basic community economic needs.

After reviewing and discussing the results, the local workgroups suggested having more discussion about vulnerable populations (especially visitors) in Cannon Beach. In addition, the group observed that resilience needs to be seen in part as an attitude that is shared by elected officials, employees, citizens, etc.

Gearhart Resilience Assessment Results:



The research team received nine responses to the assessment questions specific to Gearhart. The average scores across all elements fall in the "fair" range. Similar patterns to the other jurisdictions emerged, however, with recovery and society and economy elements receiving lower average scores than most of the other elements.

Reviewing answers to specific questions within the recovery and economy element categories, specific suggestions for elements Gearhart can focus on in the near term include:

- Develop disaster recovery plan and make additional investments to support existing pre-disaster recovery activities;
- Increase economic self-reliance to reduce dependence on outside resources to meet basic community economic needs.

As with the other jurisdictions, Gearhart workgroup members expressed some concern about the low number of responses. They also pointed out differences between what city leadership think versus what other respondents to the assessment think. Finally, the workgroup members identified the need to focus additional effort on the social aspects of resilience.

3. Resilience Guidance

This section presents additional information related to each of the resilience elements. Each resource sheet contains an overview and vision, results from the resilience assessment, a set of aspirational goals, and some guiding questions for use when implementing the guide. Community leaders and staff can use the questions that follow each goal to guide local policy, budgeting, decision making, strategy, and planning discussions related community resilience.

The planning elements are presented in the following order:

- Governance
- Society and Economy
- Coastal Resources
- Land Use and Development
- Hazard Awareness
- Warning and Evacuation
- Emergency Response
- Transportation
- Infrastructure
- Recovery

Appendix E contains these resource sheets at their original 11x17 inch sheet size.

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The desired outcome of this resilience element is that leadership, legal frameworks, and institutions provide enabling conditions for resilience through community involvement with government.

Governance

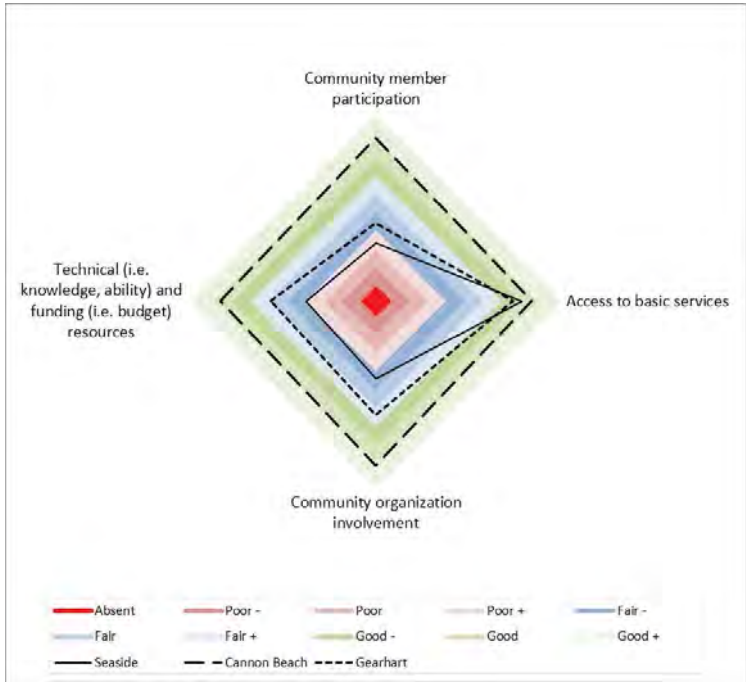
Current Assessment-Governance

Background

Governance is a process through which government institutions, organizations, communities, or any group of people with a mandate or with a common purpose make decisions that direct their collective efforts. Local governance is governing at the local level, viewed broadly to include not only the machinery of government, but also the community at large and its interaction with local authorities. Good governance is about achieving desired results and achieving them in the right way, in compliance with laws and policies and shaped by cultural norms and values of an institution, organization, or community.

Governance provides the enabling conditions for coastal communities to absorb or resist perturbations, bounce back from disturbances, and adapt to change. Governance provides the connection whereby community resilience is guided and nurtured over time through the various interventions of government, civil society, and the private sector in community development, coastal management, and disaster management.

– USAID Coastal Resilience Guide



"Collaboration across institutions and scales improves connectivity and learning … Well-connected governance structures can swiftly deal with change and disturbance because they are addressed by the right people at the right time."
~ Stockholm Resilience Center

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Students are engaged in raising awareness through creative community projects. Under-represented/minority groups are targeted & listed to and their solutions and social capital are integrated into broader initiatives/strategies. Local social networks are supported through grants. Grass-root efforts are prioritized."

"Seismic upgrades on most vulnerable public-critical buildings – schools, hospitals, fire stations, government buildings, etc.; education outreach project completed – all will know all we can re: evac., recovery, etc.; clearinghouse for info, [mutual?] aid plans, etc.; state resilience officer in place – to lead local programs, CERTs. Etc.; true cost accounting"

"We understand and incorporate true-cost accounting in our decision making."

"Resilience planning is commonplace."

Governance Goals and Questions

This section contains the goals for Governance developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the governance element.

Goal #1

Community development policies, plans, and programs are implemented, monitored, and enforced in a participatory and transparent process.

Translation

Community members actively participate in community planning processes.

Questions to ask:

- ❒ Is there a shared vision for resilience in the community? Does that vision inform all community planning (e.g. land use, emergency management, economic, infrastructure, etc.)
- ❒ Do existing programs support/promote long-term sustainability and community resilience principles?
- ❒ Do local decisions on development, infrastructure investment, social programs, and other activities consider potential risks from natural hazards?
- ❒ Has the "whole community" been engaged in identifying measures that reduce risks from coastal hazards? Is the community learning from past experiences locally as well as from the experience of other communities impacted by hazards the community can expect but has not directly experienced recently?

Goal #2

Basic government services are available and accessible to all.

Translation

All citizens have access to basic services (police, fire, utilities, other city/county services).

Questions to ask:

- ❒ Has an assessment of basic service needs been conducted?
- ❒ Are needed basic services provided efficiently and reliably?
- ❒ Are all members of the community served by these basic services?
- ❒ Are risk reduction measures incorporated into basic service delivery mechanisms?
- ❒ Is assistance available to special needs populations (transportation, help with applying for disaster assistance programs, etc.)?
- ❒ Do critical facilities and services have backup (diverse/redundant) systems in place to provide basic services, such as health and water, during hazard events?
- ❒ Are contingency plans in place to address disruptions in basic service delivery based on various hazard scenarios?

Goal #3

Public and private sector organizational networks for planning, participation, and collaboration are established and used to manage for resilience.

Translation

Community organizations work with local government to prepare for, respond to, and recover from natural or human caused community hazards events (e.g. floods, wildfires, landslides, earthquakes, etc).

Questions to ask:

- ❒ Are there interagency (national and local) and multi-sector agencies that meet to review policies, plans, and programs?
- ❒ Have resilience strategies and activities been developed that require several agencies to work together?
- ❒ Has community established agreements (mutual aid, contractual, memorandums of understanding, etc.) with other agencies / entities throughout the region and state to provide the necessary equipment and personnel needed to further local resilience?
- ❒ Are resilience efforts integrated across government offices, the private sector, and nongovernmental organizations?
- ❒ Do disaster management programs consider community cultural and natural resource elements and goals?

Goal #4

Technical and financial resources are transparent and administered to support community actions across the public and private sector.

Translation

Local government has the technical (i.e. knowledge, ability) and funding (i.e. budget) resources needed to support community needs.

Questions to ask:

- ❒ Are there regular budget allocations and grants to support activities that reduce risks to future damage from natural hazards?
- ❒ Does community budget incorporate priorities for management, upgrade, or mitigation of critical facilities and infrastructure?
- ❒ Have local governments identified options to supplement these funds?
- ❒ Do partnerships with local and regional nonprofit organizations, quasi-governmental organizations and the private sector exist to support financing and assisting with resilience activities?
- ❒ Do community leaders have resources and tools available to build resilience for day-to-day activities?

The desired outcome of this element of resilience is that communities are engaged in diverse and environmentally sustainable livelihoods resistant to hazards.

Society & Economy

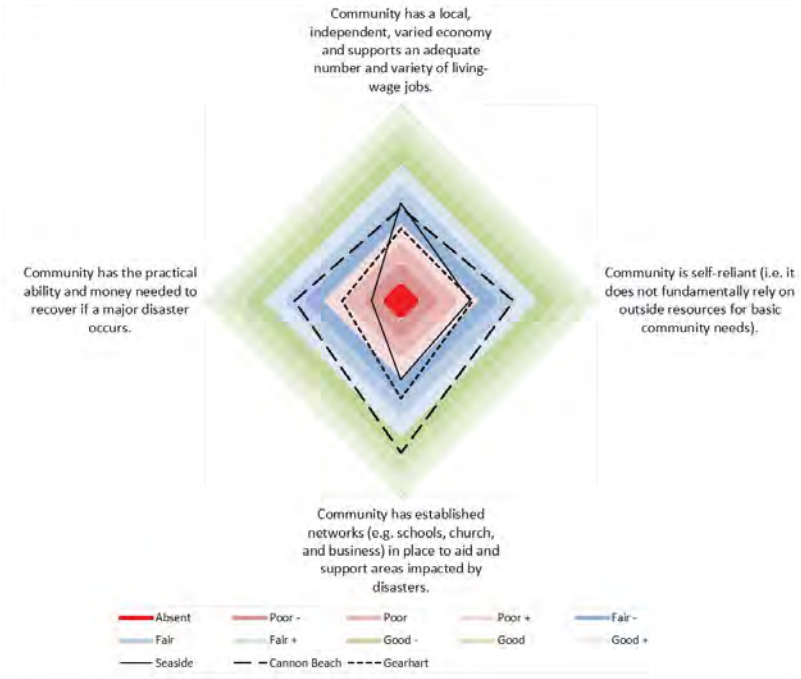
Background

Changes in the economy and people's quality of life are often the main criteria upon which a community's resilience is judged after a disaster. The strength of the economy and the diversity of livelihoods greatly influence the community's ability to prepare for disasters, quicken the recovery process, and adapt to changes that make them less vulnerable in the future. Despite changes in coastal ecology, health, laws, governance frameworks, or hazard response programs, it is the improvement or decline in a person's livelihood that directly affects resilience.

Society and economy serve as an essential element of resilience because of the direct relationship between economic activity (markets and commerce) and social life (culture, family, recreation). Changes in the local and regional economy such as new industries, specific jobs, or manufacturing technology have positive and negative impacts on individuals and communities through life expectancies, employment, wealth, and quality-of-life issues. Similarly, the culture of the community, family structure, and gender roles influence economic activities.

– USAID Coastal Resilience Guide

Current Assessment-Society & Economy



"A mix of strategic representatives from both the public and private sectors should be invited to participate in the economic [resilience] team. Otherwise, decision making on economic [resilience] topics is left to non-business, potentially inexperienced, individuals."
~ International Economic Development Council

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Local economies have more thriving and varied small businesses. There are lots of programs that support start-ups with T.A., micro-enterprise loans, data, etc. Jobs are created through the development of more local sustainable food systems and new resiliency-related regulation/requirements. More jobs/income = more resilient community."

Socio-Economic Element Goals and Questions

This section contains the goals for Society & Economy developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the socio-economic element.

Goal #1

The community has a local, independent, varied economy and supports an adequate number and variety of living-wage jobs.

Translation

The economy includes a diverse mix of locally relevant business and industry sectors that provide a wide range of good jobs for people that live in the community.

Questions to ask:

- ❒ Do a mix of jobs exist for residents of varied skill sets and income levels?
- ❒ Are there skills-training programs for alternative livelihoods?
- ❒ What types of social safety nets exist to help vulnerable members of the community?
- ❒ Is a community-wide workforce retention strategy in place?
- ❒ Does the community assist businesses in creating their own workforce retention strategies?
- ❒ Are there ways to align the community's economic development goals with its risk reduction goals?

Goal #2

The community is self-reliant (i.e. it does not fundamentally rely on outside resources for basic community needs).

Translation

If there are impacts to businesses, infrastructure or financial systems outside the area, the community can still function.

Questions to ask:

- ❒ Is the local economy dominated by one sector (e.g. tourism)?
- ❒ Are local economies and livelihoods linked to internal and external markets?
- ❒ Are resource-extracting livelihoods based on a managed and sustainable natural resource base?
- ❒ Does community have and maintain a list of local businesses that are capable of providing services, material and equipment in the event of a disaster?
- ❒ Has community established a process to solicit, pre-approve and contract with local businesses for pre- and post-disaster services (e.g. lodging, heavy equipment, medical support, building inspections, etc.)?
- ❒ Are neighbors connected through CERT, Map Your Neighborhood or other preparedness programs?

Goal #3

The community has established networks (e.g. schools, church, and business) in place to aid and support areas impacted by disasters.

Translation

Groups and organizations throughout the community/ region know each other and are willing/able to help each other out in a disaster or emergency situation.

Questions to ask:

- ❒ Are social networks or organized civic groups established with the capacity to assist communities during or after disaster?
- ❒ Are there social networks that serve the needs of vulnerable populations or groups?
- ❒ Are mechanisms in place to increase community participation in community development planning?
- ❒ Has the community explored partnerships with local and regional nonprofit organizations, quasi-governmental organizations and the private sector to finance and assist with pre- and post-disaster activities (e.g. grants management, volunteer coordination, donation management, process facilitation, etc.)?

Goal #4

The community has the practical ability and money needed to recover if a major disaster occurs.

Translation

The community has emergency funds set aside, has adequate insurance coverage, and has people in the community trained to process and manage volunteers, supplies and grant/relief funds that will flow in after a disaster.

Questions to ask:

- ❒ Are small business development or economic resilience programs (e.g. assistance, extension, and training) providing support to the community to promote sustainable livelihoods?
- ❒ Are businesses owners and employees aware and informed of coastal hazards (including long-term effects to businesses from coastal erosion and sea level rise)?
- ❒ Does an Economy and Resilience Finance Task Force (or other group) composed of key stakeholders including local business owners (including insurance industry), economic development professionals and government officials, exist?
- ❒ Have key businesses and organizations developed continuity of operations plans?

The desired outcome of the coastal resilience element is that active management of coastal resources sustains environmental services, and [economic] livelihoods and reduces risks from coastal hazards.

Coastal Resources

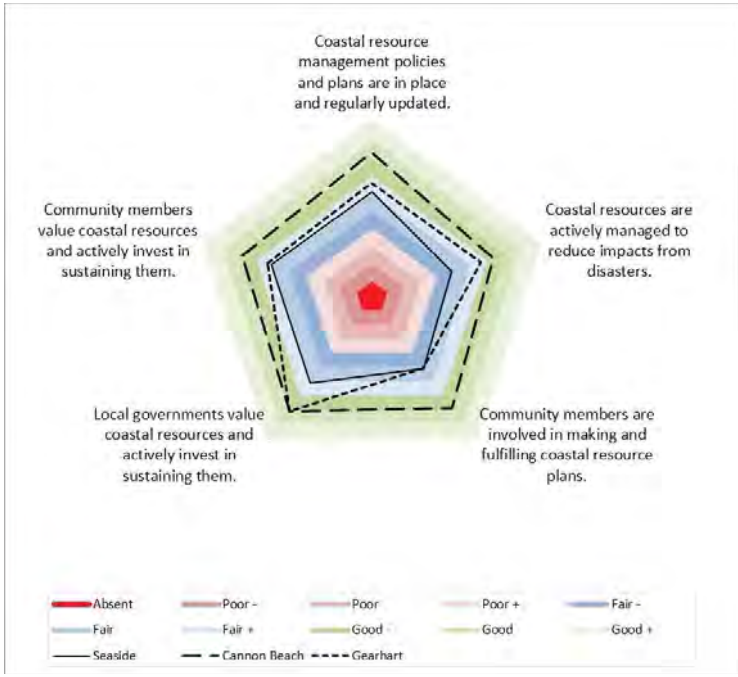
Current Assessment-Coastal Resources

Background

Coastal resource management refers to a formal or informal set of rules, practices, technologies, economies, and interactions between humans and the natural resources (animals, plants, rocks, water, etc.) located both landward and seaward of the coast. A key goal is to stem overfishing . . . . pollution, and habitat loss, all of which reduce future fishing or availability of other valuable resources. Effective coastal resource management ensures that (a) local institutions support coastal management processes, and (b) protection of sensitive coastal habitats is being achieved.

Coastal resources provide many valuable and sustainable services to communities. These include, among others, a reliable source of food, economic development through the use of renewable resources, transportation, protection from coastal hazards (storms, floods, tsunami, erosion, pollution, etc.), biodiversity conservation, and a pleasant lifestyle. If managed and protected, coastal resources can continue providing these services.

~ USAID Coastal Resilience Guide



"In a rapidly changing world, managing slow variables and feedbacks is often crucial to keep social-ecological systems 'configured' and functioning in ways that produce essential ecosystem services. If these systems shift into a different configuration or regime, it can be extremely difficult to reverse."

~ Stockholm Resilience Center

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Wave power has been well built out and is mature so that power is not knocked out by storms (though it would still be by a large quake or large tsunami). Communication resources are redundant with fiber/cell/ satellite seamlessly handing off as necessary."

"Deep understanding of the importance of coastal resources to our local communities & a desire to protect & enhance them. [More] wetland habitat, strong framework for protection of wetlands & watersheds. Less flooding due to wetland & watershed restoration."

Coastal Resources Goals and Questions

This section contains the goals for coastal resources developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the coastal resources element.

Goal #1

Coastal resource management policies and plans are in place and regularly updated.

Translation

The community has agreed on a rational coastal resource management approach that is documented in a clear set of values and rules.

Questions to ask:

- ❒ Has the community identified specific coastal resources that are important for use as buffers against hazards?
- ❒ Are coastal resources and priority hazards routinely assessed?
- ❒ Are assessments used to characterize risks to community and to develop coastal resource management plans?
- ❒ Has the community endorsed coastal resource policies?
- ❒ Do coastal resource management strategies include protection, restoration and engineered construction where applicable?
- ❒ Is anyone monitoring slow changes and feedback loops related to natural resources?

Goal #2

Coastal resources are actively managed to reduce impacts from disasters.

Translation

The community understands the protective physical, economic and environmental benefits that coastal resources can provide and it actively manages and protects those resources as part of an integrated land use and emergency management strategy.

Questions to ask:

- ❒ Have regulations been established for resource extraction based on conservation priorities and risks from hazards?
- ❒ Is there a program for long-term coastal resource assessment and monitoring?
- ❒ Have opportunities to reduce risks from coastal hazards through restoration been identified?
- ❒ Has the community considered potential economic impacts to citizens and businesses that rely on coastal resources (e.g. fisheries, forests, tourism, etc.) if those resources are impacted by a natural hazard?
- ❒ Does community utilize conservation easements or land trusts to protect critical coastal resources?
- ❒ Are climate change and sea level rise included in the community's land use and coastal resource management plans?

Goal #3

Community members are involved in making and fulfilling coastal resource plans.

Translation

A wide range of stakeholders participate in a cooperative process to develop a shared and mutually beneficial, multi-objective approach to managing coastal resources.

Questions to ask:

- ❒ Does a process or procedure exist to review plans based on coastal resource issues and community feedback?
- ❒ Do "communities of practice" exist (i.e. do groups of people that have local knowledge of coastal resources periodically meet and work together)?
- ❒ Are communities of practice networked to encourage learning (i.e. are fisheries folks talking to forest management folks; are wave energy groups talking to coastal resource conservation groups)?

Goal #4

Local governments and community members value coastal resources and actively invest in sustaining them.

Translation

Citizens, business, organizations and government share responsibility for the stewardship, oversight, management and enforcement of the community's coastal resource values and rules.

Questions to ask:

- ❒ Are coastal resources valued by members of the community?
- ❒ Does the community use full-cost accounting when considering actions or policies that could have a negative effect on coastal resources?
- ❒ Does the community support long-term monitoring of coastal resources?
- ❒ Are sufficient resources in place to support coastal resource management strategies?

The desired outcome of this element of resilience is effective land use and structural design that complement environmental, economic, and community goals and reduce risks from hazards.

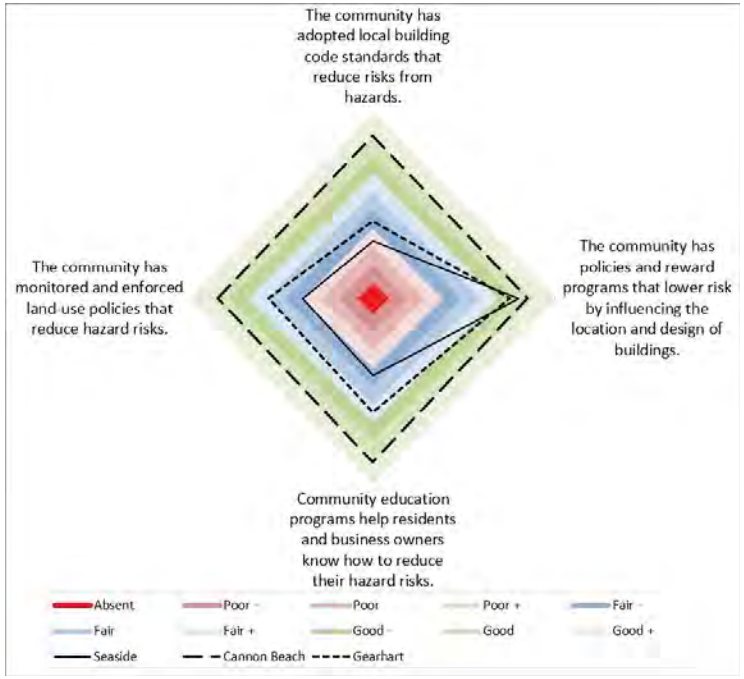
Land Use & Development

Background

"Land use management refers to the active use of formal and informal mechanisms for the planning and location of the various land uses, such as agriculture, industry, housing, and tourism in a community. In addition to determining appropriate uses of land, a community can also influence how development, buildings, and infrastructure are designed and built. Structural design refers to how physical structures within a community are engineered and constructed. In order to contribute to a community's overall resilience, both land use management and structural design practices must consider the community's vulnerability to all coastal hazards while minimizing impacts to natural resources. When used in combination, these related risk reduction strategies are very effective mechanisms for enhancing community resilience. Basic indicators for effective land use management and structural design include: (a) Land use plans are prepared and implemented; (b) Structural design minimizes risk; (c) Monitoring and enforcement of policies and codes occurs; and (d) Pre-established redevelopment policies exist."

– USAID Coastal Resilience Guide

Current Assessment-Land Use & Development



"Every community is faced with natural and man-made hazards that can best be addressed ahead of time by [land-use] planners working closely with emergency management personnel to mitigate the threat and prepare for post-disaster recovery.
~ American Planning Association

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Land use now supports ecological sustainability in housing and economic development. Development codes consider remediation of natural areas, balanced and harmonized with business operations. Tax credits, grants, and offsets nourish modification of existing business and attract new businesses that are low-carbon footprint in their operations, including production and customer base."

"Clear and pointed land use options were devised that allow for advanced planning of post Cascadia inundation."

"Some critical resources are out of the inundation zone."

"Multi-jurisdictional purchase and transfer of development rights programs have directed development and investments to appropriate locations."

"1. Key community facilities are located above XXL as indicated by tsunami inundation maps; 2. All land use decisions consider tsunami hazard risk & mitigation measures to address them adequately; 3. Adequate evacuation facilities have been developed to accommodate the community & community facilities (including addressing needs for the short term); 4. Economic – businesses are located out of harm's way &/or plans for quick recovery."

"Development in FHO, esp. velocity zone and floodway no longer allowed … unless development can be certified as "safe". All have access to emergency routes. No critical structures in FHO. Previously built structures – existing – are retrofitted on removal. Similar w/ FHO – all existing structures retrofitted."

Land Use & Development Goals and Questions

This section contains the goals for Land Use & Development developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the land use and development element.

Goal #1

The community has monitored and enforced land-use policies that reduce hazard risks.

Translation

Important buildings and developments are directed away from risky areas and/or are constructed in such a manner that risks are reduced.

Questions to ask:

- ❒ Has the community updated the "Areas Subject to Natural Hazards" (Goal 7) section of the Comprehensive Plan for all hazards?
- ❒ Does the comprehensive plan provide for a desired amount of land (e.g. acreage, percent of total, etc.) for residential, commercial, industrial, and public land uses (among others) designated outside catastrophic hazard zones where the risk to people and property cannot be mitigated (e.g. tsunami inundation zone)? Alternatively, are all such lands designated as unsuitable for development?
- ❒ Does the community have a strategy and process in place to ensure that land use, development and building permits can be issued in a strategic and efficient manner following a disaster?
- ❒ Does the community have policies that limit investment and construction in vulnerable areas?
- ❒ Are there restrictions on rebuilding after a disaster in areas subject to hazards?

Goal #2

The community has adopted local development standards that reduce risks from hazards.

Translation

Local development code regulations and/or voluntary building code standards that go above and beyond state building codes are adopted or made available to developer, builders and property owners.

Questions to ask:

- ❒ Has the community adopted land development regulations that avoid placing new development or significant re-development in hazard areas where the risk to people and property cannot be mitigated?
- ❒ Does the community utilize voluntary building codes, such a the Institute for Business and Home Safety's Fortified for Safer Living program?
- ❒ Are mechanisms in place to encourage compliance with land use policies and building standards and codes (e.g. collecting, verifying and maintaining flood elevation certificates)?
- ❒ Are sensitive coastal features and habitats protected from development activities and coastal engineering structures?
- ❒ Does the community have policies, ordinances or provisions for dealing with abandoned or blighted buildings following a disaster?

Goal #3

The community has policies and reward programs that lower risk by influencing the location and design of buildings.

Translation

Development is directed to and encouraged in low risk places and is discouraged in high risk places.

Questions to ask:

- ❒ Do structural engineers factor in risk for designing and constructing safe infrastructure?
- ❒ Has community adopted development standards specific to the siting, design, and construction of infrastructure within hazard areas?
- ❒ Is there an outreach program in place to educate the public in hazard-resilient building practices and designs?
- ❒ Has the community inventoried land suitable for temporary housing following a disaster?
- ❒ Do existing programs (e.g. capital improvement, urban renewal, community development block grants, FEMA pre-disaster mitigation, etc.) support and encourage hazard mitigation actions?
- ❒ Has the community investigated incentive programs, such as tax increment financing or transfer of development rights, to encourage development in low risk places and discourage it in high risk places?

Goal #4

Community education programs help residents and business owners know how to reduce their hazard risks.

Translation

The community promotes "best management" development and construction approaches.

Questions to ask:

- ❒ Are local architects and builders informed about design standards or voluntary programs (e.g. Institute for Business and Home Safety "Fortified for Safer Living" program) that can help mitigate hazard impacts during design and construction?
- ❒ Do local colleges or trade schools incorporate courses on land use policies, building standards, and hazard mitigation?
- ❒ Is hazard specific curriculum, educational content and associated resources being used in local K-12 schools?
- ❒ Is public informed about and aware of strategies and resources to mitigate hazard risks to their homes and places of business?
- ❒ Are people knowledgeable about coastal resources and hazard management involved in building siting and design?

The desired outcome of this element of resilience is that leadership and community members are aware of hazards and risk information is utilized when making decisions.

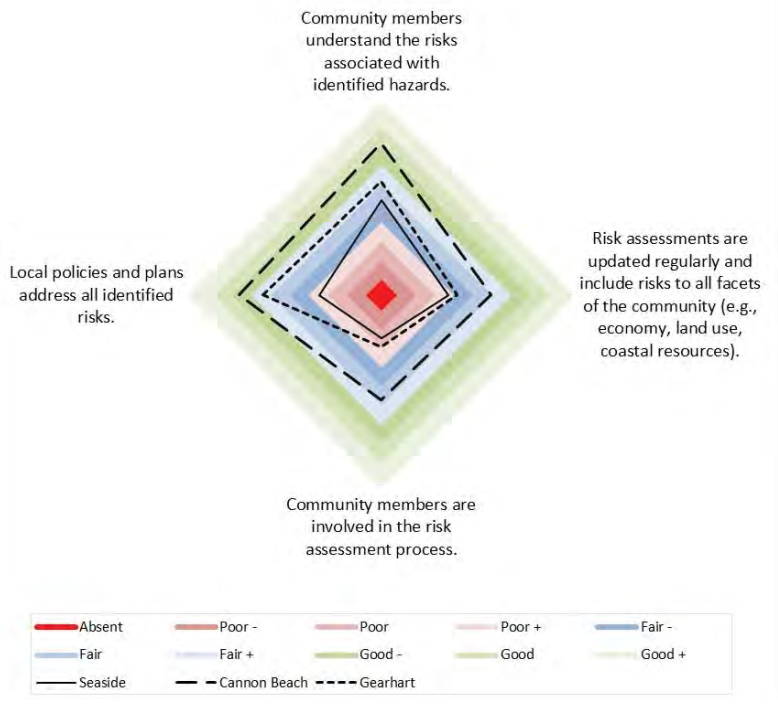
Risk Knowledge

Background

"Risk knowledge, a cornerstone of [community resilience], is the awareness a community has about its potential hazards and its susceptibility to experiencing the negative impacts of those hazards. Risk knowledge requires an understanding of all of the chronic and episodic hazards that threaten the community, including the potential geographic extent of impact and the potential frequency of impact. It also involves knowing how each of these hazards threatens various components of the community, such as the local economy, the built environment, terrestrial and marine natural resources, all segments of the population, critical facilities, utilities, infrastructure, etc. It is essential that access to information pertaining to risk knowledge be open and freely shared among the entire community."

– USAID Coastal Resilience Guide

Current Assessment-Risk Knowledge



"Every community is faced with natural and man-made hazards that can best be addressed ahead of time by [land-use] planners working closely with emergency management personnel to mitigate the threat and prepare for post-disaster recovery.
~ American Planning Association

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Public education has raised the public's awareness of all hazards. Neighborhoods have created block level preparedness groups & those groups are documented throughout town & they are recognized within the city's action plans [at] all levels."

"Students are engaged in raising awareness through creative community projects. Under-represented/minority groups are targeted & listened to and their solutions & social capital are integrated into broader initiatives/strategies. Local social networks are supported through grants. Grass-root efforts are prioritized."

"Integrated CERT/EVC; GIS system that encompasses all typed of hazards available to planners & responders; policy that requires businesses & vacation rentals to communicate hazards; active volunteers; recovery plans are in place."

"Folks believe & are now individually & as a community prepared for the worst case scenarios in all hazards."

"2034: (1)All residents of Clatsop are able to give transit directions to tsunami safe high ground from each mile marker on Hwy 101. (2) Residents can [rank?] the likelihood of Cascadia relative to other, more common hazards. (3) Residents and visitors can decide what a rip current is, and how to get out of one safely."

"Clatsop CC has educational programs & community partnerships for Emergency Management, Paramedic, and Allied Health opportunities to support resilience."

Risk Knowledge Goals and Questions

This section contains the goals for Rick Knowledge developed and approved by the local workgroups.

Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the risk knowledge element.

Goal #1

Community members understand the risks associated with identified hazards.

Translation

People know what to do before, during and after a hazard event.

Questions to ask:

- ❒ Has an assessment of coastal hazards been completed?
- ❒ Did the assessment consider historical events, existing hazards, and potential future coastal hazards?
- ❒ Was there any community participation in the assessment?
- ❒ Do educational programs engage a wide variety of community participants?
- ❒ Does the community devote sufficient resources to community education campaigns?
- ❒ Are different education methods being utilized to ensure that different learning styles and levels of knowledge are being considered, valued and supported?

Goal #2

Risk assessments are updated regularly and include risks to all facets of the community (e.g., economy, land use, coastal resources).

Translation

Risk assessment is an ongoing comprehensive planning activity.

Questions to ask:

- ❒ Does the community have an understanding of how coastal hazards could impact its economic and livelihood assets?
- ❒ Has the community identified all facilities, infrastructure, and utilities that are deemed critical?
- ❒ Has an assessment of social and cultural vulnerability been conducted that identifies areas where individual resources for disaster preparation and recovery tend to be minimal (i.e. areas with high concentrations of poverty, elderly, illiteracy, gender issues, etc.)?

Goal #3

Community members are involved in the risk assessment process.

Translation

Citizens understand and have an opportunity to contribute to the risk assessment process.

Questions to ask:

- ❒ Was the community involved when risks from natural hazards were assessed?
- ❒ Is risk information made available to the community?
- ❒ Is risk information shared among and used by institutions to better inform policy and action?
- ❒ Does the community promote individual, family and business level risk assessment?
- ❒ Does the community promote individual, family and business level disaster preparedness?

Goal #4

Local policies and plans address all identified risks.

Translation

The decision making and community investment approach includes an explicit consideration of hazard risks.

Questions to ask:

- ❒ Are hazard risks considered by institutions when making planning and development decisions?
- ❒ Do community development goals and the plans to achieve them take into account hazard risk?
- ❒ Are risks utilized to prioritize and guide planning and mitigation actions consistent with community development goals?
- ❒ Do comprehensive plan and zoning maps clearly show hazard zones?
- ❒ Does the capital improvements plan consider hazard risks?
- ❒ Do local plans consider system interdependencies (i.e. impacts to one sector may result in impacts to other sectors)?

The desired outcome of this element of resilience is a community that is capable of receiving notifications and alerts of coastal hazards, warning at-risk populations, and acting on an alert.

Warning & Evacuation

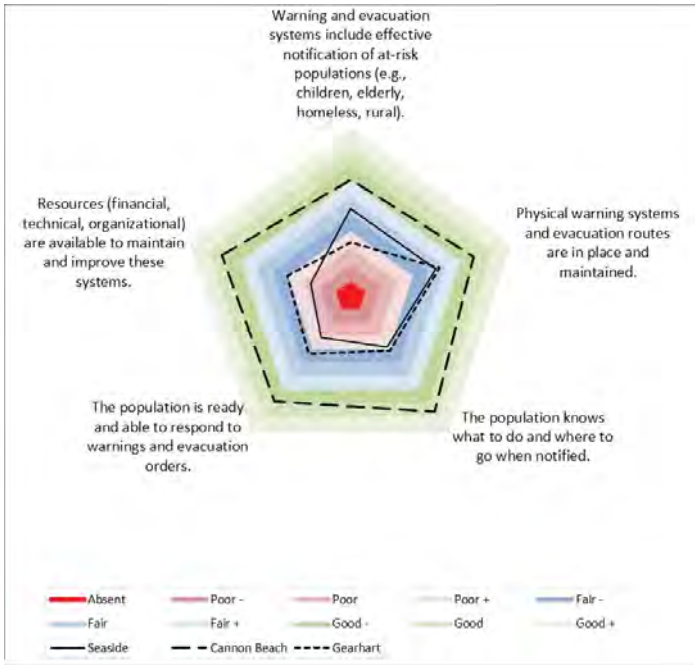
Current Assessment-Warning & Evacuation

Background

"Warning and evacuation consists of three essential parts: an early warning system, evacuation plans, and a well-informed public. Resilient coastal communities possess early warning systems that provide the best available information on potential hazards in a timely manner, implement effective evacuation plans, and have a population that responds appropriately to the information they are given.

Warning systems and evacuation procedures provide communities an opportunity to significantly reduce risk by taking quick action to mitigate impacts of hazard events. An effective response to an impending hazard event can greatly reduce hazard impacts by removing people from dangerous areas."

– USAID Coastal Resilience Guide



"Within the tsunami inundation zone, practically all of the 22,000 permanent residents . . . who survive the tsunami will be instantly displaced (Wood, 2007). The visitor population presents a great challenge, because visitors tend to congregate in the tsunami inundation zone and have the least knowledge of where and how to evacuate."

~ Oregon Resilience Plan

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We did not receive any responses to the question: "What is an appropriate 20-year resilience vision for this sector?" The following statement regarding warning and evacuation is excerpted from the Oregon Department of Land Conservation and Development publication, Preparing for a Cascadia Subduction Zone Tsunami: A Land Use Guide for Oregon Coastal Communities.

"A comprehensive evacuation route plan is essential to the implementation of evacuation route development and improvement in conjunction with the land use review and approval process. The evacuation route plan should provide the detailed information necessary to utilize various potential funding mechanisms available to local governments, if those are proposed. The evacuation route plan should address vertical evacuation routes, if appropriate, and can include an inventory of any existing buildings within the community that could be considered as candidates for evacuation structures. The plan should be coordinated with transportation, park, and trail system plans that can help provide for pedestrian tsunami evacuation routes."

Warning & Evacuation Goals and Questions

This section contains the goals for Warning & Evacuation developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the warning and evacuation element.

Goal #1

Warning and evacuation systems include effective notification of at-risk populations (e.g. children, elderly, homeless, rural).

Translation

Everyone in the community can be made aware of an emergency and can get to a safe place.

Questions to ask:

- ❒ Is there redundancy in both human and technical components of the warning and evacuation system?
- ❒ Does the community have an evacuation plan in place that is comprehensive and addresses individuals with special needs?
- ❒ Does the community have a way to receive emergency information from national and/or regional systems?
- ❒ Do evacuation procedures address visitor populations (tourists or migrants) and local businesses?
- ❒ Are warning system and evacuation procedures tested regularly and evaluated after exercises or hazard events to improve effectiveness?

Goal #2

Physical warning systems and evacuation routes are in place and maintained.

Translation

Warning and evacuation infrastructure is in place and adequate to serve the needs of the entire population.

Questions to ask:

- ❒ Are warning system components (signs, way finding, physical roads/paths) in place and maintained?
- ❒ Are hazard zones, evacuation routes, shelters, and safe areas clearly marked throughout the community with signs, maps and/or other route indicators?
- ❒ Is there redundancy in the technical and human components of the warning and evacuation system?
- ❒ Do evacuation routes include provisions for disabled populations?
- ❒ Has the community reviewed the Department of Land Conservation and Development Tsunami Land Use Guide for information related to evacuation planning?

Goal #3

The population knows what to do and where to go when notified and is ready and able to respond to warnings and evacuation orders.

Translation

Citizens and visitors understand and/or have practiced what to do, where to go and what to take in the event of an emergency.

Questions to ask:

- ❒ Are short-term emergency shelters, as well as locations for long-term temporary housing, identified and retrofitted to meet the needs of both resident and visitor populations?
- ❒ Are warning procedures and evacuation routes clear for visitors from out of the area to follow?
- ❒ Have outreach programs been established to ensure that community members are aware of hazard risks, warning procedures, and evacuation plans?
- ❒ Do outreach efforts reach transient populations such as tourists?
- ❒ Do schools teach students about hazard risks, emergency preparedness, hazard warnings, and evacuation plans?

Goal #4

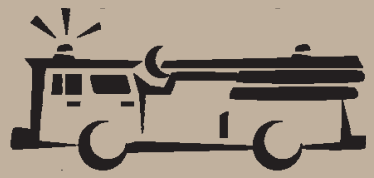
Resources (financial, technical, organizational) are available to maintain and improve warning and evacuation systems.

Translation

The community provides funding for warning and evacuation systems.

Questions to ask:

- ❒ Does the community have the appropriate amount of resources to maintain warning systems?
- ❒ Has the community established partnerships or agreements with external governments or organizations for funding or technical assistance?
- ❒ Does the community utilize System Development Charges to help pay for existing and planned warning and evacuation infrastructure?
- ❒ Are evacuation procedures routinely updated to incorporate changes in the community?



The desired outcome of this element of resilience is that mechanisms and networks are established and maintained to respond quickly to coastal disasters and address emergency needs at the community level.

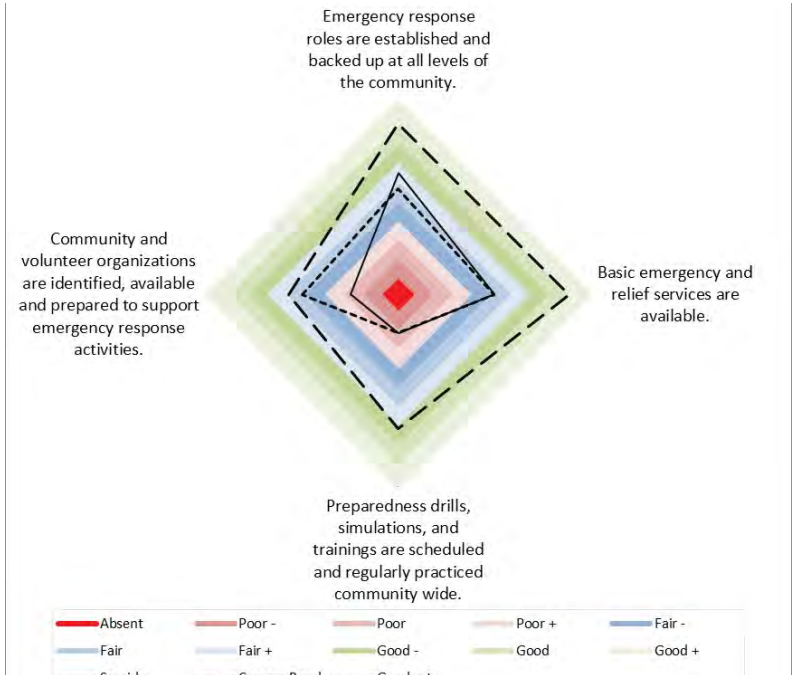
Emergency Response

Current Assessment-Emergency Response

Background

"The emergency response function incorporates a wide range of measures to manage risks to communities and the environment. Emergency response addresses the potential occurrence of major emergency situations requiring a complete government approach to natural and human-induced hazards (e.g. the consequences of acts of terrorism or the release of hazardous materials, etc.). All emergencies and crisis events are by definition chaotic and highly dynamic, creating physical, emotional, and social disorder. The establishment of an emergency response system, including all of the institutions that are maintained to respond quickly to disasters, is essential for addressing emergency needs at the community level."

– USAID Coastal Resilience Guide



"Knowledge of a system is always partial and incomplete … Efforts to enhance the resilience of [community] systems must therefore be supported by continuous learning and experimentation."
~ Stockholm Resilience Center

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Significant portion of community is aware and able to help/aid in community wide disaster response."

"Clatsop Community College has educational programs and community partnerships for emergency management, paramedic, and allied health opportunities to support resilience."

Emergency Response Goals and Questions

This section contains the goals for Emergency Response developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local emergency response element.

Goal #1

Emergency response roles are established and backed up at all levels of the community.

Translation

Diverse and redundant emergency response capabilities are in place.

Questions to ask:

- ❒ Have disaster-specific emergency response plans been developed?
- ❒ Do emergency response plans clearly define leadership roles and coordination mechanisms (e.g. incident command system, recovery operations, resilience officer, etc.)?
- ❒ Are materials and supplies for short-term disaster management and emergency response stored in locations outside of high risk areas?
- ❒ Are redundant infrastructure and critical facilities systems (including operations, paperwork, buildings and staff) in place?

Goal #2

Basic emergency and relief services are available.

Translation

People can get the help and assistance they need.

Questions to ask:

- ❒ Have facilities vital to emergency response been identified?
- ❒ Have assessments been done to determine if these vital facilities will withstand the impacts of disasters?
- ❒ Have measures been taken to ensure that emergency healthcare and life support systems for the community will be functional during a disaster?
- ❒ Does the community have a local energy assurance plan?

Goal #3

Preparedness drills, simulations, and trainings are scheduled and regularly practiced community wide.

Translation

The whole community regularly practices how to respond to disasters.

Questions to ask:

- ❒ Are there public awareness and education programs to inform all sectors of the community of the emergency response plans?
- ❒ Have volunteers been identified and trained properly prior to disaster events?
- ❒ Are the results of emergency response drills and exercises utilized to identify gaps or deficiencies in existing response plans?
- ❒ Does the whole community participate in drills, simulations, exercises and trainings?

Goal #4

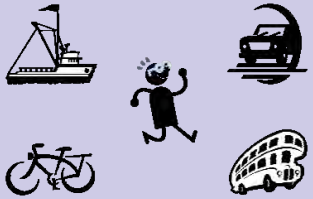
Community and volunteer organizations are identified, available and prepared to support emergency response activities.

Translation

N/A

Questions to ask:

- ❒ Has the community identified community members and organizations that can be called upon to assist when responding to an emergency?
- ❒ Have agreements been established to utilize community resources during emergency response?
- ❒ Has the community identified organizations that are willing to assist during emergencies?
- ❒ Has the community identified local response and recovery functions, roles and structures for public, private, non-profit and volunteer organizations?



The desired outcome of this element of resilience is to ensure that transportation facilities and systems are built and maintained so that they remain available after a natural hazard or disaster event.

Transportation

Background

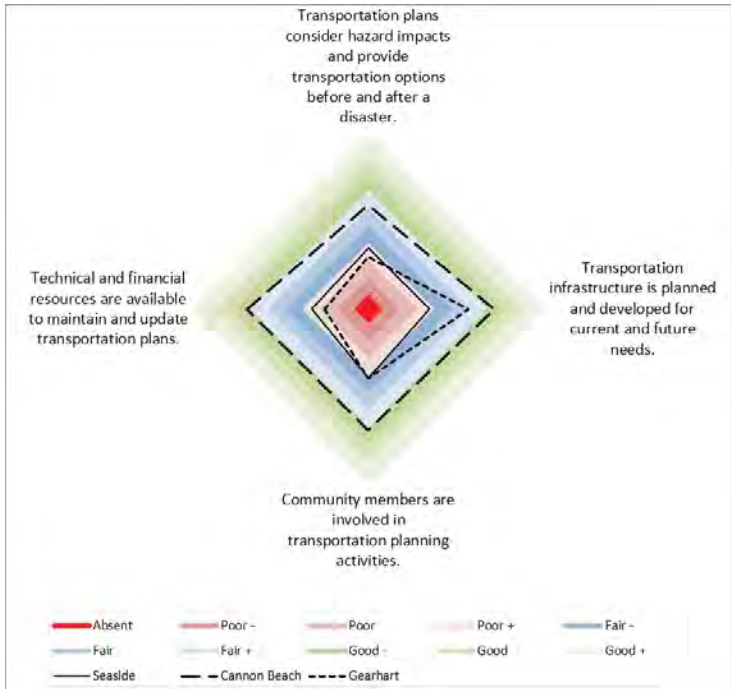
"Emergency response, access to critical buildings, the restoration of utilities, and the reopening of businesses all depend on the transportation network. The resilience of the transportation network is considered a key factor for re-establishing other lifelines after a major Cascadia subduction zone earthquake [or other disaster] . . .

The overall resilience goal for the transportation network is first to facilitate immediate emergency response, including permitting personnel to access critical areas and allowing the delivery of supplies, and second to restore general mobility within specified time periods for various areas of the state . . .

Given the transportation system's current state of vulnerability to ground shaking and tsunami inundation, initial damage from a Cascadia subduction zone earthquake is expected to be devastating to the parts of the system located along the coast and in western Oregon. The resulting lack of mobility will have direct impacts that severely limit rescue operations, inspection of critical infrastructure, restoration activities, and the state's ability to restore services leading to recovery . . ."

~ Oregon Resilience Plan

Current Assessment-Transportation



"The kind of transportation we invest in determines the shape of our communities, our access to jobs and services, and how much of our time and money we spend on getting around."
~The Rockefeller Foundation

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"All of the current evacuation routes associated with Cascadia have been upgraded in conjunction with improving all of our modes of transportation."

"Highway 101 bridges and overpasses are all earthquake resistant; key city bridges are earthquake resistant; north/south transportation along 101-corridor includes other modes (bus, rail, ?); robust pedestrian trails also reach high ground, shelters, assembly areas."

"Two of three creek crossings have been improved to withstand both earthquake and tsunami together with improved and widely identified evacuation corridors to high, safe ground. The third corridor is scheduled for improvement."

Transportation Goals and Questions

This section contains the goals for Transportation developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the transportation element.

Goal #1

Transportation plans consider hazard impacts and provide transportation options before and after a disaster.

Translation

People can get around easily before and after disasters.

Questions to ask:

- ❒ Does the transportation system include diverse and redundant transportation options?
- ❒ How will people get around after a disaster?
- ❒ How will commercial goods and services move around after a disaster?
- ❒ Are there transportation options we haven't considered emphasizing in our community?
- ❒ Do transportation plans account for energy availability post-disaster?
- ❒ Do our plans consider design and engineering approaches that allow for "safe failure" of transportation components?

Goal #2

Transportation infrastructure is planned and developed for current and future needs.

Translation

Future generations are considered during the transportation planning process.

Questions to ask:

- ❒ Do transportation plans account for long-term changes in how people, goods and services move around?
- ❒ Do transportation plans consider potential impacts from future hazard events?
- ❒ Do transportation plans account for the need to evacuate hazard zones?
- ❒ Are there opportunities to bring new transportation technologies to the community (e.g. Personal Rapid Transit, cargo bicycles, electric vehicles, etc.)?

Goal #3

Community members are involved in transportation planning activities.

Translation

People participate in deciding how they want to get around their community.

Questions to ask:

- ❒ Is the public aware of the amount, condition and replacement cost of transportation infrastructure in hazard zones?
- ❒ Is the existing transportation system meeting the needs of all members in the community?
- ❒ Have community members been asked how they want their transportation system to function?
- ❒ Have decision makers specifically asked members of the community who do not drive (youth, elderly, alter-abled, etc.) what they want/need out of their transportation system?
- ❒ Has the business community been invited to participate?

Goal #4

Technical and financial resources are available to maintain and update transportation plans.

Translation

The community implements its transportation strategy.

Questions to ask:

- ❒ Is funding available for re-siting or improving transportation infrastructure?
- ❒ Does the community have the resources needed to propose and evaluate a range of community-scale transportation options?
- ❒ Does the community have the money to build and maintain its transportation system?

The desired outcome of this element of resilience is to ensure that vital community facilities and services are built and maintained so that they remain available after a natural hazard or disaster event.

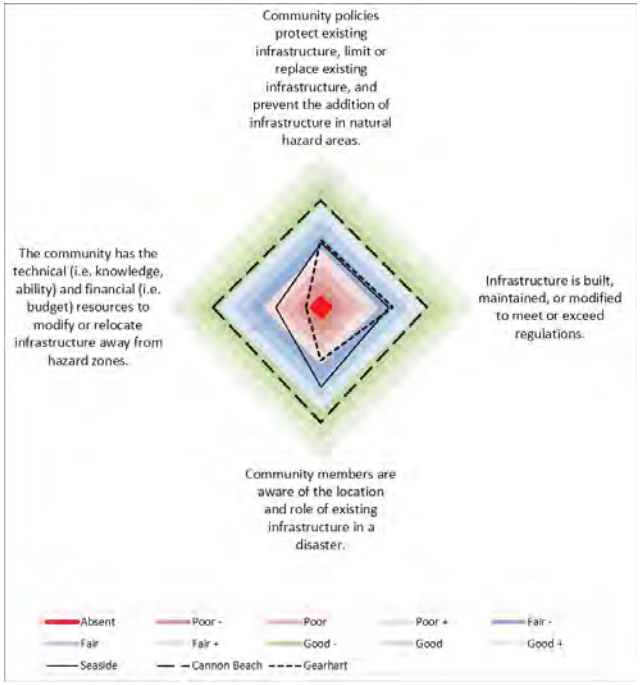
Critical Infrastructure

Current Assessment-Critical Infrastructure

Background

"Critical infrastructure and facilities, notably transportation, water, waste water, power, telecommunications, storm water, police and fire stations, jails, schools, hospitals and airports among others, are vitally important to community function. Prior to a disaster, diversifying, hardening and/or relocating infrastructure are strategies to increase community resilience. Following a disaster, it will be important to evaluate opportunities to modify or improve the existing infrastructure and facilities systems based upon the community's vision for future growth."

~ Oregon Partnership for Disaster Resilience



"The estimated current state of hospitals, Emergency Operation Centers, fire and police stations falls significantly short of the target state need for these facilities to be immediately available following the CSZ event."

~ Oregon Resilience Plan

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Shelters in place; planning recognizes hazards and has reserve accounts to accomplish; future plans for resiliency is built into infrastructure planning; checklists are used to incorporate resiliency on all building & development."

"The above has allowed for the movement of critical facilities to safe location, and now there comes some funding source."

"Water system transmission lines are moved out of slide prone areas. All bridges have been replaced with new bridges built to current seismic standards."

"Solar & other ways to diversify electrical production; De centralize key community infrastructure; Critical infrastructure out of flood plain/tsunami zone; Buildings upgraded to most up to date seismic codes."

Critical Infrastructure Goals and Questions

This section contains the goals for Infrastructure developed and approved by the local workgroups.
Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the critical infrastructure element.

Goal #1

Community policies protect existing infrastructure, limit or replace existing infrastructure, and prevent the addition of infrastructure in natural hazard areas.

Translation

Risks to critical infrastructure are minimized through policy and community investments.

Questions to ask:

- ❒ Have critical facilities been located outside of the hazard area or built to be resistant to the known hazard impacts?
- ❒ Do local policies limit critical infrastructure development in vulnerable land areas?
- ❒ Has the community identified and pursued opportunities to provide redundant infrastructure systems?
- ❒ Some critical facilities function best within zones that are prone to hazards (i.e., water treatment facilities). Has the community ensured that in such cases, proper siting and construction standards are in place?
- ❒ Has the community considered design and engineering approaches that allow for "safe failure" of critical system components?
- ❒ Is system diversity and redundancy considered when siting, designing and constructing critical facilities and systems?

Goal #2

Infrastructure is built, maintained, or modified to meet or exceed regulations.

Translation

Critical infrastructure is built to a high standard.

Questions to ask:

- ❒ Has an assessment of critical infrastructure been conducted to determine vulnerability to various hazards?
- ❒ Is there available land outside the hazard zones for the re-siting or development of critical infrastructure?
- ❒ Has community analyzed energy supply distribution risks and vulnerabilities; developed new, or refined existing, facilities to increase resiliency Example: Smart Grid technology, integrate new energy portfolios (renewable, biofuels, etc.)

Goal #3

Community members are aware of the location and role of existing infrastructure in a disaster.

Translation

Everyone knows where critical infrastructure is located and what it is needed for.

Questions to ask:

- ❒ Is the public aware of critical infrastructure in the hazard zone?
- ❒ Is the public aware of the role of each facility and the impacts on the community?
- ❒ Has community identified critical public and private infrastructure and key services that must be restored immediately post-disaster (i.e. schools, grocers, health care providers, water, waste water, power, emergency services, etc.).

Goal #4

The community has the technical (i.e. knowledge, ability) and financial (i.e. budget) resources to modify or relocate infrastructure away from hazard zones.

Translation

The community makes investments to ensure critical infrastructure is not located in risky places.

Questions to ask:

- ❒ Are funding sources available for re-siting or improving critical infrastructure?
- ❒ Do local contractors have technical knowledge to retrofit or move resources?
- ❒ Has the community ensured that all funding for new critical infrastructure is prioritized for projects located outside hazard zones, except where required to function properly?

The desired outcome of this element of resilience is that plans are in place prior to hazard events that accelerate disaster recovery, engage communities in the recovery process, and minimize negative environmental, social, and economic impacts.

Recovery

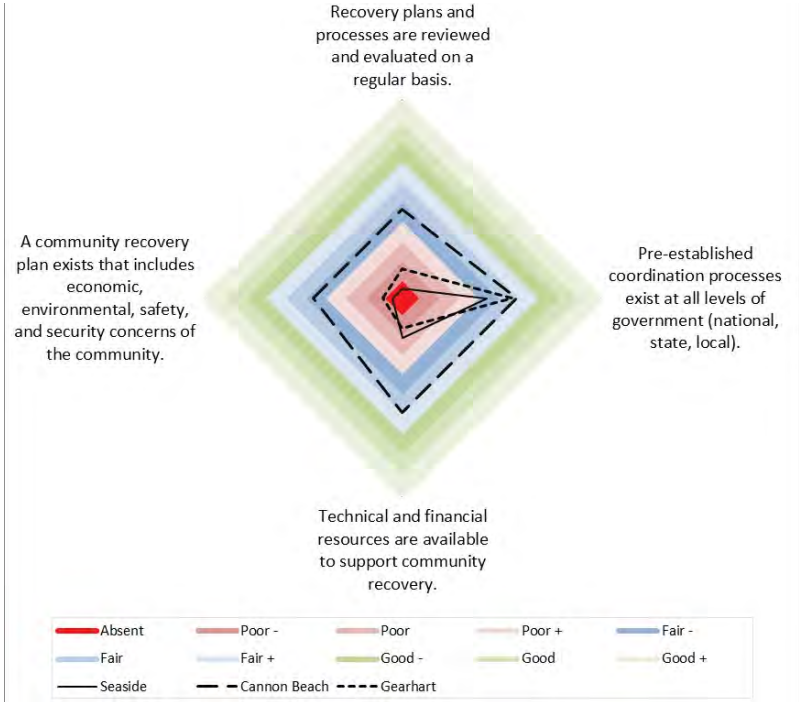
Background

"Disaster recovery is the process of restoring and improving basic services, natural resources, and livelihoods in a community affected by a hazard event. Resilient coastal communities accept that hazard events will happen in their community and develop plans and procedures before they happen to guide the recovery process. Furthermore, resilient communities seek out and take advantage of opportunities to reduce exposure to potential future hazards and further reduce risk through restoration and reconstruction activities.

The period immediately following a disaster provides many opportunities for implementing strategies to mitigate the impacts of potential future disasters, especially while the political will remains strong. If the disaster recovery process is to be successful in building community resilience, it must take a holistic approach by incorporating good practices from the other essential elements of [coastal community resilience] and fully integrate the domains of disaster management, community development, and coastal resource management. "

– USAID Coastal Resilience Guide

Current Assessment-Recovery



"Today's emergency management programs tend to focus on the preparedness and response phases, leaving limited resources to address the recovery and mitigation phases. The goal of a disaster resilient approach is to . . . recover from future disaster events in a manner that efficiently leverages limited resources . . ."

~ Oregon Partnership for Disaster Resilience

Local Vision

At a meeting in May, 2014, members of the local workgroups participated in a resilience visioning exercise. We collected the following responses to the question: "What is an appropriate 20-year resilience vision for this sector?"

"Have a north[-south] major highway besides Hwy 101 coming from Astoria going south to Tillamook. If Hwy 101 is destroyed in small sections it is impossible to go anywhere."

"No one hurt. Buildings still standing. Food & H2O available. Communication is normal."

"Clatsop Community College has educational programs and community partnerships for emergency management, paramedic, and allied health opportunities to support resilience."

Recovery Goals and Questions

This section contains the goals for Recovery developed and approved by the local workgroups.

Community leaders and staff can use the questions that follow each goal to guide discussions and help improve local resilience of the recovery element.

Goal #1

A community recovery plan exists that includes economic, environmental, safety, and security concerns of the community.

Translation

The community has considered and established a set of recovery goals, strategies and systems prior to a disaster event.

Questions to ask:

- ❒ Does the community have a pre-established disaster recovery plan (or plans)?
- ❒ Does the community have an infrastructure recovery protocol that prioritizes which infrastructure will be brought back on-line first after a hazard event?
- ❒ Do policies and procedures exist for guiding reconstruction and redevelopment away from hazard areas and sensitive natural resources post event?
- ❒ Are multiple hazard scenarios (both chronic and catastrophic) used to consider the range of potential impacts?
- ❒ Do existing plans address long-term community development goals and values?

Goal #2

Recovery plans and processes are reviewed and evaluated on a regular basis.

Translation

Recovery plans are updated with new information and strategies as things change over time.

Questions to ask:

- ❒ Has the community identified a group or body (e.g. new committee or standing group such as planning commission or hazard planning committee) that has oversight responsibility and is accountable for reviewing, evaluating and implementing the recovery plan(s)?
- ❒ Are processes to monitor and report on the progress of recovery efforts in place?
- ❒ Are there opportunities to periodically revise recovery plans based on assessments, community input, and monitoring?
- ❒ Is there a process to review and assess post-disaster recovery efforts so that future protocols can be improved?

Goal #3

Pre-established coordination processes exist at all levels of government (national, state, local).

Translation

Structures, systems, agreements and contracts are in place that establish shared understanding of recovery roles and capabilities.

Questions to ask:

- ❒ Who is responsible for managing overall recovery coordination at the local level?
- ❒ Has the community written and adopted a recovery ordinance that gives the city/county the authority to guide its own redevelopment?
- ❒ Have stakeholder coordination mechanisms been pre-established with organizations and agencies responsible for recovery efforts (e.g. ?
- ❒ Have mechanisms been pre-established to coordinate donor and service organization efforts in the community?
- ❒ Are communication mechanisms in place to obtain and share information with the community on the recovery process?
- ❒ Do external organizations understand the process for delivering goods and services?

Goal #4

Technical and financial resources are available to support community recovery.

Translation

The community is making pre-disaster investments in post-disaster recovery.

Questions to ask:

- ❒ Is technical assistance available to the community after a hazard event?
- ❒ What local, state or federal recovery programs or incentives exist that offer funds for recovery?
- ❒ Has the community engaged the local banking and insurance industries to assist in rapid business recovery while awaiting state and federal assistance?
- ❒ Are mechanisms in place for communities to solicit, accept and manage external funds following a disaster?
- ❒ Does the community use local and regional economic opportunities to create a more resilient community?

4. Resilience Network

Network Context

The resilience assessments completed for Clatsop County and the cities of Gearhart, Seaside and Cannon Beach provide a frame of reference for resilience planning. The purpose of this guide is to help each community think strategically about ways to improve community resilience to social, environmental and economic change resulting from coastal hazards and natural disaster events.

One of the foremost intentions of the effort that resulted in this Guidance was to build networks in support of resilience, based on the idea that networks can improve the movement of information and knowledge, and such improved information flow is an important element of community resilience. The project convened two network groups, or 'nodes,' one at the local level, consisting of the community work groups that assisted in the community resilience assessments and development of the Guidance, and an ad-hoc state-level team that was periodically consulted on the project.

With the completion of this Guidance, the role of the network nodes is expected to shift. The focus of the state-level group will shift according to the evolving environment for resilience planning at the state and national levels. At the local level, there is an opportunity for the local work groups to continue their work in various ways, including shifting to a longer-term strategy to improve community resilience. The network of people and organizations who participated in this pilot project are primed to lead local resilience planning activities. In order for their work to influence community policy and decision making in a meaningful way, an effective strategy that sustains the network must be implemented.

Implementation Strategy

Governor Kitzhaber's Executive Order No. 11-12 signed on December 16, 2011 established 11 Regional Solutions Centers throughout the State of Oregon. State agency staff are co-located in Regional Solutions Centers and take a collaborative approach to problem-solving to maximize economic and community development opportunities at the state, regional and local level. Regional Advisory Committees adopt annual work plans that focus Team members' attention on projects that will leverage public, private and civic sector resources to address regional priorities.

Clatsop County and the cities of Gearhart, Seaside and Cannon Beach are served by the North Coast Regional Solutions Center located in the City of Tillamook. The North Coast Regional Solutions Team's adopted 2014-15 Work Plan identifies 'Resilience Planning' as one of its priority projects. Team members are charged with supporting city and county emergency preparedness and resilience planning efforts, promoting sustainable long-range planning initiatives and convening regional planning meetings. The Department of Land Conservation and Development (DLCD) is identified as the lead agency for the project with support coming from multiple state agencies including the Oregon Office of Emergency

Management, Dept. of Environmental Quality, Dept. of Transportation, Business Oregon, the Infrastructure Finance Authority and others. Key stakeholders include counties, cities, special districts, hospitals, utility providers, fire departments, business and property owners, volunteer groups (e.g., CERT) and citizens. Because the Regional Solutions Team is already supporting resilience planning efforts, it is natural that they help facilitate implementation of this Guidance.

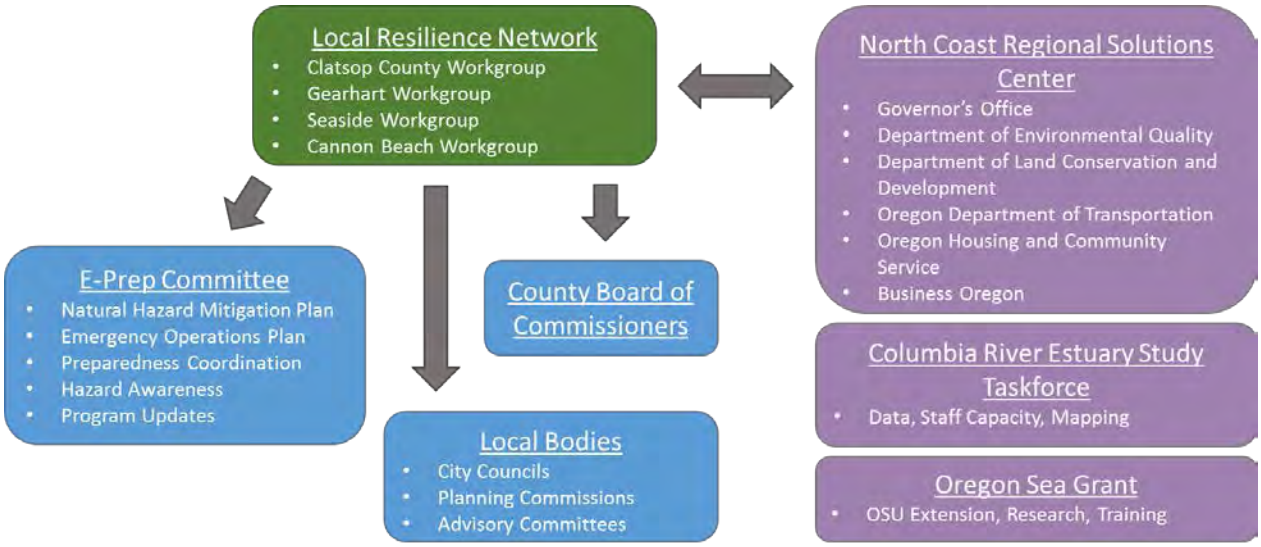
Recognizing that community resilience needs to be actively pursued and not just called upon following an event or change, the North Coast Regional Solutions Team is prepared to convene meetings with members of the Southwest Clatsop community resilience network right away. The Regional Solutions Team intends to leverage the momentum generated by the pilot project to ensure continuity, growth and maturation of the community resilience network into the future.

Elements of the Southwest Clatsop/Regional Solutions community resilience network implementation strategy include:

- Convening of quarterly network meetings, including one meeting per year with the Clatsop County Emergency Preparedness (E-PREP) Committee and Natural Hazard Mitigation Plan Committee
- Agenda preparation and meeting organization/facilitation by the DLCD North Coast Regional Representative and Regional Solutions Team
- Annual reporting to the North Coast Regional Advisory Committee that includes program successes, challenges, opportunities and effectiveness measures
- Provide continuous network support, communication and collaboration between the Regional Solutions Team, Clatsop County and the cities of Gearhart, Seaside and Cannon Beach on ongoing and future resilience plans, programs and initiatives
- Collaborate with other regions in the state on resilience planning (e.g., how could resources in central and eastern Oregon be leveraged following a Cascadia Subduction Zone event on the coast)
- Link local resilience plans and programs with the Governor's Office and Oregon Legislature's statewide resilience planning efforts (i.e., Oregon Seismic Safety Policy Advisory Commission, Oregon Resilience Plan, Economic Development Strategy, etc.)
- Coordinate local efforts with federal initiatives (FEMA, HUD, etc.)
- Consider how local resilience planning efforts may be transferred and/or replicated within the North Coast region and elsewhere throughout the state (e.g. partnership with the The Ford Family Foundation and University of Oregon on their South Coast Resilience Planning project)
- Connect resilience planning principles to other local planning activities (e.g. economic development, capital improvement, transportation, land use, parks, etc.)

Network Example

The primary network developed as part of this project consists of a set of local resilience working groups. As discussed above, the Regional Solutions Team will assist with the convening and process facilitation for these groups moving forward. Other potential resources for local technical assistance and capacity included Columbia River Estuary Taskforce (CREST) and Oregon Sea Grant. The following figure illustrates a conceptual model for how these entities might work together, including linkages to other, existing local groups. The model is intended for illustrative purposes only.



Resilience Actions

At the final project meeting on October 27, 2014, local workgroup members identified and prioritized resilience actions, using the worksheet on the next page. These actions represent concrete next steps the communities wish to take to increase community resilience. Subsequent to the meeting, Clatsop County and City of Gearhart representatives completed Resilience Action forms that detail information related to each action, including implementation, funding and timeline. Implementation of these actions will provide important, concrete, near-term focus for the local work groups. Identified resilience actions are listed below. Completed action item forms are included on the following pages.

Clatsop County Resilience Actions

- Provide potable water options to community members during emergencies
- Provide redundant power/electrical service following a natural hazard event
- Provide redundant sanitary sewer facilities following a natural hazard event.

City of Gearhart Resilience Actions

- To be included at a later time

Resilience Action Form

Jurisdiction: _____

Resilience Action (What do we want to do?):		
Resilience Element (Which element(s) does this apply to?):		**Alignment with Element Goal(s):**
❑ Governance ❑ Society and Economy ❑ Coastal Resources ❑ Land Use and Development ❑ Hazard Awareness	❑ Warning and Evacuation ❑ Emergency Response ❑ Transportation ❑ Infrastructure ❑ Recovery	
Alignment with Existing Jurisdictional Plans/Policies (check all that apply):		
❑ Comprehensive Plan ❑ Refinement Plan ❑ Economic Development Plan ❑ Development Code ❑ Other _____ ❑ Other _____	❑ Transportation System Plan ❑ Capital Improvements Plan ❑ Infrastructure Master Plan ❑ Park Master Plan ❑ Other _____ ❑ Other _____	❑ Hazard Mitigation Plan ❑ Emergency Operations Plan ❑ Disaster Recovery Plan ❑ Continuity of Gov/Ops ❑ Other _____ ❑ Other _____
Rationale for Proposal (Why is this important?):		
Ideas for Implementation (How will it get done?):		

Champion/Responsible Organization:			
Internal Partners:		**External Partners:**	
Potential Funding Sources:		**Estimated cost:**	**Timeline (Circle One):**
❑ General Fund ❑ Bond ❑ Loan ❑ Fees	❑ Grant: _____ ❑ Donation: _____ ❑ In-Kind: _____ ❑ Other: _____	❑ 0-$50K ❑ $50K- $250K ❑ $250K - $1Million ❑ Over $1Million	❑ Ongoing ❑ Short-term (1-3 years) ❑ Mid-term (4-10 years) ❑ Long-term (10+ years)
Form Submitted by:			
Status of Action (for tracking purposes):			

Oregon Partnership for Disaster Resilience
Community Service Center • 1209 University of Oregon
Eugene • Oregon • 97403-1209
Phone: 541.346.7326 • Fax: 541.346.2040