### Catalyzing Community Resilience: Bridging Science and Local Actions

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#### Welcome & Introductions

### What brought you to this session?

### The William D. Ruckelshaus Center

public policy processes.





**EVANS SCHOOL** OF PUBLIC POLICY & GOVERNANCE

solutions.

UNIVERSITY of WASHINGTON



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**Mission:** To help parties involved in complex public policy

challenges in the State of Washington and the Pacific Northwest tap

university expertise to develop collaborative, durable, and effective

**Vision:** The Center envisions a future in which government leaders,

policy makers, and citizens routinely employ tools of collaborative

decision making to design, conduct, and implement successful

# **Opresilience Collaborative**

We catalyze the creative potential of communities and organizations to meet the challenges of a changing world.







# Washington State Coast Resilience Assessment

Conducted by the William D. Ruckelshaus Center

May 1, 2017



- Conduct a situation assessment in response to growing concerns about the impact of climate and natural hazards events on the coast and coastal communities.
  - Explore long-term resilience opportunities.
  - identify existing efforts so that new efforts build upon what is already established.
  - Identify approaches, processes, structures, and resources needed to enhance and support coast-wide resilience efforts.
- Individual and group interviews 104 participants
- Project start  $\rightarrow$  finish = 6 months

\*\*The assessment provides a mechanism for the experiences and viewpoints of the participants to inform the next generation of strategies for enhancing coast-wide resilience.

### What is Community Resilience?

#### integrity structures llc.

#### **Building with Integrity**

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SITE DEVELOPMENTING

SPI

PROJECT

BAAH

"A resilient community is able to thrive in the present, adapt to challenges, and even transform as necessary to meet future threats or opportunities."



#### COMMUNICATIONS



After the CSZE, the county will experience phone, cell phone, internet, radio and TV outages lasting for months.

It may take days or weeks to restore 33% of coastal communications facilities.

67% may need to be replaced.

no damage 🛛 🔵 🔴 🌒 completely destroyed



### Findings & Lessons Learned







### Findings & Lessons Learned

✓ How is Resilience Defined?
✓ Is the Coast Resilient?
✓ What Existing Efforts Support Resilience?
✓ What Would Resilience Look Like and What is Needed?

#### Examples of Participant Definitions of Resilience

Ability to react and restore public infrastructure (highways & bridges) in response to natural disaster or climate change

Resilience is the capacity to **Withstand and recover** from natural hazard impacts

#### Adaptability

able to roll with change

#### The ability to **bounce back** from shocks and downturns

When you can shock the system or change big drivers over longer timeframes and the system can absorb or shift in non-catastrophic ways

Ability of community to adapt & continue to thrive under changing social and & environmental conditions

Communities that can bounce back from stressors

Certainty of performance or response to action or hazard event

Rubber band – **flexibility** 

Ability to recover, adapt, or cope from or with catastrophic or incremental impact or change

Planning for/preparing for/

Options exist to minimize physical harm from catastrophes and a plan is available to rebuild critical infrastructure once it is damaged

A community taking deliberate action to prepare/avoid, adapt, respond, and recover to/from natural hazards, all while protecting or enhancing human and natural systems

#### Ability to **rebound** after a significant event

The ability to **recover** from the occasional damage from variability (natural or external)

Ability of a community to be exposed to stress and recover quickly to a stable new condition that is similar to or better than the original state future coastal hazards ON to prepare/avoid, adapt, respond,

responding to/recovering from current and

<u>The ability to recover after a catastrophe</u>

Ability of the ecosystem to respond to a disturbance by **resisting damage** and recovering quickly

#### Ability to withstand, adapt to, and/or recover

Capacity of "community" to respond to impacts from hazards/stressors and be able to move forward

Ability of community or environment to respond to impacts from natural hazards, either "immediate" (e.g. tsunamis/ earthquakes) or "evolving" (e.g. sea level rise) Preparedness necessary to minimize negative impacts from hazards and changing conditions, **recover quickly** 

from negative impacts when they do occur, and redevelop/rebuild rapidly and in a sustainable manner after hazard events

Ability to withstand climate and other hazards, able to bounce back soon after without major new investments, and sustainable now and in the future

Surviving natural processes without

infrastructure or social

welfare damage

Ability to suffer natural disasters with minimal costs, injuries, downtime, and permanent degradation in the region

Ability to meet emergencies that will affect homes, people's livelihoods, and lives along the coast with special attention to

#### economic stability and growth

The ability to experience a hazard/event with little to no interruption in function, quality, character, stability, etc

The ability to withstand and recover from hazard impacts with minimal damage and time; includes avoidance of and preparation for hazards, and continued innovation to accommodate in the smartest way possible strategies to **minimize future hazards** to people and property

Planning and implementing

Having awareness, appropriate resources, and appropriate infrastructure for community to minimize loss and recover quickly from a natural disaster

Inform disturbances in an expedient, cost-acceptable manner such that lives, livlihoods, and community needs are not affected beyond acceptable thresholds

The ability to survive and rebuild; the ability

to change and meet specific challenges

Ability to address environmental and socio econ. As that effect communities (both human and ecological) and the services they provide

As part of the pre-interview questionnaire participants were asked to identify vulnerabilities and natural hazard threats facing the coast and coastal communities that impact resilience. The majority of participants identified earthquake, tsunami, and erosion as the top hazards. Sea level rise, flooding, landslides, extreme weather events, and ocean acidification were also frequently listed.

Vulnerabilities included physical and communication infrastructure, coastal economies, health and wellbeing, and governance capacity and resources. According to participants, erosion, sea level rise, and flooding are currently having a direct impact on roads, natural areas, critical infrastructure and facilities, and coastal economies.



*Q. What are the biggest vulnerabilities and potential threats and how resilient are communities/region?* 



#### Participant Perspectives: What Existing Efforts Support Resilience?

Participants were asked if they were aware of or have participated in any efforts that contribute to resilience and the entity or entities leading those efforts. Participants were also asked if other efforts currently exist that could be expanded to include the topic of resilience. The Assessment Team compiled a list of efforts and entities identified by participants during this assessment (Appendix F) and created the following visual. This list and visual are not meant to be comprehensive but rather the start of an inventory that can be built upon and used to better understand what entities and efforts could be involved in resilience efforts, how these efforts and entities are connected, and where there might be opportunities for resource coordination and partnerships.





### What's Needed?

- Increased capacity grants, funding, staff, planning
- Coordination of current and future efforts
- Political willingness
- Focus on life safety
- Improved, redundant infrastructure roads, broadband
- Locally relevant data
- Diversified economy
- Access to health care
- Coast-wide advocacy
- Regulatory flexibility

#### 1. Establish A Coast-Wide Resilience Initiative To Enhance And Integrate Efforts

**Key Leveraging Action:** Create an integrated coast-wide effort to strengthen coastal resilience that is staffed by Washington Sea Grant, Washington State University Extension, Washington State Department of Ecology, and Washington State Emergency Management Division.

#### 2. Support And Enhance Local Efforts To Strengthen Resilience

**Key Leveraging Action:** Through State funding, provide at least \$50,000 each in additional funding to coastal tribes, Marine Resource Committees, and Conservation Districts to stimulate additional locally driven resilience efforts. As part of the funding mechanism, provide parameters and guidance so that the funding is utilized for resilience-related projects.

#### 3. Enhance Well-Being And Consider New Approaches To Economic Development

**Key Leveraging Action:** Consider integrating approaches to economic development that are based on regenerative planning and development and informed by local cultural, social, ecological and political dynamics.

**Key Leveraging Action:** Undertake community food security assessments and develop food and health-related action plans and initiatives to address food security and access needs.

**Key Leveraging Action:** Convene a diverse group of interests to focus on insurance issues facing coastal property owners and to develop recommendations.

4. Support Improved Understanding And Application Of Resilience For Planning, Policy, And Strategy Development

**Key Leveraging Action:** Invest in activities that deepen understanding of resilience and create practical tools that allow for a consistent application of resilience principles.

#### 5. Develop An Advocacy Strategy For The Coast

**Key Leveraging Action:** Develop narratives and design a campaign through video, print, social, and professional media outlets that communicate the compelling stories of coastal communities.

#### 6. Increase Support For And Learn From Coastal Tribes' Resilience Efforts

**Key Leveraging Action:** Identify what is needed to support the implementation of relocation efforts, climate action plans, and hazard mitigation plans, and prioritize meeting those needs.

#### 7. Increase Capacity For Emergency Preparedness, Planning, And Recovery Efforts

**Key Leveraging Action:** Increase funding for State and Local Emergency Management and increase state focus on coastal preparedness, mitigation, recovery, and resilience.

**Key Leveraging Action:** Utilize the work of Clallam County Emergency Management as a model for emergency preparedness planning for coastal counties and provide support for the enhancement and implementation of plans.

## 8. Improve And Invest In The Life Safety, Reliability, And Redundancy Of Critical Infrastructure

**Key Leveraging Action:** Expedite efforts to get coast-wide broadband, improved cell phone coverage, and satellite communications for emergency response. Convene the relevant public and private entities, including those who are currently working on this issue, to identify strategies and solutions to barriers.

**Key Leveraging Action:** Prioritize the development and implementation of funding mechanisms and plans to rebuild or retrofit coastal schools or buildings near schools as multi-use earthquake ready facilities that include tsunami evacuation safe havens.

**Key Leveraging Action:** Expedite the development of priorities and actions to address coastal erosion, and identify funding options and support existing collaborative efforts.

#### 9. Increase Opportunities For Collaboration, Coordination, And Partnerships

**Key Leveraging Action:** Convene a coastal resilience funding task force. The task force could include tribal, federal, and state representatives, nonprofits, businesses, and philanthropic entities to explore creative options and partnerships for funding and coordinating investments.

**Key Leveraging Action:** Secure adequate funding for technical experts and programs to gather and analyze data. Develop multi-disciplinary technical assistance "advisory teams" that can be configured based on need to work directly with communities on specific issues.

**Key Leveraging Action:** Increase interdisciplinary and cross-sector collaboration and utilize existing efforts to share information about the work communities and researchers are undertaking.

#### 10. Advance Coastal Protection And Restoration

**Key Leveraging Action:** Explore opportunities to increase flexibility of regulatory approaches and support voluntary and collaborative efforts.

### **Guiding Principles**

- Start with place: understand the unique ecology, culture, social dynamics, and history acknowledging that the coast is not homogenous.
- Support the agency and self-efficacy of coastal communities build on locally-driven efforts.
- Recognize the time and resource constraints.
- Use systems approach and design for multiple benefits.
- Support and expand the work of existing groups instead of only creating new groups.
- Address gaps in communication and coordination.

### How Science Can Support Local Action?

### Questions?

### Discussion

# What does it mean to you/your work to bridge science and local action?

What is your experience and lessons learned bridging science and local action?