

Estuary and Salmon Restoration Program

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ESTUARY & SALMON
RESTORATION PROGRAM



Washington
Department of
**FISH and
WILDLIFE**

Estuary and Salmon Restoration Program



I. ESRP Program Overview

II. New Geospatial Decision Support Tool

III. Sea Level Rise & Restoration Guidance

IV. New ESRP Small Grants Program

Estuary and Salmon Restoration Program

P.S. Nearshore Ecosystem Restoration Project

- 2000 -15 year \$22 million science investigation
- Defining problems in the nearshore
- Developing process-based solutions
- Proposing large scale Army Corps/WDFW projects



Estuary and Salmon Restoration Program

- Created in 2006
- Implementing nearshore ecosystem restoration projects using PSNERP scientific principles and strategies
- Advancing adaptive management



Program Funding to Date

State Competitive Funds

	Appropriation	Need
2006 Supplemental Capital Appropriation	\$2,500,000	-pre approp
2007-2009 Capital Appropriation	\$12,000,000	\$21,500,000
2009-2011 Capital Appropriation	\$7,000,000	\$21,600,000
2011-2013 Capital Appropriation	\$5,000,000	\$13,500,000
2013-2015 Capital Appropriation	\$10,000,000	\$33,700,000
2015-2017 Capital Appropriation	\$8,000,000	\$27,200,000
<i>2017-2019 Capital Request</i>	<i>\$8,000,000?</i>	<i>\$29,000,000</i>
TOTAL	\$44.5 funded	\$147.5 need

Federal Partnerships

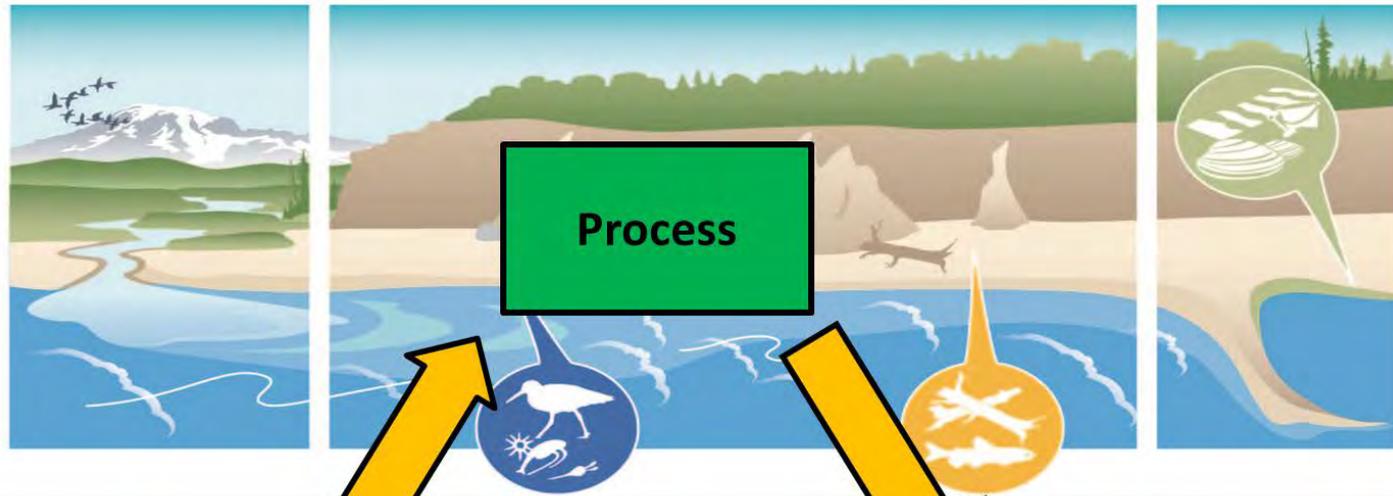
2007-2009 NOAA Partnership	\$1,115,000	
2010-16 FFY EPA Marine & Nearshore	\$5,158,000	
2016 NOAA Coastal Ecosystem Resiliency	\$1,421,277	
2016 NOAA Regional Coastal Resilience	\$159,597	
2018 NOAA Coastal Ecosystem Resiliency	\$1,447,667	
TOTAL	~\$9.3 million to date	

Project Awards

Award range	\$50,000 - \$2,600,000
Average project request	\$300,000 - \$400,000
Number funded projects	89 projects

Process-based restoration

- ESRP recognizes link between **ecological processes**, the **structure** they create on the landscape, and the **ecosystem functions** linked to that structure.

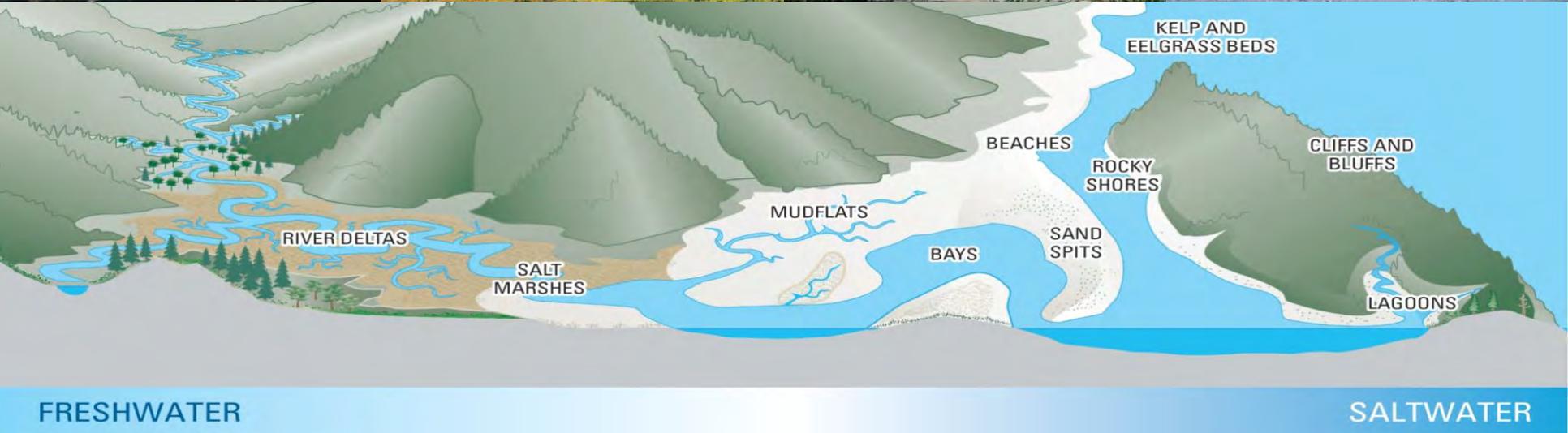


- Challenging! Processes are dynamic and structure and function take time to develop. (*Learning Program*)



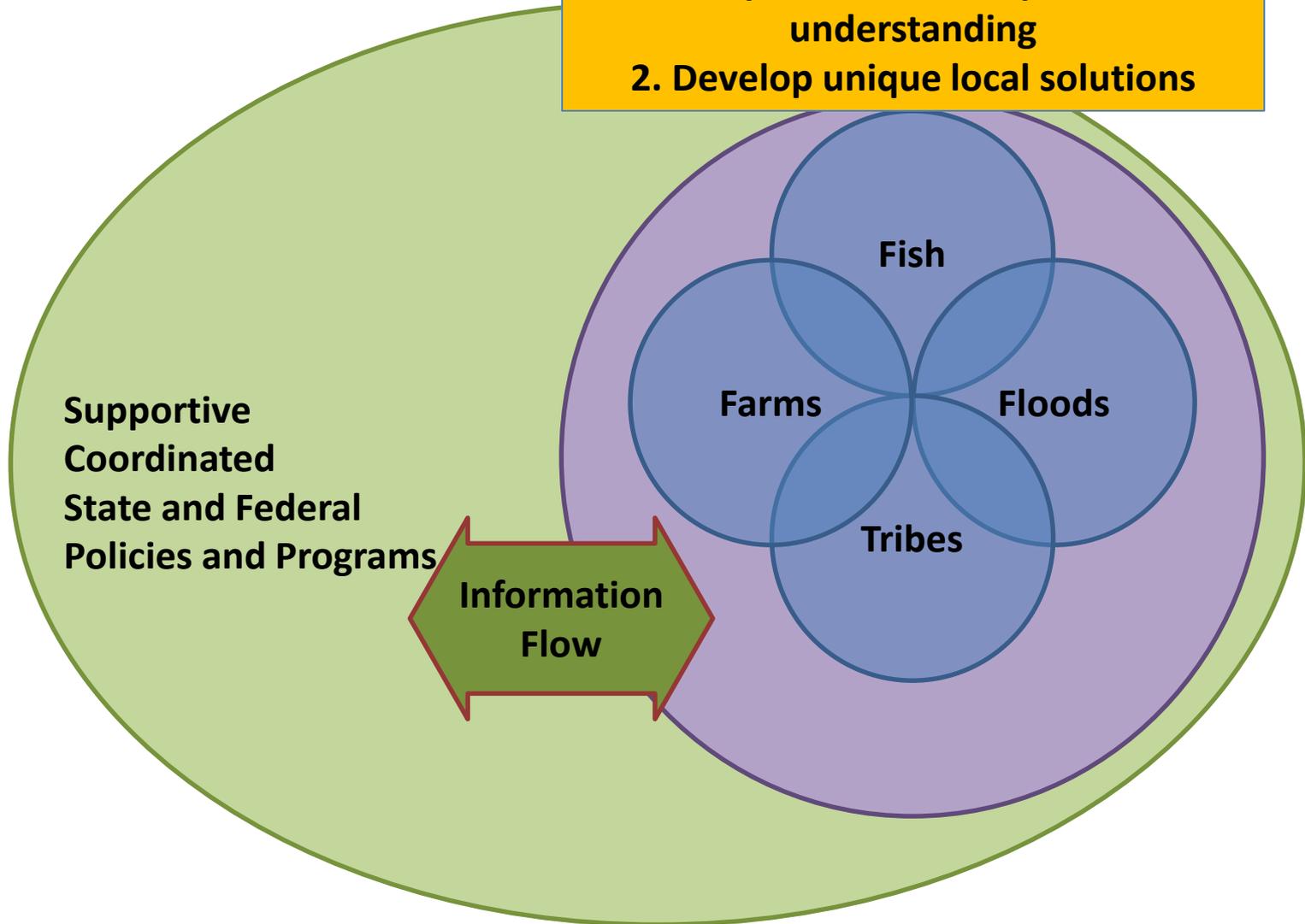
A Resilient Natural Landscape

Nearshore Ecosystem: Complex landscape of diverse shoreforms and habitat
Does and can provide greater resiliency to Sea Level Rise and Storm Surges
ESRP works in:



Special Initiatives: Snohomish Delta

1. Foster place-based cooperation and understanding
2. Develop unique local solutions



Estuary and Salmon Restoration Program: Background, Philosophy and Science

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PSNERP products and where we are now

What should our guiding philosophy of restoration be?

Goetz et al. 2004
Simenstad et al. 2006
Grenier 2010

How might future growth and development affect the nearshore?
(Bolte and Vache 2010)

Feasibility Report and new Congressional Approval for 12 Projects

What has changed in the nearshore?
Where?
(Simenstad et al. 2011)

Which of these changes are problems and why?
(Schlenger et al. 2011)

In what ways will we improve the nearshore?
(Cereghino et al. 2012)

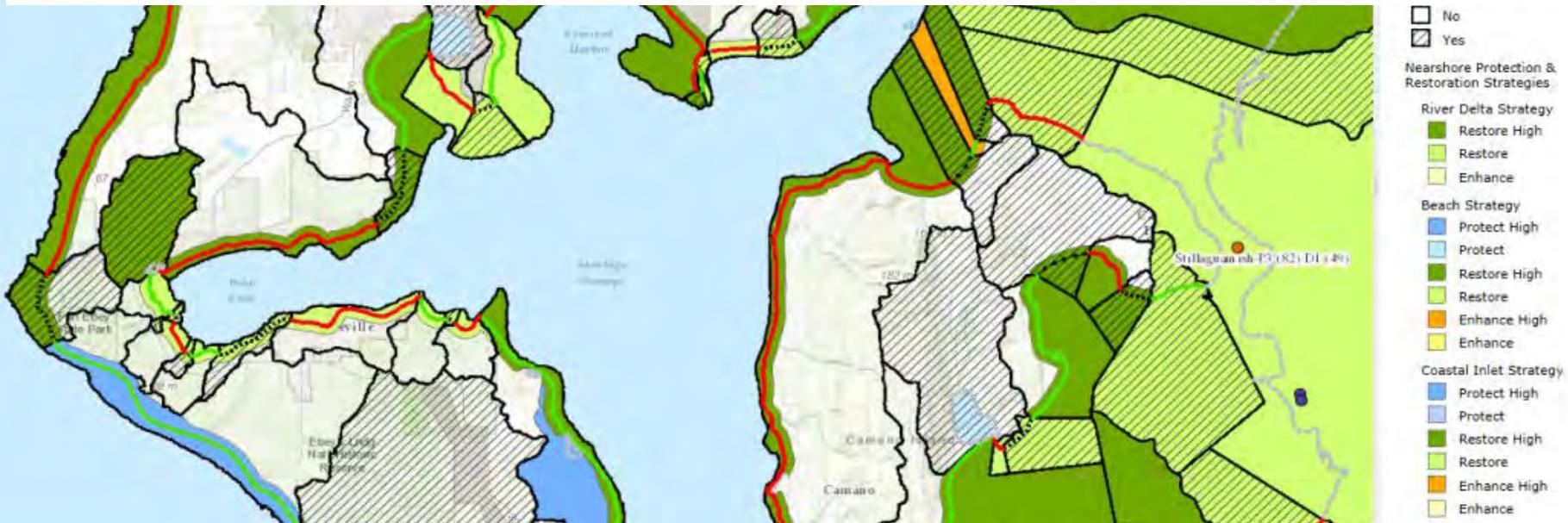
Implications of change
Fresh et al. 2011

What types of actions can protect and restore the nearshore?
(Clancy et al. 2009)

Estuary and Salmon Restoration Program

PSNERP Geodatabase

- **Coarse scale (Shoreline Process Unit/Drift Cell)**
 - Valuable for planning, but individual projects are at smaller scales
- **Coarse recommendations: Restore/Enhance/Protect**
 - How to prioritize among drift cells with the same recommendation?
- **Coarse data collection methods**



Identifying Target Beaches to Restore and Project ESRP Learning Project

Phase I (currently underway)

1. Improve the data

2. Seek input from technical experts and practitioners
→ Beach Strategy Workshop (Last Thursday!)



Phase 1. Data improvements

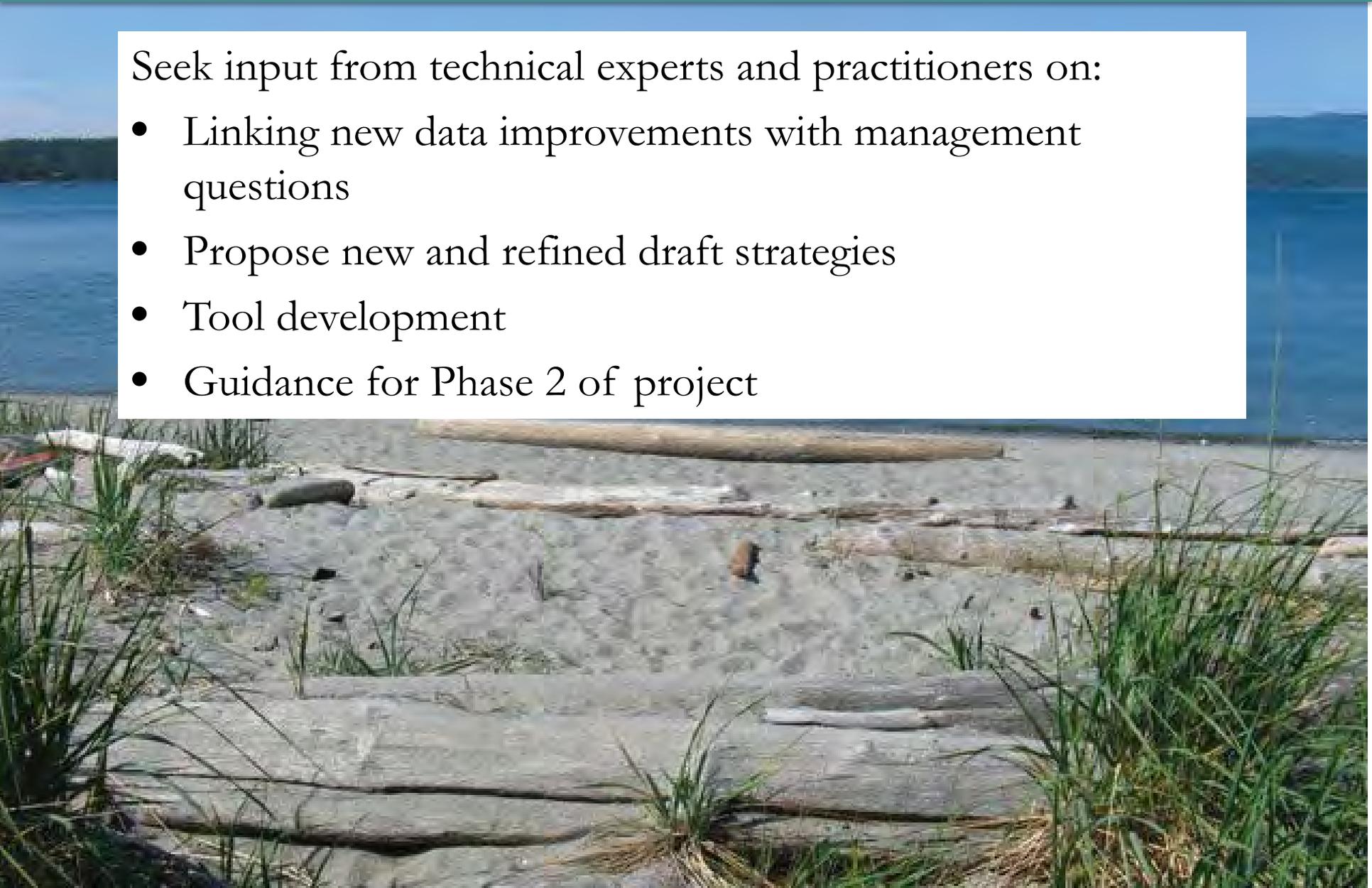
1. Update armoring data –new mapping of 15% (365 miles)
2. Historical (currently armored) feeder bluffs mapping
3. Shoreline parcel information integration
4. Net shore drift corrected to actual
5. Fetch and erosion potential
6. Other improvements to geodatabase



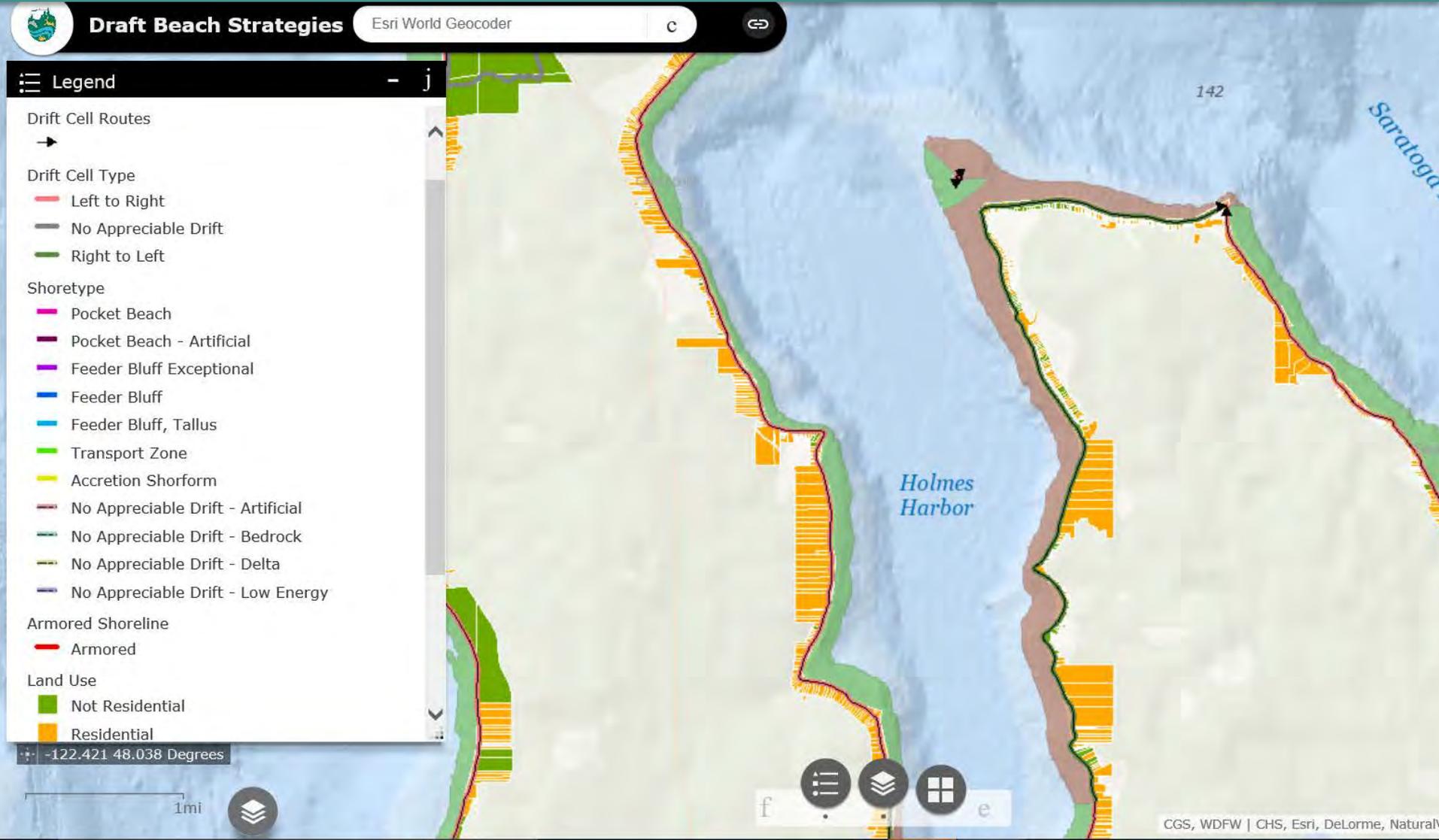
Phase 1. Beach Strategy Workshop (last Thursday!)

Seek input from technical experts and practitioners on:

- Linking new data improvements with management questions
- Propose new and refined draft strategies
- Tool development
- Guidance for Phase 2 of project



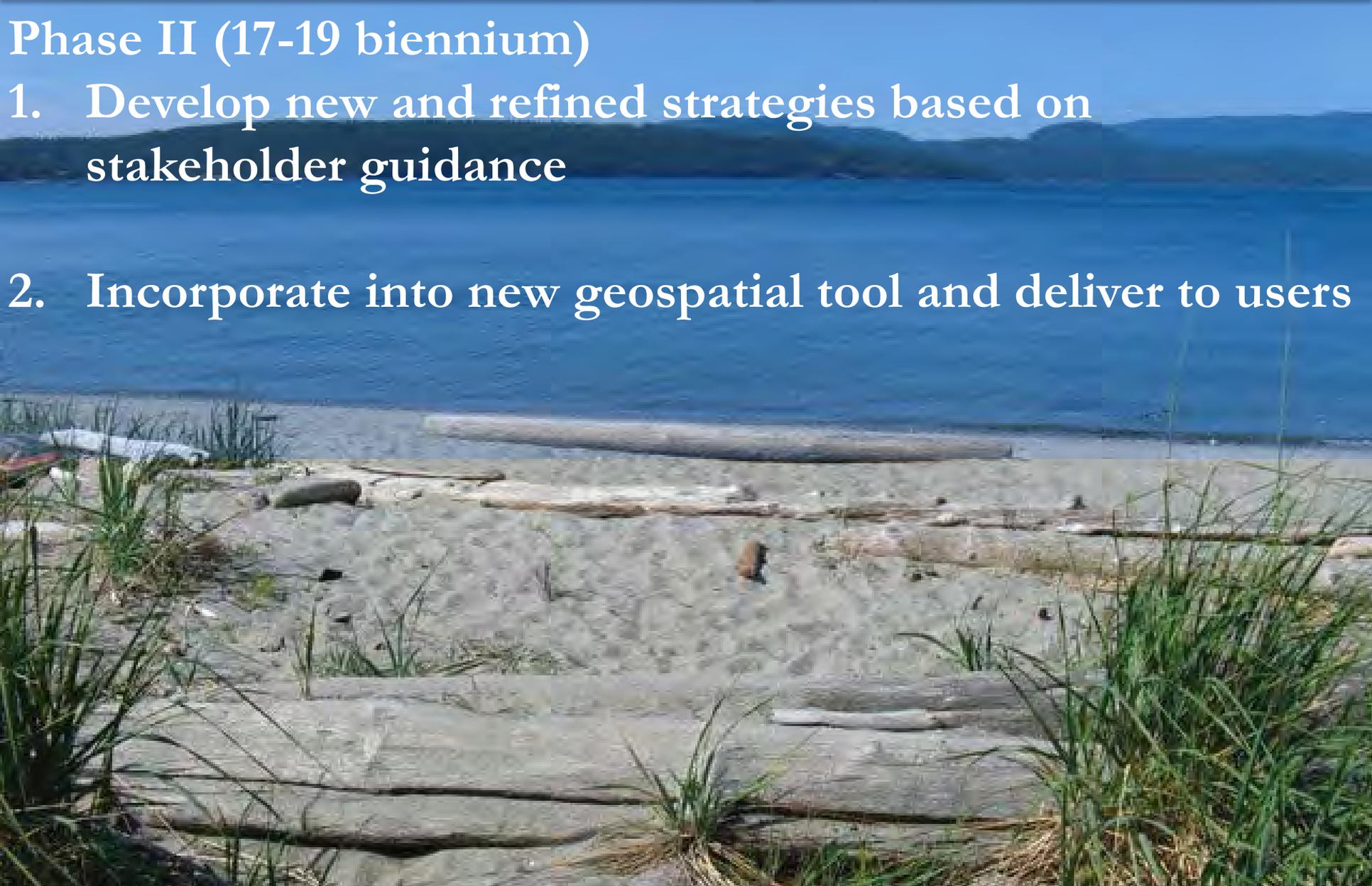
Phase 1. Early data products and web-based map



Identifying Target Beaches to Restore and Project ESRP Learning Project

Phase II (17-19 biennium)

1. Develop new and refined strategies based on stakeholder guidance
2. Incorporate into new geospatial tool and deliver to users



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The Washington Coastal Resilience Project

Improving Risk Forecasts Working with What We Have



Sea Level Rise Data

State Agency Guidance

Local Experience

Training and Sharing

The Washington Coastal Resilience Project

Sea Level Rise, Storm Surge & Restoration Planning



The Washington Coastal Resilience Project

Team #1: Fill critical information Gaps (probabilistic SLR projections)...



Team #2: Leveraging existing programs, authorities, policies, and capital investment programs state guidance, capital investment funding criteria...

Team #3: Enhance the resilience of at least three Washington coastal communities through pilot projects... (**Island, Tacoma, ESRP Restoration**)

Team #4: Employ targeted and strategic outreach to Washington's coastal communities...

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Current climate criteria aren't good enough...

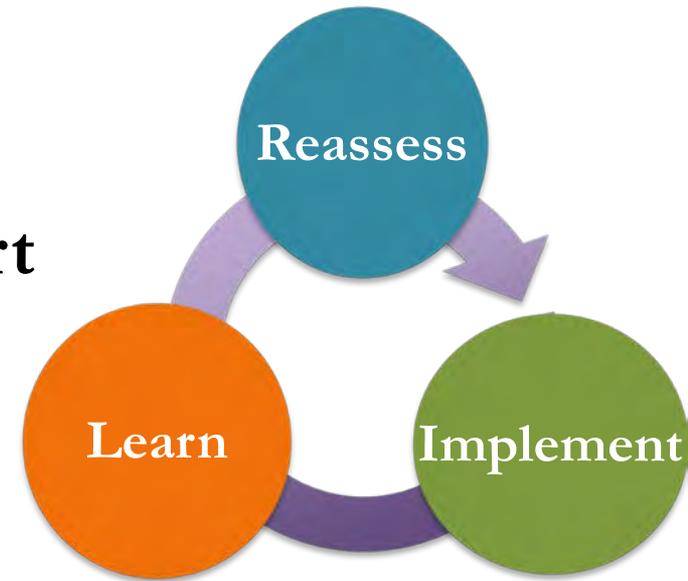
- ESRP: Does the project help address climate change issues?
 - Project sponsors want more specific guidance
 - Reviewers need better and more refined criteria
 - Programs need to know how to support climate-smart project siting, design, monitoring

Which leads us to.... WCRP

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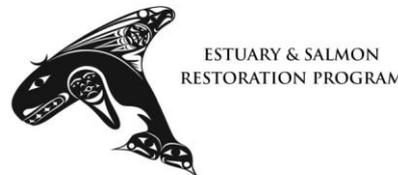
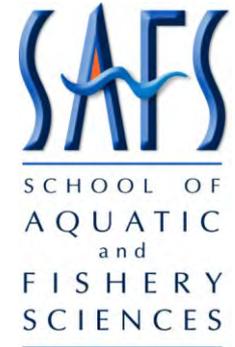
ESRP Can Contribute

- **Funding and technical support**
- **New Tools/Resources – Work with WCRP to develop new climate change framework**
- **Test program for other capital programs**



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Building on past work... Workshop #1!



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Workshop #1- Objectives

- Identify the range of restoration decisions affected by sea level rise and the specific questions or issues that sea level rise raises for restoration.
- Draft preliminary content for guidelines to incorporate sea level rise into siting, design and maintenance of restoration projects.
- Ground our ideas in reality by considering case studies.

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Landform Categories: Beaches, Embayments, Deltas

Beaches

- Homes and infrastructure
- Storm surge impact – perceived and real



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Beaches: participant comments

- Can you purchase upland and remove structures?
- How can we calculate erosion rates and SLR dependencies?
- How do we communicate resiliency objectives effectively?



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Beaches: participant comments

- Can SLR/resiliency be used as a tool to open opportunities and motivate faster restoration?
- Where and how should we consider soft shore armoring?
- What is the risk vulnerability tolerance for a project site?



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Beaches: participant comments

- Can we develop design standards and potential cost/benefit tradeoffs for new SLR infrastructure on restoration projects?
- Should we nourish beaches to aid in starved systems while we try to restore natural processes so beaches can keep up with SLR?



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Key Conclusions

- Consider new policies to determine resilience time of a particular action and projected benefits (e.g. 20 years?).
- Changing precipitation patterns, storminess, and wave energy will accelerate the usual change and evolution in beach systems.
- Need to communicate and manage public expectations and potential benefits (SLR adaptation) for restoration.

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Next Steps



1.1 Workshop #1: Issue Identification



1.2 Literature Review and Expert Consultation



1.3 Develop Draft Guidelines



1.4 Workshop #2: Discussion of Framework and Future Steps



1.5 Synthesis of Materials (June 2018)

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ESRP Small Grants Program

- Build and strengthen diverse local community support for nearshore protection and restoration by working in concert with local MRCs and other community-based groups.
- Support small-scale nearshore restoration projects that have trouble competing against large scale restoration projects as part of healthy nearshore restoration community of practice.

Estuary and Salmon Restoration Program

- Anticipated funding: at least \$500,000
- Average project: \$30,000 - \$150,000

Tentative Timeline

- Request for Proposals - February 2018
- Proposals due - July 2018
- Funding available - July 1, 2019