Sea level rise guidance for nearshore habitat restoration in Puget Sound

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Guidance for Incorporating Sea Level Rise into Nearshore Habitat Restoration in Puget Sound

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Salish Sea Ecosystem Conference
4.5.18
What are the specific questions that SLR raises for this nearshore habitat type?
Specific questions that sea level rise raises for restoration in Puget Sound were grouped in the following categories:

- **Biophysical/Habitat Considerations**
  - Erosion rates
  - Sediment transport
  - Drift cell dynamics
  - Vegetation

- **Infrastructure Considerations**
  - On-site
  - Adjacent property

- **Social/Political Considerations**
  - Landowner willingness to do restoration
  - Affects on adjacent land use
Beach: Dockton Park; Vashon-Muary Island

Is there upland space for landward migration of habitat?

Are setback distances for existing or planned infrastructure sufficient to maintain future habitat benefits?
River Delta: Leque Island & Ziz a ba, Snohomish County

Are expected rates of accretion from riverine sediment expected to keep pace with sea level rise?

Will increased exposure to salt water affect neighboring land uses?
**Embankment: Tahuya, Hood Canal**

Does increased risk of erosion change landowner willingness to conduct restoration?

Will project infrastructure (e.g., pumping/drainage structures) continue to function as intended given SLR projections?
LITERATURE REVIEW
DEVELOPING GUIDANCE FOR PUGET SOUND

Are expected rates of accretion from riverine sediment expected to keep pace with sea level rise?

Are setback distances for existing or planned infrastructure sufficient to maintain future habitat benefits?

Will increased exposure to salt water affect neighboring land uses?

Not prescriptive, but a checklist of considerations to help ensure an evaluation is made that may increase the resilience nearshore restoration project to SLR
Questions in guidance document are organized by...
Next Steps

• Continue drafting guidance document
• Workshop 2 (April) –
  • reconvene participants from workshop 1.
  • Share progress & receive feedback
• Incorporate edits
• Finalize guidance document (late summer / fall)
Questions?
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Extra Slide:

For each shoreform & expected impact of SLR, we identify a suite of information needs that will help answer the questions we pose.

Information needs:

• Topography of project and adjacent upland
• Location of sediment sources within the drift cell
• Armoring status of sediment sources within the drift cell
• Inundation tolerances of intended vegetation plantings
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<tr>
<th>Shoreform</th>
<th>Management Actions</th>
<th>Potential Sea Level Rise Impact Pathways</th>
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<td>Direct inundation</td>
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<td>Beaches</td>
<td>Acquisition for protection</td>
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<td>Armor/structure removal</td>
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<td>River Deltas</td>
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<td>Construction of set-back dike</td>
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Legend:
- ♫ = Considerations of the impact likely needed.
- ♪ = Considerations not likely to be needed.
- ♣ = Uncertain whether considerations are needed.