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Recommendations for Floodplains by Design from the Coastal Hazards Resilience Network

The Coastal Hazards Resilience Network (CHRN), a collaboration between the Department of Ecology and Washington Sea Grant, was formed in 2013 with funding from NOAA. The purpose of the CHRN is to improve regional coordination and collaboration through effective partnerships among hazards and climate change practitioners to make Washington's coastal communities more resilient to natural hazards. On February 19th, the CHRN held its second meeting, with 25 people in attendance representing 13 agencies and institutions including:

- Washington Sea Grant
- The Nature Conservancy
- Washington Emergency Management Division
- Oregon State University
- Washington Department of Ecology
- NOAA
- Washington Department of Commerce
- Washington Department of Natural Resources
- University of Washington's Climate Impacts Group
- Puget Sound Partnership
- USGS
- FEMA
- Coastal Geologic Services

At the meeting, CHRN members presented updates on current and upcoming projects. One of the current projects discussed was the National Disaster Resilience Competition through Housing and Urban Development. The federal funding opportunity offers up to $500M for projects that create social, environmental and economic outcomes. Washington's application builds upon Floodplains by Design's (FbD) achievements of incorporating multiple environmental benefits to incorporate economic and social outcomes more directly. The CHRN Planning Team, in consultation with Scott McKinney, saw this as an opportunity to utilize the CHRN's expertise to discuss how FbD can more inclusively incorporate social and economic benefits and expand projects applications statewide and specifically coastal/estuarine areas. The following suggestions and challenges are outcomes of this brainstorming session.

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Project scoring criteria:

- Incorporate economic impact criteria. For example, award points for demonstrating economic benefits for maintaining shellfish habitat.
- Incorporate future conditions. Flood risk is modeled to increase in frequency and intensity across the state. Projects that incorporate climate modeling or discussions of how the future cannot be solely gauged on the past, providing scientific data and evidence of the impacts on that particular river system, should receive additional points, or conversely, projects that do not incorporate future conditions should be awarded fewer points.
- Incorporate a criterion that awards projects in dispersed geographic distributions. Projects could be both east and west of the Cascades, on the Olympic Peninsula and on the outer coast but are currently more focused in Puget Sound. Allocating points for diverse geographies would address the misconception that FbD is a Puget Sound-focused effort.

Example project/places for potential coastal application of Fbd:

- Ocean Shores beach nourishment project. Geotubes were used to protect coastal bluffs and are currently failing. Examples of failed-attempts at shoreline management could be used as an example of what to avoid moving forward.
- Pacific County sea level rise modeling to identify potential areas for restoration as future shellfish areas or habitat. The results are to be included in Shoreline Master Program updates or to inform future FbD projects (The Nature Conservancy).

We acknowledge some particular challenges to applying FbD in coastal areas:

- Coastal areas bring an increased number of stakeholders and stovepipes.
- Coasts are hazard driven, while 40% of points in current FbD allocations are flood hazard reduction.
- Flood hazard reduction and salmon benefit quantification in estuaries and coastal environments are problematic.
- Coastal work can be expensive when considering acquisition cost, which creates an incentive challenge for property owners.
- Balancing floodplain function restoration with preservation of agricultural and other working lands.
- Quileute estuary erosion project. This is a hazard mitigation project as the tribe relocates to higher ground. This project is an example that currently would not

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score high on FbD criteria but achieves effective floodplain management via relocation/acquisition.

- Inland flooding looks different than coastal flooding, so how can the scoring criteria incorporate this consideration? For example, water quality is a metric that is easier to incorporate inland and harder to assess in coastal areas.

We hope these suggestions and comments will be helpful as you improve your work to improve the FbD grant program. Please let me know if you have any questions regarding the above recommendations.

Thank you,

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