



A New Approach to Managing River Corridors



Floodplains by Design

• REDUCING RISK, RESTORING RIVERS •

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Floodplains by Design (FbD) is an ambitious public-private partnership focused on integrating and accelerating efforts to reduce flood risks and restore habitat across Puget Sound's major river corridors. We are coordinating state and federal investments with locally-driven solutions that solve multiple floodplain management problems and serve a broad range of affected interests. The partnership's goal is to improve the resiliency of these floodplains for the protection of human communities and the health of the ecosystem, while supporting values important in the region such as agriculture, clean water, a vibrant economy and recreation.



The last year has been a tremendous success for those working towards the FbD vision. Thanks to the leadership of legislators and a diverse coalition of supporters, the Washington State Legislature appropriated \$44 million to advance this multiple benefit approach – allowing the Department of Ecology to create a new, innovative grant program to fund integrated floodplain projects across the state. These projects will reduce flood risks to farms and communities through the restoration of natural floodplain functions and the upgrading of critical infrastructure.

A growing number of communities are engaged in collaborative processes to define the future of their river corridors and achieve benefits for all interests. Momentum is building across the region and a new paradigm for managing our critical river corridors is emerging.

The Nature Conservancy, Puget Sound Partnership and Department of Ecology lead the FbD partnership with active support from the Environmental Protection Agency, National Oceanographic & Atmospheric Administration, US Army Corps of Engineers, Federal Emergency Management Agency, the US Geological Survey and many local partners.

Puget Sound's lowland river valleys are among the region's most valuable assets, delivering a wealth of economic, natural and social benefits. These floodplain areas contain the region's richest farmland, and host the Sound's signature salmon runs. They feature commercial, residential and industrial development valued at over \$18 billion. They support wetlands and forests that filter pollutants out of our water sources. They recharge aquifers and provide recreational opportunities for the 4 million people who live in the Puget Sound region.

People, Farms and Fish at Risk

Despite the many values they contain, Puget Sound floodplains are also home to the most damaging natural disasters in the state: floods. Over 1000 critical public facilities, including hospitals, schools and fire stations are located within Puget Sound's floodplain areas.

Population growth and development continues to change the landscape, increasing the number of people in harm's way and compromising river functions. The agricultural industry is trying to maintain its viability in the face of increasing development, habitat restoration and regulatory pressure.

Meanwhile, salmon runs continue to decline, despite the recognition that the protection and restoration of floodplain ecosystems is a critical component of salmon recovery in Puget Sound. With the region's population growing rapidly and climate change forecasts calling for more frequent and severe winter flooding, the problems continue to grow.

The issue: floodplain management programs tend to be narrowly focused, some on reducing flood hazards to property and people



and others on restoring salmon habitat or enhancing water quality. Planning for these multiple uses of the floodplains is critical, yet the systems for managing them remain disjointed, uncoordinated and inadequately resourced. Meanwhile, flood response and repair costs are increasing while federal funds for flood control facilities are decreasing, and investments in habitat or water quality improvements are overwhelmed by investments in activities that degrade river functions.

The Solution: Innovation through Collaboration



To confront these challenges, floodplain managers and stakeholders are increasingly gravitating toward an integrated approach to floodplain management. FbD embraces a holistic and collaborative approach to decision-making that accounts for the full reach of the river – from headwaters to Puget Sound – as well as the full range of affected interests. By working together we can better confront shared challenges and reconcile competing

priorities. By integrating flood risk, salmon recovery and other floodplain management goals we can make greater strides more efficiently.

Integrated floodplain management requires a tailored approach in each river corridor to effectively address current conditions and interests. Integrating efforts across entire river corridors improves overall effectiveness and has the potential to attract more financial resources. A comprehensive framework is being developed for the highly developed Green River; the Skagit River Fish Farm and Flood Initiative is identifying ways to reduce flood risk while planning for salmon recovery and preserving farmland. Similar efforts are underway on the Cedar, Dungeness, Pysht, Skokomish, Snohomish, Snoqualmie, Stillaguamish and Tolt rivers.

What we do over the next 10 years will define the quality of life for Puget Sound's communities. It will influence the health of the region's agricultural industry, the cleanliness of its waters, and the vitality of its salmon runs. Smart floodplain management is the key to safeguarding commercial areas like the Kent Valley and Port of Tacoma, and population centers such as Stanwood, Orting, Snoqualmie, Auburn and Burlington.

Accelerating the Pace of Action

The FbD partnership has worked with diverse stakeholders to identify barriers to success, practical solutions to those barriers, and an initial suite of projects. The initial phase of work has been marked by rapid progress and growing momentum.

Yet the combined estimated cost for reducing flood risk and restoring salmon habitat over the next 10 to 20 years is approximately \$3 billion – far in excess of currently available funding. Our challenge now is to build on the groundbreaking examples of integrated floodplain management taking shape across Puget Sound to increase the pace and scale of our efforts.

If these examples are taken to scale, we can attract additional resources and break the trend of decreasing natural benefits and increasing flood damages associated with our floodplains.

The combined estimated cost for reducing flood risk and restoring salmon habitat over the next 10 to 20 years is approximately \$3 billion — far in excess of currently available funding.

Through a collaborative regional effort, programs and projects can be created that respect local community goals, achieve local results and meet regional priorities for habitat restoration and floodplain management.



The Puyallup River Watershed:

An Example of Integrated Floodplain Planning

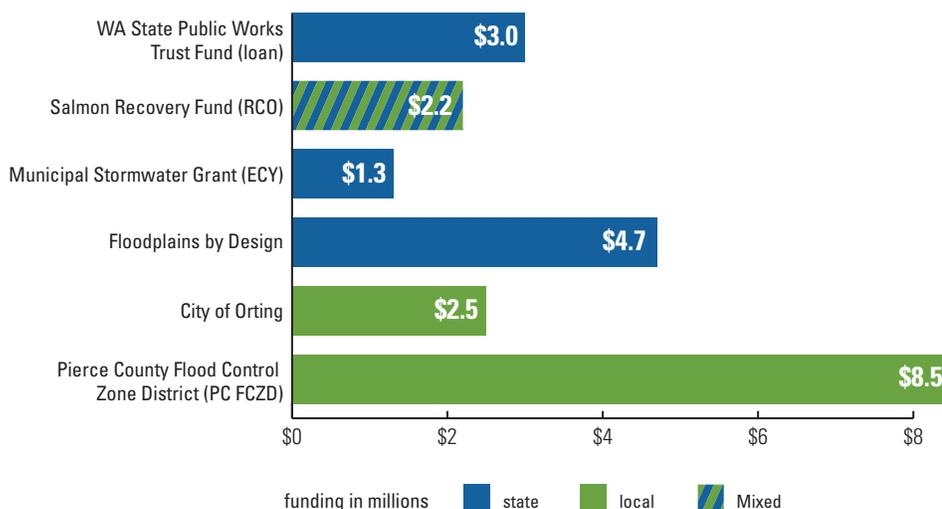
Pierce County estimates that a short-term investment of \$48 million in the Puyallup River would:

- **Reconnect over 1100 acres of floodplain, including 500 acres of tidally influenced estuary habitat**
- **Represent a significant step in Puyallup basin recovery of listed species (Chinook salmon, steelhead, and orca whales – through both estuary and floodplain efforts)**
- **Permanently preserve over 600 acres of prime farmland through the placement of conservation easements**
- **Provide estuarine and side channel habitat critical to improve populations of wild spring and fall Chinook salmon**
- **Significantly reduce flood risk along the White, Carbon and Puyallup rivers**

In 2014, as an initial investment in comprehensively addressing the floodplain needs of the Puyallup River, work crews began the Calistoga Reach Levee Setback Project, setting back and strengthening the levee alongside the City of Orting, protecting a portion of Orting that saw significant past flooding while reconnecting 55 acres of floodplain. Just downstream, Pierce County is creating a 1-mile stretch of side channel through a reconnected 100 acres of floodplain forest habitat and reconnecting side channel habitat. Carefully designed logjams will create habitat for Chinook salmon, bull trout and steelhead throughout the project area. These combined actions will provide future generations with less flooding, more fish, cleaner water and approximately 2 miles of riverfront open space.

Funding for Calistoga Reach Levee Setback Project

The project benefited from a catalyzing FbD grant, but work at this scale requires funding from a wide cross-section of local, state and federal sources.



Moving Forward: 4 Key Actions

STEP 1. Implement Integrated Floodplain Projects along the 17 Largest Rivers in Puget Sound

The 17 largest rivers in Puget Sound and their associated floodplains have been adopted by FbD as priority areas for floodplain project work. These are also the places with the greatest risk for flood damages to critical facilities, commerce, residences and farmlands. The FbD partnership will assist current and new local efforts to develop integrated visions, goals and actions in each river corridor by:

- Convening local leaders to address common challenges and share effective tools;
- Working with state and federal agencies to support locally identified priorities, and develop integrated regional priorities;
- Encouraging funders to support pre-construction activities that are required to create integrated visions, strategies and actions.

STEP 2. Craft a Locally Based Regional Vision and Work Plan

The FbD partnership will develop a 10-year regional vision and work plan based on the visions and strategies developed for each of the 17 major river floodplains. The work plan will include elements of geographic specificity, adaptive management and an assessment of relevant on-going programs. This regional vision will help inform the priorities and focus of state and federal agencies involved in floodplain management and recovery in Puget Sound.

STEP 3. Match the Funding to the Need

i. Sustain existing funds

It is critical to sustain current funding levels for federal, state and local funding programs that support integrated floodplain

¹Key state programs include the Puget Sound Acquisition and Restoration Program, Salmon Recovery Funding, the Estuary and Salmon Restoration Program, the Aquatic Lands Enhancement grants and the Washington Wildlife and Recreation Program. Key federal programs include EPA's National Estuary Program funding for Puget Sound, Pacific Coast Salmon Recovery Fund and the NOAA Community-based Restoration Program.

management¹. It is especially important to make the Department of Ecology's FbD grant program permanent. Demand is far outstripping available funding: Ecology received \$38 million in requests for the available \$11 million available in 2014 and \$180 million in requests were received for the next biennium. The FbD partnership recommends that this program be funded with at least \$50 million in the 2015-2017 biennial budget.

ii. Secure new funding

The FbD partnership will pursue new financing, either through growing or repurposing existing funds or creating new revenue streams. One option that is gaining momentum is to address the state's broader water infrastructure project backlog (stormwater, water supply and floodplain restoration) through a multi-billion dollar bond measure. The FbD partnership also encourages local governments to expand dedicated local revenue sources to implement integrated floodplain management projects.

iii. Align state and federal funding programs with regional vision

The FbD partnership seeks to advance a coordinated investment strategy for Puget Sound which will better allocate funding for ecosystem restoration and flood risk reduction. Aligning state and federal funding behind shared priority projects will increase efficiency and accelerate implementation. Agencies are already implementing measures to better coordinate funding programs and ease administrative burdens on project sponsors. Building on these efforts, the FbD partnership has identified specific opportunities to expand coordination, streamline grant processes, and incorporate flexibility in funding program requirements.

STEP 4. Build technical and permitting capacity

The FbD partnership recommends the creation of a dedicated permit/technical assistance team for integrated floodplain projects. The permit team should involve staff at five agencies that permit or consult on floodplain projects (the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Washington Department of Ecology and Washington Department of Fish and Wildlife). This team would improve coordination between and among permitting agencies, build a body of knowledge on permitting technically complex floodplain projects, act as a resource for local jurisdictions working on floodplain projects, and improve the speed and consistency of permitting decisions.



Thank You



Thanks and appreciation goes to everyone working at the local and regional level to improve the resiliency of Puget Sound's floodplains for the safety and well-being of our communities and the health of the environment. Our shared success over the past year would not have been possible without the contributions of many. Building on our success will be critical to ramping up the efforts to reduce the risk of catastrophic flood damage to residences, farms and other businesses, to restore the ecological health of the major river floodplains in Puget Sound and to maintain the rich quality of life that we enjoy in this region.

FbD envisions a future 10 years from now where:

- **People and businesses are better protected from catastrophic floods;**
- **Salmon are on the path towards sustainable runs;**
- **Farms, the infrastructure that supports them and the food they produce are less vulnerable to the losses incurred by flooding;**
- **Restored floodplain forests and wetlands improve the regional quality of life by producing cleaner and more reliable water, enhanced recreational opportunities, abundant fish and wildlife, and more resilient ecosystems;**
- **Floodplain stakeholders have strong working relationships and ongoing political support;**
- **Federal, state and local policies, programs, regulations and funding function more in concert towards common goals.**

Achieving our future policy, funding and on-the-ground management goals will require continued engagement and leadership spanning local, state, federal, tribal and private sector interests. Success will mean a major step taken in securing our region's unique quality of life. It will make our families safer, protect public and private property, and allow Puget Sound communities to continue to enjoy and build their cultures and livelihoods around fishing, farming and outdoor recreation for generations to come.

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