ADVANCING AND DEMONSTRATING THE PERFORMANCE OF NATURAL INFRASTRUCTURE PROJECTS IN WASHINGTON STATE

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NATURAL INFRASTRUCTURE
GOALS OF FLOODPLAINS BY DESIGN

- Reduce flood risks to farms, communities and businesses
- Accelerate salmon habitat recovery
- Support agriculture, recreation, clean water, and other floodplain uses and services
THE BAD NEWS
THE GOOD NEWS

Chaos

Collaboration

Floodplains by Design
- REDUCING RISK, RESTORING RIVERS -
 WHAT IS FLOODPLAINS BY DESIGN?

A public-private partnership with several programmatic elements:

• Planning
• Funding
• Science
• Communications
FISHER SLOUGH PILOT PROJECT

$7.7M investment -> $9-21M socioeconomic benefits
Floodplains by Design in Washington State

The Floodplains by Design partnership is harnessing the collective strength of agencies, nonprofits and local communities to restore salmon populations, reduce flood hazards, increase agricultural viability, improve water quality and enhance outdoor recreation.
PUYALLUP RIVER – 2006 FLOOD

Levee Break and Overtopping
CALISTOGA REACH PROJECT

- Side Channel Reconnection
- Setback Levee
Project Results:

• 1.5 miles of setback levee.
• Reconnected side channel.
• 117 acres of reconnected floodplain.
• 175 log jams installed.
• 14,300 linear feet of improved habitat complexity.
• November 2009 flood, 26,000 people evacuated...November 2014, less than a dozen people evacuated.
LOWER DUNGENESS RIVER – FLOODING
Phase 1 Results:
• 40 acres of estuary restoration.
• Removal of 10 structures from the floodplain.
• 13.6 miles of irrigation efficiency improvements.
• Design of new setback levee

Anticipated Phase 2 Results:
• 6,000 foot setback levee.
• 112 acres of floodplain reconnected.
• 15 log jams installed.
Riverbend Reach Levee and Revetment Setback Conceptual Design Elements

- **Levees and Revetments (Existing)**
- **Potential Setback Revetment Alignments**
- **Potential Side Channel Alignments**
- **Potential Levee and Revetment Removal Area**
- **Potential Fill Removal Area**
- **100 Yr Floodplain**
- **Publicly Owned Lands**
CEDAR RIVER – RIVER BEND PROJECT

Phase 1 Results:
- 375 residents relocated (125 structures).
- Significant potential flood loss and levee maintenance costs averted

Anticipated Phase 2 Results:
- Acquire 15 properties/homes for future restoration on 232 acres.
- Project design, which when implemented would:
  - Add 49 acre-feet of flood storage.
  - Improve flood protection to 12 homes and 19 parcels.
  - Improve habitat over 1 mile length.
  - Add 1,900 feet of new side channel habitat.
RESULTS FROM FBD PHASE 1 (2013)

Jobs Supported
• Supported 780 jobs.

Flood Risk Reduced
• Protected homes and buildings worth over $115 million.
• Provided relocation assistance for 375 floodplain residents.

Salmon Habitat Restored
• Restored floodplain functions on 3 river miles.
• Reconnected 160 acres of floodplain, with planning underway for 700 more.

Recreation Benefits
• Provided 1.5 miles of new riverside trails and new or improved river access at 6 locations.

Agricultural Benefits
• Improved 13 miles of irrigation infrastructure.
FbD LEVERAGED OTHER FUNDING SOURCES

**Floodplains by Design funding**
- Construction/Implementation: $33M
- Feasibility/Design
- Acquisition/Relocation

**Funding leveraged**
- Federal: $40M
- State: PSAR, ESRP, EMD, and other programs
- Local: Tribal, City, County, and Flood Control Districts
SUMMARY OF ANTICIPATED PHASE 2 (2015) RESULTS

- **Proposed Funding**— $50 Million
- **300 acres** floodplain will be restored
- **15 miles** of overall river habitat improved
- **200 acres** of agricultural lands protected by easements
- **15,000 feet** of levee will be removed entirely or setback
- **20 homes** or structures will be removed from the floodplain
- **More than half** the projects will address climate impacts in their watersheds
Floodplains by Design in Washington State

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The National Weather Service (NWS) in Seattle will be making adjustments to their Flood Warning Level for the Puyallup River near Orting Flood Warning Point. This is due to flood mitigation efforts by Pierce County that has reduced the flood threat at unusually vulnerable locations near Orting.

High river flows this year have confirmed the success of these efforts.
THANK YOU!

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