



# CHEHALIS BASIN BOARD MEETING

## LOCAL ACTIONS PROGRAM UPDATES AND DISCUSSION

February 4, 2021

# BOARD OBJECTIVES FOR OVERALL STRATEGY (SEP 2020 – MAR 2021)

Determine:

1. Potential for flood damage reduction through Local Actions Program, CFAR, local projects, etc., with and without dam (including estimated costs)
2. Potential to avoid, minimize and/or mitigate aquatic habitat and species impacts of dam (including est. costs)
3. Magnitude, priority and sequence of ASRP actions necessary to protect and restore freshwater habitat and the abundance and resilience of aquatic species (including est. costs)

# BOARD OBJECTIVES FOR OVERALL STRATEGY (SEP 2020 – MAR 2021)

## **Recommend by March 30, 2021:**

1. Which actions are ready to be implemented as part of long-term strategy
2. Which need more evaluation before determining whether they should be implemented
3. Which should not move forward
4. Next steps & resources needed to advance long-term Strategy over next 4-6 years
5. 2021-2023 biennial capital budget request

Increase awareness & support for strategy across basin and with key interest groups & decision-makers statewide.

# MEETING OBJECTIVES LOCAL ACTIONS PROGRAM

- Update Board on Local Actions Program work
- Discuss Case Studies and Advisory Group Insights for Acquisition Program (Buyouts/Relocations)
- Review WSDOT and Corps Alternatives Considered for I-5 Corridor

# APPROVED PLANNING ASSUMPTIONS FOR LOCAL ACTIONS PROGRAM

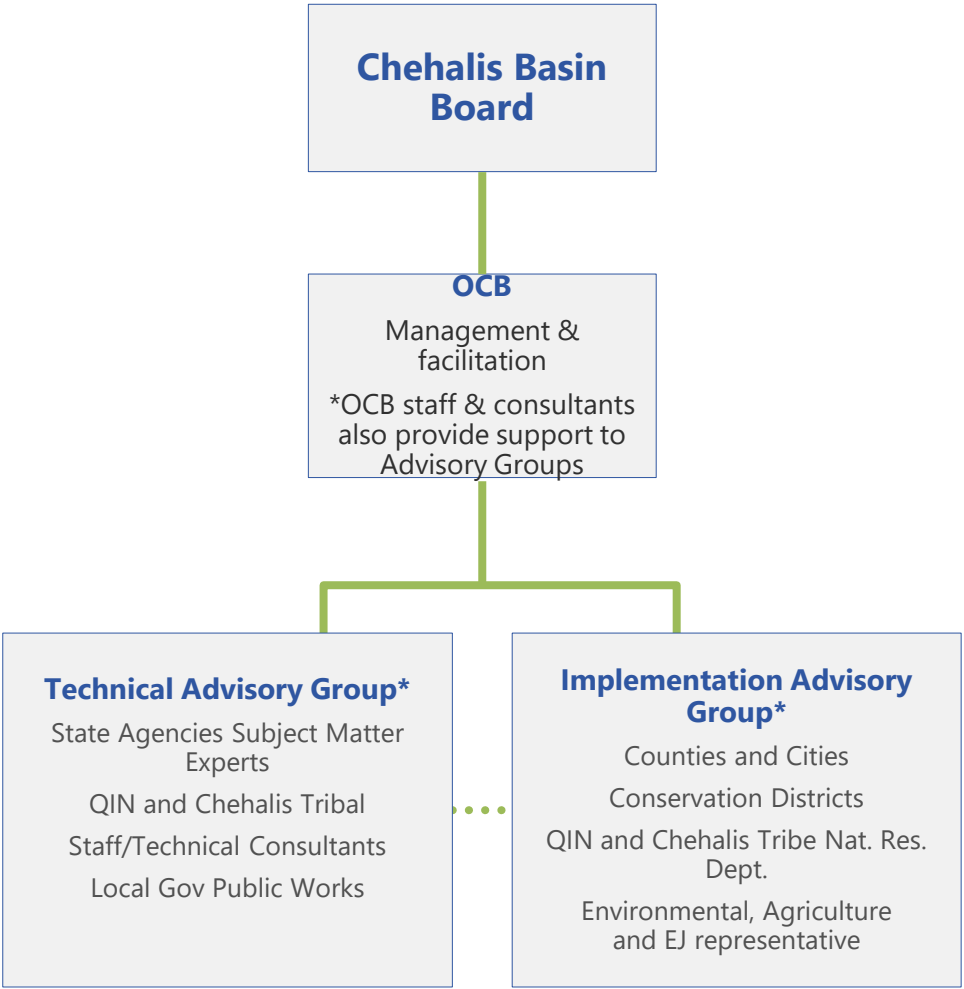
## The Board will:

1. Consider a timeframe of up to 30 years to implement the actions necessary to achieve outcomes.
2. Utilize future flood conditions that are predicted for the 100-year flood in 2080.
3. Projects mitigated to avoid making flood damage worse in other areas.

# APPROVED MEASURABLE FLOOD DAMAGE REDUCTION OUTCOMES

1. Valuable structures protected from mainstem, catastrophic flooding
2. Homes & businesses protected from seasonal urban flooding
3. Lower basin properties & businesses protected from coastal storm surges
4. Farmland and rural structures protected
5. Critical facilities protected
6. Transportation routes protected
7. Environmental justice advanced
8. Prevent new at-risk development

# ORGANIZATIONAL STRUCTURE TO IMPLEMENT WORK PLAN (SEP 2020 – MAR 2021)





# POTENTIAL ELEMENTS OF LOCAL ACTIONS PROGRAM

1. Use of Flood Models and Climate Change Predictions
2. Identify erosion and channel migration hazards
3. Evaluate options for bank protection
4. Identify opportunities to increase floodplain storage



# POTENTIAL ELEMENTS OF LOCAL ACTIONS PROGRAM

5. Evaluate potential for structural solutions in high priority areas.
6. Identify opportunities to protect structures floodproofing, elevation and/or relocation.
7. Identify opportunities for floodplain agriculture 'stay-in-place' assistance tailored to address site-specific flood and erosion risks.
8. Identify opportunities to improve flood emergency response actions.
9. Prevent new at-risk development.

# LOCAL ACTIONS PROGRAM

## WORK PLAN FOR OCT '20 – FEB '21

Advisory groups assist Board to:

- Understand certainty and uncertainty in technical information and how policy/programs could be affected by different actions
- Identify additional information needed (short-term and long-term) for Board deliberations on next steps

# FLOODPLAIN ACQUISITION PROGRAM



# DIFFERENT STRATEGIES FOR ACQUISITION PROGRAMS

- Whether an acquisition program approach proactively seeks acquisitions and relocation to reduce all or most at-risk structures in certain strategic areas and/or...
- Responds to acquisition requests across a dispersed area.

# PANEL PRESENTATIONS AND DISCUSSION

- Kelsey Moldenke - Quinault Indian Nation
  - Katie Spidalieri - Georgetown Climate Center
  - Toby Levey - Forterra
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- Presentation of Taholah Relocation and Hamilton Master Planning
  - Discussion of program drivers and incentives and implementation factors
  - Implementation Advisory Group Feedback

# PANEL DISCUSSION QUESTIONS

- What were the key drivers and incentives in projects that you've been a part of that motivated community leaders and landowners to initiate a major buyout/relocation program? Or if your program has not moved forward at the pace you envisioned, what's missing?
- What were the necessary factors that ensured successful implementation of buyout/relocation program in projects that you've been a part of? Or if your program is not at a stage of full implementation, what factors are missing?

# IMPLEMENTATION GROUP FEEDBACK

- Program that is responsive to interest across the Basin - one of the tools in the toolbox (CFAR)
- Relocation of major portion of community in specific areas challenged by available locations, interest and potential economic/social equity issues
- Determination of feasibility requires significant advance work (master planning and outreach)



# STRUCTURAL OPTIONS FOR FLOOD DAMAGE REDUCTION



# BOARD DESIRED OUTCOMES

- X percent of all structures in each county that could be flooded by the 2080 predicted 100-year flood levels in the basin would no longer be vulnerable to flood damage... (Outcome 1: Valuable structures protected from mainstem, catastrophic flooding).
- X percent of all critical facilities that could be flooded by 2080 predicted 100-year flood levels would no longer be vulnerable to flood damage... (Outcome 5: Critical Facilities Protected).
- A substantial reduction in the overtopping and closure of Interstate 5 (I-5) and the BNSF rail mainline would be achieved for 2080 predicted 100-year flood levels... (Outcome 6A: Transportation routes protected).
- A substantial reduction in the closures of State Highways 6 and 12 due to flooding would be achieved, and alternative routes would be available... (Outcome 6C: Transportation routes protected)



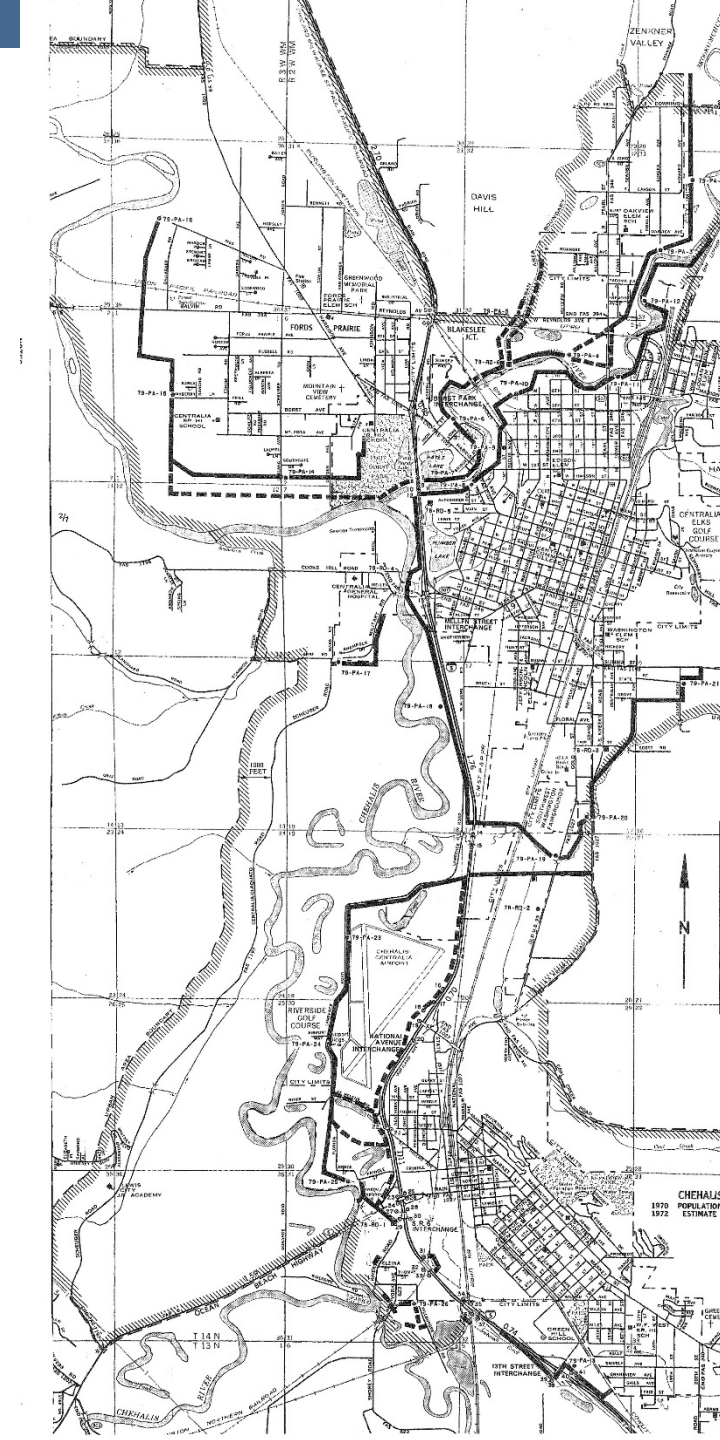
# CORPS LEVEE PROJECT AND WSDOT FLOOD REDUCTION STUDY



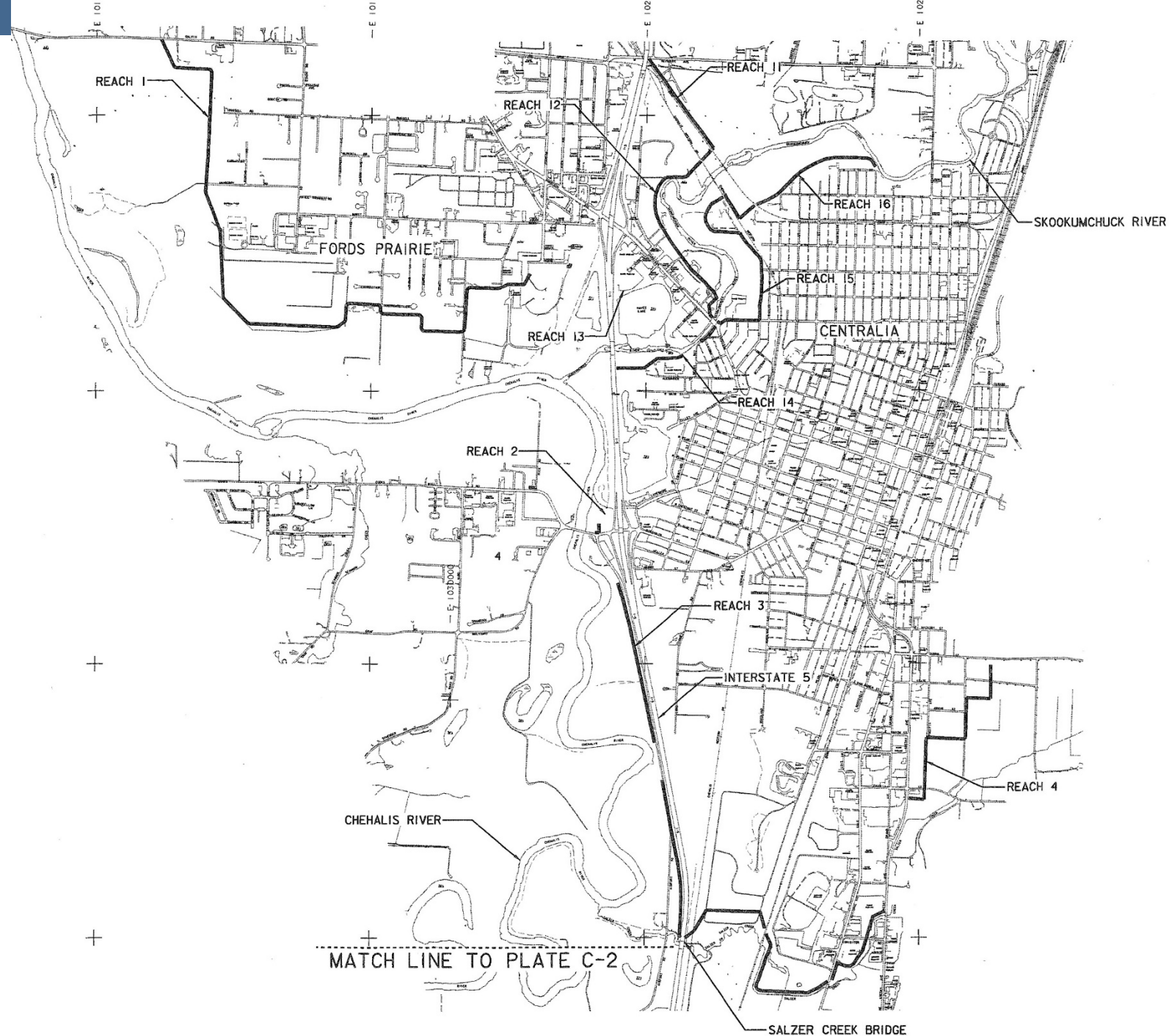


# USACE PROPOSED PLAN

- Skookumchuck Dam Modifications (20,000 ac-ft)
- Chehalis River Levees (100-year protection, includes Salzer and Dillenbaugh)
- Skookumchuck River Levees (100-year protection)

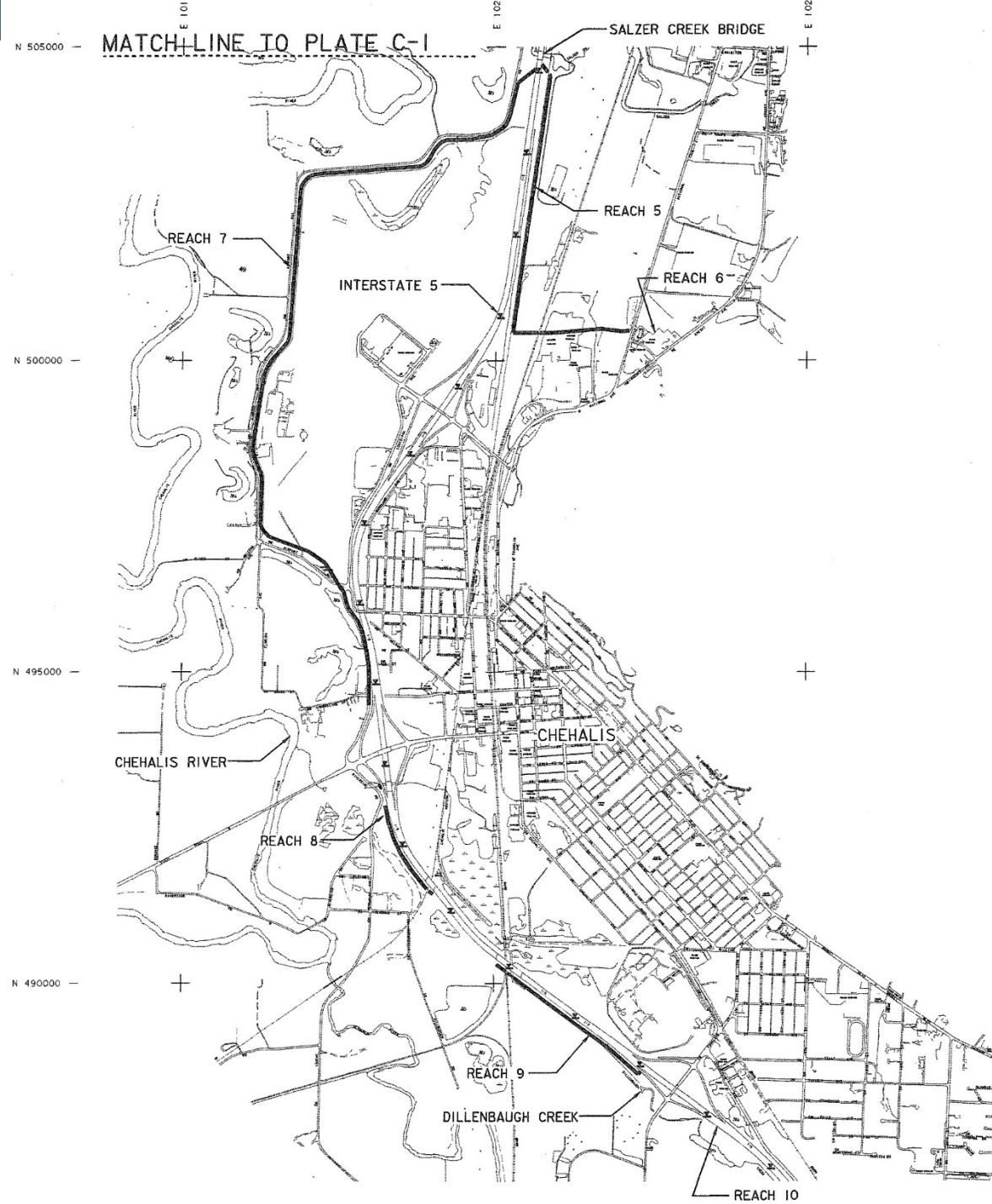


# USACE PROPOSED PLAN





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# 2011/2012 USACE EFFORT

- Design phase
  - Updated hydrology after 2007, 2009 floods
  - New economic analysis
  - Plan did not provide 100-year protection for I-5 with sufficient certainty, but did not estimate additional costs required to protect I-5
  - Levees and floodwalls would need to be higher (~20% greater volume of material)
  - Would have increased flooding upstream and downstream to many more structures and properties
  - Some proposed levees could be realigned to minimize wetland and other impacts
  - Determined that benefit:cost ratio was no longer greater than 1
  - Rejected by local community
  - Study was terminated in 2012



QUESTIONS?

