



LOCAL ACTIONS PROGRAM

TECHNICAL ADVISORY GROUP MEETING #6

January 25, 2021

AGENDA

- Welcome
- Discuss TAG input identified during Meeting #5
- Preview feedback from the Implementation Advisory Group regarding community buyouts and relocation programs
- Continue discussion of the near-term approaches for:
 - Addressing channel migration and floodplain erosion hazards
 - Providing structural flood protection

TAG INPUT FROM MEETING #5

TECHNICAL ADVISORY GROUP WORK PLAN

- Use of existing models and other information used to predict the cause and extent of flooding
- Climate change predictions to predict future flood conditions
- Additional locations to increase flood storage either through restoration of natural conditions or removal of infrastructure
- Additional approaches to protect high value structures and critical infrastructure such as improving or building new levees, floodwalls, or pump stations
- Ways to address damage from accelerated bank erosion

MODELING

- Use of existing models and other information used to predict the cause and extent of flooding
 - Near term, use the existing RiverFlow 2D hydraulic model and supplement with additional modeling in tributaries
 - Floodplain extent updates (see climate change)
- Climate change predictions to predict future flood conditions
 - Created floodplain extent and depth data for a higher end scenario (e.g., 50% increase) for the 2080 100-year flood condition
 - Completing a complementary analysis on precipitation to provide tributary-based information

FLOOD STORAGE

- Additional locations to increase flood storage either through restoration of natural conditions or removal of infrastructure
 - Additional flood storage along mainstem Chehalis at 2080 100-year flow is insufficient to reduce flood damage, but could provide localized benefits at lower flows or in tributaries
 - Additionally, there is potential for a multi-benefit synergy when combining additional floodplain storage with habitat restoration through the ASRP

PROTECT HIGH VALUE STRUCTURES AND CRITICAL INFRASTRUCTURE

- Additional approaches to protect high value structures and critical infrastructure such as improving or building new levees, floodwalls, or pump stations
 - Areas of higher density development within the 2080 100-year floodplain were identified for potential local infrastructure such as levees; these areas could also be considered for flood-proofing or relocations

ADDRESS BANK EROSION DAMAGE

- Ways to address damage from accelerated bank erosion
 - Developing initial maps for up to 100 miles of high priority areas
 - Developing an erosion management approach to evaluate reach-scale opportunities for reducing erosion damages while protecting and enhancing habitats and ecological processes
- Future analysis
 - Identifying one or more pilot subbasins to outline how to develop a pilot technical assistance program for landowners with relative cost and staffing needed for a program (in coordination with staff from the Office of Chehalis Basin and Washington Department of Fish and Wildlife)

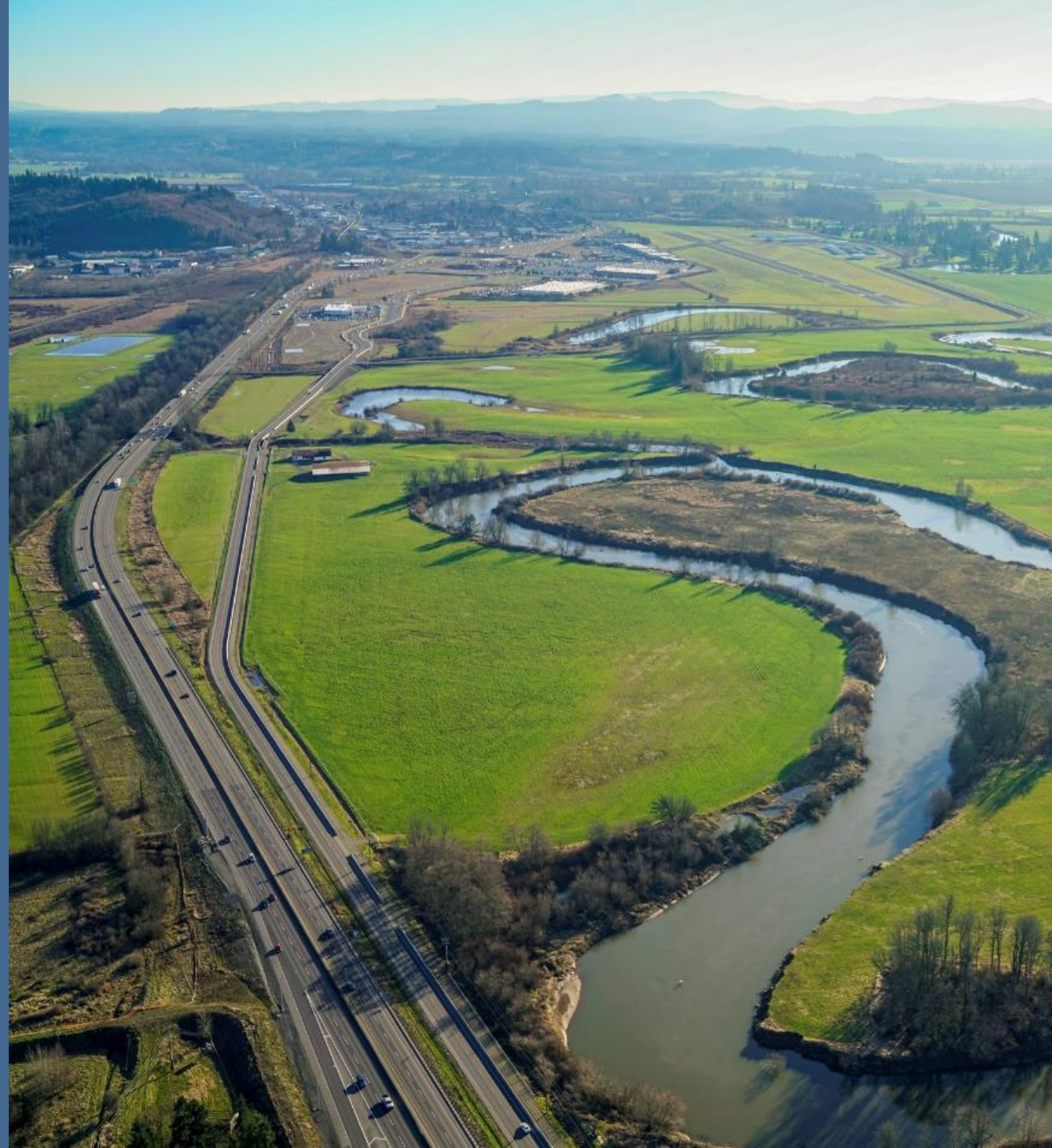
REMAINING TECHNICAL ADVISORY GROUP ISSUES

- Technical statement regarding smaller, more frequent flood events.
- Further considerations for structural flood protection and erosion management

OFFICE OF CHEHALIS BASIN NEXT STEPS

- Identify differing technical and policy perspectives to the Board for their
Summarize technical and policy analyses and provide options for Board consideration
- Organize, facilitate, and summarize results from advisory group discussions and staff work
 - Review in progress table for Chehalis Basin Board

QUESTIONS





CHEHALIS BASIN STRATEGY LOCAL ACTION PROGRAM

January 25, 2021

DRAFT EROSION MANAGEMENT STRATEGY

- Channel migration and bank erosion are natural processes that form and maintain habitats. However, erosion rates can become accelerated above natural rates due to land uses, facilities, hard bank protection or other factors.
- Recommend that erosion management projects included within the Chehalis Basin Strategy occur only where they can be combined with ASRP projects or where critical infrastructure is present and threatened and an expanded reach-scale project can be pursued that benefits both public and private landowners and enhances habitat.
- Recommend that erosion management projects should be developed and implemented in the context of reach-scale conditions and geomorphic processes...and promote the use of bioengineering techniques

DRAFT CRITERIA TO DETERMINE POTENTIAL FOR AN EROSION MANAGEMENT PROJECT

1. A local project sponsor is willing to develop a reach-scale project with multiple landowners.
2. Erosion area is within a delineated CMZ or erosion hazard area, or other erosion priority area identified by local jurisdiction.
3. Erosion risk is immediate or near-term (within next 5 years) that that would cause significant damage to valuable structures, infrastructure, or productive agricultural land (“significant” loss or damage).
4. Landowner is willing to consider relocation that would provide long-term reduced erosion (or flooding) risk (either with or without an associated bioengineered or habitat solution).
5. Landowner is interested in a bioengineered solution and willing to maintain a bioengineered solution as part of a funding agreement.
6. Opportunities exist for a reach-scale approach to reduce velocities through reconnecting former channels/swales, placement of large wood, riparian revegetation, bank sloping/terracing, or other elements that would benefit the reach and maintain or restore natural processes and/or habitats.
7. *Project is likely to provide significant benefits for the cost to multiple landowners*

BIOENGINEERED TECHNIQUES

- Summary and Evaluation of Potential Bank Protection Strategies Memo (October 23, 2020) – provided for TAG meeting #2
- Table 1 from memo summarized 26 types of bioengineering techniques in four major categories
 - Fabric stabilization techniques
 - Live planting techniques
 - Large wood techniques
 - Grading and gravel augmentation techniques

CONTINUED DISCUSSION

- What technical considerations could be included to help determine priority for erosion management projects?
 - Criticality of infrastructure
 - Condition/longevity of infrastructure
 - Effects of infrastructure on private property
 - Number of landowners that could benefit
 - Agricultural productivity
 - Damage to natural or semi-natural habitats
 - Acquisition/relocation/easement opportunities
- What additional technical input do you have regarding erosion management?

QUESTIONS?

