



2/2/26 Flow Split Reach Team Meeting Summary

WCFCZD Board of
Supervisors

February 24, 2026

There is a Crisis

There is Political Attention

There is an Opportunity



In this drone photo, carcasses of Chinook salmon litter the bottom the South Fork Nooksack Ri



Guiding Strategies

- Promote/direct new development outside of the floodplain
- Reduce/mitigate existing risk to human infrastructure/communities
- Restore natural sediment and habitat-forming processes on the mainstem
- Protect and enhance floodplain agriculture
- Protect and enhance floodplain habitat
- Protect tribal and non-tribal cultural sites
- Align emergency and recovery actions with values of the plan
- Plan for climate change

Nooksack River Corridor Widening Context for Action

The Setup

The Impacts of Channel
Confinement

The Potential Benefits of
Strategic Corridor Widening

2006-2016

Red: deposition

Blue: erosion

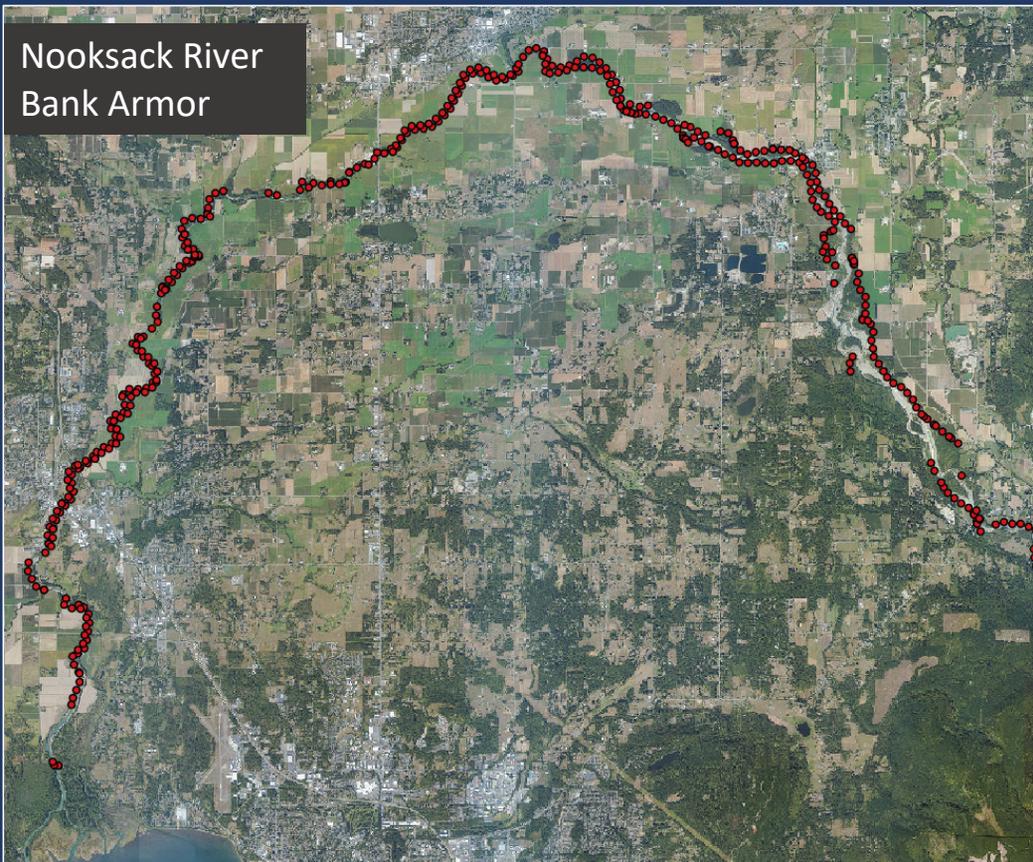
USGS

Flow Split Reach Team Meeting
Karin Boyd
Slough Creek Consulting
February 2026

Confinement

The presence of revetments that prevent lateral channel migration

(Nelson, 2023)



Channel narrowing, vegetation encroachment



1999



2019

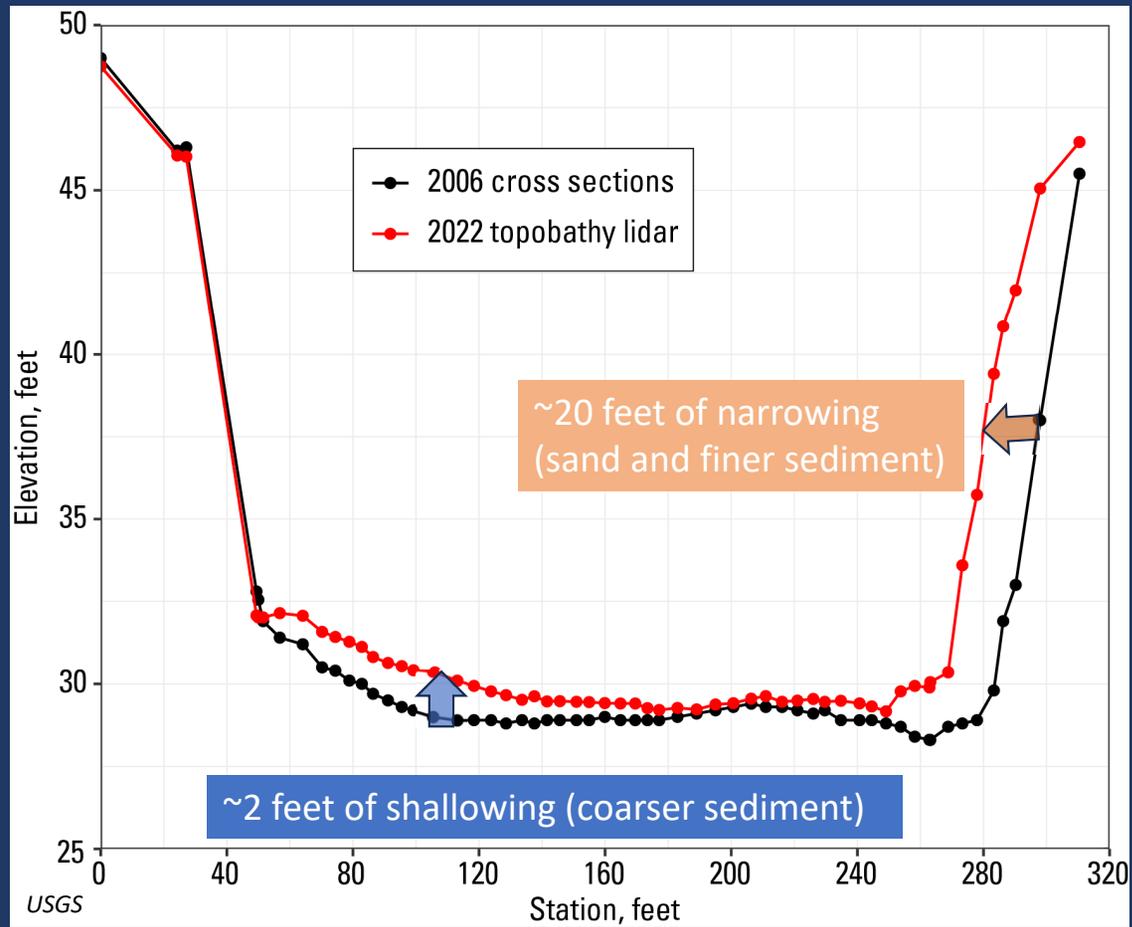


2023

Some recent erosion/widening

USGS

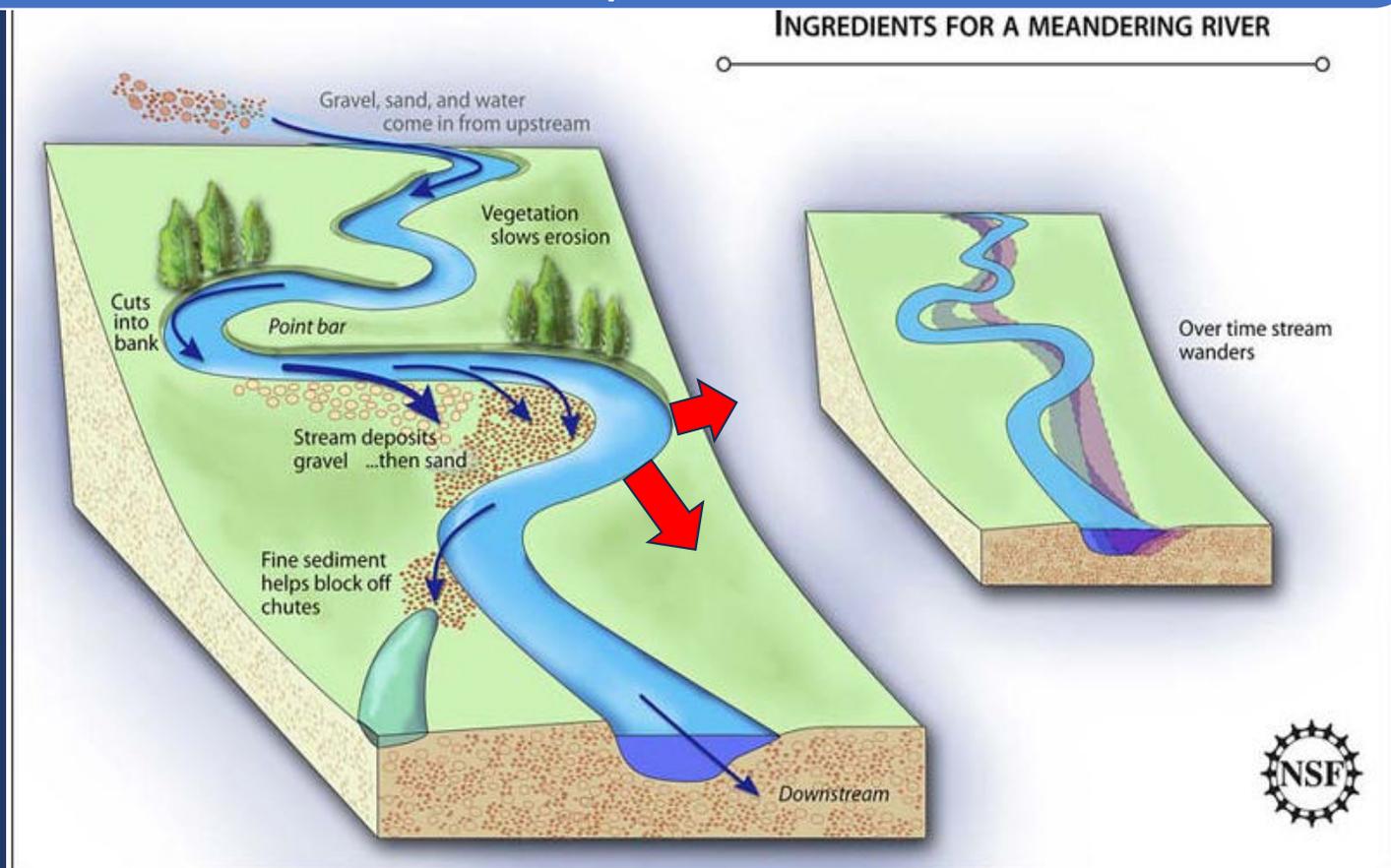
Sediment Deposition Below Lynden



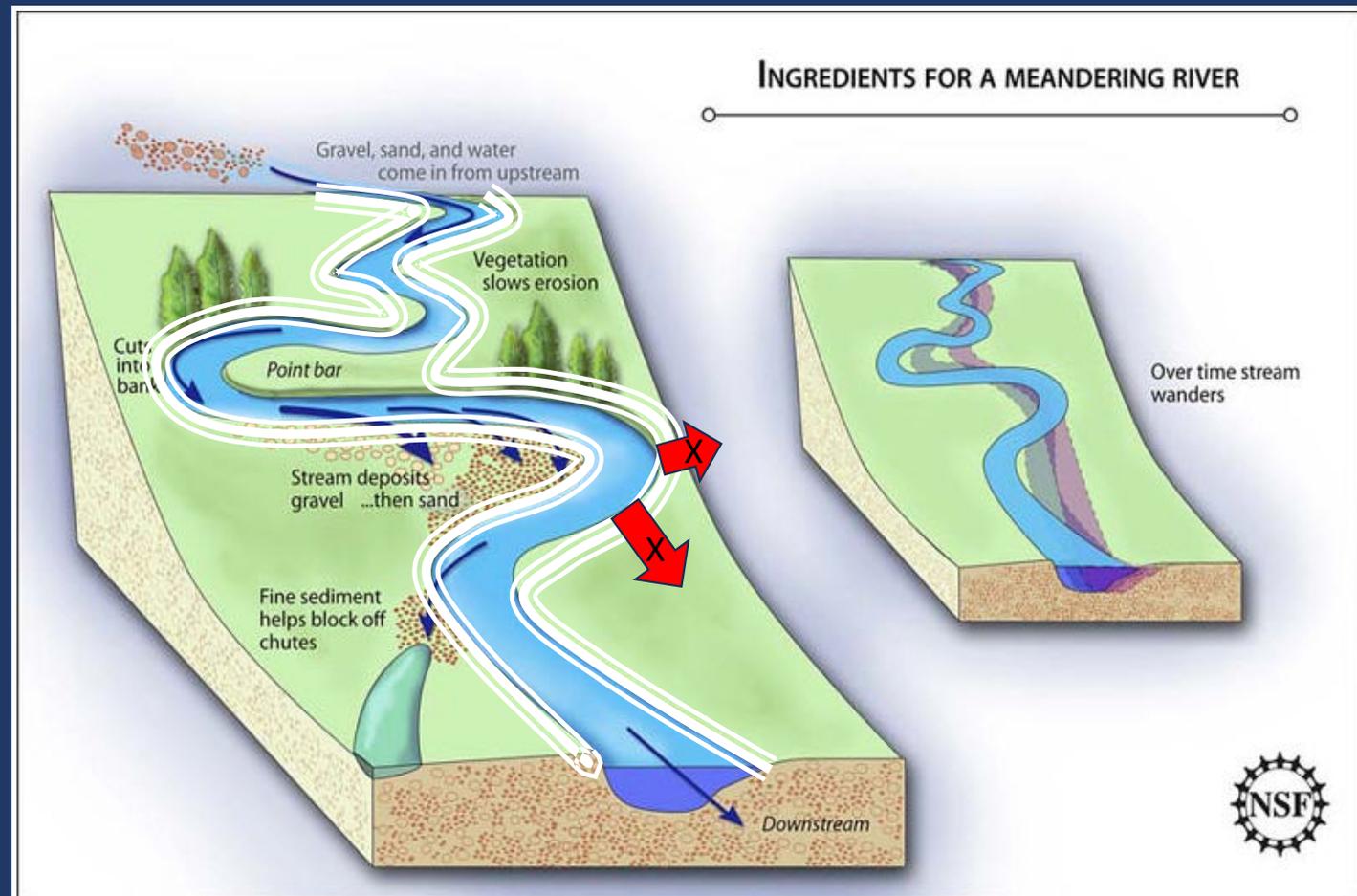
~1 mile downstream of Guide Meridian

Channel Migration

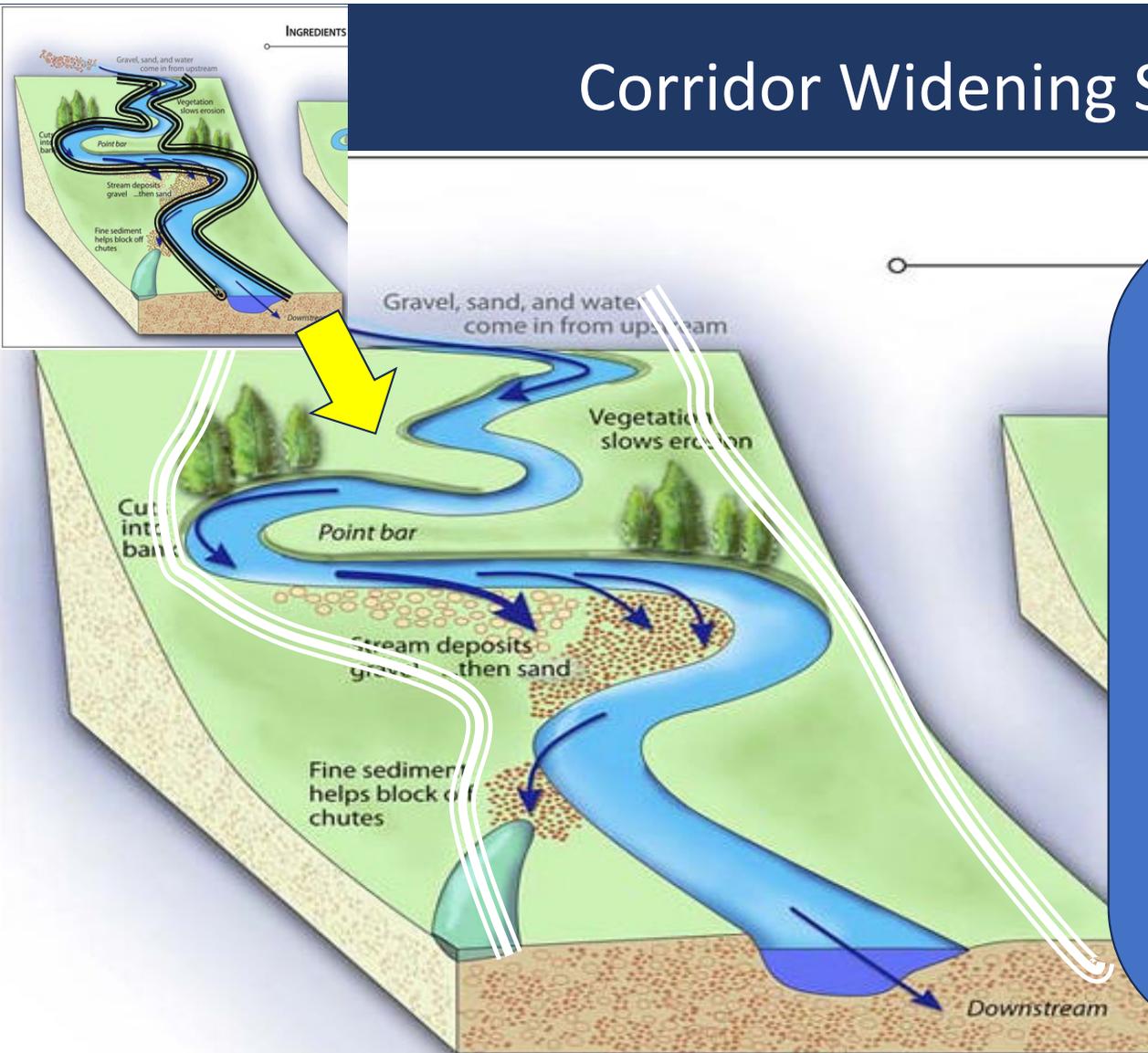
Sediment reworking, creation of habitats, maintenance of a wide corridor of channels and riparian areas



Confinement stops these processes



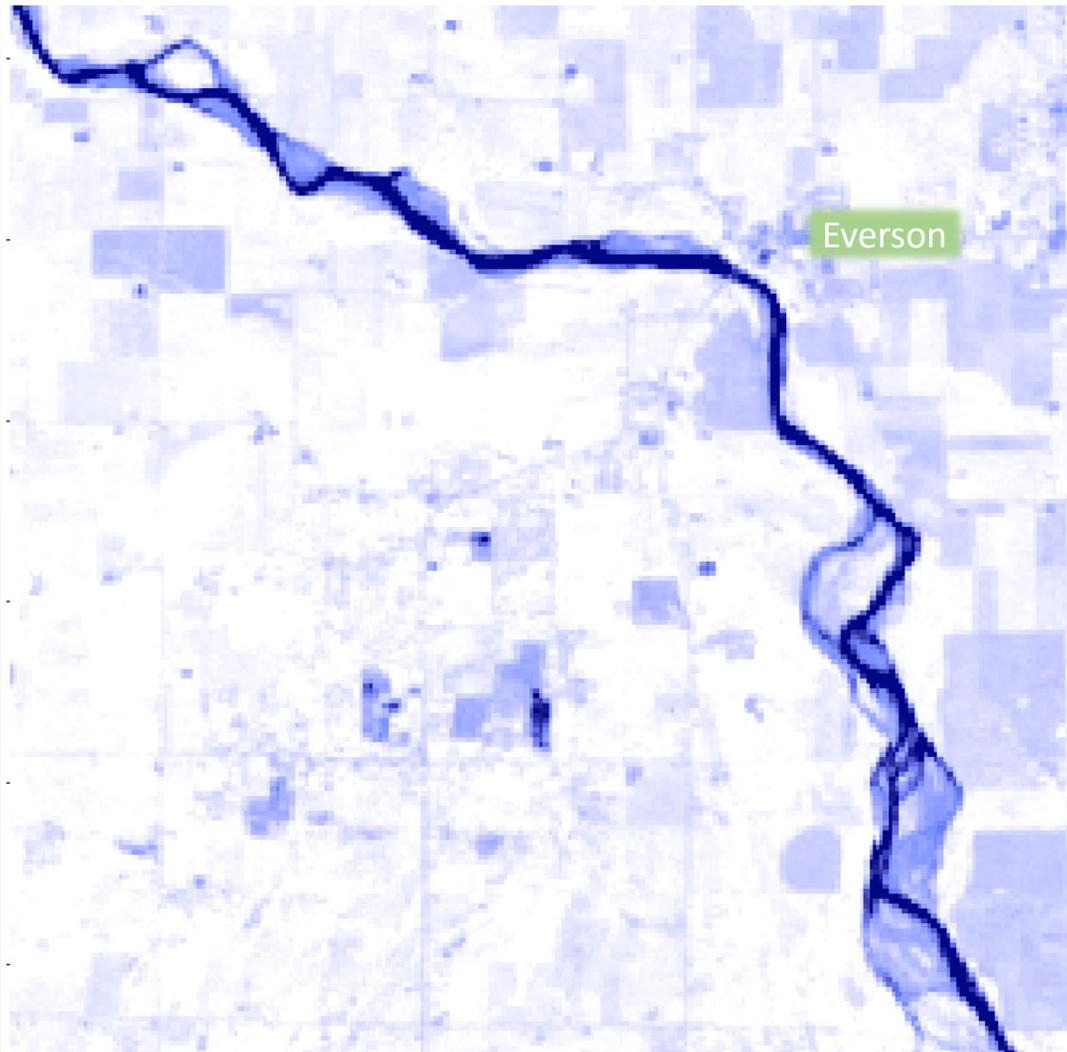
Corridor Widening Strategy



Remove armor and set back levees - allows for erosion/deposition, gravel storage, habitat formation.

Create resilience, allow the system to absorb natural variability and future larger scale changes.

1984



USGS

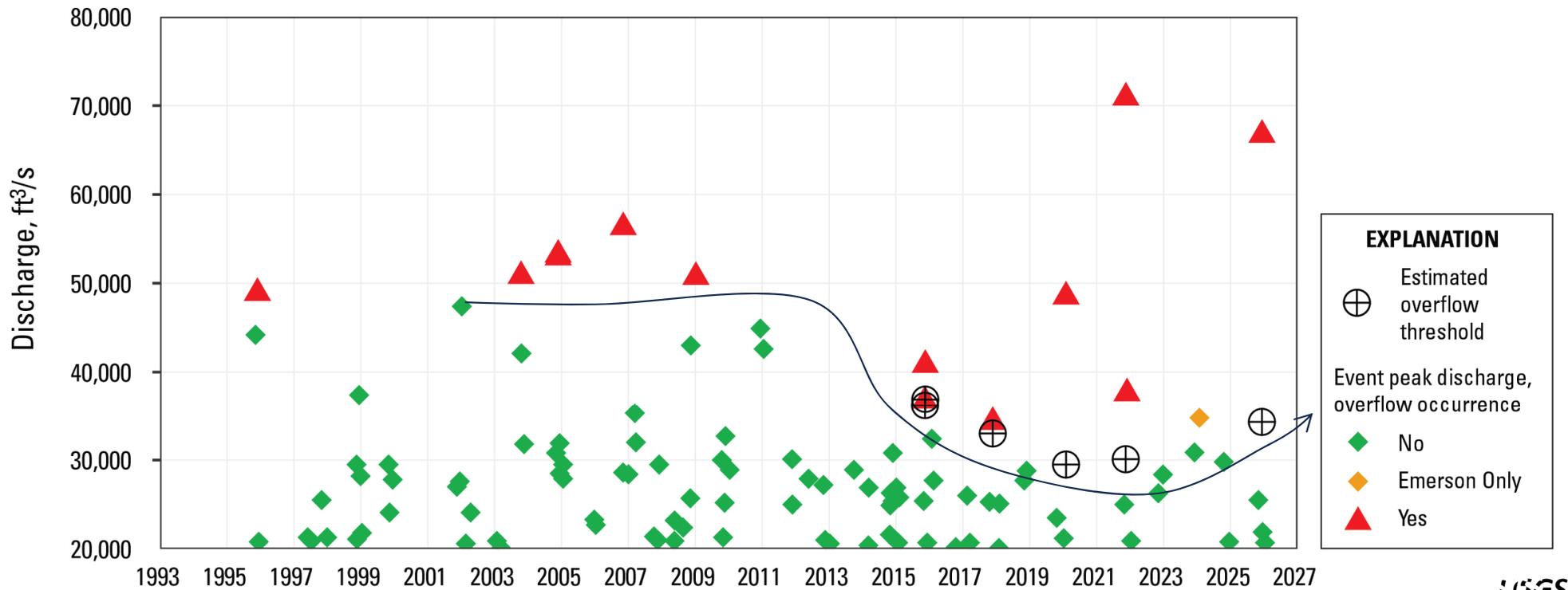
Overflow Threshold

2009: ~46,000 ft³/s

2015: ~36,000 ft³/s

2021: ~30,000 ft³/s

Dec. 2025: ~33,000 ft³/s



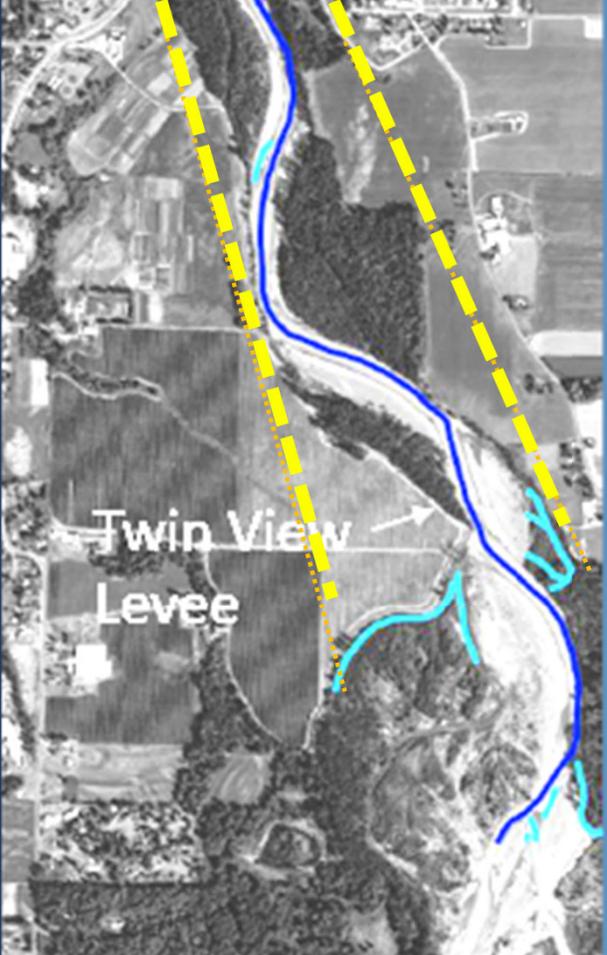
Sediment Model Scenarios

(NHC)

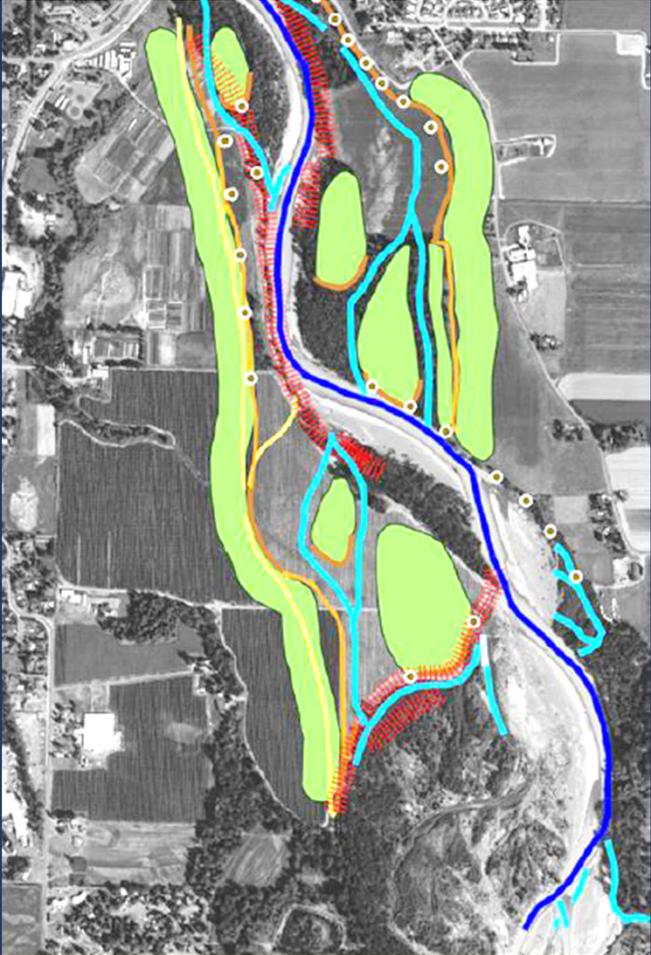
No Action



Natural Erosion

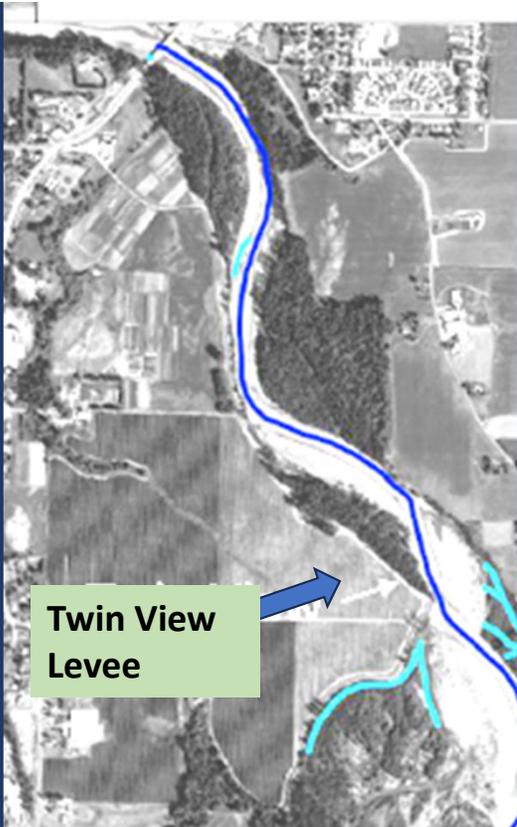


Channel Excavation



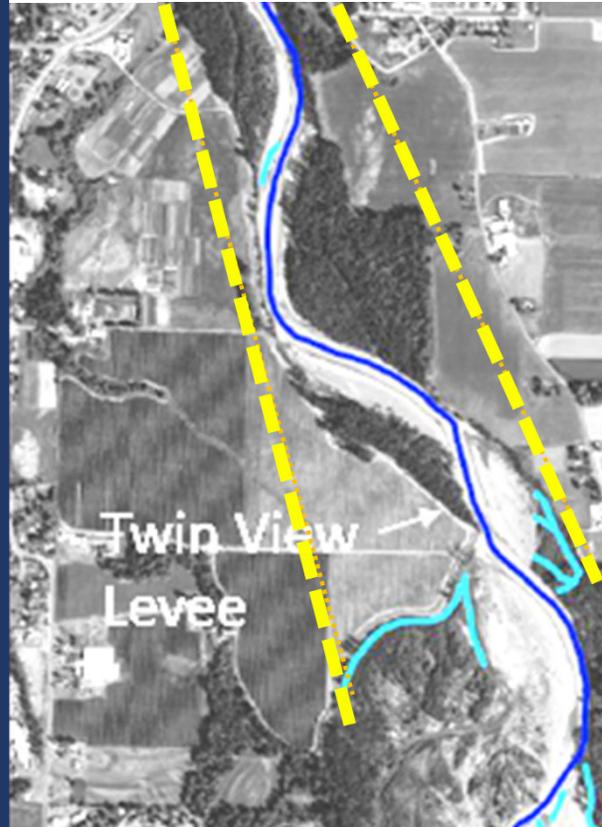
Results of Conceptual Widened Corridor at Everson ^(NHC)

No Action



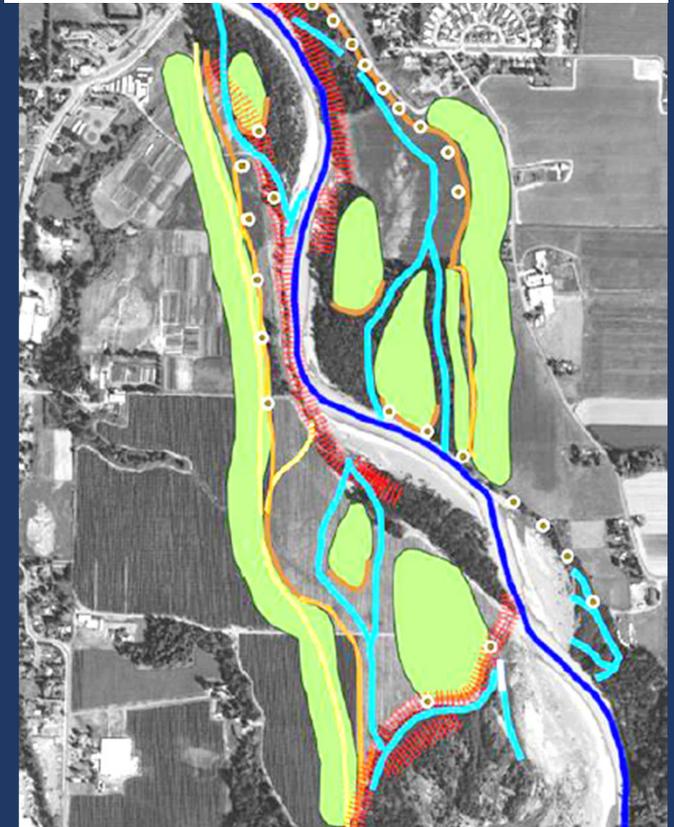
Rise in water surface

Natural Erosion



2-3 ft drop in water surface
(5-10 years)

Channel Excavation



2-3 ft drop in water surface
(Fast)

Full Project – Widen Everson Corridor

2006 inflow conditions

2006 flow split applied to 2022 bathymetry and land cover conditions

Preliminary hydraulic design goal

- If 100-year happened today, flow split would be approximately what existed in 2006

Need to identify and address downstream impacts

Inset with area of 2006 bathy added to 2022 bathy/terrain (blue line)



Widen the Everson Corridor Resulting Modeled Flows



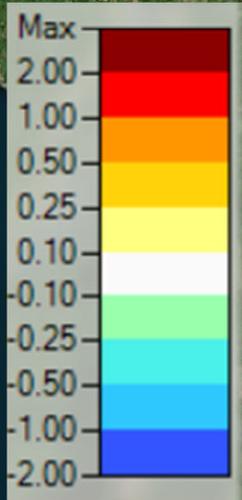
Inset with area of 2006 bathy added to 2022 bathy/terrain (blue line)

100-Year Flow at	2022 Flow Split	2006 Flow Split
Everson Main Street	20,000 cfs	14,000 cfs

100-Year Flow at	2022 Flow Split	2006 Flow Split
Everson Bridge	55,000 cfs	61,000 cfs

100-Year Flow at	2022 Flow Split	2006 Flow Split
Cedarville	75,000 cfs	75,000 cfs

Widen the Everson Corridor Simulated Change in Water Surface



1' to 2' Increase

0.25' to 0.5' Increase

0.5' to 1.0' Increase

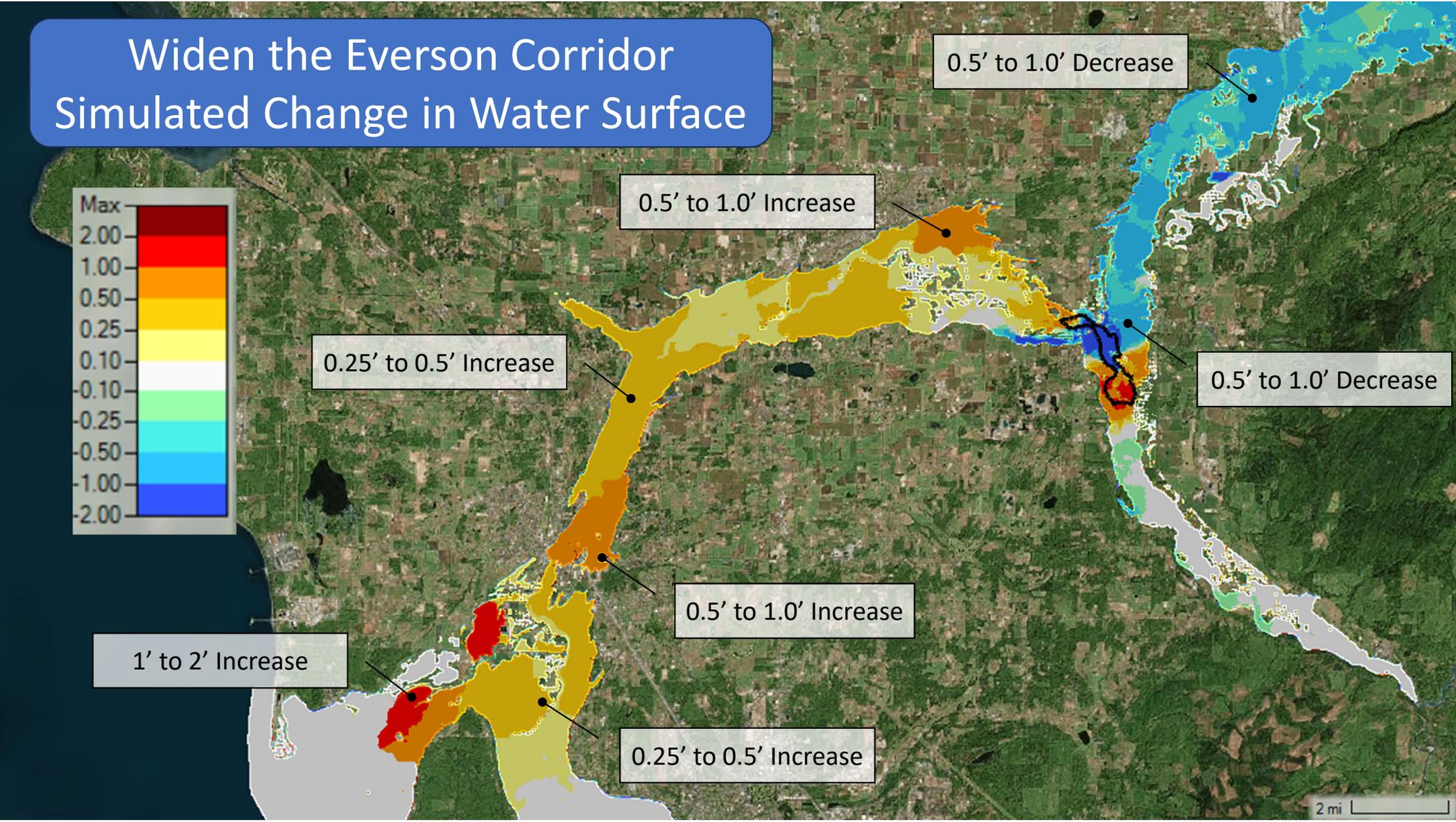
0.5' to 1.0' Increase

0.25' to 0.5' Increase

0.5' to 1.0' Decrease

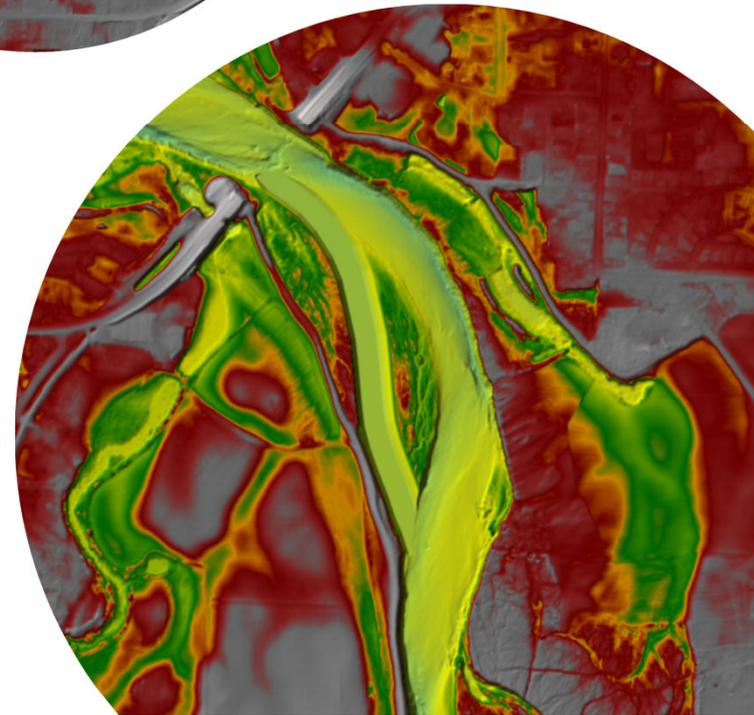
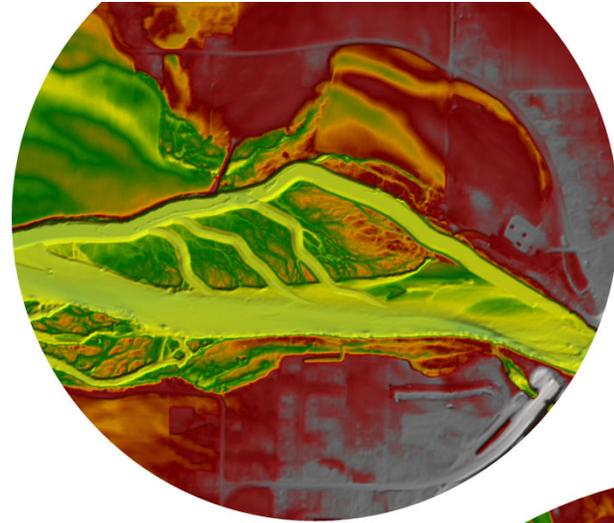
0.5' to 1.0' Decrease

2 mi

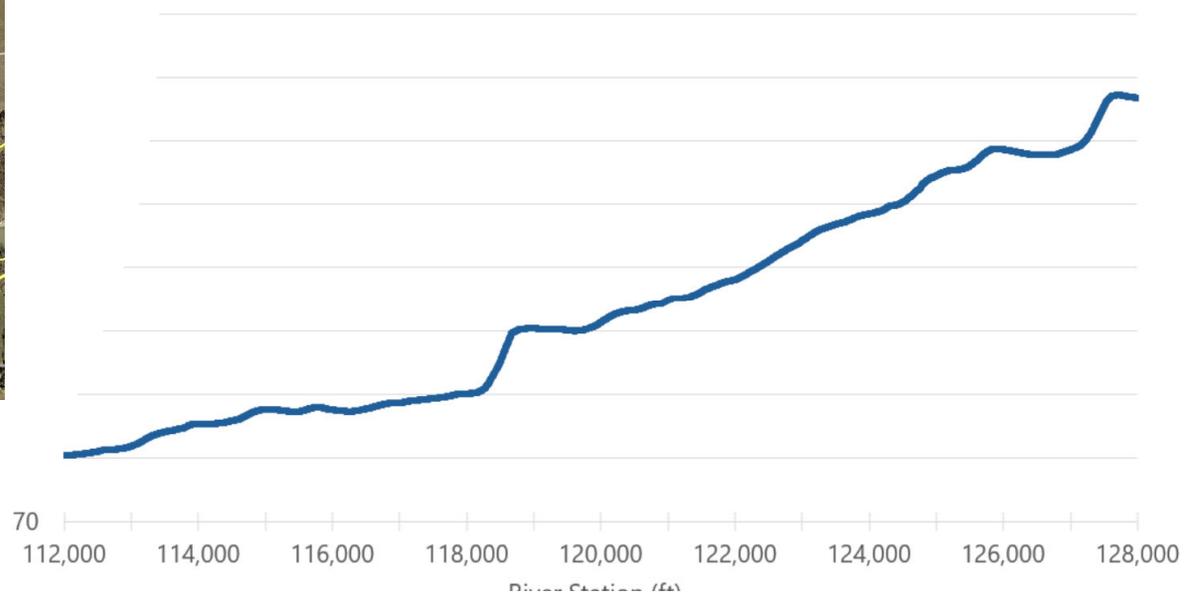


Early Action – Widen the Corridor Phase 1

- Options and impacts
- Preliminary results – may be able to reduce 100-yr overflows into Reach 5 by 4000 cfs
- Identify downstream impacts and what is possible
 - Levee setbacks
 - Channel creation
 - Acquisitions
 - Elevations
 - Floodproofing



Other Constrictions...



Technical Briefing #2:

Integrated Floodplain Action Package

Summary: Basin-wide Actions

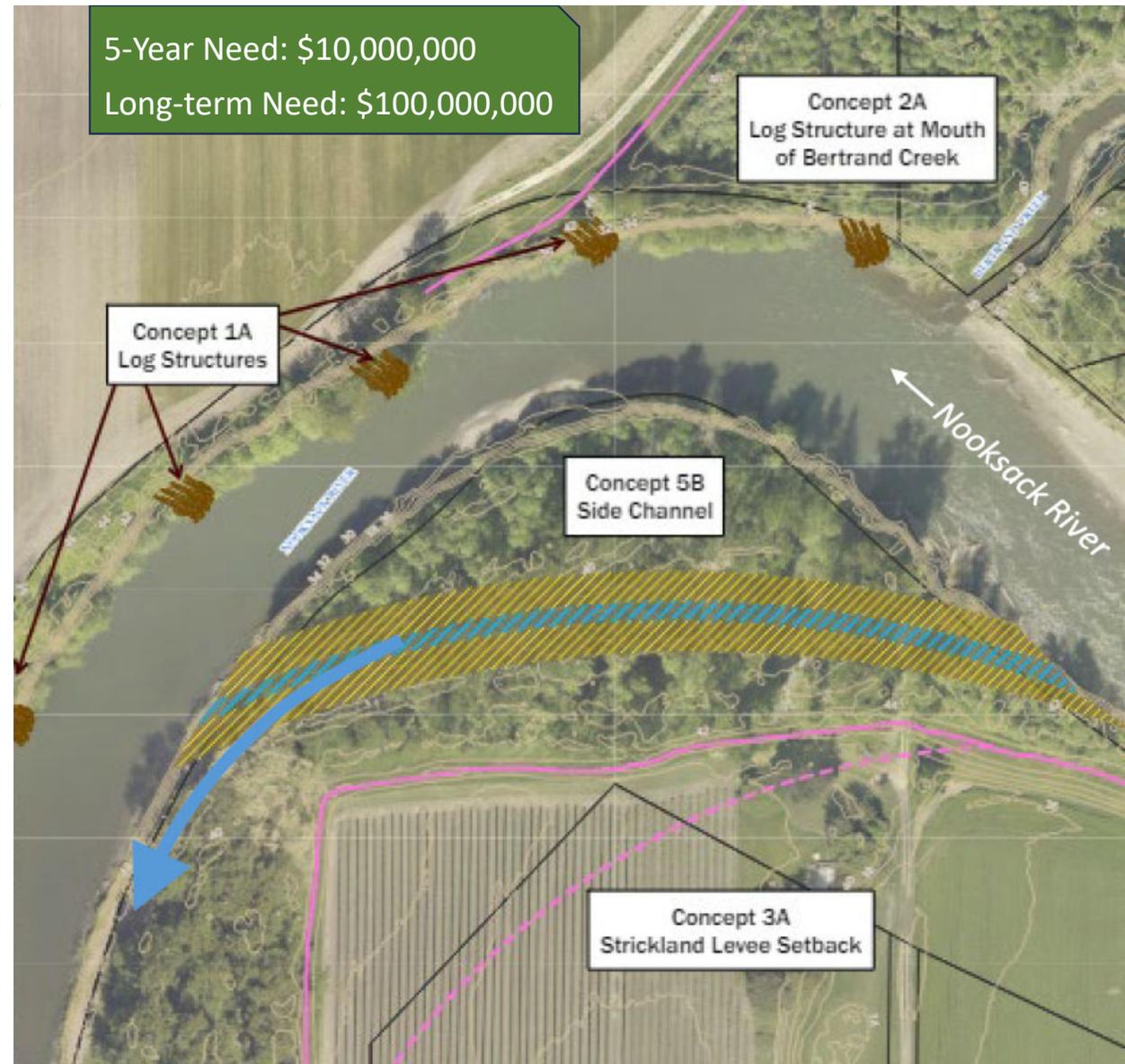
- Acquisition
- Elevation and relocation
- Monitoring of river for changes (capacity, hydrology, structure, flood impacts) for adaptive management
- Land-use planning and regulation (comprehensive planning, new mapping, etc.)
- Improved emergency response
- Public outreach and education



Summary: Reaches 2-3 Actions

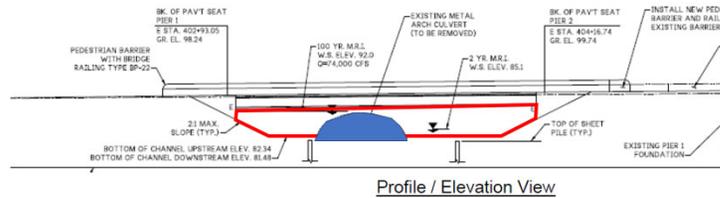
Everson to Ferndale

- Levee setbacks and bridge work to widen constrictions/corridor
 - to restore river processes for flood risk reduction and salmon
- Improve habitat within the wider corridor
- Improve tributary and floodplain habitat and ag drainage

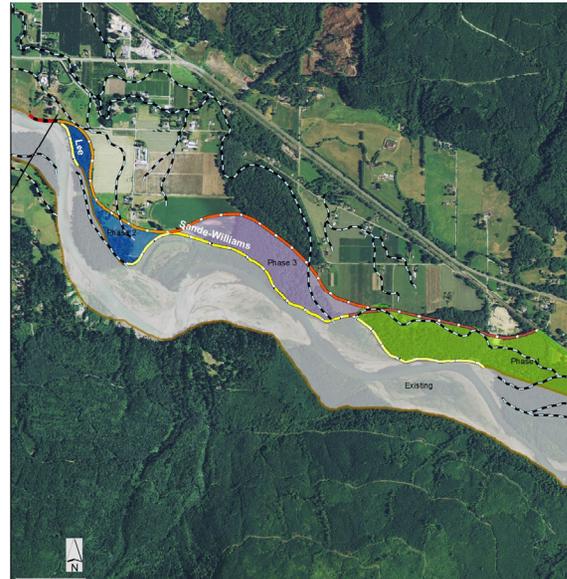


Summary: Reach 4 Actions Deming to Everson

5-Year Need: \$36,000,000
Long-term Need: \$146,000,000

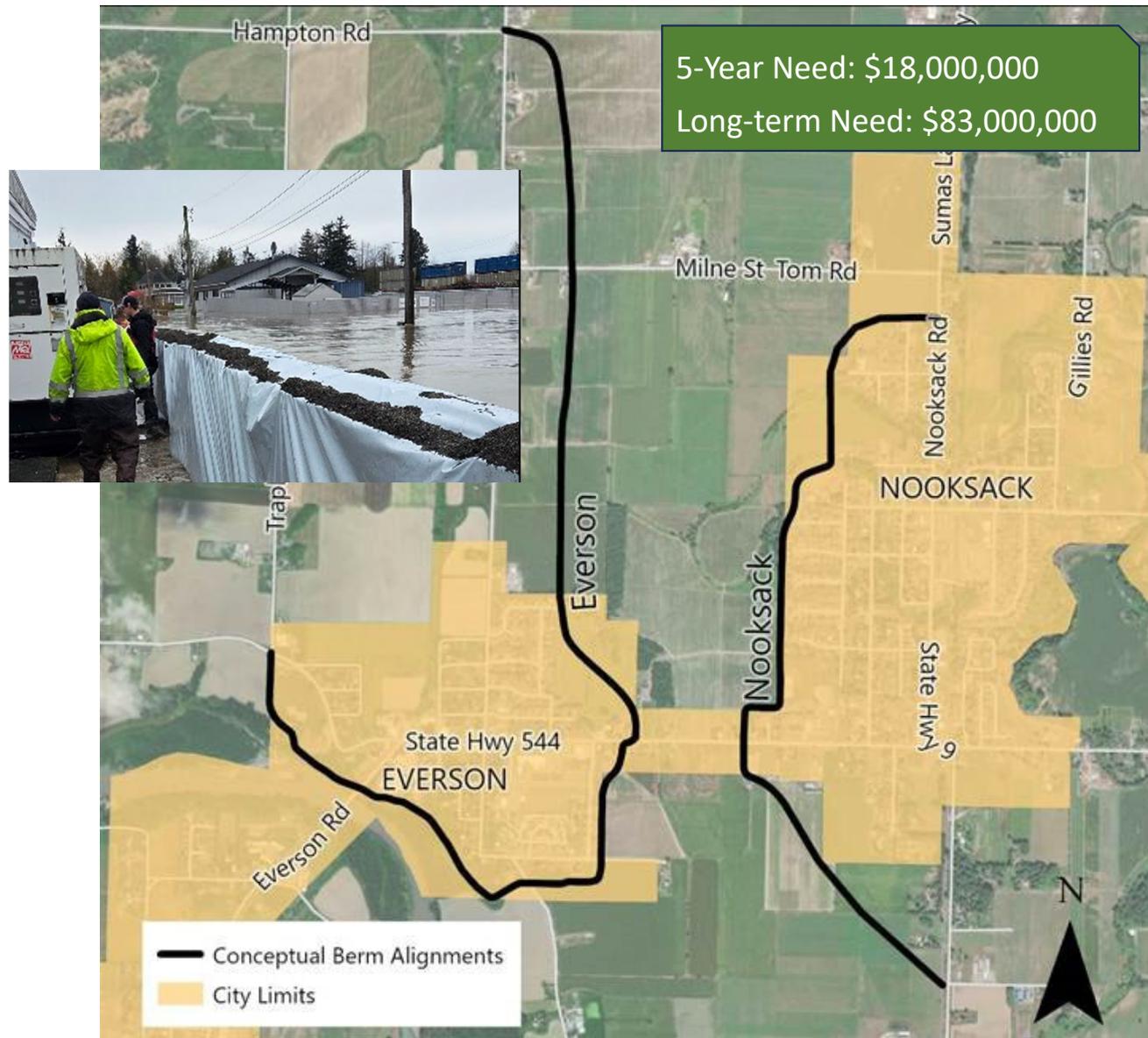


- Widen Everson Corridor
 - Channel creation upstream of Everson bridge
 - Pipeline relocation/reburial
 - Twin View Levee Setback
 - Larger overflow bridge opening at WSDOT crossing
- Floodproof Everson City Hall
- Levee setback and floodplain reconnection in Deming reach



Summary: Reach 5 Actions Everson to Canadian Border

- Sumas Resiliency Measures
 - EPL Flood wall/pump
 - Sumas City Hall Flood wall
 - Resiliency planning and action development (funded)
 - Resilience implementation (not estimated yet)
- Nooksack and Everson Berms



Forks: North, Middle and South

5-Year Need: \$16,000,000

Long-term Need: \$33,000,000

- Channel migration/corridor analysis
- Habitat restoration
- Potter Road elevation for improved emergency access
- Glacier-Gallup alluvial fan risk reduction and restoration
- Storage options



Total Current Estimated Costs

\$182,000,000
early capital
actions in 2026-
2031

\$474,000,000
longer term needs
with much not yet
identified