



# Lower Satsop Restoration & Protection Program

## Phase II -- Habitat Connectivity & Reach-Scale Aquatic, Riparian, and Floodplain Restoration Project

May 7, 2020



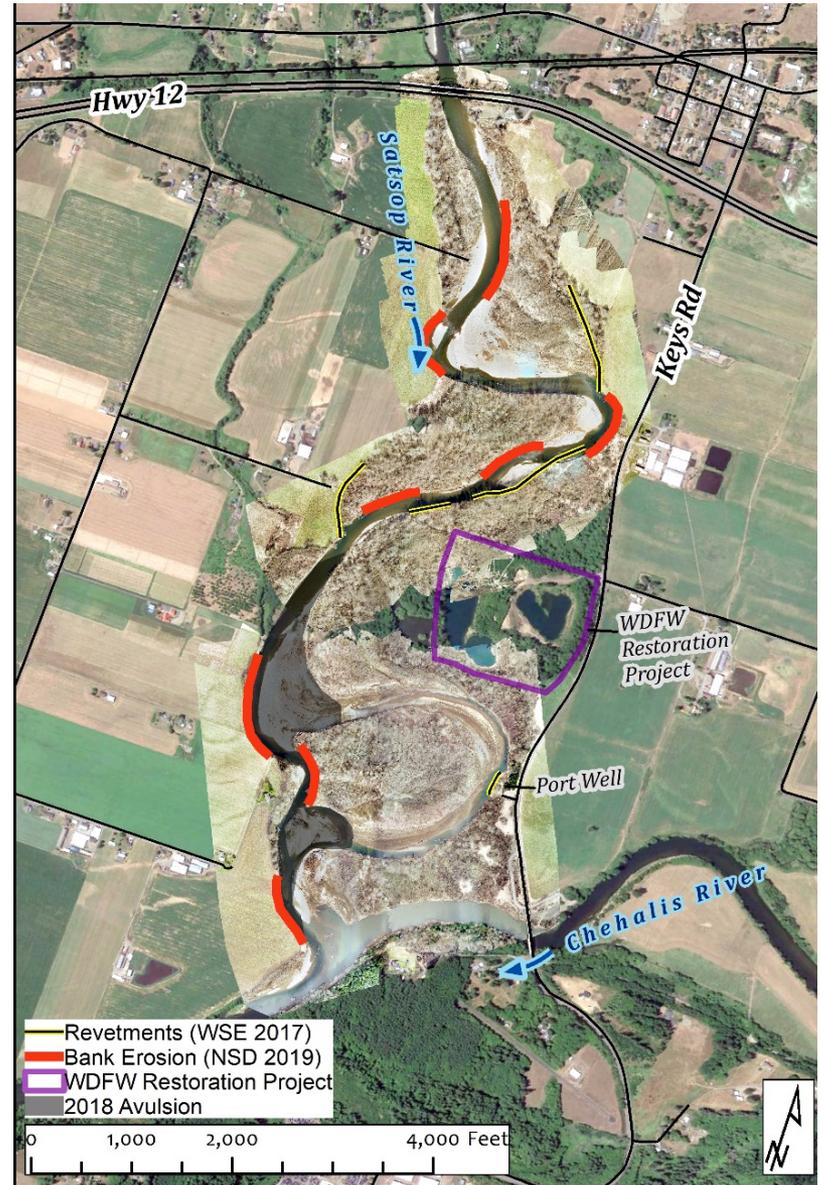
Grays Harbor  
Conservation  
District

*your window to healthy lands*



# Background

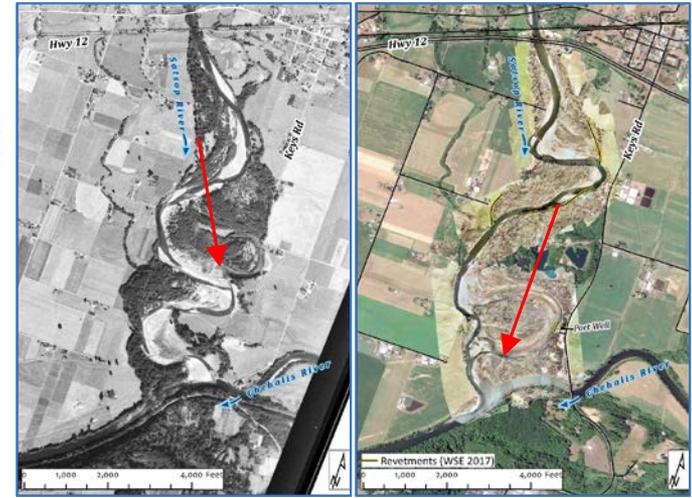
- Bank Erosion
- Revetments
- Keys Road
- Port Well
- WDFW Restoration Project
- 2018 Avulsion
- Habitat Loss
- Loss of Floodplain Access
- Community Frustration
- Lack of Momentum





# Background

## Lower Satsop Restoration & Protection Program



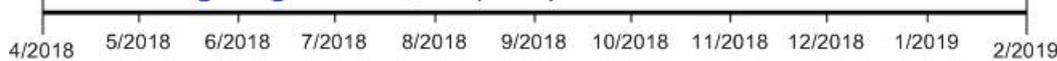
1953

2019

**“Organizing Stage”**



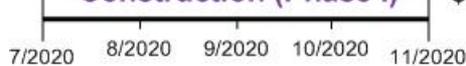
**“Visioning Stage”** -- \$40,000 (state)



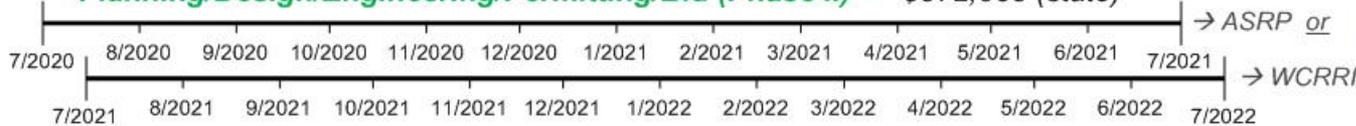
**“Planning/Design/Engineering/Permitting/Bid (Phase I)”** -- \$175,000 (state)



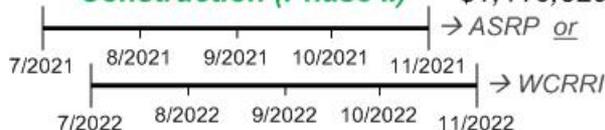
**“Construction (Phase I)”** -- \$1,725,024 (state), \$500K (local)



**“Planning/Design/Engineering/Permitting/Bid (Phase II)”** -- \$372,553 (state)



**“Construction (Phase II)”** -- \$1,416,829 (state)

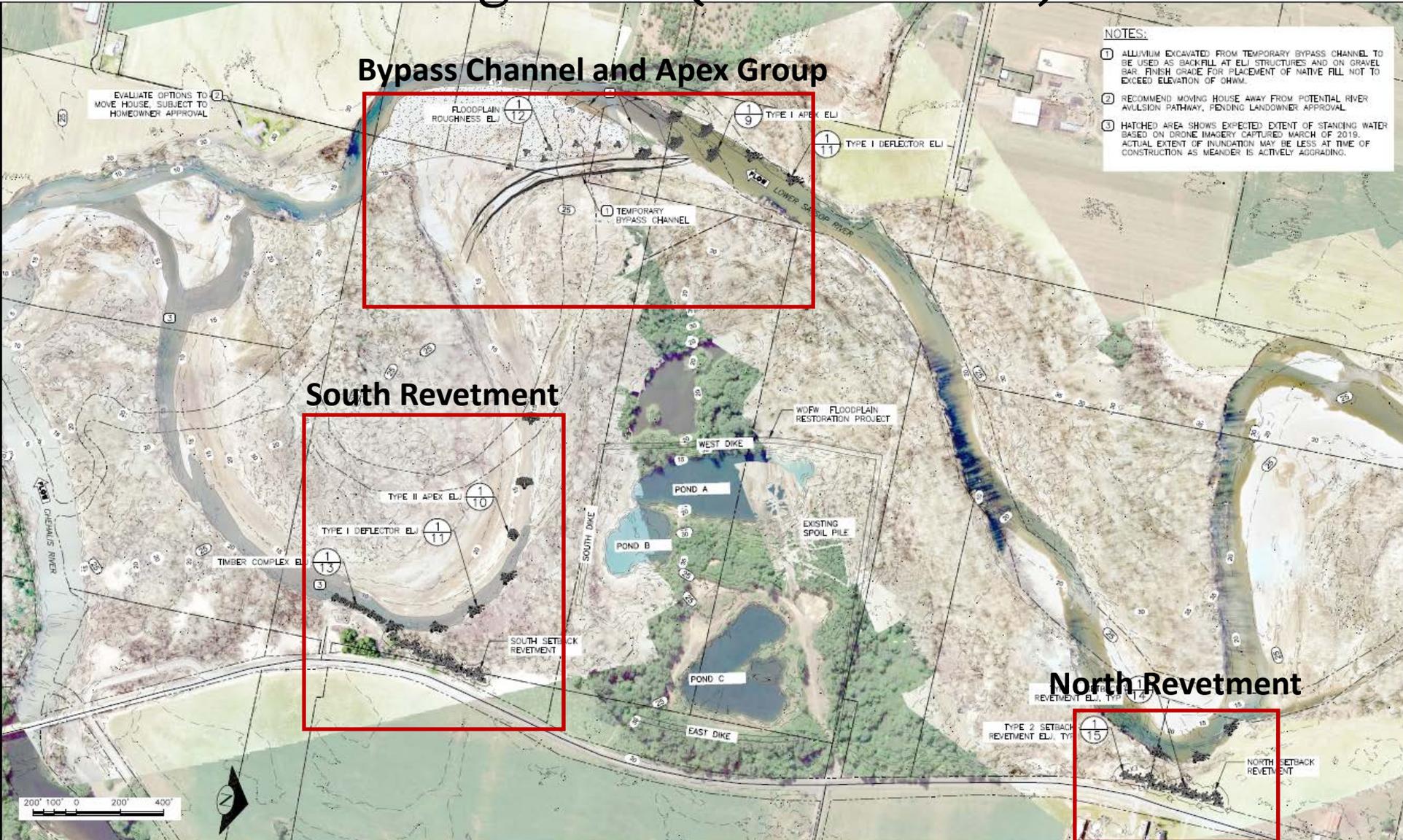


**(Phase I)  
Keys Road Corridor  
Flood Protection  
Project**

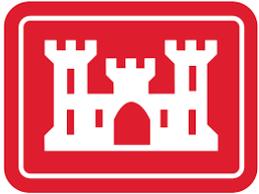
**(Phase II)  
Habitat Connectivity  
& Reach-Scale Aquatic,  
Riparian and  
Floodplain Restoration  
Project**

- ✓ Many Community Meetings.
- ✓ Many Individual Meetings/Presentations/Tours.
- ✓ Many Multi-Agency Advisory Group Meetings.

# Background (Phase I 2020)



# Background (Advisory Group)



# WCRRI Proposal (Objectives)

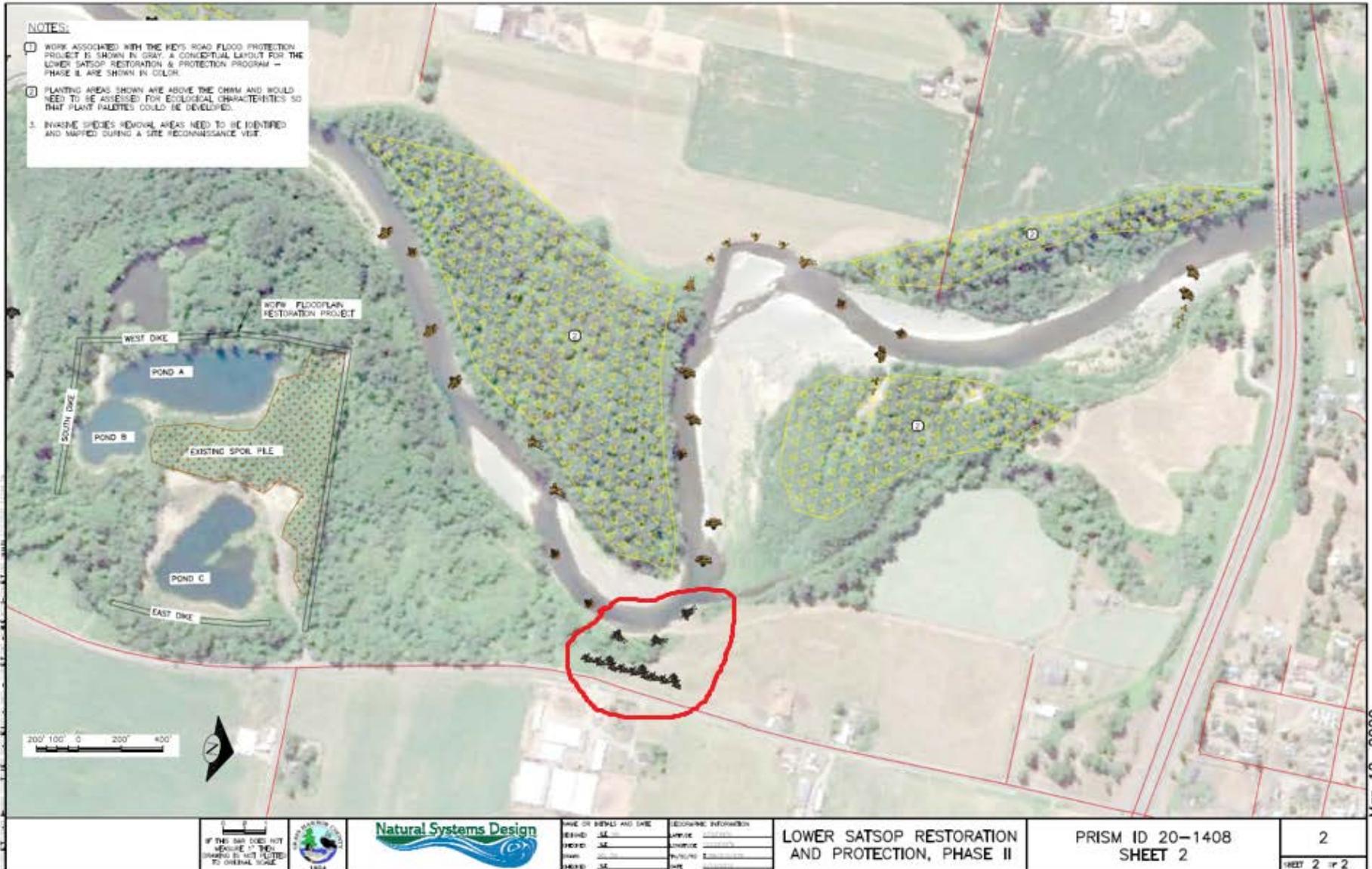
- Build on investment in East Fork Satsop (Early-Action ASRP) by improving connectivity between critical habitats.
  
- Achieve reach-scale effect on sediment and flow dynamics.
  - ▶ 35 in-channel structures
  - ▶ 130 acres of riparian planting
  
- Reduce invasive species (~10 acres invasive plant control).

# WCRRI Proposal (Reach-Scale Design Concept)



Red Outline = Phase I (2020)

# WCCRI Proposal (Reach-Scale Design Concept)



Red Outline = Phase I (2020)

# Proposal (TRP Evaluation Criteria)

## Restoration Benefit

<p>1. Species</p>	<ul style="list-style-type: none"> <li>• Provides reach-scale habitat benefit, connectivity to upper watershed.</li> <li>• Winter-run Steelhead; Coho; Fall &amp; Summer-run Chinook; Chum; Northern red-legged frog; Olympic mudminnow; Great blue heron; North American beaver; resident Coastal Cutthroat; resident char.</li> </ul>
<p>2. Physical Processes and Features</p>	<ul style="list-style-type: none"> <li>• Engineered log jams and riparian plantings are designed, constructed as self-sustaining, self-regulating, process-based solutions.</li> <li>• Adaptive management follows implementation of each Phase.</li> </ul>
<p>3. Quantity of Benefit</p>	<ul style="list-style-type: none"> <li>• Example quantifiable benefit categories include: Stable gravels for spawning; Cool refugia; Shallow-water margins; Reduced stream power; Building/reengaging floodplain; Edge habitat complexity.</li> </ul>

## Community Benefit

<p>4. Jobs</p>	<ul style="list-style-type: none"> <li>• 2.5 FTEs created. 2 FTEs maintained.</li> </ul>
<p>5. Direct Community Impacts and Improvements</p>	<ul style="list-style-type: none"> <li>• Protects irreplaceable, high value farmland and preserves local, state revenues; Reduces erosion pressure on Keys Road, Satsop Business Park potable water supply; Restores habitat for recreation, tourism.</li> </ul>
<p>6. Threat Reduction</p>	<ul style="list-style-type: none"> <li>• Protects private property, Keys Rd., Satsop well from river migration.</li> </ul>

# Proposal (TRP Evaluation Criteria)

## Likelihood to Succeed

7. Logical Approach and Schedule	<ul style="list-style-type: none"> <li>Phase II is natural continuation of Phase I (2020); will be finalized through multi-agency advisory group and community meetings (like Phase I); and will draw on success achieved in analogous systems.</li> </ul>
8. Appropriate Scope w/ Clear Goals, Objectives	<ul style="list-style-type: none"> <li>Wood structures, extensive riparian planting, invasive plant control will improve ecosystem functions, resilience (will restore, improve sediment dynamics; create, connect habitat; protect community).</li> </ul>
9. Sponsor, Participants Experience	<ul style="list-style-type: none"> <li>Natural Systems Design specializes in this type of restoration; has prior experience in Satsop River watershed; and has seen through the highly-successful Upper Quinault river restoration effort.</li> </ul>

## Cost and Legal

10. Permits and Land Owners	<ul style="list-style-type: none"> <li>Landowners, regulatory agencies have been actively engaged in development of Lower Satsop Restoration &amp; Protection Program, as well community members. All have consistently voiced support.</li> </ul>
11. Best Use of Public Funds	<ul style="list-style-type: none"> <li>Funds continue a well-developed, thoughtful implementation plan.</li> <li>Watershed benefits will compound for earlier investments: East Fork early action reach; WDFW ponds; Phase I Keys Road.</li> </ul>

# Photos (Lower Satsop, Existing Condition)

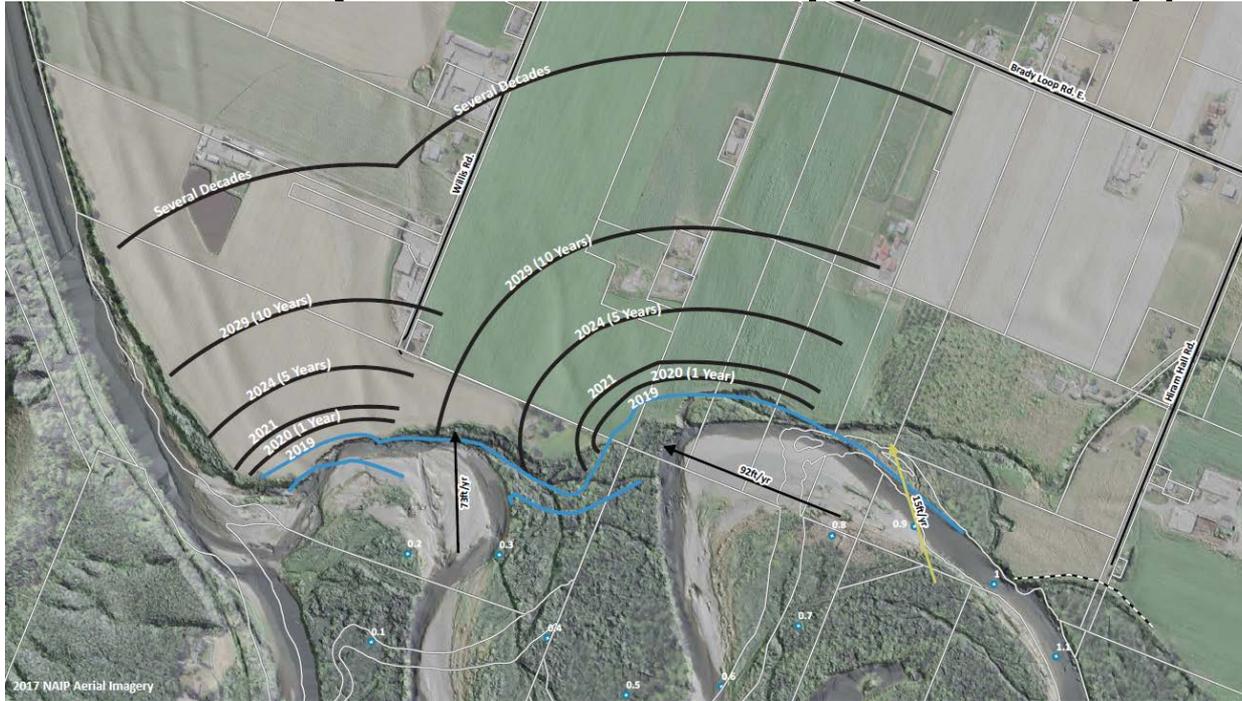


1953

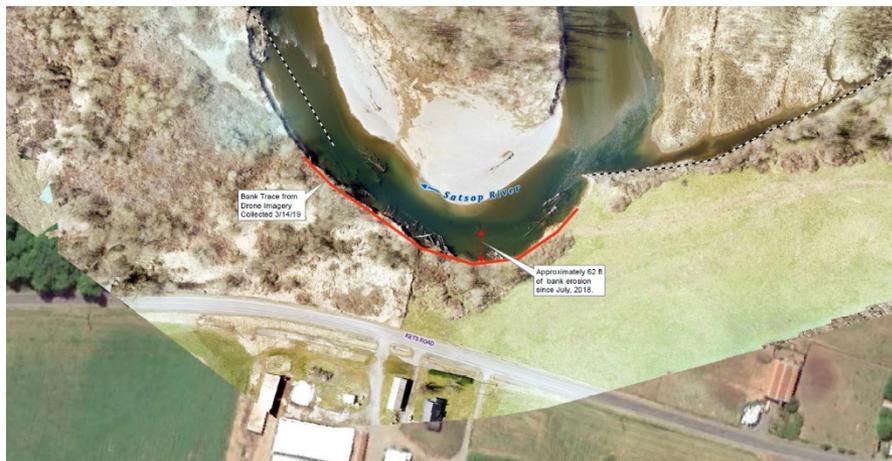


2019

# Photos (Lower Satsop, Existing Condition)



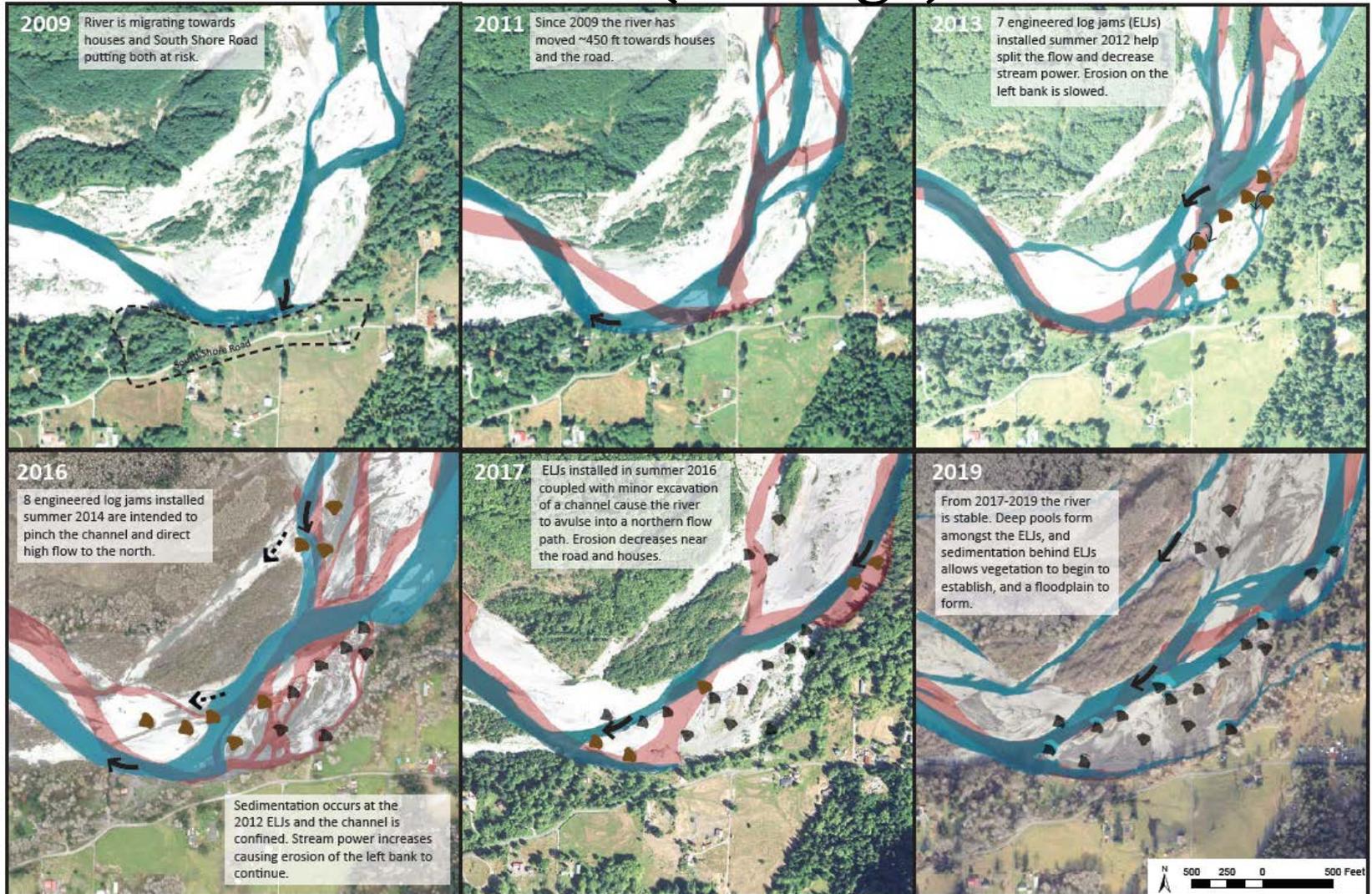
Click below (and scroll to bottom of page)



12/04/2018 Drone Footage → Click [here](#).  
01/06-09/2020 Flood (Webcam Video) → Click [here](#).  
2/27/2020 WDFW Drone Footage:

- Pictures -- Click [here](#).
- Video1 -- Click [here](#).
- Video2 -- Click [here](#).
- Video3 -- Click [here](#).
- Video4 -- Click [here](#).
- Video5 -- Click [here](#).

# Photos (Analog)



- Key:**
- Existing Channel Location
  - Previous Channel Location
  - Design Intent
  - Actual Flow Path
  - Most Recently Built ELJs
  - Past Built ELJs



# Photos (Analog)



Timber complex →



← Upper  
Quinault,  
South  
Shore Road

Deflector  
structures,  
Apex jam →



# Questions

## Web:

## Contacts:

Chehalis River Basin Flood Authc x +

ezview.wa.gov/site/alias\_1492/37609/lower\_satsop\_restoration\_and\_protection\_program.aspx

### Lower Satsop Restoration & Protection Program



(Keys Road Flooding, 1-07-2020, Part of Grays Harbor Photo)

-- PHASE I --

**2020 Legislative Funding Request** → FUNDED! See [here](#) (pg. 77).

- Rep. Brian Blake & Rep. Jim Walsh (submitted 11-12-2019) → Click [here](#).
- Sen. Dean Takko & Sen. Van De Wege (submitted 12-26-2019) → Click [here](#).
- Letter of Support:
  - Washington State Dairy Federation (submitted 2-04-2020) → Click [here](#).
  - Grays Harbor Voluntary Stewardship Program (submitted 2-14-2020) → Click [here](#).
  - Grays Harbor/Pacific County Farm Bureau (submitted 2-20-2020) → Click [here](#).

**JARPA Submittal (Phase I)** (submitted 3-27-2020, **NEW! supplemented 4-23-2020**) → Click [here](#).

**Lower Satsop Advisory Group Meeting** (3-31-2020) → Click [here](#).

**Lower Satsop Community Meeting** (4-06-2020) → Click [here](#).

### Organization

Grays Harbor County

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