



# Lower Satsop Restoration & Protection Program Update/Discussion – Phase I, Phase II

Protect, Preserve, Restore

\* Farmland \* Essential Infrastructure \* River/Floodplain Functions & Habitat

October 9, 2020



Grays Harbor  
Conservation  
District

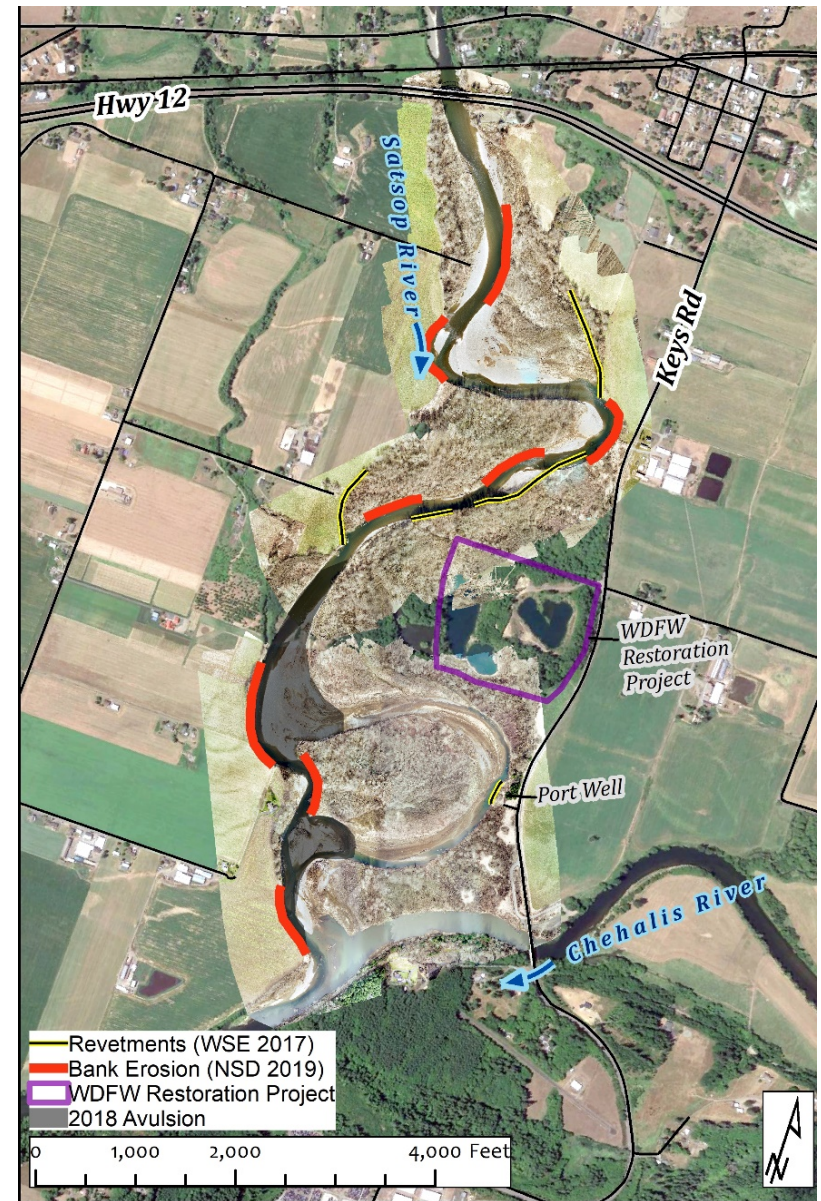
*your window to healthy lands*





# 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



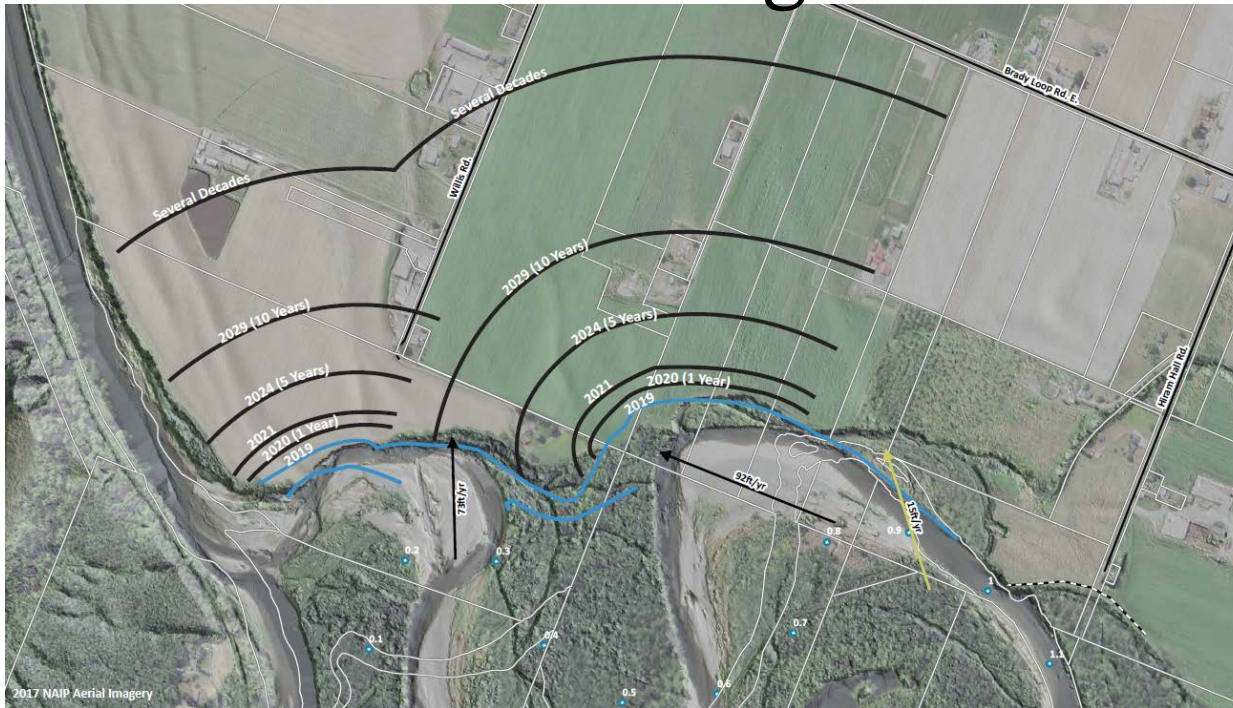
1953



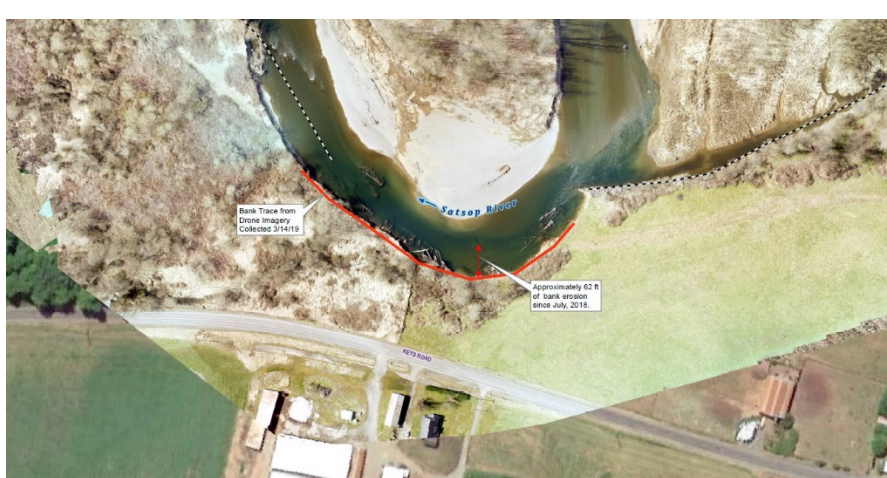
2019



# Background



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](#).

**NEW! 9/04/2020 GHC Drone Footage:**

→ Video1 -- Click [here](#). → Video2 -- Click [here](#).

# Background (Advisory Group)





# Background

## Lower Satsop Restoration & Protection Program



### "Organizing Stage"

9/2017 10/2017 11/2017 12/2017 1/2018 2/2018 3/2018 4/2018

### "Visioning Stage" -- Funded, \$40K State Cap Budget (RCO 18-2118)

4/2018 5/2018 6/2018 7/2018 8/2018 9/2018 10/2018 11/2018 12/2018 1/2019 2/2019



(Phase I)  
Keys Road Corridor  
Flood Protection  
Project

### "Planning/Design/Engineering/Permitting/Bid (Phase I)" -- Funded, \$175K State Cap Budget (RCO 18-2118)

6/2019 7/2019 8/2019 9/2019 10/2019 11/2019 12/2019 1/2020 2/2020 3/2020 4/2020 5/2020 6/2020 7/2020

### "Construction (Phase I)" -- Funded, \$1,725,024 State Cap Budget (RCO 20-\*\*\*\*)

7/2020 8/2020 9/2020 10/2020 11/2020

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

### "Planning/Design/Engineering/Permitting/Bid (Phase II)" -- Funded, \$320K State ASRP \$ (RCO 20-\*\*\*\*)

10/2020 11/2020 12/2020 1/2021 2/2021 3/2021 4/2021 5/2021 6/2021 7/2021 8/2021 9/2021 10/2021 11/2021 12/2021 1/2022 2/2022 3/2022 4/2022 5/2022

### "Construction (Phase II)" -- Funding Pending, \$1,561,405 State Flood Authority \$ (RCO 22-\*\*\*\*)

5/2022 6/2022 7/2022 8/2022 9/2022 10/2022 11/2022



1953



2019

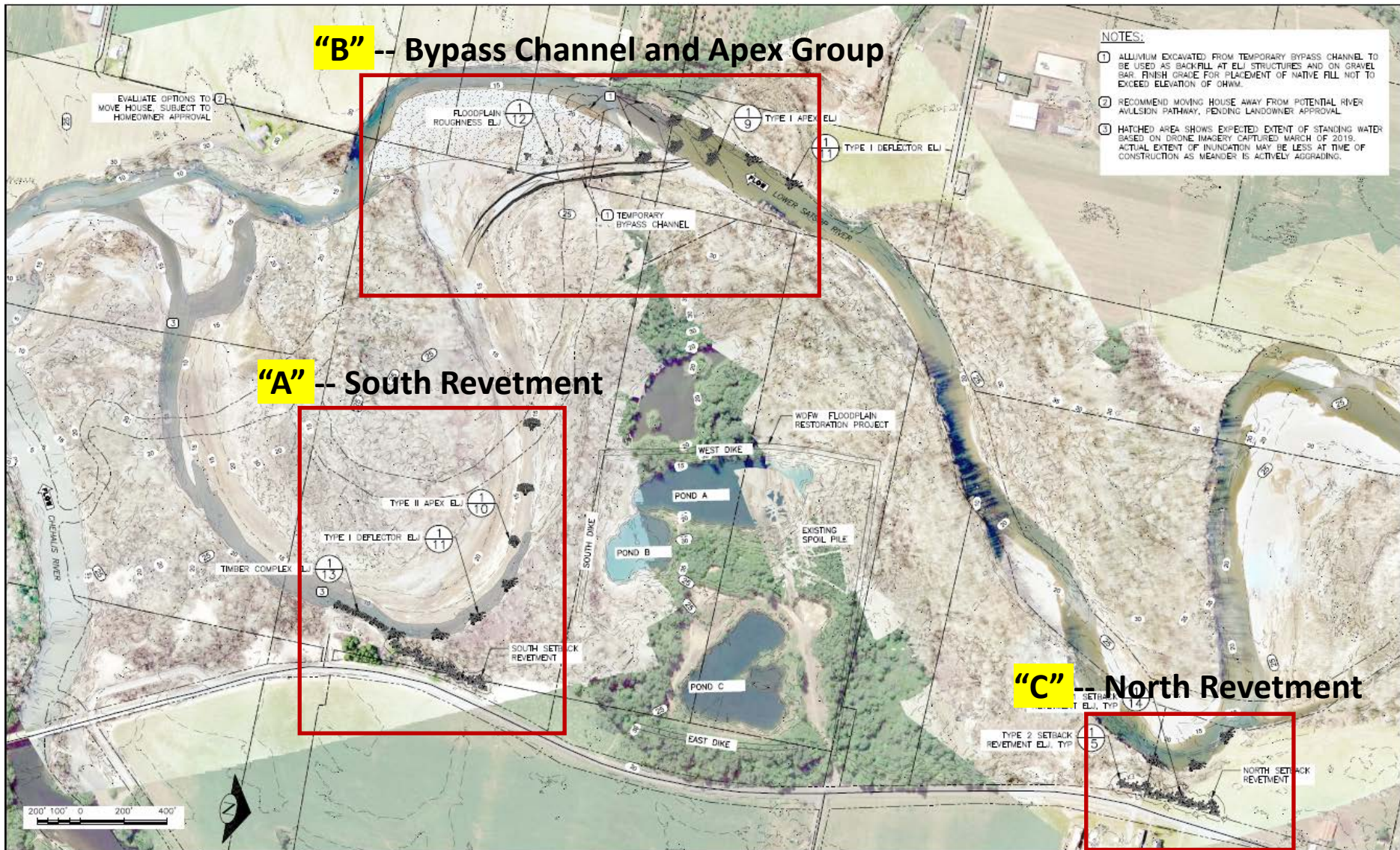
✓ Many Community Meetings

✓ Many Individual Meetings/Presentations/Tours

✓ Many Multi-Agency Advisory Group Meetings

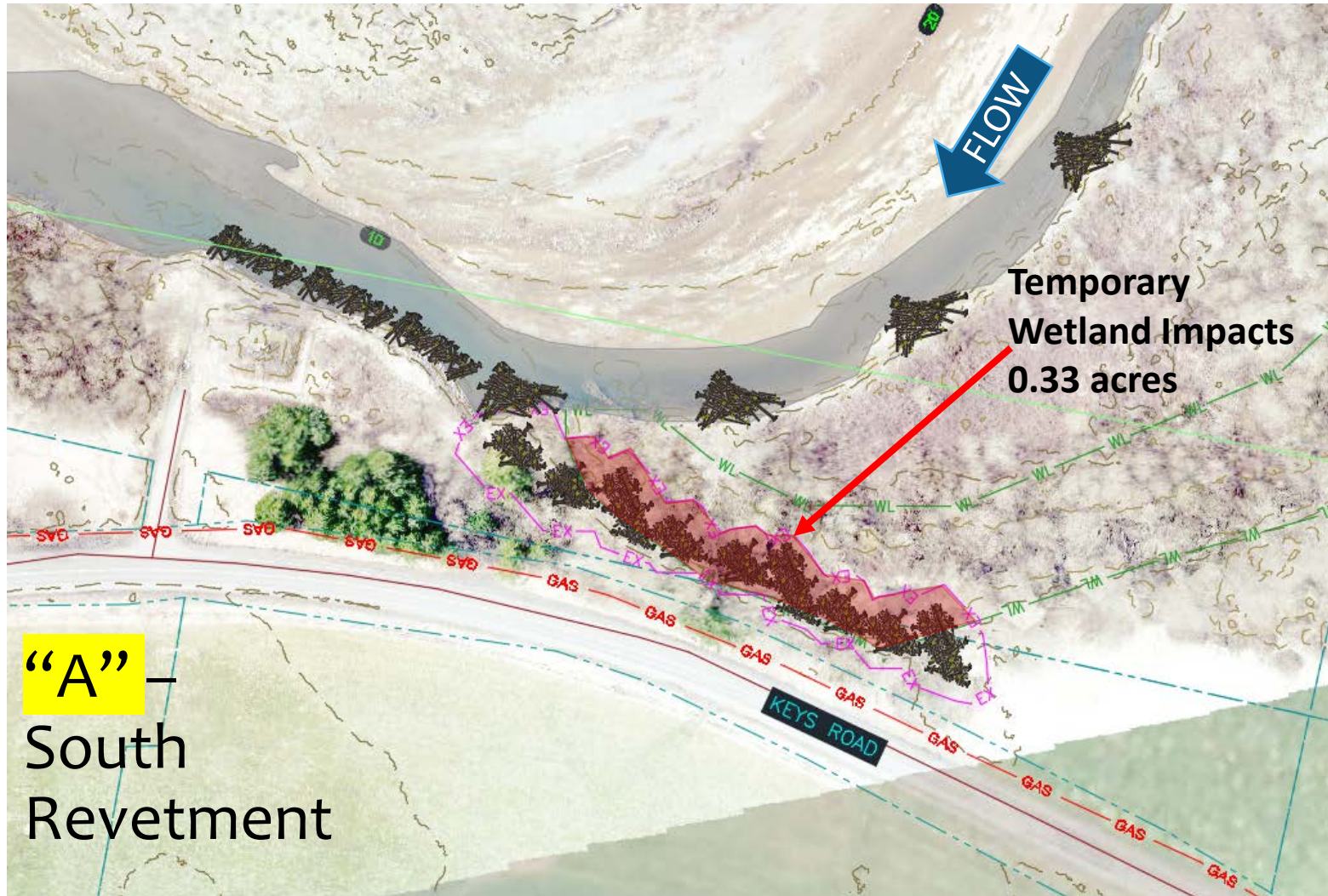


# Phase I (2020), Keys Road Corridor Flood Protection





# Phase I (2020), Keys Road Corridor Flood Protection





# Phase I (2020), Keys Road Corridor Flood Protection

“A” --  
South  
Revetment



Timber Complex at the Port of Grays Harbor well



# Phase I (2020), Keys Road Corridor Flood Protection

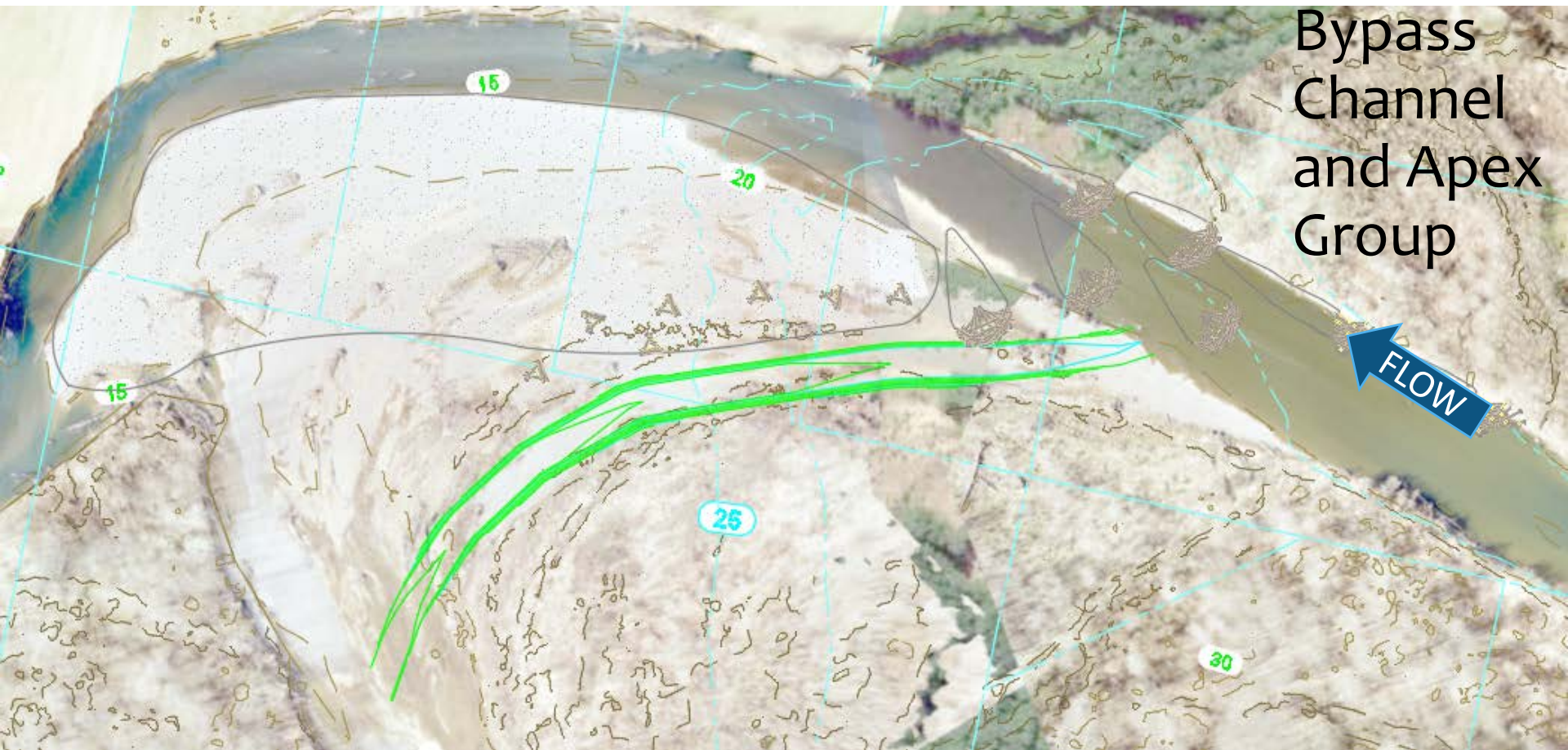
Aerial view of deflectors in side-channel





# Phase I (2020), Keys Road Corridor Flood Protection

**“B”** --  
Bypass  
Channel and Apex  
Group





# Phase I (2020), Keys Road Corridor Flood Protection

Aerial view of apex jams

“B” --


Bypass  
Channel  
and Apex  
Group





# Phase I (2020), Keys Road Corridor Flood Protection

Floodplain roughness structures, bypass channel, apex jams, and deflectors.



An aerial photograph of a river restoration project. The image shows a main river channel on the right and a newly constructed bypass channel on the left. Several apex jams, made of wooden poles, are installed in the bypass channel to create roughness structures. The surrounding area is a mix of sand, gravel, and vegetation. The text "B" is highlighted in a yellow box, followed by "Bypass Channel and Apex Group".

**“B”**--  
Bypass  
Channel  
and Apex  
Group



# Phase I (2020), Keys Road Corridor Flood Protection





# Phase I (2020), Keys Road Corridor Flood Protection

Deflector structures looking downstream



Deflector structures looking upstream



“C” -- North  
Revetment



# Phase I (2020), Keys Road Corridor Flood Protection

North setback revetment pit and pile driving crane

**“C”** -- North  
Revetment





# Phase I (2020), Keys Road Corridor Flood Protection

## Lessons Learned

1. Construction	<ul style="list-style-type: none"><li>a. <a href="#">Brumfield</a> -- No mechanical breakdowns affecting August fish window</li><li>b. Brumfield -- Not shy to seek clarification/resources to do best job</li><li>c. WDFW -- Exceptionally helpful as on-the-ground regulator</li><li>d. Public interest -- Very high</li></ul>
2. Permitting	<ul style="list-style-type: none"><li>a. 16 weeks! JARPA submittal 3/27/20; Pre-construction mtg 7/14/20</li><li>b. Multi-Agency Advisory Group -- “Having so many interested and involved agencies, jurisdictions, departments was excellent in that it allowed for lots of ideas and didn’t leave anyone surprised as ideas and plans came about.”</li></ul>
3. Coordination	<ul style="list-style-type: none"><li>a. Right of Way/Property Access -- Complete sooner</li></ul>
4. Leadership	<ul style="list-style-type: none"><li>a. GHC -- “Coordinator/convener/momentum generator” (<a href="#">here</a>)</li></ul>
5. Communication	<ul style="list-style-type: none"><li>a. Frequent and Substantive</li><li>b. In-person, Email, Website, Zoom, Webcams, Drone; News articles?</li></ul>
6. Implementation	<ul style="list-style-type: none"><li>a. Monitoring and adaptive management -- TBD</li></ul>



## *Phase II (2021/22), Habitat Connectivity & Reach-Scale Aquatic, Riparian, and Floodplain Restoration*

- 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).



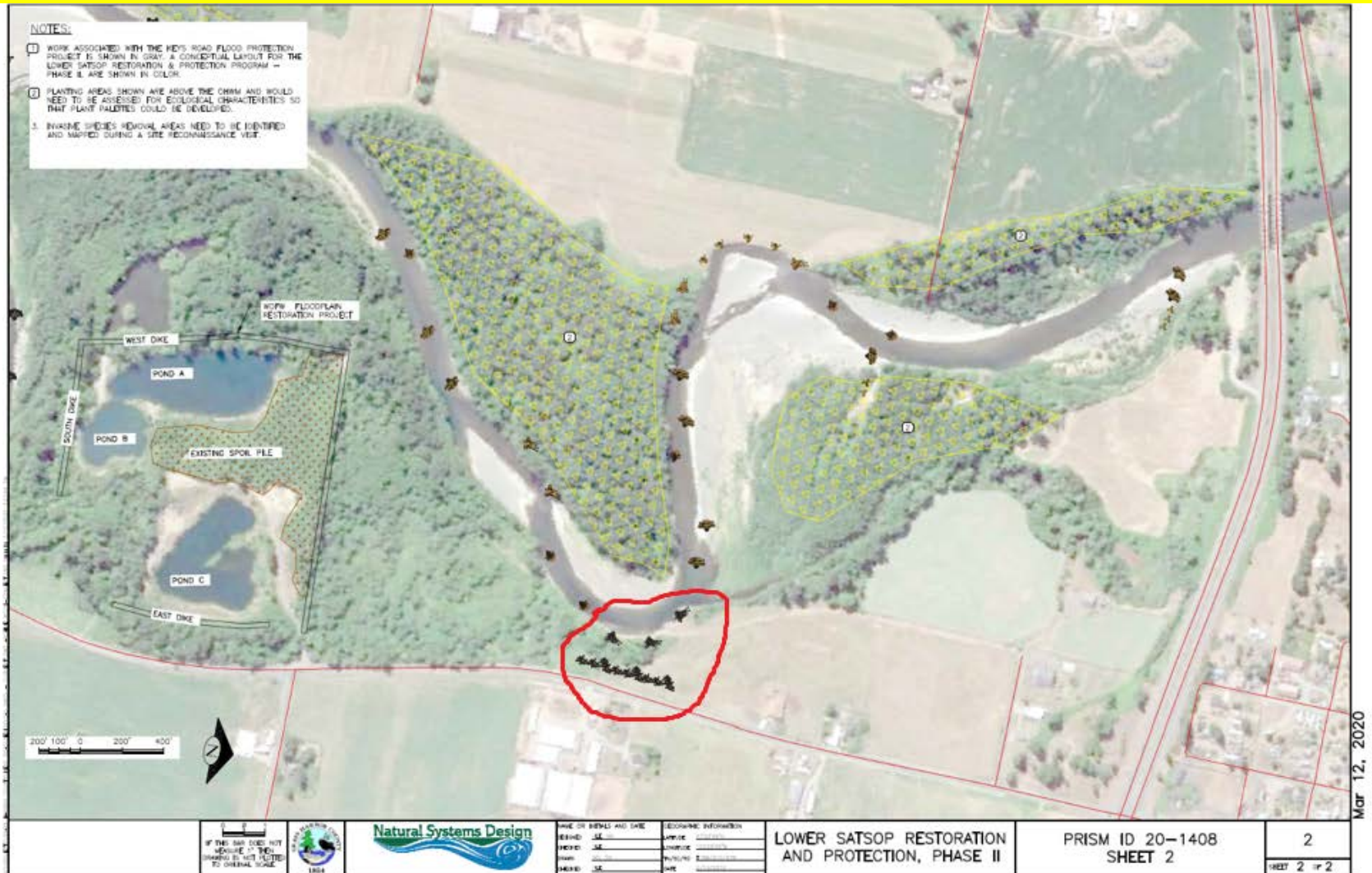
# Phase II (2021/22), Habitat Connectivity & Reach-Scale Aquatic, Riparian, and Floodplain Restoration



Red Outline = Phase I (2020)



# Phase II (2021/22), Habitat Connectivity & Reach-Scale Aquatic, Riparian, and Floodplain Restoration



Red Outline = Phase I (2020)



# *Phase II (2021/22), Habitat Connectivity & Reach-Scale Aquatic, Riparian, and Floodplain Restoration*

## ■ Design, Engineering, Permitting

- ▶ Funded -- \$320K
- ▶ Schedule -- 10/2020 to 5/2022

## Next Steps

## ■ Construction

- ▶ Funding pending -- \$1.56M
- ▶ Schedule – 5/2022 to 11/2022

## ■ Key Considerations

- ▶ In-water work window August 1 -31
- ▶ Right of way, property access
- ▶ Geomorphic changes (adaptive management)\*\* -- 10/2020 to 5/2022

\*\*Note: Considering relocating webcam and conducting routine drone flights to monitor and document river changes driven by Phase I.



# Questions/More Information

← → ↻ ezview.wa.gov/site/alias\_\_1492/37609/Default.aspx


Project: Chehalis River Basin Flood Authority  
UPR#: 1492

Search Documents Messages Project Members

Home Local Projects Meetings Capital Budget 2015-18 Outreach & Education Grants & Subgrants Documents Contacts Library FAQ

## Key Links

### Lower Satsop Restoration & Protection Program



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

-- PHASE I --

JARPA Approvals → Click [here](#).

Construction Bid Package (advertised 6-04-2020) → Click [here](#)

JARPA (submittal 3-27-2020, supplement1 4-23-2020, supplement2 5-26-2020) → Click [here](#).

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

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

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

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

Overview/FAQ (12-16-2019) → Click [here](#).

Map → Click [here](#) (12-13-2019, All Phases), [here](#) (12-27-2019, Phase I)

Presentation (12-16-2019) → Click [here](#).

-- PHASE II --

2020-21 ASRP Funding Request:

- Request For Proposals (issued 11-15-2019) → Click [here](#).
- Funding Proposal (submitted 2-05-2020) → Click [here](#).
- Funding Award for Phase II Design (received 5-15-2020) → Click [here](#).

## Organization

Grays Harbor  
County

Rob Wilson  
360/249-4222  
[RWilson@co.grays-harbor.wa.us](mailto:RWilson@co.grays-harbor.wa.us)

Natural Systems  
Design

Miranda Smith  
206/480-1127  
[miranda@naturaldes.com](mailto:miranda@naturaldes.com)

Chehalis River  
Basin Flood  
Authority

Scott Boettcher  
360/480-6600  
[scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)

[https://www.ezview.wa.gov/site/alias\\_\\_1492/37609/lower\\_satsop\\_restoration\\_and\\_protection\\_program.aspx](https://www.ezview.wa.gov/site/alias__1492/37609/lower_satsop_restoration_and_protection_program.aspx)



