



LOWER SATSOP RESTORATION AND PROTECTION PROGRAM

Protect, Preserve, Restore

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

September 3, 2019



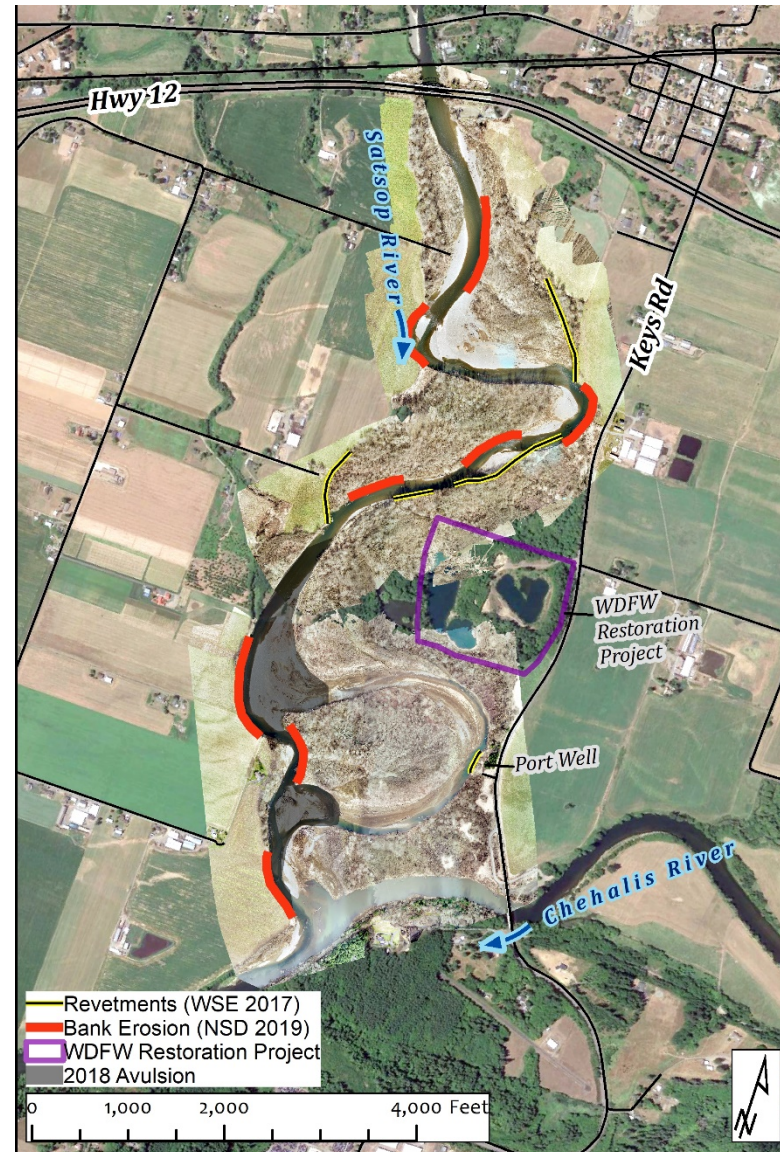
Grays Harbor
Conservation
District

your window to healthy lands

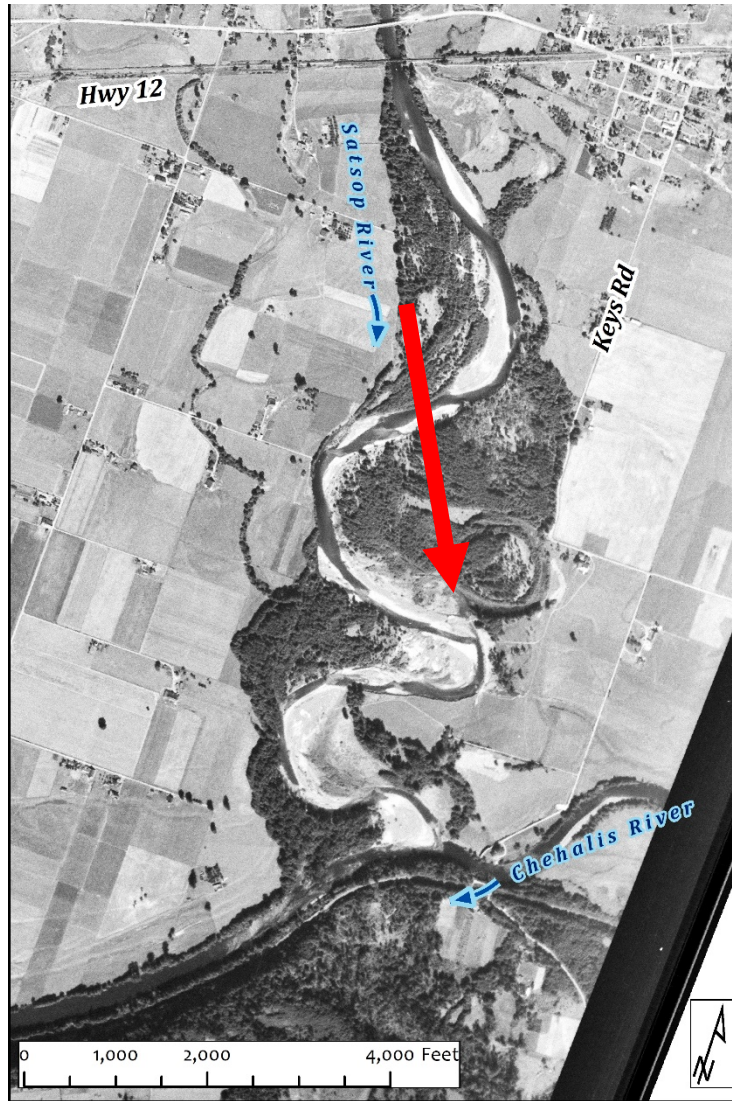


Issues

- Bank Erosion
- Revetments
- Keys Road
- Port Well
- WDFW Restoration Project
- 2018 Avulsion

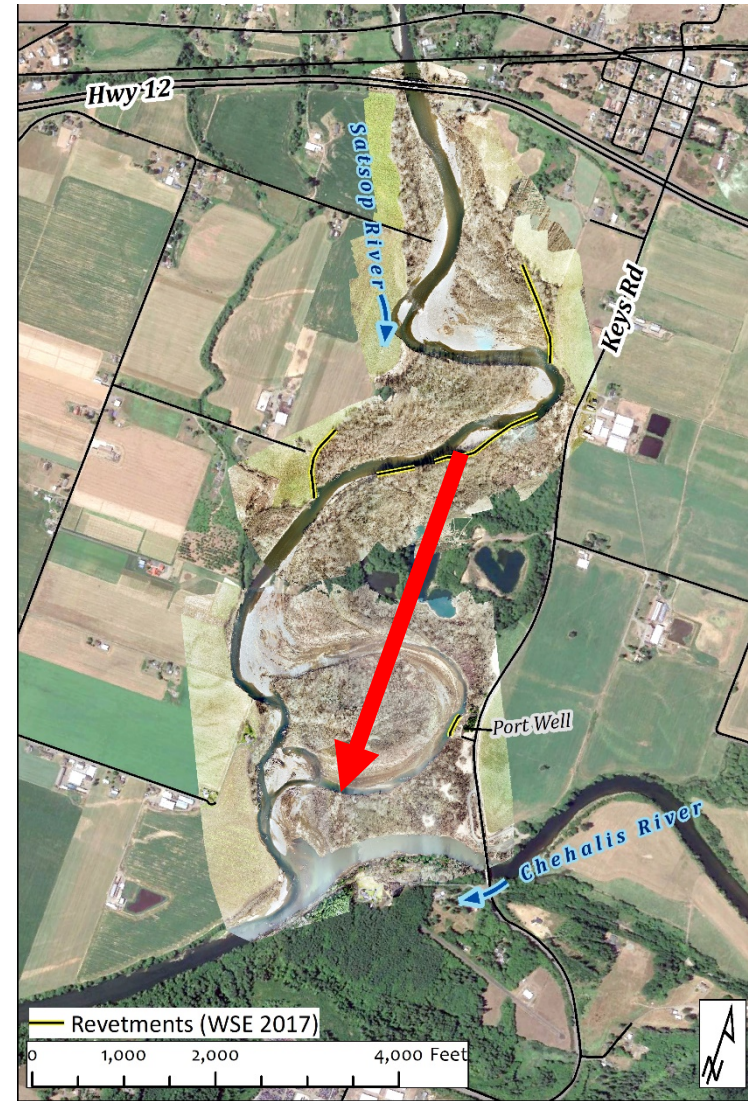


Historical Context



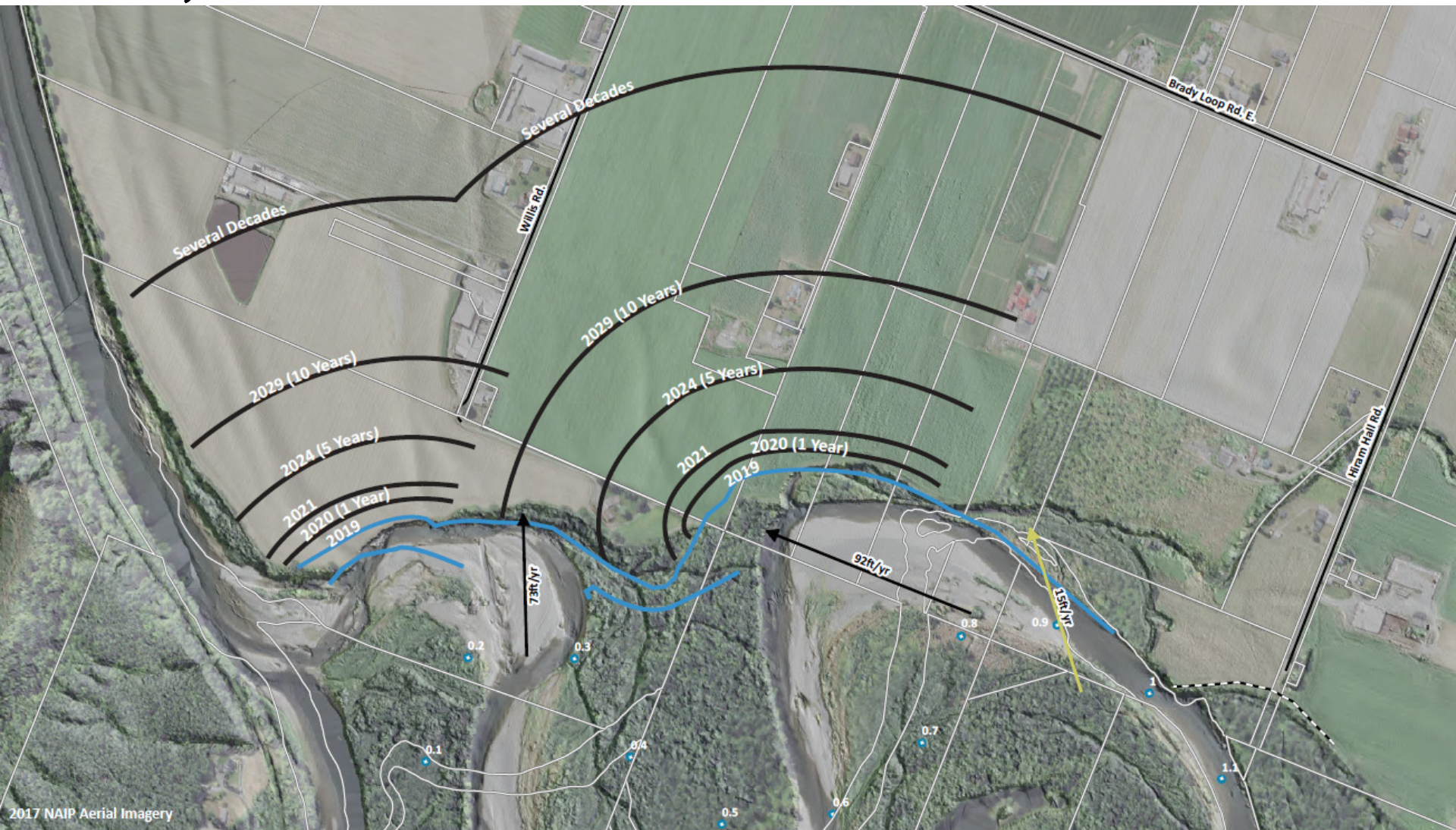
2

1953



2019

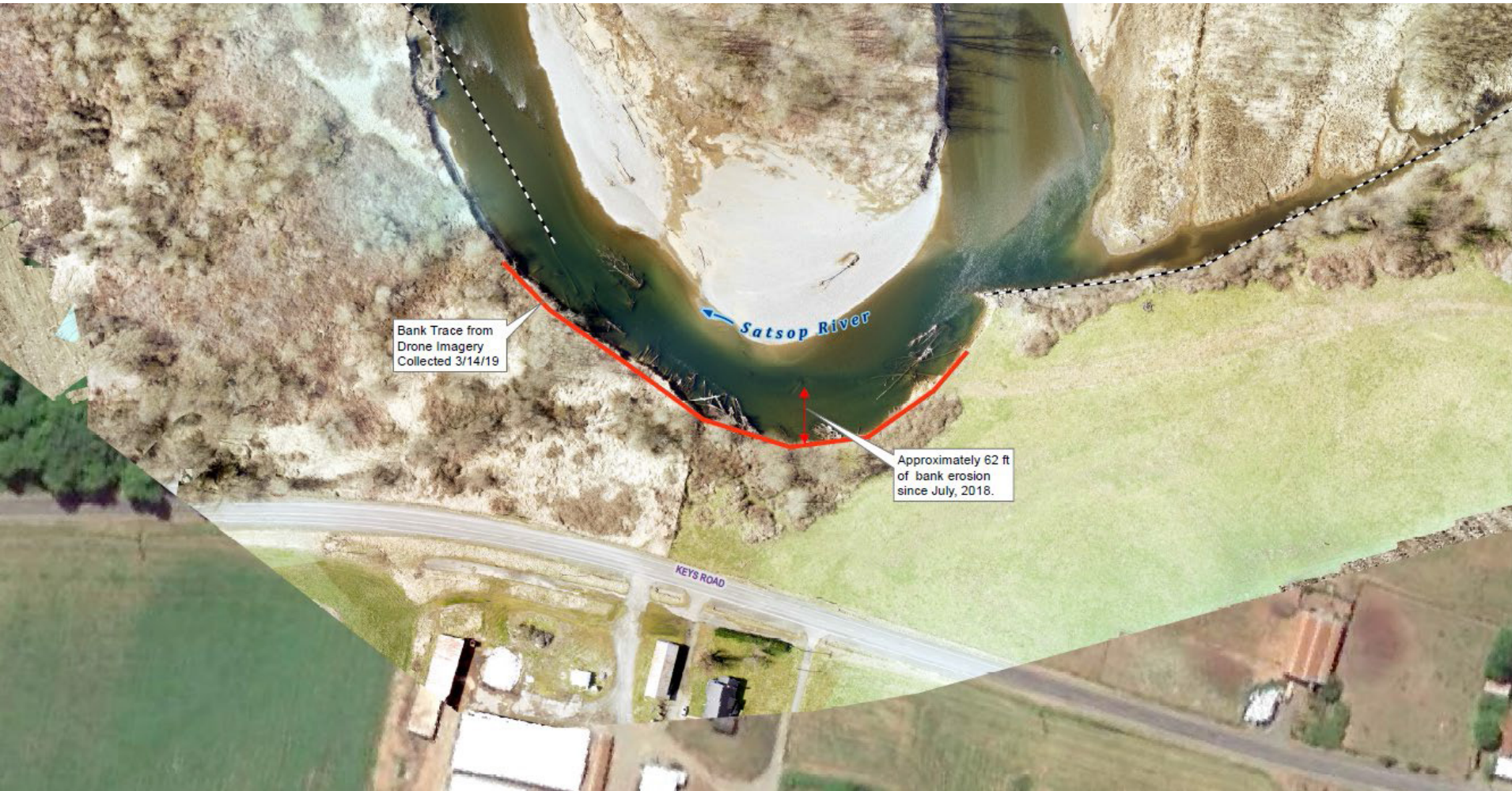
Projected Erosion Without Treatment



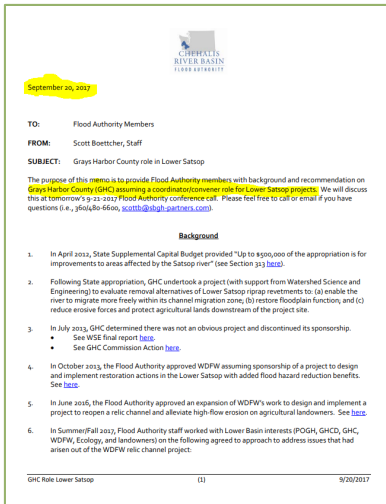
Highly Erodible Agricultural Soils



Essential Infrastructure Threatened (e.g., Keys Rd.)



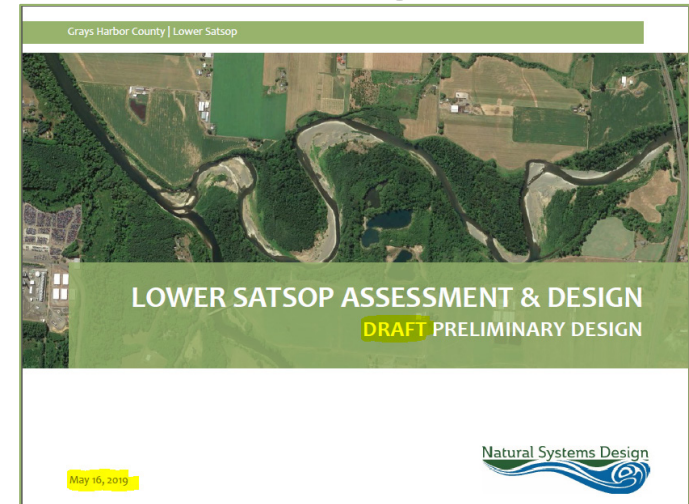
Lower Satsop Restoration, Protection Program



“Organization Stage”
See [here](#).

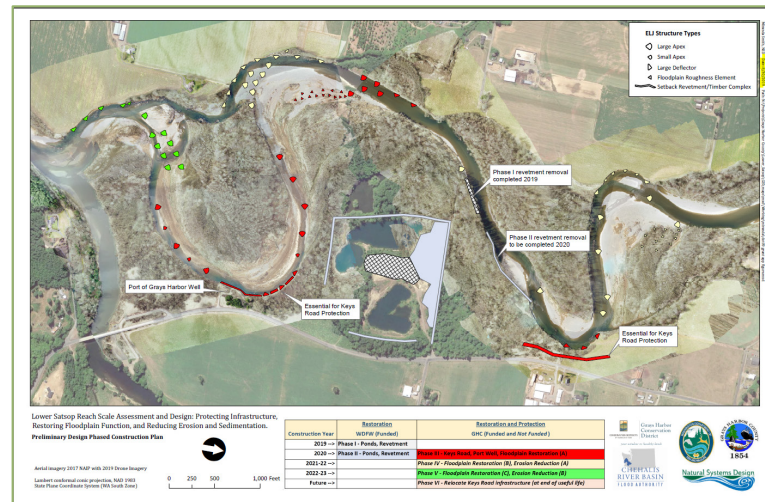


“Vision Stage”
See [here](#).



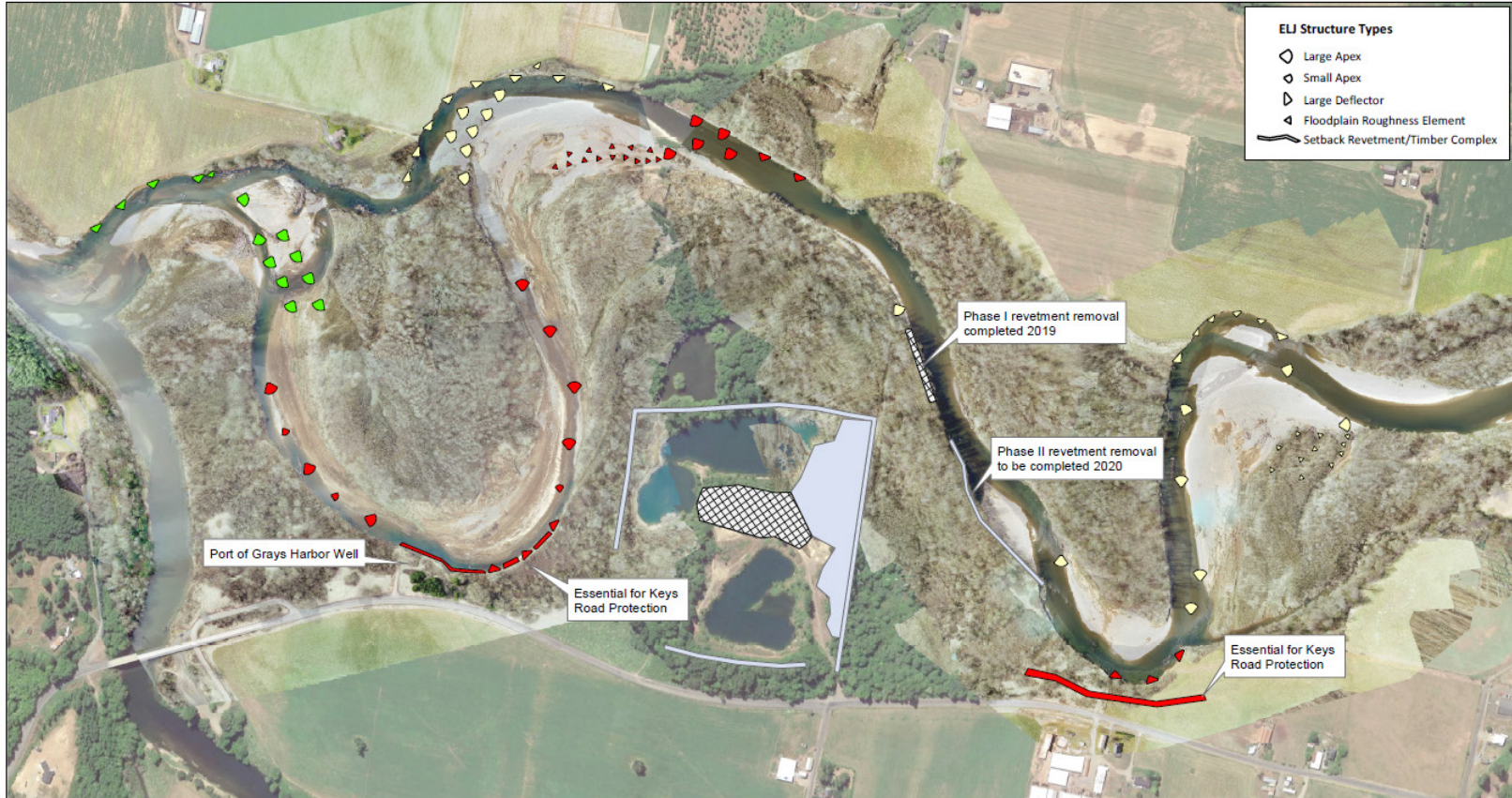
“Planning Stage”
See [here](#) and [here](#).

✓ Protect
 ✓ Preserve
 ✓ Restore



“Implementation Stage”
See [here](#).

Implementation Stage (Plan)

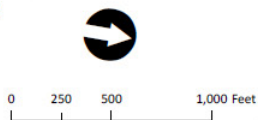


Lower Satsop Reach Scale Assessment and Design: Protecting Infrastructure, Restoring Floodplain Function, and Reducing Erosion and Sedimentation.

Preliminary Design Phased Construction Plan

Aerial imagery 2017 NAIP with 2019 Drone Imagery

Lambert conformal conic projection, NAD 1983
State Plane Coordinate System (WA South Zone)



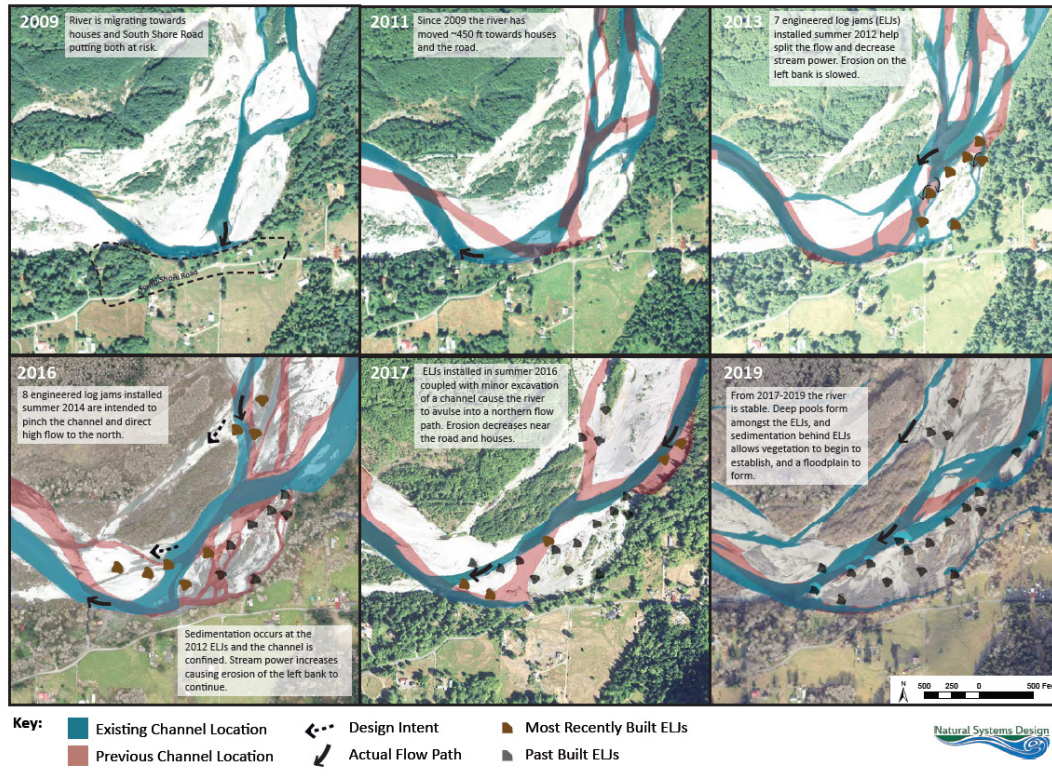
Construction Year	Restoration	Restoration and Protection
	WDFW (Funded)	GHC (Funded and Not Funded)
2019 -->	Phase I - Ponds, Revetment	
2020 -->	Phase II - Ponds, Revetment	Phase III - Keys Road, Port Well, Floodplain Restoration (A)
2021-22 -->		Phase IV - Floodplain Restoration (B), Erosion Reduction (A)
2022-23 -->		Phase V - Floodplain Restoration (C), Erosion Reduction (B)
Future -->		Phase VI - Relocate Keys Road Infrastructure (at end of useful life)



Implementation Stage (Examples)

Timber complex →

Upper Quinault Channel Migration Lower PAS



Implementation Stage (2019 - 2022/23)

	Cost	Status
2019:		
• Phase I (WDFW Construction) -- Ponds, Revetment	\$1,030,000 (WCRI)	Funded, Completed
• Phase III (GHC Design/Permitting) -- Keys Road, Port Well, Floodplain Restoration (A), 2020 construction season	\$100 to \$160K (FA)	Funded, Underway
2020:		
• Phase II, WDFW (Construction) -- Ponds, Revetment	\$1,429,000 (WCRI)	Funded, Scheduled
• Phase III (GHC Construction) -- Keys Road, Port Well, Floodplain Restoration (A)	\$4.0 to \$5.5M (**)	Partially Funded, Scheduling Pending
• Phase IV (GHC Design/Permitting) – Floodplain Restoration (B), Erosion Reduction (A), 2021-22 construction season	\$200K to \$300K	Not Funded, Pending
2021:		
• Phase IV (GHC Construction) -- Floodplain Restoration (B), Erosion Reduction (A)	\$2.5M to \$3.0M	Not Funded, Pending
• Phase V (GHC (Design/Permitting) – Floodplain Restoration (C), Erosion Reduction (B), 2022-23 construction season	\$100K to \$200K	Not Funded, Pending

** Multiple funding sources: \$185K 2019-21 State Capital Budget (secured); \$640K FA reallocation (secured); \$400K GHC .09 funds (secured); \$TBD Rep. Blake member request (pending); \$TBD WDFW Phase II savings (potential).

Implementation Stage (2019)



WDFW Ponds Restoration
(remove spoils piles, shallow out ponds)



Lower WDFW Revetment
(remove 200' rock toe, excavate 20' x 85' channel)

Contacts

Organization	
Grays Harbor County	<p>Rob Wilson 360/249-4222 RWilson@co.grays-harbor.wa.us</p>
Grays Harbor Conservation District	<p>Anthony Waldrop 360/249-8532 ghcdwater@gmail.com</p>
WA Department of Fish and Wildlife	<p>Michelle Cramer 360/902-2610 Michelle.Cramer@dfw.wa.gov</p> <p>Doris Small 360/902-2258 doris.small@dfw.wa.gov</p>
Natural Systems Design	<p>Miranda Smith 206/480-1127 miranda@naturaldes.com</p>
Chehalis River Basin Flood Authority	<p>Scott Boettcher 360/480-6600 scottb@sbgh-partners.com</p>

Resource

https://www.ezview.wa.gov/site/alias__1973/37263/library.aspx



Grays Harbor County - Lower Satsop Planning, Visioning, and Priority Setting Project

[Portal ID #1973]

Overview Contacts Events Library

Documents

File Name	File Size	Category	Date Added
WDFW Lower Satsop Update 9-03-2019.pdf	9.8 MB	None	09/03/19 06:07 AM
WDFW Lower Satsop Update 9-03-2019.pptx	14.3 MB	None	09/03/19 06:07 AM
Initial Letter to WDFW Lower Satsop Restoration 8-21-2019.pdf	817.2 KB	None	09/02/19 12:07 PM
dot09 grant app figure V3.pdf	4.5 MB	None	09/02/19 12:06 PM
2019 Application Keys Road Protection.pdf	158.9 KB	None	09/02/19 12:06 PM
Lower WDFW Revetment Removal.pdf	13.2 MB	None	08/08/19 09:13 AM
2019 Application Keys Road Protection.pdf	158.9 KB	None	08/08/19 07:41 AM
Lower Satsop Update 7-25-2019.pptx	18 MB	None	07/25/19 11:24 AM
Lower Satsop Update 7-25-2019.pdf	7.2 MB	None	07/25/19 11:23 AM
Lower Satsop Funding 2019-2021.pdf	151.4 KB	None	05/25/19 08:07 AM
Keys Road Threat Mile 1.5 to 1.6 (5-25-2019).pdf	14.7 MB	NSD	05/25/19 07:27 AM
Preliminary DRAFT Cost Estimates Action Areas I-IV (5-25-2019).pdf	107.1 KB	NSD	05/25/19 07:26 AM
L Satsop Geomorphic Action Areas (5-25-2019).pdf	12.8 MB	NSD	05/25/19 07:25 AM
PROPOSED-CONDITIONS-v2 5-16-2019.pdf	8.8 MB	5-16-2019 Flood Auth...	05/20/19 09:47 AM
NSD Chehalis Basin Flood Authority Meeting 5-16-19.pdf	6 MB	5-16-2019 Flood Auth...	05/20/19 09:47 AM
L Satsop v3 Apr Concept Binder.pdf	7.8 MB	NSD	04/19/19 02:59 PM
Lower Satsop Advisory Group Meeting 4-17-19.pdf	8.7 MB	NSD	04/16/19 02:02 PM
L Satsop v2 Apr Concept Binder.pdf	7.8 MB	NSD	04/16/19 02:02 PM
Lower Satsop Final Design Drawngs Reduced.pdf	14.6 MB	WDFW	04/16/19 01:09 PM
Pic5 - LowerSatsop_20190314_Ortho fl 1b-1c.pdf	15.3 MB	NSD	04/12/19 12:32 PM
Pic4 - LowerSatsop_20190314_Ortho fl 2xgrid.pdf	8 MB	NSD	04/12/19 12:32 PM
Pic3 - LowerSatsop_20190314_Ortho fl 1a.pdf	10.1 MB	NSD	04/12/19 12:31 PM
Pic2 - Satsop ortho upper reach 20190315.pdf	24.1 MB	NSD	04/12/19 12:04 PM
Pic1 - Satsop ortho 400dpi 20190314.pdf	7.3 MB	NSD	04/12/19 12:03 PM
Revetment Pictures.kmz	22.8 MB	NSD	04/12/19 11:13 AM
Lower Satsop 3-19-2019.pptx	6.6 MB	None	03/19/19 05:45 AM
Lower Satsop 3-19-2019.pdf	3.7 MB	None	03/19/19 05:44 AM
Smith & Wengar 2001 chehalis basin salmonid limiting factors.pdf	6.3 MB	Background	03/19/19 05:10 AM
Grays Harbor County Commission re Satsop.pdf	1 MB	Background	03/19/19 04:45 AM
REM.pdf	5 MB	NSD	03/19/19 04:22 AM
Lower Satsop Investment Plan 3-12-2019.pdf	3.5 MB	None	03/14/19 07:50 AM
2019 Lower Satsop Member Request.pdf	3.7 MB	None	03/06/19 10:54 AM
Lower Satsop Investment Plan Final 2-2019.pdf	12.8 MB	None	03/01/19 12:16 PM
2019 Lower Satsop Member Request.pdf	3.9 MB	None	03/01/19 12:16 PM
Attachment - Lower Satsop Investment Plan 2-28-2019.pptx	6.1 MB	None	02/28/19 12:34 PM
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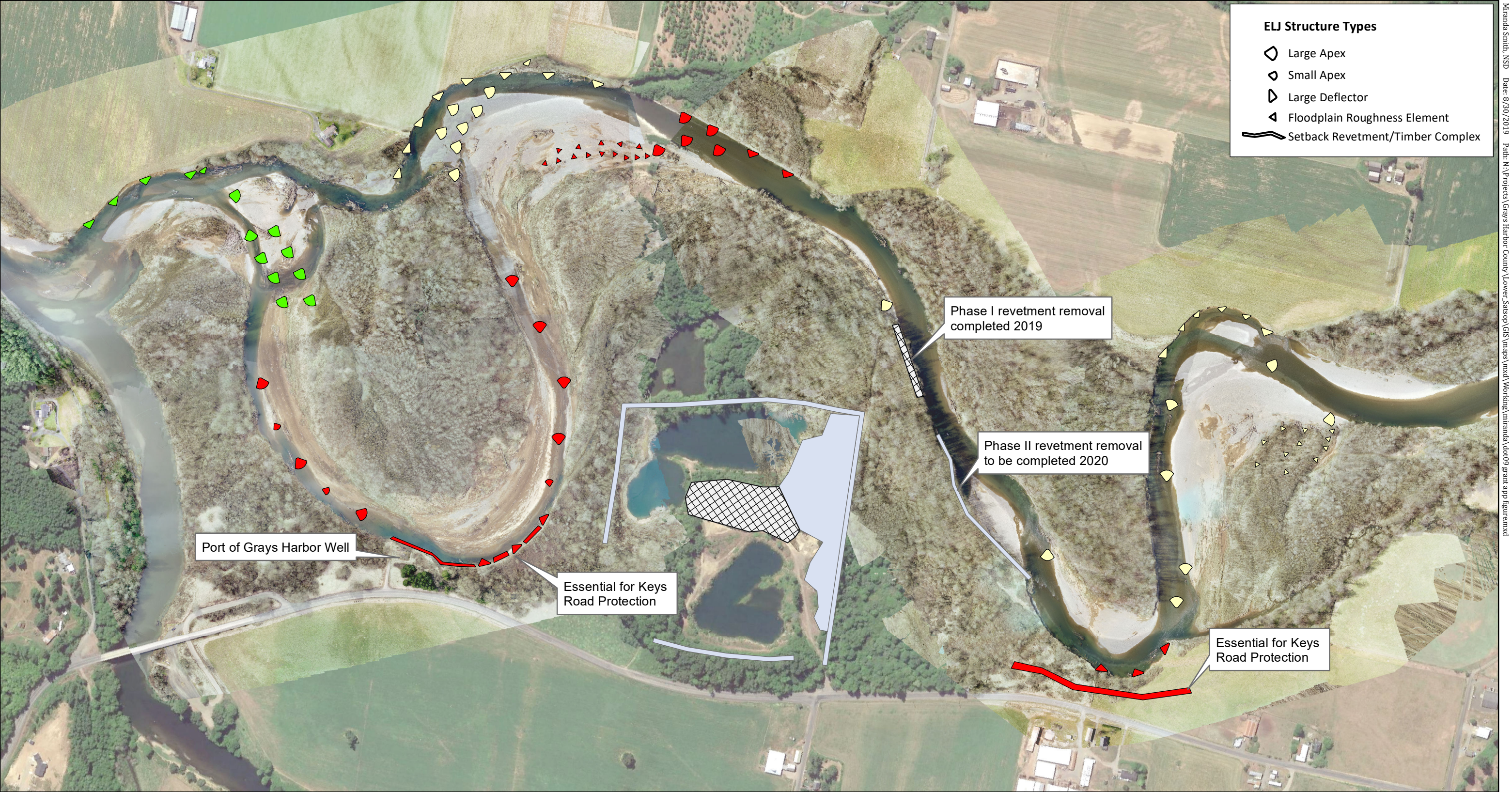
Question/Discussion

How best (who best) to interact with WDFW?

- Advisory level -- Amy, Dave, Michelle, Doris
- Regulatory level (HPA) -- Amy
- Property Owner/Right-of-Entry level -- Bob
- Technical level – Amy, Michelle, Doris
- Policy level -- WDFW Reg. 6 RMT

Next steps:

- Port of Grays Harbor
- Governor's Office
- Rep. Blake
- TNC (Partner?)
- JARPA 11/2019



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0 250 500 1,000 Feet

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Grays Harbor Conservation District

your window to healthy lands

CHEHALIS RIVER BASIN FLOOD AUTHORITY

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

GRAYS HARBOR COUNTY 1854

Natural Systems Design