



LOWER SATSOP RESTORATION AND PROTECTION PROGRAM

Protect, Preserve, Restore

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

September 30, 2019



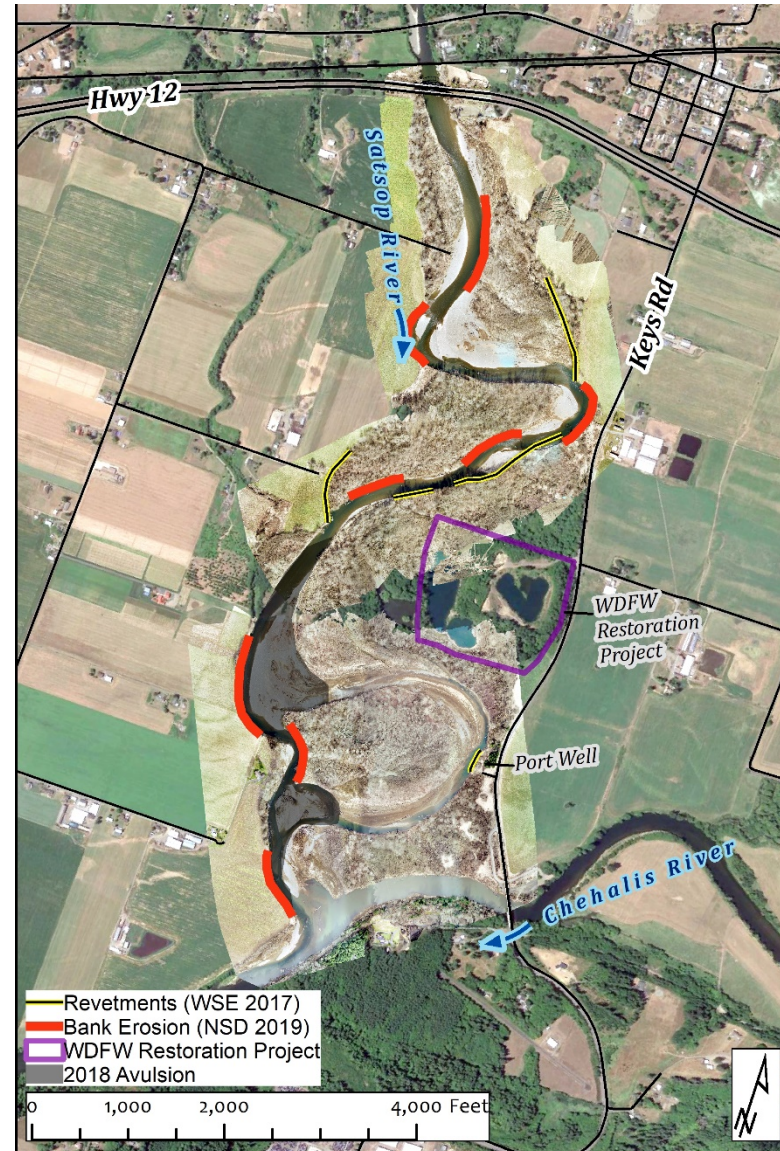
Grays Harbor
Conservation
District

your window to healthy lands

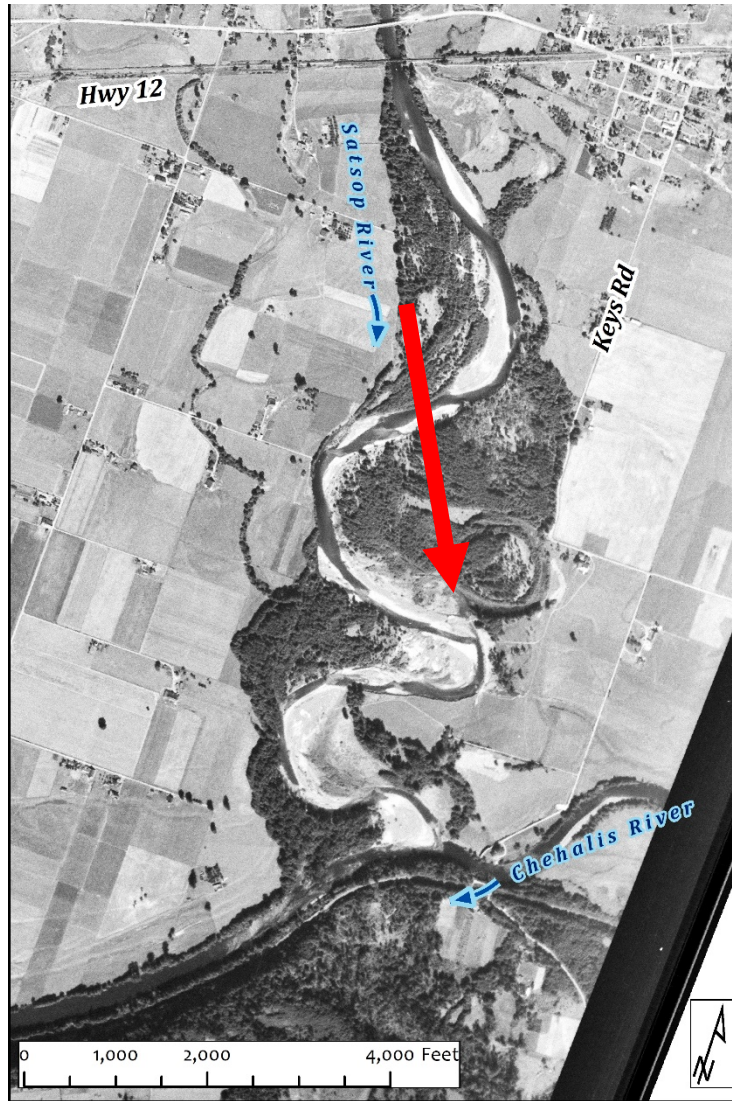


Issues

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

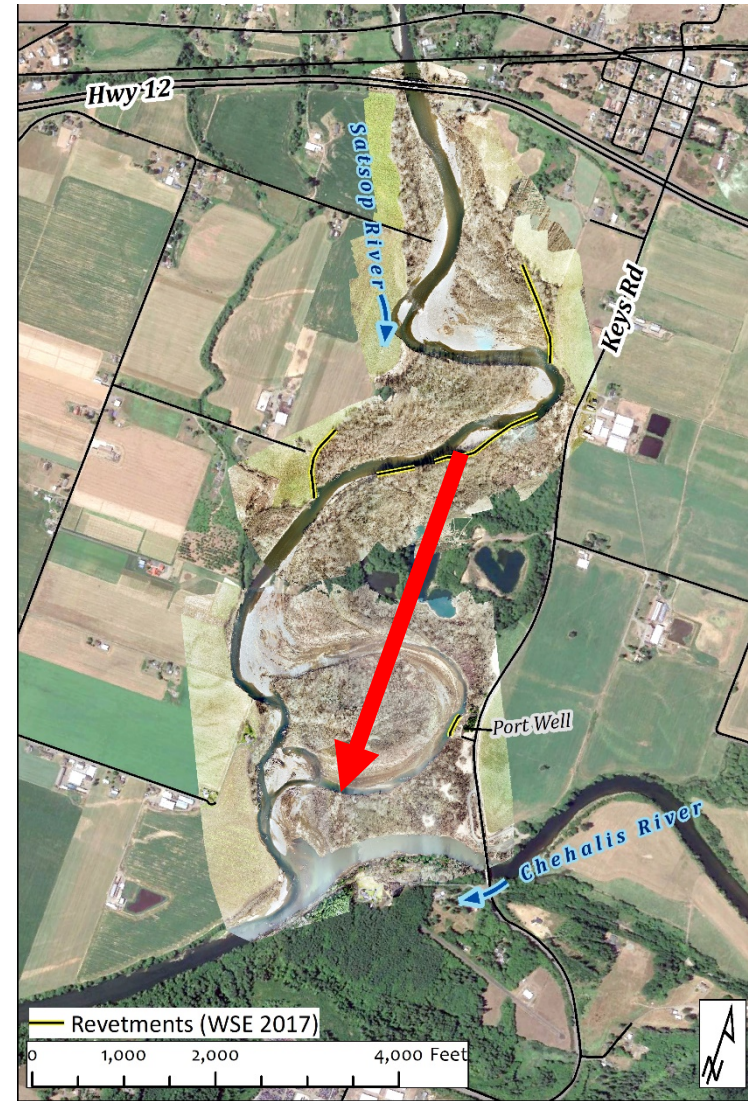


Historical Context



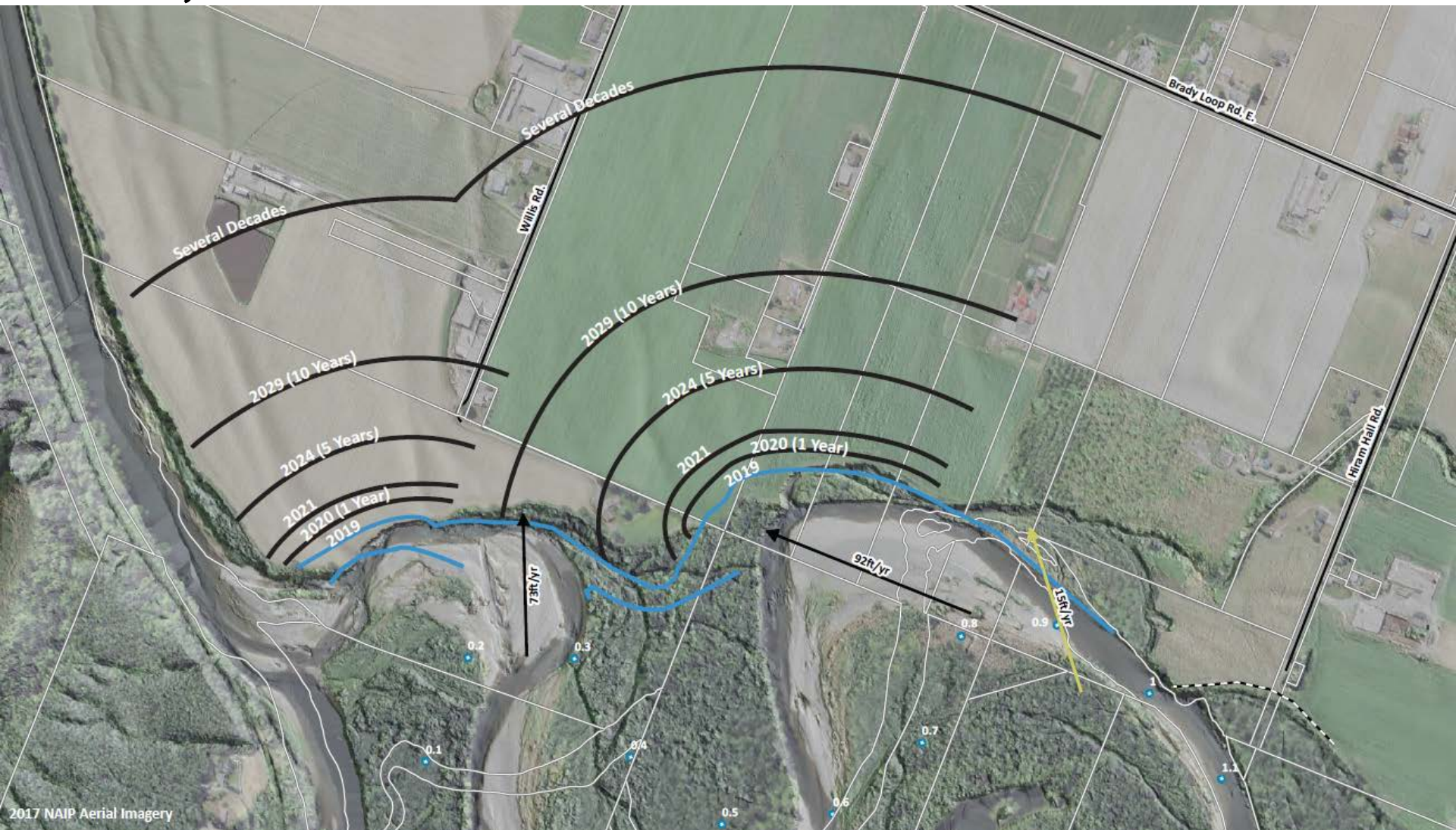
2

1953



2019

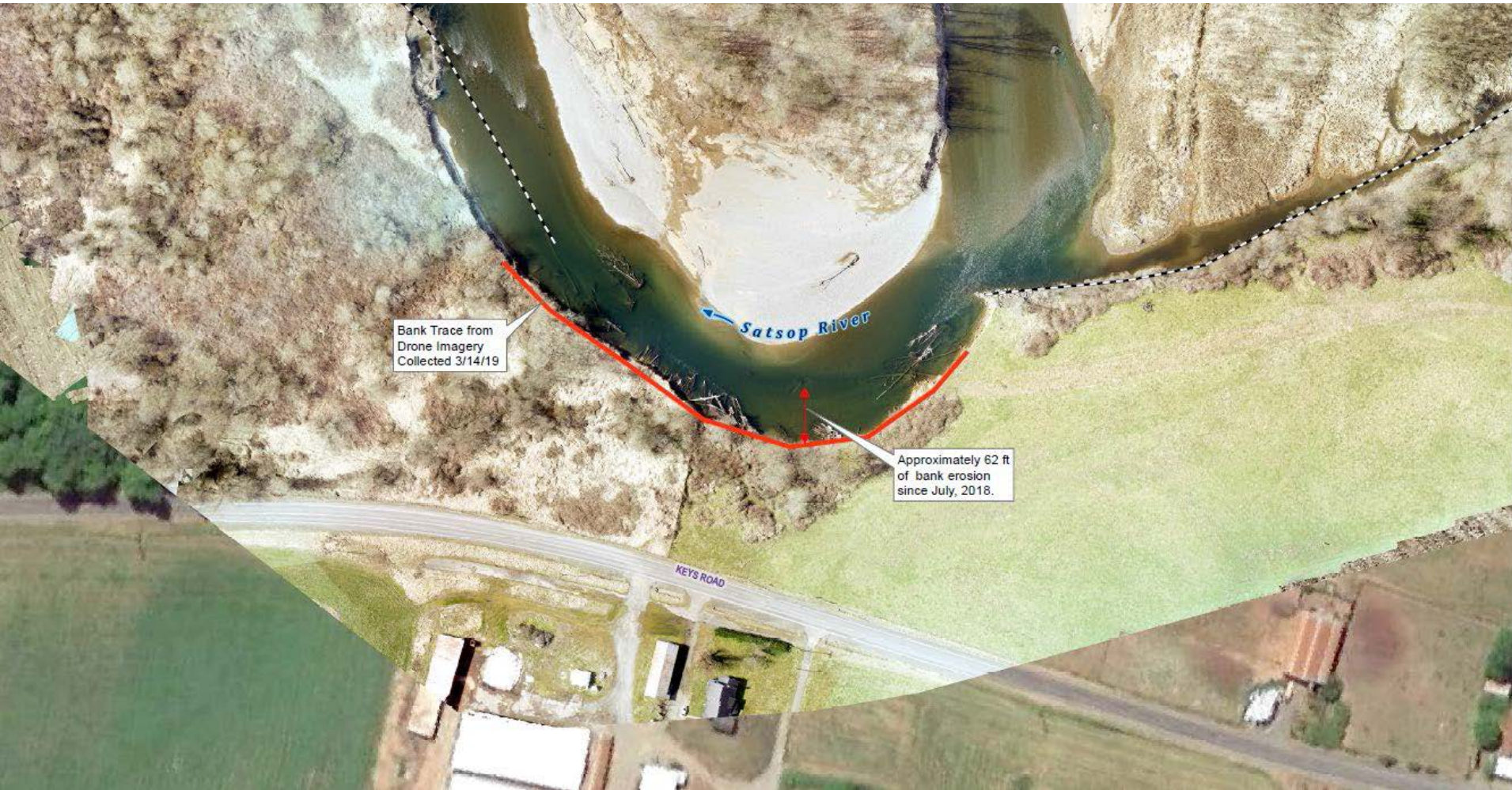
Projected Erosion Without Treatment



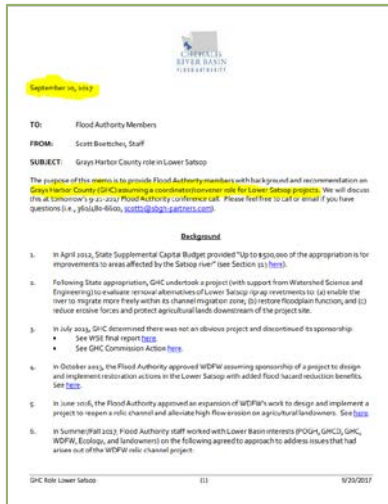
Highly Erodible Agricultural Soils



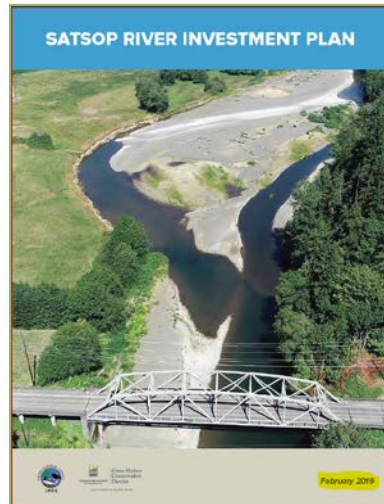
Essential Infrastructure Threatened (e.g., Keys Rd.)



Lower Satsop Restoration, Protection Program



“Organization Stage”
9/2017 -- See [here](#).

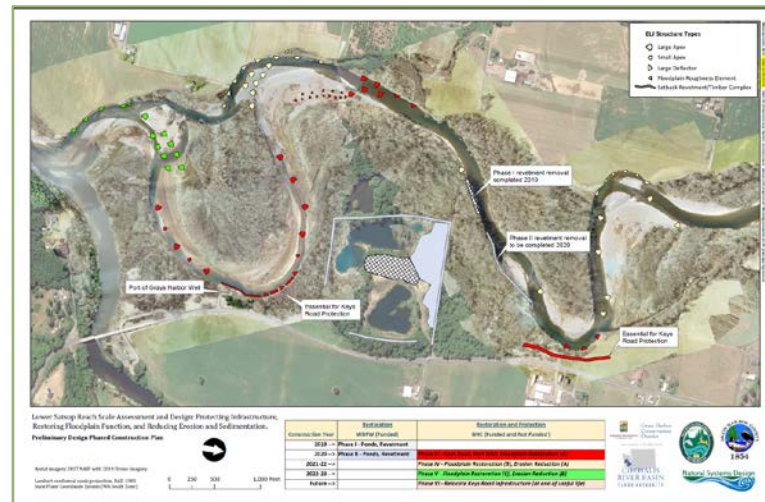


“Vision Stage”
2/2019 -- See [here](#).



“Planning Stage”
9/2019 -- See [here](#) and [here](#).

✓ Protect
 ✓ Preserve
 ✓ Restore



“Implementation Stage”
9/2019 -- 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



0 250 500 1,000 Feet

Aerial Imagery 2017 NAIP with 2019 Drone Imagery

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

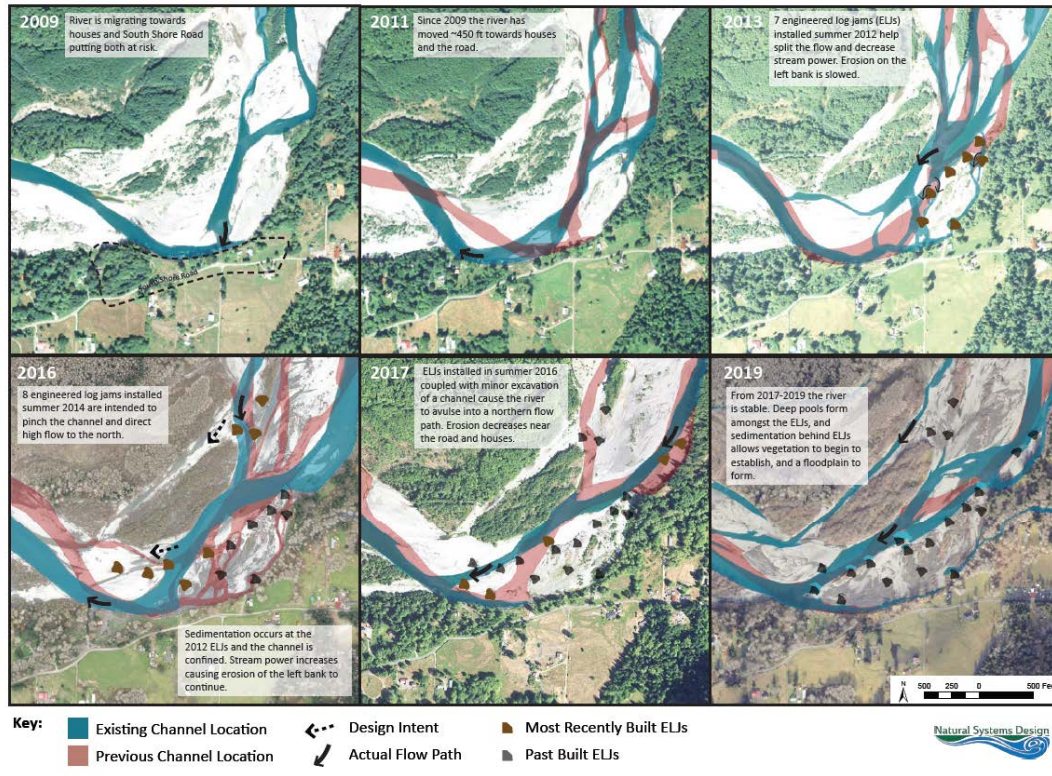
CONSTRUCTION [Funded, Not Funded.]	WDFW "Restoration"	GHC "Restoration and Protection"
2019 -->	Phase I - Ponds, Revetment	
2020 -->	Phase II - Ponds, Revetment	Phase I - Keys Road, Port Well, Floodplain Restoration (A)
2021-22 -->		Phase II - Floodplain Restoration (B), Erosion Reduction (A)
2022-23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



Implementation Stage (Examples)

Timber complex →

Upper Quinault Channel Migration Lower PAS



Apex Structure



Deflector Structure



Floodplain Roughness



Implementation Stage (2019 - 2022/23)

	Cost	Status
2019:		
• Phase I (WDFW Construction) -- Ponds, Revetment	\$1,030,000 (WCRI)	Funded, Completed
• Phase I (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 I (GHC Construction) -- Keys Road, Port Well, Floodplain Restoration (A)	\$4.0 to \$5.5M (**)	Partially Funded, Scheduling Pending
• Phase II (GHC Design/Permitting) – Floodplain Restoration (B), Erosion Reduction (A), 2021-22 construction season	\$200K to \$300K	Not Funded, Pending
2021:		
• Phase II (GHC Construction) -- Floodplain Restoration (B), Erosion Reduction (A)	\$2.5M to \$3.0M	Not Funded, Pending
• Phase III (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	Rob Wilson 360/249-4222 RWilson@co.grays-harbor.wa.us
Grays Harbor Conservation District	Anthony Waldrop 360/249-8532 ghcdwater@gmail.com
WA Department of Fish and Wildlife	Michelle Cramer 360/902-2610 Michelle.Cramer@dfw.wa.gov Doris Small 360/902-2258 doris.small@dfw.wa.gov
Natural Systems Design	Miranda Smith 206/480-1127 miranda@naturaldes.com
Chehalis River Basin Flood Authority	Scott Boettcher 360/480-6600 scottb@sbgh-partners.com

Resource

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

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

Overview Contacts Events Library

Documents

File Name	File Size	Category	Date Added
Advisory Group -- Lower Satsop Update 9-30-2019.pdf	6.4 MB	9-30-2019 Advisory G...	09/30/19 10:50 AM
dot09 grant app figure v4.pdf	3.6 MB	9-30-2019 Advisory G...	09/30/19 10:47 AM
L Satsop Draft Preliminary Design.pdf	18.5 MB	9-30-2019 Advisory G...	09/30/19 10:47 AM
WDFW Lower Satsop Update 9-03-2019.pdf	9.8 MB	None	09/03/19 06:19 AM
WDFW Lower Satsop Update 9-03-2019.pptx	14.4 MB	None	09/03/19 06:19 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 Drawings Reduced.pdf	11.6 MB	NSD	04/16/19 02:02 PM

Question/Discussion

1. Upcoming Meetings/Briefings:

Date	Time	Location	Audience
9/30/2019	1 p.m.	Montesano, WDFW Regional Office	Lower Satsop Advisory Group
10/1/2019	10:30 a.m.	Montesano, Grays Harbor County Admin Building	Grays Harbor County Commissioners
10/3/2019	1:15 p.m.	Centralia, Train Depot	Chehalis Basin Board
10/8/2019	9:00 a.m.	Aberdeen, Port of Grays Harbor	Port of Grays Harbor
10/9/2019	tbd	Olympia, tbd	The Nature Conservancy
tbd	tbd	Olympia, OFM	Governor's Exec. Policy (Chris Davis)
tbd	tbd	Brady Firehall	Lower Satsop Community Members

2. JARPA = late-November/early-December 2019.

3. Advisory Group perspectives on next steps?????