

The background of the slide is a photograph of a wide river, likely the Satsop River, flowing through a landscape. On the left bank, there is a large, light-colored building with a prominent white cylindrical tower. The far bank is covered in dense, bare trees, suggesting a late autumn or winter setting. The sky is overcast. The image is framed by a green header bar at the top and a blue footer bar at the bottom.

LOWER SATSOP RIVER

Lower Satsop River Restoration and Protection Project
Phase IA, IB, and IC

Presentation to Grays Harbor County Commissioners
10:30 to 11:00 a.m.
3-19-2019

Background: Context

- Lower Satsop River is a dynamic system where river bank erosion, channel migration, and flooding are seriously impacting adjacent properties.
- Flood hazard reduction projects have been proposed and evaluated in recent years without lasting success.
- Inaction and frustration characterize the feeling of many community members.

Background: Funding (2012-18)

WHAT	WHEN	FLOOD	HABITAT	FLOOD & HABITAT
Flood Authority funding to GHC for WSE riprap removal study	2012-13	\$50,000 (a)		
Flood Authority funding to WDFW to design restoration project	2014-19		\$450,000 (a)	
CBS funding to WDFW to design restoration project	2014-19		\$235,860 (b)	
Ecology funding to WDFW to construct relic channel opening project	2016-18	\$50,000 (c) (\$50,000) (c)		
WCRI funding to WDFW for restoration project (Phase I Construction will remove spoils, fill ponds, conduct amphibian/fish surveys, revegetate site)	2018-20		\$1,030,000 (d)	
Flood Authority to GHC to develop Satsop Investment Plan	2018-19			\$40,000 (e)
Flood Authority to GHCD for local landowner engagement	2018-19			\$22,500 (f)
Flood Authority to GHC to develop Satsop Investment Plan	2018-19			\$15,000 (e)
TOTAL →		\$50,000	\$1,715,860	\$77,500

(a) Staff [memo](#)

(b) RCO [15-1459](#)

(c) RCO [16-2182](#) (permitting challenges precluded completion of project)

(d) RCO [18-1195](#) (phase II construction will remove soils, remove dikes around ponds for full floodplain connectivity, remove some riprap and will be funded by 2019-21 WCRI grant of \$1,429,159 -- RCO [18-2142](#))

(e) RCO [18-2118](#)

(f) RCO [18-2140](#)

Lower Satsop Investment Plan

- GHC initiated and led a multi-entity advisory/community planning process (4/2018 to present).

<https://www.ezview.wa.gov/site/alias/1973/37259/lower-satsop-planning-process.aspx>

- Initial tools/approaches:



Engineered log-jams



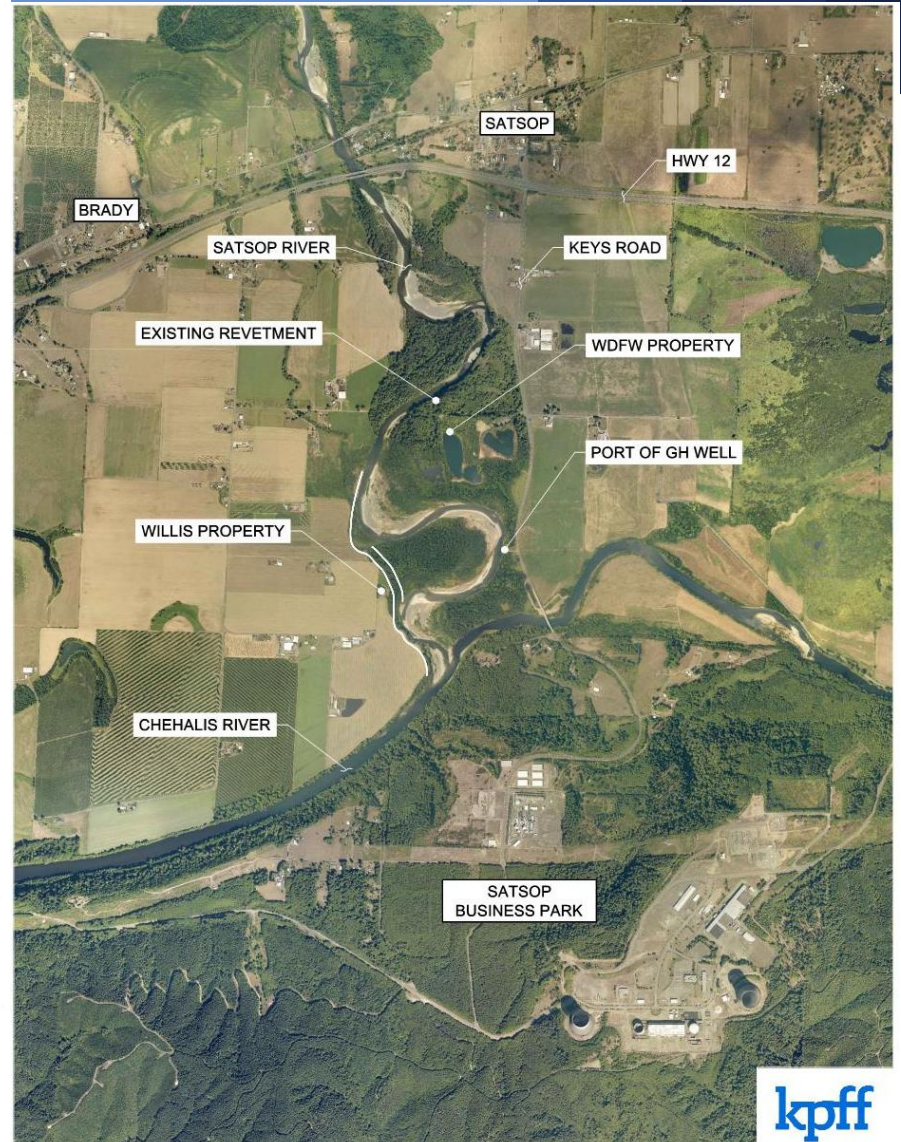
Log-jacks



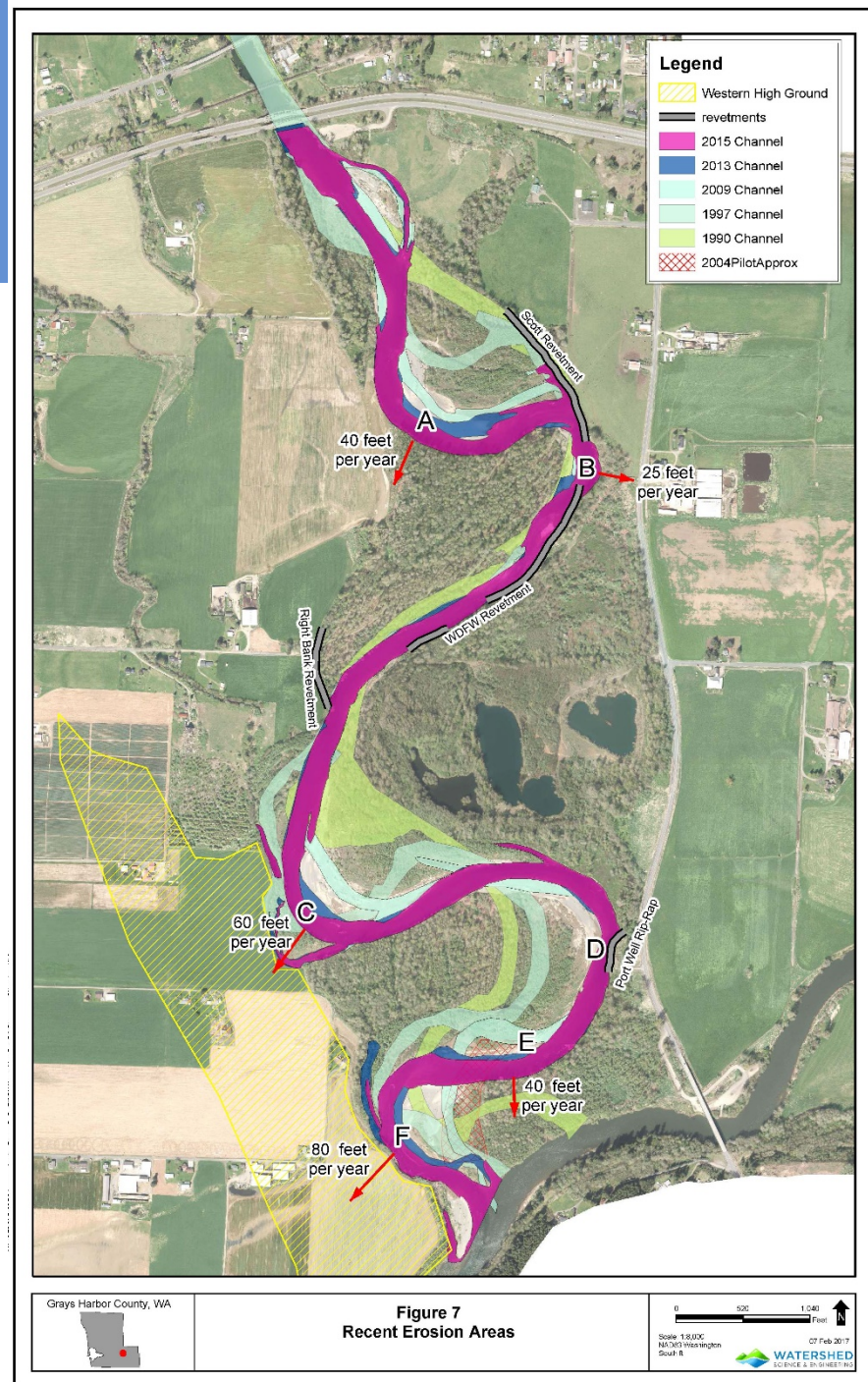
Relief Channels



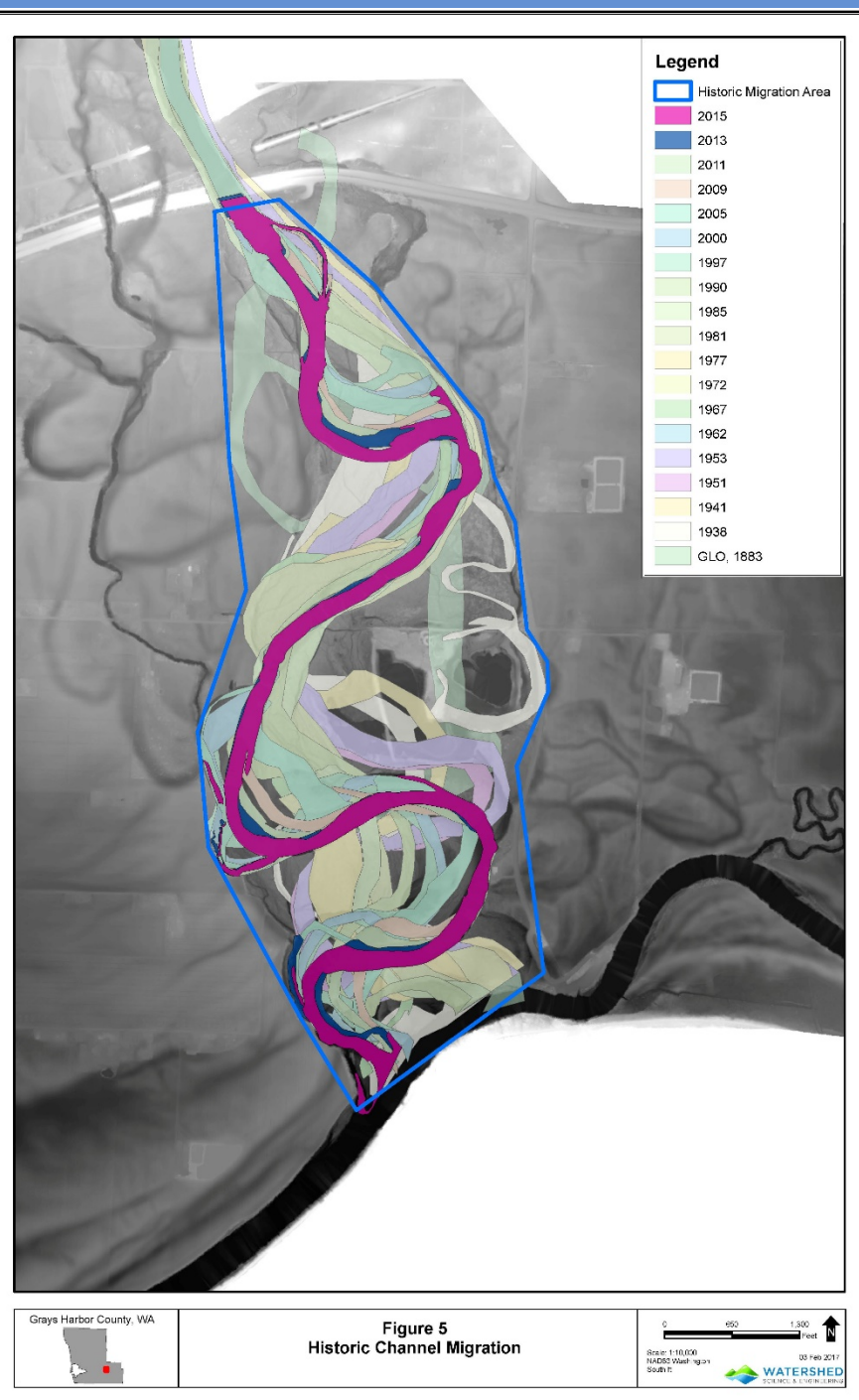
1938 vs. 2018



2015



2015



Essential Infrastructure – Threats/Consequences

Satsop Business Park Water Well

- Located upstream of confluence of Satsop and Chehalis rivers.
- Well threatened by erosion (rock armoring beginning to fail).
- Satsop Business Park is substantial employment center.
 - 400+ people directly employed by businesses
 - Draws from Montesano, Aberdeen, Hoquiam



Keys Road

- Main route to Satsop Business Park (400+ jobs).
- Preferred route from Montesano, Aberdeen and Hoquiam.
- 20% of average daily traffic is truck traffic.
- Remaining life of Keys Road bridge is 30-40 years (making near-term replacement impractical).

Monte-Elma Bridge

- Erosion, scour issues threaten bridge, footings requiring more frequent corrective action.

Port of Grays Harbor (Marine)

- 43.8% of Chehalis sediment load is reportedly attributable to Satsop (pg. 105 [here](#)).

2018 (Nov 27th)



Farmland – Threats/Consequences

Satsop Farm Land

- Very high quality soil
- 11/27/2018 avulsion:
 - Farm soil lost = 239K cu/yards (23,917 dump trucks)
 - Farm and riparian soil lost = 538K cu/yards (53,833 dump trucks)
- Westward migration of river continues to erode and wash away irreplaceable farmland
- Beyond direct crop value, farm soils are also valuable for bird migration/overwintering, bird hunting/watching, aquifer recharge, open space.



Funding 2019 (“FLOOD”)

INVESTMENT (Immediate)	ACTION	COST	STATUS
Phase IA: Develop Comprehensive Reach-scale Preliminary Design	March/April/May/June 2019	\$175K	Funded by Chehalis Basin Board (2-07-2019)
Phase IB: Complete Final Design/Engineering/Permitting	July 2019	\$150K	Rep. Brian Blake has submitted funding request (see here)
Phase IC: Construction	July/Aug/Sept/October 2019	\$1.25M	Rep. Brian Blake has submitted funding request (see here)

More Information, Questions?

- **EZview Lower Satsop Investment Planning website:**

https://www.ezview.wa.gov/site/alias_1973/37259/lower-satsop-planning-process.aspx

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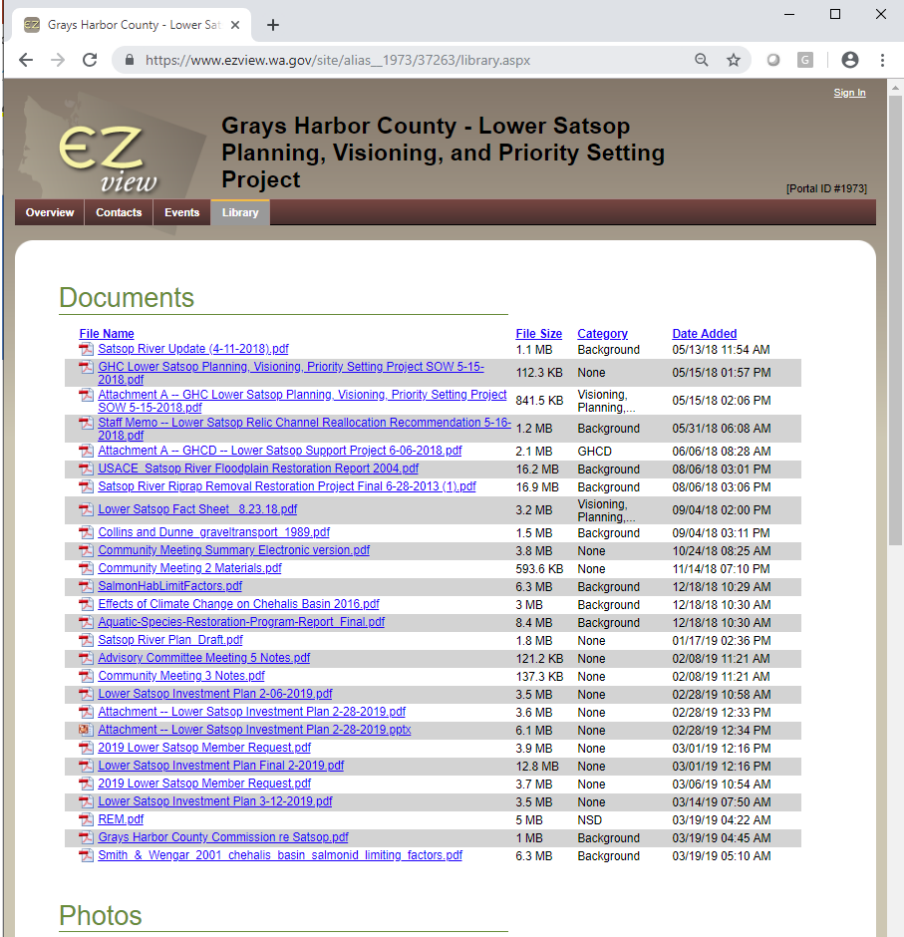
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Grays Harbor County - Lower Satsop Planning, Visioning, and Priority Setting Project

Documents

File Name	File Size	Category	Date Added
Satsop River Update (4-11-2019).pdf	1.1 MB	Background	05/13/18 11:54 AM
GHCD Lower Satsop Planning, Visioning, Priority Setting Project SOW 5-15-2018.pdf	112.3 KB	None	05/15/18 01:57 PM
Attachment A -- GHCD Lower Satsop Planning, Visioning, Priority Setting Project SOW 5-15-2018.pdf	841.5 KB	Visioning, Planning...	05/15/18 02:06 PM
Staff Memo -- Lower Satsop Relic Channel Reallocation Recommendation 5-16-2018.pdf	1.2 MB	Background	05/31/18 06:08 AM
Attachment A -- GHCD -- Lower Satsop Support Project 6-06-2018.pdf	2.1 MB	GHCD	06/06/18 08:28 AM
USACE Satsop River Floodplain Restoration Report 2004.pdf	16.2 MB	Background	08/06/18 03:01 PM
Satsop River Riorap Removal Restoration Project Final 6-28-2013 (1).pdf	16.9 MB	Background	08/06/18 03:06 PM
Lower Satsop Fact Sheet_ 8.23.18.pdf	3.2 MB	Visioning, Planning...	09/04/18 02:00 PM
Collins and Dunne graveltransport_1989.pdf	1.5 MB	Background	09/04/18 03:11 PM
Community Meeting Summary Electronic version.pdf	3.8 MB	None	10/24/18 08:25 AM
Community Meeting 2 Materials.pdf	593.6 KB	None	11/14/18 07:10 PM
SalmonHabitatFactors.pdf	6.3 MB	Background	12/18/18 10:29 AM
Effects of Climate Change on Chehalis Basin 2016.pdf	3 MB	Background	12/18/18 10:30 AM
Aquatic-Species-Restoration-Program-Report_Final.pdf	8.4 MB	Background	12/18/18 10:30 AM
Satsop River Plan_Draft.pdf	1.8 MB	None	01/17/19 02:36 PM
Advisory Committee Meeting 5 Notes.pdf	121.2 KB	None	02/08/19 11:21 AM
Community Meeting 3 Notes.pdf	137.3 KB	None	02/08/19 11:21 AM
Lower Satsop Investment Plan 2-06-2019.pdf	3.5 MB	None	02/28/19 10:58 AM
Attachment -- Lower Satsop Investment Plan 2-28-2019.pdf	3.6 MB	None	02/28/19 12:33 PM
Attachment -- Lower Satsop Investment Plan 2-28-2019.pdf	6.1 MB	None	02/28/19 12:34 PM
2019 Lower Satsop Member Request.pdf	3.9 MB	None	03/01/19 12:16 PM
Lower Satsop Investment Plan Final 2-2019.pdf	12.8 MB	None	03/01/19 12:16 PM
2019 Lower Satsop Member Request.pdf	3.7 MB	None	03/06/19 10:54 AM
Lower Satsop Investment Plan 3-12-2019.pdf	3.5 MB	None	03/14/19 07:50 AM
REM.pdf	5 MB	NSD	03/19/19 04:22 AM
Grays Harbor County Commission re Satsop.pdf	1 MB	Background	03/19/19 04:45 AM
Smith & Wengar 2001 chehalis basin salmonid limiting factors.pdf	6.3 MB	Background	03/19/19 05:10 AM

Photos