

LOWER SATSOP RIVER

Immediate Investment Needs To
Protect and Preserve Farmland and Essential Infrastructure

Chehalis Basin Board Meeting
2-07-2019

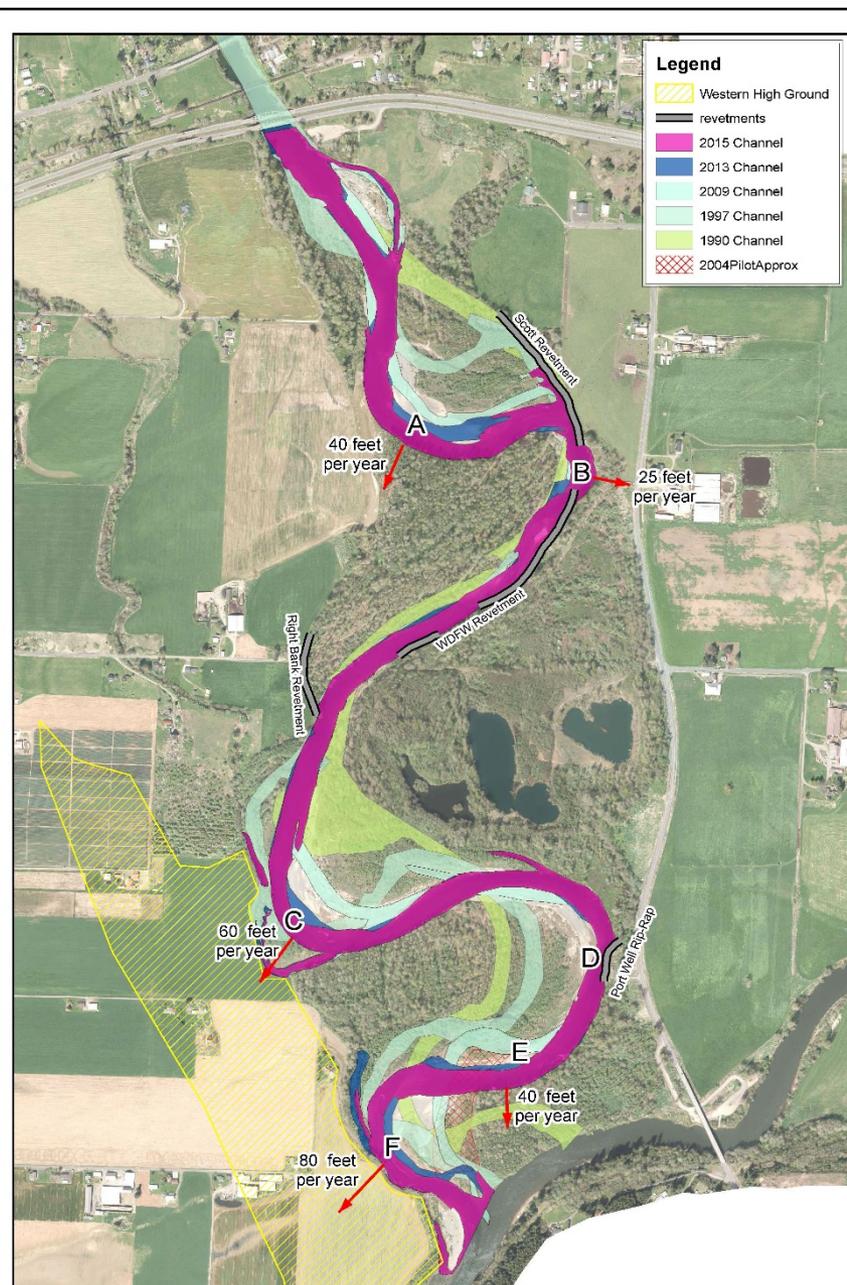
Problem

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

1938 vs. 2018



2015



Legend

- Western High Ground
- revetments
- 2015 Channel
- 2013 Channel
- 2009 Channel
- 1997 Channel
- 1990 Channel
- 2004 Pilot Approx

Grays Harbor County, WA

Figure 7
Recent Erosion Areas

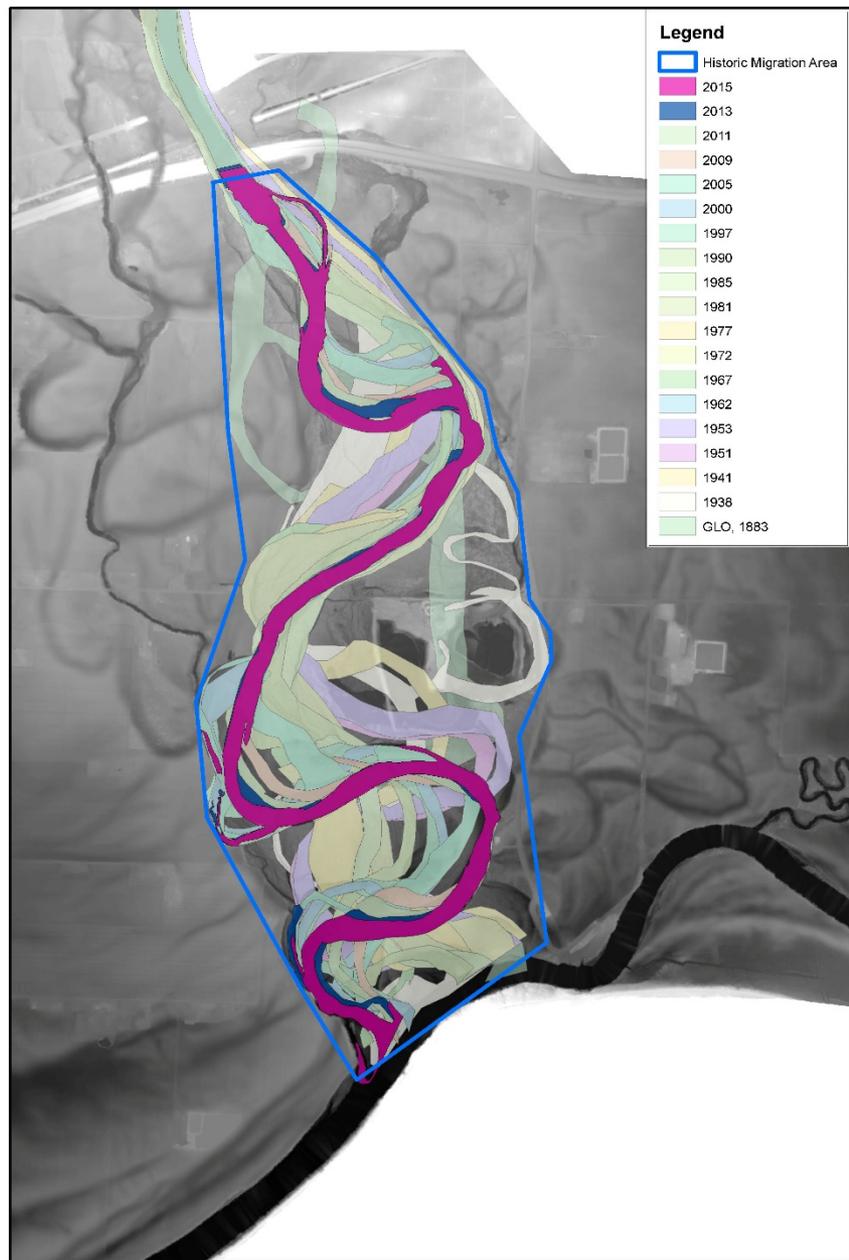
Scale: 1:8,000
NACIS/Washington
South R

0 500 1,000 Feet

07 Feb 2017

WATERSHED
SCIENCE & MANAGEMENT

2015



Grays Harbor County, WA



Figure 5
Historic Channel Migration

0 500 1,500 Feet

Scale: 1:118,000
NAD83 WGS 1984
South

03 Feb 2017
WATERSHED
COURTESY: WASHINGTON STATE DEPARTMENT OF ECOLOGY

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.



Essential Infrastructure – Threats/Consequences

Port of Grays Harbor Industrial Water Well

- Located upstream of confluence of Satsop and Chehalis rivers.
- Well threatened by erosion.
- Satsop Industrial park is substantial employment center.
 - 400+ people directly employed by businesses
 - Draws from Montesano, Aberdeen, Hoquiam



Keys Road

- Keys Road is the main entrance to the Satsop Business Park that supports over 400 jobs.
- Keys Road is critical infrastructure for tenants at the Satsop Business Park and preferred route from Montesano, Aberdeen and Hoquiam.
- 20% of average daily traffic is truck traffic.
- Keys Road bridge remaining useful life is 30-40 years (making near-term replacement impractical).

Funding (2012 to Present)

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](#))

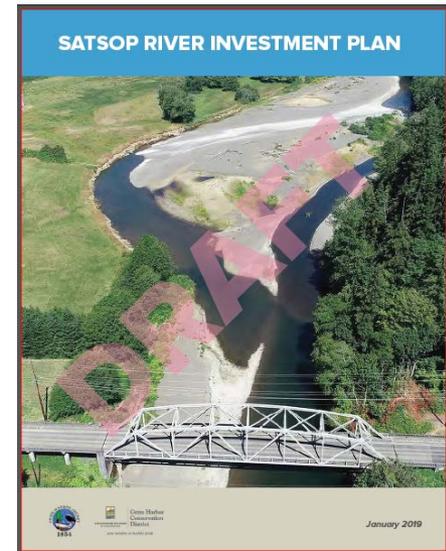
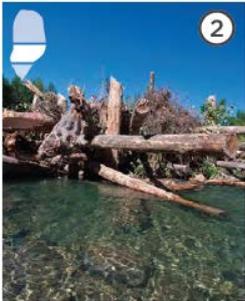
(e) RCO [18-2118](#)

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

Satsop Investment Plan

- GHC-led 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: Reach-scale design, ELJs, Log-jacks, Relief channels.



- 11-27-2018 avulsion exacerbated/intensified/galvanized need for immediate investment now (ASAP).
 - Construct focused emergency relief channel (upper segment)
 - Develop reach-scale design, engineering, permitting.
 - Develop revetment removal/breaching design, engineering, permitting.

Immediate Investment Needs

INVESTMENT (Immediate)	ACTION	COST	FUNDS AVAILABLE	FUNDS NEEDED ASAP
1. Construct Emergency Relief Channel (upper segment)	Feb to May 2019	\$175K	\$100K (a)	\$75K
2. Develop Reach-scale Design, Engineering, Permitting	Feb to July 2019	\$175K	\$15K (b)	\$160K
3. Develop Revetment Removal/Breaching Design, Engineering, Permitting	Feb to July 2019	\$50K		\$50K
TOTAL →		\$400K	\$115K	\$285K
4. Construct priority actions per #2 and #3	July to December 2019	\$750K to \$1.5M		
<p>(a) GHCD foresees \$100K in unspent 2017-19 farm pad funds. CBB would need to approve re-purposing those funds before they could be used for #1.</p> <p>(b) Unspent 17-19 (jump starts).</p>				

Questions/Discussion

More Information:

- EZview Lower Satsop Investment Planning website --
https://www.ezview.wa.gov/site/alias_1973/37259/lower-satsop-planning-process.aspx
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