

The background of the slide is a photograph of a rural landscape that has been significantly flooded. In the foreground, there is a grassy field partially submerged in water. In the middle ground, a white water tower and a barn are visible, surrounded by trees and more flooded areas. The background shows a dense forest of bare trees, suggesting a late autumn or winter setting. The sky is overcast and grey. The overall tone of the image is somber and highlights the impact of flooding on farmland.

# **ATTACHMENT LOWER SATSOP RIVER**

Immediate Investment Needs To  
Protect and Preserve Farmland and Essential Infrastructure

Originally Presented to Chehalis Basin Board (2-07-2019)

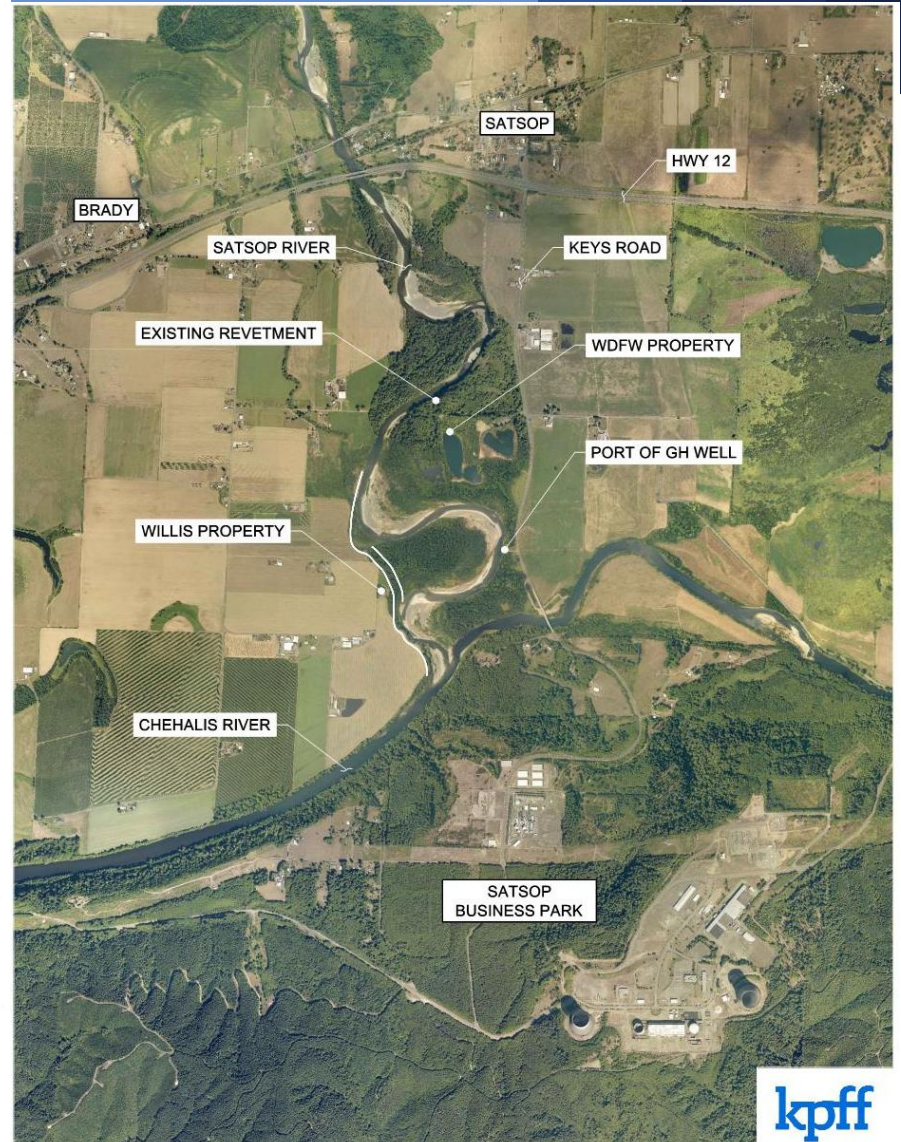
Updated (2-28-2019)

# 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.

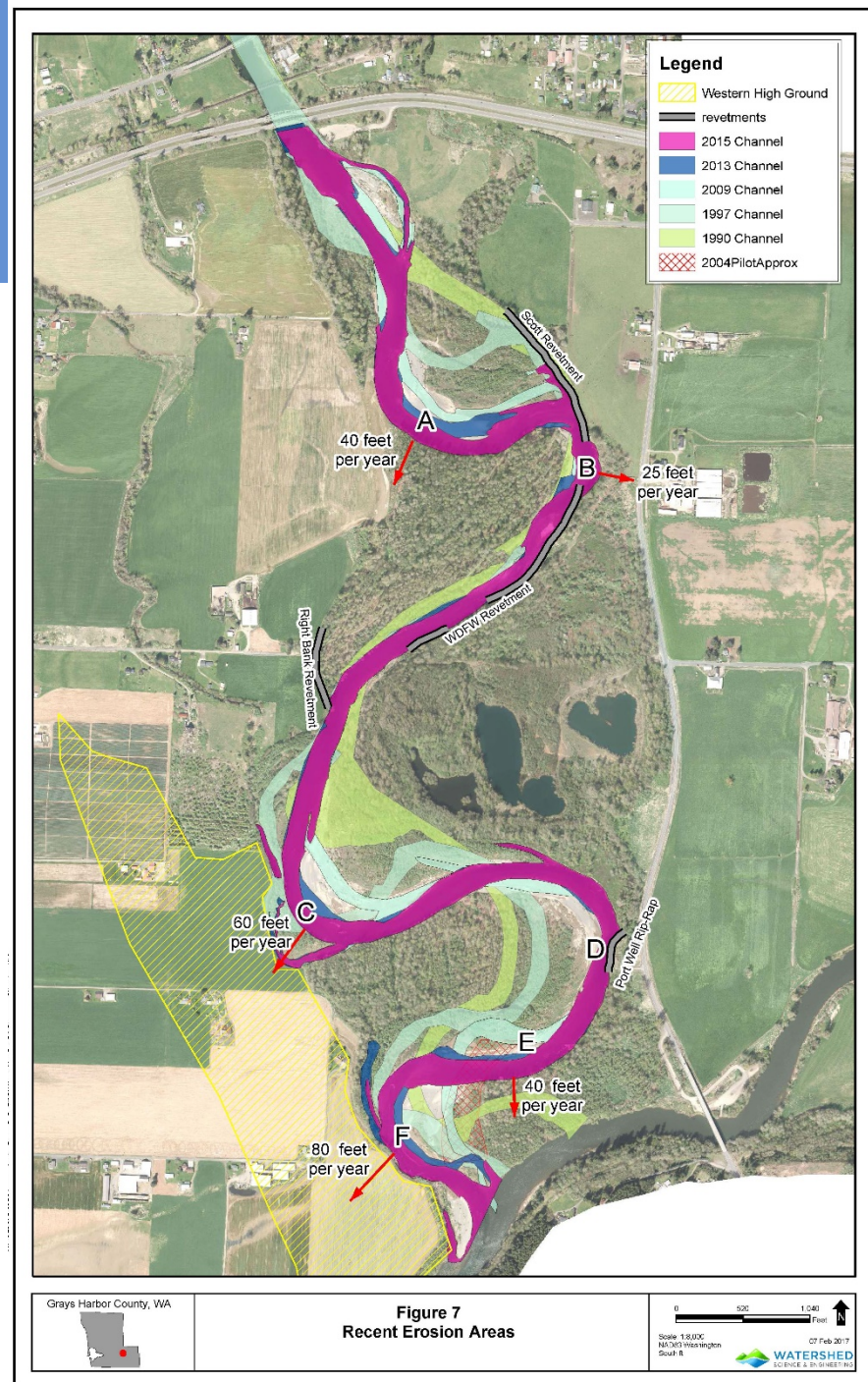


# 1938 vs. 2018

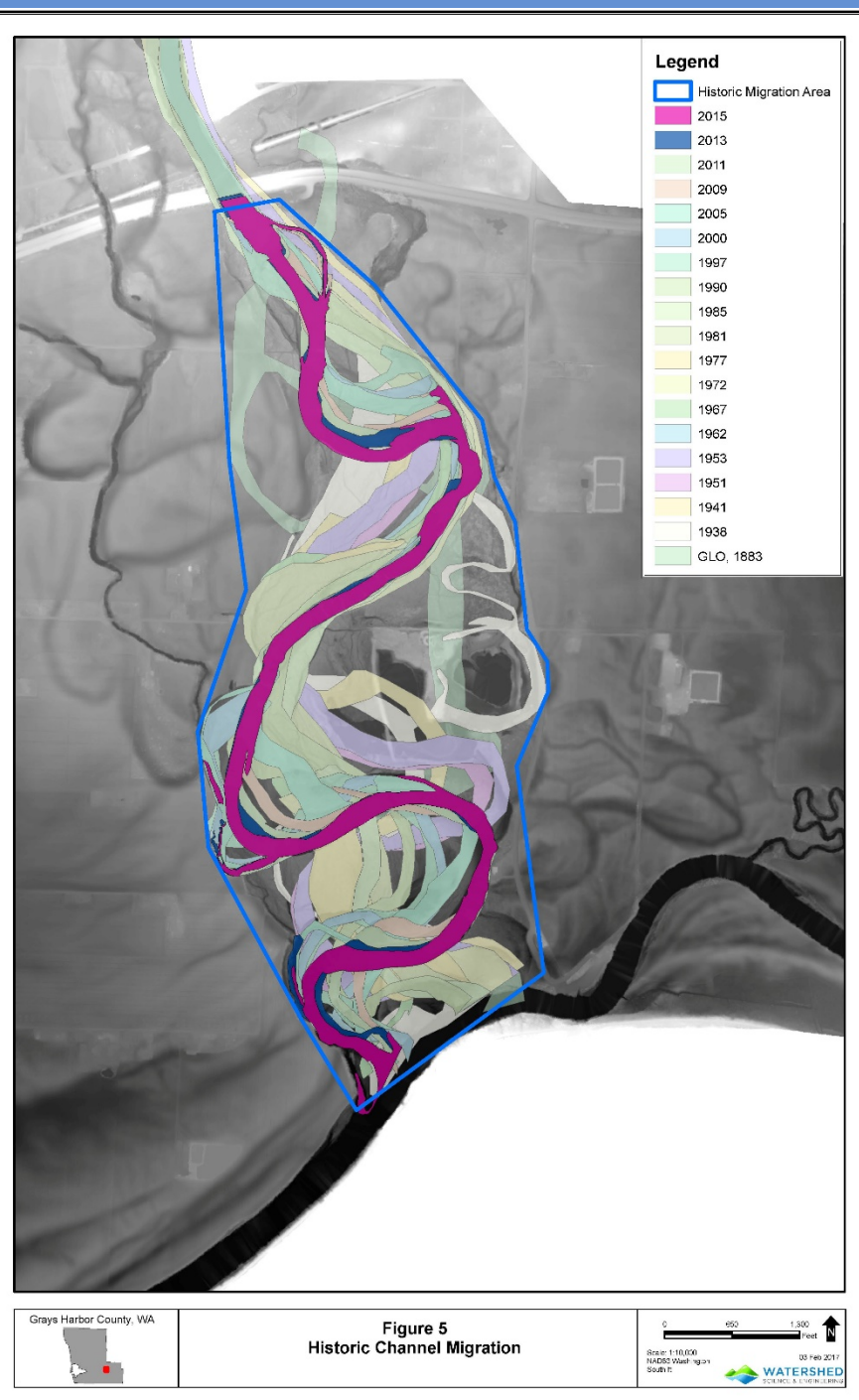




# 2015



# 2015





# 2018 (Nov 27<sup>th</sup>)



# 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 2018)

WHAT	WHEN	FLOOD	HABITAT	FLOOD & HABITAT
Flood Authority funding to <b>GHC</b> for WSE riprap removal <a href="#">study</a>	2012-13	\$50,000 (a)		
Flood Authority funding to <b>WDFW</b> to design restoration project	2014-19		\$450,000 (a)	
CBS funding to <b>WDFW</b> to design restoration project	2014-19		\$235,860 (b)	
Ecology funding to <b>WDFW</b> to construct relic channel opening project	2016-18	\$50,000 (c) (\$50,000) (c)		
WCRI funding to <b>WDFW</b> 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 <b>GHC</b> to develop Satsop Investment Plan	2018-19			\$40,000 (e)
Flood Authority to <b>GHCD</b> for local landowner engagement	2018-19			\$22,500 (f)
Flood Authority to <b>GHC</b> to develop Satsop Investment Plan	2018-19			\$15,000 (e)
<b>TOTAL →</b>		<b>\$50,000</b>	<b>\$1,715,860</b>	<b>\$77,500</b>

(a) Staff [memo](#)

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

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

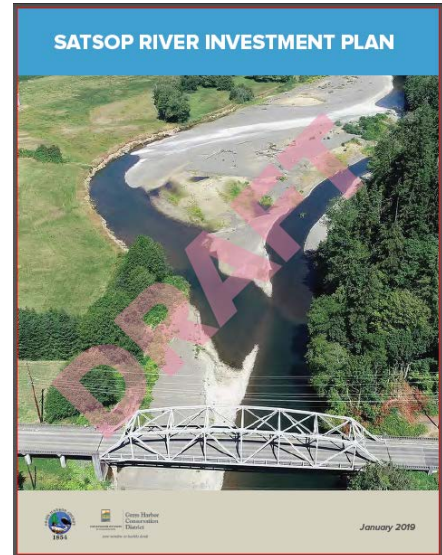
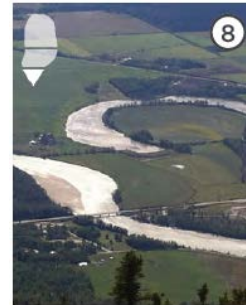
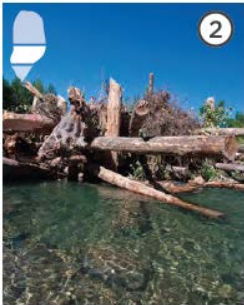
(d) RCO [18-1195](#) (phase II construction will remove soils, remove dikes around ponds for full floodplain connectivity, remove some riprap and will be funded by 2019-21 WCRI grant of \$1,429,159 -- RCO [18-2142](#))

(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](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	STATUS
Phase IA -- Develop Comprehensive Reach-scale Preliminary Design	March/April/May/June 2019	\$175K	Funded By Chehalis Basin Board
Phase IB – Complete Final Design/Engineering/Permitting	July 2019	\$150K	To Be Funded By This Request
Phase IC -- Construction	July/Aug/Sept/October 2019	\$1.25M	To Be Funded By This Request

# Questions/Discussion

## More Information:

- EZview Lower Satsop Investment Planning website --  
[https://www.ezview.wa.gov/site/alias\\_1973/37259/lower-satsop-planning-process.aspx](https://www.ezview.wa.gov/site/alias_1973/37259/lower-satsop-planning-process.aspx)
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