

# Wisdom of the Aged: Part 2

Channels

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Geometry





Geometry Channel Formation





Geometry Channel Formation Lessons Learned





## Deep River

Levee Breach Only

Mainly Tidal



## Devils Elbow

Levee Breaches +  
Channel Construction  
(minor)

Tidal + Riverine







## Kerry Island

Levee Breach  
+Channel Construction  
+mounds

Only tidal



## Kandoll

Levee Breaches +  
Channel Construction  
+mounds

Tidal + Riverine

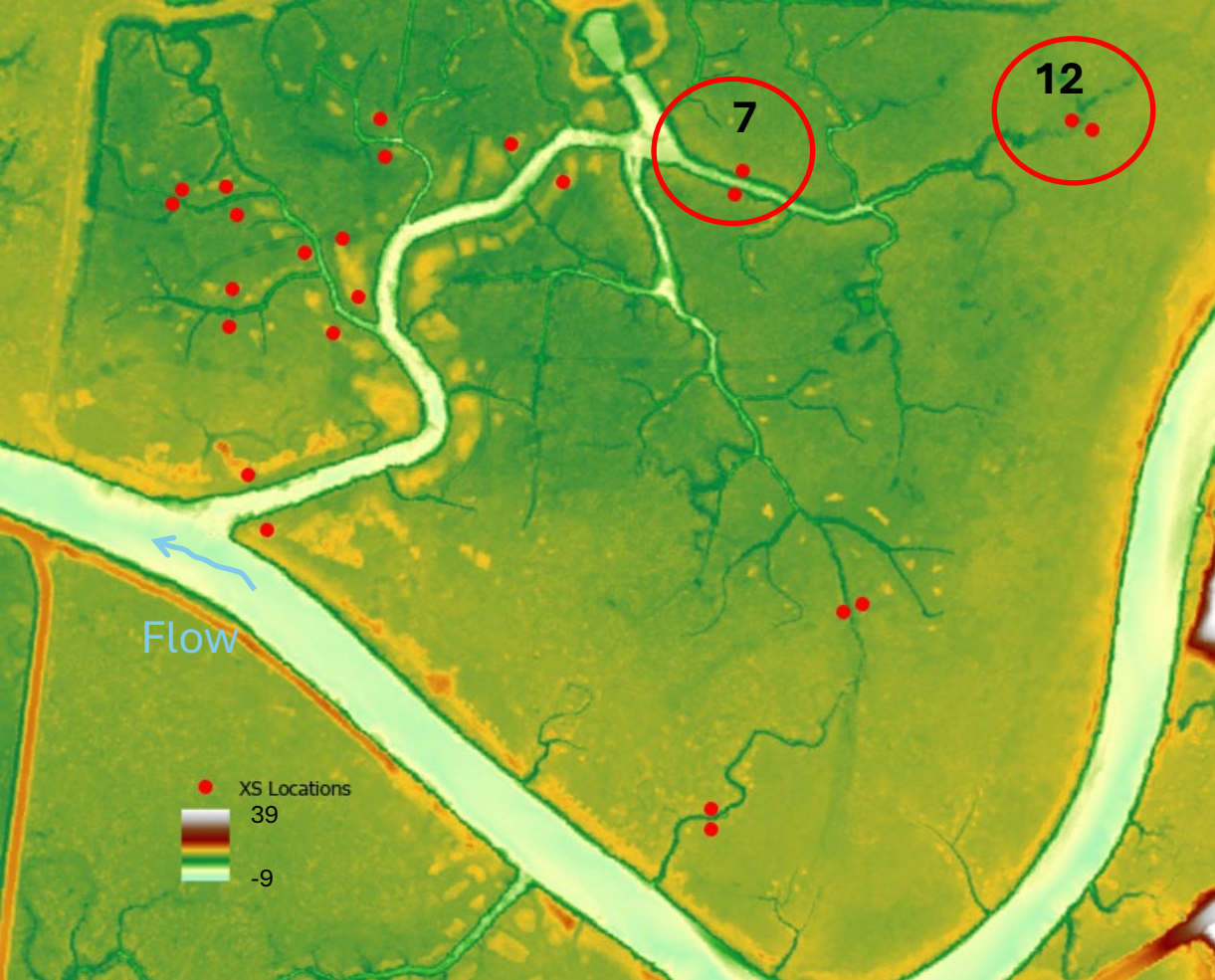




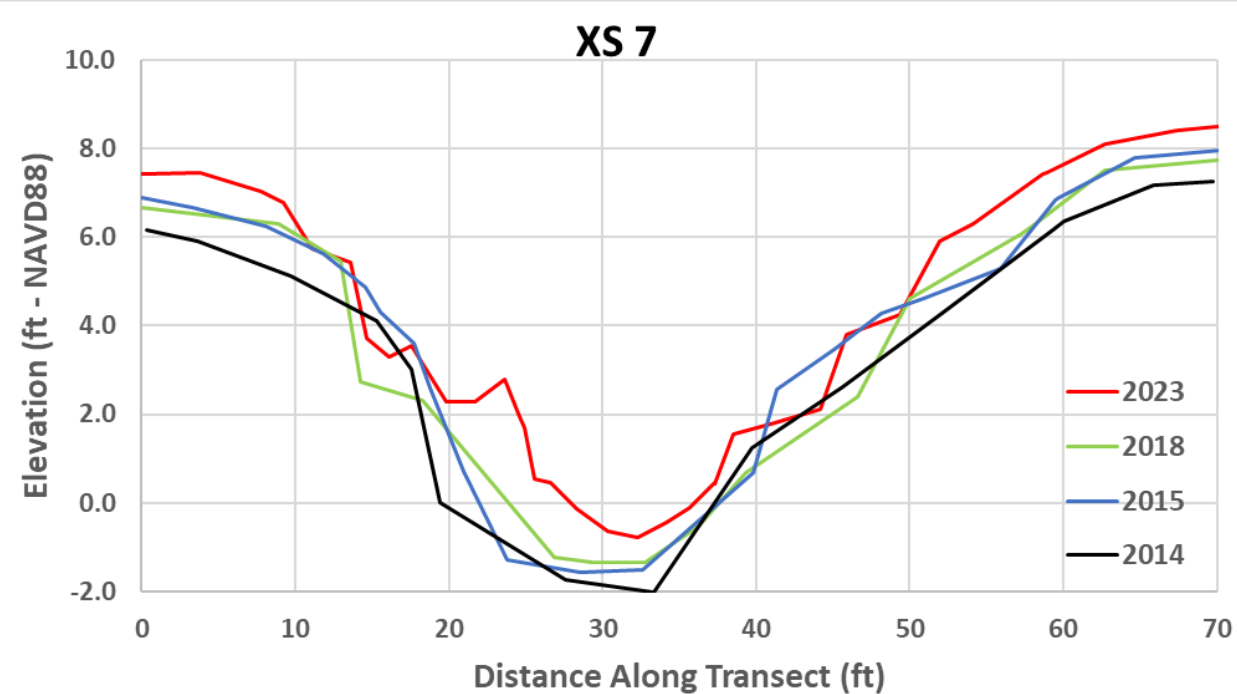


Geometry - Kandoll

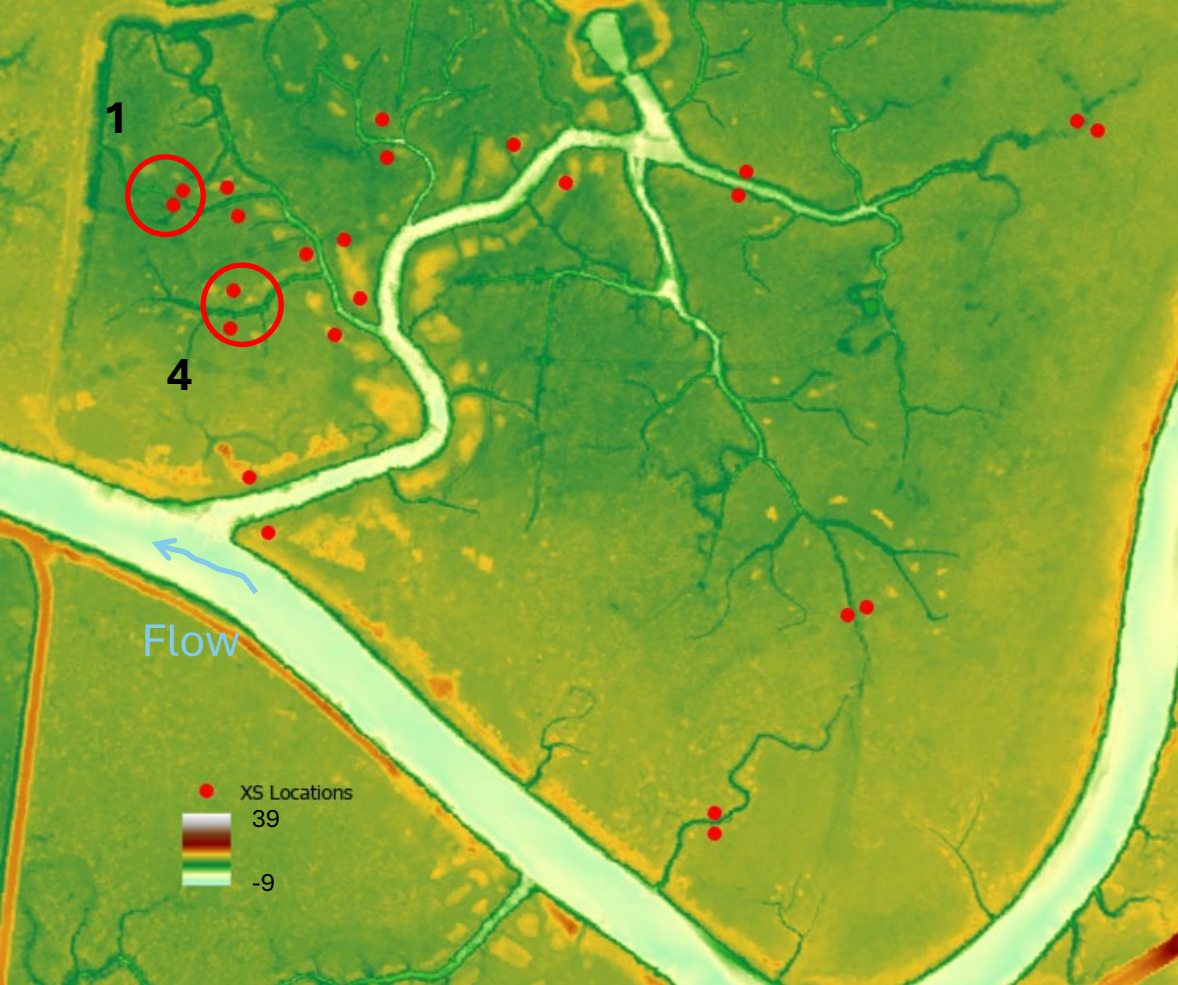




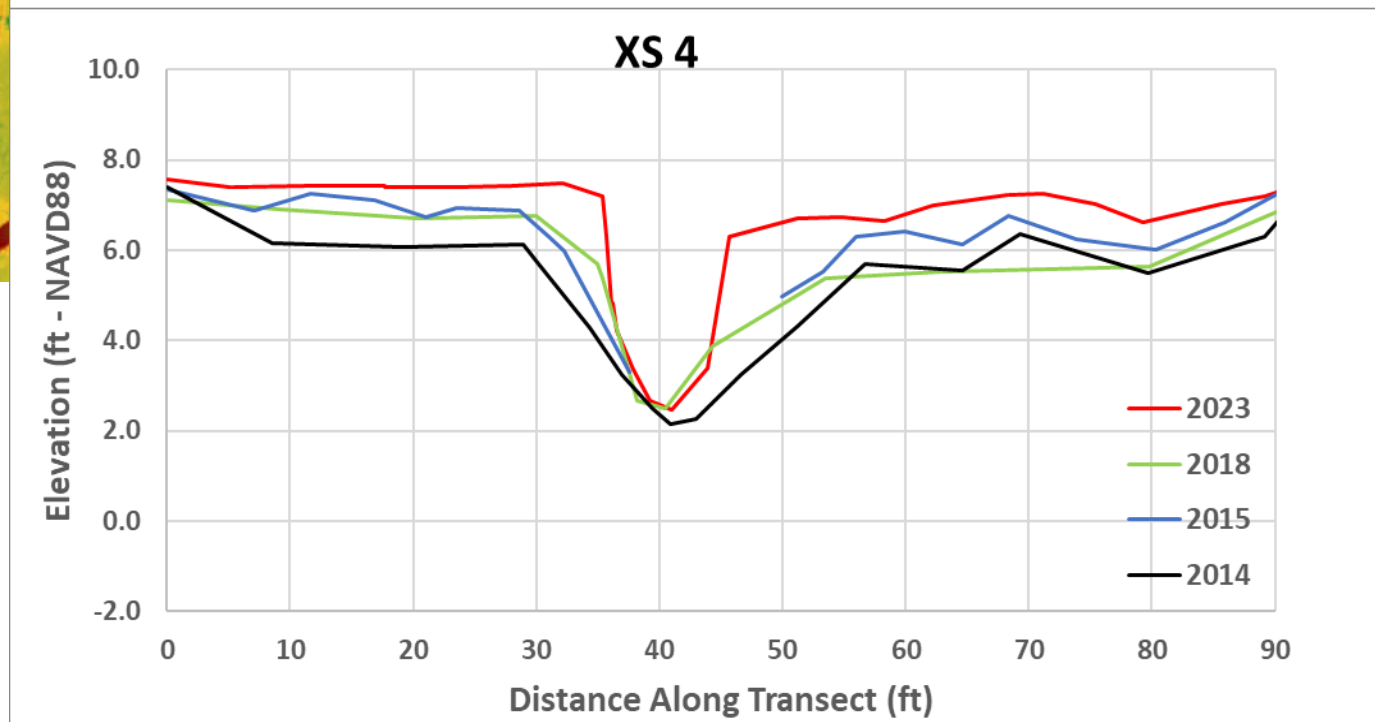
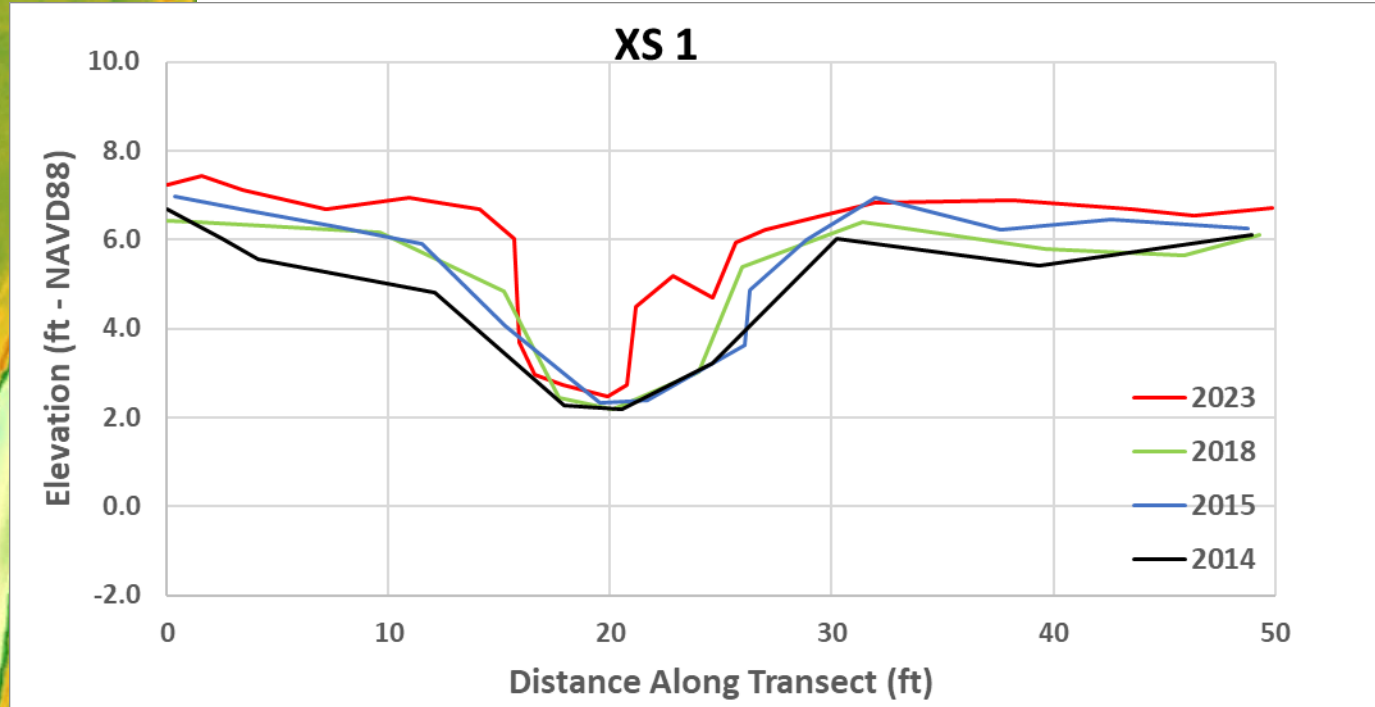
Narrowing +  
Accretion







Narrowing  
+ Accretion

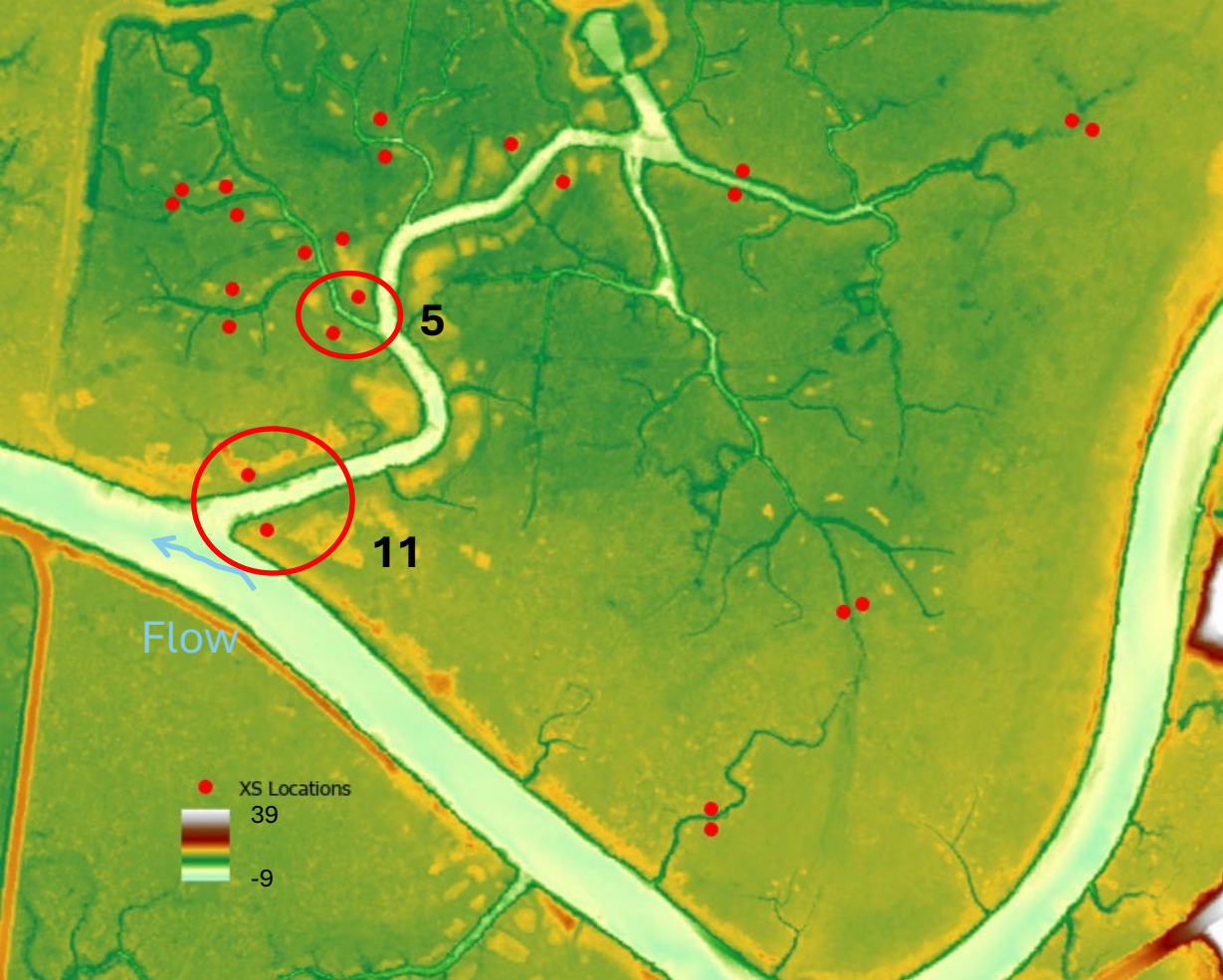




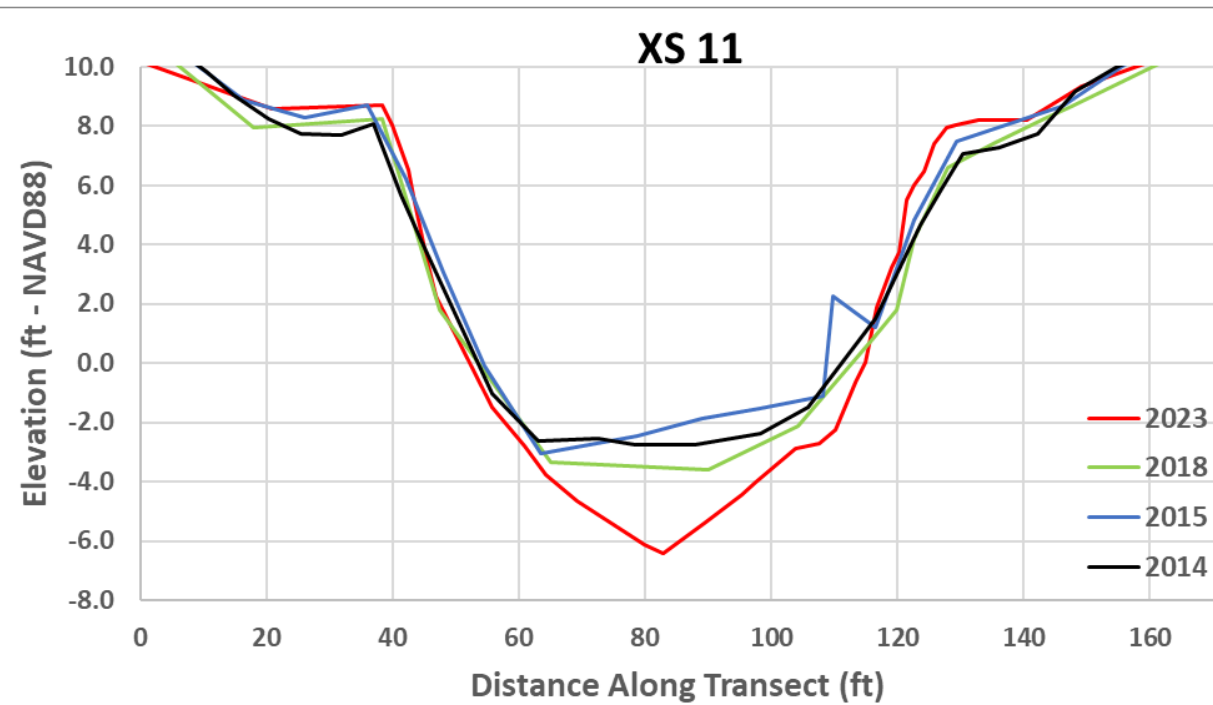
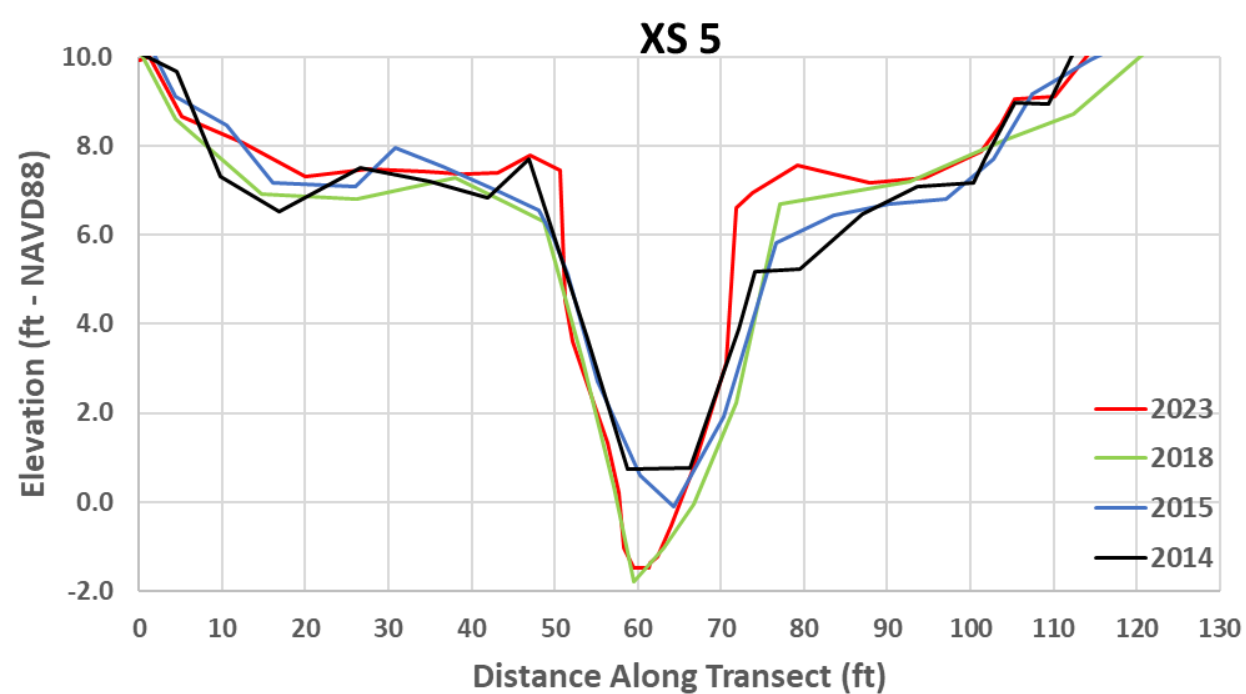


Narrowing  
+ Accretion

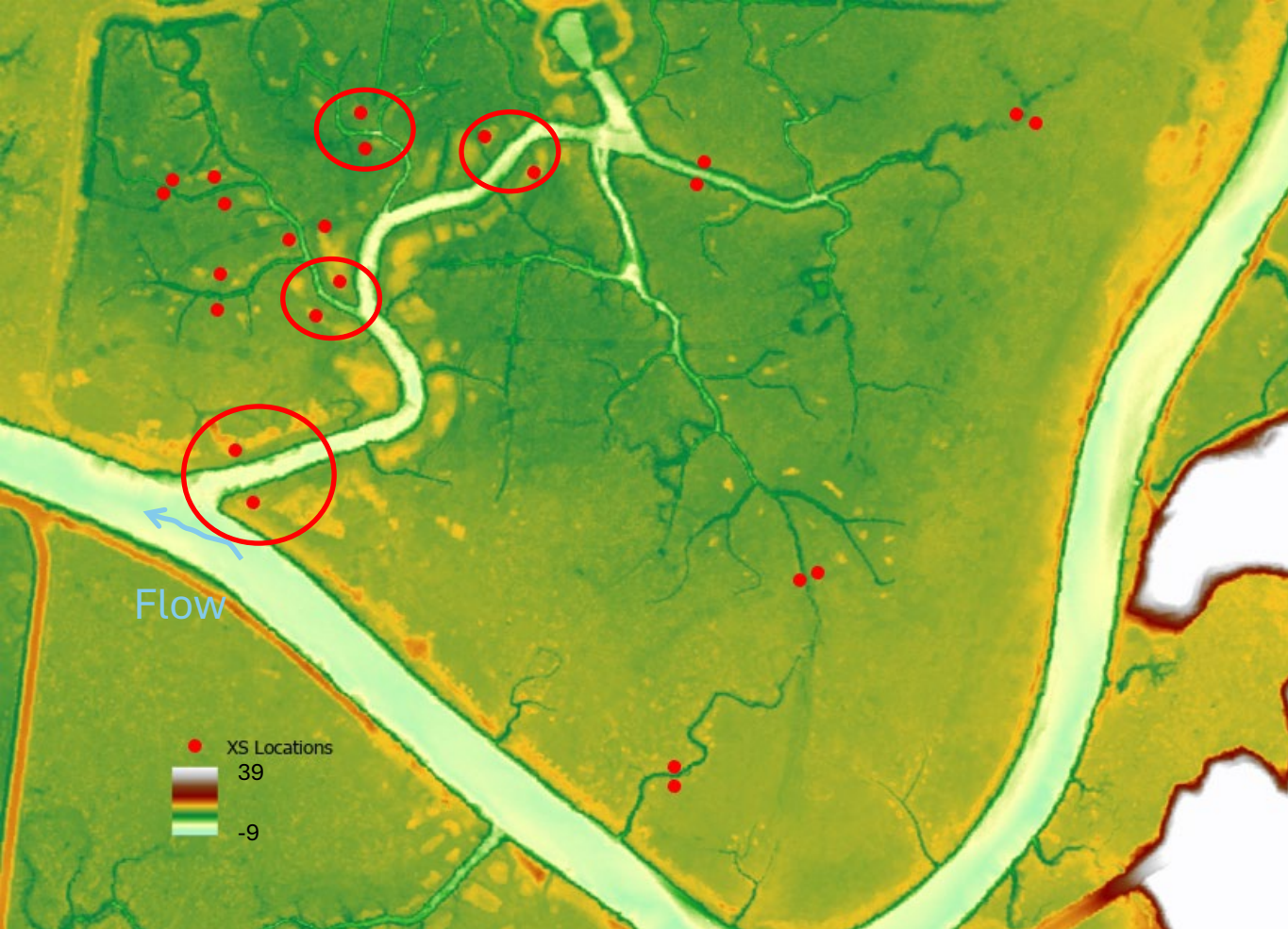




Deepening







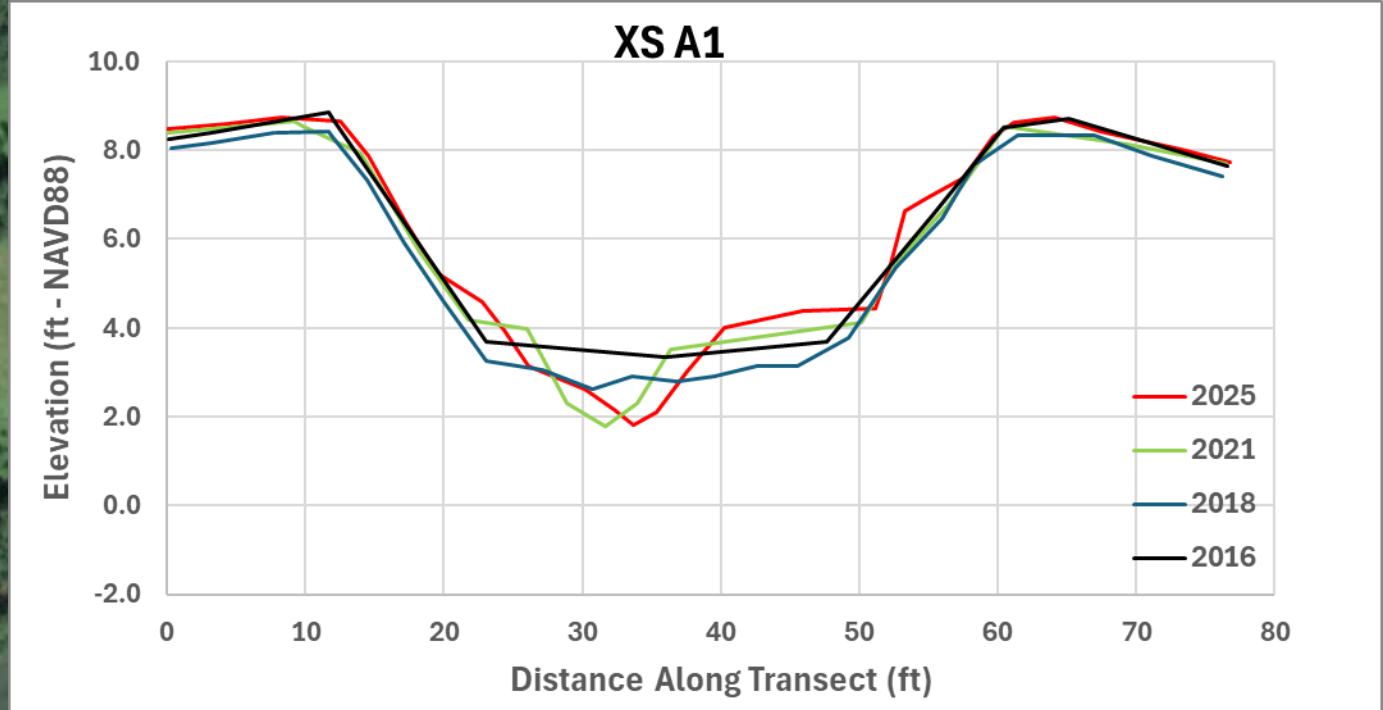
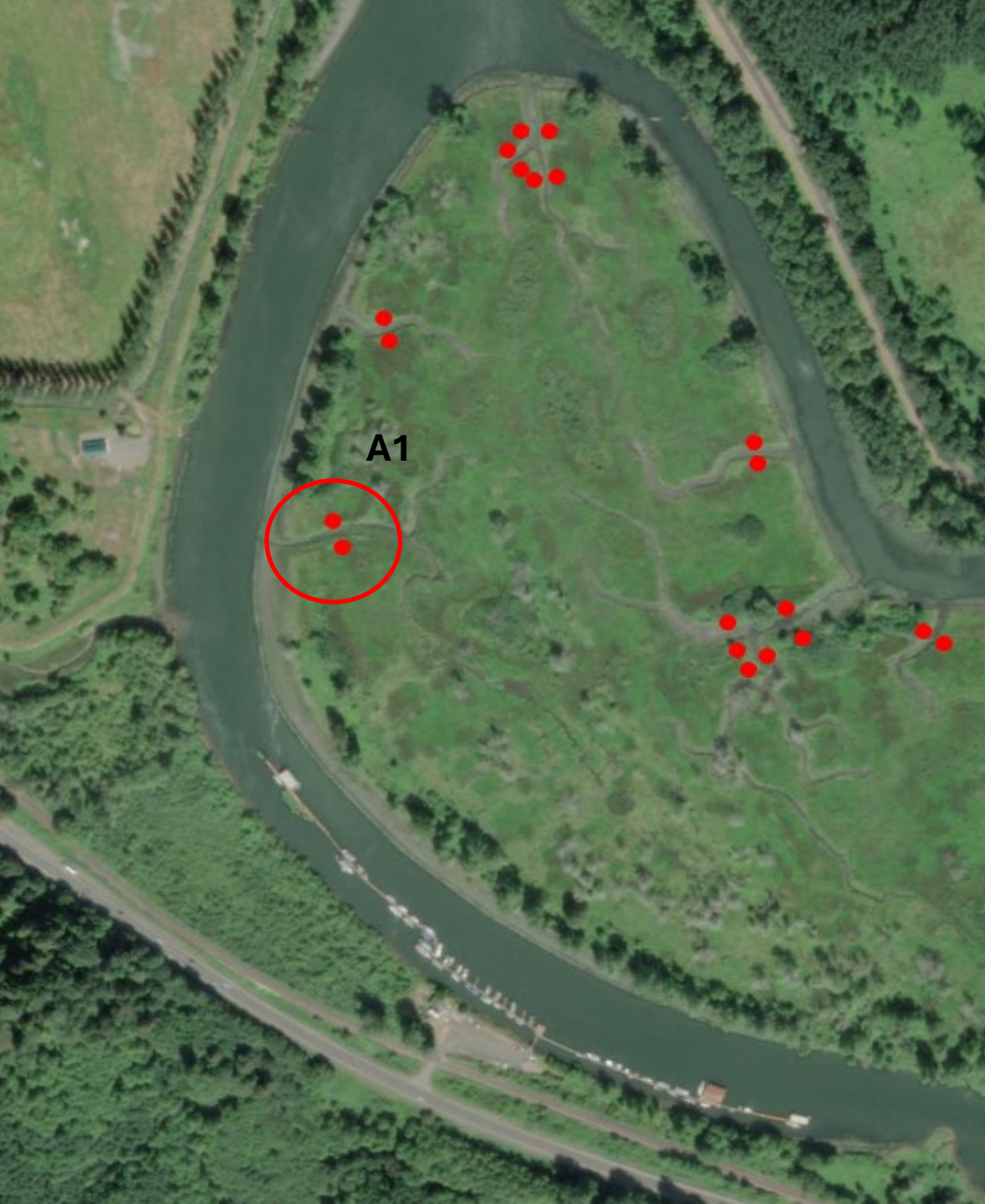
Deepening





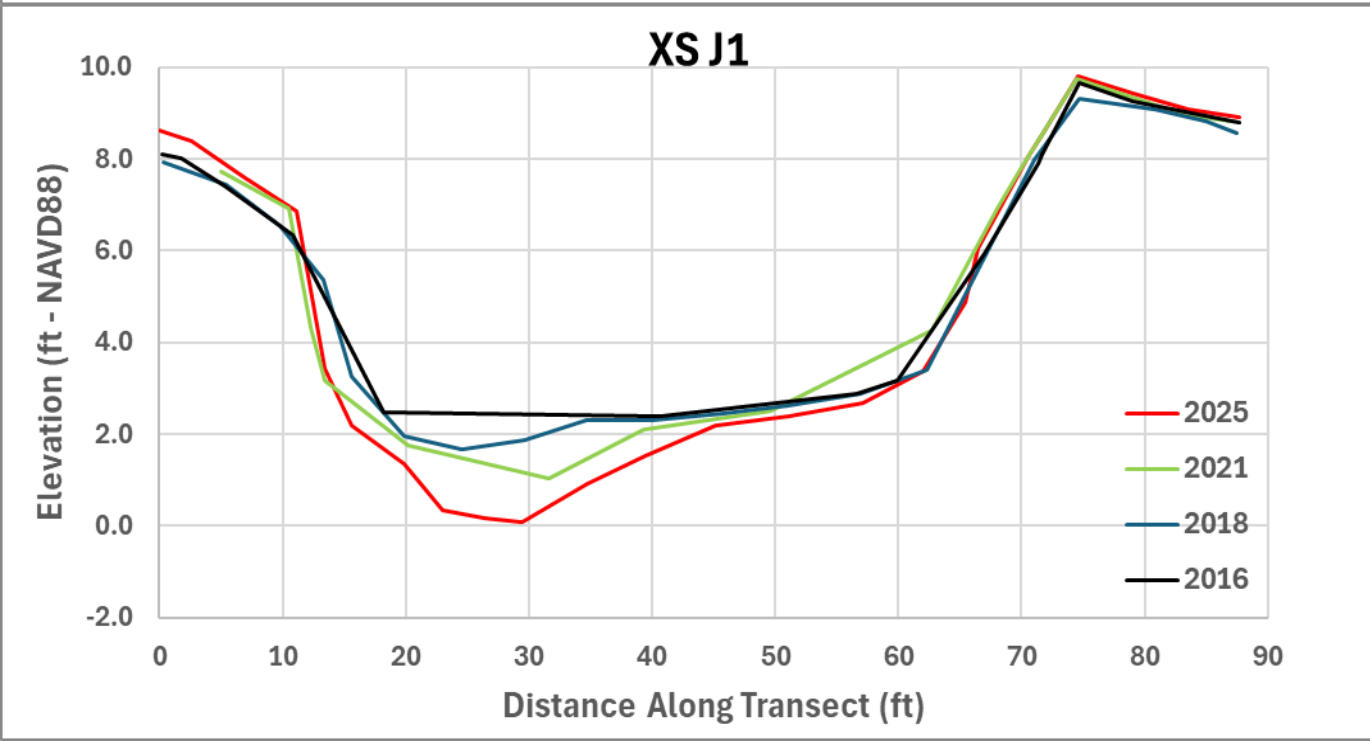
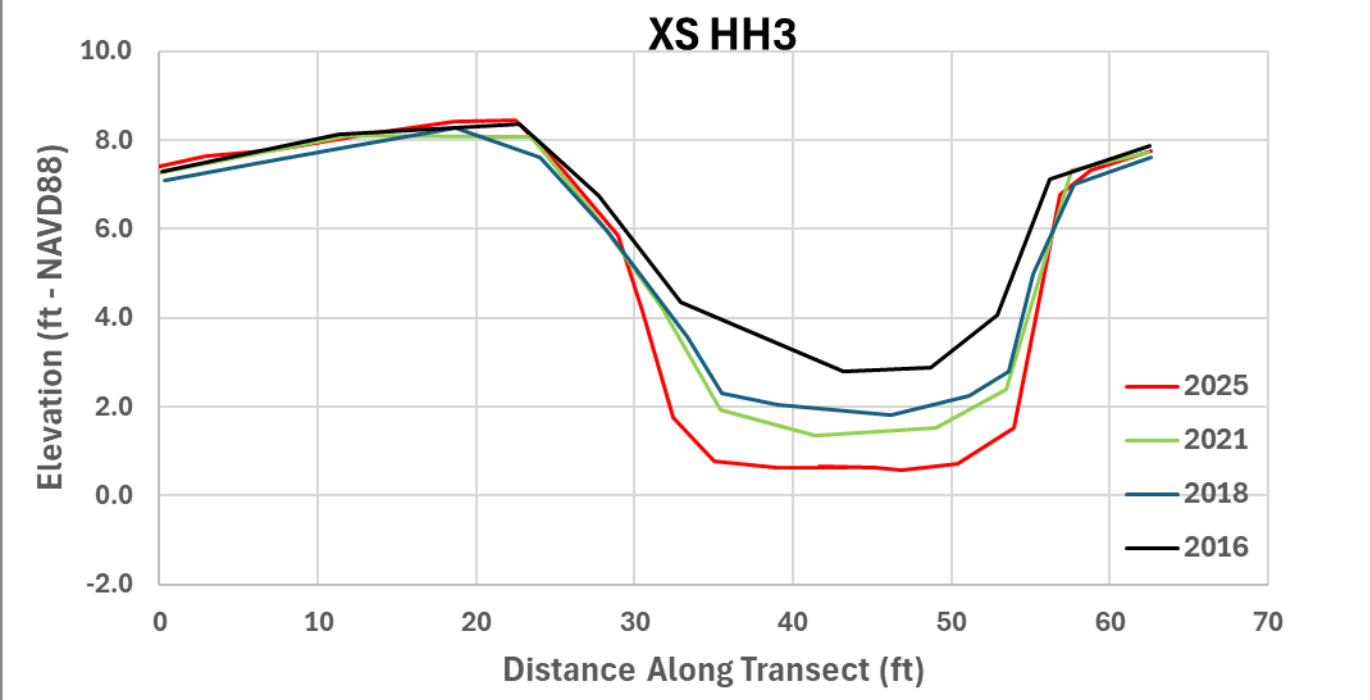
Geometry – Kerry Island





Narrowing









Minimal  
Change









Channel Formation



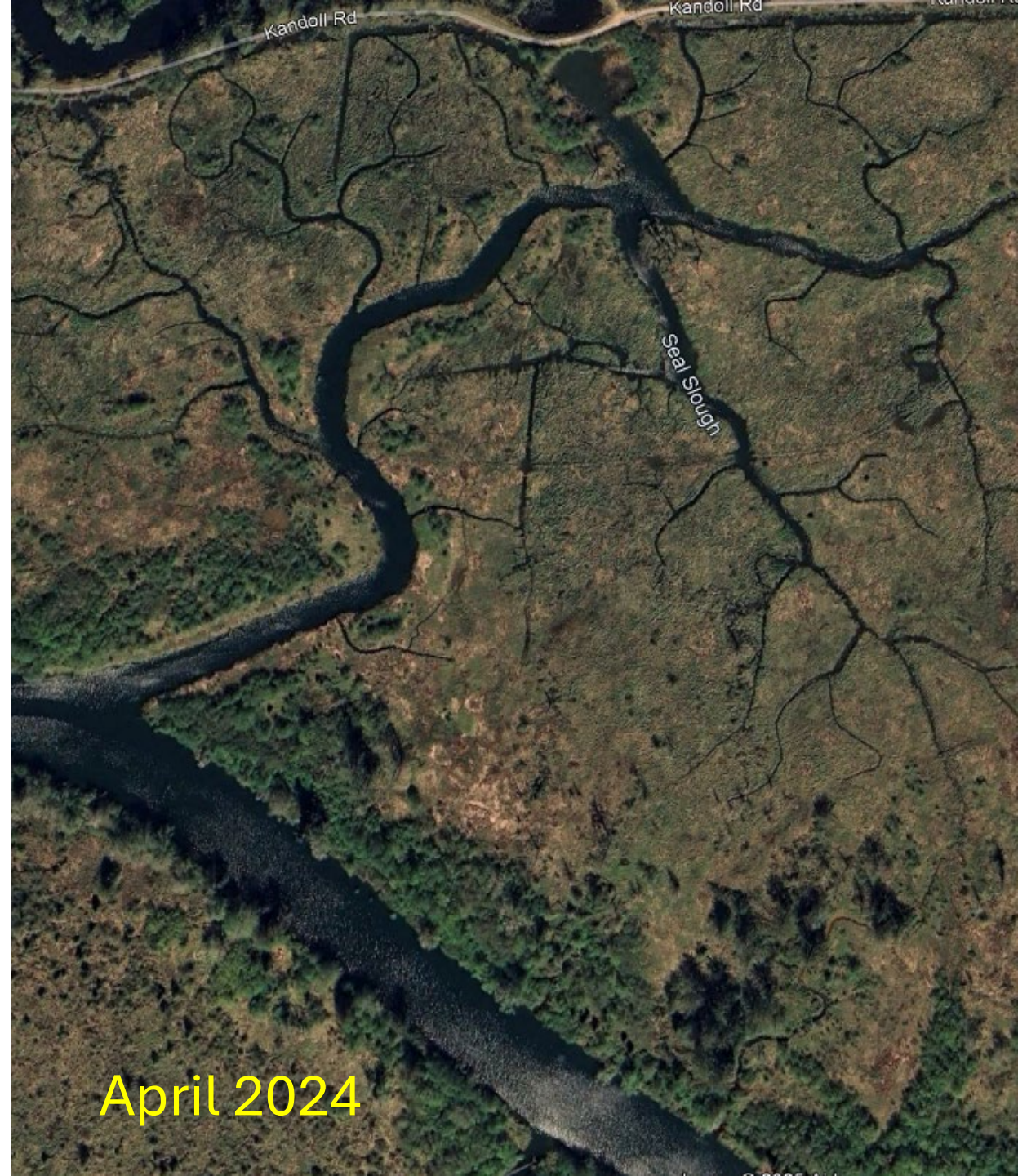


July 2005



April 2024









June 2017



August 2023





June, 2017



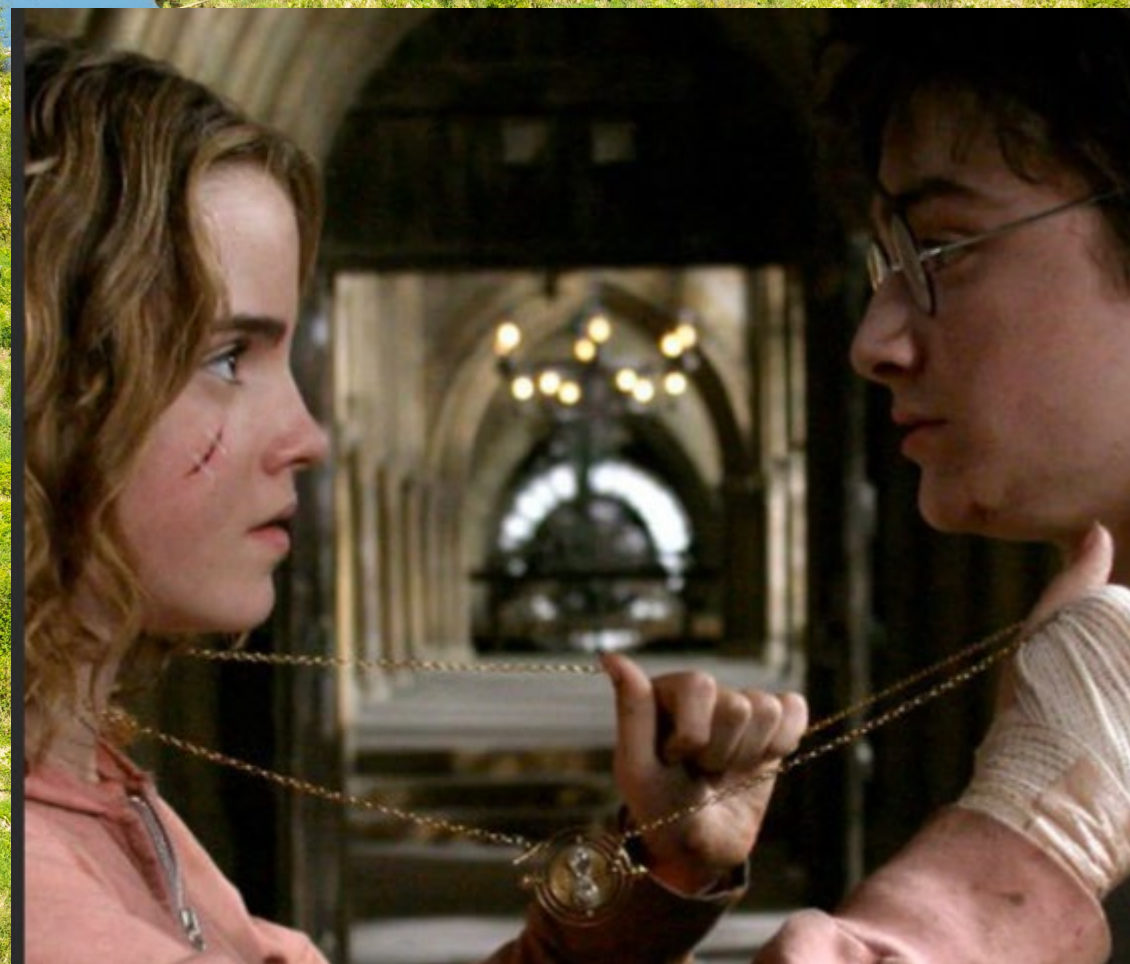
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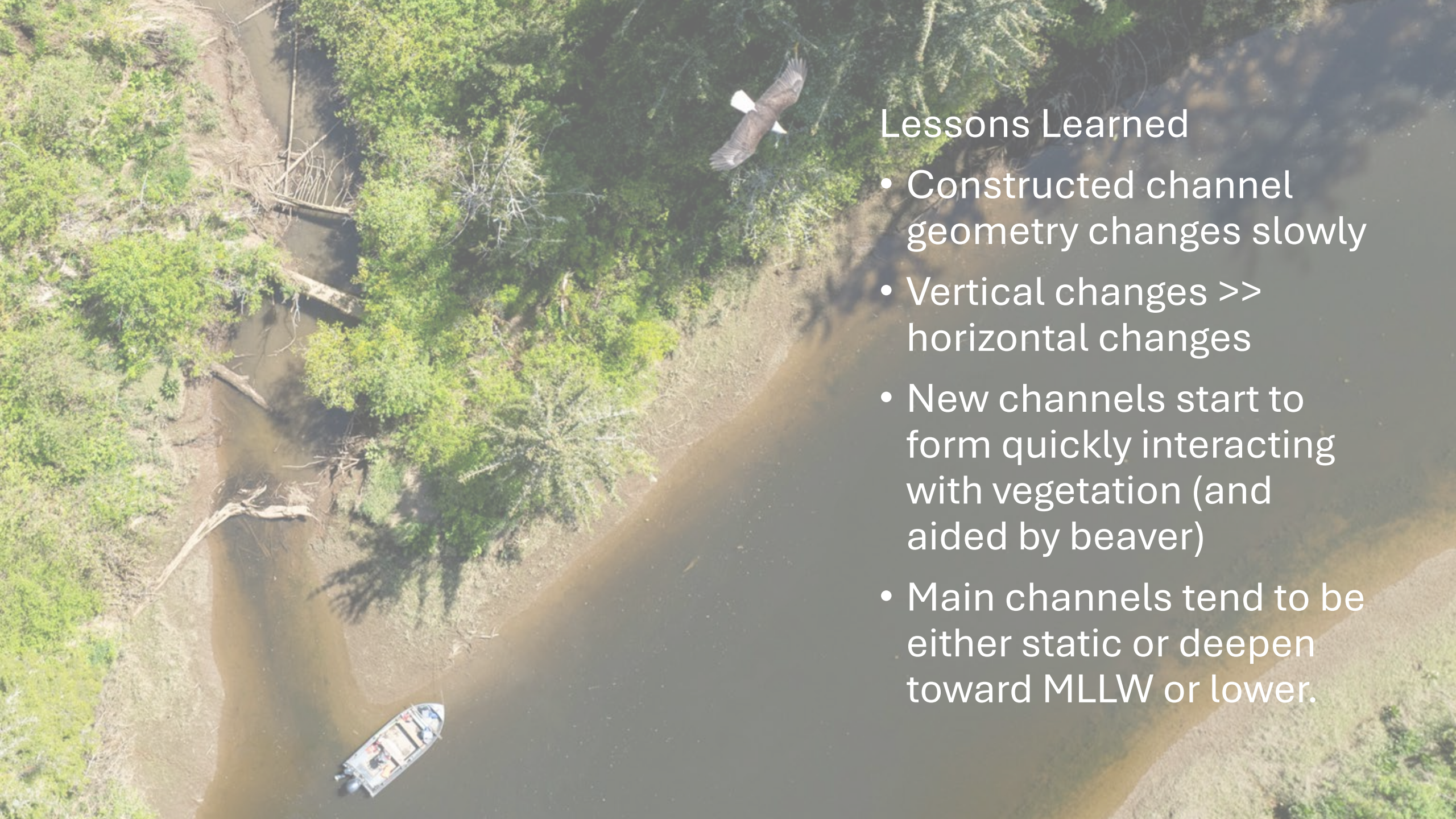
Big Picture?





Big Picture?

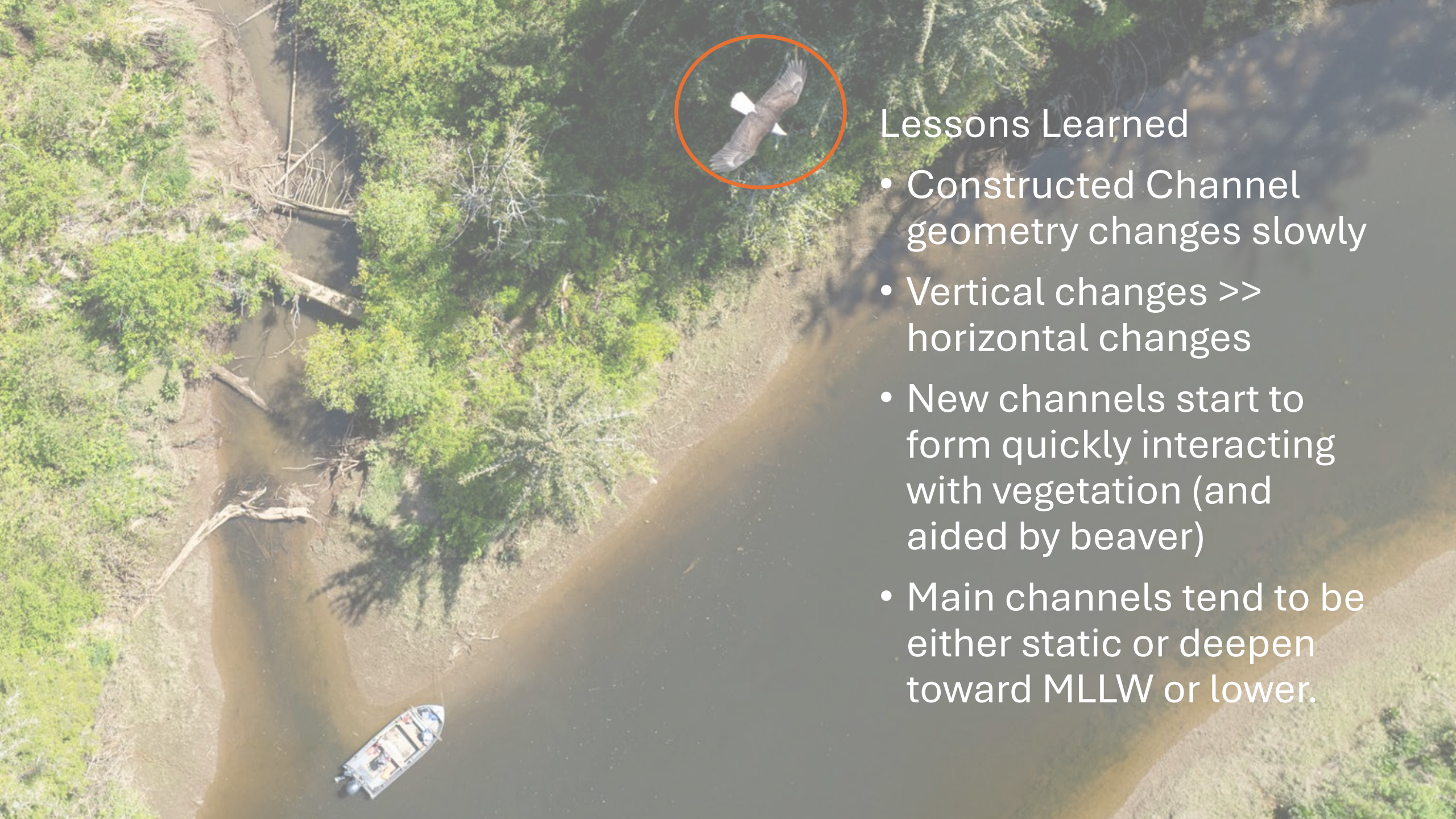




## Lessons Learned

- Constructed channel geometry changes slowly
- Vertical changes >> horizontal changes
- New channels start to form quickly interacting with vegetation (and aided by beaver)
- Main channels tend to be either static or deepen toward MLLW or lower.





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An aerial photograph of a river channel. The water is dark and reflects the sky. On the left bank, there is a dense line of green trees and shrubs. A small, light-colored boat is visible in the lower left portion of the channel. A large bird, possibly a bald eagle, is in flight in the upper right portion of the image, its wings spread. The right bank is a mix of green vegetation and bare, brownish soil.

Channels provide...

- Fish access/nutrient export
- Subsidence Recovery – material generation
- Trajectory toward high marsh/swamp – higher complexity
- Edges – higher complexity



An aerial photograph of a river winding through a lush green forest. A small motorboat is visible in the lower left portion of the river. A large bird, possibly a bald eagle, is in flight in the upper right. The river's path is highlighted by a semi-transparent dark overlay that also serves as a background for the text.

## Considerations

- Extent of digging depends on site elevation? (High << low).
- Smaller channels are more accessible to beaver for dam building
- Mature channels have significant wood for vertical complexity underwater
- Many “right” designs if site trajectory is moved in agreed upon direction. Starting point for self-organization.





Questions?