

Columbia River Estuary Conference: Wisdom of the Aged - Part 1

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Perspectives from:

- Devils Elbow (2004)
- Deep River (2005)
- Kandoll (2005 & 2013)
- Mill Road (2011)
- Kerry Island (2016)



Project Perspectives

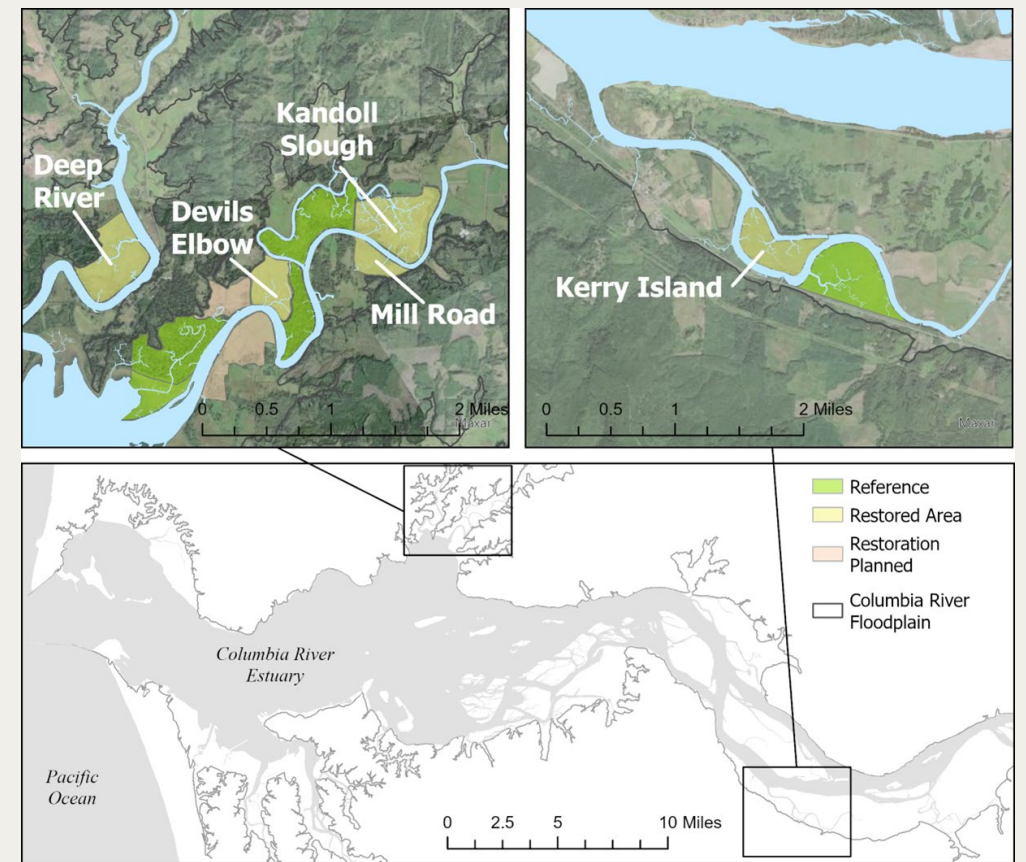
Key Restoration Elements:

- Dike Breaching
- Dike Removal
- Channel Construction
- Mounds
- Planting
- Flow Direction

Assessment Variables:

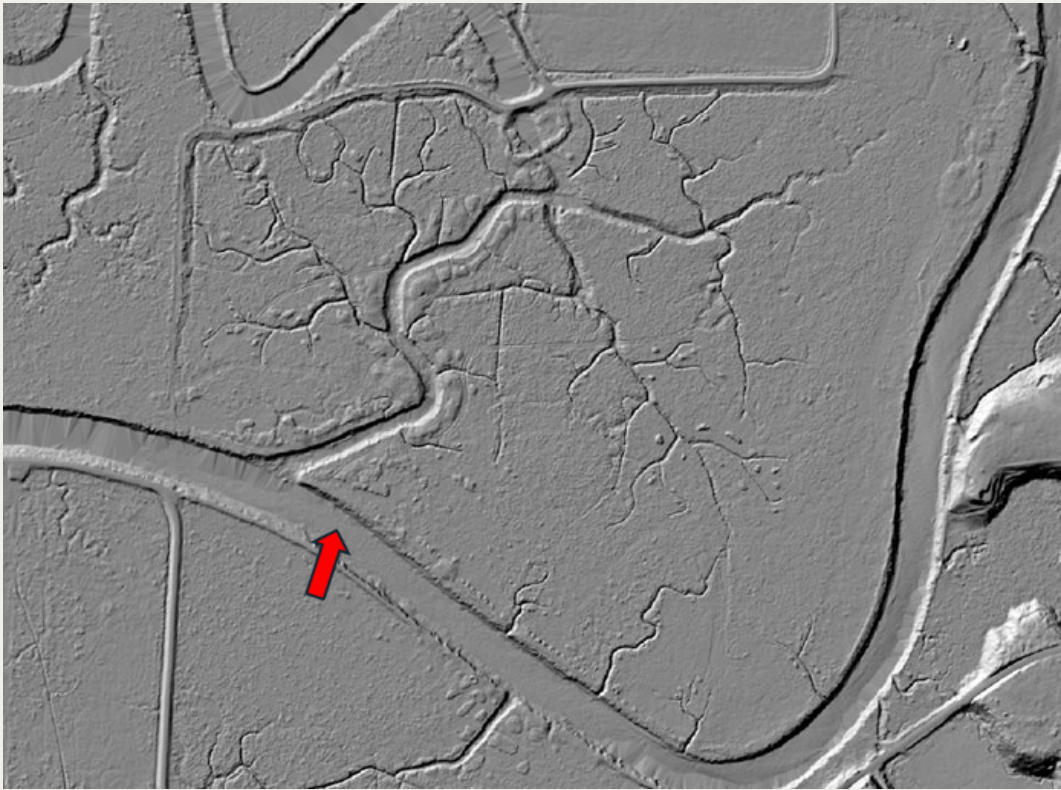
- Vegetation Community Development
- Sediment Accretion
- Influence of Mounds
- Influence of Large Wood
- Influence of Beaver Activity
- Channel Changes and Development (Part 2)

Explore ERTG 2022 Revisit Comments

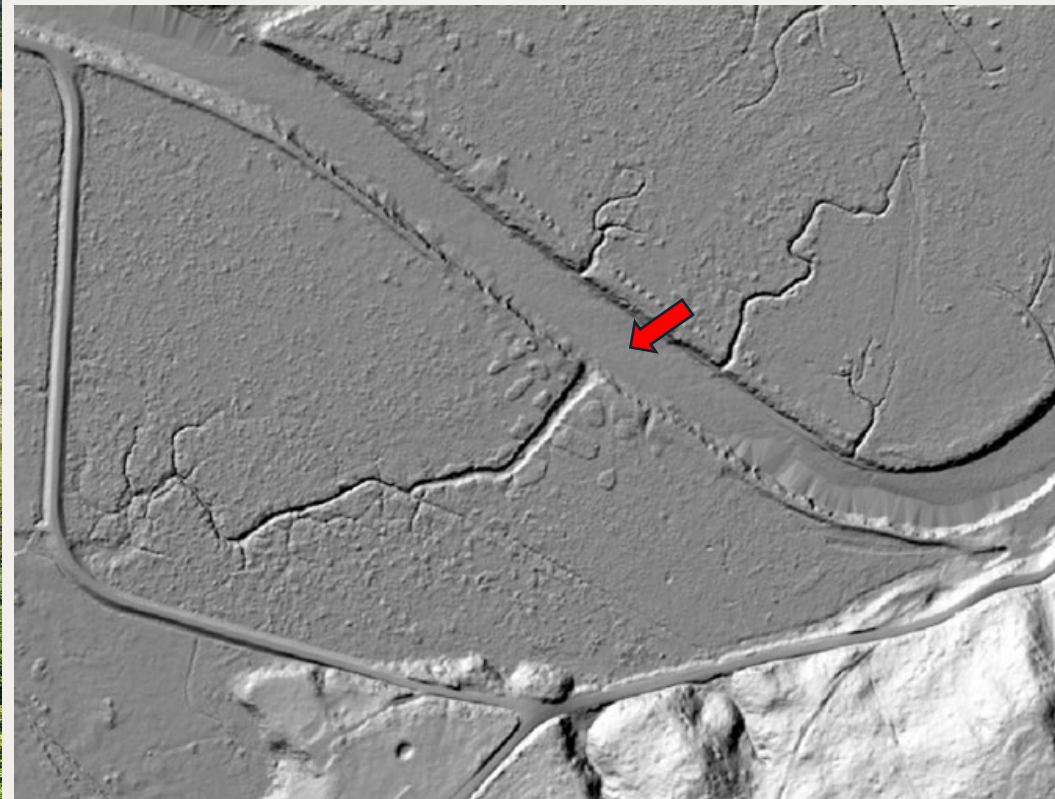


PROJECT SITE	ACRES	YEAR	ELEV. RANGE (Ft, NAVD88)	BREACH (#)	DIKE REMOVAL (LF)	CHANNEL CONSTRUCTION (LF)	DITCH FILL (LF)	MOUNDS	PLANTING	RE- DIRECTED FLOW?
DEVILS ELBOW	78	2004	6 - 11	2	No	3,200	4,900	No	No	No
DEEP RIVER	152	2005	6 - 14	4	1,580	No	No	No	No	No
KANDOLL SLOUGH	172	2005 & 2013	5 - 13	4	2,480	16,500	1,160	Yes	65 Ac	Yes
MILL ROAD	55	2011	6 - 12	1	700	700	No	Yes	7 Ac	Yes
KERRY ISLAND	109	2016	6 - 14	7	3,060	10,500	10,500	Yes	48 Ac	No



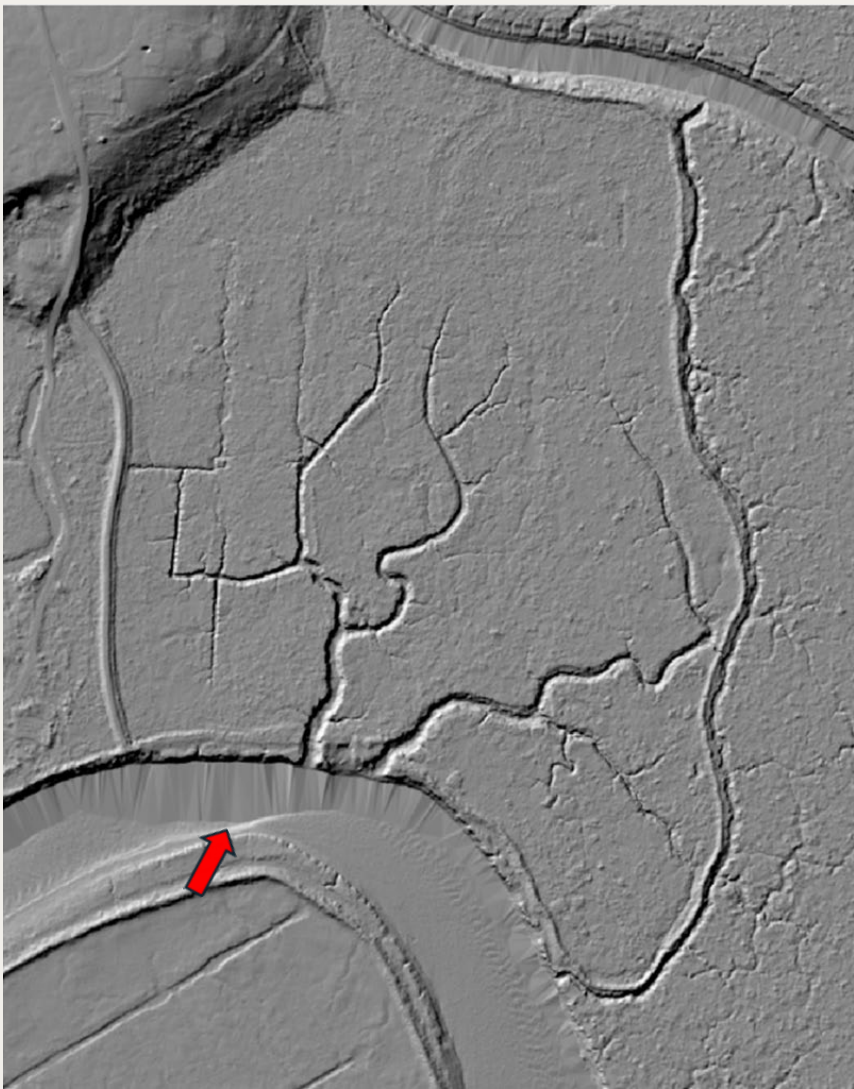


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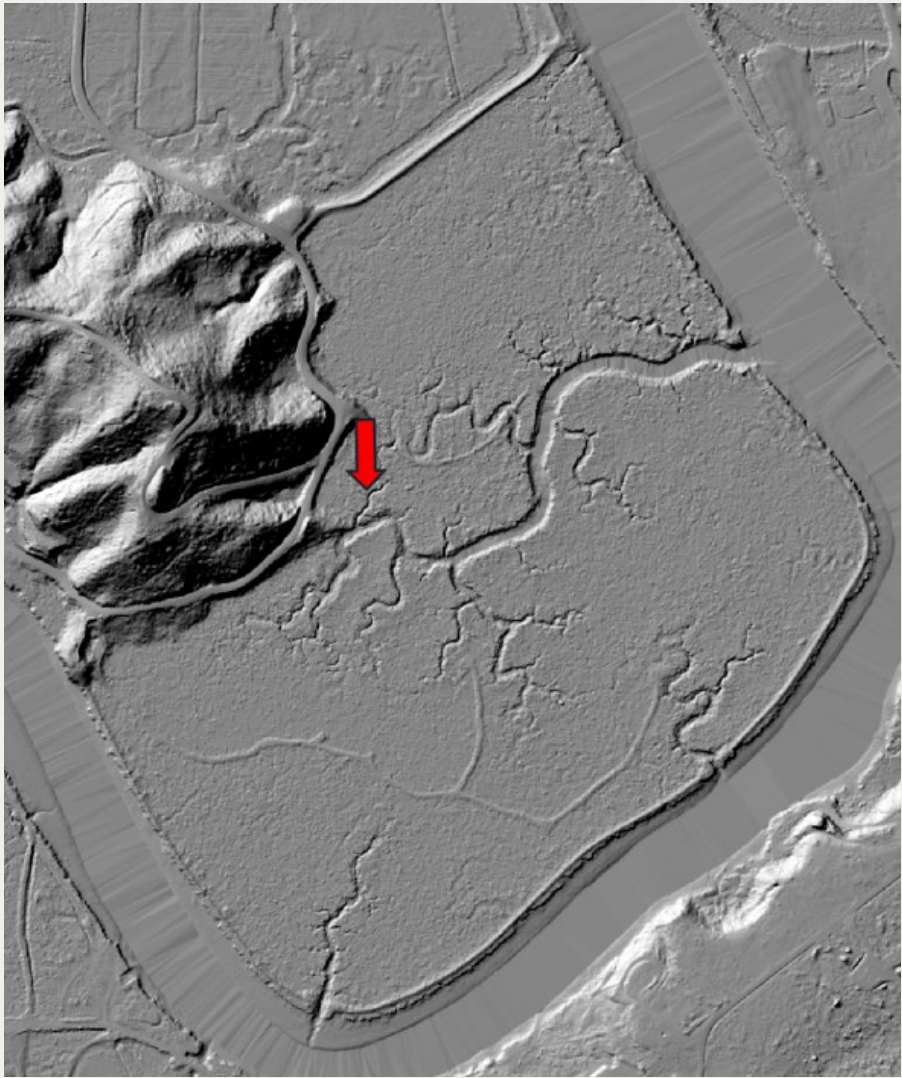
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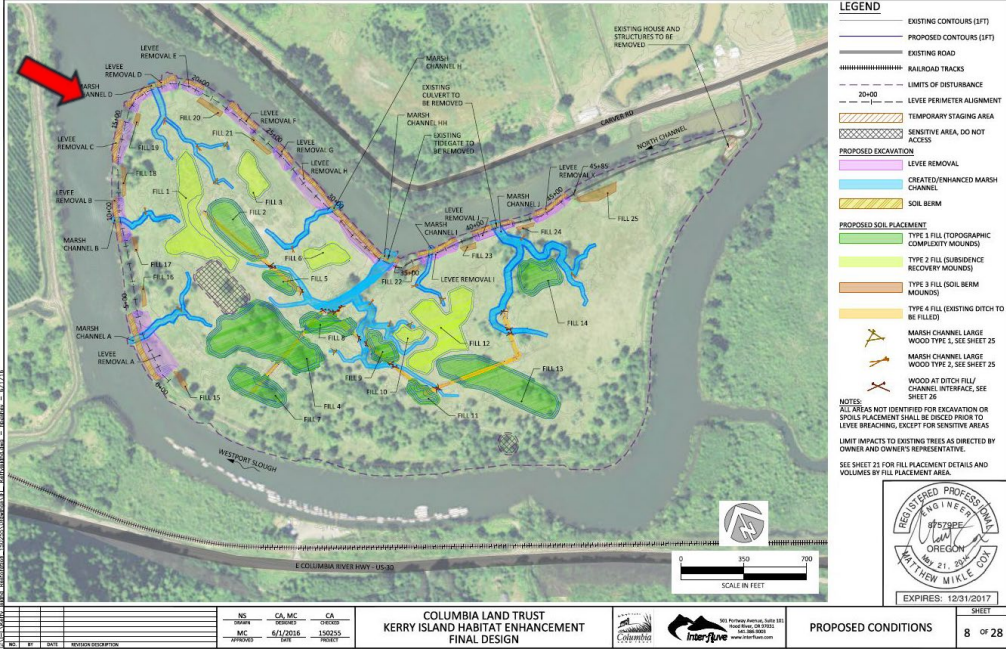
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Perspectives on Vegetation

Devils Elbow: Increased native with similar veg class composition

Deep River: Steady native cover with shift towards EM

Kandoll: Increased native cover with increased SS and FO

Mill Road: Steady native cover with slight shift to SS

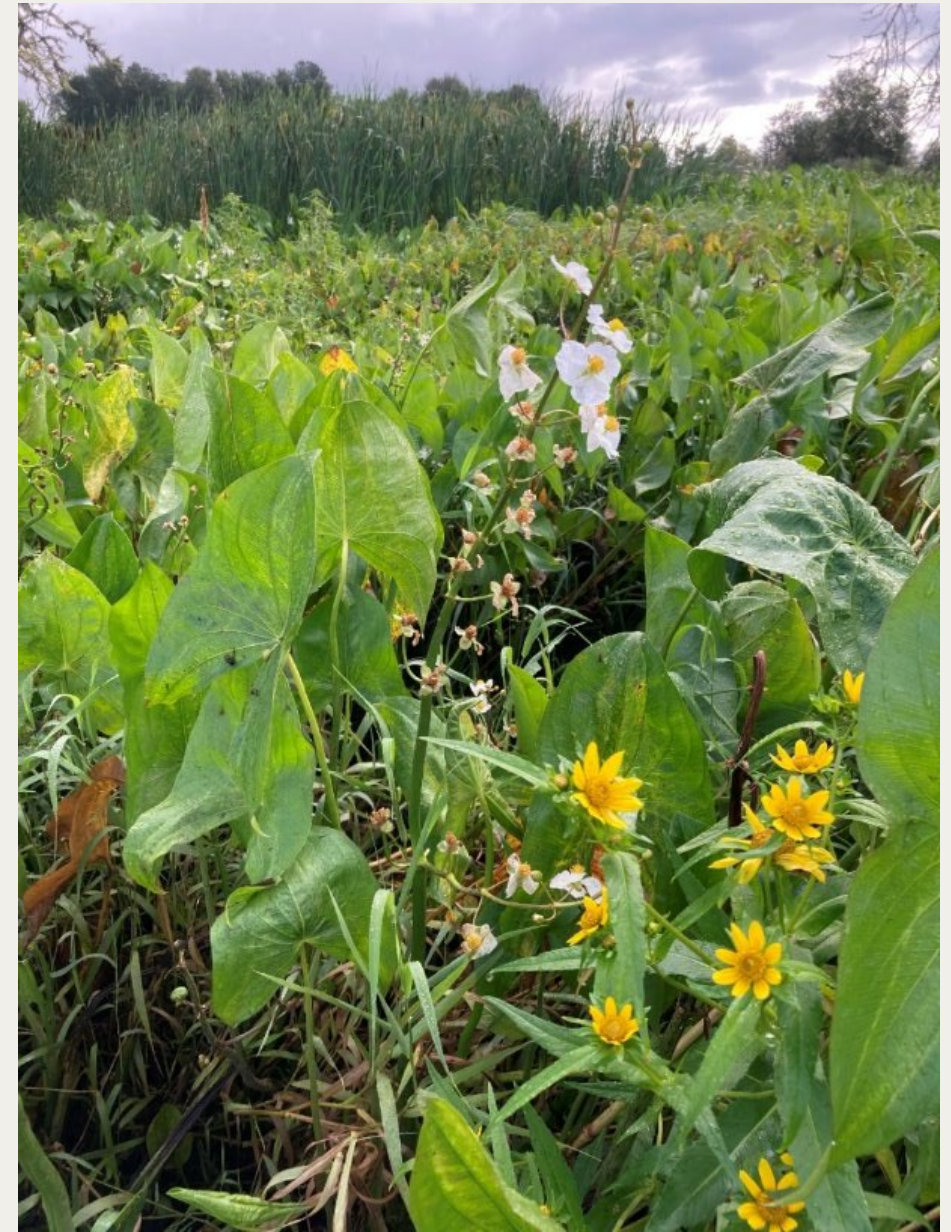
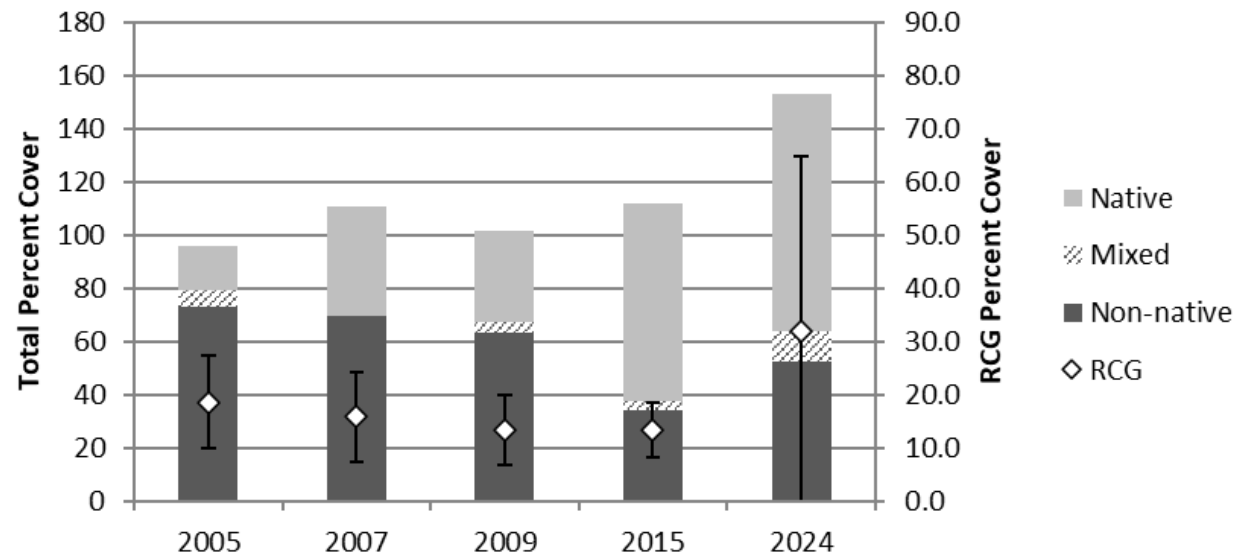
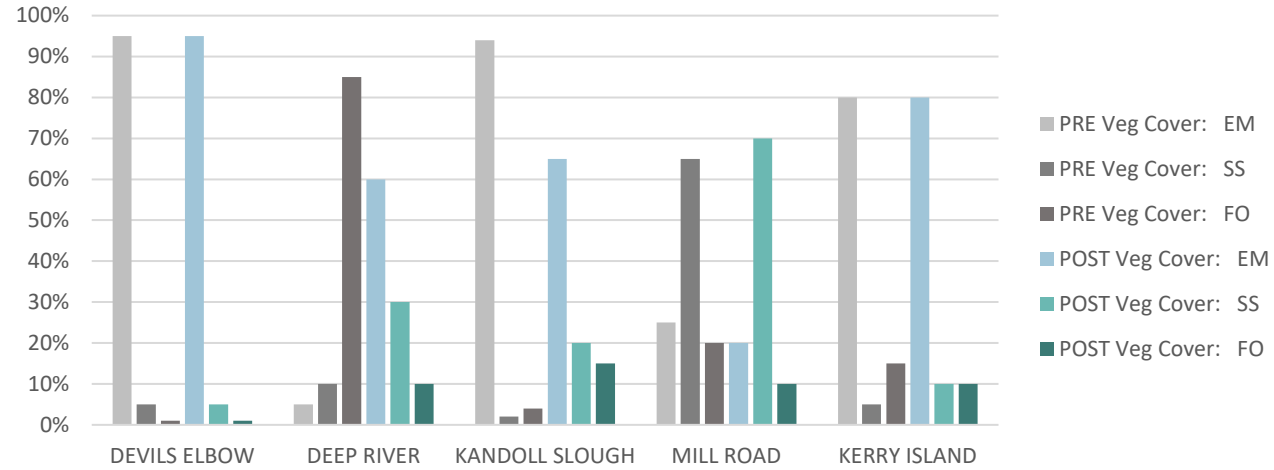
Kerry Island: Increased native cover with steady EM dominance



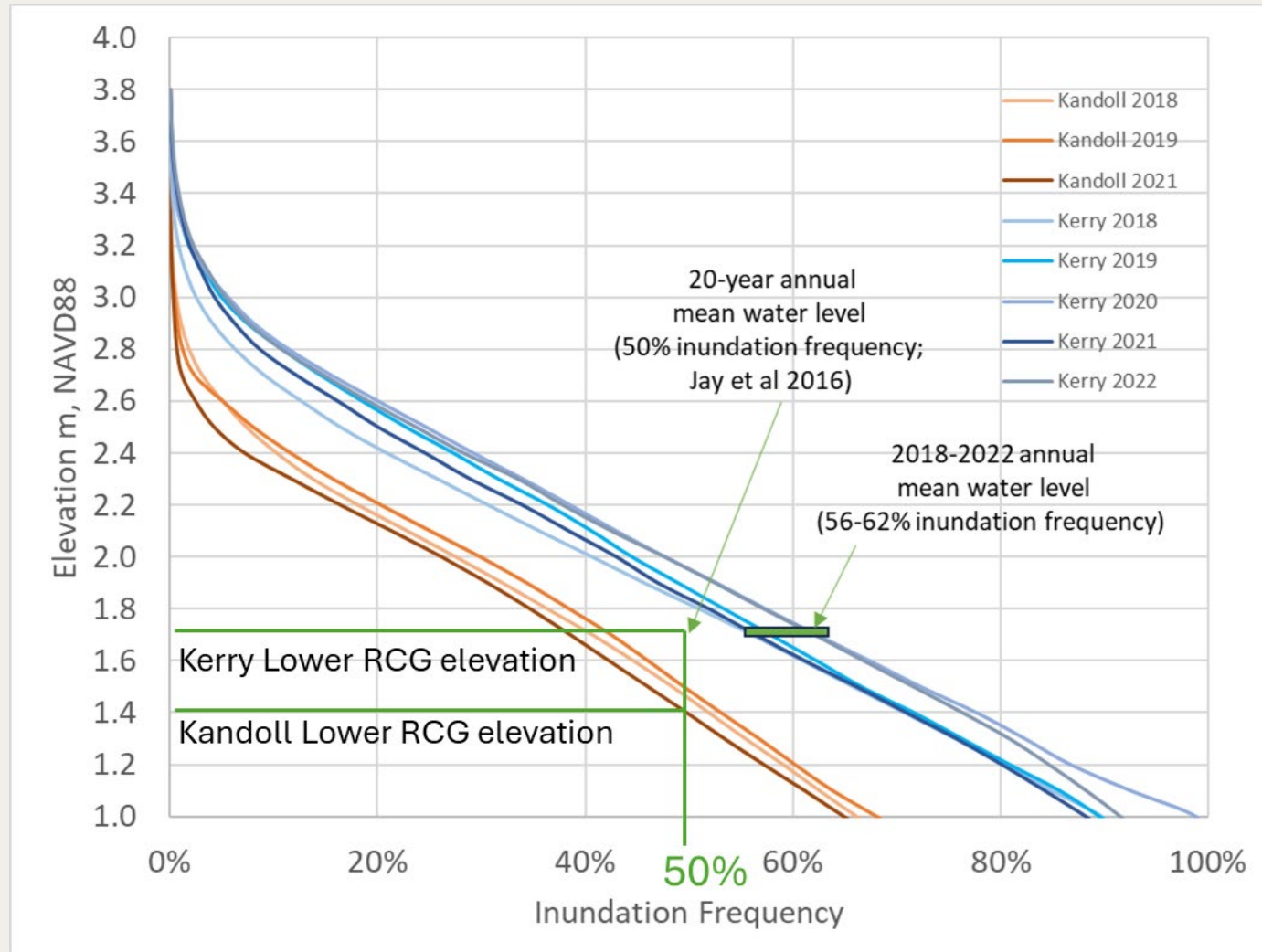
PROJECT SITE	PRE Native Veg Cover Est	POST Native Veg Cover Est	PRE Veg Cover by Stratum			POST Veg Cover by Stratum		
			EM	SS	FO	EM	SS	FO
DEVILS ELBOW	<20%	40-60%	95%	<5%	<1%	95%	<5%	<1%
DEEP RIVER	60-80%	60-80%	5%	10%	85%	60%	30%	10%
KANDOLL SLOUGH	20-40%	40-60%	94%	2%	4%	65%	20%	15%
MILL ROAD	40-60%	60-80%	25%	65%	20%	20%	70%	10%
KERRY ISLAND	<20%	40-60%	80%	5%	15%	80%	10%	10%



PRE and POST Restoration Vegetation Cover by Stratum



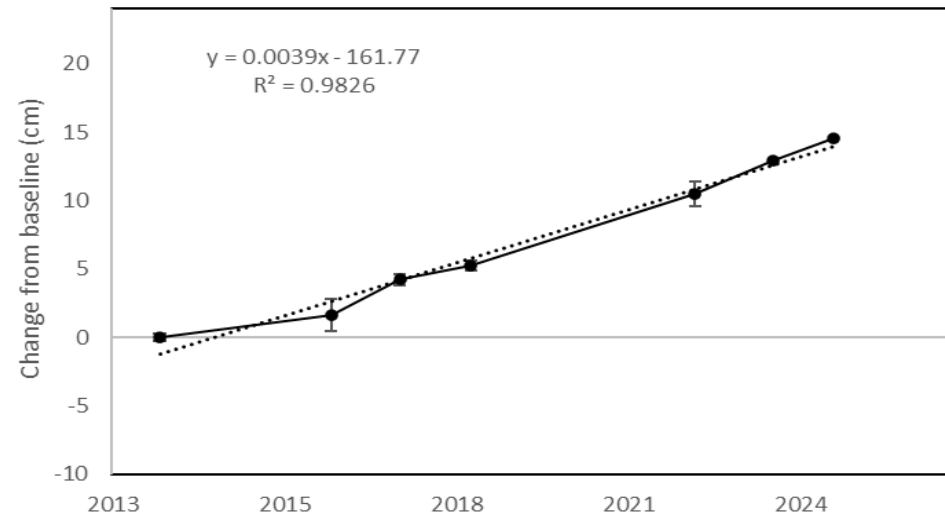
Perspectives on Vegetation



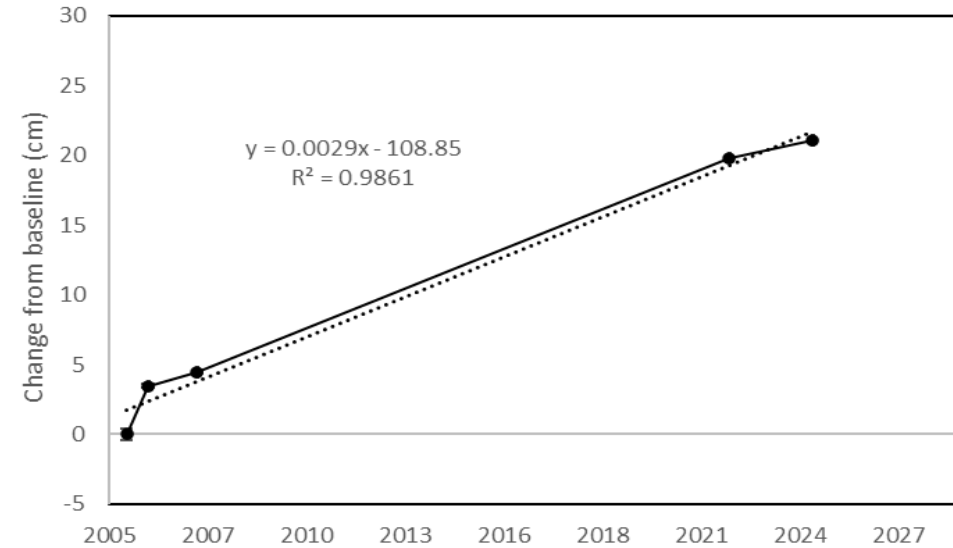
Sediment Accretion Factors

- Watershed Sediment Supply
- Reach Location
- Connectivity
- Floodplain Complexity – Including Mounds
- Elevation
- Distance from Channel

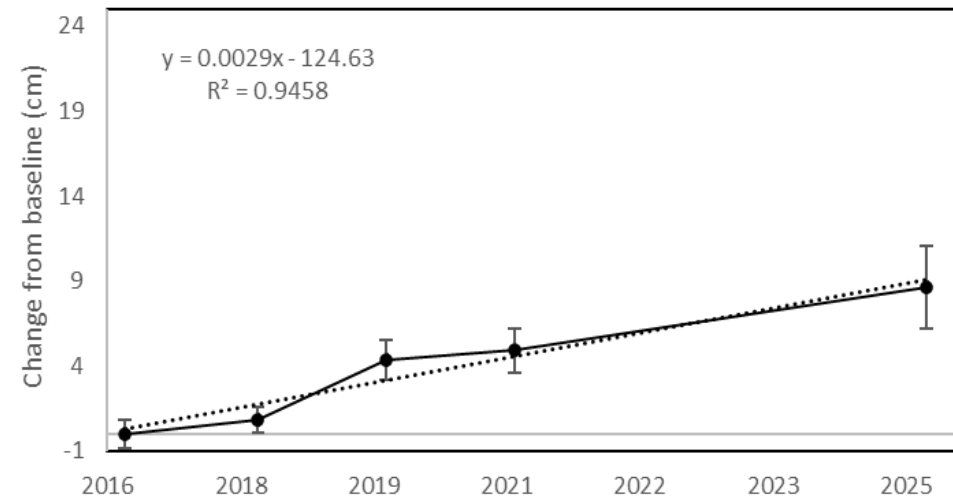
Kandoll AS-B6



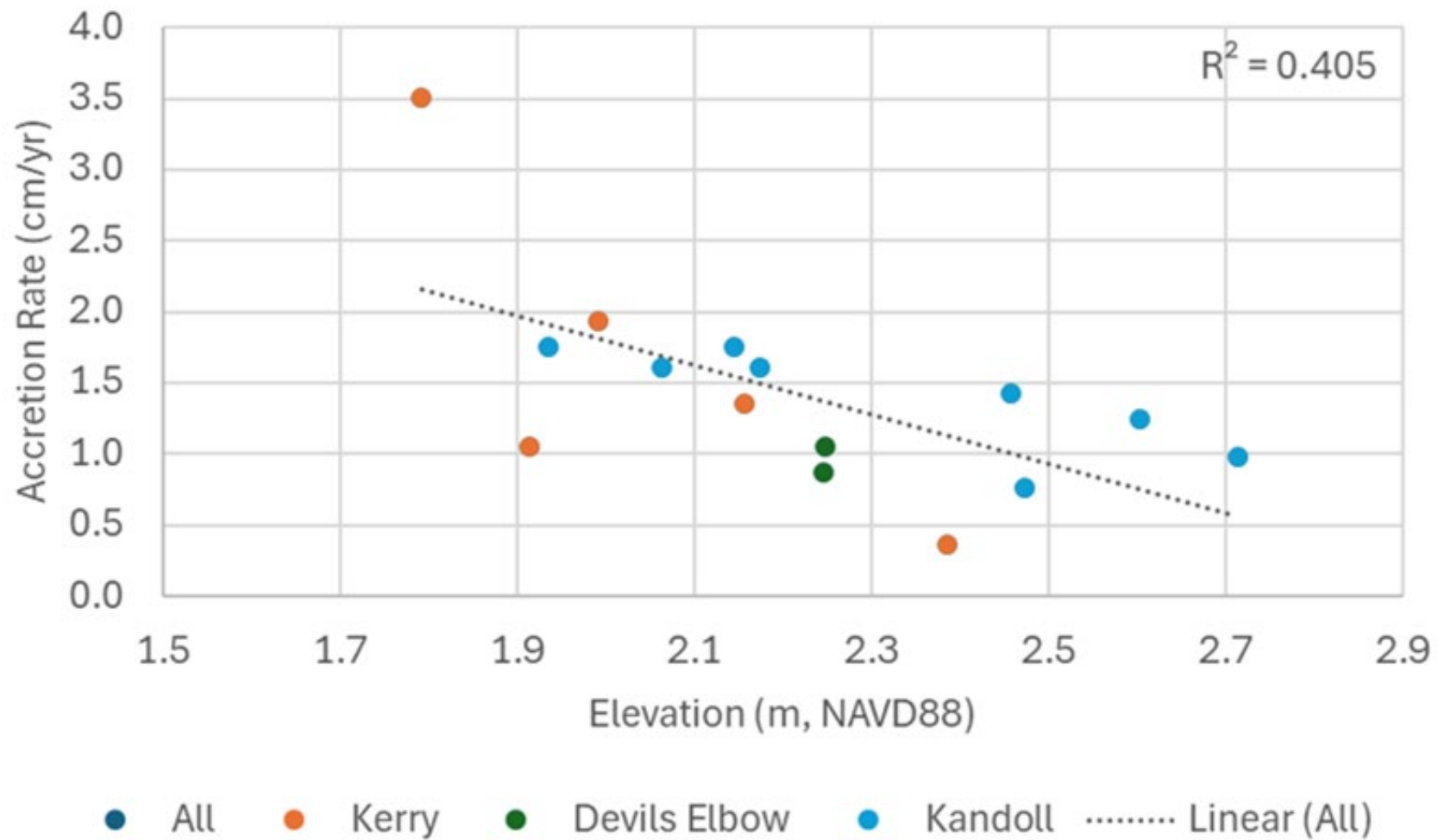
Devils Elbow SET #1



Kerry AS-A4



Annual Sediment Accretion vs Elevation



Perspectives on Beavers



Perspectives on Beavers



Perspectives on Beavers



Perspectives on Beavers



Other Values



The Wisdom:

- Value of having a reference point and long relationship with the land
- Complexity supports Resiliency
- Tools and Processes + Time
 - Natural Processes
 - Structural Complexity (LWD)
 - Time is essential
- Approach will always depend on what pieces/tools you have in place
- Elevation kick starts complexity and vegetation
- Beaver X-factor
 - Increasing channel network
 - Productivity
 - Channel nick points
- Vegetation evolution: Don't over-react
- Change is here so use the pieces accordingly
- Humility. There will be more questions than answers.

