Apr 6th, 10:45 AM - 11:00 AM

Skokomish estuary restoration monitoring

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Skokomish Estuary Restoration Monitoring

Skokomish Tribe Natural Resource Department
Lisa Belleveau
Habitat Biologist

SKOKOMISH

NWIFC

Location


Road Map
W A S H I N G T O N
COLUMBIA
BASIN


Victoria
Strait of
Juan de Fuca
Everett
Olympic
Peninsula
Hood Canal
Puget Sound
Seattle
Kitsap
Peninsula
Tacoma
Olympia

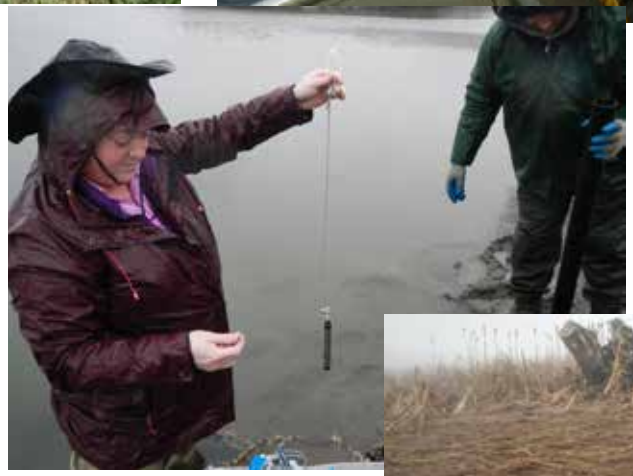
What is an Estuary?

Unique Habitat

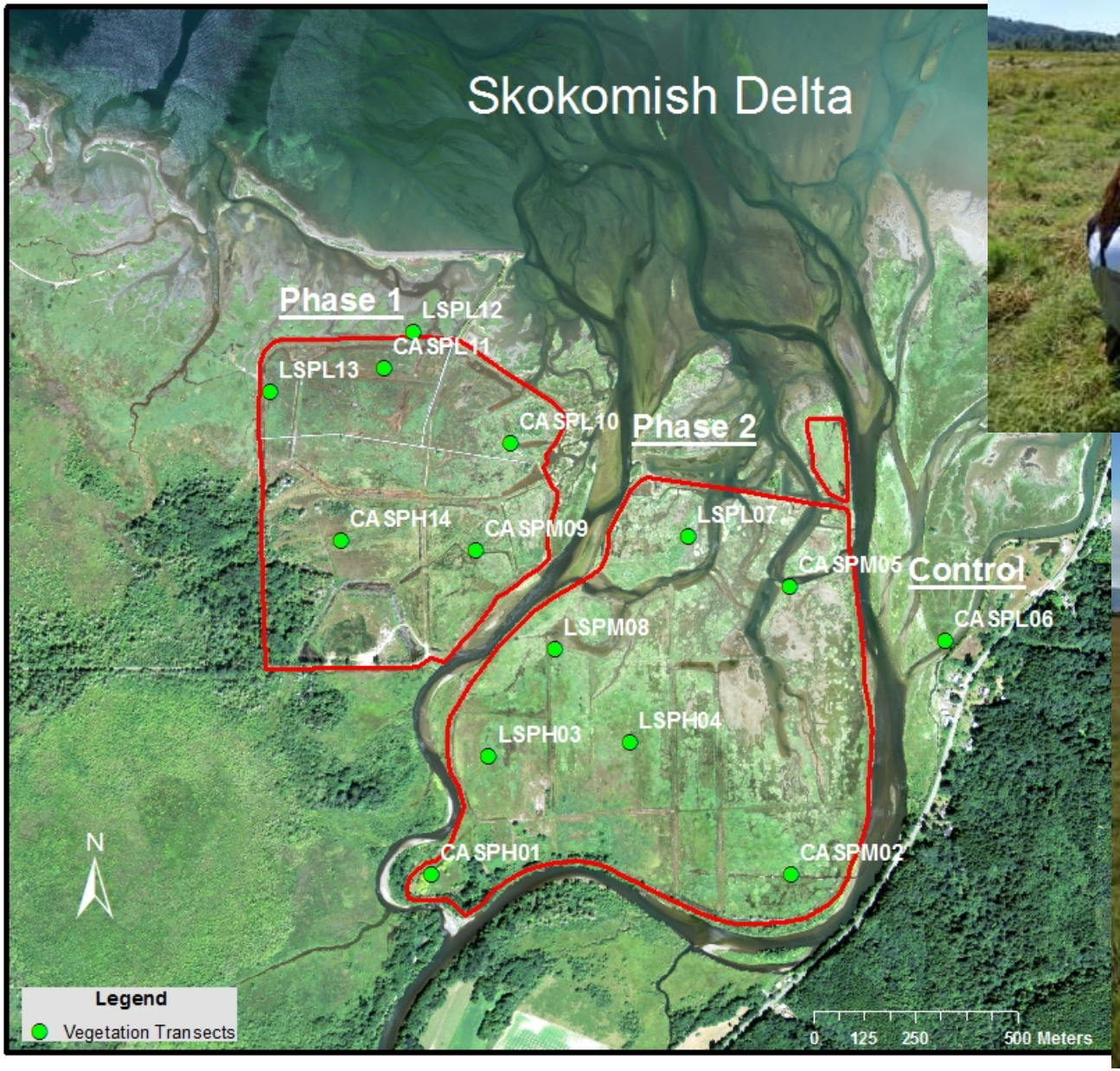
Nurseries


Phase 3
622 Acres
Phase 1
127 Acres
Phase 2
215 Acres

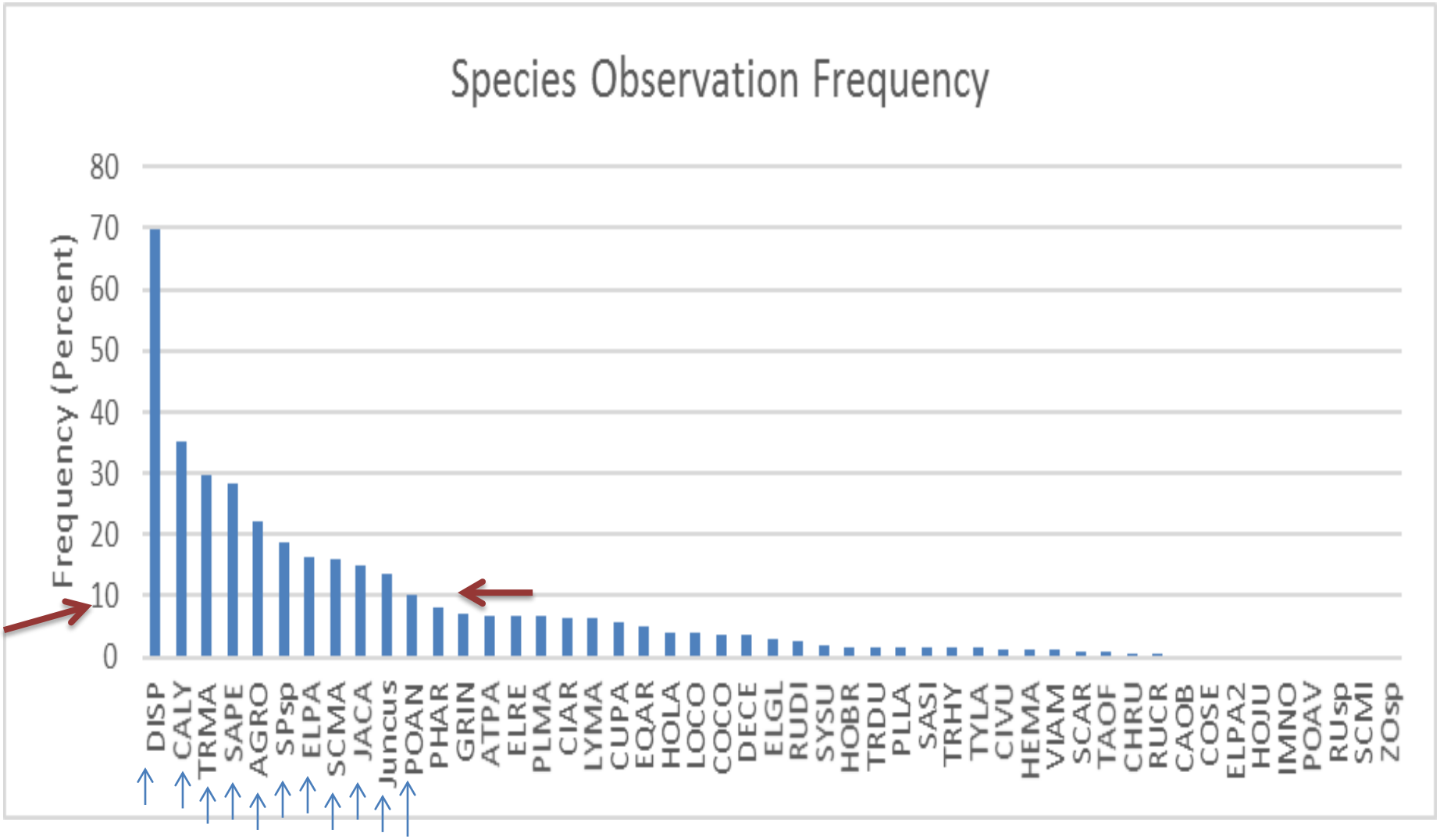
Monitoring



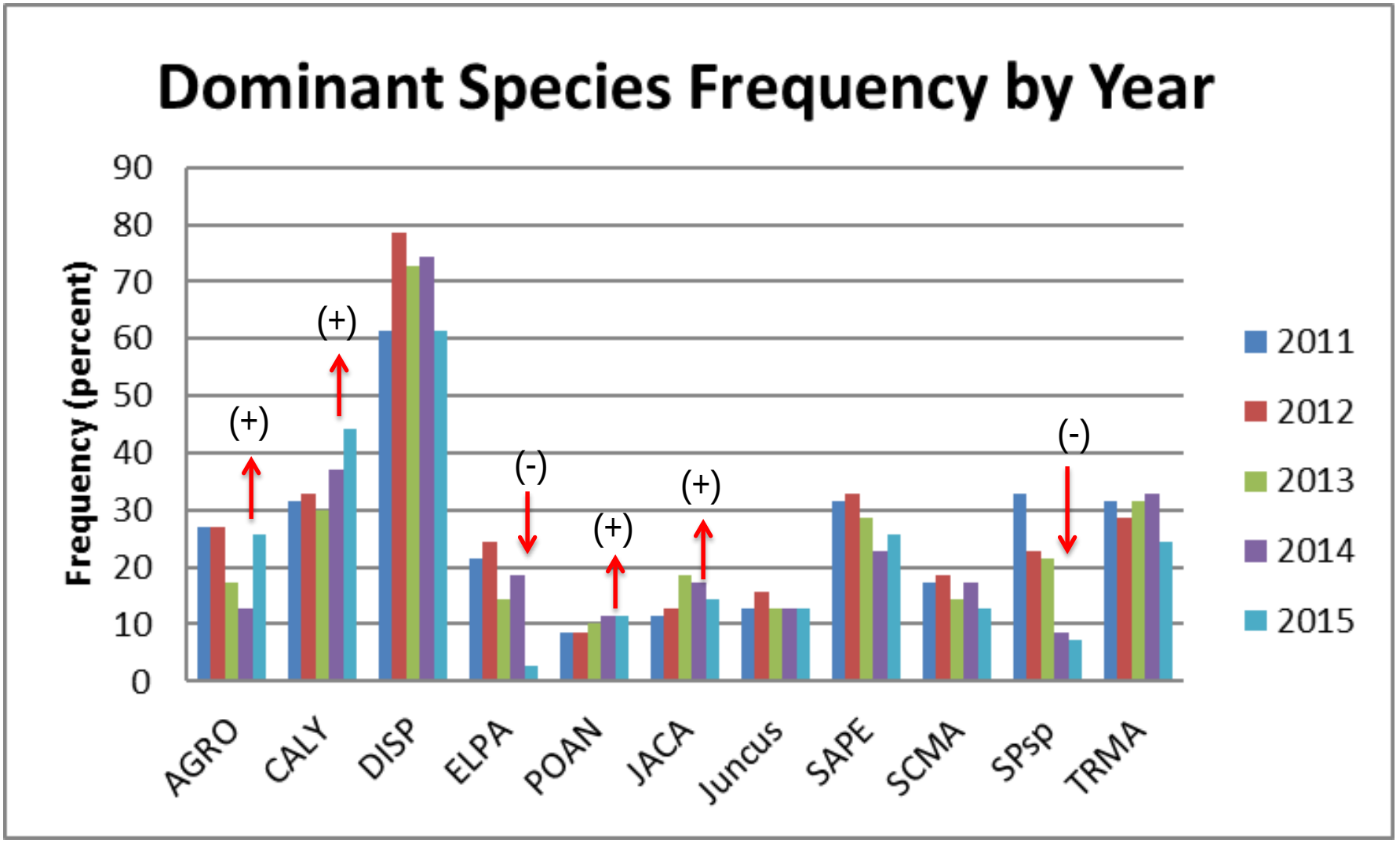
Monitoring - Vegetation



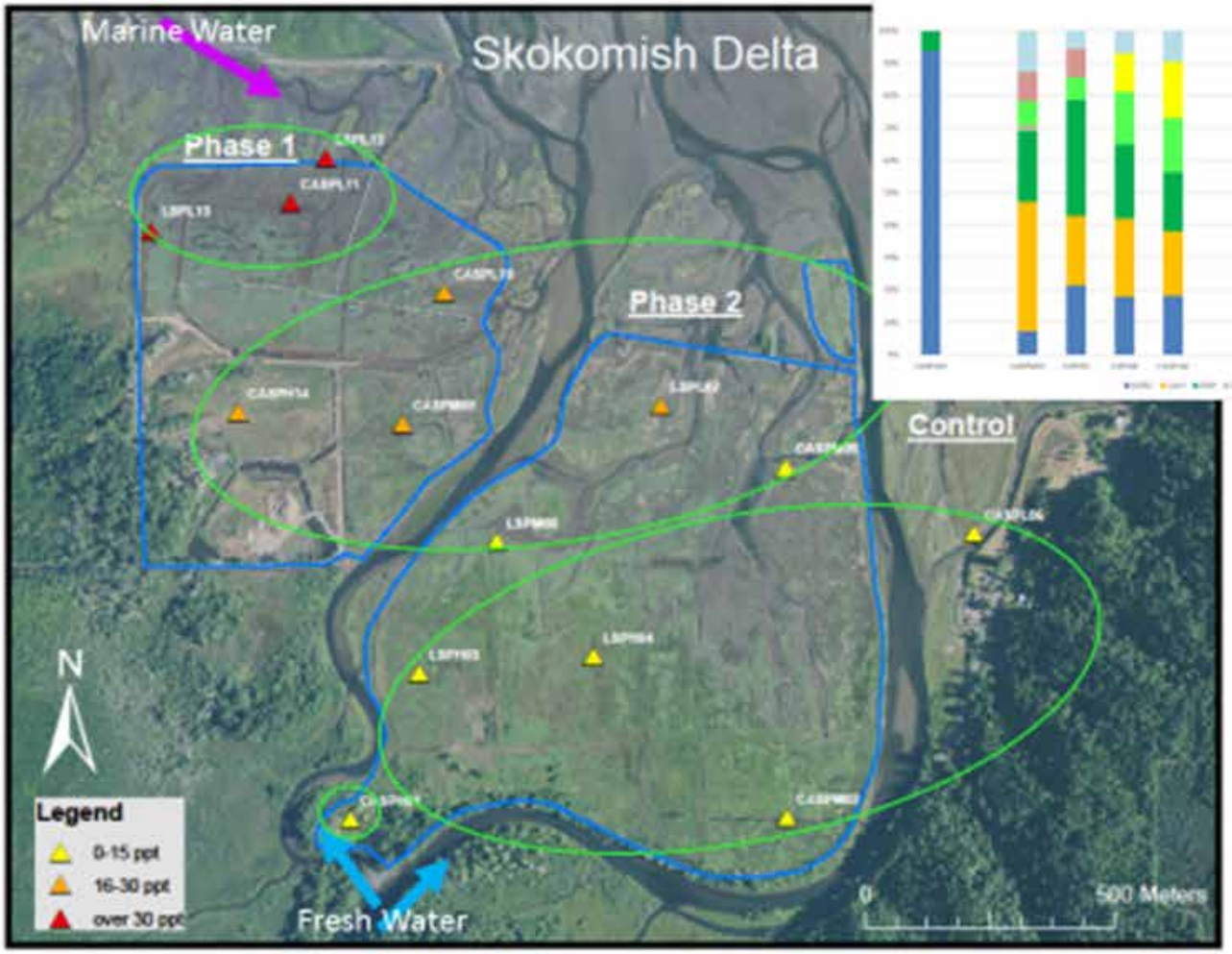
Monitoring - Vegetation

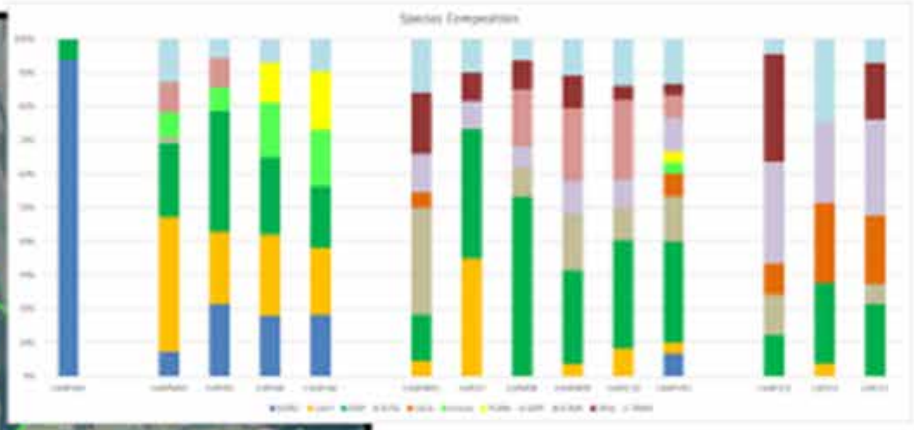


Monitoring - Vegetation



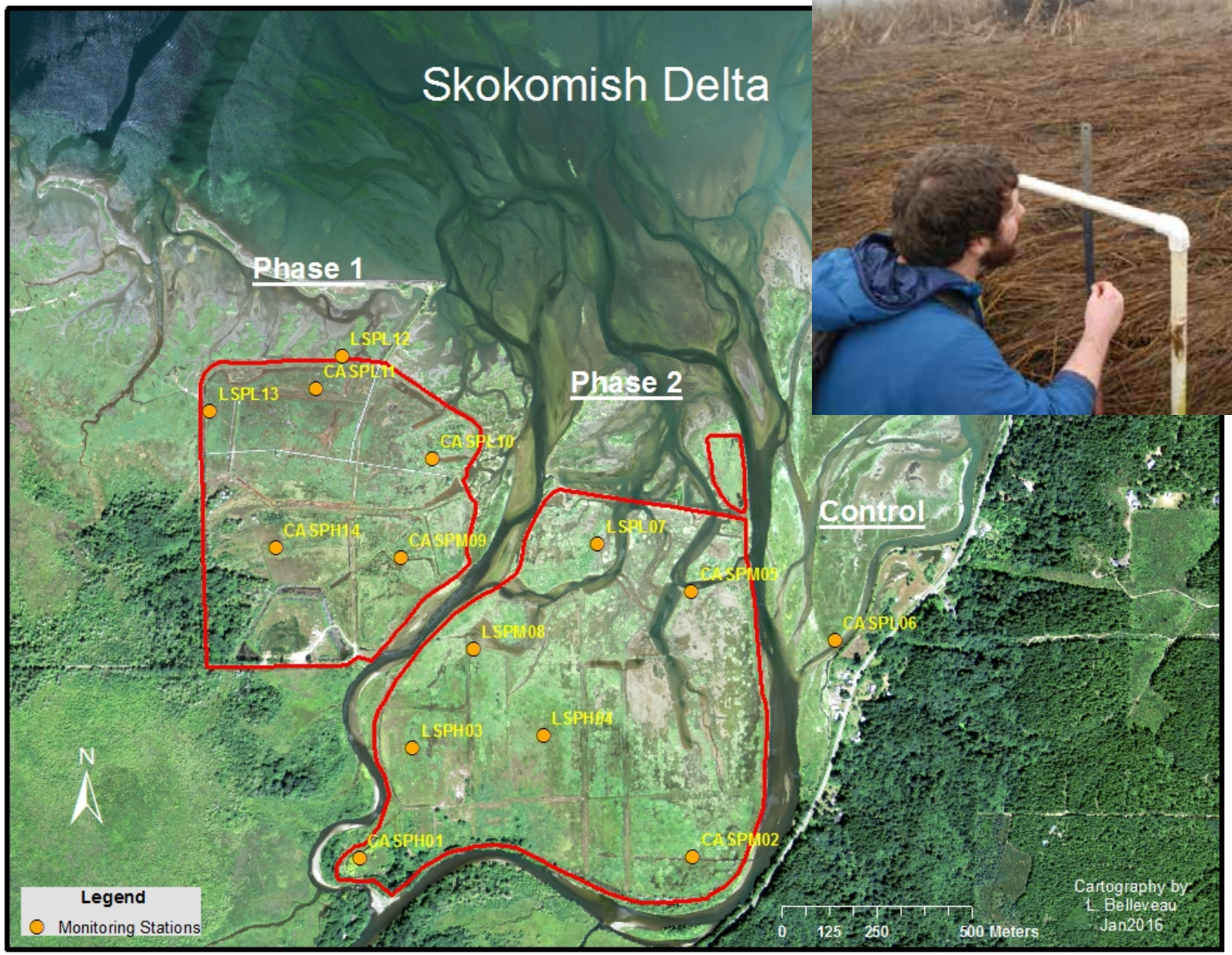
Monitoring - Vegetation



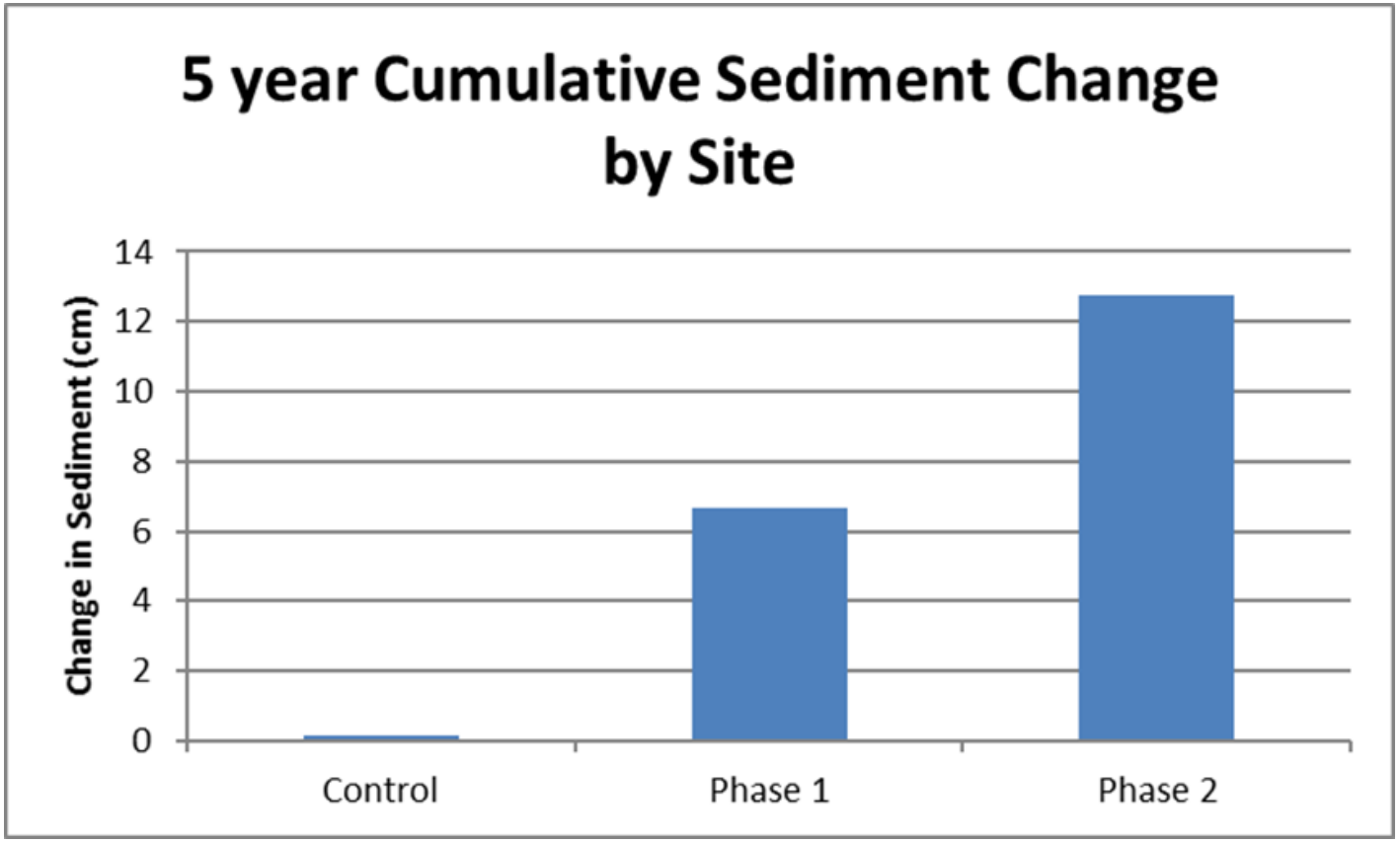


Like transects linked to salinity differences

Monitoring - Sediment



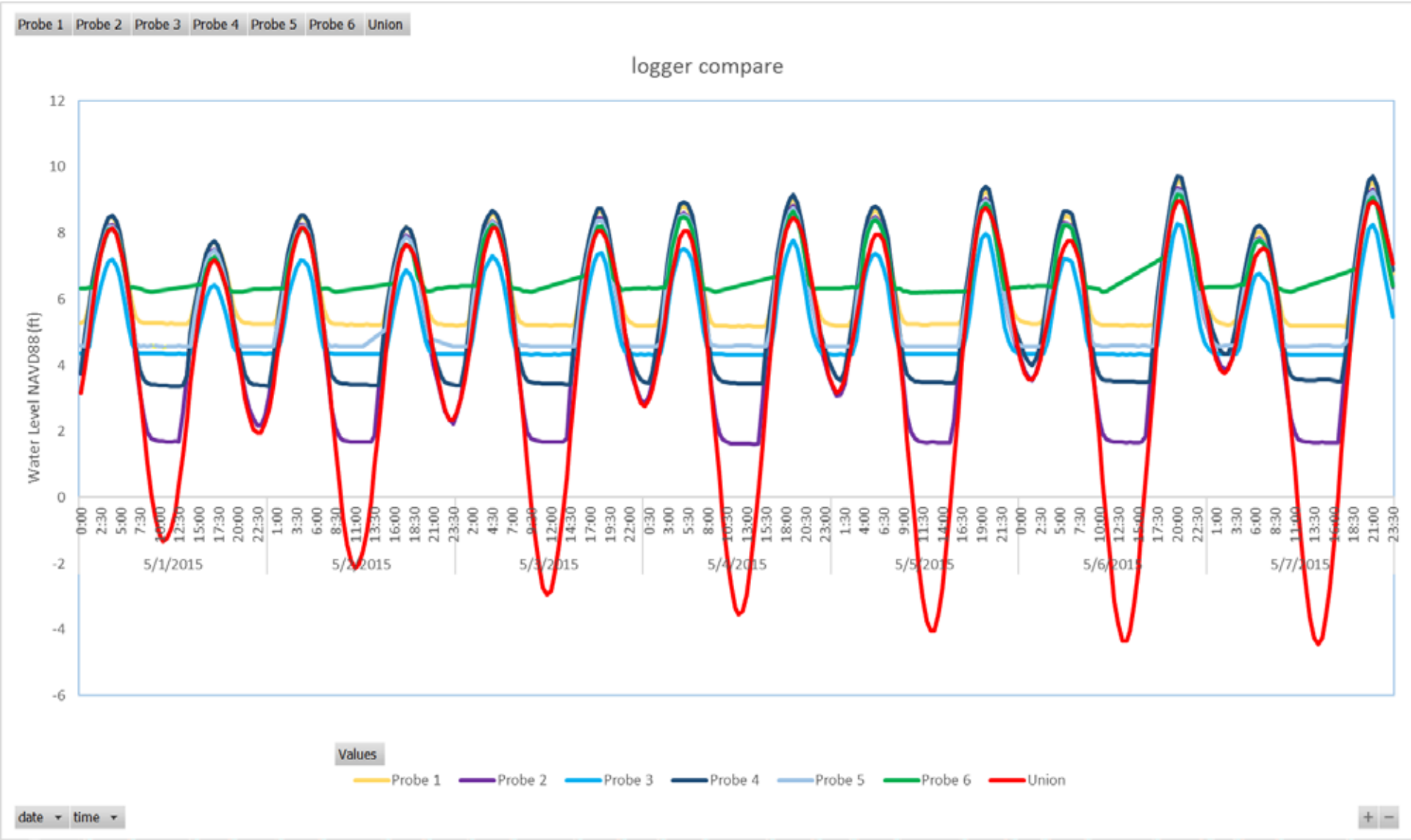
Monitoring - Sediment

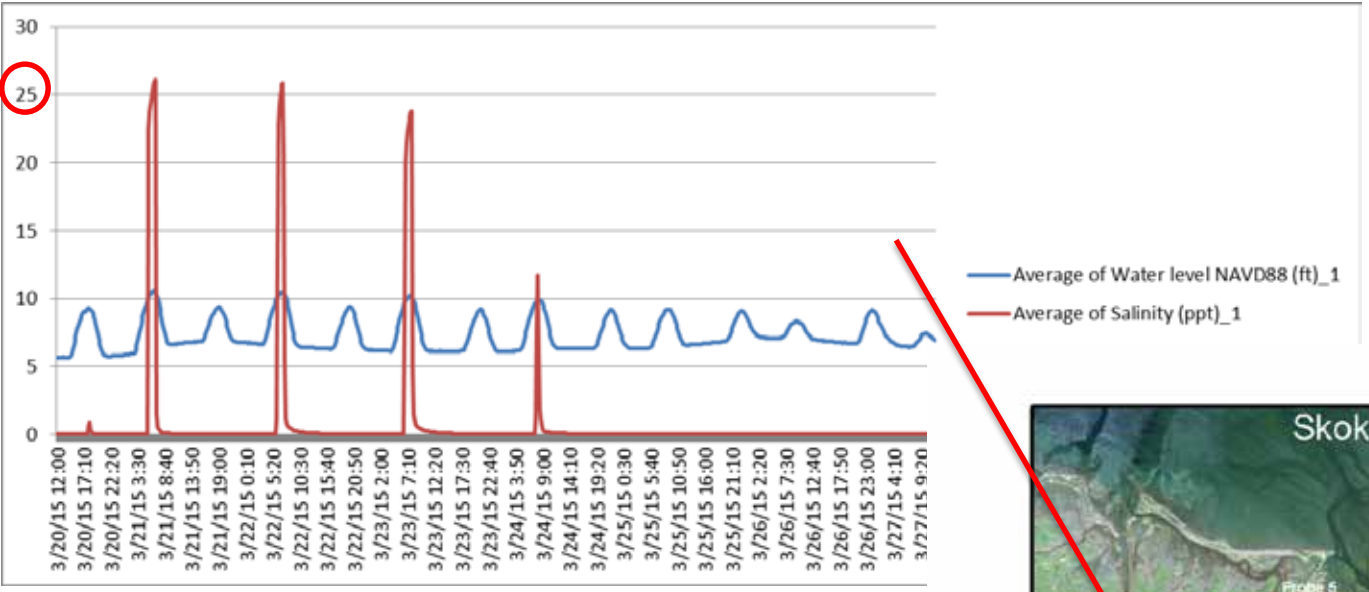


- Control site remains at equilibrium as expected
- Over time restoration sites should move towards equilibrium
- Phase 2: taller vegetation and proximity to river help trap more sediment
- 5yr total accretion 19.54cm

Monitoring – Water Probes

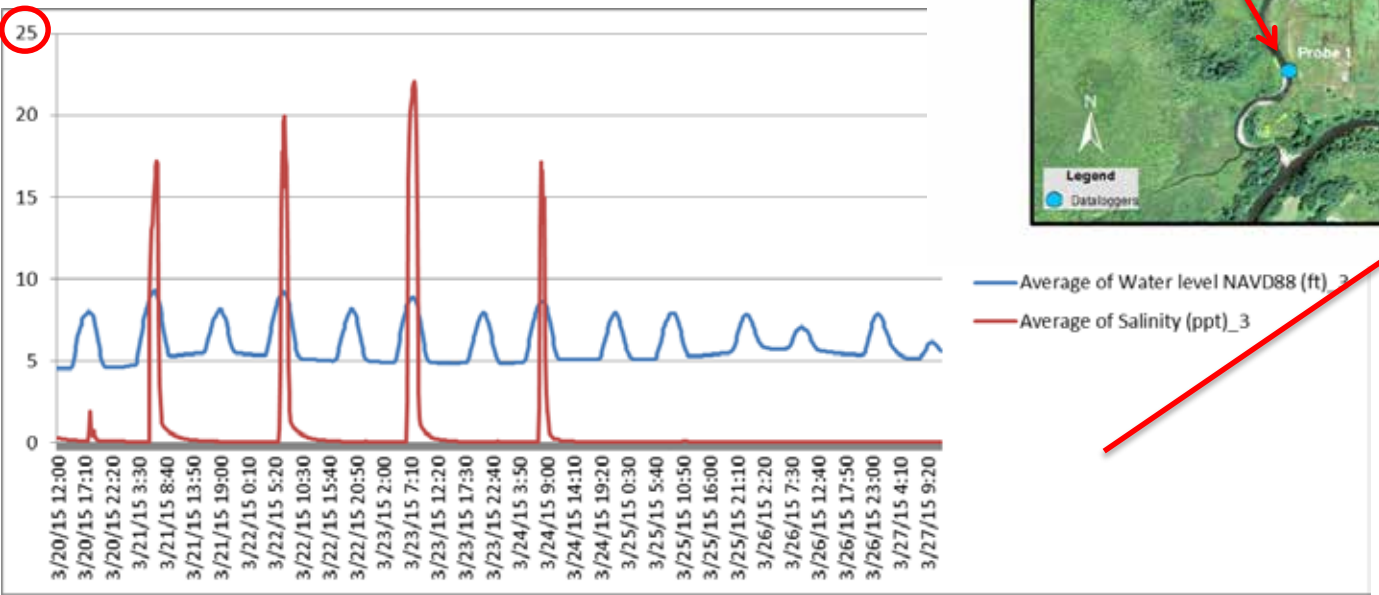
Monitoring – Water Probes



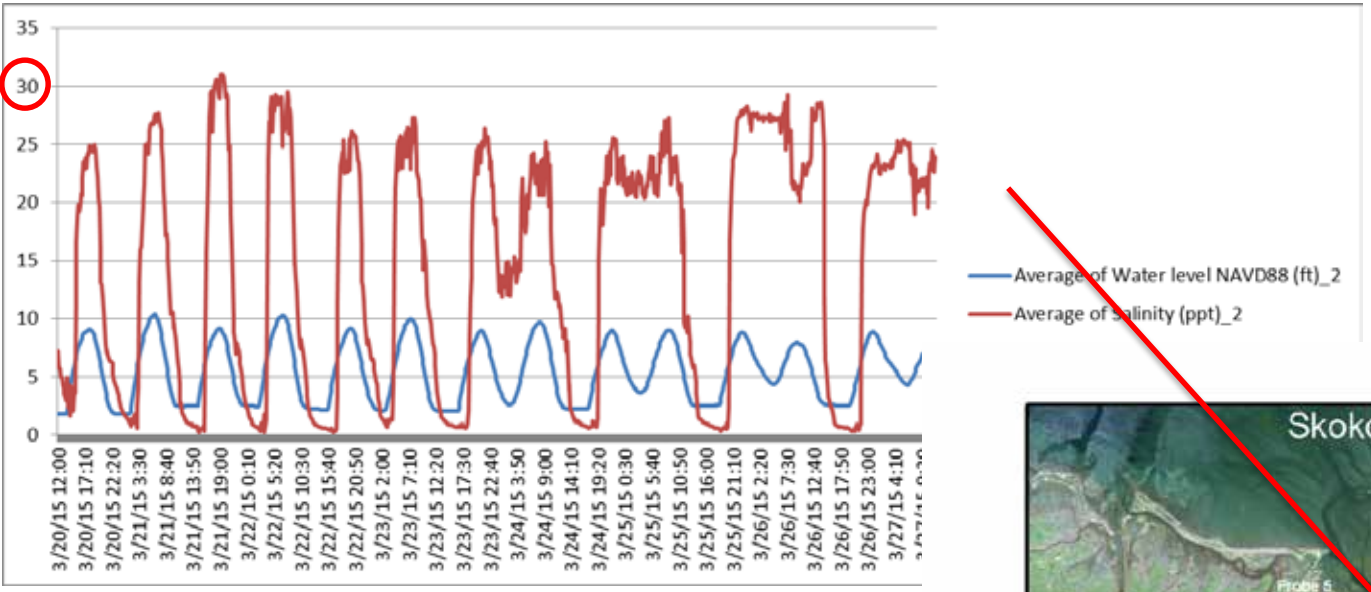


Salinity peaks at 10’ tide or above

Freshwater Probes

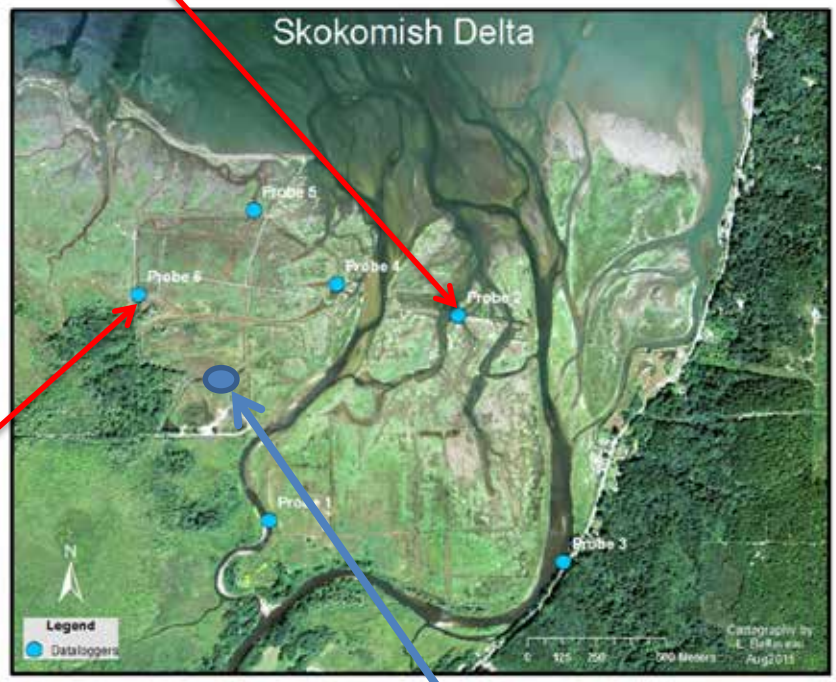


Probe 3 more river influence shown by lower salinity peak



Salinity peaks with every tide

Saltwater Probes



Additional probe to detect extent of saltwater intrusion into Phase 1

Monitoring - Fish

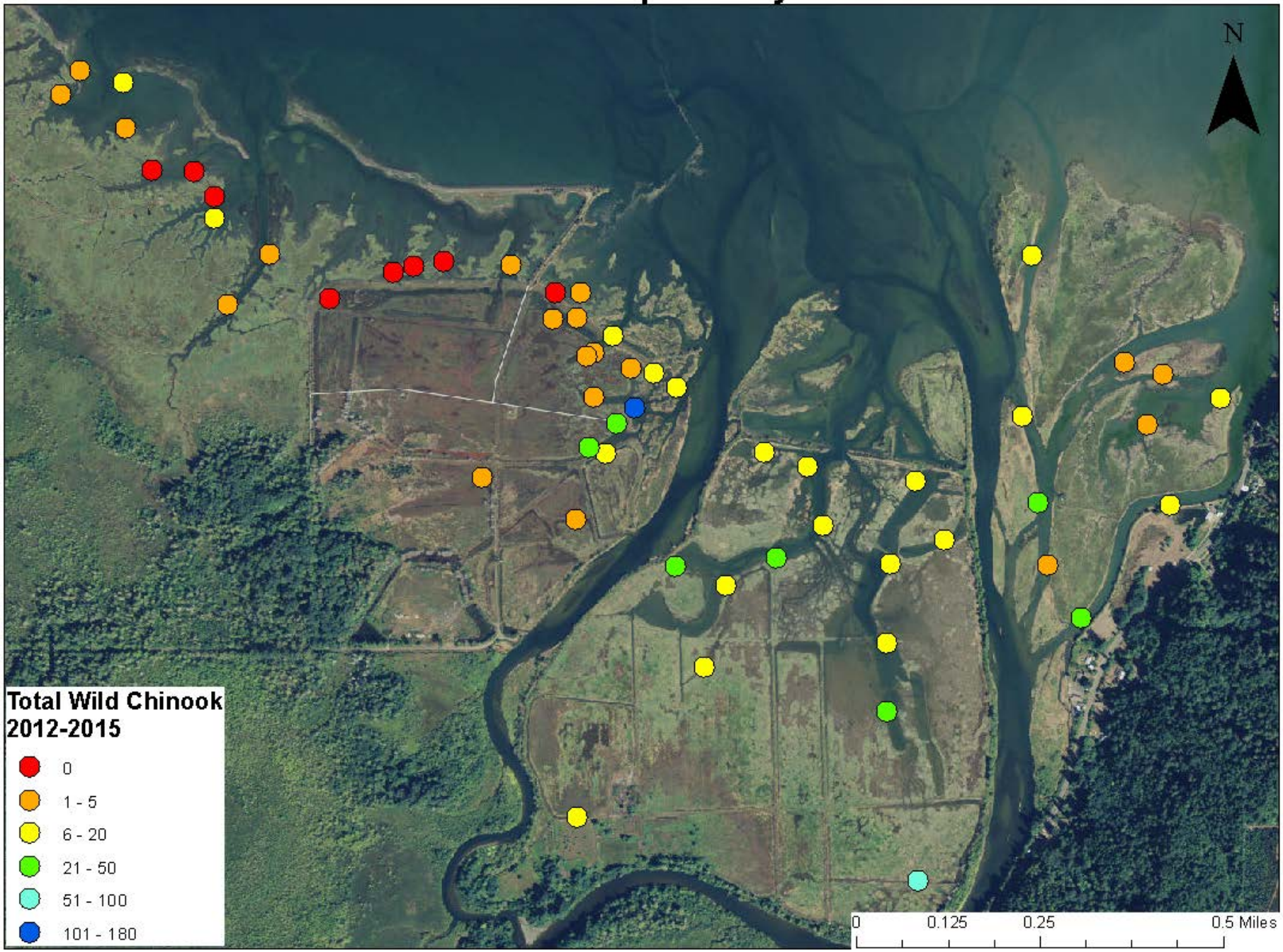
- 2 Control areas
- 2 Restoration areas

- Monthly Beach Seining

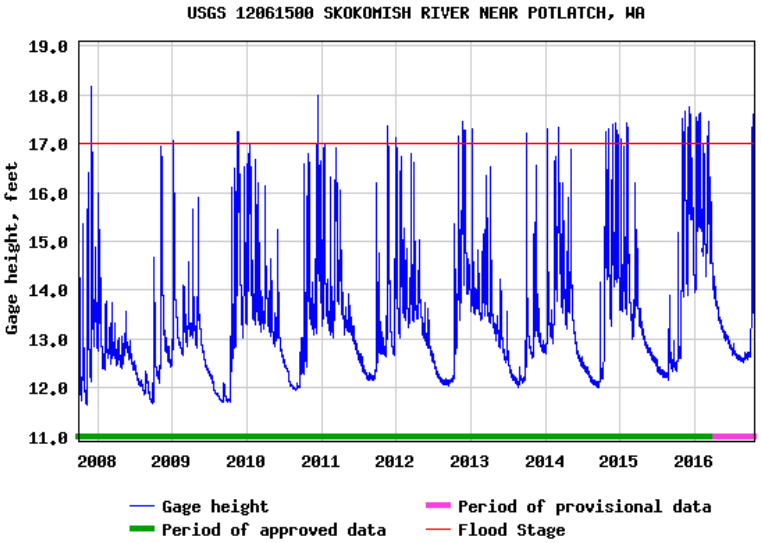
2012 Presence of Wild Chinook in Area by Month

Month	Restoration 1	Restoration 2	Control 1	Control 2
January	Yes	Yes	Yes	No
February	Yes	Yes	Yes	No
March	Yes	Yes	Yes	Yes
April	Yes	Yes	No	Yes
May	Yes	No	No	No
June	Yes	Yes	No	Yes
July	Yes	No	No	No
August	No	No	No	No
September	No	No	No	No
October	No	No	No	No
November	No	No	No	No
December	No	Yes	Yes	No
Total Months Present	**7**	**6**	**4**	**3**

Wild Chinook Captured by Site



Reduced Flooding



Skokomish Estuary Restoration Successes

- Increased estuarine habitat by almost 1000 acres
- Native salt marsh vegetation increasing
- Overall sediment accreting
- Water probes establishing baselines to track changes and impacts due to SLR
- Endangered Chinook utilizing the restoring habitat
- Reduced flooding impacts to the local community