

Sediment Dynamics at the Island Ponds: Indications from Early Salt Pond Restoration

John Callaway: USF

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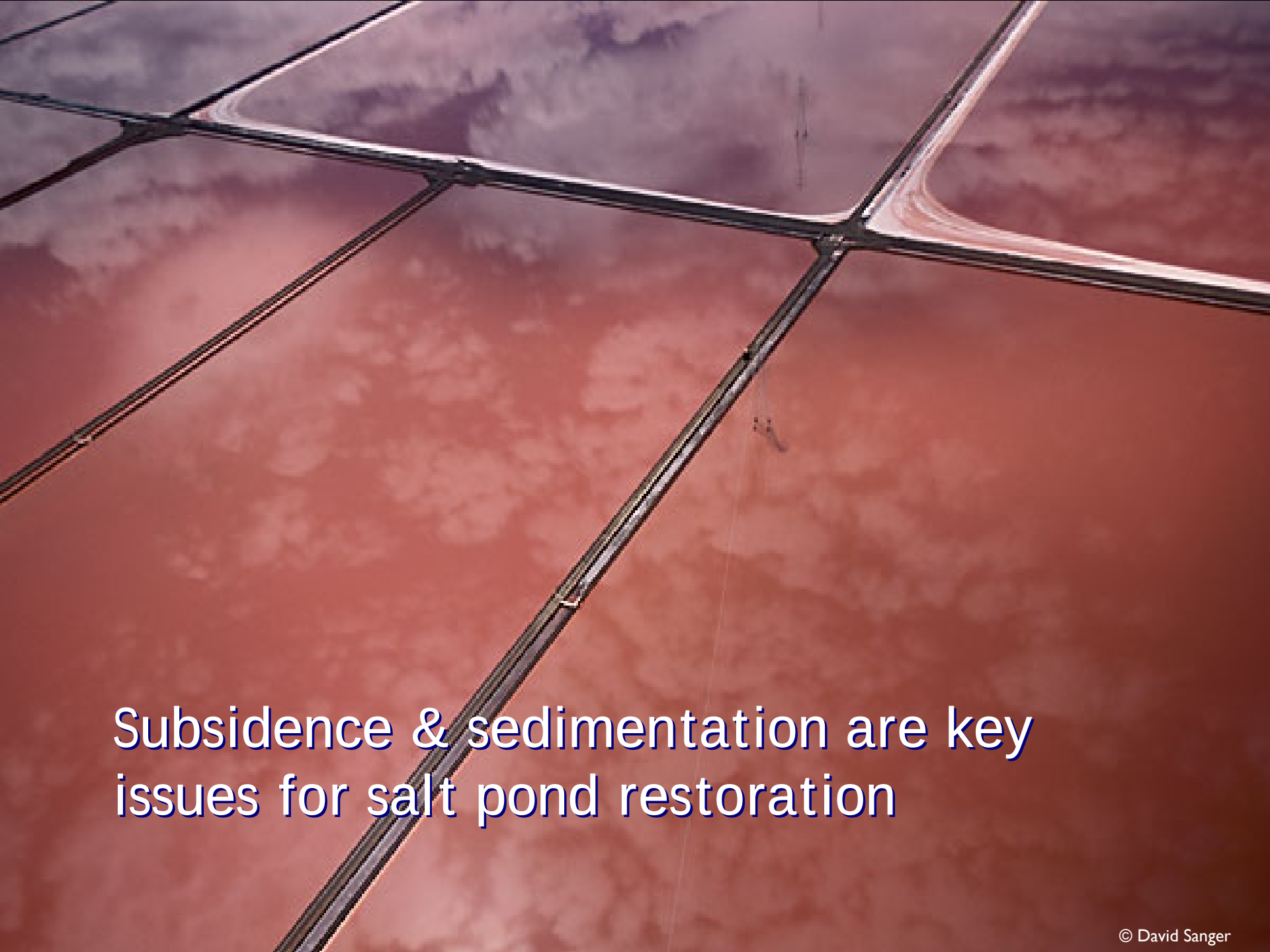
Ellen Herbert: SFSU

Evyan Borgnis: USF

Lisa Porcella: SCVWD

Donna Ball: HT Harvey & Assoc.

Ellery Mayence: HT Harvey & Assoc.

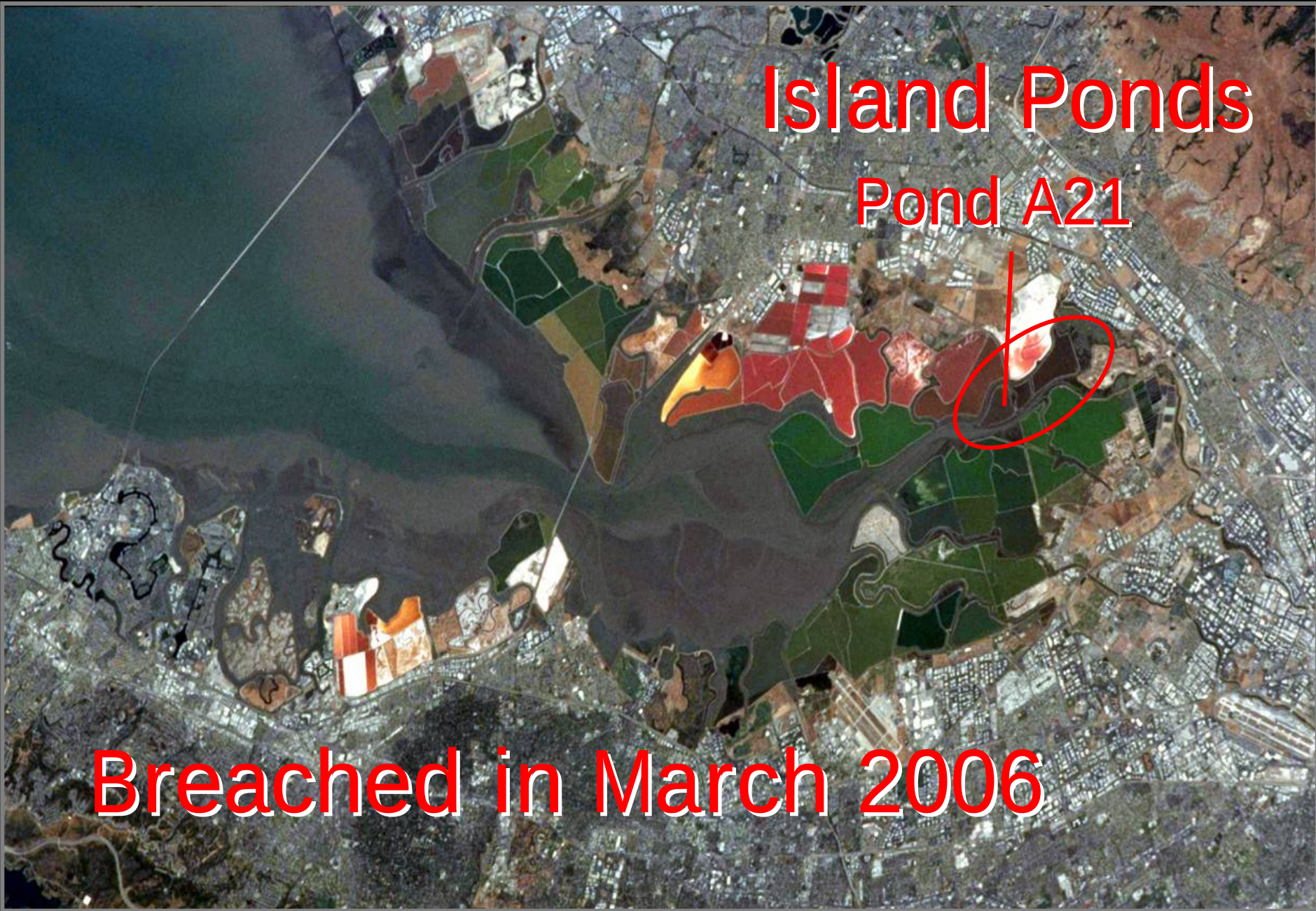
An aerial photograph of a salt pond. The pond is a large, reddish-brown body of water. It is divided into several rectangular sections by a network of black, linear structures that appear to be levees or dikes. The lines of the levees intersect at various points, creating a grid-like pattern across the pond's surface. The water has a mottled, textured appearance with varying shades of red and brown.

Subsidence & sedimentation are key
issues for salt pond restoration

Island Ponds

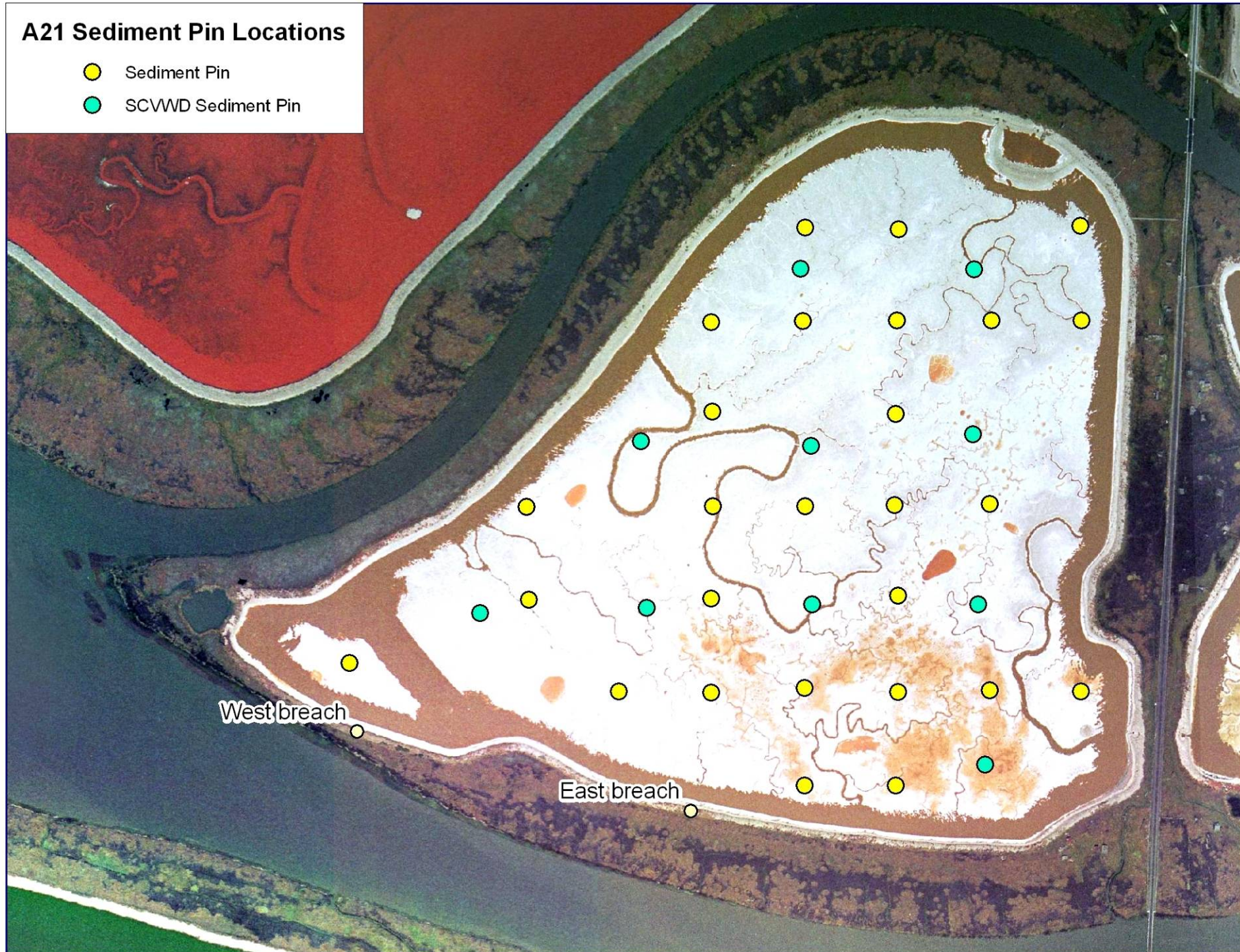
Pond A21

Breached in March 2006



A21 Sediment Pin Locations

- Sediment Pin
- SCVWD Sediment Pin







Pin Sediment Depth - 3 year data

sediment depth (mm)

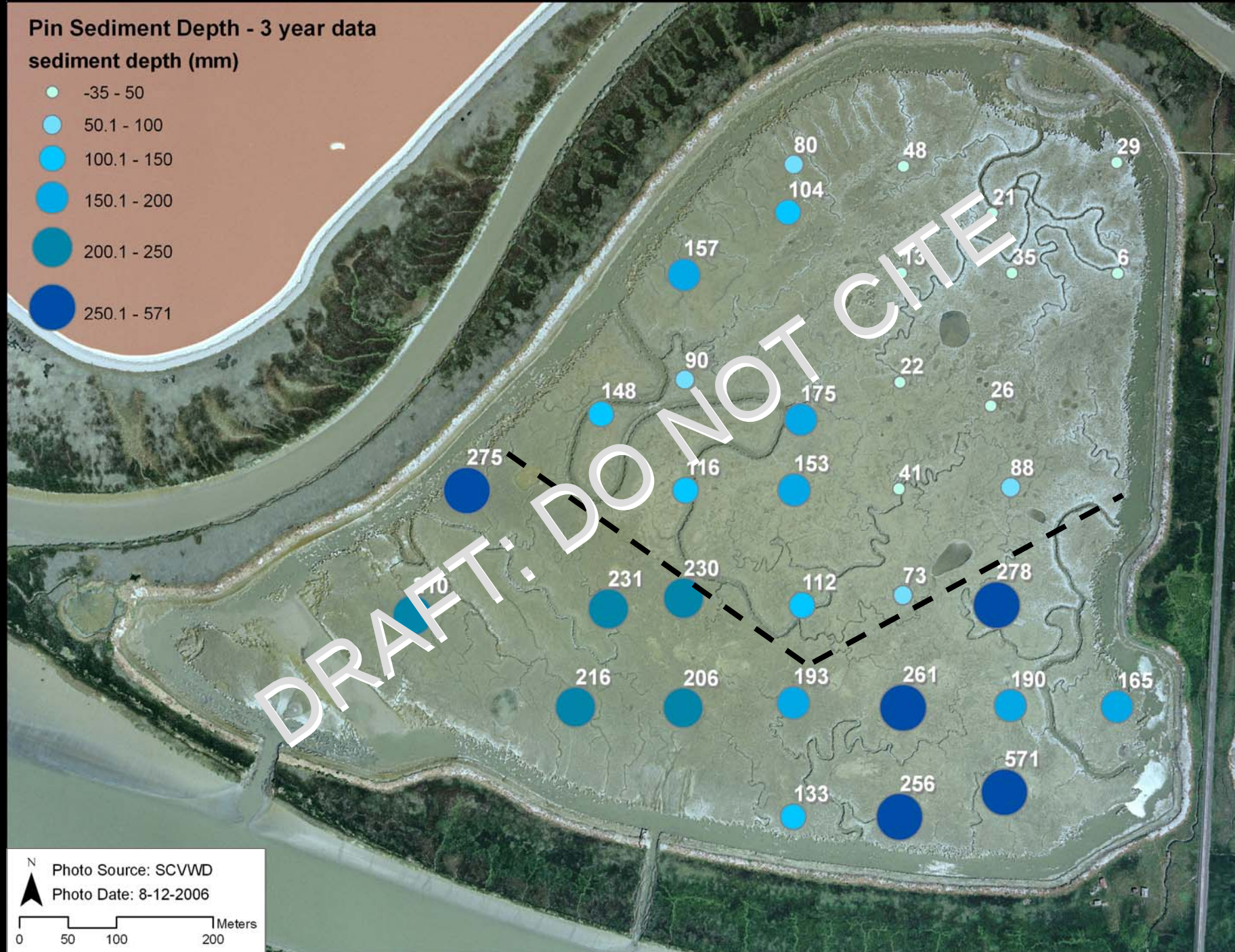
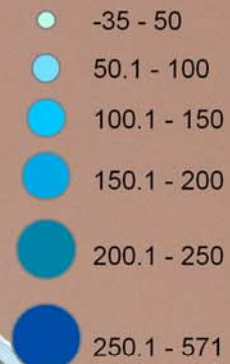
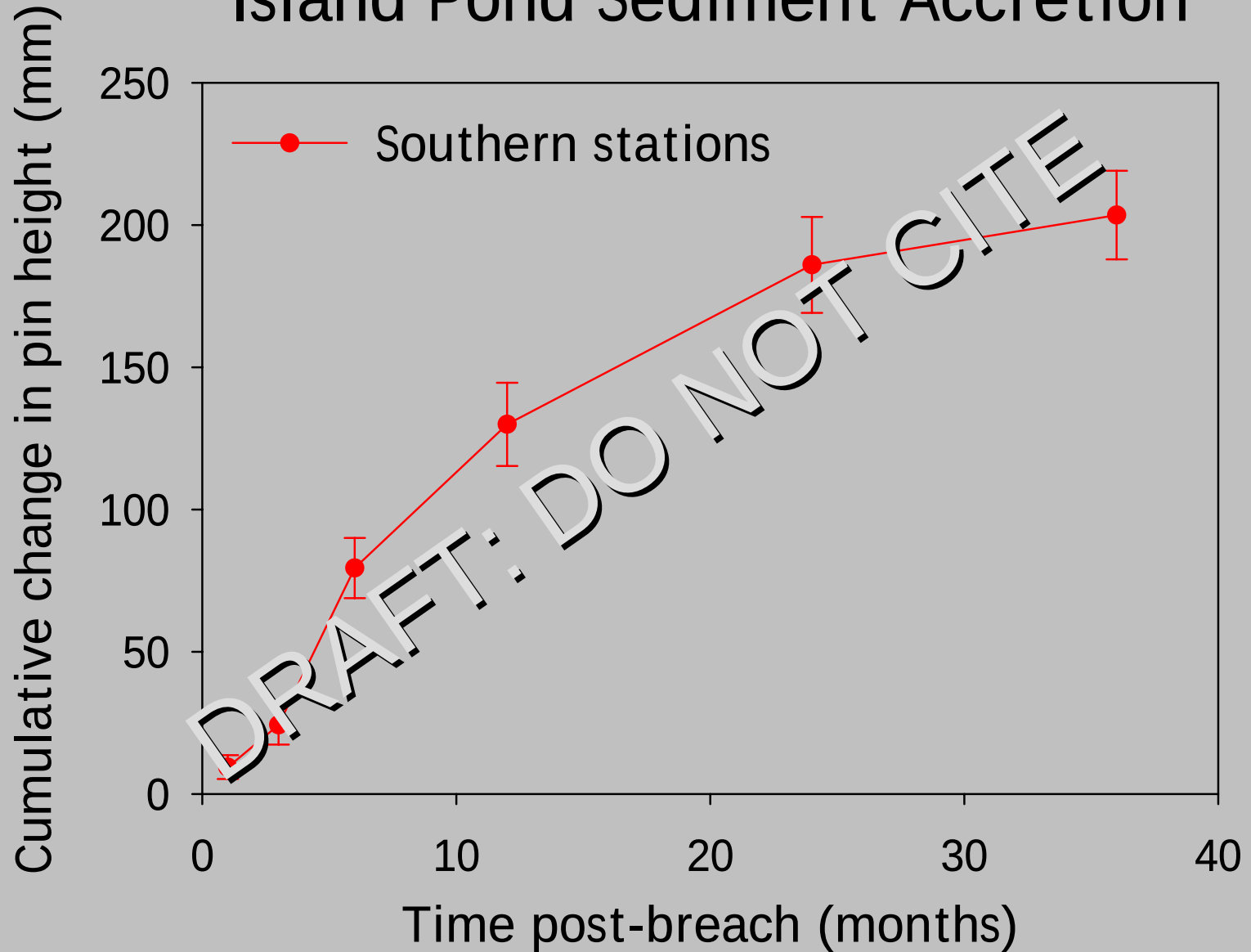


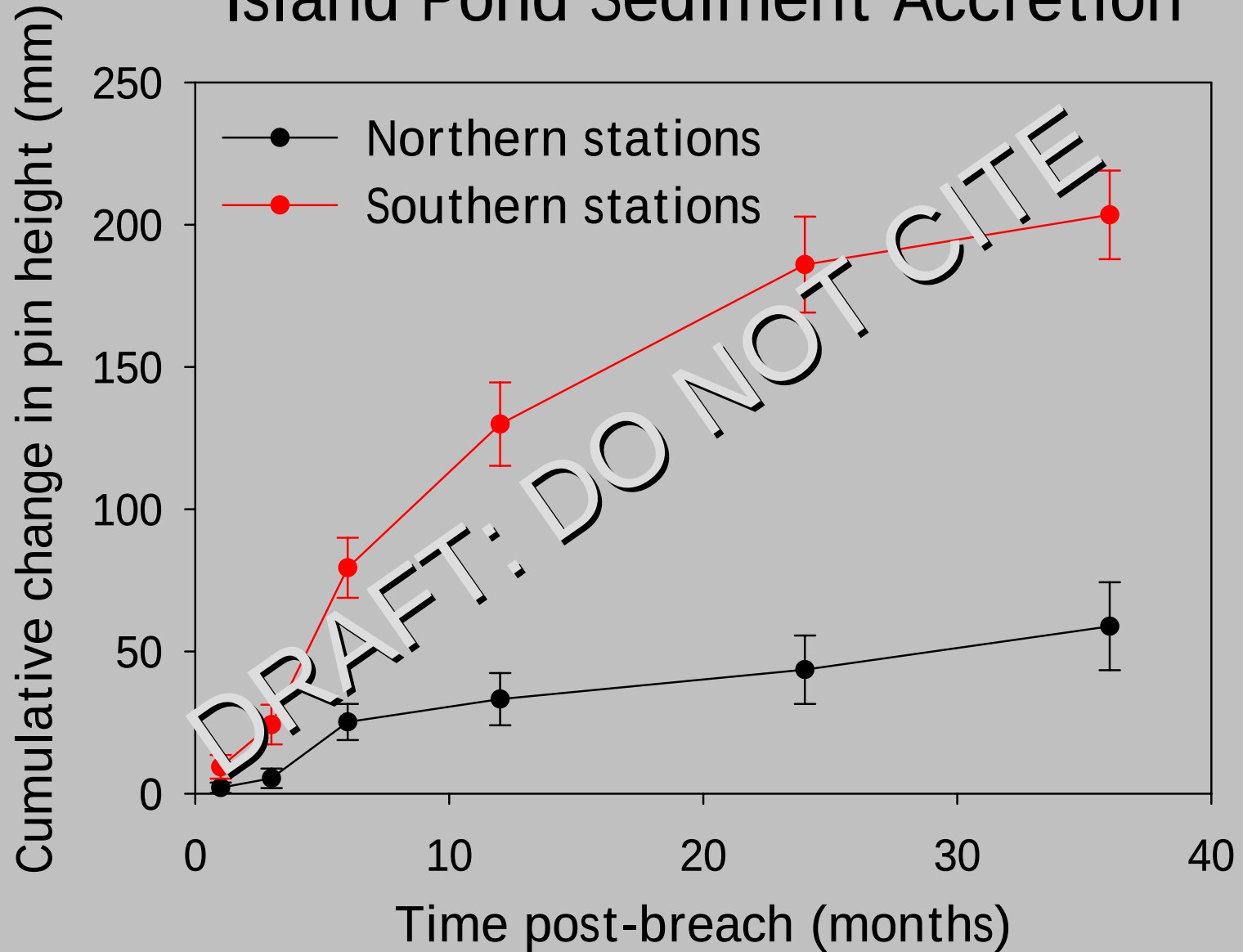
Photo Source: SCVWD
Photo Date: 8-12-2006

0 50 100 200 Meters

Island Pond Sediment Accretion



Island Pond Sediment Accretion



Pin Sediment Depth - 3 year data

sediment depth (mm)

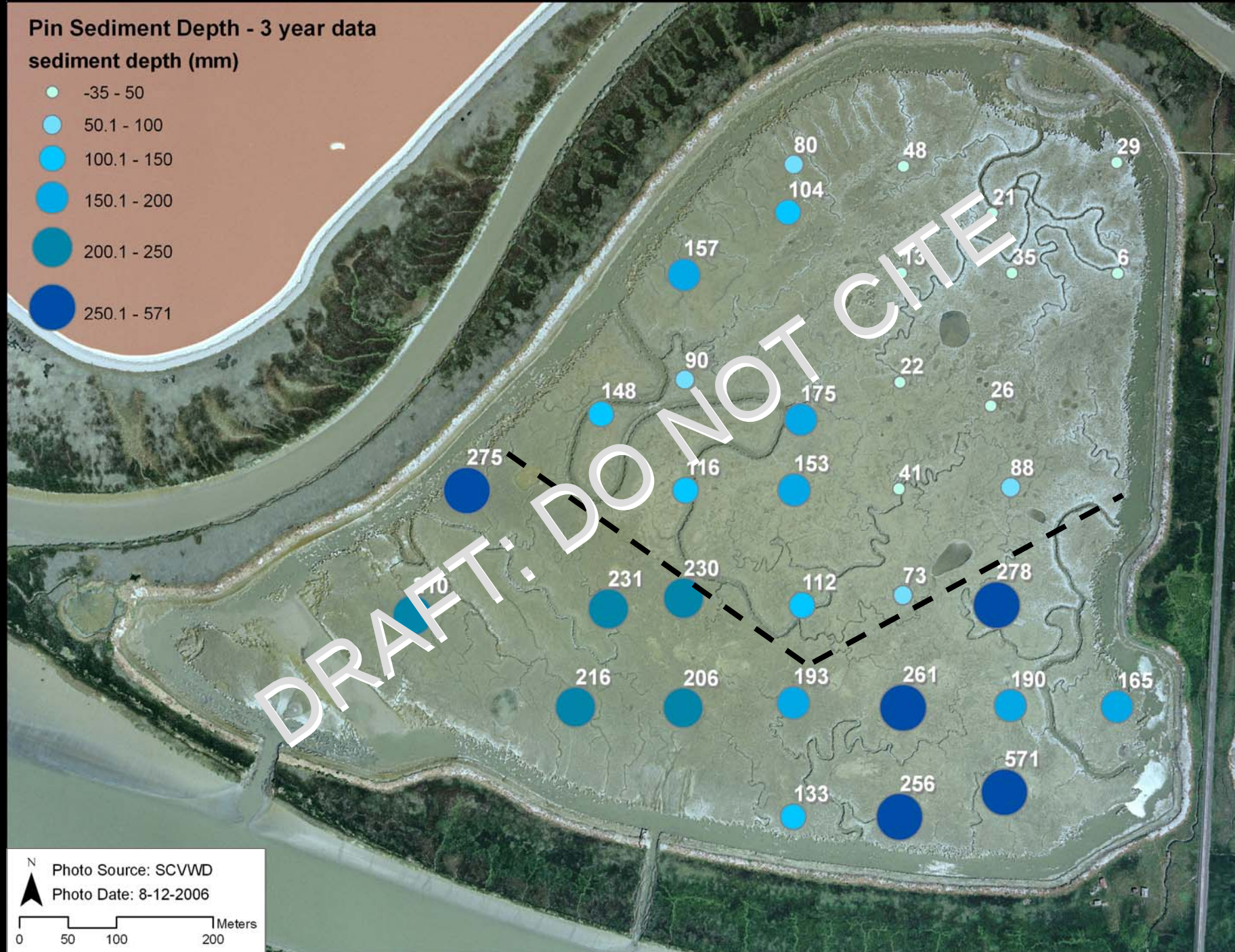
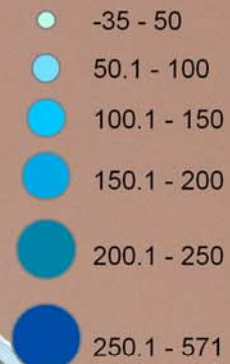
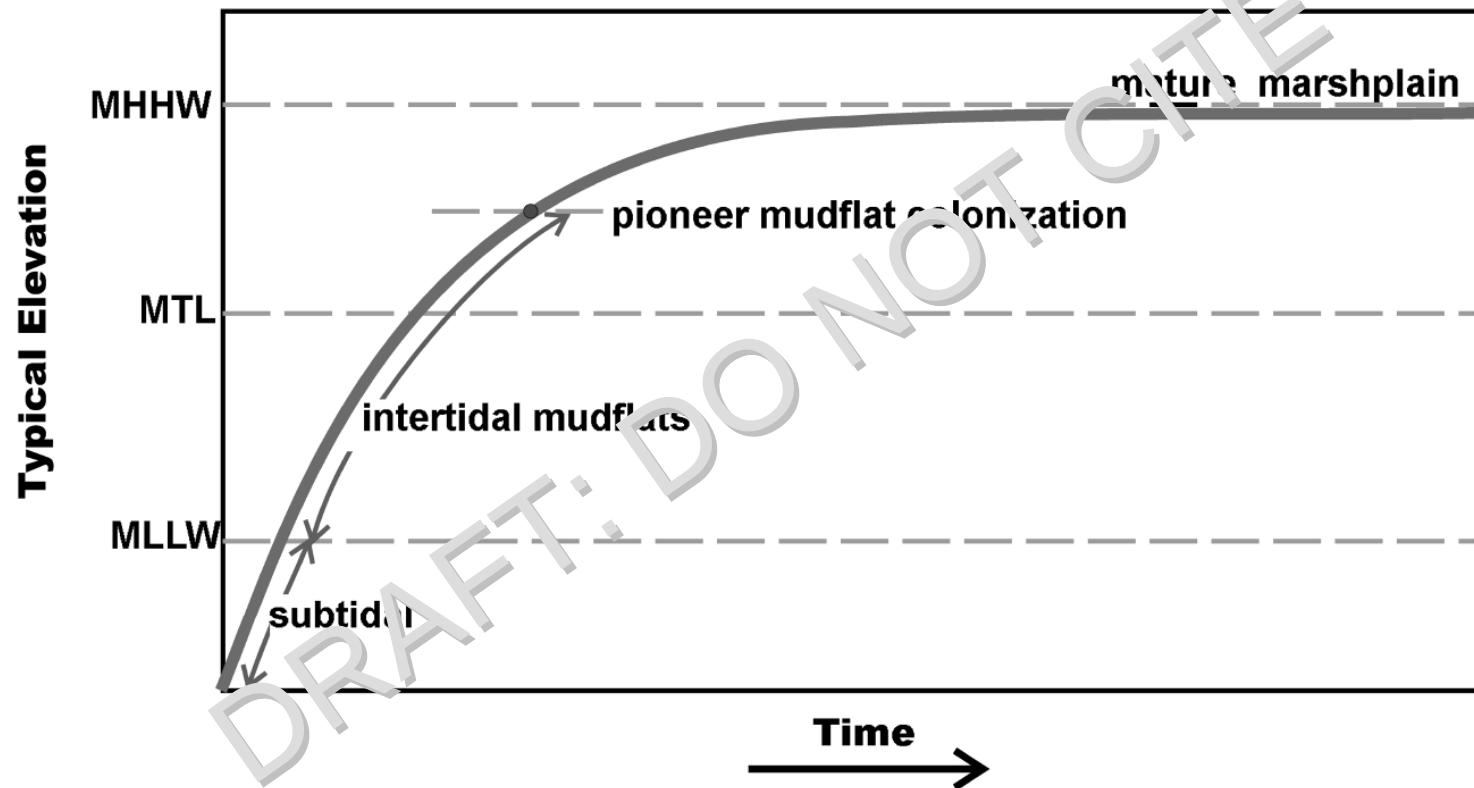


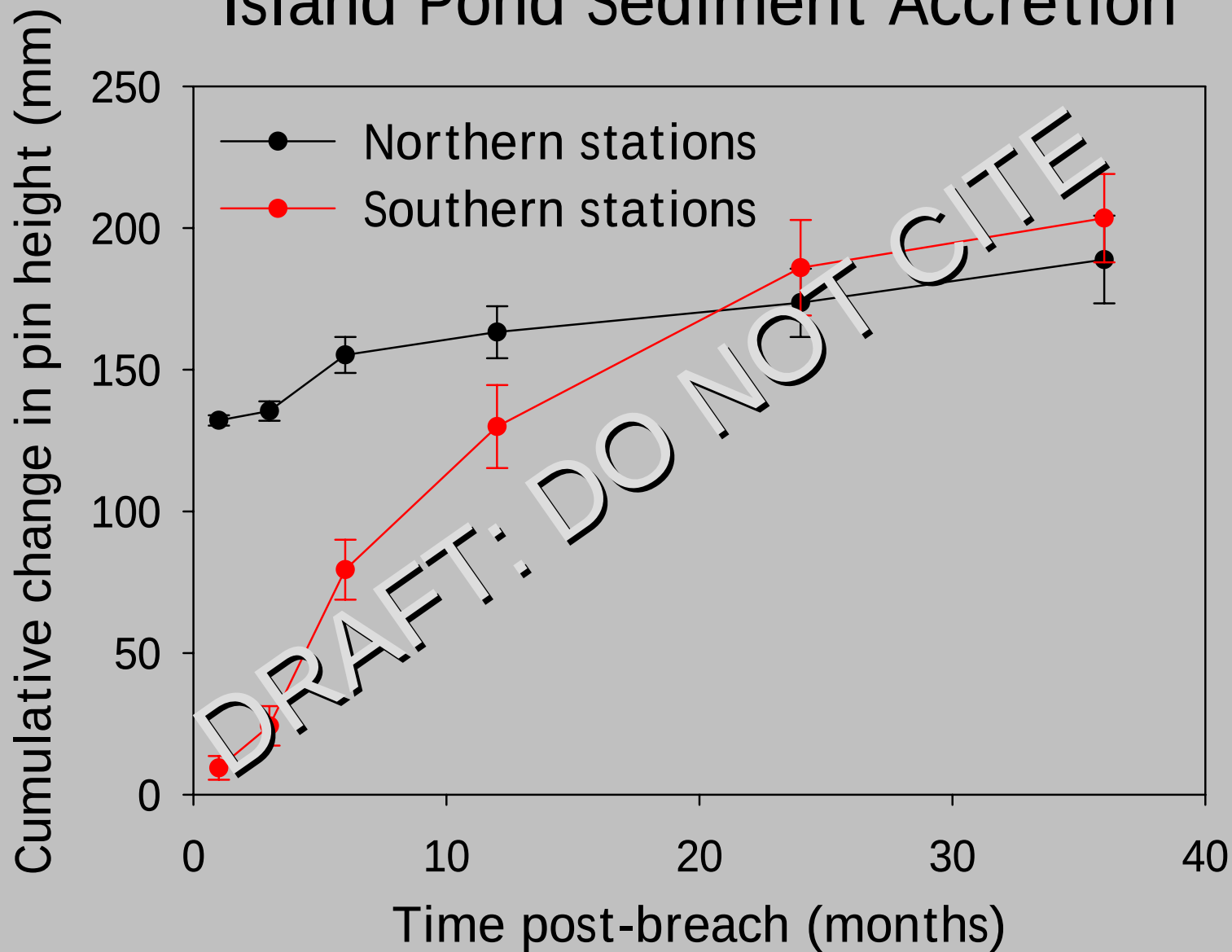
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0 50 100 200 Meters

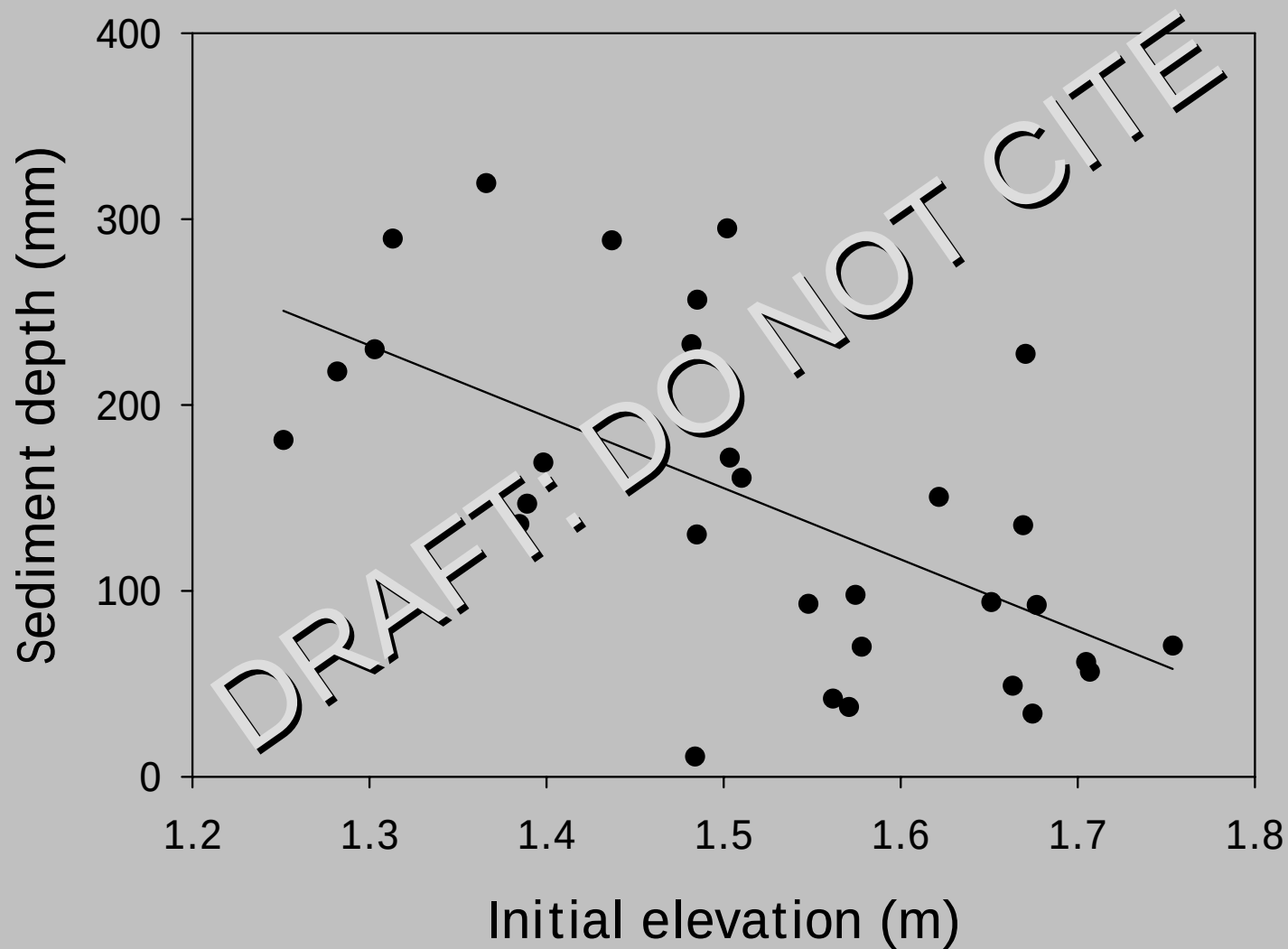


(from Williams and Orr 2002)

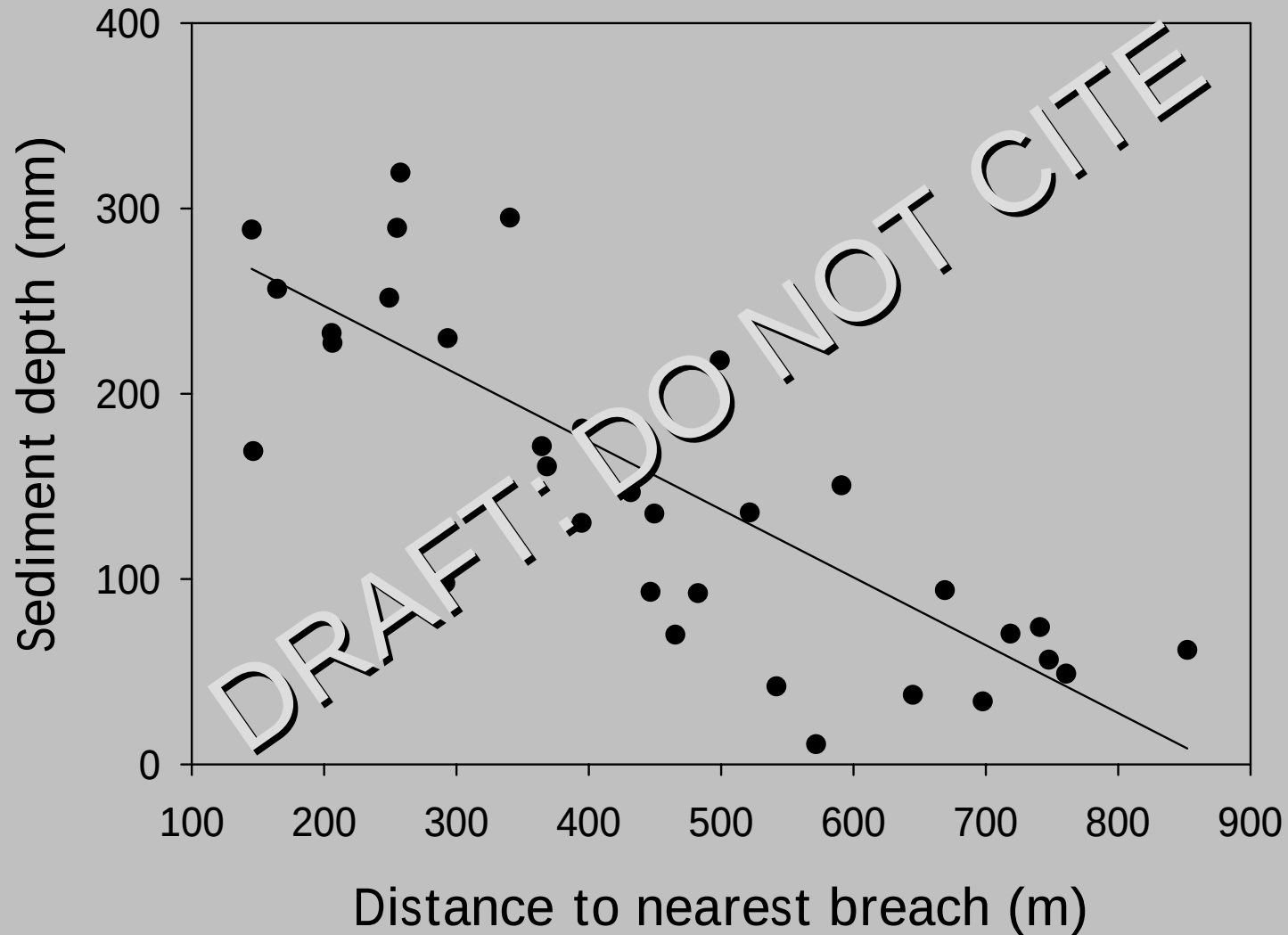
Island Pond Sediment Accretion



Sedimentation vs. Initial Elevation: Year 3

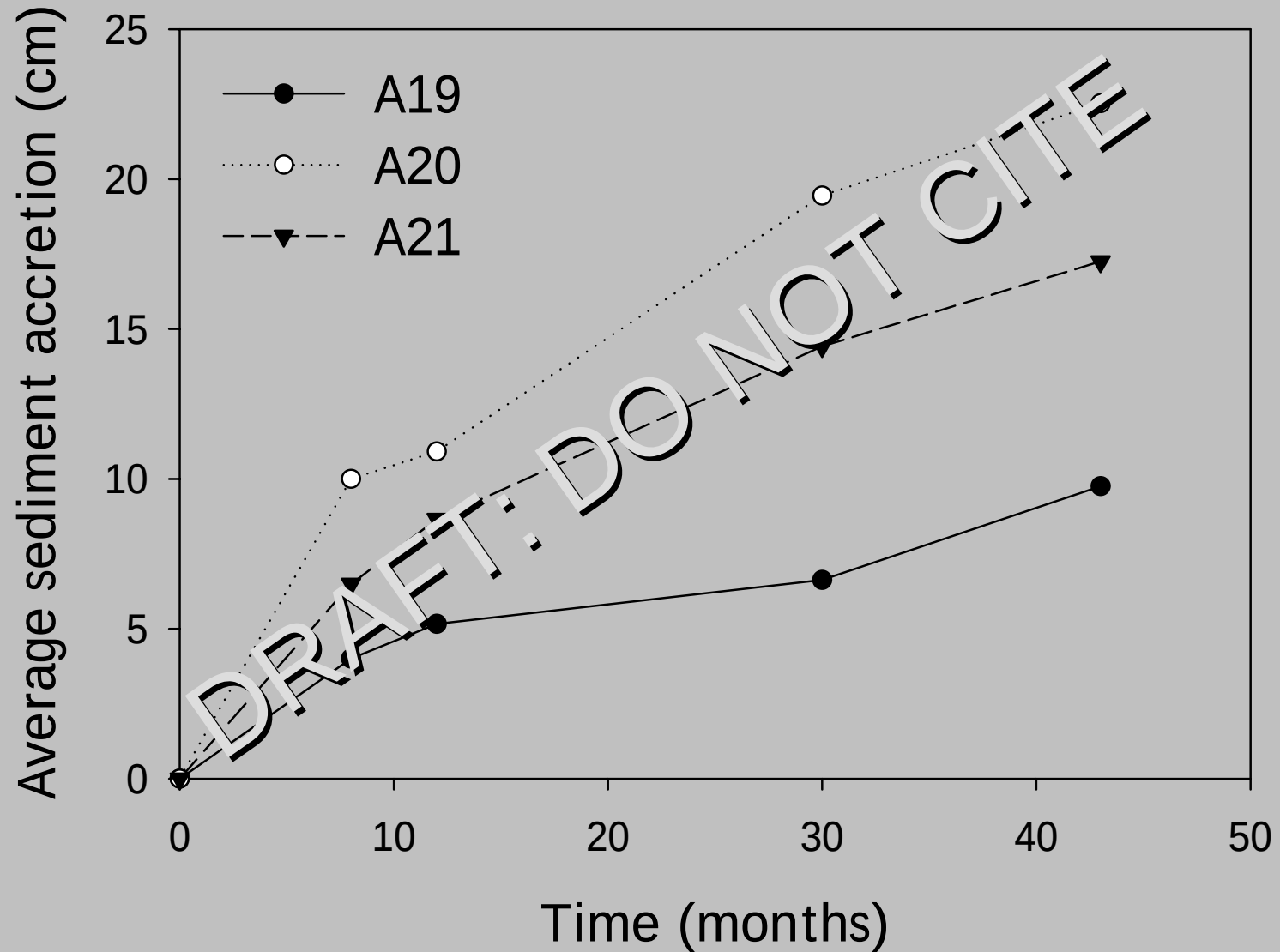


Sedimentation vs. Breach Distance: Year 3





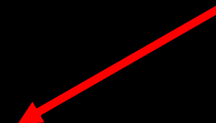
Sedimentation across Three Island Ponds



6 months



24 months



36 months



pre-restoration





Photos ©
Cris Benton



April 2008



September 2009

Salt Pond A21



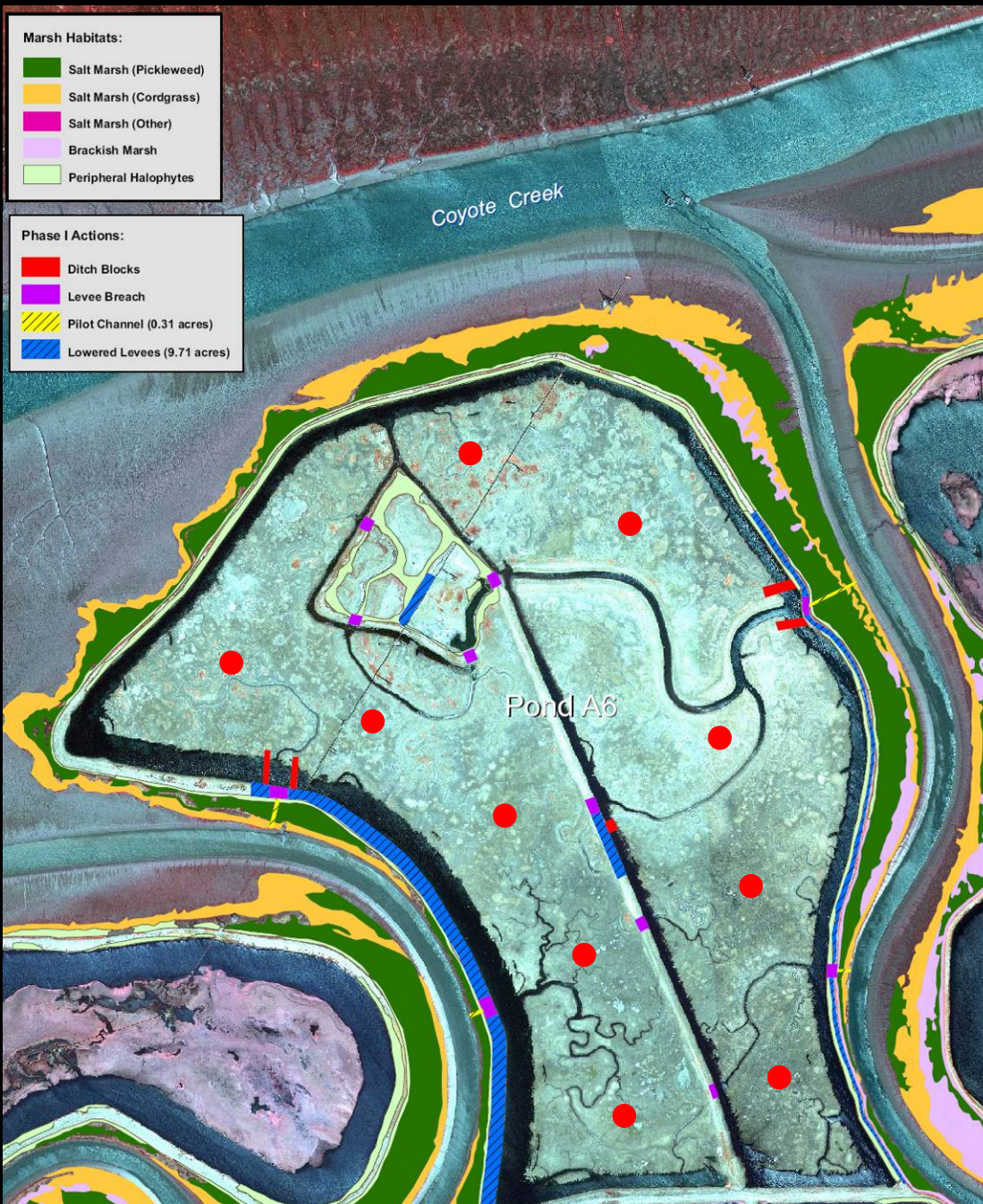
Pond A6

will be breached very soon



Pond A6

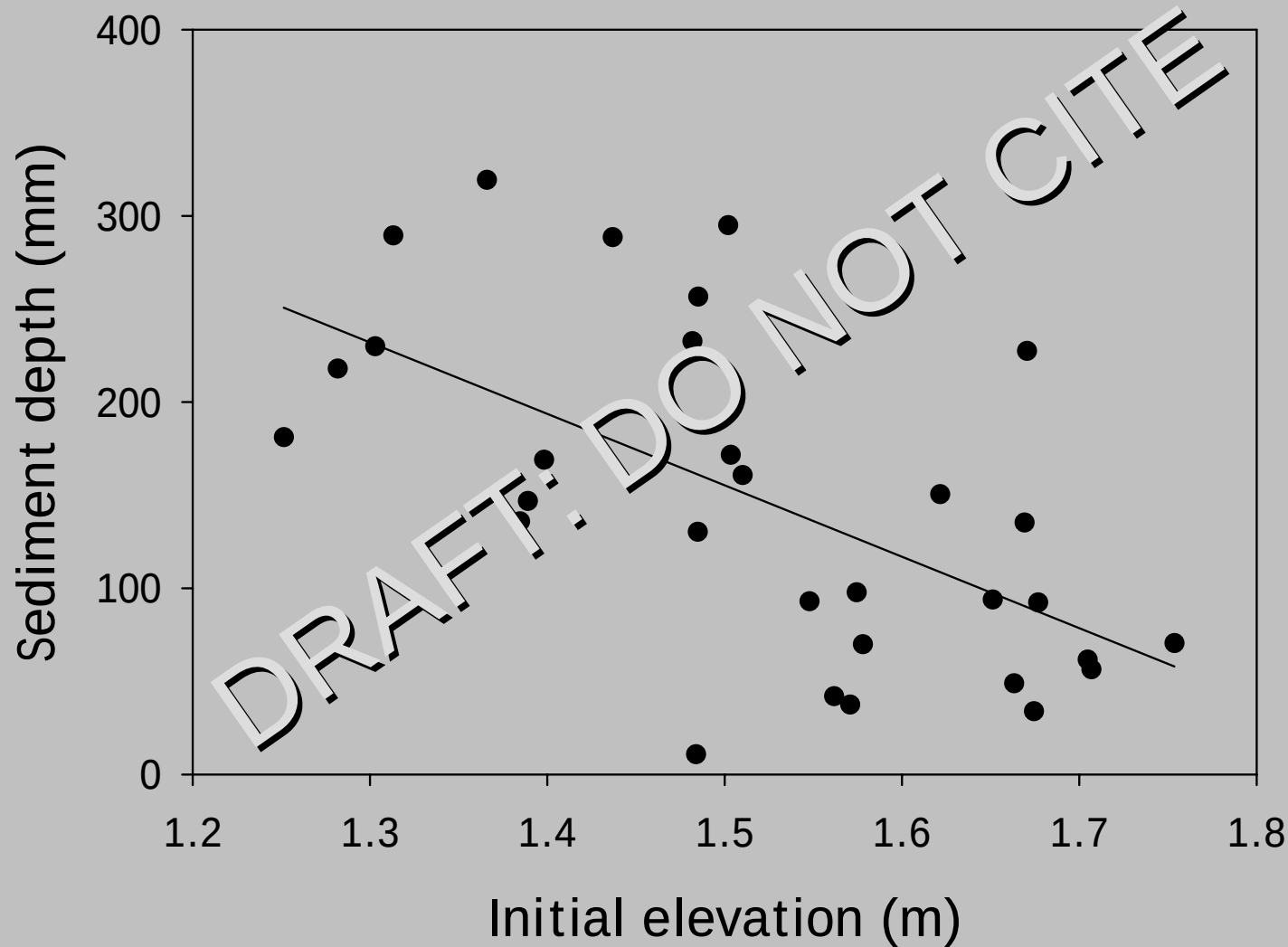
Island Ponds



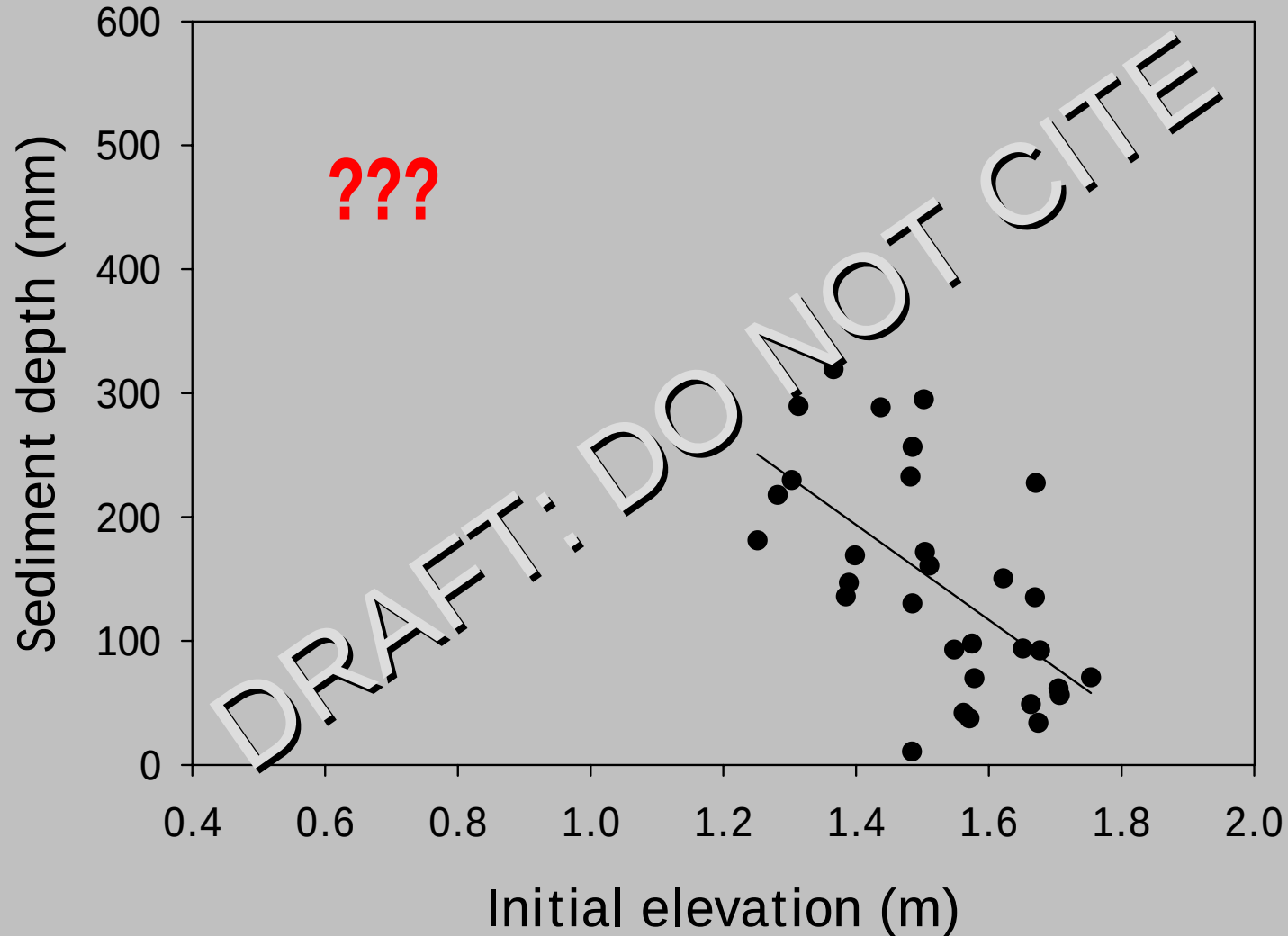


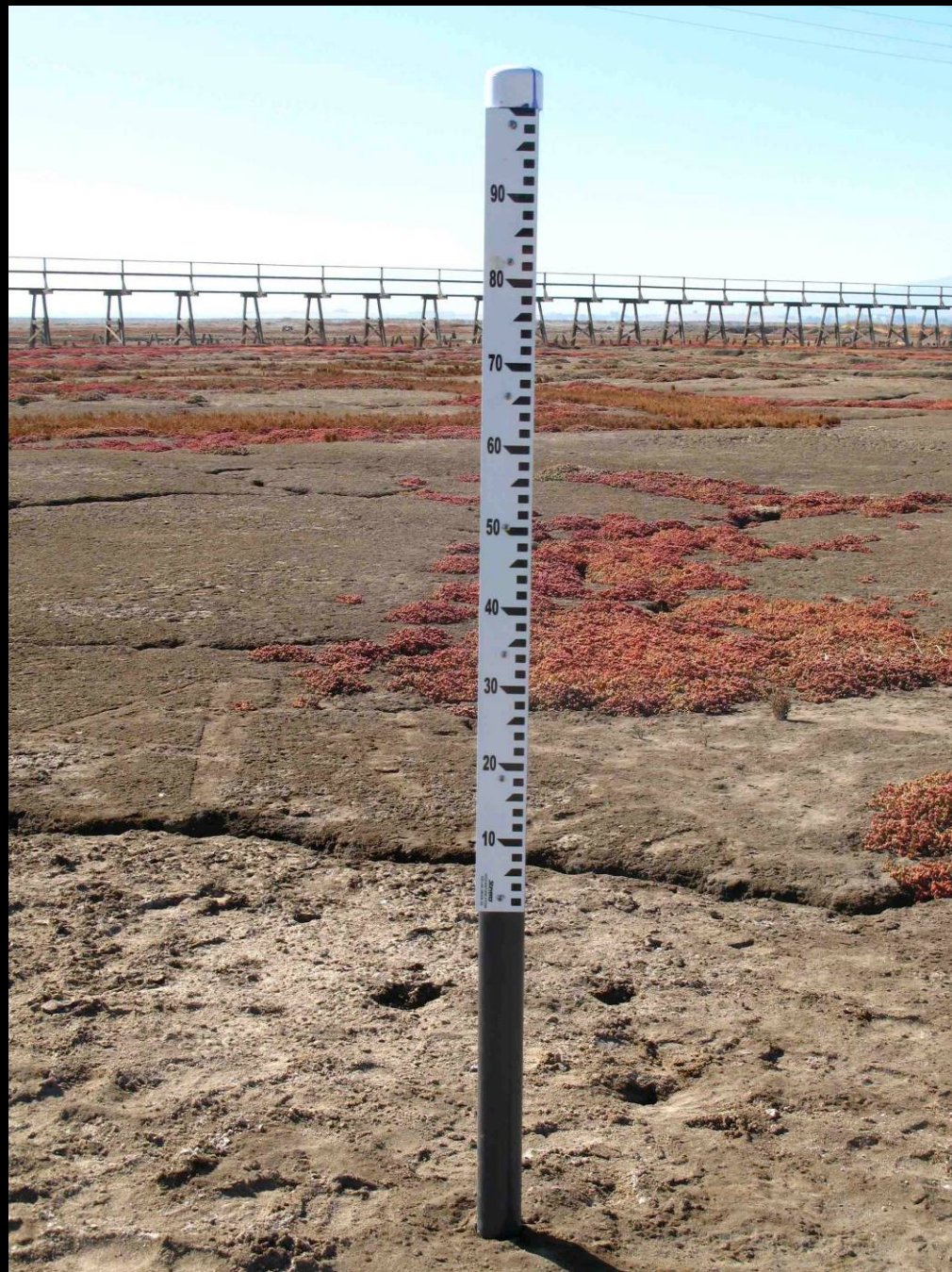


Sedimentation vs. Initial Elevation: Year 3



Predicting Sedimentation at Pond A6?





Thanks to:

- California State Coastal Conservancy
- South Bay Salt Pond Restoration Project
- U.S. Fish and Wildlife Service
- Many USF and SFSU students

