BUTANO CREEK FLOODPLAIN RESTORATION PROJECT

Irina Kogan
San Mateo Resource Conservation District

Pescadero Municipal Advisory Council Meeting
April 11, 2017

PROJECT AREA

Landowner: Peninsula Open Space Trust, Butano Farms Property

Funders to RCD:

- CA Department of Water Resources
- CA Coastal Conservancy
- US Fish and Wildlife Service
- POST

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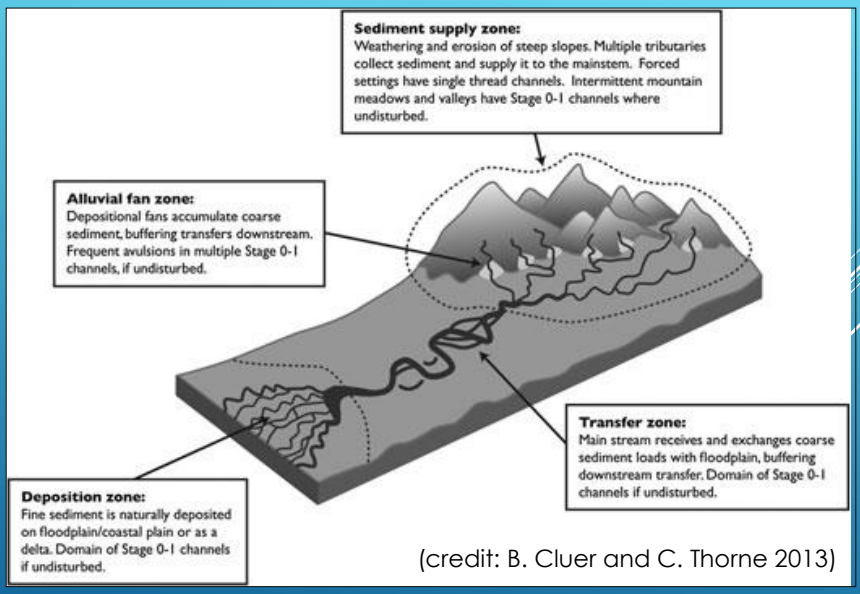
SEDIMENT: MOUNTAINS TO THE OCEAN

- Early timber harvesting and 200 years of straightening creek and removing wood
- Sediment increased by 250%
- Floodplains that used to store sediment are now a source of sediment
- Channel incision is now the largest source of sediment
- It's going to keep getting worse

(credit: Martin Trso and Setenay Frucht)



(credit: B. Cluer and C. Thorne 2013)

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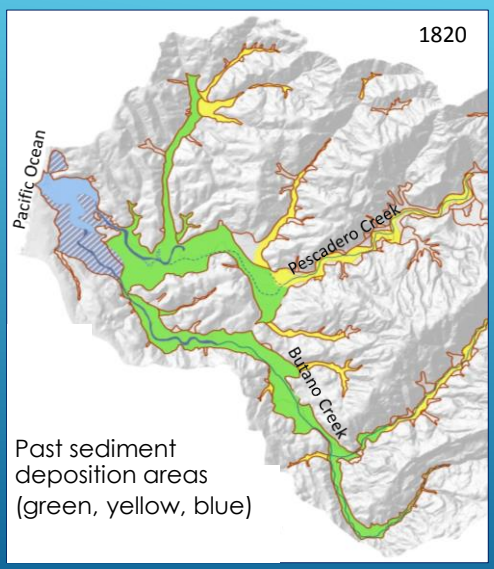
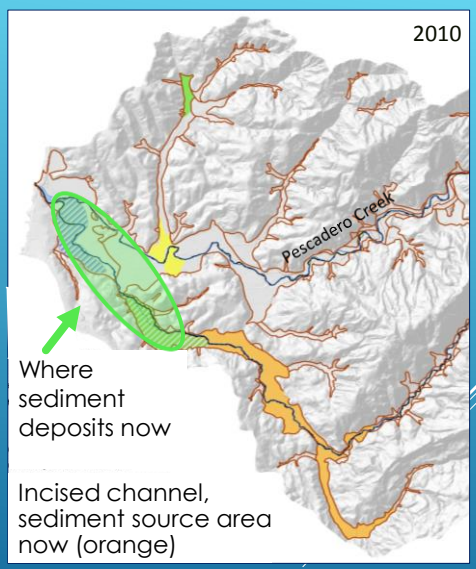
THEN AND NOW…

(credit: Martin Trso and Setenay Frucht)





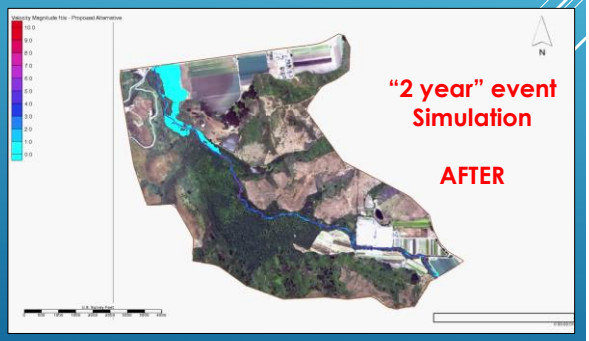
BUTANO CREEK INCISION

DOWNSTREAM OF PROJECT AREA

UPSTREAM OF PROJECT AREA

PROJECT PURPOSE

- Raise the creek bed to restore flooding of historic100 acre floodplain
- Store 150,000 tons of sediment over 10 years
- Restore habitat



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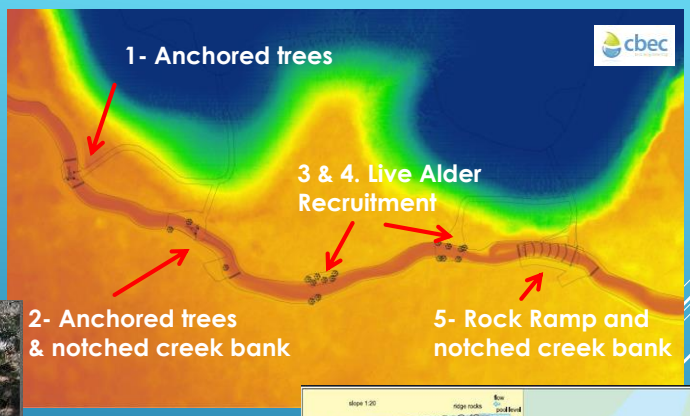
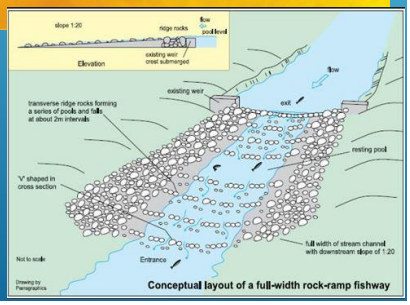
WHAT WE DID

- Anchored felled trees
- Utilized live alder trees
- Notched creek bank to direct water to floodplain
- Built rock ramp





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USING LIVE ALDERS

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INSTALLING TREES

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INSTALLING TREES

LOWERING THE BANK

BUILDING ROCK RAMP

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AFTER CONSTRUCTION AND STORMY WINTER

Winter 2016 - 2017

IT'S WORKING!

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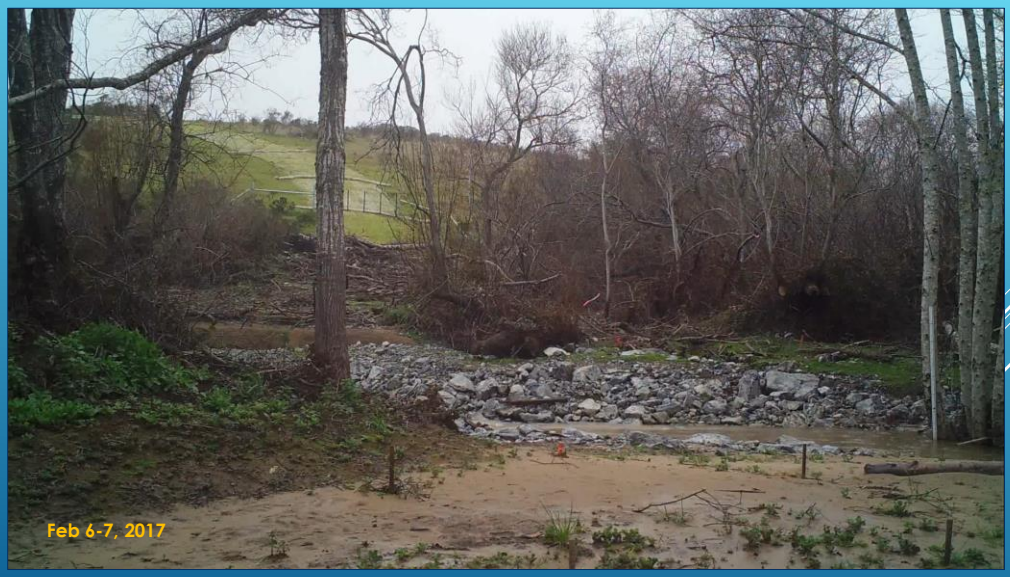
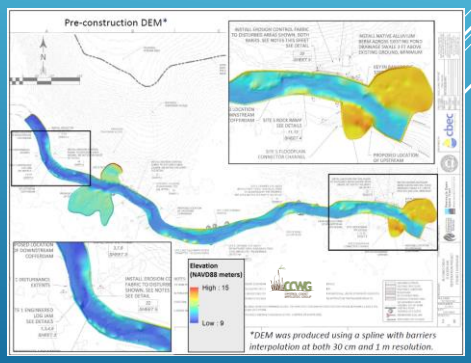
STORMY WINTER VIDEO



POST-CONSTRUCTION MONITORING

- Measure sediment accumulation on connector channels and floodplains
- Map topography of creek before and immediately after construction as well as after this winter wet season
- Time-lapse video of flood events
- Measure creek water elevation
- Map and quantify fish habitat features



FREQUENTLY ASKED QUESTIONS

1. How does this compare to dredging?
   - ~100,000 cy sediment stored over 10 yrs (plus more with time) vs. 45,000 cy (1 time and will fill in)
2. What if the wood breaks free and goes downstream?
   - The large wood features are holding back a lot of wood from going downstream
   - It is anchored for a 25 year event. Bigger storms will have many more trees down in comparison to what was installed
3. How does this interact with a downstream dredge?
   - It will keep the channel open longer but this one project is not enough.

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