

Nature-based Sea Level Rise Adaptation

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California is highly vulnerable to sea level rise

\$150 billion
worth of
property and
infrastructure
and 600,000
residents at risk
by the end of
the century

TOPICS

SEARCH

Los Angeles Times

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For cramped New York, an expanding dining scene

Killing of Nipsey Hussle in South L.A. likely tied to gangs, source says; LAPD...

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MUST READS

L.A. NOW

LOCAL

Destruction from sea level rise in California could exceed worst wildfires and earthquakes, new research shows

By ROSANNA XIA | MAR 13, 2019 | 5:00 AM



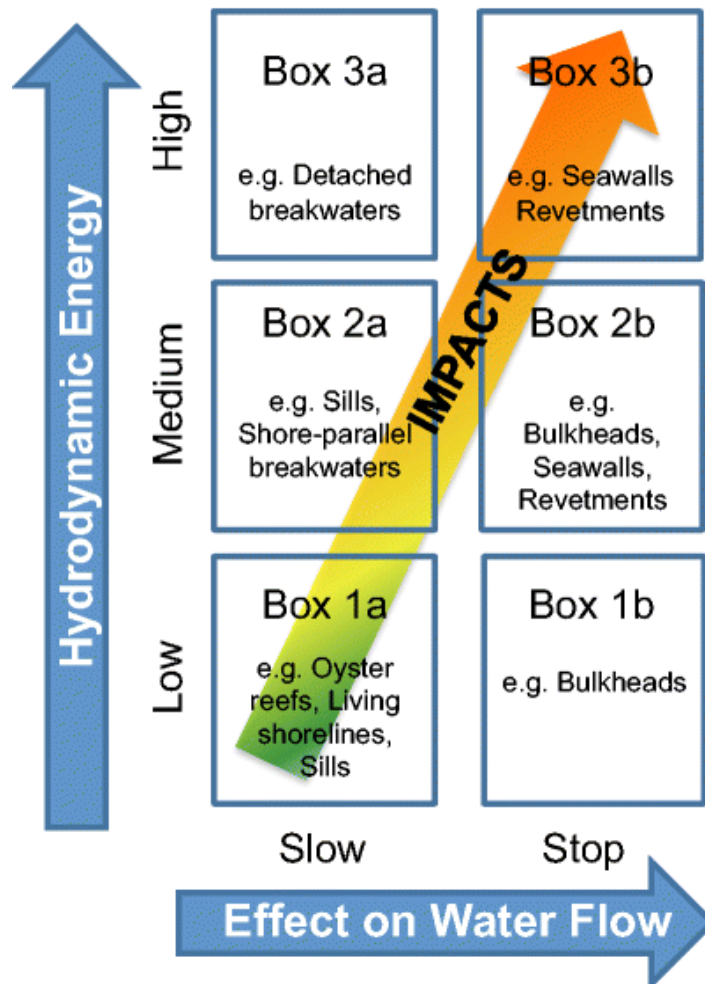
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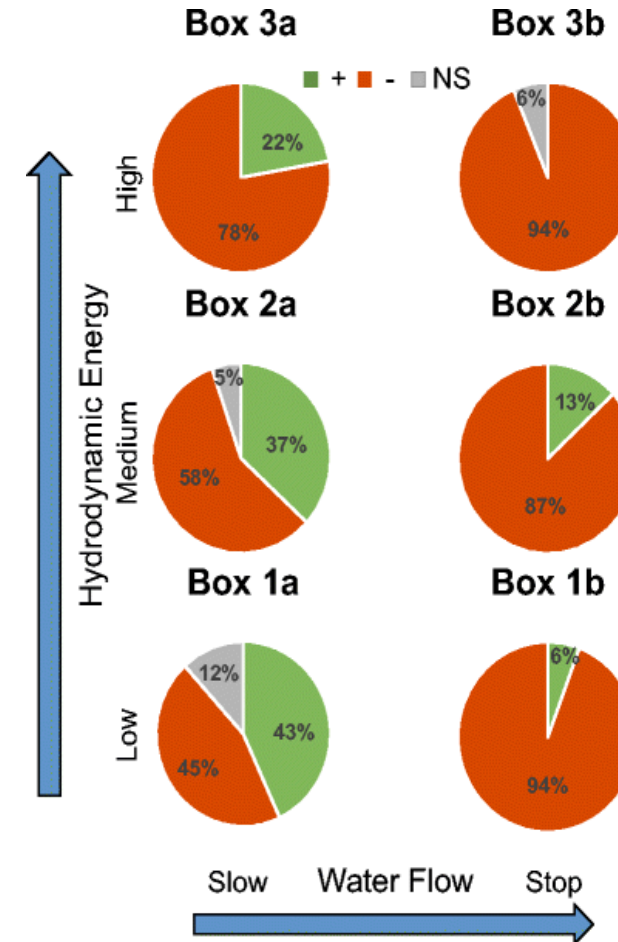
Barnard et al *Scientific Reports*
volume 9, Article
number: 4309 (2019)

Ecological effects of hard infrastructure

Conceptual Model



Results

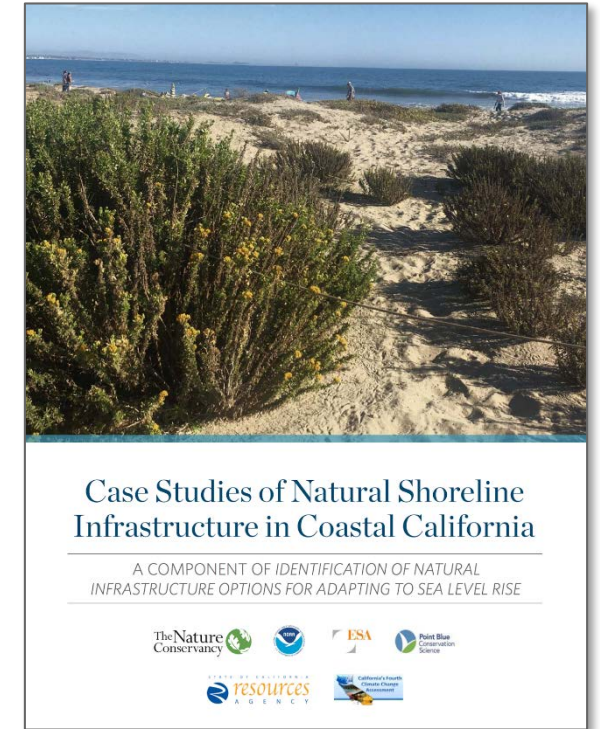
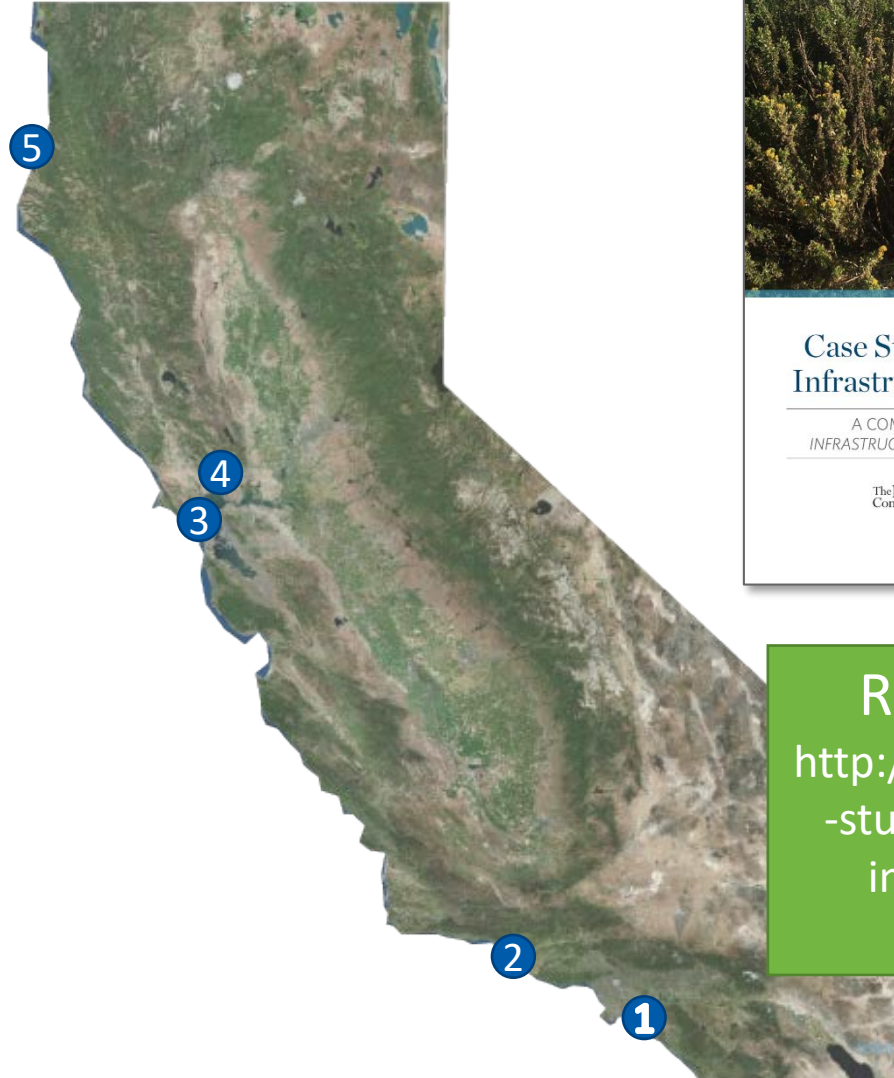


What do we mean by living shoreline?



Case studies

1. Seal Beach Thin-layer Salt Marsh Sediment Augmentation
2. Surfers' Point Managed Shoreline Retreat
3. SF Bay Living Shorelines: Nearshore Linkages
4. Hamilton Wetland Restoration
5. Humboldt Coastal Dune Vulnerability and Adaptation



Report available at:
<http://coastalresilience.org/case-studies-of-natural-shoreline-infrastructure-in-coastal-california/>

Led by: Jenna Judge

GOAL: Provide real world examples and increase familiarity

Engineering Guidelines

Led by: Bob Battalio and Tiffany Cheng

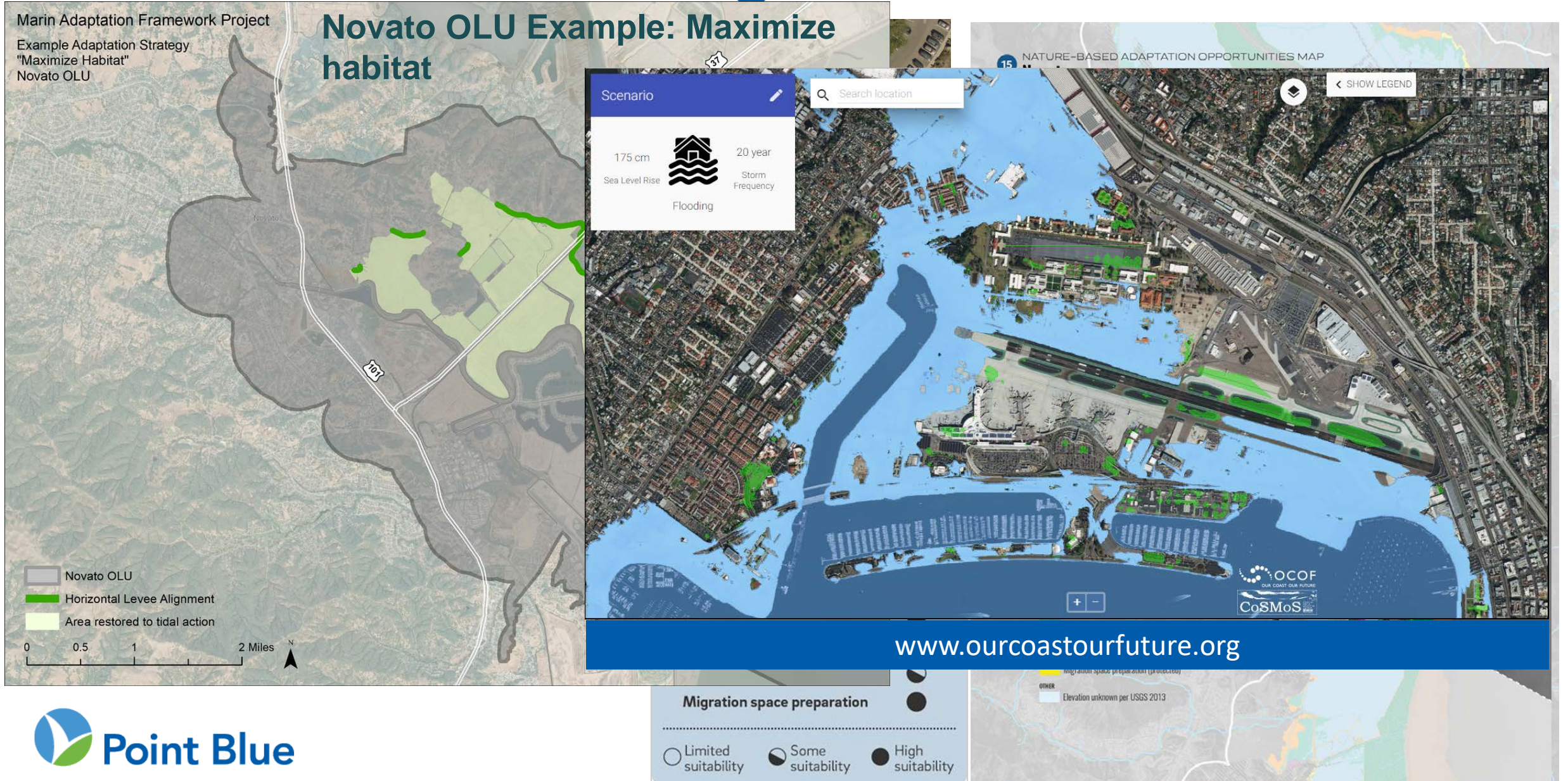
- Cobble Berms
- Vegetated Dunes
- Oyster Reefs
- Eelgrass Beds
- Tidal Bench
- Marsh Sill
- Lagoon Mouth Management
- Managed Retreat



Natural Shoreline Infrastructure:
Technical Guidance for the
California Coast



FRAMEWORK: Planning within nature's boundaries



Integrating human and ecological needs





Point Blue
Conservation
Science

Thank You

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Small restorations can have a big impact



Santa Monica, 2017, first nesting since 1949 in LA County



Salinas River State Beach, Monterey

Seabright beach Santa Cruz, 2 nests 2018, first documented nesting ever

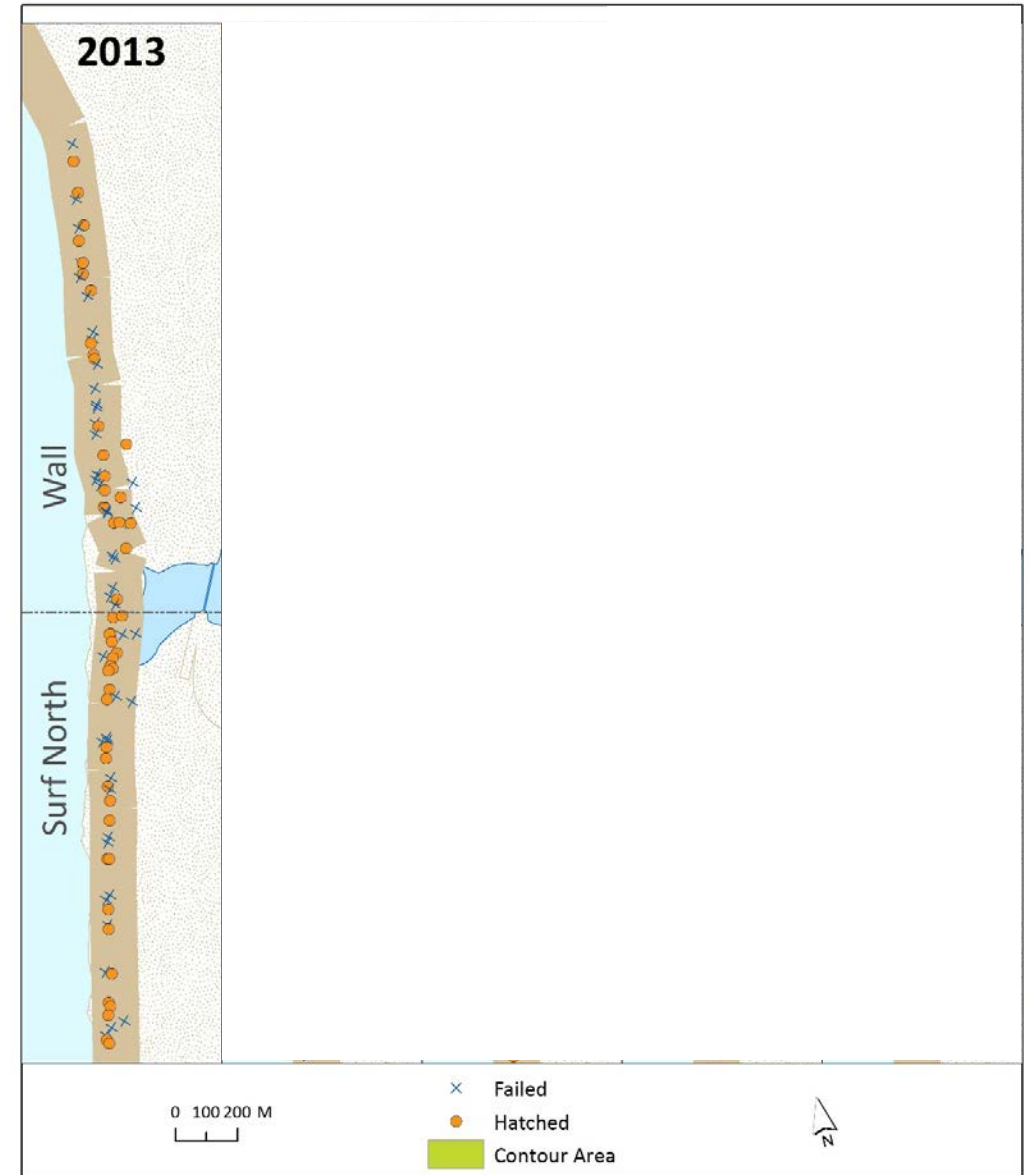
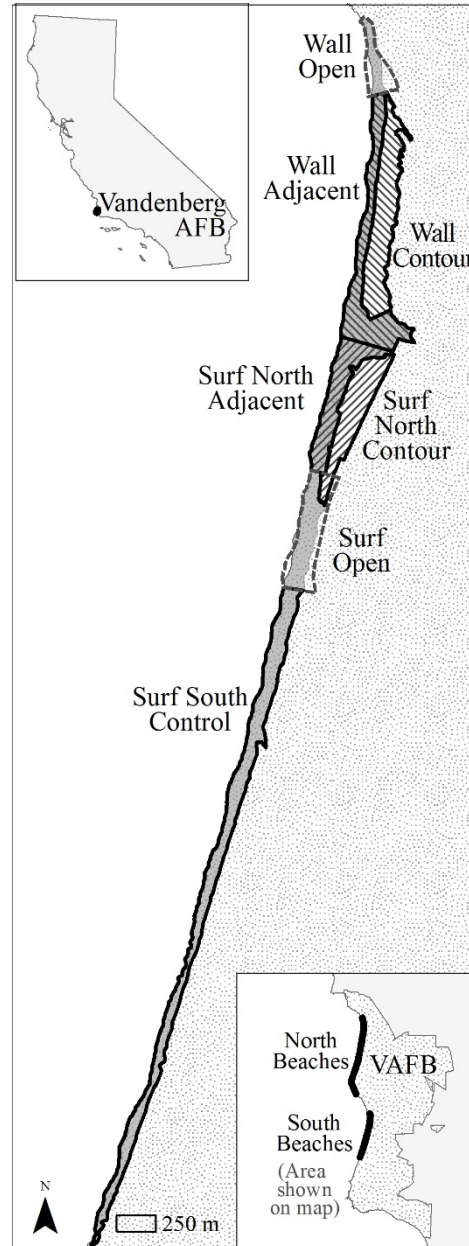


Sand dune restoration Vandenberg AFB

How do nesting plovers respond to the changing habitat?

Before-After:

Wall	2011-2014 (Before) 2015-2017 (After)
Surf	2011-2013 (Before)
North	2014-2017 (After)



Non-living shorelines



2002 Kenneth & Gabrielle Adelman

