

The Baylands and Climate Change: **WHAT WE CAN DO**

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SFEI | **AQUATIC
SCIENCE
CENTER**
SAN FRANCISCO ESTUARY INSTITUTE & THE AQUATIC SCIENCE CENTER



PHOTO Shira Bezael



why do we care about
TIDAL MARSHES?

clean water

flood control

food web and wildlife

recreation and scenery

1800

Tidal Marsh

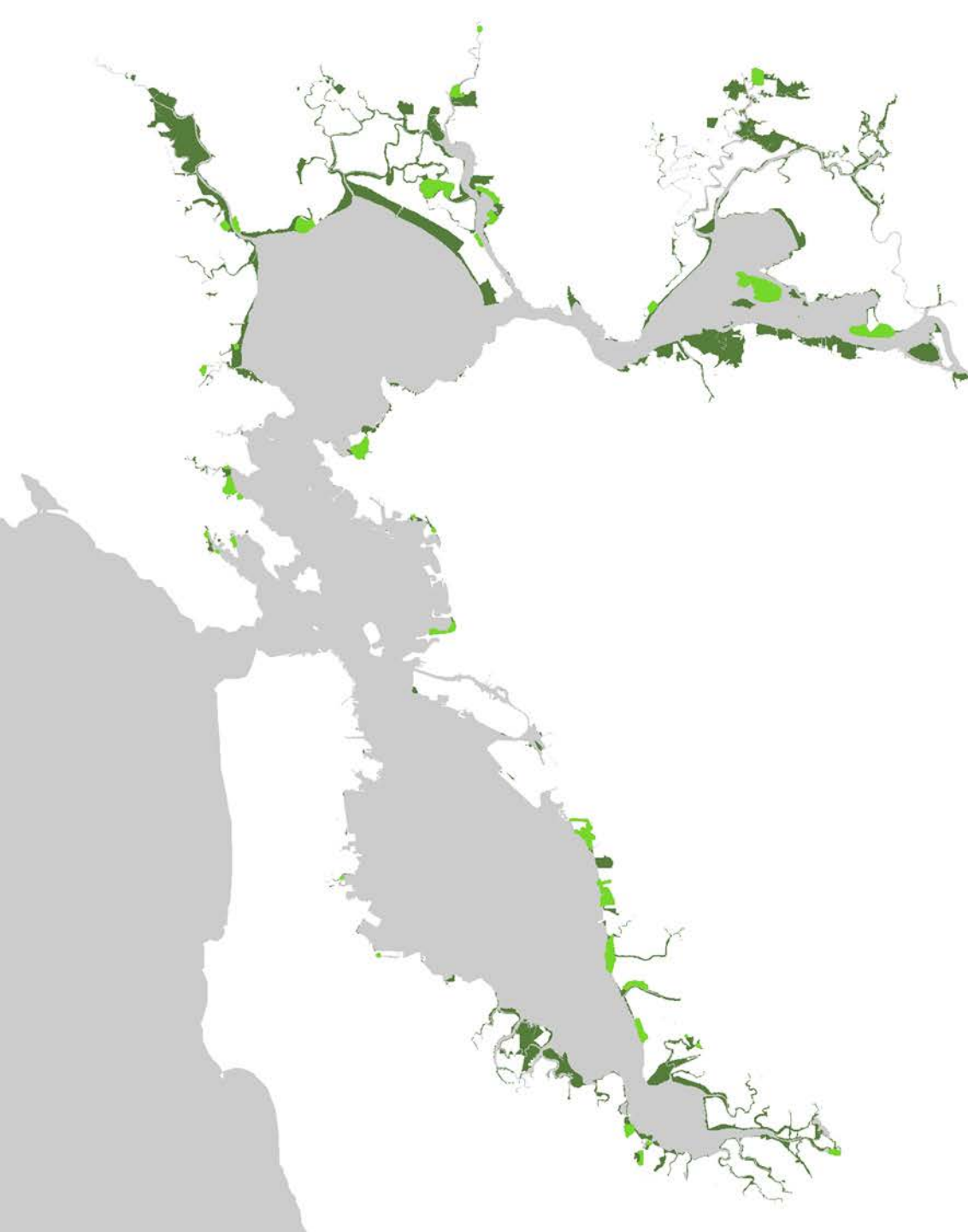


1998

Tidal Marsh



Restored Tidal Marsh

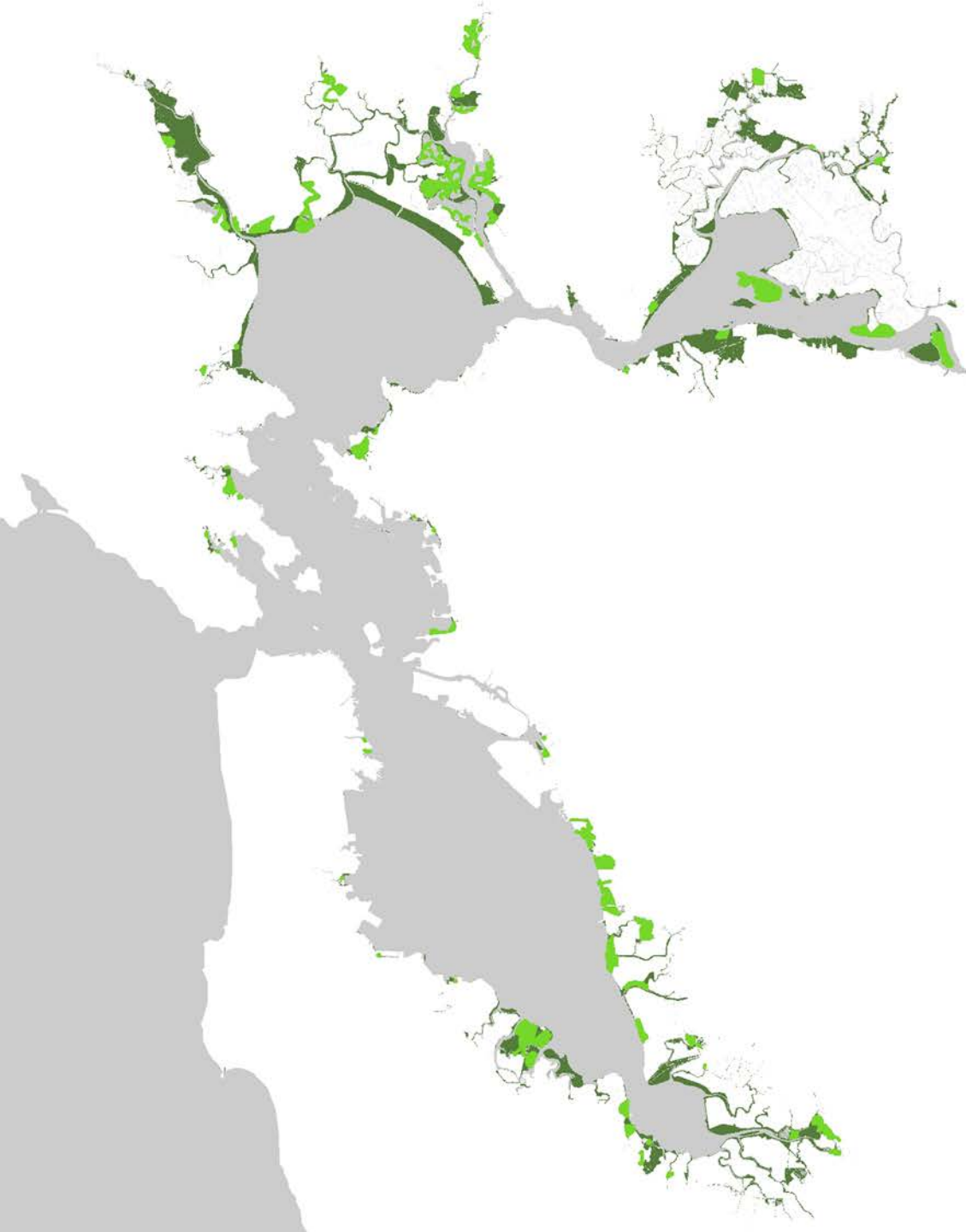


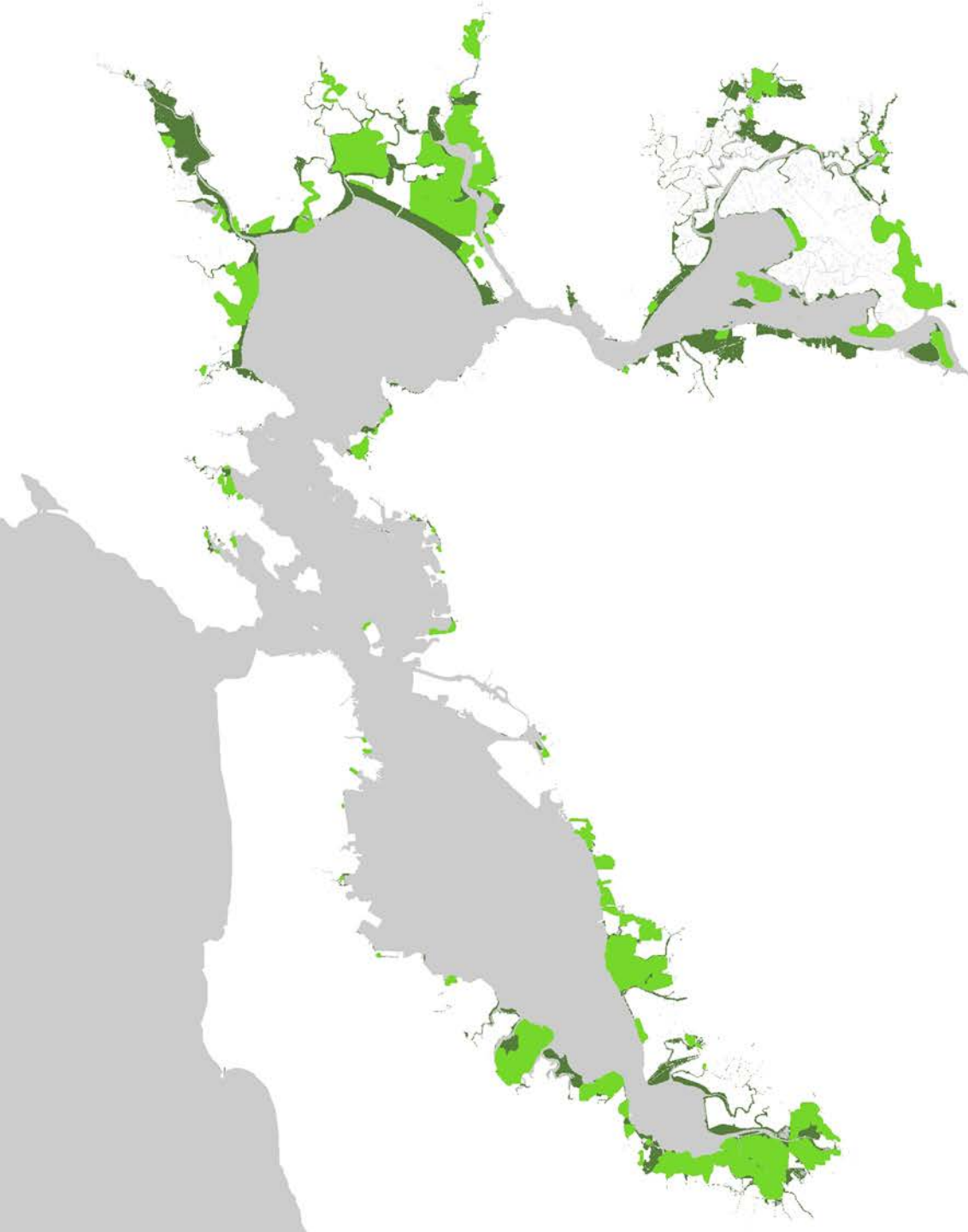
2009

Tidal Marsh



Restored Tidal Marsh





FUTURE

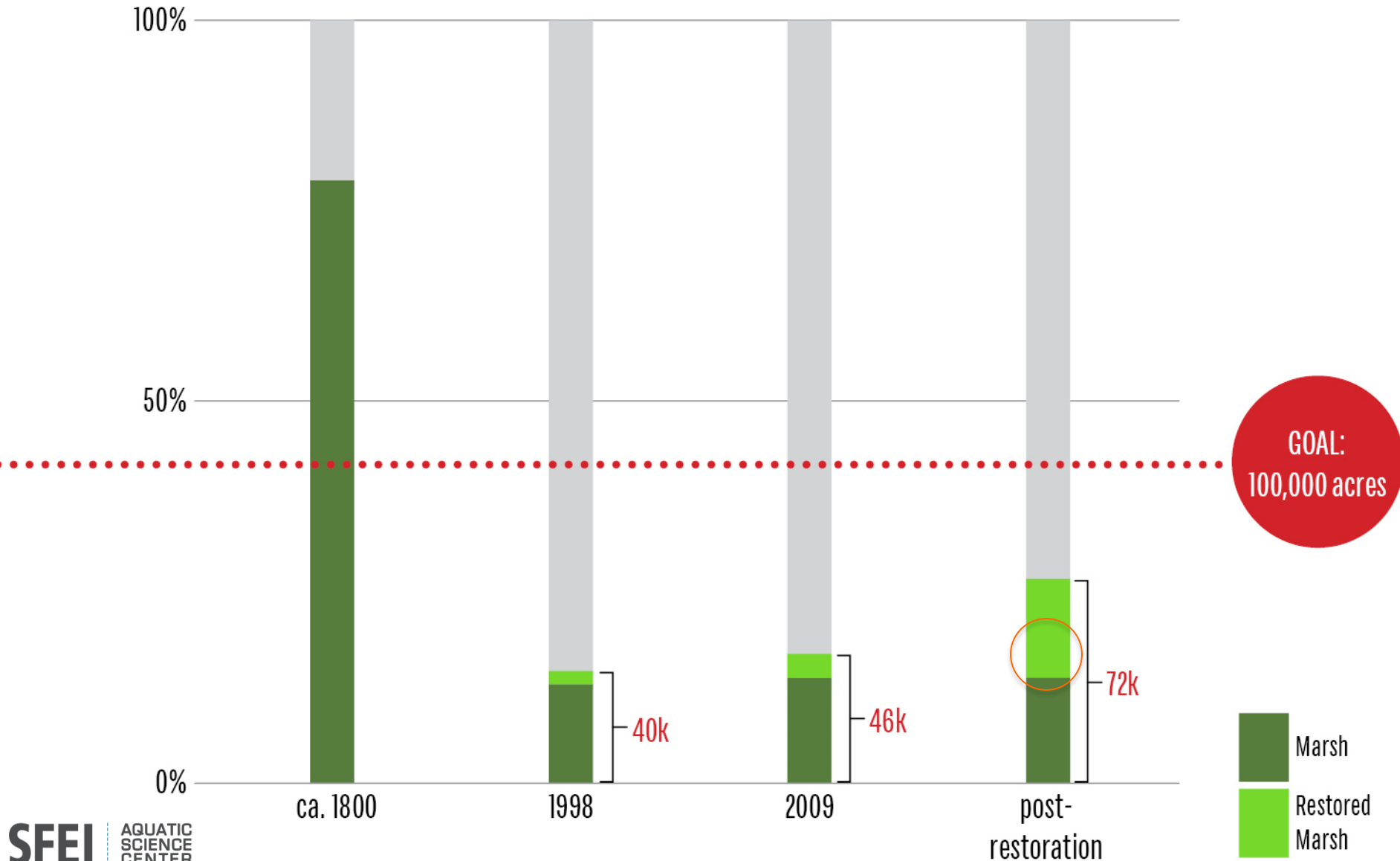
Tidal Marsh



Restored Tidal Marsh



TIDAL MARSH *restoration*

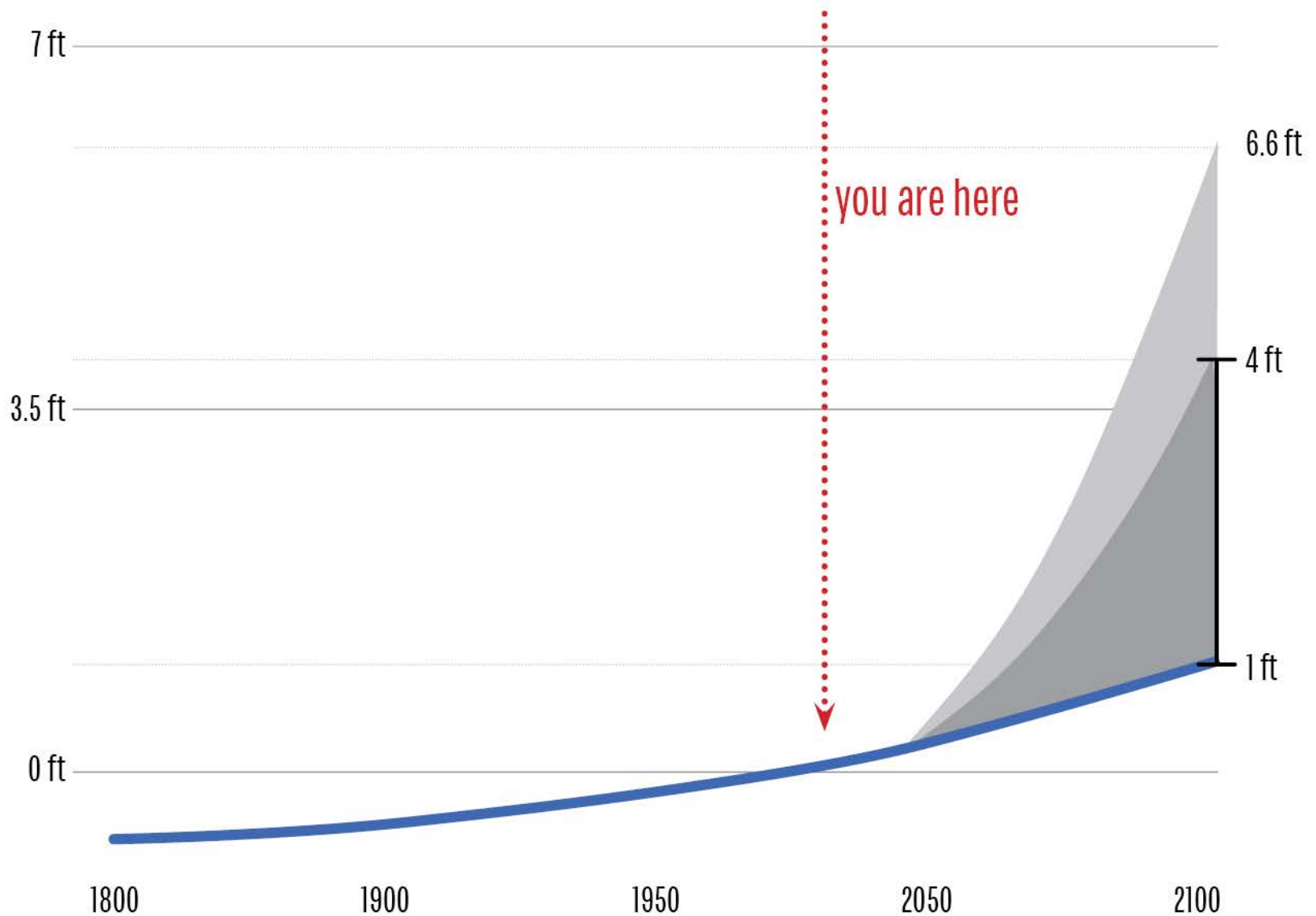


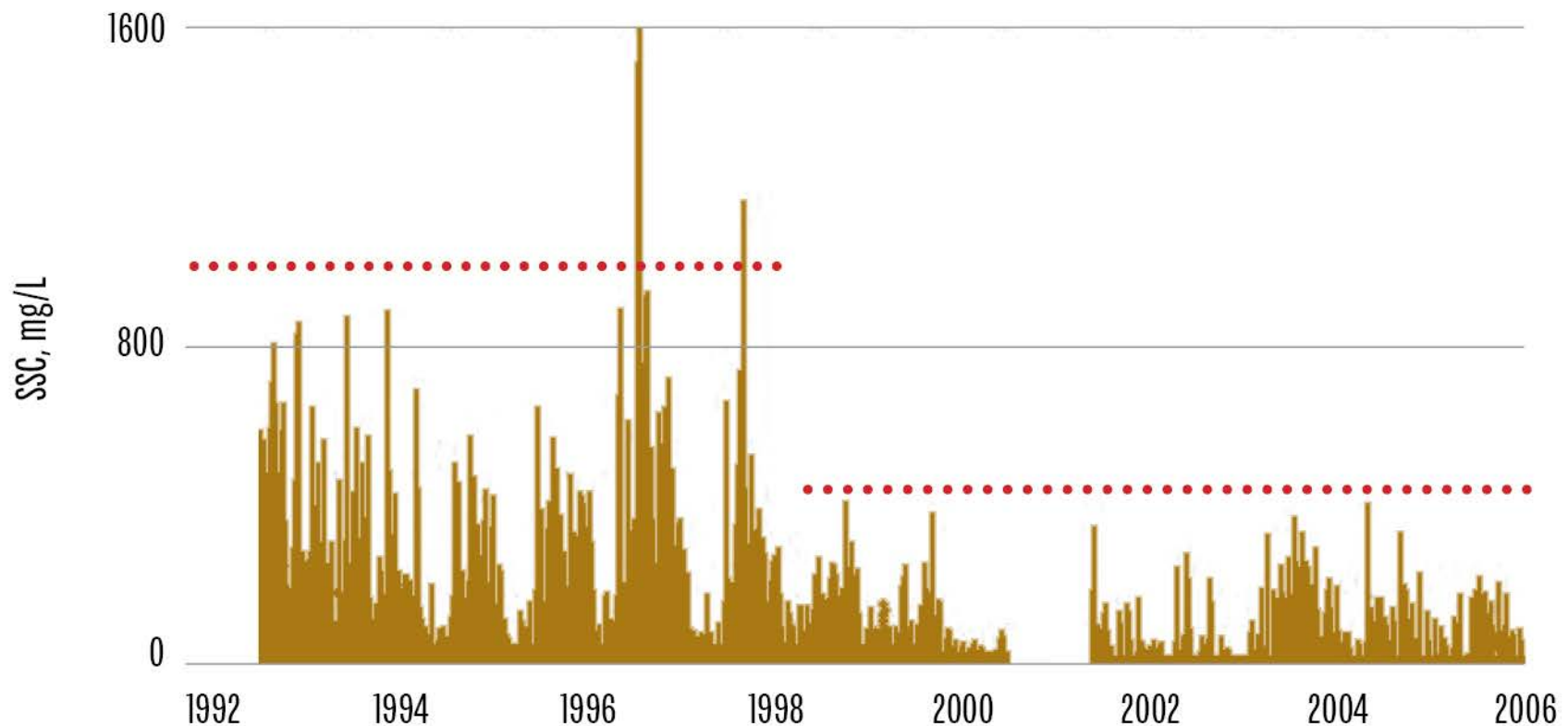
GLOBAL SEA LEVEL

change

SINCE 1800

Courtesy 3rd National
Climate Assessment,
2014

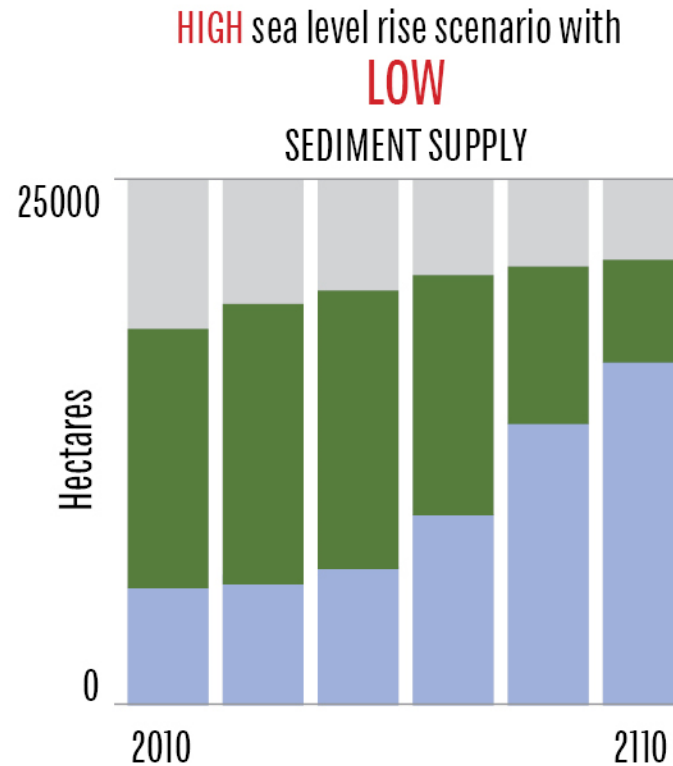




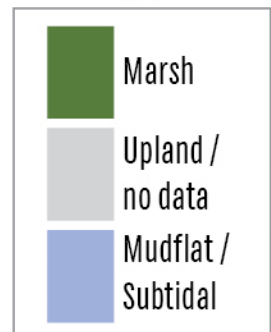
THE FUTURE OF MARSHES DEPENDS ON

sediment supply

Courtesy Stralberg et al. 2011



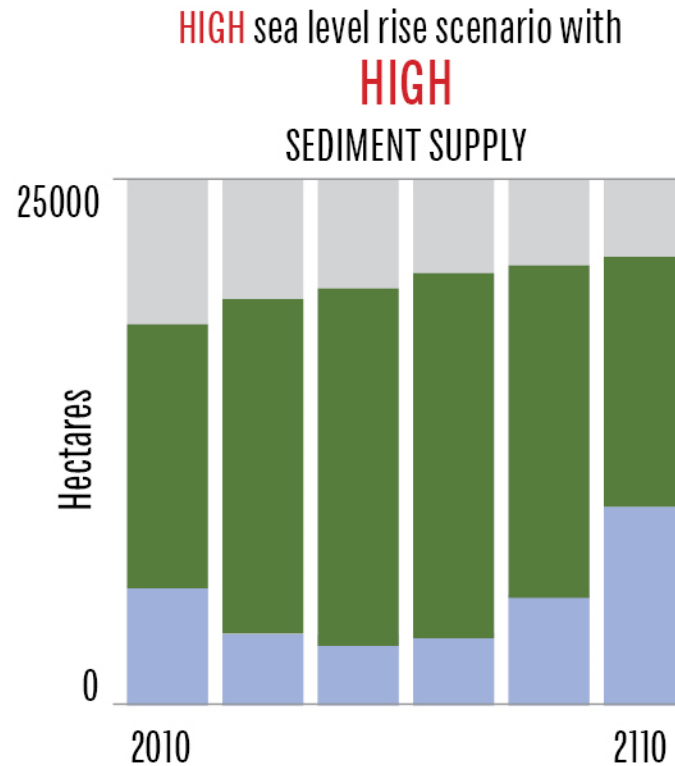
KEY



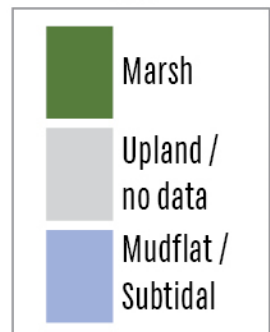
THE FUTURE OF MARSHES DEPENDS ON

sediment supply

Courtesy Stralberg et al. 2011



KEY



THE
Baylands
AND
Climate Change

WHAT WE CAN DO

BAYLANDS ECOSYSTEM HABITAT GOALS
SCIENCE UPDATE 2015



State of California
Coastal Conservancy



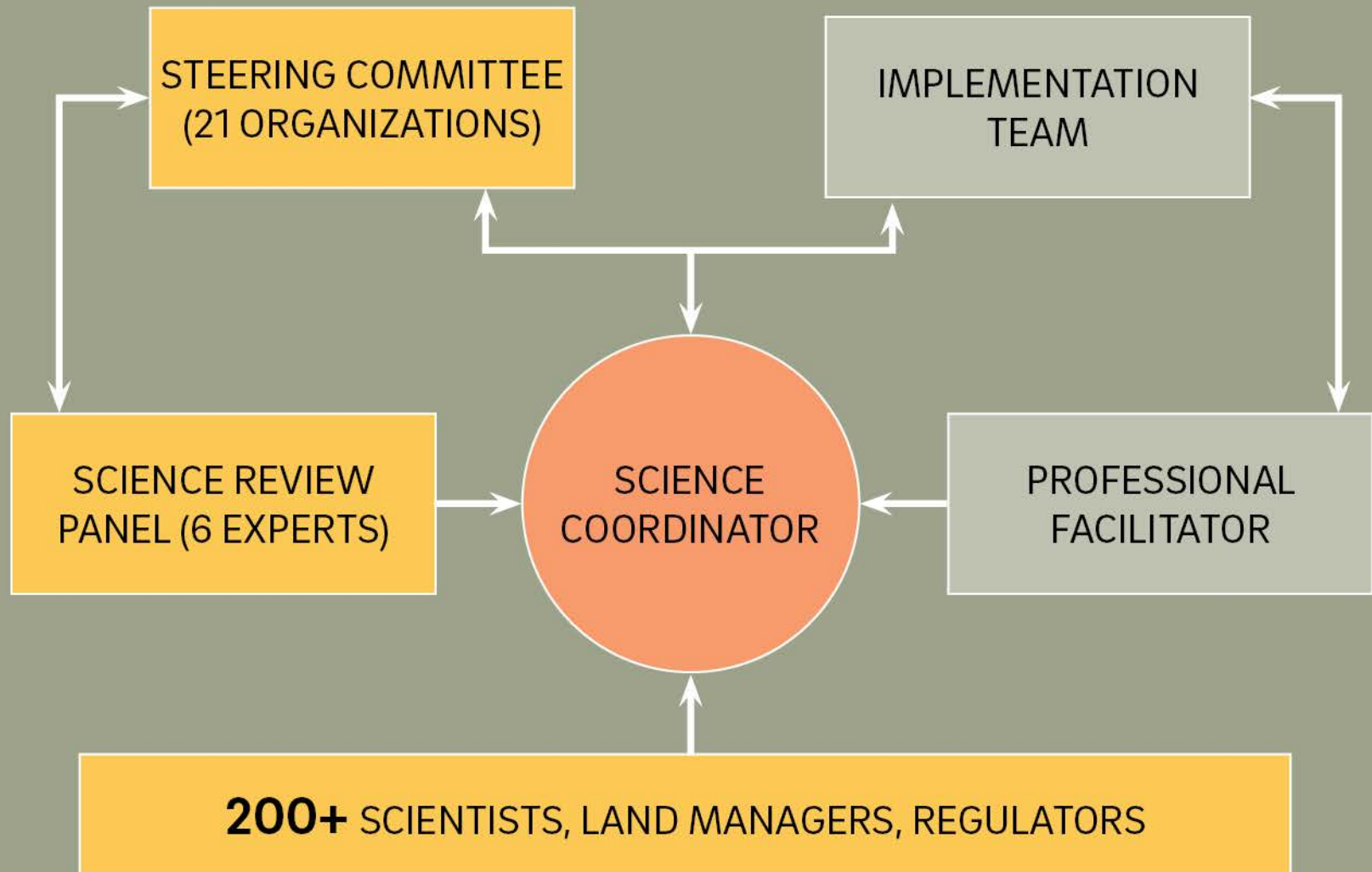
BAYLANDS GOALS 2015

- Science synthesis
- Effect of future change, especially climate and sediment supply, on the Baylands
- Goal is healthy ecosystem, providing a resilient shore for people and wildlife
- Recommendations and landscape visions for the next century



ROBUST

COLLABORATIVE PROCESS



STEERING COMMITTEE

*Resource management, regulatory,
restoration organizations*

Coastal Conservancy

Delta Conservancy
Delta Stewardship Council
EBRPD
NOAA
Point Blue
SFEI
USACE
USEPA
BAFPAA
Water Board
USFWS
BCDC
DFW
DWR
EBDA
NPS
SFBJV
SFEP
Suisun RCD
URS

Sam Schuchat, Chair (Nadine Peterson)

*Kristal Davis-Fadtke
Marina Brand
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Grant Ballard (Julian Wood)
Robin Grossinger (Lester McKee)
Tom Kendall (Fari Tabatabai)
Sam Ziegler (Luisa Valiela)
Carol Mahoney (C Morrison)
Andree Greenberg (N Feger)
Anne Morkill
Joe LaClair
Carl Wilcox
Erin Chappell
Michael Connor
Kristen Ward
Beth Huning
Judy Kelly
Steve Chappell
Mike Monroe*

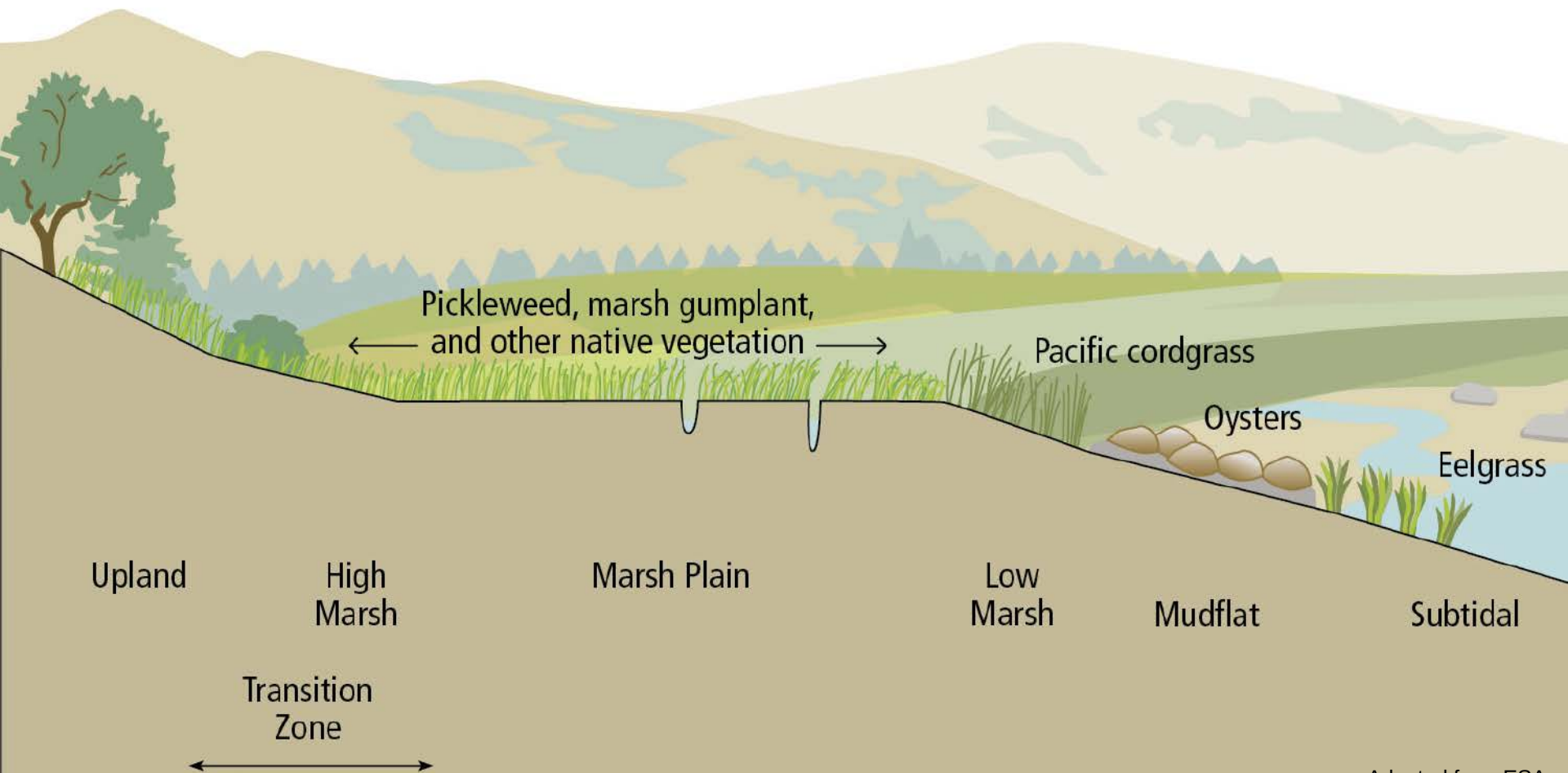


WHAT WE CAN DO

- *Restore complete systems, including processes*

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Restore COMPLETE SYSTEMS



MEANS
RESTORING

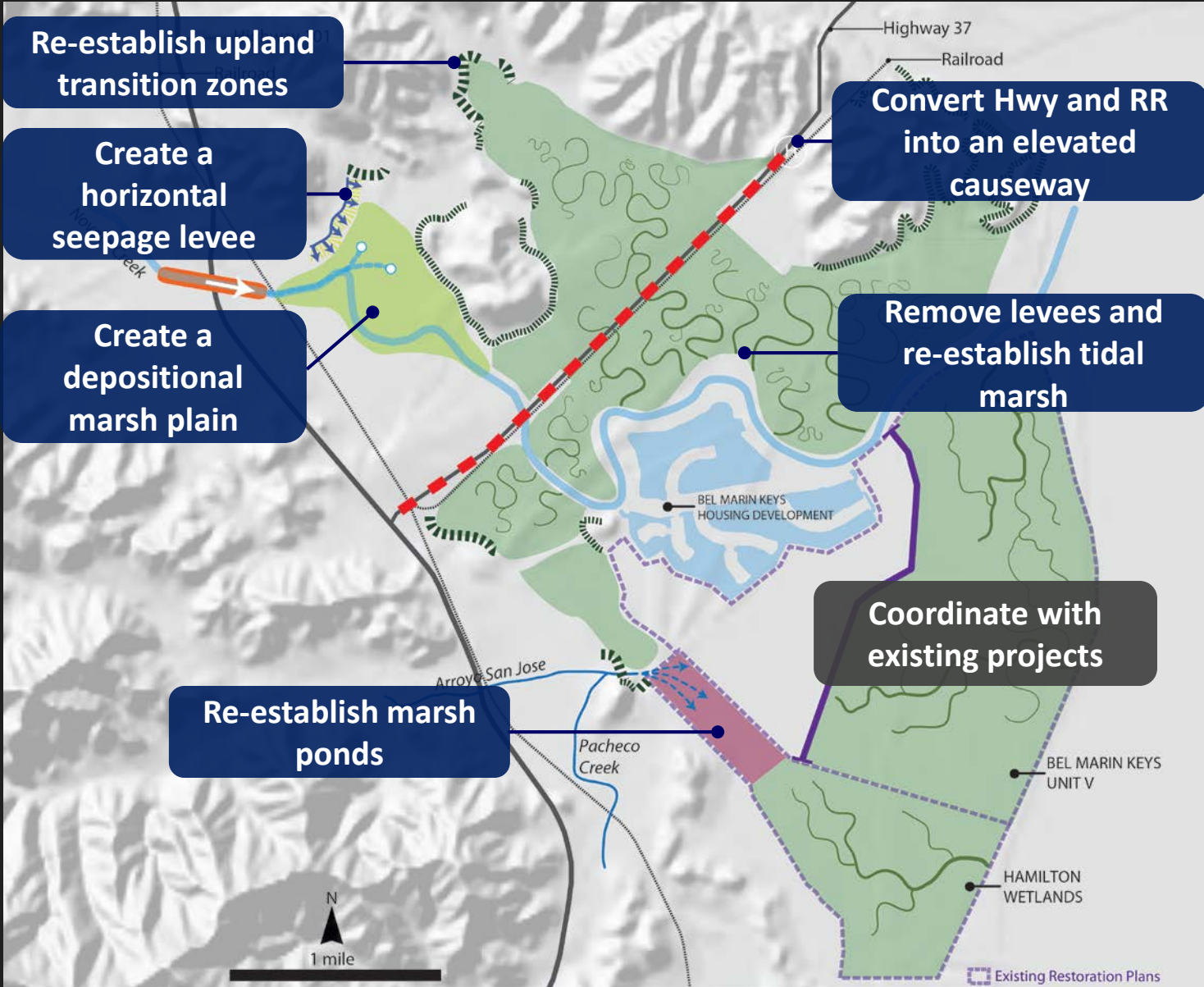
PROCESSES

NOT JUST
PLACES

COURTESY PETER BAYE



Novato Creek Baylands Long-term Vision



SEDIMENT
IS A

precious resource





WHAT WE CAN DO

- *Restore complete systems, including processes*
- *Restore soon, in areas marshes are likely to persist*

Shira Bezalel

restore

**MARSHES BY 2030 IN AREAS
WHERE THEY'RE LIKELY TO**

persist

2006



2014



Build up of sediment and vegetation takes time

Higher starting elevation means marshes survive
sea-level rise for longer



WHAT WE CAN DO

- *Restore complete systems, including processes*
- *Restore soon, in areas marshes are likely to persist*
- *Plan for the Baylands to migrate*

Shira Bezalel

PLAN FOR THE BAYLANDS TO *migrate*

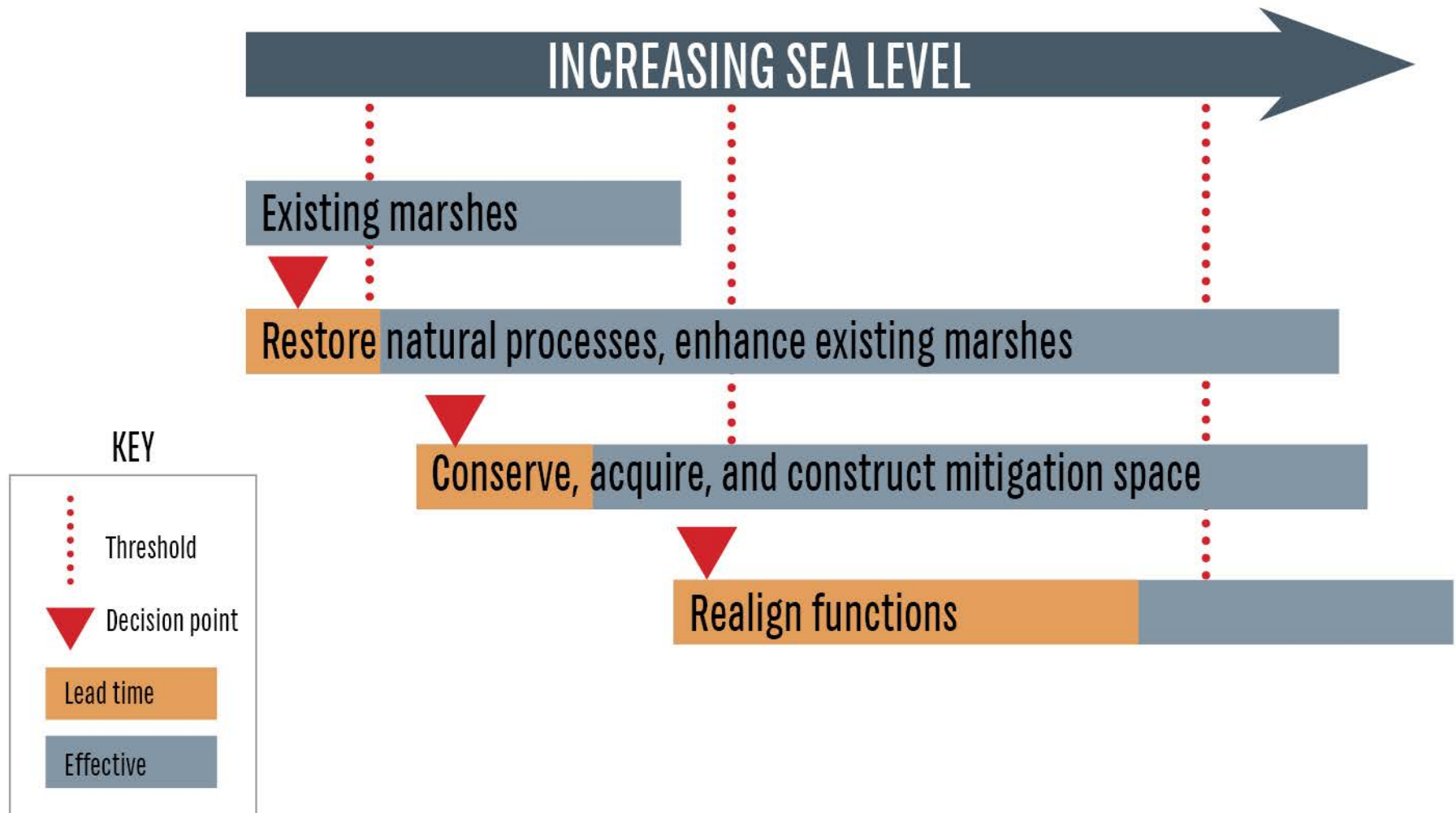




MIGRATION SPACE

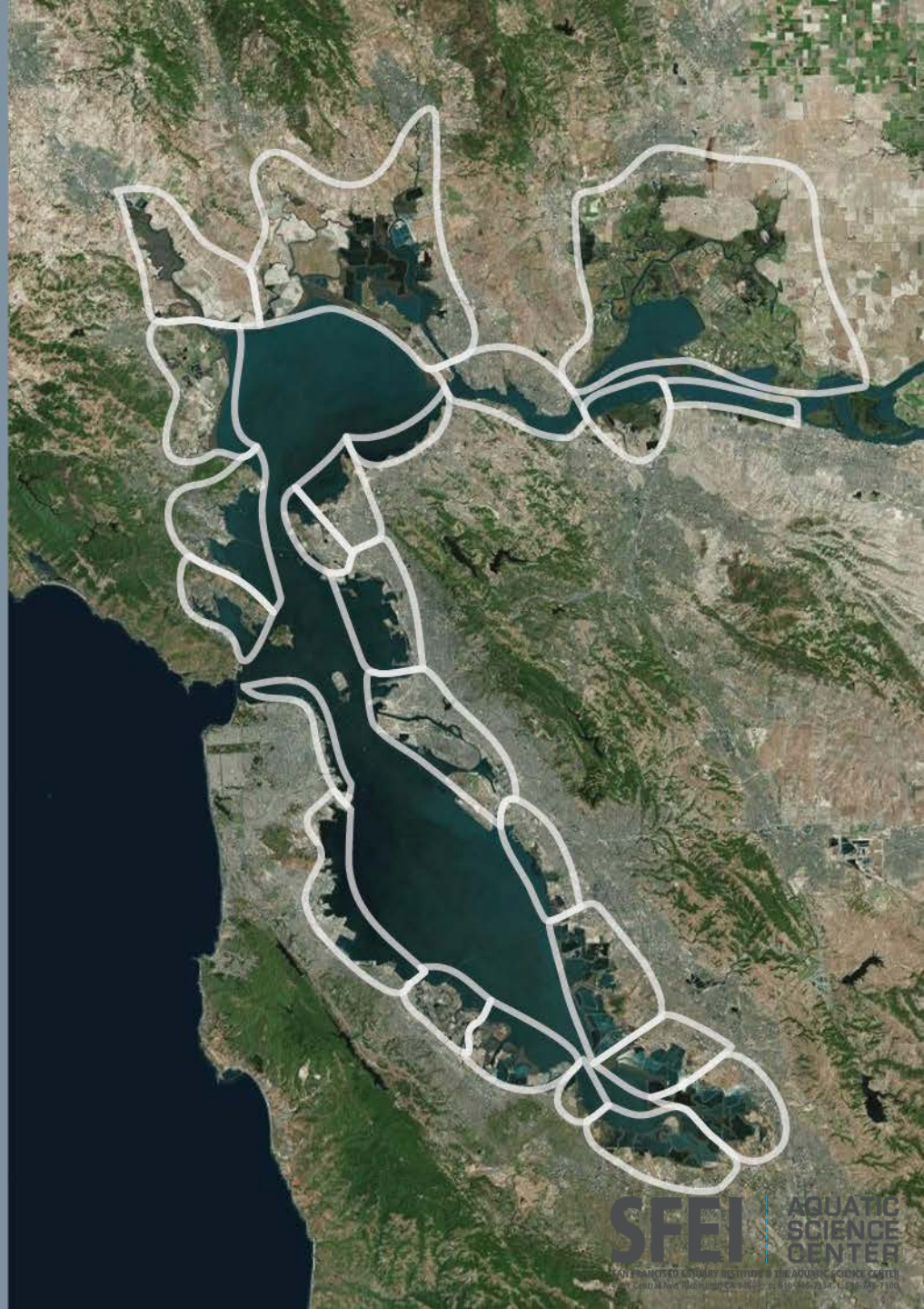
strategies

- *Acquire and conserve*
- *Construct (horizontal levee)*
- *Planned retreat*



Collaborative local **VISIONS & PLANNING**

- *Define practical, science-based shoreline units*
- *Pair with appropriate adaptation strategies*
- *Convene stakeholders to create long-term vision for resilience*



Baylands Goals Science Update



www.BaylandsGoals.org

Nate Kauffman

FUNDERS

- *State Coastal Conservancy*
- *Gordon and Betty Moore Foundation*
- *Goals Update Steering Committee*

