



The Importance of the Bay's Habitats to Migratory and Resident Birds

Julian Wood, San Francisco Bay Program Leader
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Key Messages

San Francisco Bay is an important place for birds

Sea level rise threatens the Bay's biodiversity

Nature-based adaptation to sea level rise
can benefit birds and human communities



Over 80% of historic tidal marsh lost



Marsh Wren



Common Yellowthroat



Song Sparrow



Ridgway's Rail



Black Rail

Over 40% of historic tidal flat lost



Sandpipers



Stilts & Avocets



Plovers



Raptors

Photo Ingrid Taylor

Restoration Works





California Ridgway's Rail

Photo Julian Wood



**SF Bay of Hemispheric
Importance for Shorebirds**

**Western Hemisphere Shorebird
Reserve Network**

Over 1 million shorebirds

• *Photo Cory Gregory*

A large flock of scaup ducks is seen swimming in a body of water. The ducks are scattered across the frame, with some in the foreground and others in the background. The water is a light blue color, and the sky is not visible. The ducks have dark brown and white feathers. A blue semi-transparent banner is overlaid on the middle of the image, containing the text "Ramsar Designated Wetland of International Importance".

Ramsar Designated Wetland of International Importance

Scaup at Arrowhead Marsh

Photo Ingrid Taylar

Highly Diverse Waterbird Communities



Wilson's Phalarope



Double-crested Cormorant



Black-crowned Night Heron



Western Grebe



California Least Tern



Great Egret

An aerial photograph of a coastal wetland area, showing a mix of water, mudflats, and some developed land. A semi-transparent circular overlay is positioned on the left side of the image, containing the title 'Habitat Mosaic' and a bulleted list of habitat types. The background image shows a large body of water in the upper left, a large area of reddish-brown mudflats in the center and right, and some urban or industrial development in the lower right. The circular overlay has a light blue and white background with a faint map-like pattern.

Habitat Mosaic

- Subtidal
- Tidal flats
- High salinity ponds
- Shallow water wetlands
- Restoring tidal marsh



What will happen to our habitats with sea-level rise?



Tidal flats

Tidal marsh



Photo Walter Kitundu

Subtidal Habitat



Shallow water habitats





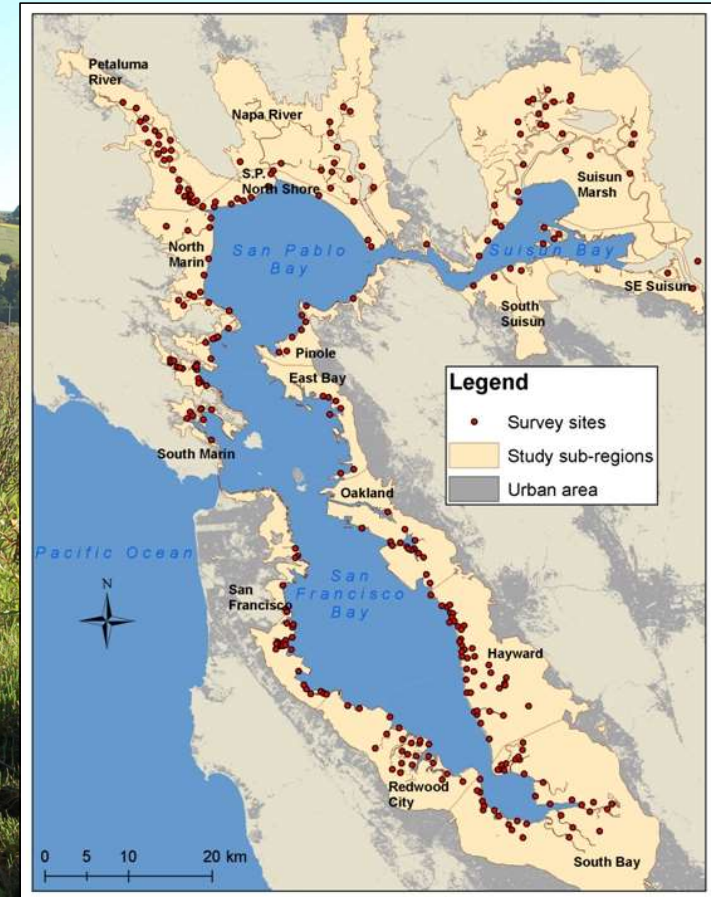
Laumeister Marsh- King Tide 29 Jan 2014, 11:46 am







Conservation Through Science

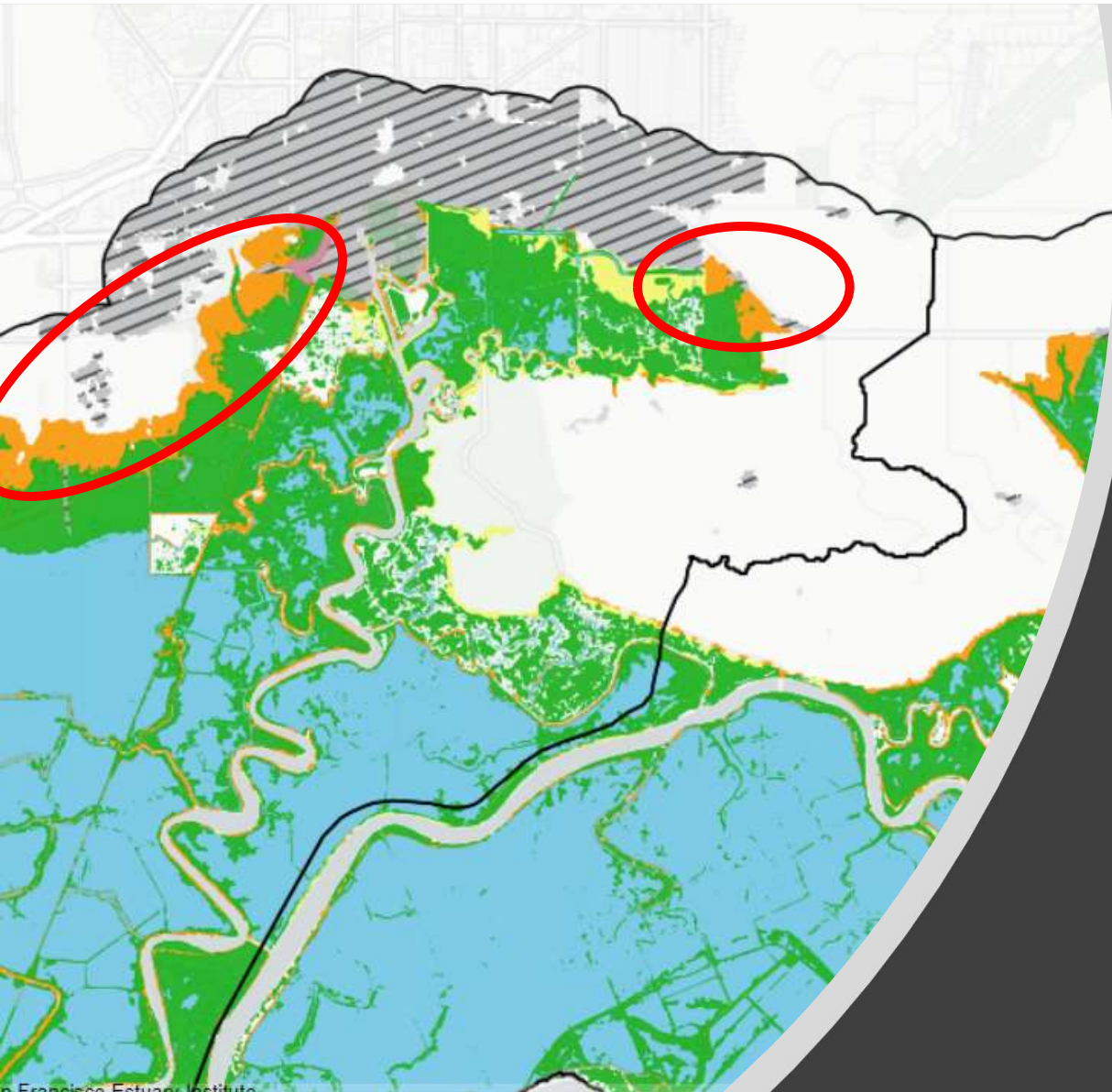


Future Marshes Viewer

A Climate-Smart Planning Tool

- Assess tidal marsh bird & ecosystem resilience
- Inform vulnerability assessments and adaptation plans.
- Areas with high sediment and existing marsh are more resilient
- (www.pointblue.org/sfbayslr)





*High priority
uplands for public
safety and future
marshes*

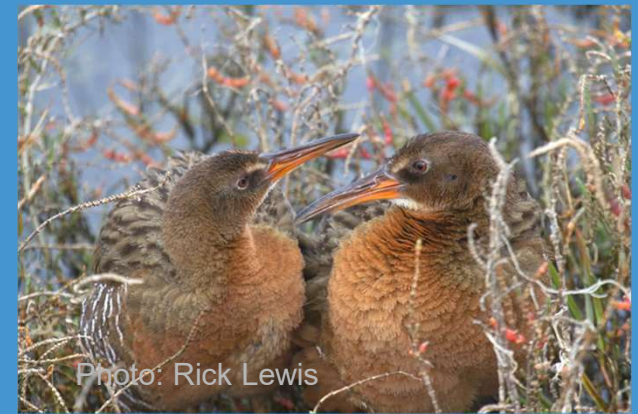
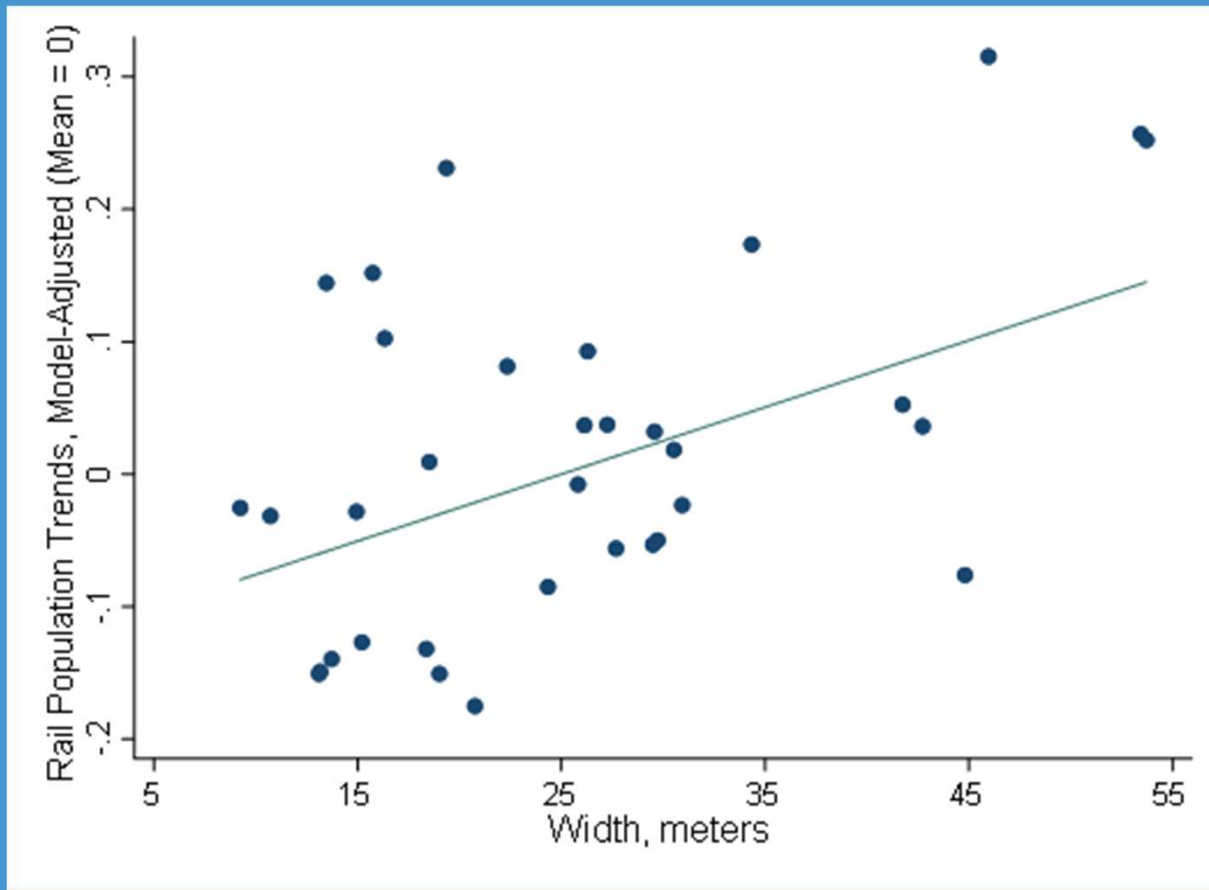
(www.sfei.org/adaptationatlas)

Restoring Wetland Buffer Zones

- STRAW- Students and Teachers Restoring A Wetland
- Restoring levees with dense native vegetation benefits marsh birds



Benefit to marsh birds increases with buffer width



(www.pointblue.org/tbirds)

Flood protection + Important Bird Habitat

Tidal marshes that buffer wave energy

Wider levees restored with native vegetation

Uplands that accommodate sea level rise

Managed wetlands part of flood control systems



A landscape photograph showing a vast field of tall, green grass in the foreground. In the middle ground, there is a dense line of trees and shrubs. The background is a hazy, overcast sky, suggesting a misty or foggy day. The overall scene is a natural, open environment.

Take Home Messages

San Francisco Bay is an important place for birds

Sea level rise threatens the Bay's biodiversity

Nature-based adaptation benefits birds and people

A landscape photograph showing a wide, flat, grassy field in the foreground. In the middle ground, there is a dense line of tall, thin trees. The background features a calm body of water under a vast, cloudy sky. The overall tone is serene and natural.

Thank You

jwood@pointblue.org