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PRBO Conservation Science



National State of the Birds

A Bay Area perspective and proposal

14 July 2009

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The National Report

- Issued by USFWS March 2009; many collaborators
- First for US
- 40 years of Christmas Bird Count, Breeding Bird Survey, and National Waterfowl Survey data
- Base year 1968



Divided into 13 categories

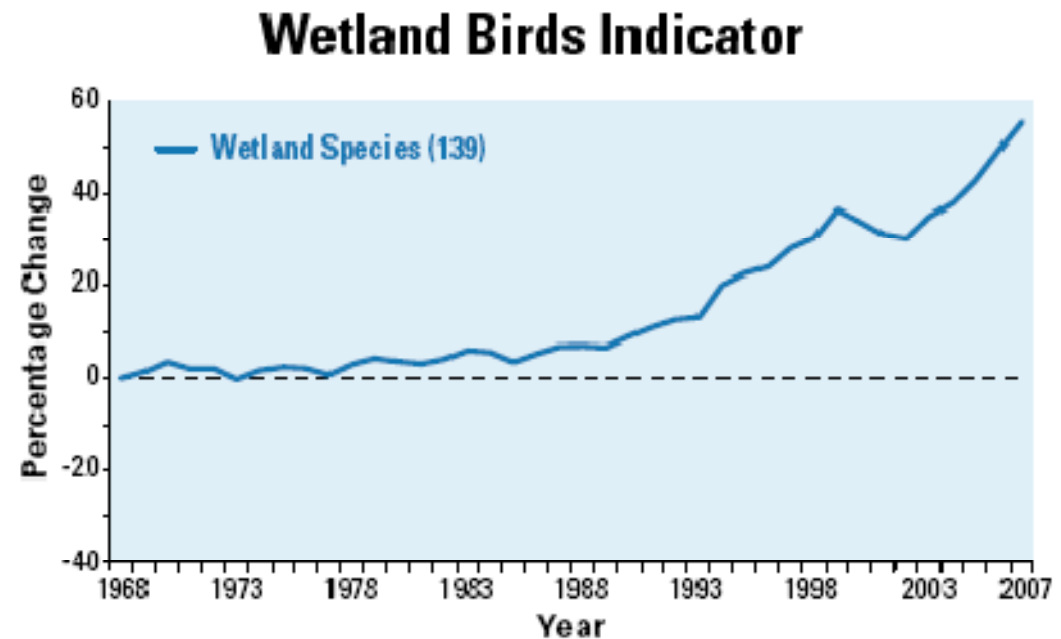
7 Habitats:

- Aridlands
- Grasslands
- Forests
- Wetlands
- Arctic & Alpine
- Coasts
- Oceans

6 Other:

- Game Birds
- Urban Birds
- Waterfowl
- Marsh Birds
- Hawaiian Birds
- Endangered Species

Created an “indicator” for each category



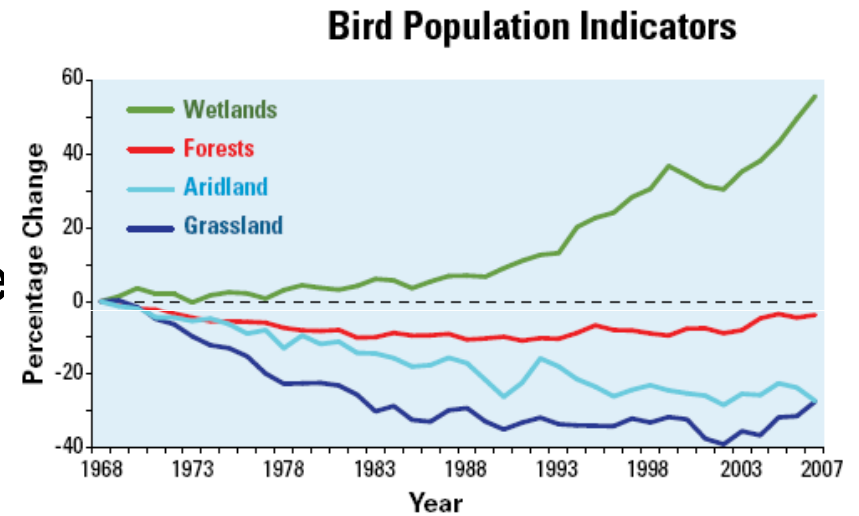
Key Findings: Increases

- Wetland birds increasing
 - Except Northern Pintail and Lesser Scaup
- 39 species of waterfowl have increased by over 100%
- Urban birds increasing
 - 20% increase



Key Findings: Decreases

- Hawaiian Islands birds
- Ocean birds: 39% decline
- Coastal Shorebirds: 50% decline
- Aridlands: 30% decline
- Grasslands: 40% decline



Key Findings: Decreases

- Forest birds: 10% decline
- Arctic birds: 38% of conservation concern (though large data gaps)
- Game birds: 37% of conservation concern
- Endangered species: 4 extinct since birth of US, 13 likely
- [80% of T&E species are “conservation reliant”]
- Marsh birds: appear stable? (data source unreliable for secretive marsh birds)



Nationally Declining Species (found in SF Bay area)

- Coastal Birds (Dunlin, Snowy Plover, Spotted Sandpiper, Common Murre, California Least Tern)
- Forest and Aridlands (Spotted Owl, Oak Titmouse, Western Wood-pewee, Olive-sided Flycatcher, Chestnut-backed Chickadee)
- Wetland Birds (Clapper Rail, Green Heron)
- Waterfowl (Northern Pintail, Lesser Scaup, Cinnamon Teal)

What Does Our Work Show for SF Bay?

Coastal Birds

- survival between breeding seasons dependent upon resources in SF Bay area (migrating species)
- threatened by sea level rise, development and increasing human disturbance

Snowy Plover: stable in SF Bay area, conservation reliant

Common Murre: increasing at Farallones, highest in 100 years

Western Gull: slow decline in last 20 years (Farallones) increasing on Alcatraz

California Gull: increasing, predator implications

CA Least Tern: Alameda colony stable with slight increase

What does PRBO's Work Show for SF Bay?

Ocean Birds

- threatened by pollution, bay outflow, bycatch, oil spills, climate change
- Cassin's Auklet: declining since 70's
- Double-crested Cormorant: sharp decline past 2 years
- Brandt's Cormorant: increasing over the last 10 years at Farallones and Alcatraz, 2008 & 09 bad years



What does PRBO's Work Show for SF Bay?

Wetland Birds

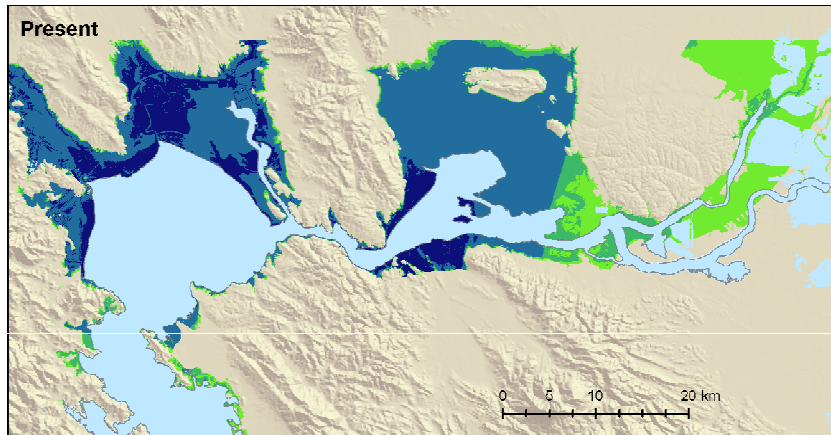
- threatened by sea level rise, development and human disturbance
- marsh birds: Clapper Rail declining in SF Bay
 - threatened by habitat loss, mercury, predation, sea level rise, intense storms



- marsh birds: Common Yellowthroat and Song Sparrow
 - could increase with habitat restoration, but would likely decrease as sea level rises

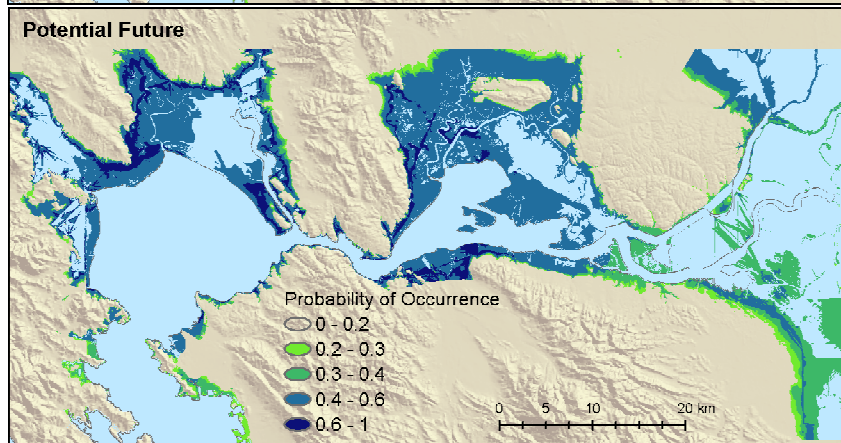
What About Climate Change?

Current



Common Yellowthroat
Geothlypis trichas

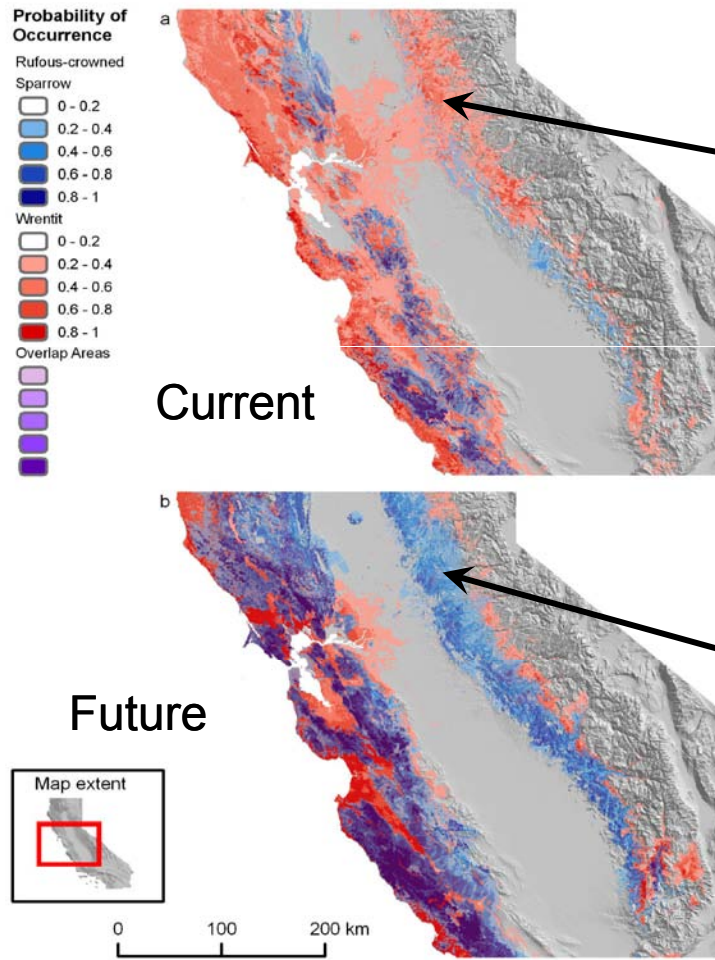
Future



SF Bay

Salinity increase / Elevation decrease (1 m SLR, no sediment accretion)

What About Climate Change?



Wrentit
Chamaea fasciata



Photo: Peter LaTourrette

Rufous-crowned Sparrow
Aimophila ruficeps



Photo: Ed Levin Park

Conclusions for National Report



- A good model, excellent for public awareness
- Need to include broader, more complete data
Avian Knowledge Network
<http://www.avianknowledge.net/>
California Avian Data Center – CADC
<http://www.data.prbo.org/cadc2/>)
- Difficult to translate to the state/regional level
 - Ex. Wetlands and Marsh: salt vs. freshwater?

San Francisco Bay State of the Birds

We need a more regional picture of the State of the Birds!

The SF Bay State of the Birds will:

1. Reach a vast and diverse audience
2. Heighten awareness
3. Highlight threats
4. Highlight data gaps
5. Enable an adaptive management system



San Francisco Bay State of the Birds

Opportunities

- Partner rich
- Data rich



San Francisco Bay State of the Birds

Examples of Long-term SF Bay Region Data

Migratory shorebirds	1990-92, 2006-08	PRBO, Audubon CA
Breeding shorebirds	1980 – 2009	USGS, PRBO, SFBBO
Hérons/Egrets	1980 - 2009	Audubon Canyon Ranch, SFBBO
Tidal marsh songbirds	1996 – 2009	PRBO
Rails	1970 – 2009	USFWS, PRBO, CDFG, USGS, EBRPD, ARA
Breeding seabirds	1967 - 2009	PRBO, NPS
Palo/Coyote Creek	1979 – 2009	SFBBO, PRBO
Mid-winter waterfowl	1988 – 2008	USFWS
Christmas Bird Count		Audubon CA

And many more...

San Francisco Bay State of the Birds

Opportunities

- Partner rich
- Data rich
- Timely with release of national State of the Birds Report
- Conservation interest and momentum
- Many convergent projects



San Francisco Bay State of the Birds

General Approach

- Highly collaborative
 - Committee
 - Establish partner leads
- Consolidate datasets
- Conduct analyses
- Partner review
- Big splash report
 - web, media, etc.



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Please provide input!





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