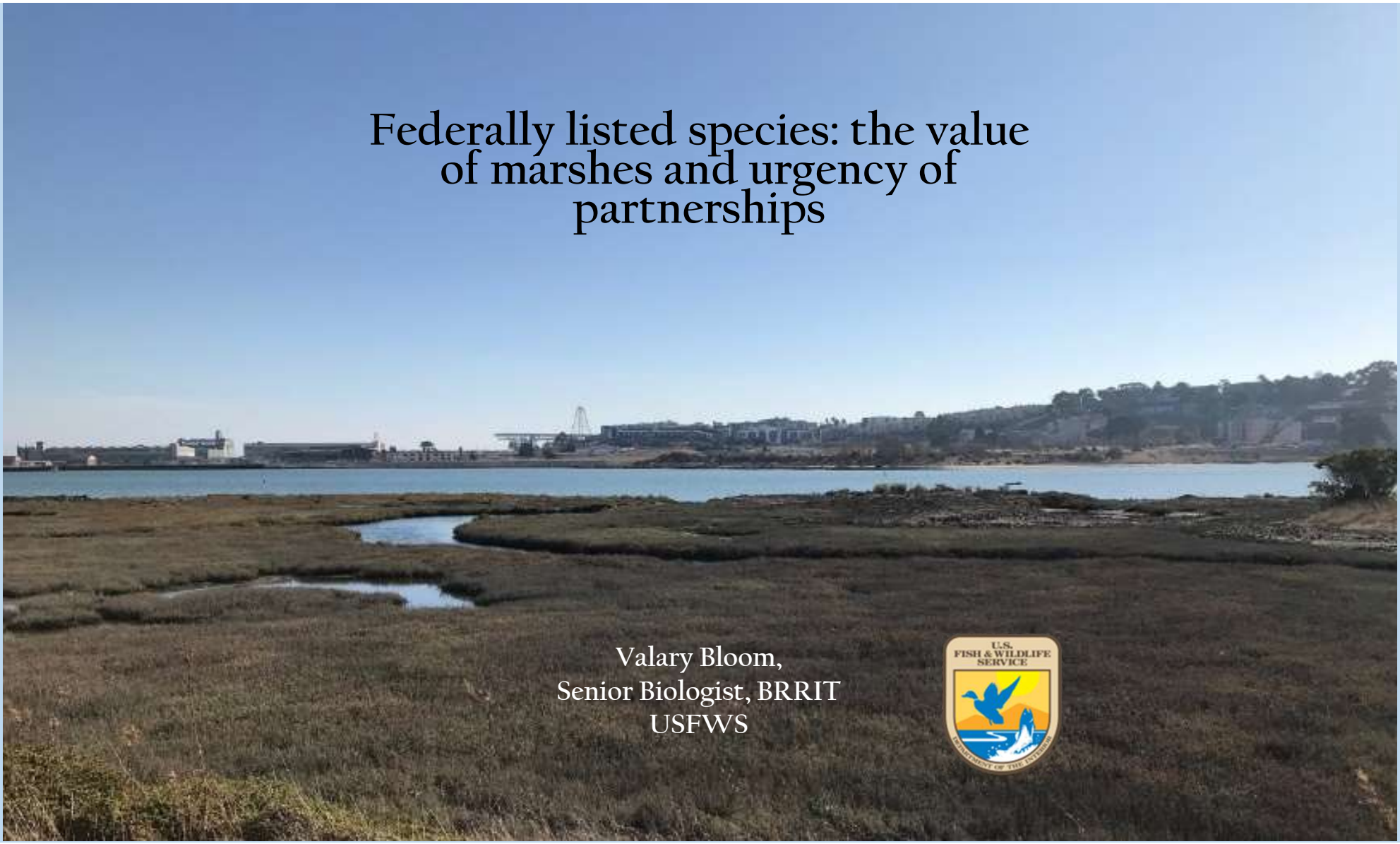
Federally listed species: the value of marshes and urgency of partnerships



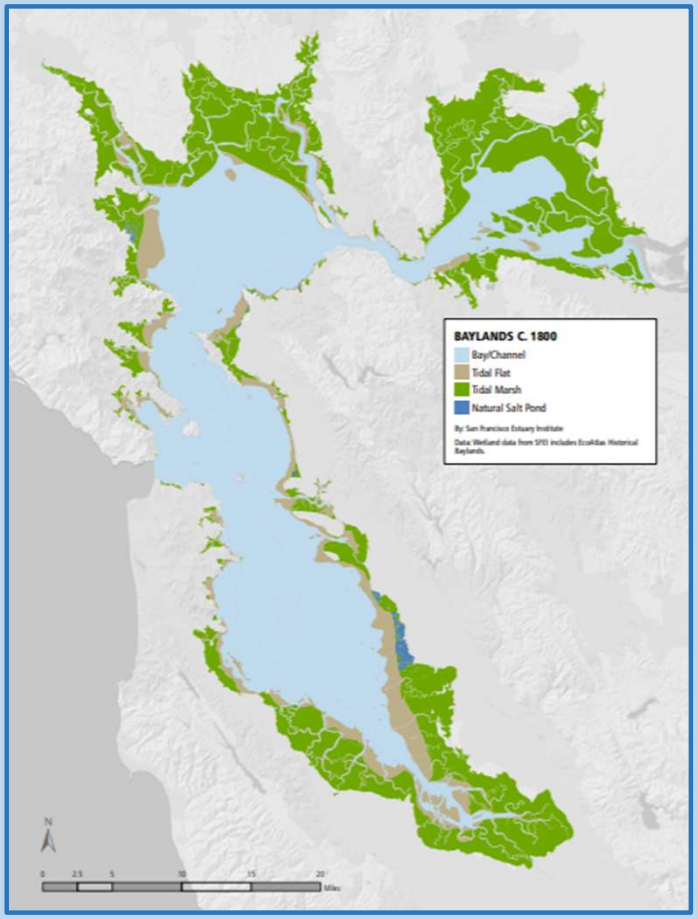
Valary Bloom,
Senior Biologist, BRRIT
USFWS

BRRIT
(Bay Restoration Regulatory Integration Team)

- Comprised of 3 state, 3 federal agencies (plus Policy and Mgmt Committee oversight)
- To improve the permitting process for multi-benefit wetland restoration projects and associated flood management and public access infrastructure along shoreline of the 9 Bay Area counties
- Measure AA projects
- Same regulatory mandates, but focuses on close coordination. Increases efficiencies/heads off conflicts that can arise late in process. Pre-app mtgs early and often!
- Complements two new state initiatives

Tidal Wetlands: Then and Now

Past



90% loss

(Goals Project 1999)

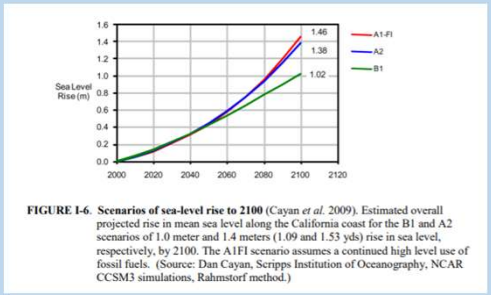
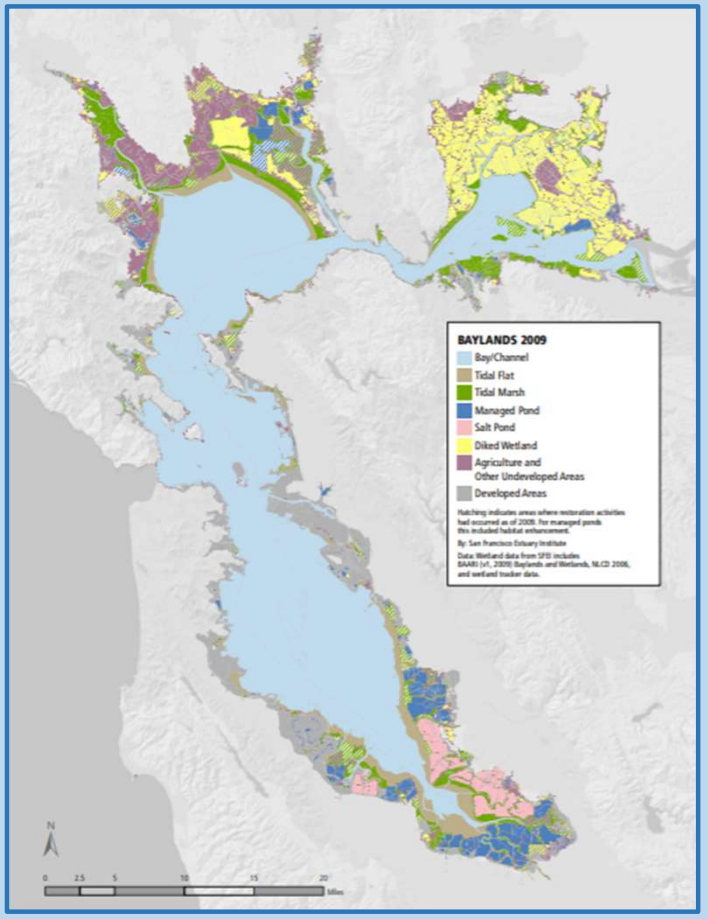


FIGURE I-6. Scenarios of sea-level rise to 2100 (Cayan *et al.* 2009). Estimated overall projected rise in mean sea level along the California coast for the B1 and A2 scenarios of 1.0 meter and 1.4 meters (1.09 and 1.53 yds) rise in sea level, respectively, by 2100. The A1FI scenario assumes a continued high level use of fossil fuels. (Source: Dan Cayan, Scripps Institution of Oceanography, NCAR CCSM3 simulations, Rahmstorf method.)

Heberger, M. H. Colley, P. Herrera, P.H. Gleick, and E. Moore. 2009. The impacts of sea-level rise on the California coast. A Draft Paper from the California Climate Change Center. Pacific Institute. CEC-500-2009-024-D.

Present



What the experts are saying...

"As the climate continues to change, San Francisco Bay shoreline communities will need to adapt in order to build social and ecological resilience to rising sea levels."

- San Francisco Bay Shoreline Adaptation Atlas, SFEI and SPUR, 2019

"Tidal marshes that are established by 2030 are more likely to provide ongoing benefits when sea level rise accelerates at mid-century. To achieve this goal, the planning, permitting, and construction of restoration projects must be accelerated."

- Baylands Ecosystem Habitat Goals Science Update, 2015

Ecosystem services provided by healthy functioning wetlands

- Water quality/ water purification
- Recreational opportunities
- Flood control
- Nutrient cycling
- Wildlife habitat

Endangered tidal marsh species

Salt marsh harvest mouse

California Ridgway's rail

Threats reducing populations:

- Habitat loss from development (conversion to agricultural or residential landuse) or freshwater discharges
- Added stress from fragmentation
- Sea level rise
- Increased predation hastened by urban development (levee hwys, trash). Feral cats, raccoons, gulls
- Non-native plant species invasions

Needs, in order to thrive:

- Cover- high tide refugia, marsh mounds, ecotones
- Foraging lands (properly functioning hydrology for tidal sloughs to drain and mudflats)
- Relatively undisturbed nesting areas
- Free from predators
- Wide and deep (less edge effect) and highly sinuous and dendritic channel development
- Mosaic of microhabitats (rare plants) and connectivity to other marshes

California seablite

Suisun thistle

Soft bird's beak

Besides that *we have to, per ESA and other regulations*, why should we care about species?

- Having species present means system is healthy, fully functional, benefitting everyone
- Canary in the Coal Mine (early indicators)
- Biodiversity

To keep every cog and wheel is the first precaution of intelligent tinkering

-Aldo Leopold

The Baylands Ecosystem Goals Report Update in 2015 recommends accelerating the pace and scale of tidal marsh restoration, as **tidal marshes established by 2030 are more likely to provide ongoing benefits when sea level rise accelerates at mid-century**.

Accelerate funding and streamline the implementation of projects that restore the baylands to tidal action

Restoration = huge wins for the species and human occupants of the Bay!

Released in 2013…available online!

Includes:

- Intro to ecosystem
- Threats
- Species accounts
- Bay-wide, regional, and local recovery strategies
- Quantitative recovery criteria per species
- Time and cost estimates

Overarching strategies of the TMRP:

- Acquisition and Protection
- Restoration and Management
- Species Surveys and Monitoring
- Research
- Coordination and Outreach

TMRP
Recovery Implementation Team (RIT)

- Invited members
- 3 working groups leading the way

…but all organizations and individuals can participate….and you can help!

https://www.fws.gov/sfbaydelta/EndangeredSpecies/RecoveryPlanning/Tidal_Marsh

For questions, contact
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Land trusts

Academia

State and federal resource agencies

NGOs

Science institutes

Partnerships!

Flood control districts

Private landowners

Cities

Biological/engineering consulting firms

Water Districts

Local parks departments

Mosquito abatement districts

Refuges

"Friends" groups

- Many passionate organizations with same general goal ….a healthy SF Bay
- Bay organizations are:
  - compiling data,
  - learning from past restoration,
  - standardizing monitoring protocols
  - and developing tools to help us achieve goal
- Innovative design approaches (living shorelines, barrier beaches, ecotone levees, eelgrass restor., sediment reuse….)
- Cutting Green Tape, CA 30 x 30
- Seeing successes
- Join together, Be adaptive

Take Aways…. Everyone can help with bay recovery!

- Spread the word about the value of wetlands;
- Inform your peers and neighbors about sensitive species inhabiting the natural areas we love, and their needs to thrive;
- Volunteer with ongoing restoration initiatives;
- Support your local legislature on bay conservation issues;
- Check out:

http://www.sfbayrestore.org/san-francisco-bay-restoration-regulatory-integration-team-brrit-0

For questions,
Valary_Bloom@fws.gov