

An aerial photograph of the Salton Sea coastline. The sea is a deep blue, occupying the left side of the frame. The coastline is a mix of sandy beaches, green vegetation, and agricultural fields. In the background, there are large, brownish mountains under a clear blue sky. A large blue oval is overlaid on the right side of the image, containing white text.

**The Salton Sea:
Environment, public
health and Economy**

Frank Ruiz Audubon CA

Salton Sea Current Challenges

- Environmental



- Public Health



- Economic



Environmental challenges

- Loss of water and rapid evaporation
- High levels of salinity (58-64ppt)
- Loss of habitats
- Water quality (more scyanobacteria episodes)
- Losing species diversity
- Losing food webs (waterboatman 99%)



Health crisis...




- Poor air quality index
- High levels of PM-10
- One of the highest levels of asthma and COP in CA
- Common nose bleeds reports

Economic crisis...

- ❑ Second highest unemployment rate
- ❑ Unaffordable housing
- ❑ Highest rate of asthma and COP in CA
- ❑ An Ag industry of 4.5 billion
- ❑ 1/5 of county live poverty (latinos 85%)
- ❑ 73% of Latinos (Ag and Food processing were affected by COVID (CDC)
- ❑ 800K farmworkers only making average of 18K a year



Photo by Times of San Diego



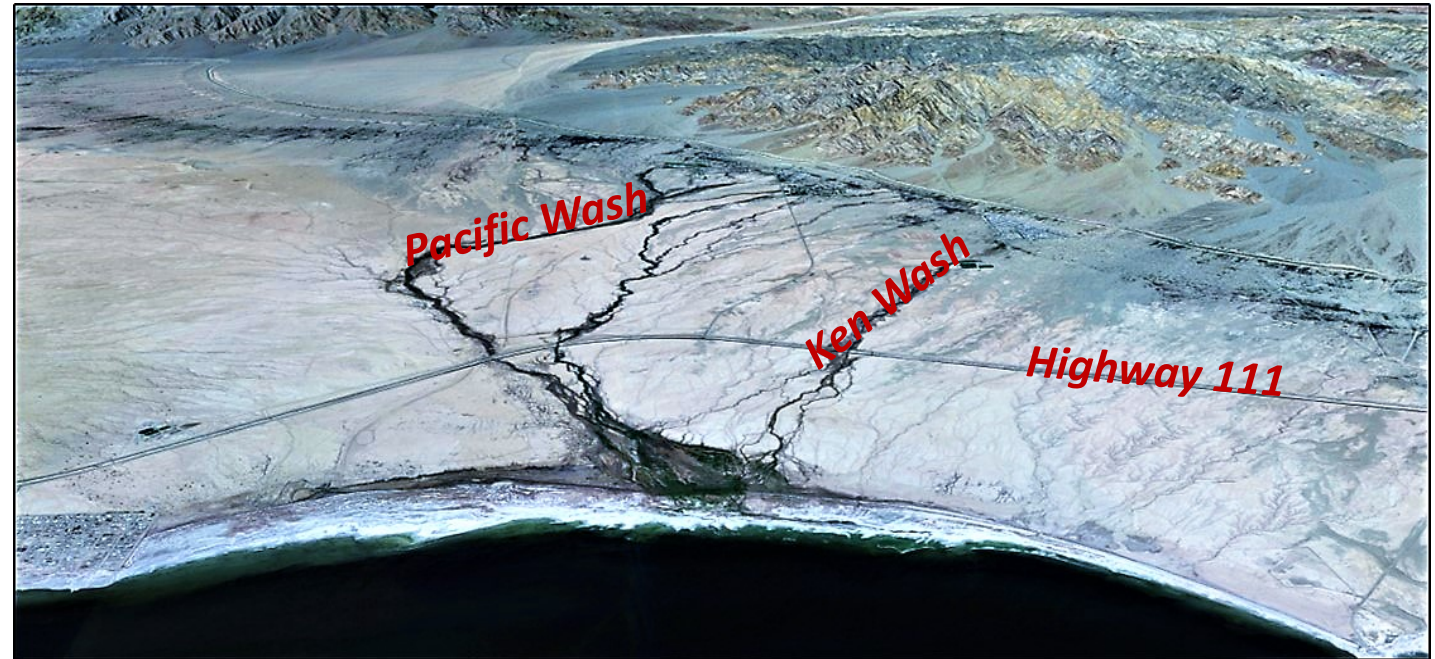
Bombay Beach Wetland Project

*A multi-benefit habitat
enhancement and dust control
demonstration project on the
Salton Sea playa*



Audubon


CALIFORNIA



- *Located on the northeast shore of the Salton Sea between the community of Bombay Beach and the Niland Boat Ramp.*
- *Located at the confluence of several ephemeral and perennial washes.*

Project Location

Bombay Beach Wetland (BBW) Project



Need and Opportunity for Wetland Enhancement at the Salton Sea

- *Important stopover on Pacific Flyway.*
- *Wetland habitats are forming on the emerging playa where water flows and discharges concentrate.*
- *BUT, these habitats are vulnerable:*
 - *Erosion from intense storms*
 - *Wetland drainage from eroded beach berms.*
 - *Groundwater level decline.*
 - *Invasion by non-native Tamarisk.*



Project Objectives

- Protect existing habitat areas from erosive damage, drainage and degradation.
- Establish playa shrub and wetland habitat areas as the Salton Sea recedes.
- Optimize water retention and use for environmental benefits (i.e., habitat and dust control).
- Provide public access for viewing, education and research.

Implementation Plan and Schedule

Audubon is currently selecting the design concept in consultation with stakeholder and community input, performing biological resource studies, engineering analyses, and preparing the 35% design. Work is being conducted under a \$700,000 grant from the U.S. Bureau of Reclamation (USBR), in cooperation with other agencies and landowners, and in coordination with Imperial Irrigation District (IID).



Phase 1 – Conceptual Design (Year 1)



Phase 2 – Design and Permitting (Year 1 & 2)



Phase 3 – Construction (Year 3)

A Multi-Disciplinary Approach to a Dual-Purpose Ecosystem Enhancement Project

Avian
Biology



Surface and
Groundwater
Hydrology

Aquatic and
Terrestrial
Biology

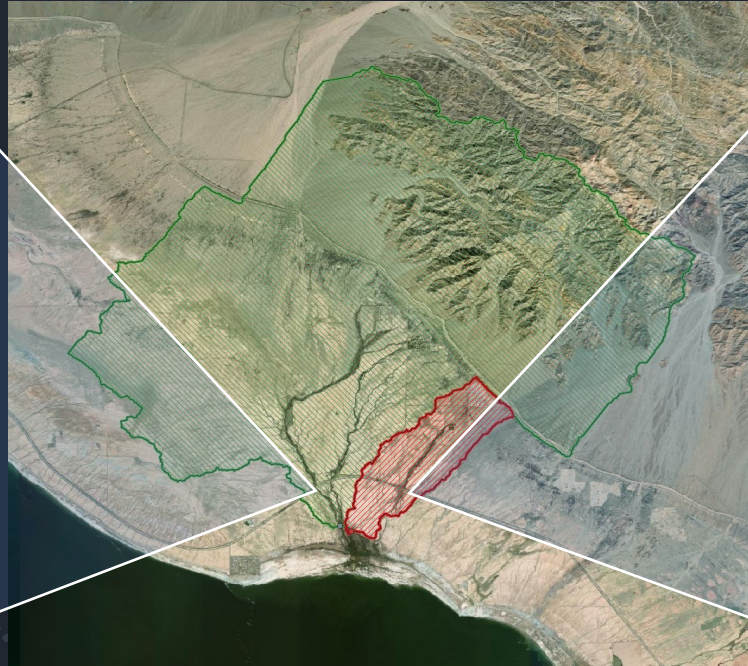
Planning
and
Permitting

Engineering

..... and then there are
Stakeholders, Landowners and
Community Engagement

1. Pacific Wash Watershed
2. Coachella Canal
3. Hot Springs Geothermal Area
4. Pacific and Ken Washes
5. 2002 Shoreline Berm
6. Bombay Beach Wetland





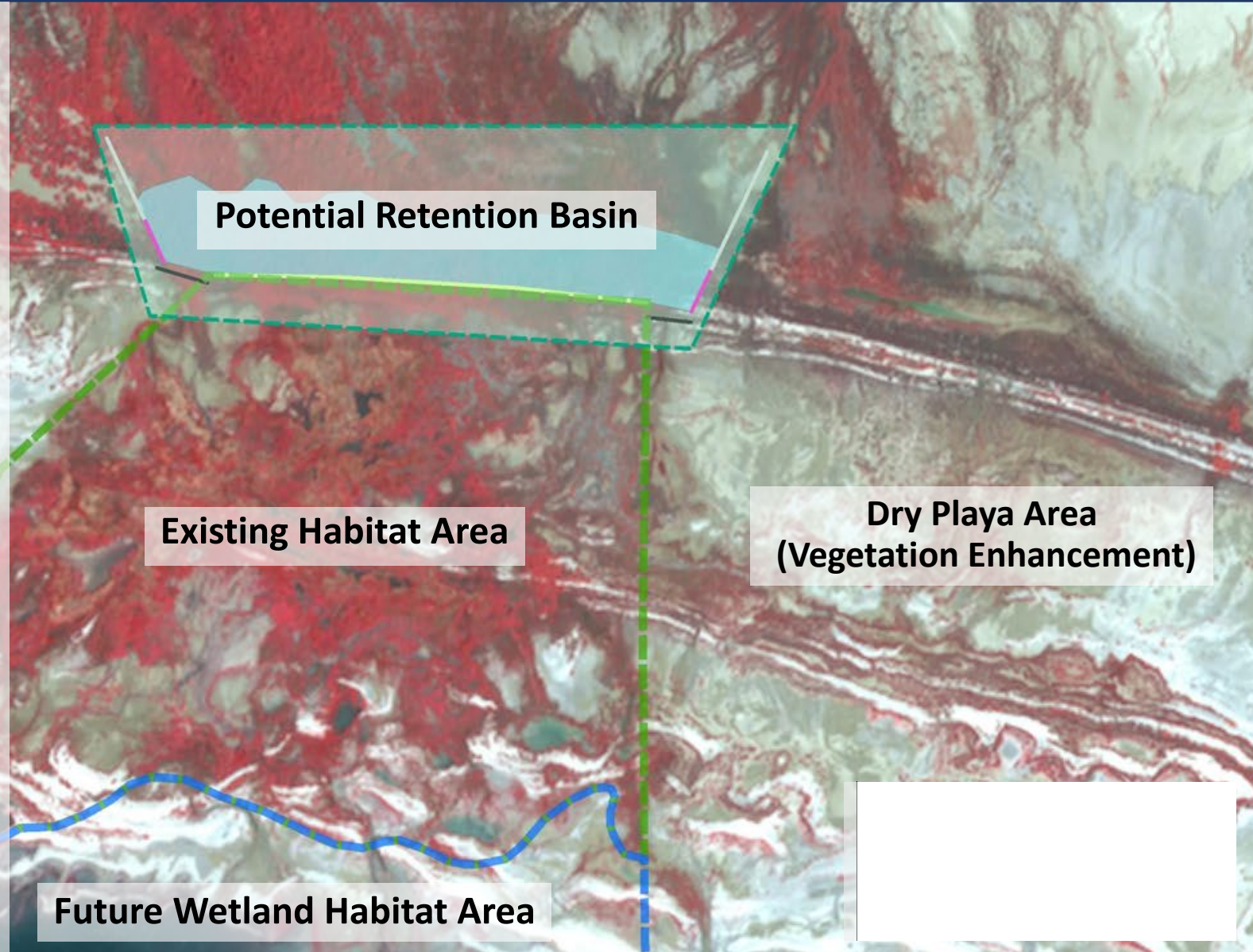
Watershed

- 58 square miles
- Perennial flow input ~2,900 AFY at Hot Spring Spa Area
- Preliminary perennial flow estimate discharged to the wetland: 500 - 1,000 AFY
- Preliminary ephemeral discharge estimate: 500 to 1,500 AFY
- Peak flows:
 - 2-Year Event ~ 100 CFS
 - 10-Year Event ~ 1,400 CFS
- Hydrologic modeling is in process

Preliminary Design Concepts

Potential design components under consideration:

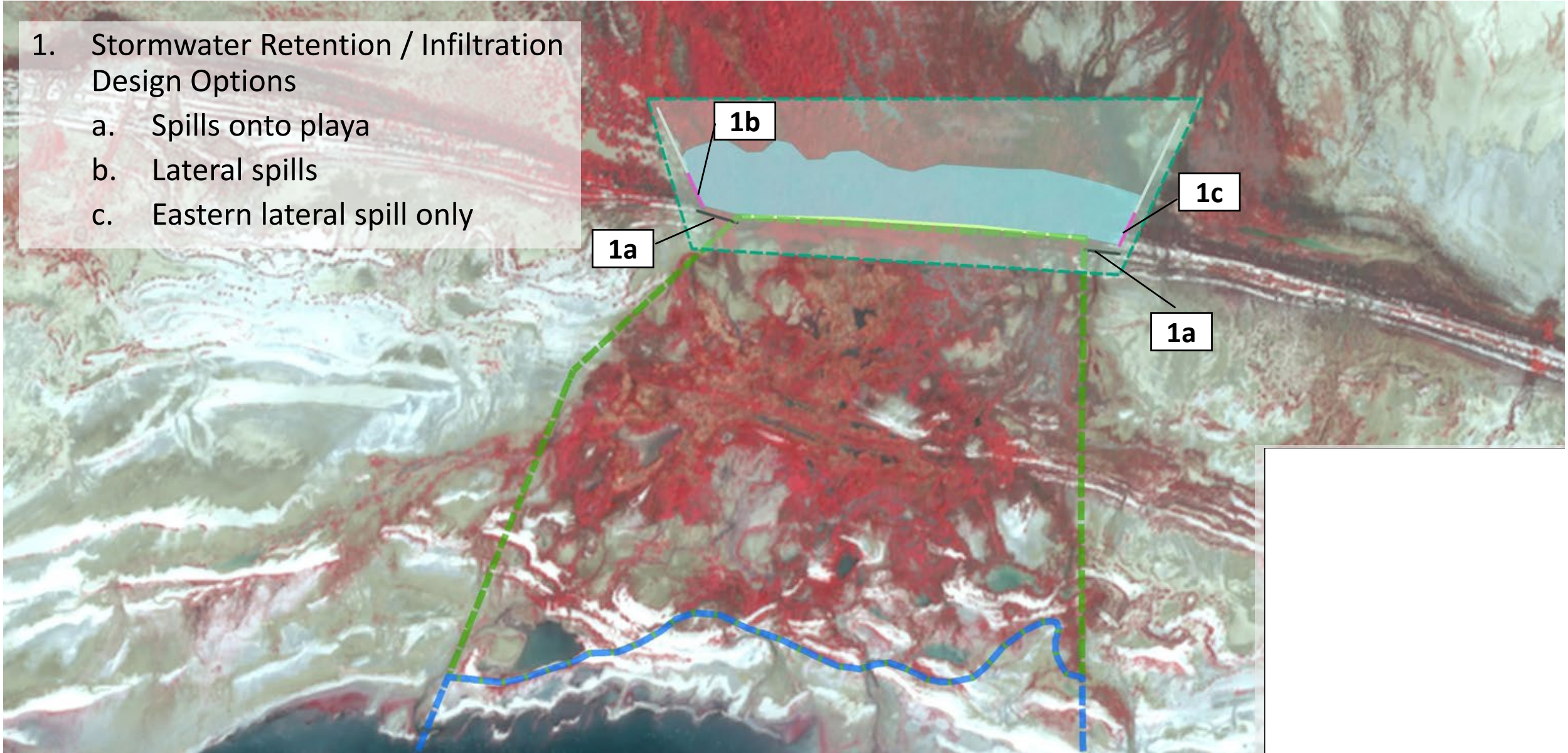
- *Retention basin to prevent flood damage and spread of Tamarisk seeds, and infiltrate water into the shallow groundwater table that sustains the wetlands;*
- *Low impact structures to spread excess water on the playa and promote new vegetation growth;*
- *Protection and maintenance of existing habitat areas;*
- *Enhancement of future habitat areas on the new playa as the sea recedes; and*
- *Construction of an access road, trails and a viewing platform.*



Design Concepts | 1. Stormwater Retention/Infiltration

1. Stormwater Retention / Infiltration Design Options

- a. Spills onto playa
- b. Lateral spills
- c. Eastern lateral spill only



Questions?

