

Welcome to Day 2 of the Salton Sea Management Program Annual Workshop!

waterboards.ca.gov/saltonsea

May 17, 2023



The Salton Sea Community Needs Strategy Overview

Sarah Friedman
Better World Group

Salton Sea Community Needs Strategy



Sergio Ojeda

The Strategy is prepared by California Natural Resources Agency (CNRA) with support from Better World Group Advisors (BWG) to identify strategies for addressing community needs. The goal of this document is to direct funding to Salton Sea communities and to support local collaboration.

Identifying Needs and Strategies

The Strategy follows the tremendous work community residents and based-organizations have led for decades. Our process included:

- Literature review
- Review of public comment
- Interviews
- Surveys
- Focus Groups
- Coming this summer: 45-day public comment period on Draft Strategy

Salton Sea Community Needs Strategy Goals 1-4

	<u>Goal 1</u> – Meaningful tribal consultation and engagement
	<u>Goal 2</u> – Equitable outdoor access and recreation at the Sea
	<u>Goal 3</u> – Environmental health protections, and improved public health
	<u>Goal 4</u> – Inclusive and sustainable workforce development

The Salton Sea Community Needs Strategy Goals 5-7

	<u>Goal 5</u> – Expanded and enhanced transportation access
	<u>Goal 6</u> – Climate resilience
	<u>Goal 7</u> – Broadband access for all communities

Community Outreach & Engagement

Christian Rodríguez
Kounkuey Design Initiative

KDI and IVEJC

KDI and IVEJC teams surveyed 508 people, met with 55 focus group workshop participants and engaged approximately 225 individuals through the mobile “obelisk” engagements in Brawley, Calipatria, Westmorland, Salton City, El Centro, Calexico, and Thermal.





Demographics

The age demographic most engaged were of ages 25 to 45 with 63% respondents identifying as female, and 75% identifying as Hispanic and/or Latino.

Key Findings

Desired Amenities

- Parks
- Walking Paths

Infrastructure Needs

- Housing
- Reliable Transportation



Key Findings

Highest level of priority

- shade (trees, structures)
- paved roads

High level of priority

- medical clinics
- traffic control (speed bumps, stop signs, traffic lights, traffic control personnel during traffic hours)

Considerable level of priority

- shoreline access
- trainings for jobs that will become available



Investing in Community Engagement

CBO Sub-consultant services \$10,000

Survey Paid Participation \$6,398.64

Focus Group Paid Participation \$2,782.50

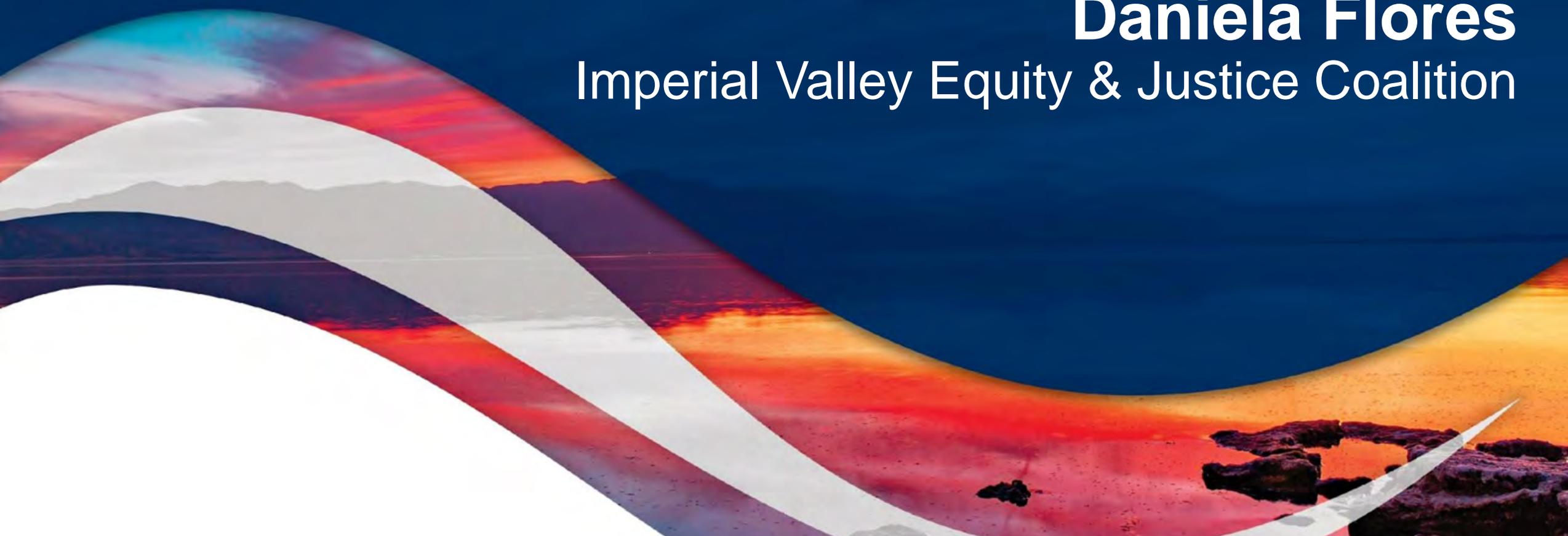
Partners:

- FIELD
- Brawley Senior Center
- Oasis Leadership Committee
- Juntos Al Aire Libre Youth Volunteers

Institutionalizing Engagement

Daniela Flores

Imperial Valley Equity & Justice Coalition



Lessons Learned/Affirmed



- Reaching Spanish speaking communities requires more 1:1 in-person interactions
- Partnerships with trusted CBOs helps ensure greater inclusion
- Meeting communities where they are at during survey outreach

Lessons Learned/Affirmed



- Equitable incentives as a way to give back to the community
- Proper investment in community engagement that is informed by impacted residents supports greater inclusion and equity
- For IV Equity, working with KDI in the survey engagement expanded our local capacity to discuss the Salton Sea in IV

Panel 3: Air Quality and Public Health



Jason Low, Facilitator, South Coast Air Quality Management District

Luis Olmedo, Comite Civico Del Valle

Jessica Humes, Imperial Irrigation District

Thomas Brinkerhoff, Imperial County Air Pollution Control District

Salton Sea Air Quality Mitigation Program Update

Jessica Humes
Environmental Project Manager ,Sr.



Salton Sea Air Quality Mitigation Program

- Comprehensive, science-based, adaptive program
- Proactively detect, locate, assess, and identify options to mitigate dust emissions from exposed Salton Sea playa



Map Playa Exposure

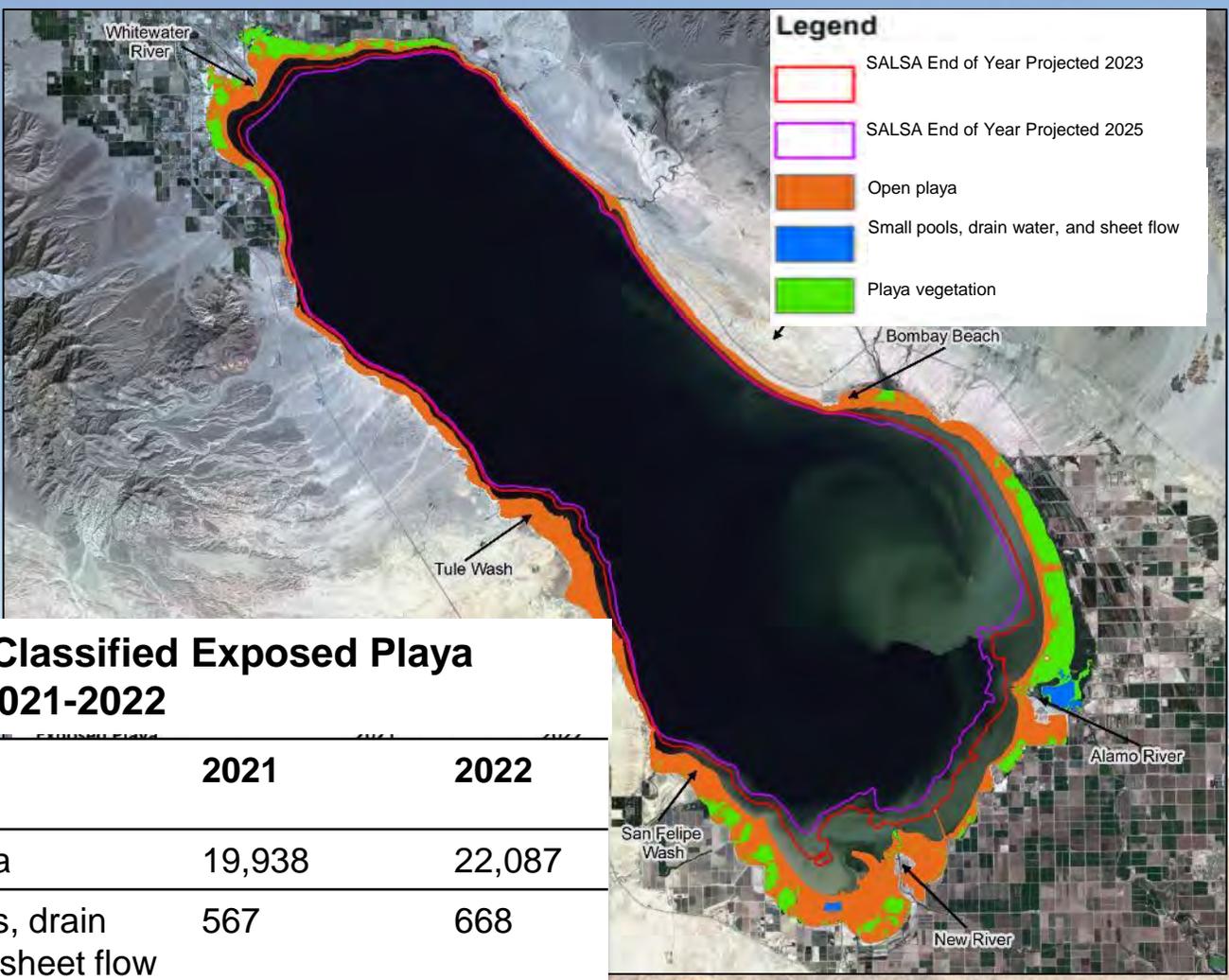
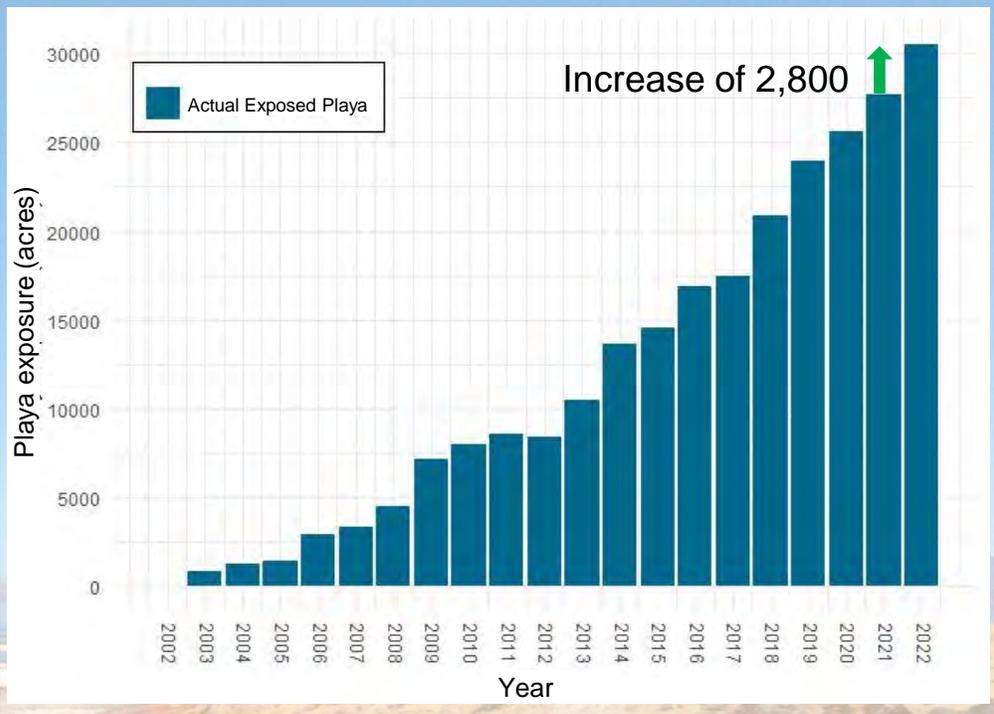
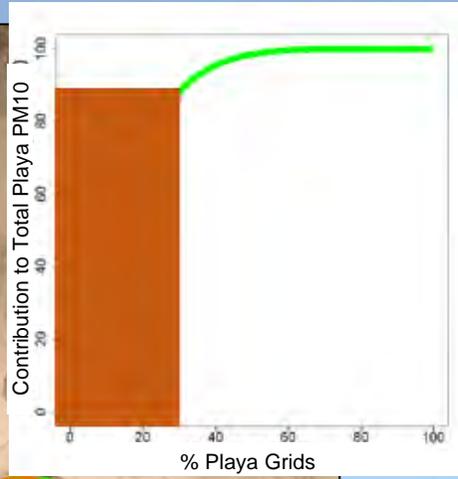
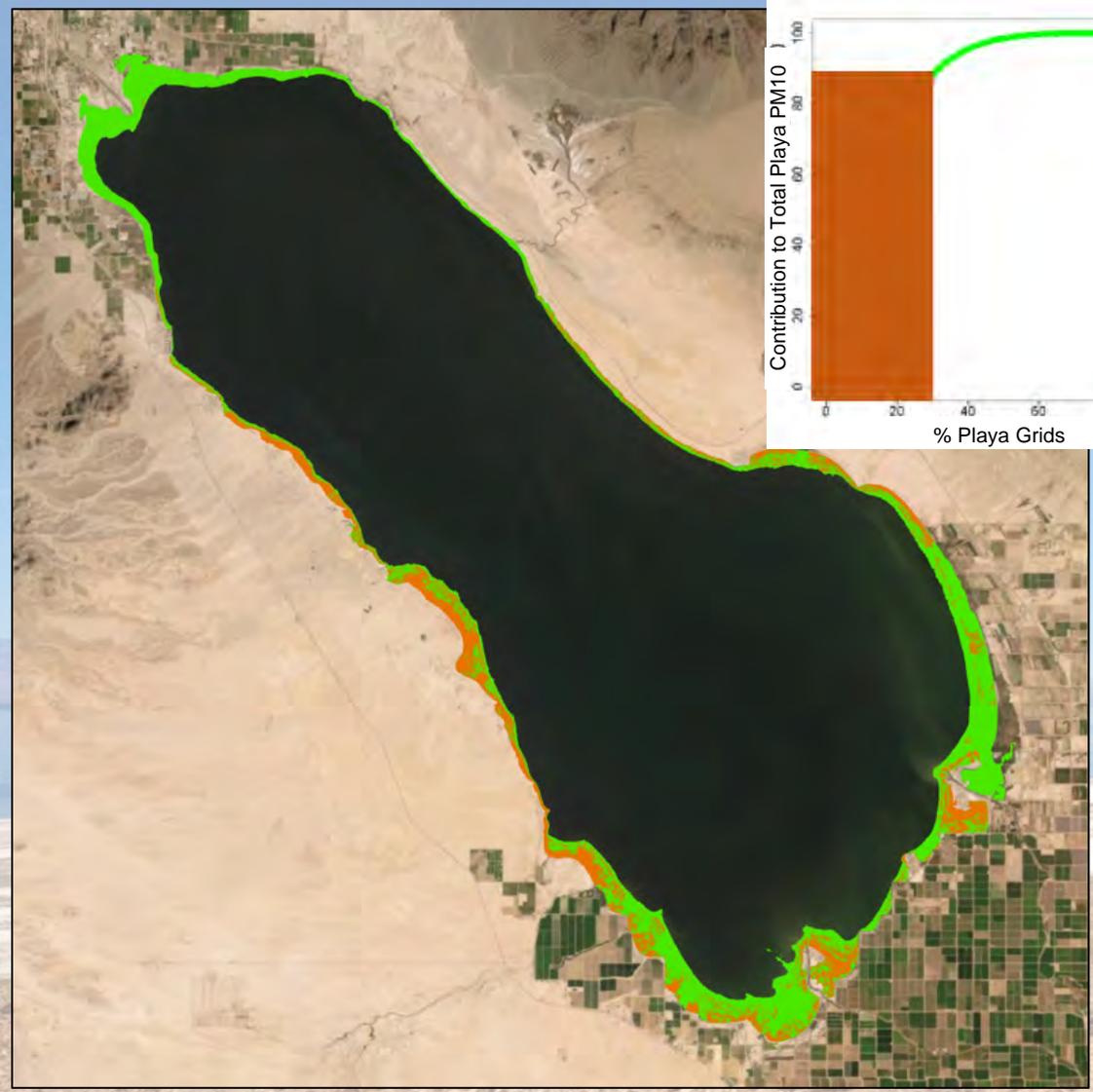


Table 1. Classified Exposed Playa (acres) 2021-2022

Playa type	2021	2022
Open Playa	19,938	22,087
Small pools, drain water, and sheet flow	567	668
Playa Vegetation	7,184	7,733
Total	27,689	30,488



Relative Contribution of Emissions



Playa Percentage	Area	Percent of Total PM ₁₀ Emissions
5	1,280	32
10	2,560	50
15	3,840	64
20	5,120	74
25	6,400	82
30	7,680	88

Projects



Agency Overview & AB 617 Projects

Salton Sea Management Program Workshop

Imperial County
Air Pollution Control District

May 17, 2023

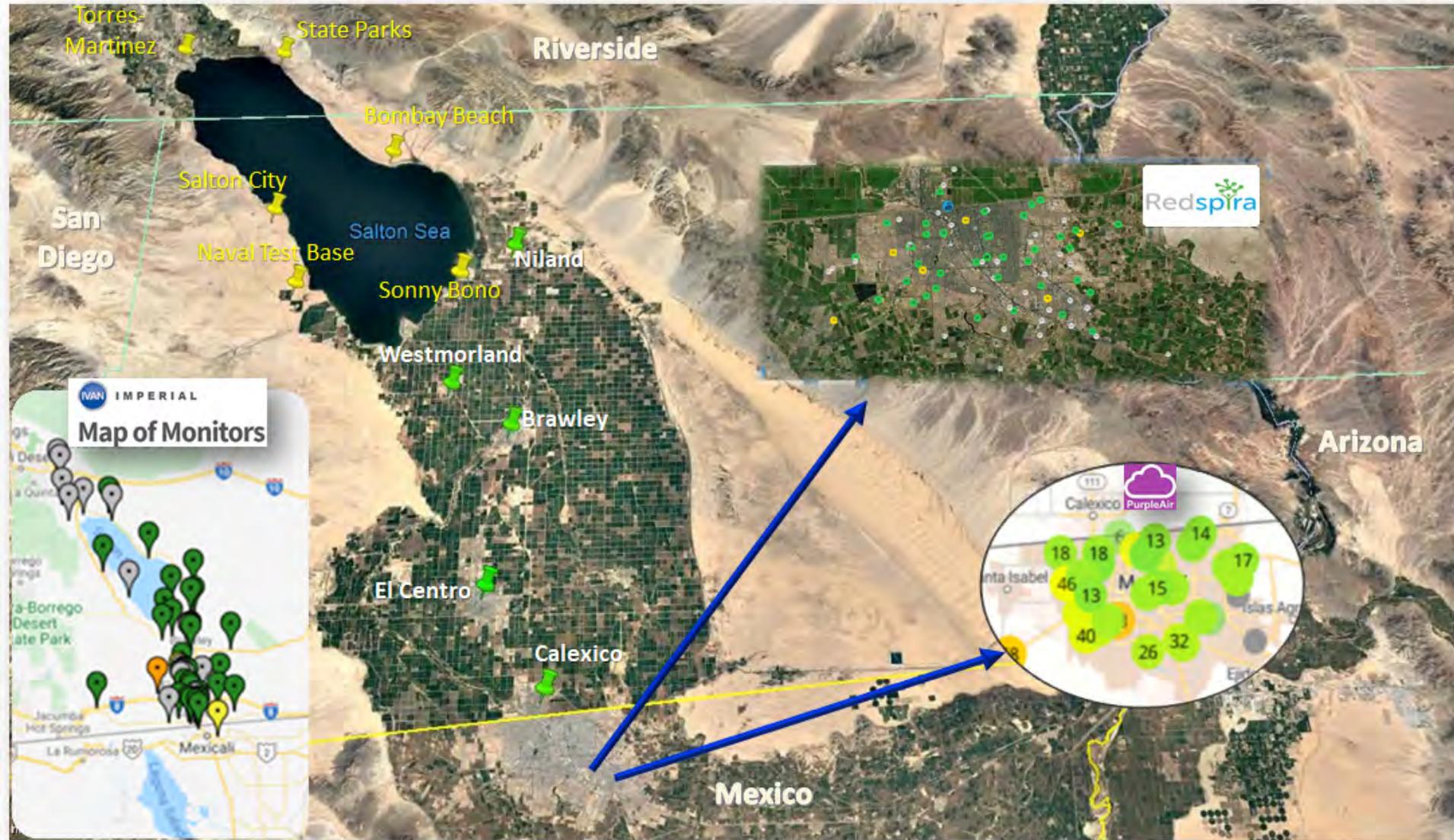


ICAPCD Agency Structure

- **Planning/Monitoring (5 Staff)**
 - Develop air quality attainment plans;
 - Rules and Regulations for State and Federal mandates;
 - Monitor the air quality
- **Compliance (7 Staff/ 1 extra help)**
 - Sources, follow-ups complaints – ensure compliance
 - Manage and oversee the Agricultural Burn Program
- **Engineering (4 Staff)**
 - Write and review permits (8 Title V, 9 SM, approx. 800 total permits)
 - Manage Incentive program to reduce agricultural burning
- **Grants/Binational/AB617 (3 Staff)**
- **Administrative (3 Staff)**



Imperial County Air Monitoring



Imperial County AB 617 Community Air Protection Plan

- El Centro-Heber-Calexico Corridor selected as a Year-1 AB 617 Community (Sept. 2018)
- For a Community Air Monitoring Plan (CAMP) & Community Emission Reduction Plan (CERP)
- ICAPCD in partnership with Comite Civico del Valle
- Steering Committee (15 Primary, 15 Alternate)
- Brawley-Westmorland-Calipatria Corridor selected as a new AB 617 Community in Feb. 2023.
- Community Projects:
 - 7 urban greening projects
 - 4 paving projects
 - 17 school air filtration systems

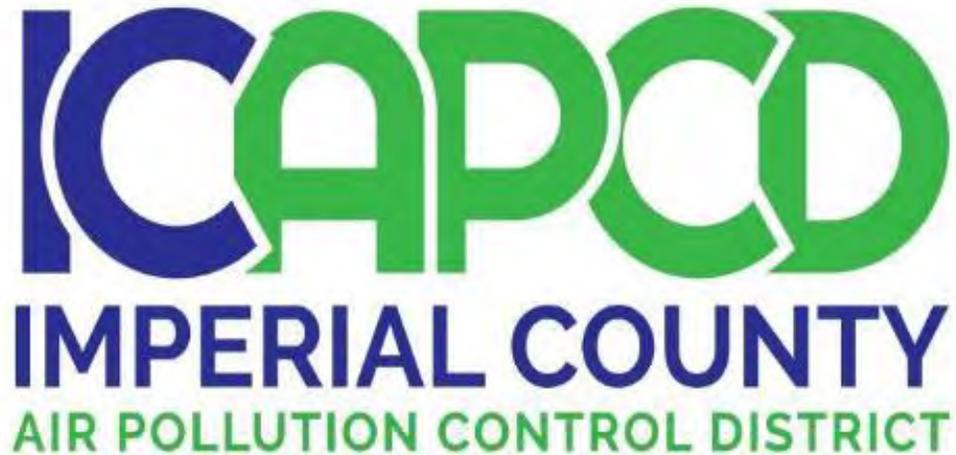


Other ICAPCD Grants

- Targeted Airshed Grants (TAG): EPA Funded
 - \$3.35 Million grant to pave 2.8 miles of unpaved residential alleyways in Calexico
 - \$3.49 Million grant to pave residential alleyways in El Centro
- Carl Moyer Engine Replacement
- FARMER (Agricultural Equip. Engines)
- Lawn Equipment Exchange Program (LEEP)
- Rule 310 – Operational Development Fee (PM10 and Ozone Reduction Projects)
- Supplemental Environmental Programs (SEP): Enhanced Air Filtration at Schools.



Thank You



Thomas Brinkerhoff, APC Division Manager

IMPERIAL COUNTY APCD

150 S. 9th St., El Centro, CA 92243

(442) 265-1800

thomasbrinkerhoff@co.imperial.ca.us

Panel 3 Q&A

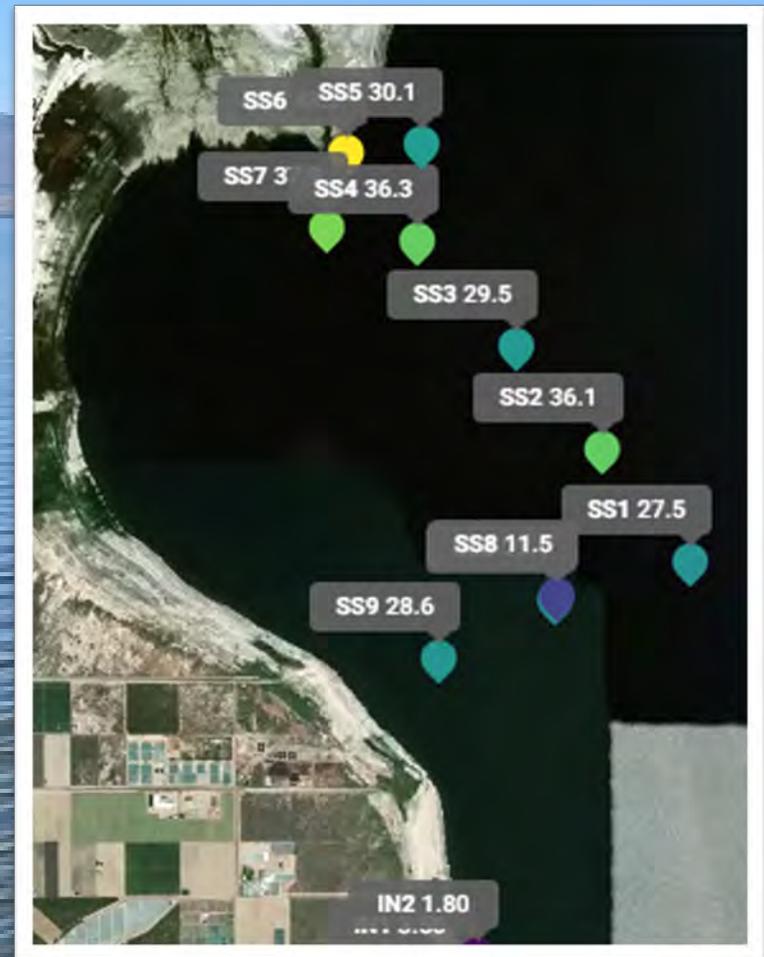
Panel 4: Water Quality



Facilitator: Paula Rasmussen, Colorado River Basin Regional Water Quality Control Board
Ryan Sinclair, Loma Linda University
Timothy Lyons, University of California, Riverside

Salton Sea Water Quality Water Quality Monitoring

Ryan Sinclair PhD, MPH; rsinclair@llu.edu



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COACHELLA VALLEY

LOMA LINDA
UNIVERSITY
School of Public Health

Community Science Water Sampling

FINDINGS

- Mouth of Whitewater River
 - High concentrations of nutrients
 - A continuous algal bloom
 - Elevated *Enterococcus* bacterial indicator
- Gradually decreasing nutrient concentration along transect
- Enthusiastic Public support of WQ monitoring

RECOMENDATIONS

- Centralized state dashboard for all monitoring
 - Water Quality and Public health study
- Strategic sampling for suspected contamination entry sites
 - Proposed TMDLs for Salton Sea should be prioritized

Nutrient and bacteria measurements

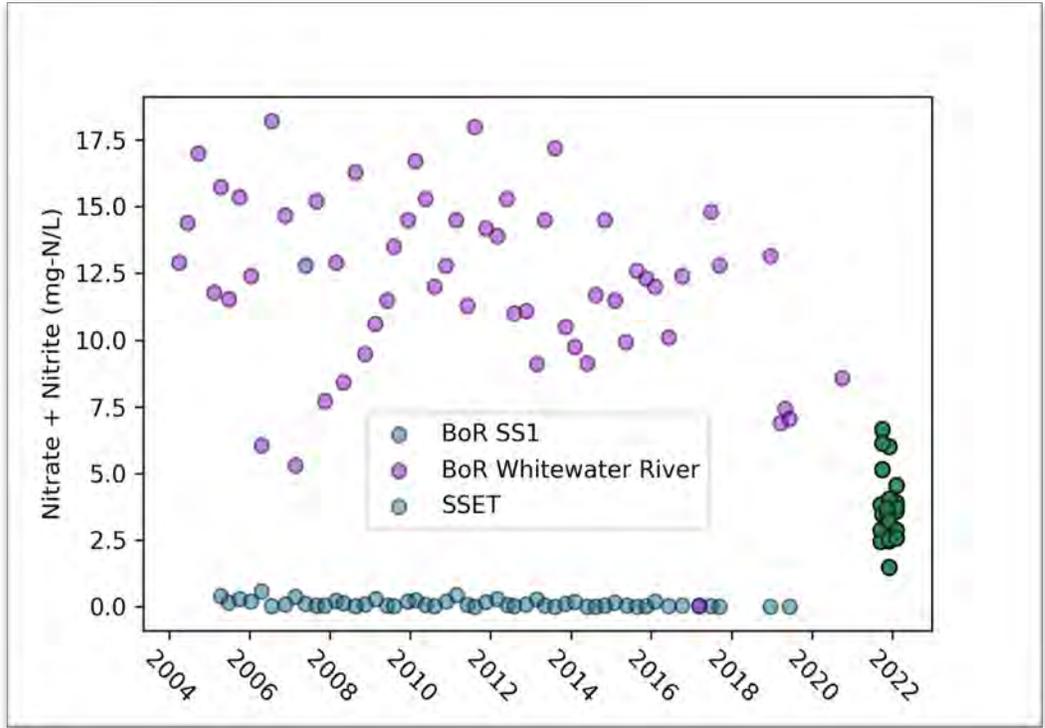
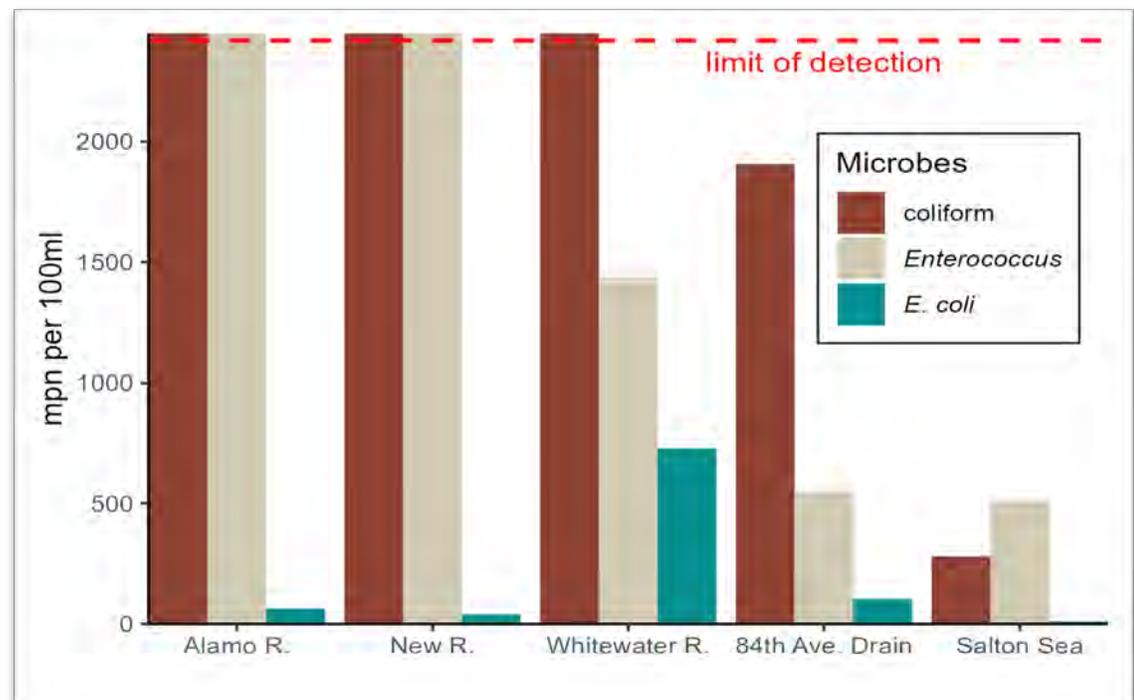


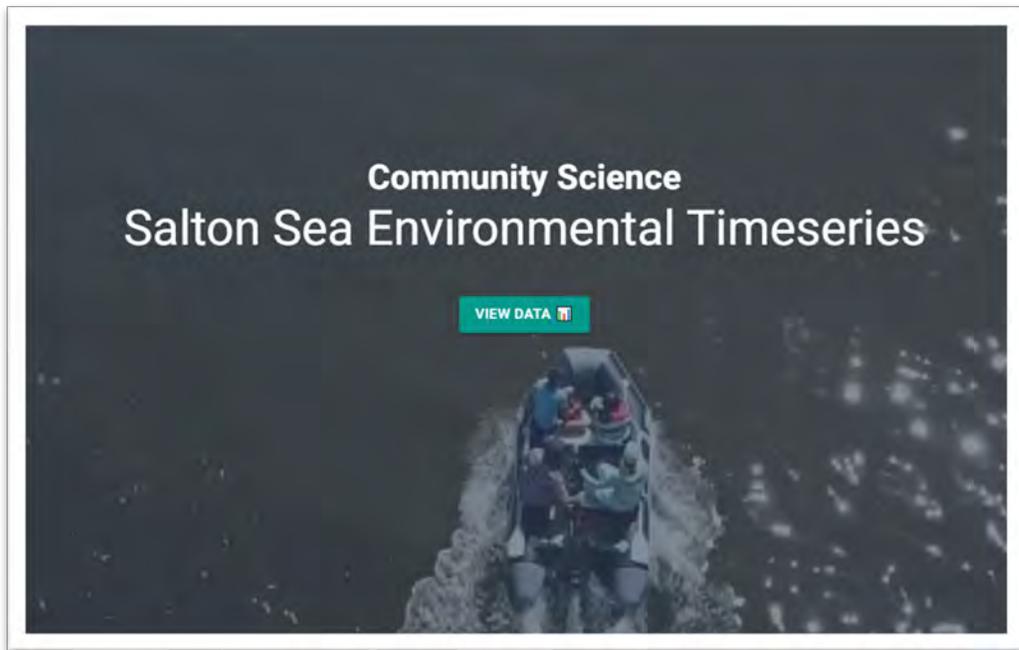
Figure 1. Nitrate + Nitrite (mg-N/L) concentrations in the Salton Sea from stations monitored by the Bureau of Reclamation (BoR) and the Salton Sea Environmental Timeseries (SSET). The BoR data were taken at their BOR-SS1 (33.4°N 115.9°W) and Whitewater River (33.5°N, 116.1°W) locations. SSET data stems from the transect indicated in following slide.

Figure 2. Bacterial concentrations in the Salton Sea and surrounding inflow measured by the SSET in 2021 and 2022. Limit of detection denoted by dashed red line.



The Salton Sea Environmental Time Series Dashboard:

<https://saltonseascience.org>

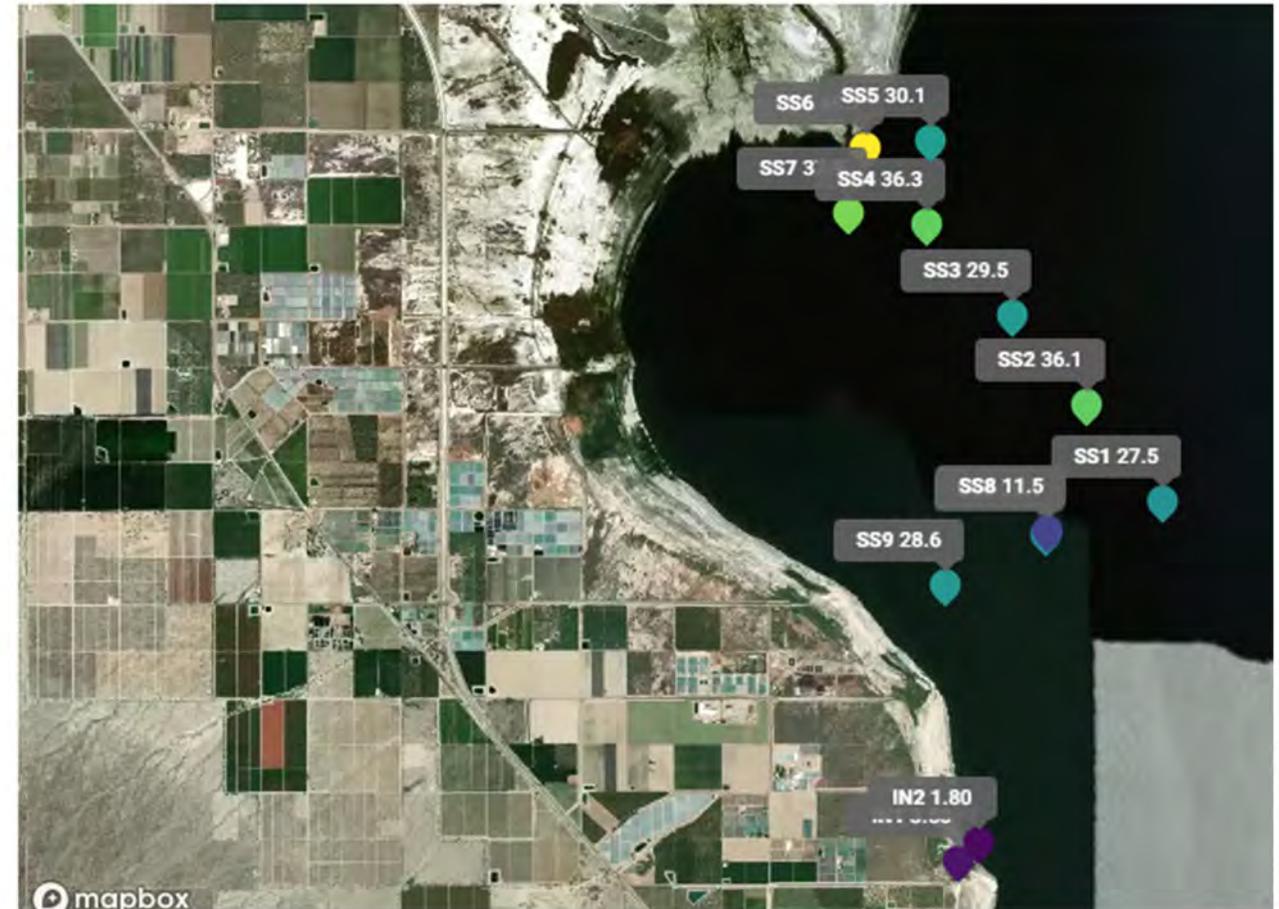


Water Quality



Chlorophyll concentration is an indicator for the presence of photosynthetic phytoplankton (or algae) in the Salton Sea blooms.

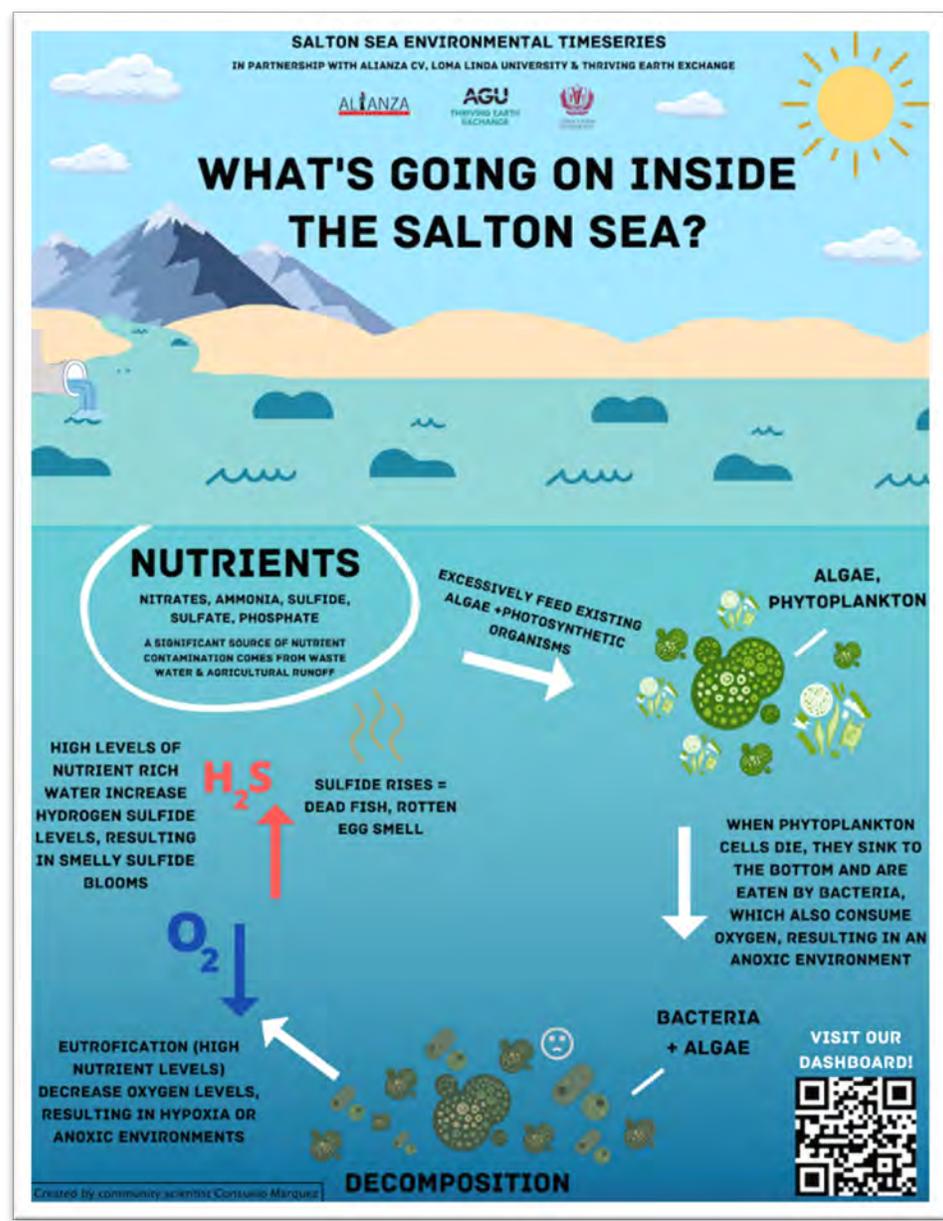
The values displayed on the map are averages.



Sampling



Salton sea Nutrient Infographic



Salton Sea Water Quality Monitoring

Ryan Sinclair PhD, MPH
rsinclair@llu.edu



Thank
you



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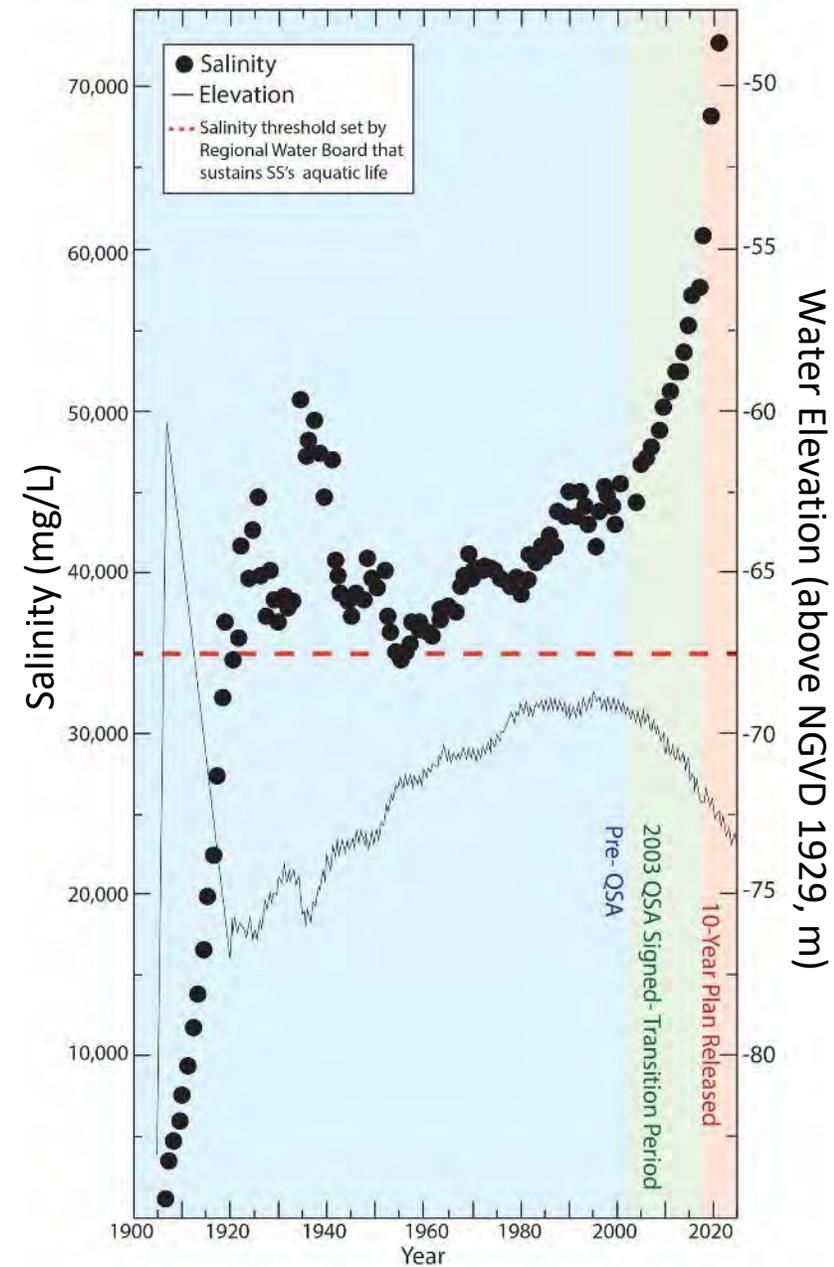
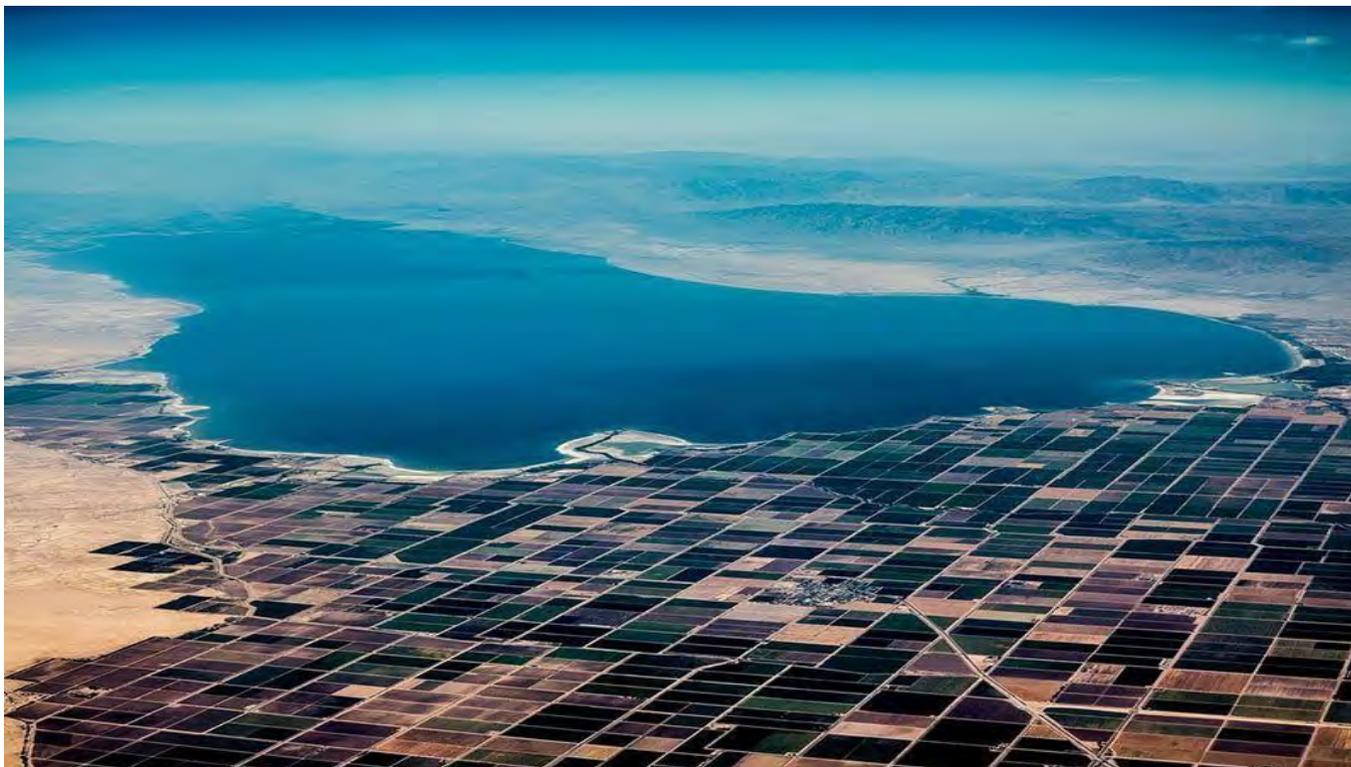
Water and air quality issues around California's threatened Salton Sea region

Tim Lyons

University of California, Riverside



The evolving Salton Sea: Water level and salinity



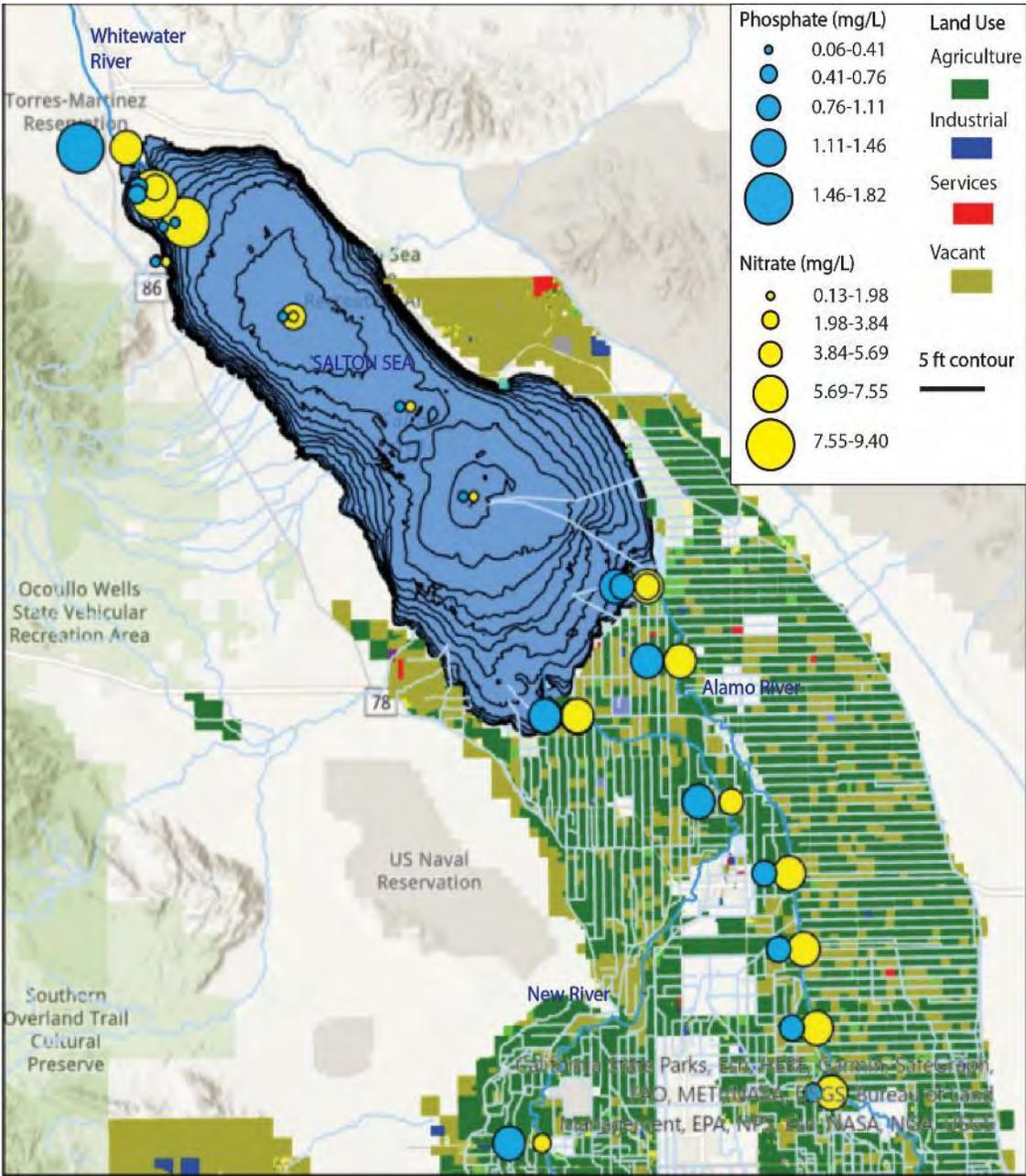
Agricultural runoff role in environmental degradation

The US EPA has established a recommended limit of 0.05 mg/L for total phosphates in streams that enter lakes and 0.1 mg/L for total phosphorus for flowing waters.

Trophic Status of Lakes vs Nitrate-Nitrogen levels

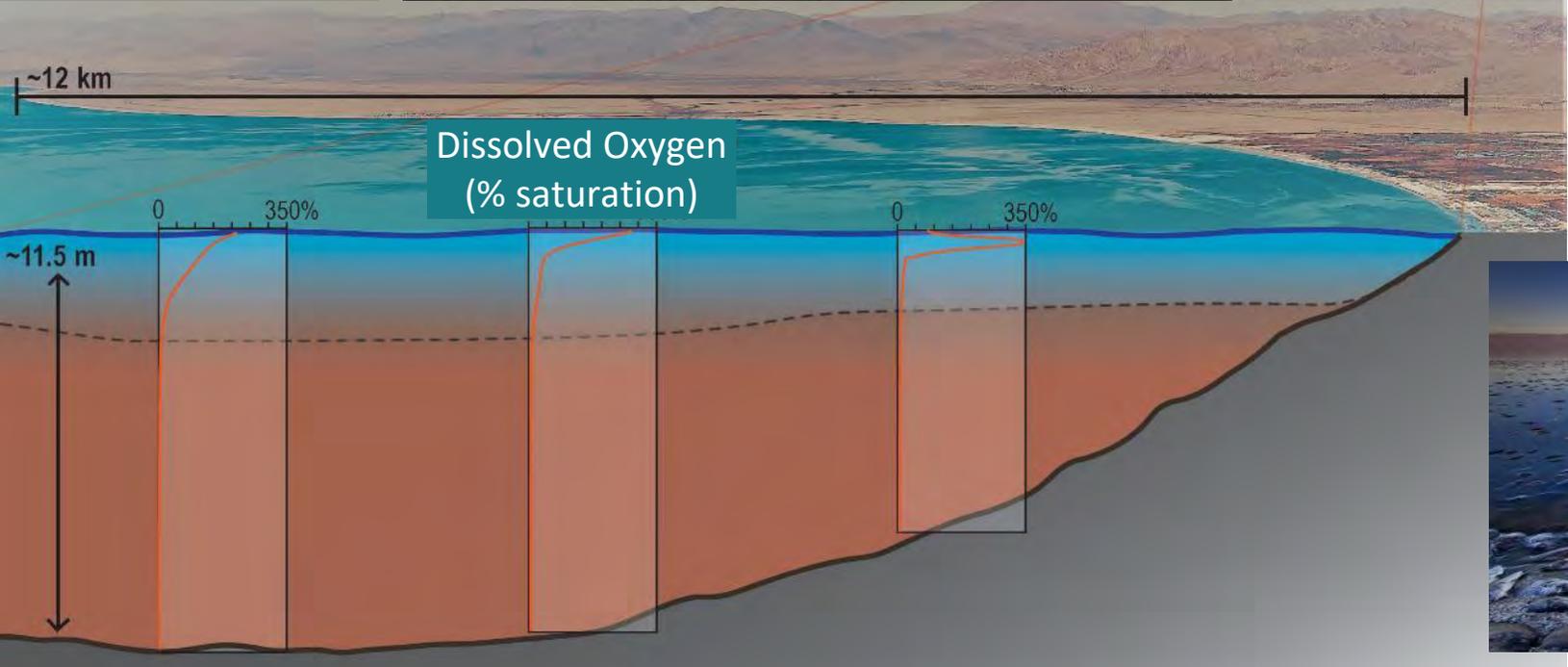
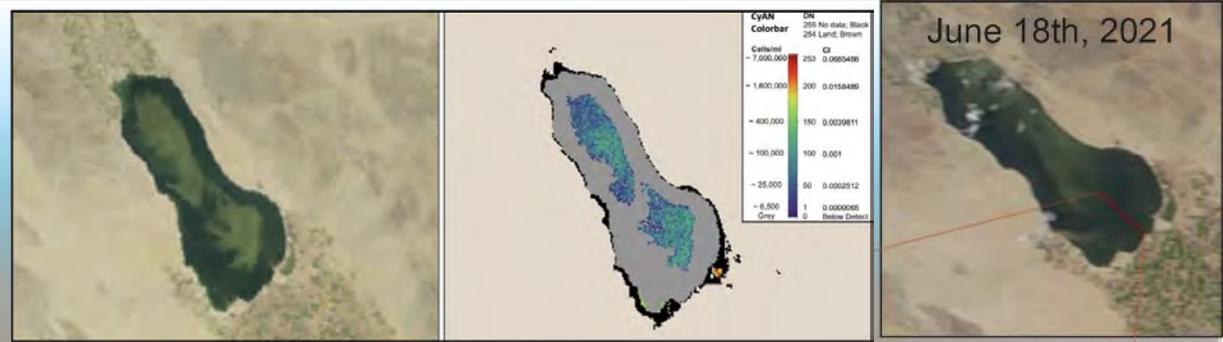
NO3-N (mg/l)	Trophic Level
< 0.3	Oligotrophic
0.3 - 0.5	Mesotrophic
0.5 - 1.5	Eutrophic
> 1.5	Hypereutrophic

www.umass.edu/mwwp/resources/factsheets.html



Harmful Algal Blooms (HABs)

The confirmed presence of Harmful Algal Blooms (HABs) around the Salton Sea indicate the blooms contain varieties of toxic cyanobacteria. Also, increasing salinity + anoxia/sulfide



7.6 Million Fish Die in a Day at Salton Sea

BY DIANA MARCUM
AUG. 12, 1999 12 AM PT

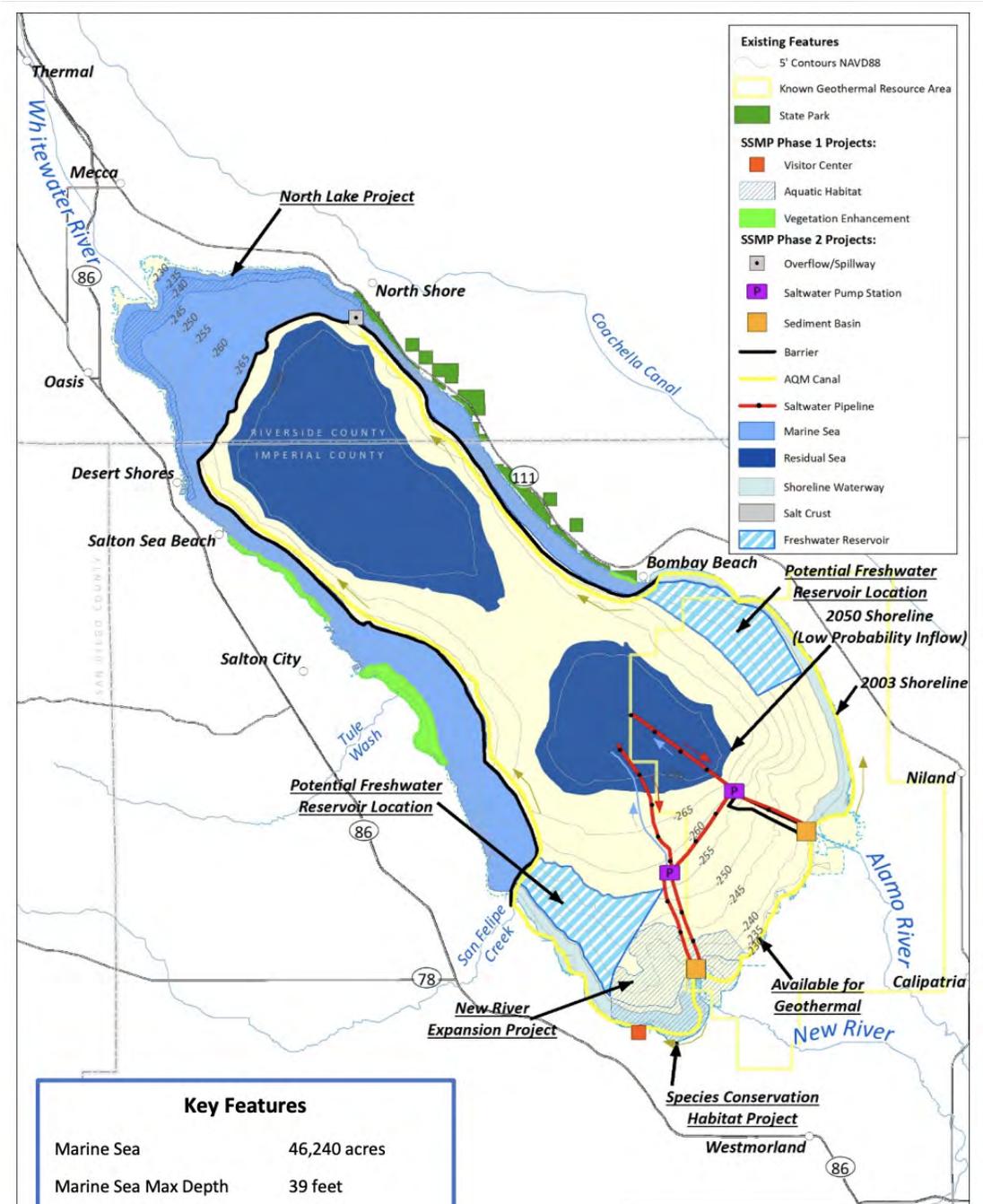
SPECIAL TO THE TIMES

SALTON CITY — As predictably as swallows return to Capistrano in the springtime, fish die at the Salton Sea in August.

But this year, almost 8 million fish died in a single day last week, the largest one-day death toll ever recorded in these troubled waters. And that is renewing the controversy over the future of California's largest lake.



Proposed long-range plans for the Salton Sea



UC Riverside Salton Sea Task Force

The UCR Salton Sea task force covers the full range of scientific disciplines needed to find solutions to Salton Sea challenges:

- Water policy
- Watershed hydrology
- Water quality
- Air quality
- Ecology
- Human health
- Geothermal resources

saltonseatastaskforce.ucr.edu



Panel 4 Q&A

Panel 5: Community Voices and Projects

Aydee Palomino, Facilitator Alianza Coachella Valley

Maria Nava-Froelich Mayor of Calipatria

Daniel Ramirez Community Member

Cruz Marquez Community Member and Scientist

Ashley Havens Community Member and Environmental Health Advocate

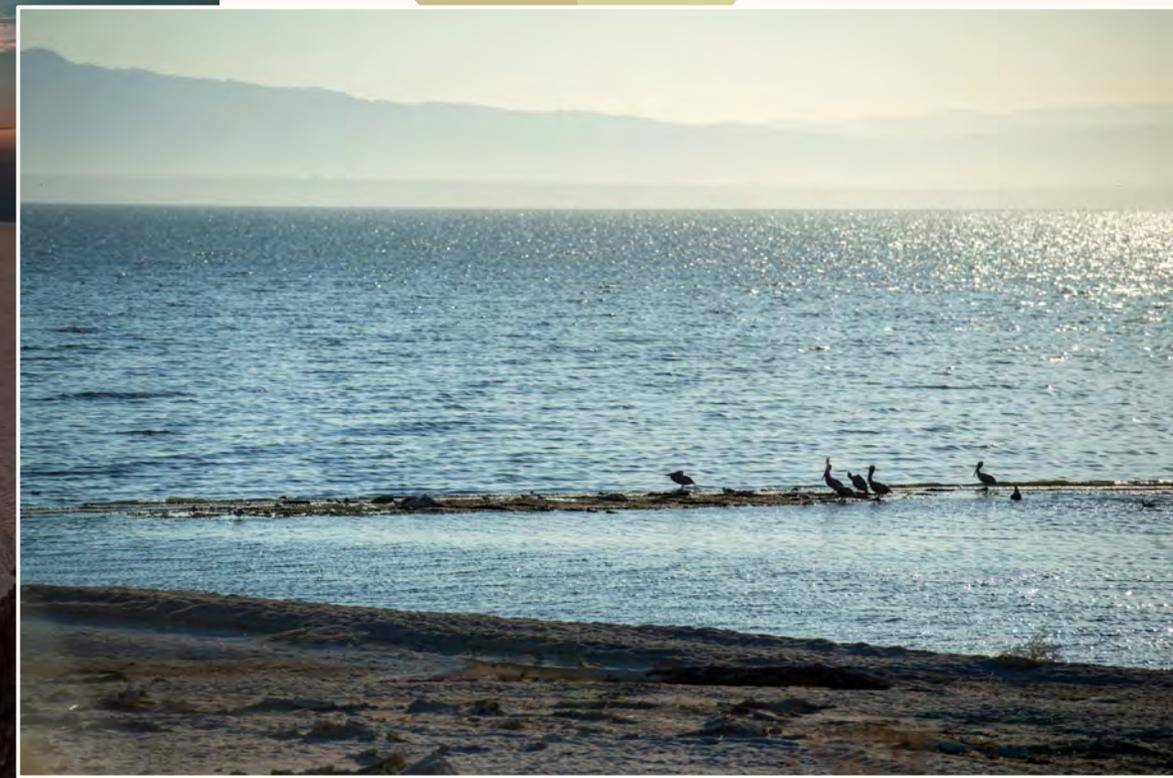
Good evening, my name is

MARIA NAVA FROELICH

**Mayor of the City of Calipatria
Director
of the
Calipatria-Niland
Family Resource Center**

SALTON SEA

A place of endless beauty and wonder

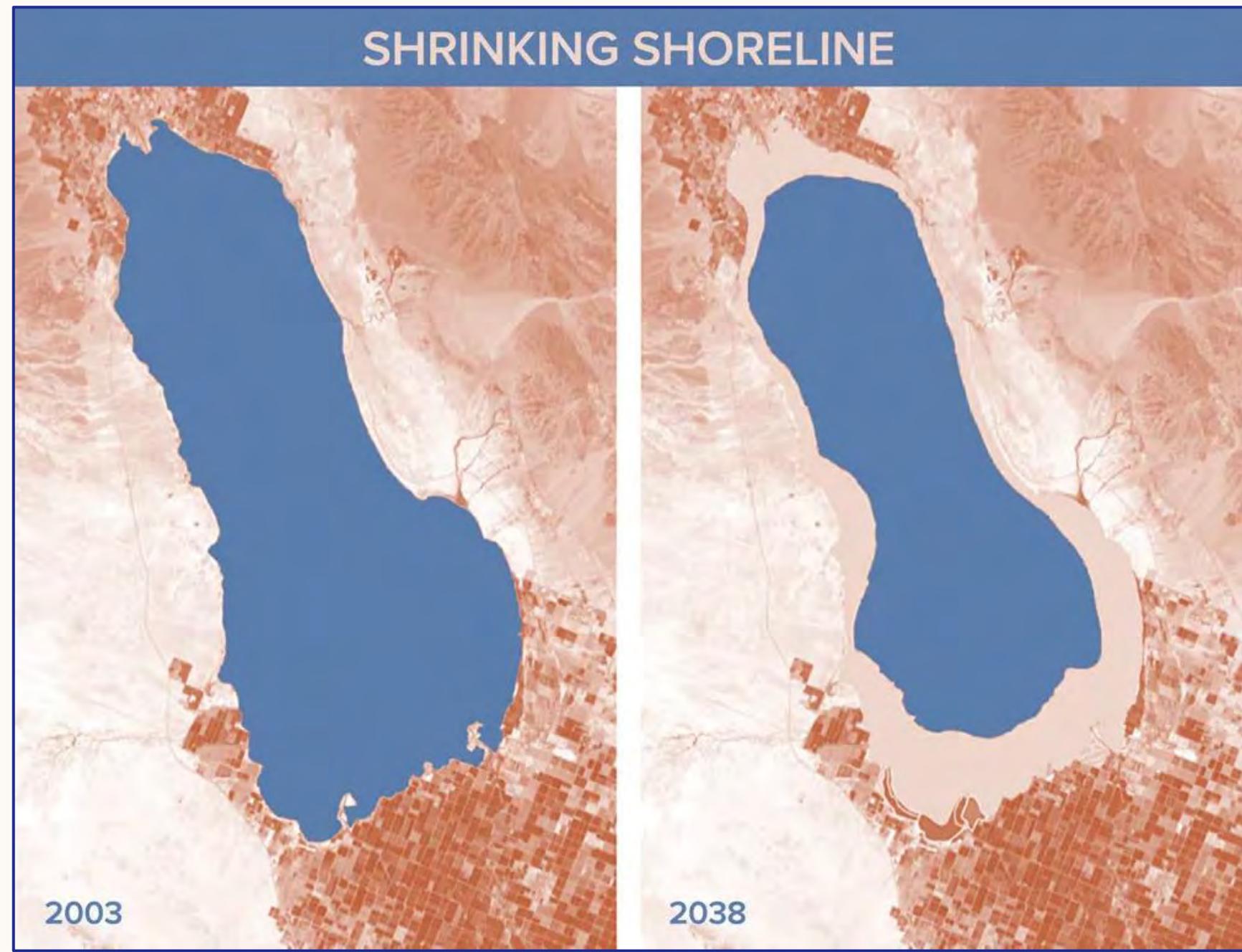




Chemicals from Imperial Valley farms flow into the Salton Sea



A COMMUNITY IN CRISIS



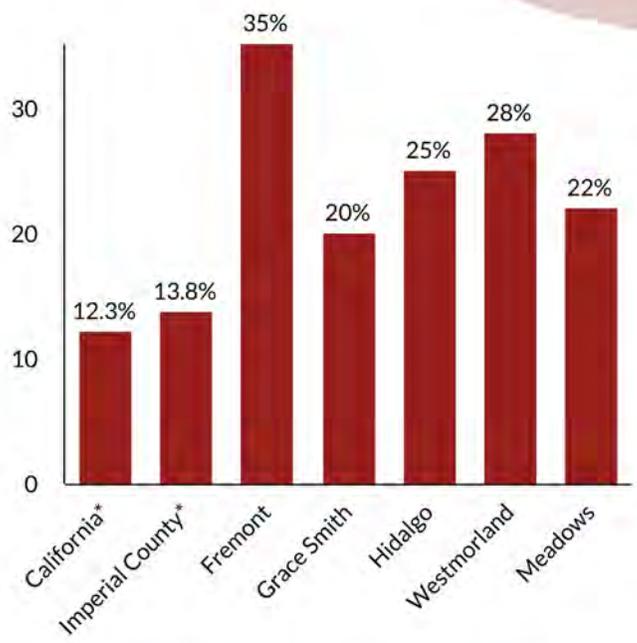
More exposed playa and dust in the air leads to increased asthma rates for nearby communities



Asthma

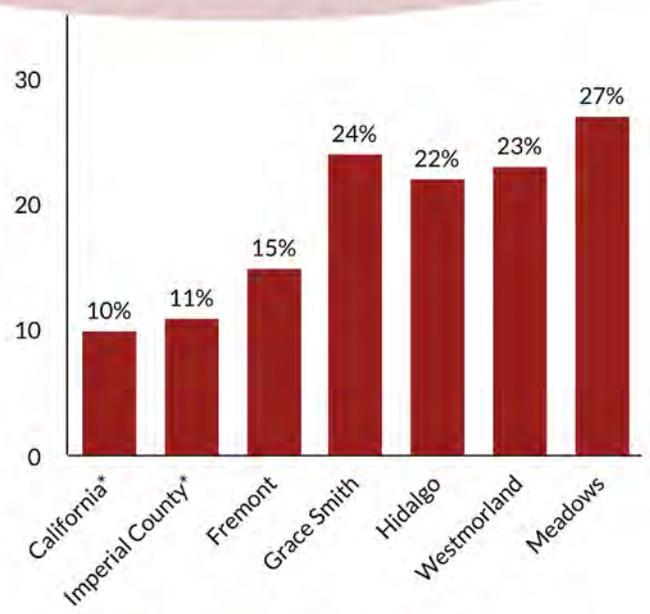
Asthma

Asthma is the leading, serious, chronic illness among children in the United States



Lifetime prevalence of asthma among children

* Source: California Health Interview Survey



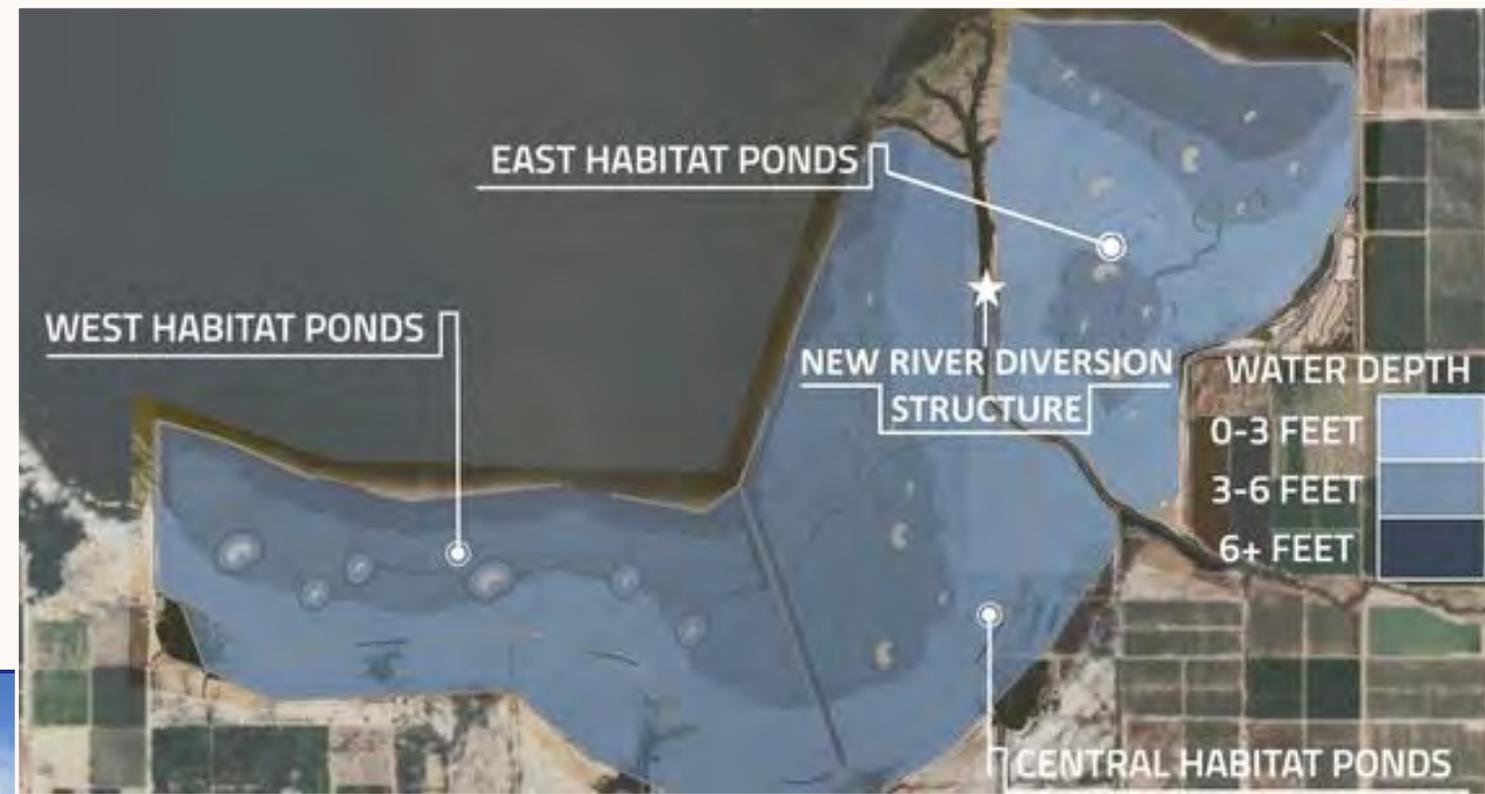
Lifetime prevalence of wheeze or asthma-like symptoms among children NOT diagnosed with asthma

Asthma related emergency room visit rates for children ages 5-17 in Imperial County are the **highest of any county in California.**

Location	visits per 10,000
Imperial County	125
Riverside County	54.4
San Diego County	39.0
California	58.4

* Source: California Department of Public Health, California Asthma Dashboard, 2019.

Restoration projects are a start, but fence line communities need more help

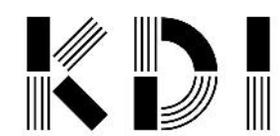


THANK YOU

Alianza: Resilient Salton Sea



Community Multi-Benefit Approach Around the Salton Sea



The Problem

- Lack of community vision in the current plans of the Salton Sea via the 10-year plan and Long-Range Plan
- No assurance of basic amenities for Salton Sea communities that benefit both people and wildlife
- Communities most affected by the COVID pandemic are having a harder time recovering economically and lack of infrastructure contributes to this issue.

Overarching Question:

How do you foster equitable, inclusive, and sustainable economic mobility in a rural desert economy?

Salton Sea Region Inclusive Economy Indicator Framework

Sustainable development for Salton

Sea communities require:

- Economic growth
- Social wellbeing
- Environmental sustainability

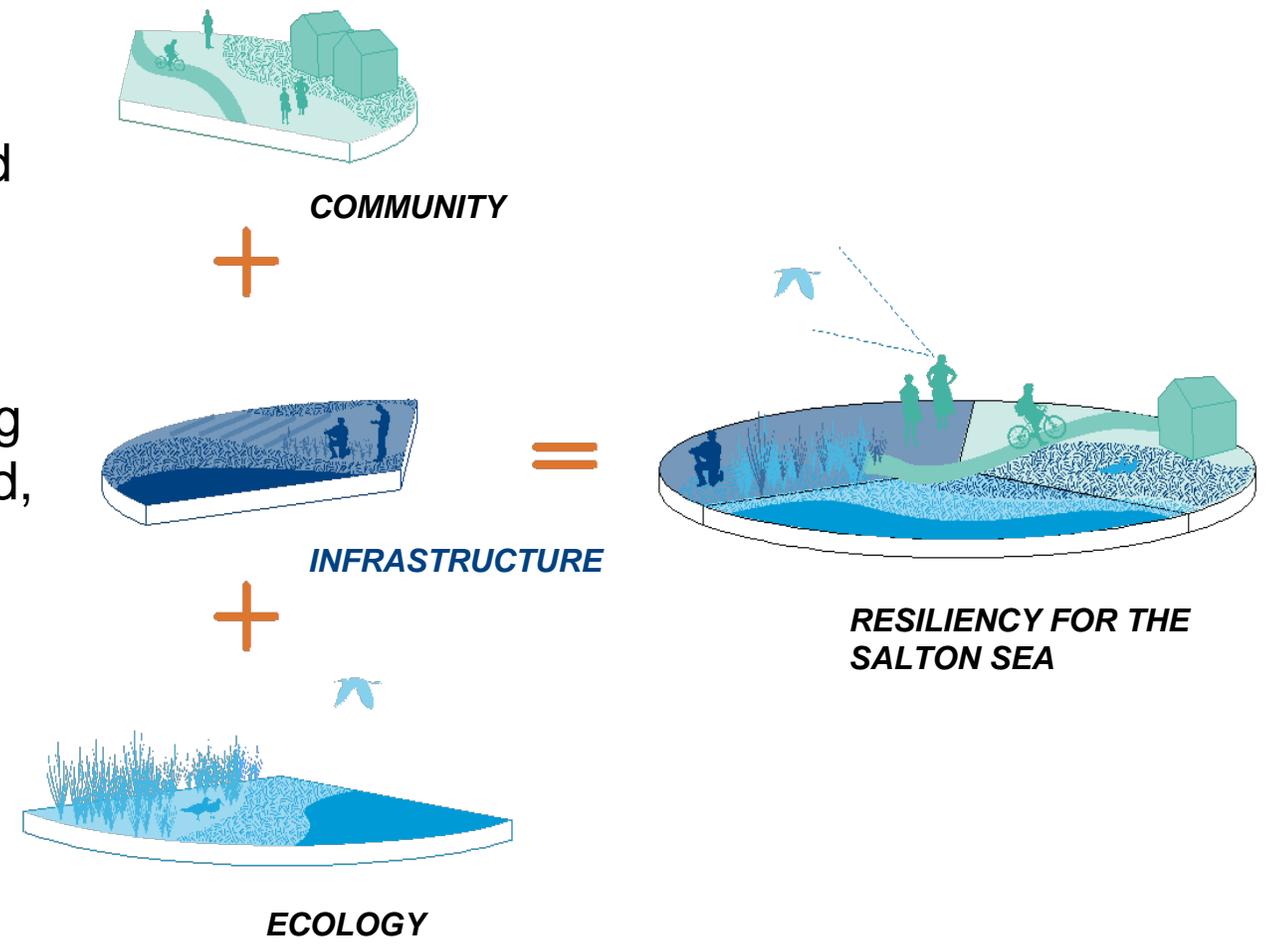
Broad Indicators	Sub-Indicators
1. EQUITY	Upward Mobility
	Reduction of Inequality
2. INCLUSION	Participation in Markets
	Decision-making
3. GROWTH/STABILITY	Work Opportunity
	Stability
4. SOCIOLOGICAL HEALTH	Dignified Work
	Ecological Health
	Community Health
5. ACCESS TO OPPORTUNITY	Commute
	Transportation, Affordable Housing & Infrastructure

Application of the Framework

Play, camping, art, entrepreneurship, good jobs

Multi-modal transportation access, pavement, sidewalks, lights, water, walking trails, electric charging stations, broadband, electric grid stability

Dust suppression, habitat, shade, vegetation





The Vision

The community envisions a more beautiful, healthy, thriving, and united Salton Sea Region so that both the environment and its people can prosper.

A CONNECTIVE TRAIL LINKS the North Shore Yacht, Beach Club and the Salton Sea Recreation Area with multi-benefit elements such as shade, dust suppression, camping, marketplace for entrepreneurs, and broadband tower.

The Vision

A PEDESTRIAN GREEN BRIDGE links the community of North Shore to the Salton Sea Yacht Club (the only community center serving this population with after school programs, fitness activities, and summer cooling center).

- Broadband infrastructure
- Dust suppression
- Revegetation
- Multi-modal transportation access

*Opportunity for green bridge to also connect on the extension of the CV Link



The community envisions a more beautiful, healthy, thriving, and united Salton Sea Region so that both the environment and its people can prosper.

Alianza: Resilient Salton Sea

Community Science:
Water Quality Monitoring



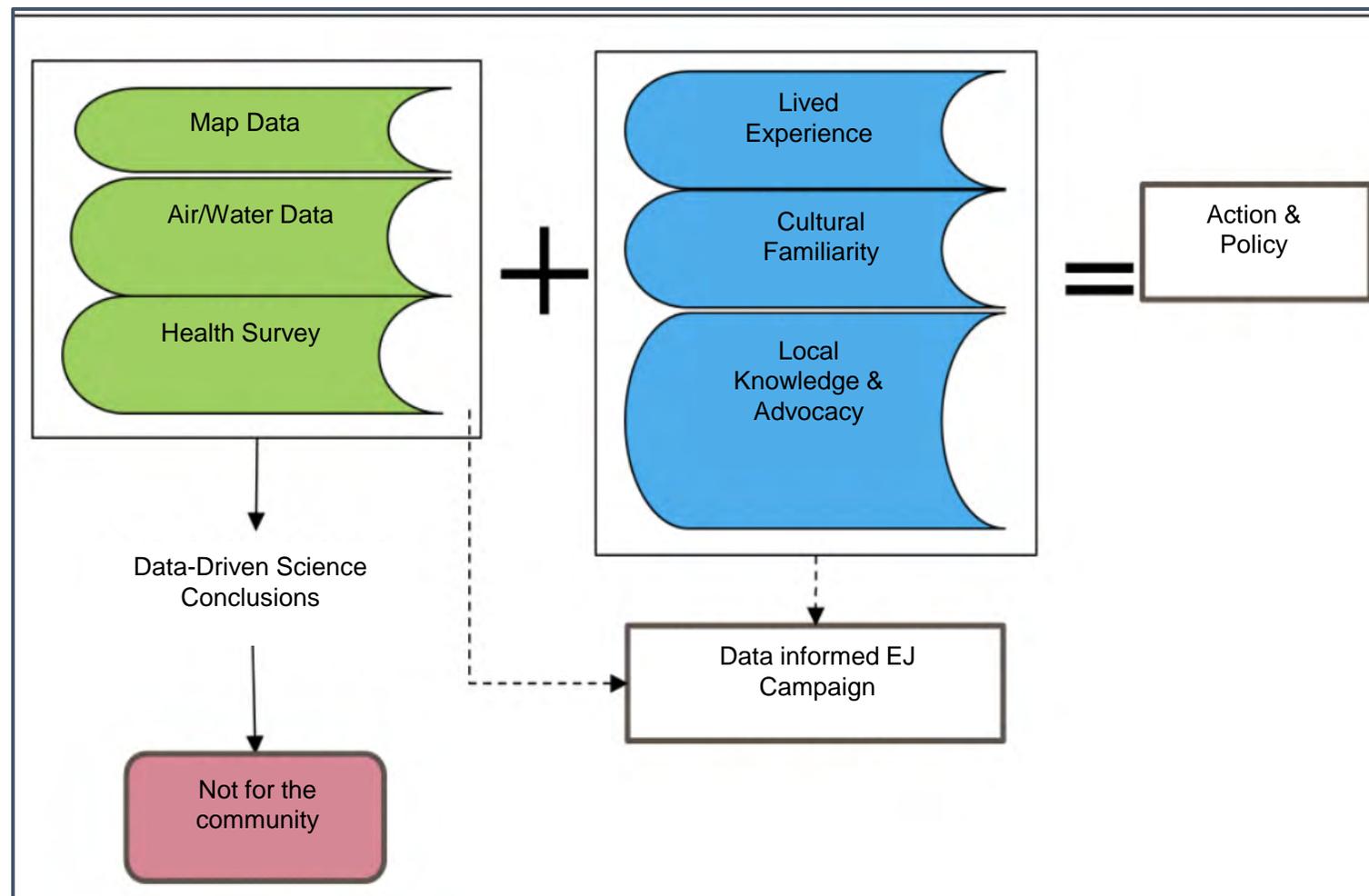
LOMA LINDA
UNIVERSITY

Why Community Science?

The process allows for scientists and communities to do science together to advance one or more community priorities. It encourages communities, particularly historically marginalized and oppressed communities:

- to guide
- participate in
- learn from
- benefit from science

An end goal of changing policy and creating change.



An Overview: Water Quality Monitoring

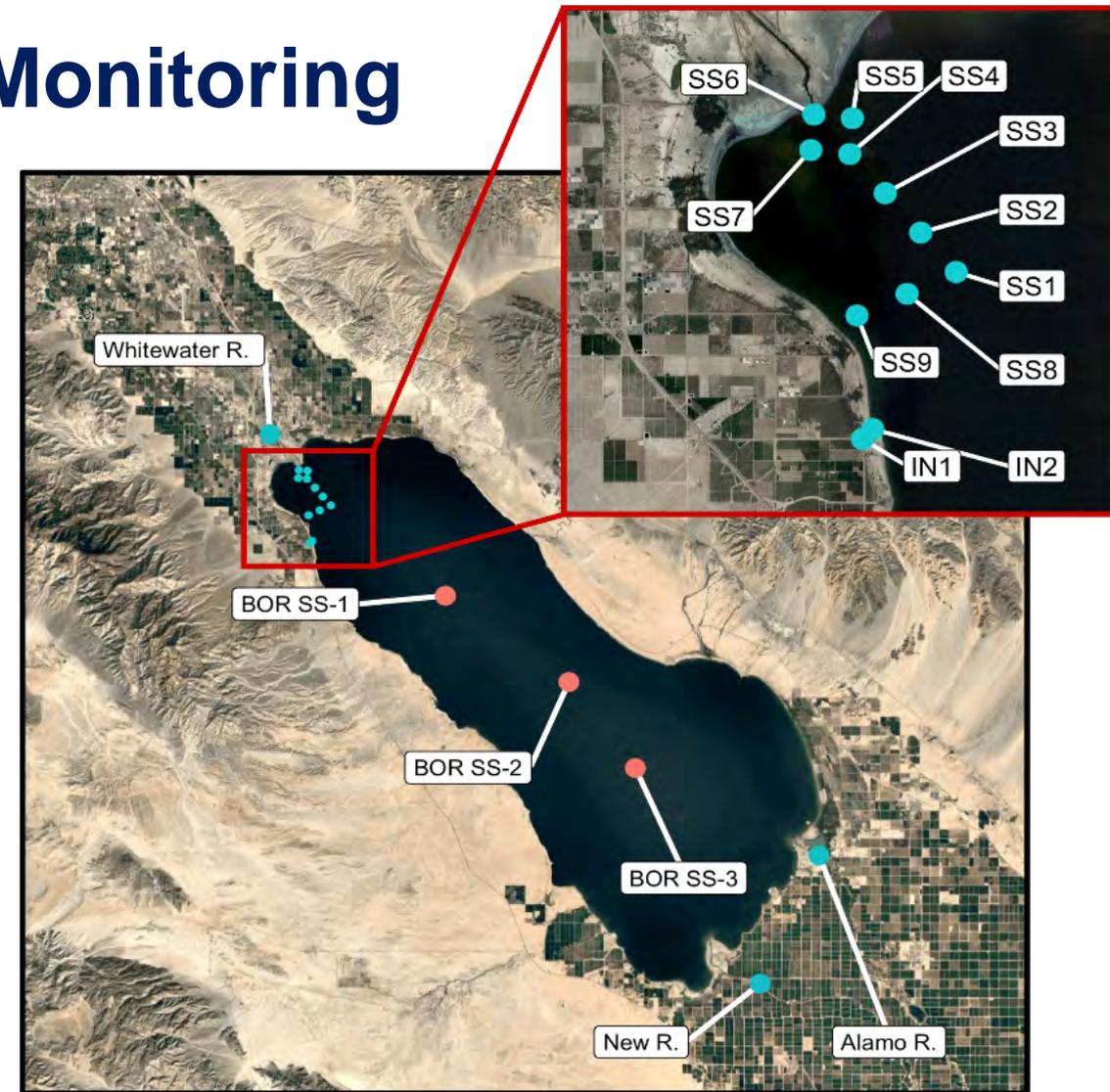
The Problem: There is no water quality monitoring in the northern part of the Salton Sea to address environmental and public health issues.

We are developing a monitoring program to:

- Characterize water quality
- Determine long term trends
- Identify water quality problems
- Organize remediation efforts

We are measuring:

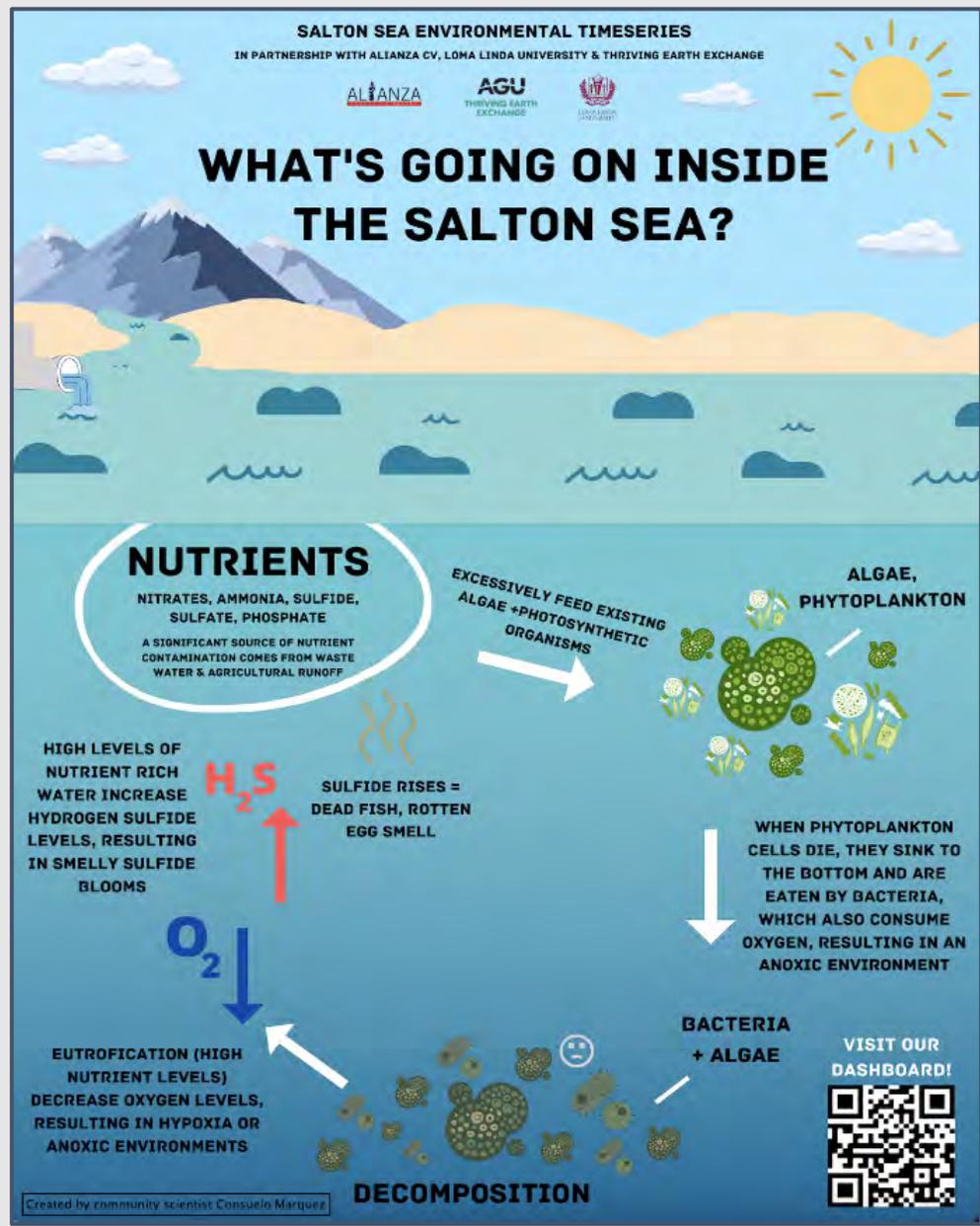
Photometer	Probe
Nitrite	Total Algae
Nitrate	Cyanobacteria
Ammonia	pH
Phosphate	DO
Sulphate	ORP
Sulfide	Salinity
	Temperature
Turbidity	Location



The Process



The Results



The Recommendation

What actions do people want? What are some recommendations?

- Air quality - immediate solution to address health concerns are air filters
- Public Health -longitudinal health study to monitor air quality, water quality, and respiratory illness symptoms; identify root causes
- Salton sea odor - Determine where it is from and minimize
- Water Treatment - Constructed wetlands for nutrient removal
- What else?



Ashley Havens

COMMUNITY MEMBER AND ENVIRONMENTAL
HEALTH ADVOCATE

Panel 5 Q&A

Public Comment

15 minute break

Salton Sea Management Program

James Newcomb, Department of Water Resources
Phase 2: Summary of Long-Range Plan

May 17, 2023



- Purpose
- Functionality
- Development
 - Establishing Committee for LRP
 - Review and Refinement of Effectiveness Criteria from MIP
 - Incorporating IRP Results
 - Incorporating Public Input
- Evaluation
 - Follow Federal Guidelines
 - Connection to Community Amenities
- Restoration Concepts
- Recommendations
- Next Steps

Long-Range Plan: Presentation Overview



Long-Range Plan: Purpose

- The Salton Sea Management Program prepared this draft Long-Range Plan (LRP or Plan) to comply with **State Water Board Revised Order WR 2002-0013**.
- SSMP's Phase 1: 10-Year Plan is addressing challenges happening now through 2028. The Phase 2: Long-Range Plan is intended to address challenges beyond 2028.

Salton Sea Long-Range Plan

Public Draft

December 2022



SALTON SEA MANAGEMENT PROGRAM



CALIFORNIA
NATURAL
RESOURCES
AGENCY



Long-Range Plan: Functionality

- Establishes a framework for evaluating concepts with heavy input from LRP Committee and the public
- Provides relative benefits and risks associated with a range of restoration concepts
- Documents key uncertainties identified by LRP Committee and Science Committee
- Conceptualizes new restoration ideas and strategies brought forth from Public and LRPC
- Informs subsequent public scoping process



Long-Range Plan: Development

Govt. to Govt. Tribal Consultations

- Identified criteria for Tribal Access, Protection of Resources, & Incorporation of Tribal Expertise.

Long Range Plan Committee

- Comprised of Tribes, Community Based Organizations, Local, State, and Federal Agency reps.
- Supported SSMP in overall development of the plan

Previous Planning Documents

- Ecosystem Restoration Program Draft Programmatic Environmental Impact Report (PEIR), 2006
- US Bureau of Reclamation (USBR) Final Report: Restoration of the Salton Sea, 2007
- Salton Sea Authority Funding and Feasibility Action Plan, 2016
- SSMP 10-Year Plan Project Description, 2021.

Independent Review Panel for Ocean Water Import

- Independent panel of national experts that reviewed and refined proposals to determine feasibility of ocean water import projects.
- 3 disparate concepts deemed technically feasible were incorporated into evaluation.

Science Committee

- Review and refinement of Effectiveness Criteria

Public Input

- Workshops in March, June, and September 2022
- Draft Public Review started in December 2022



Long-Range Plan: Evaluation

- **Evaluation criteria follow federal guidelines for major water projects**
 - Effectiveness
 - Acceptability
 - Completeness
 - Efficiency
- **Draft criteria presented at public & Long-Range Plan Committee Meetings**
 - Early 2022
- **Criteria updated based on comments from:**
 - Long-Range Plan Committee
 - Science Committee
 - Public



Long-Range Plan: Evaluation

EFFECTIVENESS

Air Quality/Public Health

- Ability to Reduce Dust Emissions
- Ability to Protect or Improve AQ

Habitat

- Area of Shallow Habitat (0-6 in)
- Area of Medium Depth Habitat (6 in-6 ft)
- Area of Deep-Water Habitat (>6 ft)
- Salinity of Primary Habitat Area
- Pupfish Habitat & Connectivity

Water Quality

- Ability to Meet Selenium Standards
- Ability to Improve Water Quality

ACCEPTABILITY

- Tribal Access to Natural & Cultural Resources
- Protection of Resources (Based on overall area)
- Protection of Resources (Based on location)
- Incorporation of Tribal Expertise
- Environmental Justice & Equity
- Do No Harm
- Equitable Outdoor Access
- Minimize Greenhouse Gas Emissions
- Workforce Development
- Sustainable Economic Development

EFFICIENCY

- Timeframe for Complete Solution
- Capital Cost
- Operating Cost
- Incremental Benefits with Incremental Funding
- Proven Technology/Reduced Risk
- Water Supply Risk
- Earthquake Risk
- Climate Change Related to Extreme Weather
- Permits & Environmental Documentation
- Water Rights & Agreements

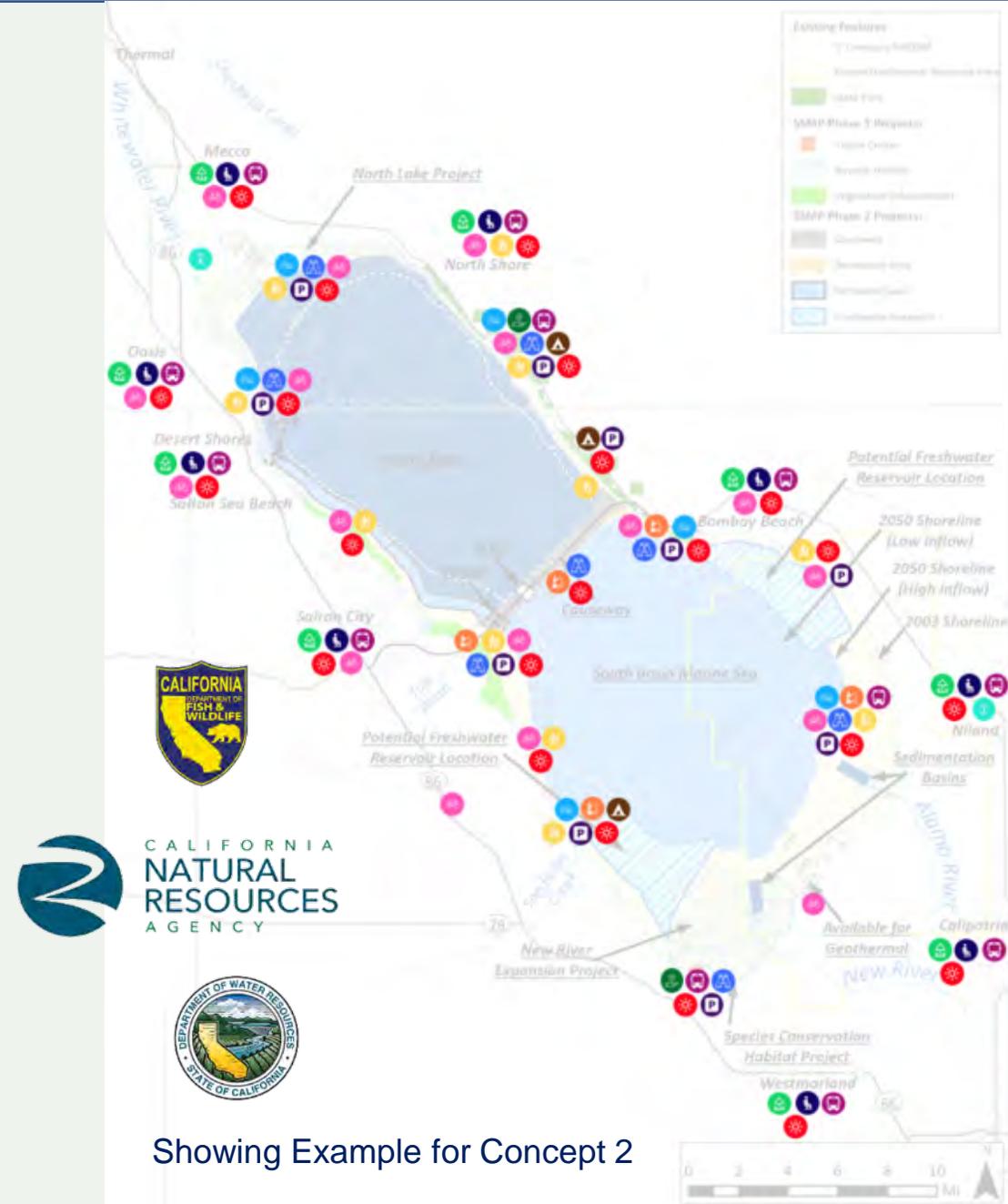
COMPLETENESS

- Meets all Individual Objectives (wo dust mitigation)
- Meets all Individual Objectives (with dust mitigation)



Long-Range Plan: Community Amenities

	Bike Paths		Outdoor Access Infrastructure
	Boat Ramps		Parks
	Broadband		Parking Lots
	Bus Stops		Recreational Facilities and Cooling Centers
	Campgrounds		Viewing Platforms
	Fishing Piers		Visitor Centers
	Hiking Paths / Trails		



Long-Range Plan: Restoration Concepts

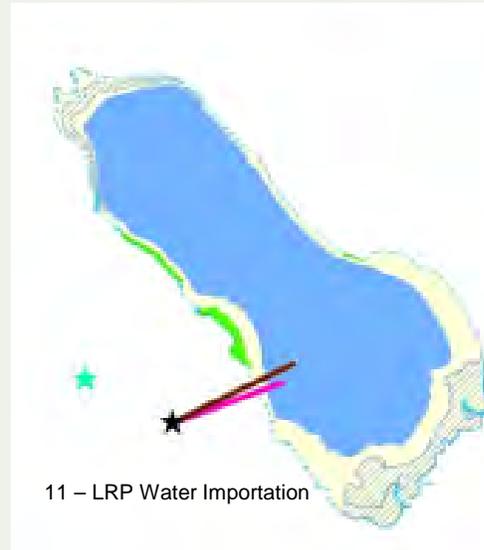
Number	Name	Original Source	Status
1	North/South Marine Sea	CNRA (2006)	Three variations evaluated in the LRP (1A, 1B, 1C)
2	Divided Lake/Marine Sea South	Reclamation (2007)	Four variations evaluated in the LRP (2A, 2B, 2C, 2D)
3	Updated Perimeter Lake	SSA (2016)	Two variations evaluated in the LRP (3A, 3B)
4	Pump Out	SSA (2016)	Four variations evaluated in the LRP (4A, 4B, 4C, 4D)
5	Water Optimization	Salton Sea LRPC	Evaluated in the LRP
6	Southlake Restoration & Enhanced Vegetation	Salton Sea LRPC	Components retained for future consideration
7	Water Recycling	Salton Sea LRPC	Evaluated in the LRP
8	Reclamation of Native Desert and Agriculture	Submission to IRP	Components retained for future consideration
9	Floating Solar and Water Generation System	Submission to IRP	Components retained for future consideration
10	Save the Coachella Valley Basin	Submission to IRP	Components retained for future consideration
11	Water Importation	IRP Proposal	Evaluated in the LRP
12	Water Exchange	IRP Proposal	Evaluated in the LRP
13	Colorado River Water Transfer	IRP Proposal	Evaluated in the LRP



Long-Range Plan Restoration Concepts

Legend

- Marine Sea
- Residual Sea
- Saline Habitat Complex
- Shoreline Waterway
- Perimeter Lake
- Water Optimization Area
- Salt Crust
- Aquatic Habitat Project
- Vegetation Enhancement Project
- Causeway
- Brine Ponds
- Reclaimed Farmlands
- Evaporation Ponds
- Desalination Facility
- Bike / Pedestrian Path
- Sea Return Pipeline
- Salton Sea Intake



Long-Range Plan: Scoring (High Probability Inflow)

CRITERIA	RESTORATION CONCEPTS >>	Phase	1A	1B	1C	2A	2B	2C	2D	3A	3B	4A	4B	4C	4D	5A	7A	11A	12A	13A
		1																		
EFFECTIVENESS																				
Air Quality/Public Health																				
Ability to Reduce Dust Emissions		3	5	4	5	5	4	4	5	5	4	4	5	5	4	4	2	5	1	1
Ability to Protect or Improve AQ		i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i
Habitat																				
Area of Shallow Habitat (0-6 in)		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Area of Medium Depth Habitat (6 in-6 ft)		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Area of Deep Water Habitat (>6 ft)		1	3	3	3	4	4	4	4	2	1	4	4	4	4	1	5	5	4	4
Salinity of Primary Habitat Area		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pupfish Habitat & Connectivity		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Water Quality																				
Ability to Meet Selenium Standards		3	4	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5
Ability to Improve Water Quality		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ACCEPTABILITY																				
Tribal Access to Natural & Cultural Resources*		i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i
Protection of Resources (Based on overall area)**		N/A	1	3	3	5	5	5	5	4	4	1	4	1	1	1	3	1	2	2
Protection of Resources (Based on location)***		i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i
Incorporation of Tribal Expertise		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Environmental Justice & Equity		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Do No Harm		5	3	3	3	5	5	5	5	4	4	5	4	4	5	5	4	3	3	5
Equitable Outdoor Access		1	4	4	4	4	4	5	5	4	4	3	3	3	3	2	3	4	3	3
Minimize Greenhouse Gas (GHG) Emissions		i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i
Workforce Development		5	5	5	5	5	5	5	5	5	5	5	3	4	5	5	5	3	3	2
Sustainable Economic Development		1	3	4	5	4	5	5	5	3	5	4	3	4	5	4	5	5	3	2
COMPLETENESS																				
Meets all Individual Objectives (wo dust mitigation)		1	5	5	5	5	5	5	5	1	1	5	5	5	5	1	1	5	1	1
Meets all Individual Objectives (with dust mitigation)		1	5	5	5	5	5	5	5	1	1	5	5	5	5	1	5	5	5	5
EFFICIENCY																				
Timeframe for Complete Solution		5	2	2	4	5	5	4	4	4	4	1	1	1	1	4	1	1	1	2
Capital Cost (\$M)		5	1	2	2	5	5	5	4	4	4	5	4	4	5	5	3	1	1	1
OMER Cost (\$M/yr)		5	1	5	5	5	5	5	5	5	5	5	5	4	5	5	2	1	1	1
Incremental Benefits with Incremental Funding		5	2	1	3	1	1	2	4	4	4	1	1	1	1	5	3	1	1	2
Proven Technology/Reduced Risk		5	1	1	1	5	5	5	5	4	4	3	2	2	3	5	1	2	2	2
Water Supply Risk		5	5	5	5	1	2	2	2	5	5	1	3	1	3	3	1	5	2	2
Earthquake Risk		4	1	1	1	5	5	5	5	4	4	5	4	4	4	5	5	4	4	5
Climate Change Related to Extreme Weather		5	4	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
Permits & Environmental Documentation		3	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	2	2	2
Water Rights & Agreements		3	2	2	2	5	5	5	5	3	3	5	5	5	5	5	5	2	2	2



Long-Range Plan: Recommendations & Areas of Uncertainty to Address

Concepts Recommended for Further Evaluation

- Divided Sea Concepts 2B, 2C, and 2D
- Perimeter Lake Sea Concepts 3 and 3B
- Pump Out Concepts 4A and 4D
- Water Optimization Concept 5
- Phytoremediation components of Concept 6
- Water Recycling Concept 7
- Community involvement envisioned in Concept 10
- Continued evaluation of Water Import Options

Key Areas of Uncertainty

- Uncertainty in Future Inflow
- Uncertainty in Air Quality Analysis as it Relates to Public Health
- Uncertainty in Ecological Outcomes
- Uncertainty in Sustainable Economic Development specifically related to Lithium Production

Other Relevant Areas of Uncertainty

- Uncertainty in Water Quality
- Level of Design and Cost Analysis
- Uncertainties in Restoration Technologies



Long-Range Plan: Next Steps

Salton Sea Draft Long-Range Plan
(released at the end of 2022)

Long-Range Plan Committee and Public Feedback on the Published Long-Range Plan will inform these efforts.

Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study
(to start May 2023)

Salton Sea Final Long-Range Plan
(finalized June 2023)



Feasibility Study: Cost-Share Agreement



Signatories of a Cost-Share Agreement

G. Patrick O'Dowd, Executive Director/ General Manager, Salton Sea Authority (Left); Col. Julie Balten, Commander, Los Angeles District, U.S. Army Corps of Engineers (center); Cindy Messer, Lead Deputy Director, California Department of Water Resources (Right).

Thank You



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NATURAL
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AGENCY



The logo for the Salton Sea Authority features two stylized blue waves, one above and one below the text. The text "Salton Sea Authority" is written in a blue, serif font.

Salton Sea Authority

Patrick O'Dowd

SALTON SEA AUTHORITY

USACE IMPERIAL STREAMS & SALTON SEA ECOSYSTEM RESTORATION FEASIBILITY STUDY

Susie Ming
Project Manager
South Pacific Division
Los Angeles District

17 May 2023



"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



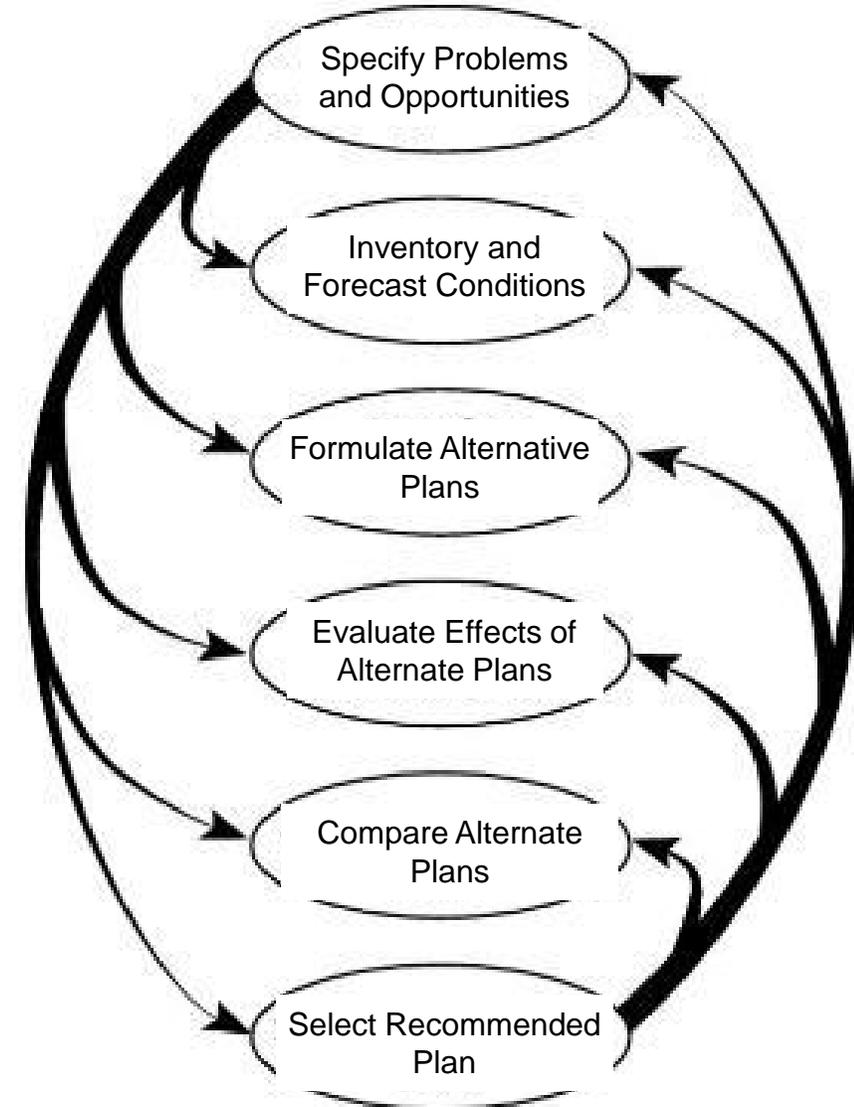
**US Army Corps
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USACE CIVIL WORKS PROGRAM



- Serving the public by delivering engineering solutions, in collaboration with our partners, to address America's water resource needs
- Corps' 6-step planning process as rational and transparent decision-making framework
- Feasibility study results in recommendation to Congress for implementation and funding



PURPOSE OF THE STUDY

- Urgent need for action at the Salton Sea:
 - Increasing amount of exposed, emissive playa that affects human health
 - Ecological collapse of the lake
- Aquatic ecosystem restoration mission:
 - *“Restore degraded ecosystem structure, function, and dynamic processes, to a more natural, less degraded condition.”*
 - Preference for self-regulating projects
- Demonstrate that project benefits outweigh project costs

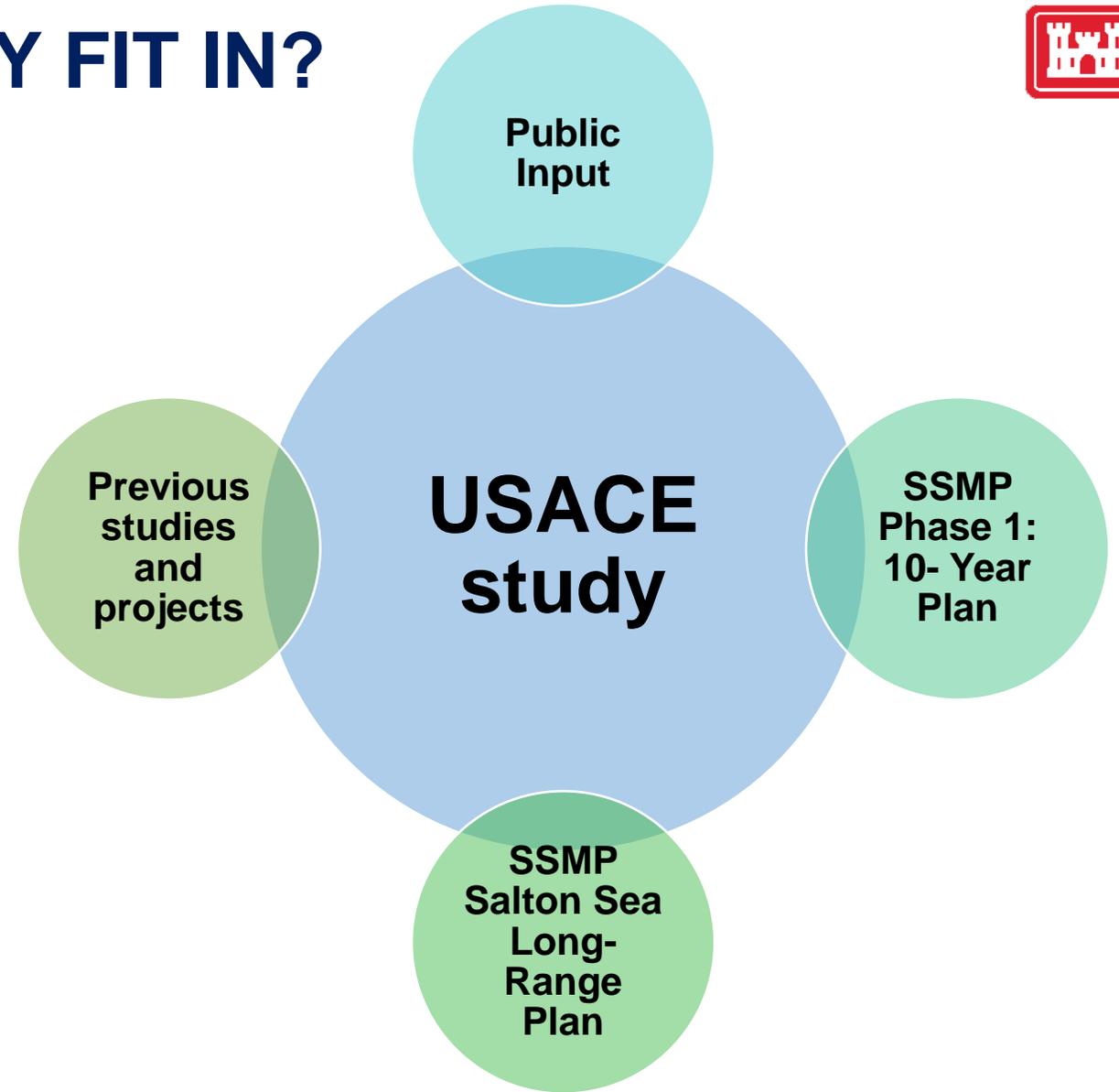




HOW DOES THIS STUDY FIT IN?

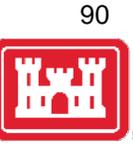


- Builds upon existing studies
- Use existing information, including public input from Long-Range Plan, to reduce public review fatigue
- Continue level of outreach and engagement set by Salton Sea Management Program
- Phase 1: 10-Year plan assumed as constructed in Future Without Project Condition
- Estimated “period of analysis” is 2032 – 2081



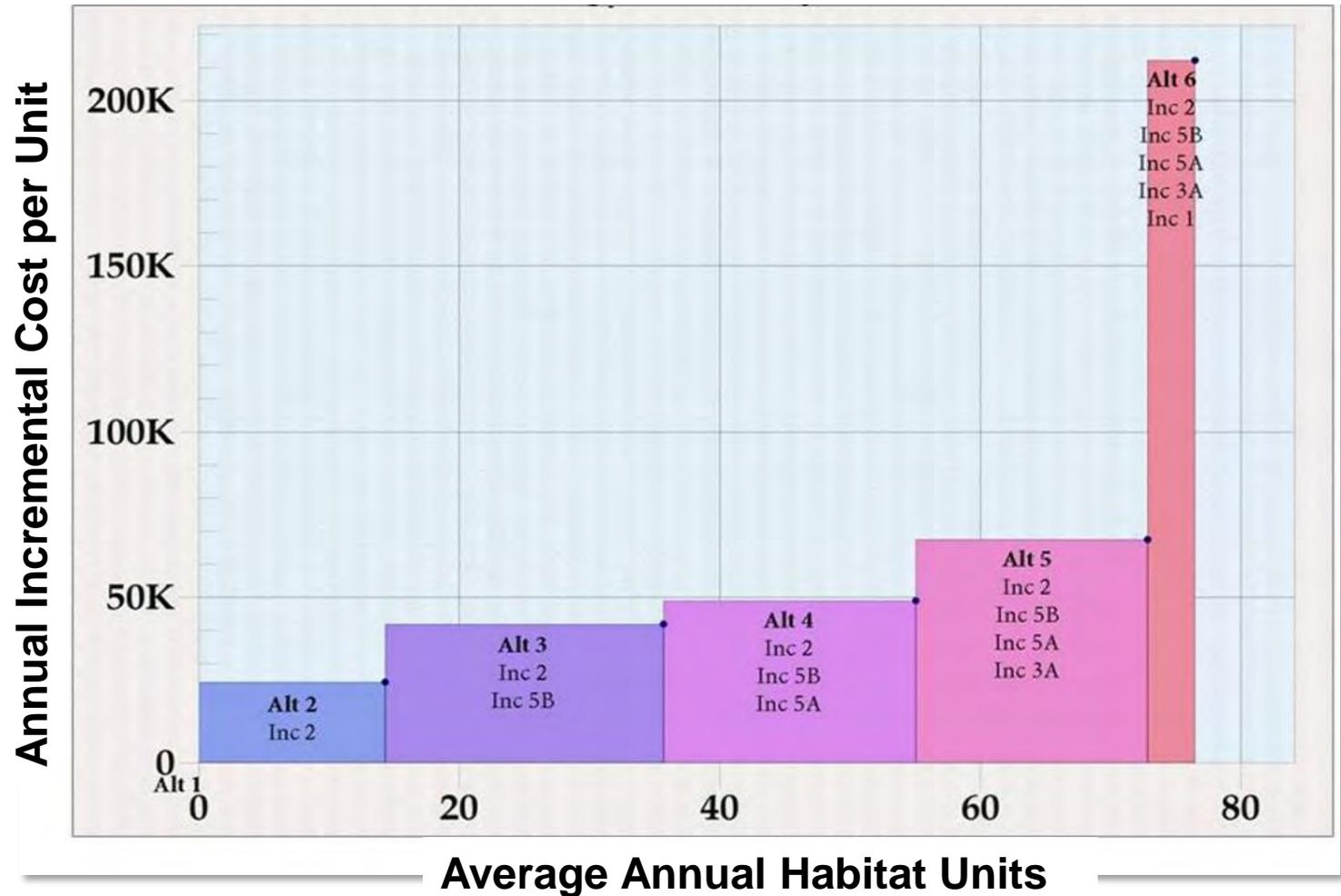


EVALUATING, COMPARING, AND DECIDING



- Must use Corps analyses and metrics for decision makers:
 - Habitat units
 - Cost effectiveness / incremental cost analysis
- Assess and weigh risks
- Select a plan that reasonable maximizes ecosystem restoration benefits:
 - If two or more plans have similar ecosystem restoration benefits, can decide based on social or economic benefits

Incremental Cost and Output – Best Buy Plan Alternatives





IMPLEMENTATION

- Cost share is 65% Federal, 35% local sponsor
- Local sponsors are responsible for obtaining all lands and easements necessary to construct, operate, and maintain
- Local sponsors are responsible for 100% of all operation and maintenance costs and activities





STUDY SCOPE, SCHEDULE, BUDGET



- A study team is currently scoping the effort and assessing the risks of going too fast or too slow
- Typical studies are 3 years and \$3M
- Complex studies may require more time and funding
- Alternatives Milestone scheduled for June 14, 2023



Public Comment

Thank you

Salton Sea Management Program Annual Workshop

waterboards.ca.gov/saltonsea

