SALTON SEA ECOSYSTEM RESTORATION PLAN

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Chief Deputy Director
Department of Water Resources

Sponsor List

- California Resources Agency
- The Honorable Bob Filner, Member of Congress
- Senator Denise Moreno Ducheny
- Senator Jim Battin
- Assemblywoman Bonnie Garcia
- Assemblyman John J. Benoit
- The Salton Sea Authority

Why Are "We" Here?

"We" = State of California

- State legislation to implement the Quantification Settlement Agreement (QSA) gave the State of California the responsibility for:
  - Salton Sea ecosystem restoration
  - Environmental restoration
- The Secretary for Resources is to prepare an ecosystem restoration plan
  - Plan must include range of alternatives
  - Submit plan to the Legislature by the end of 2006

Implementing Legislation

- The implementing legislation for the QSA:
  - Senate Bill 277 (Ducheny)
  - Senate Bill 317 (Kuehl)
  - Senate Bill 654 (Machado)
  - Senate Bill 1214 (Kuehl)

Under the Legislation, the State is to undertake the "restoration of the Salton Sea ecosystem and the permanent protection of the wildlife dependent on that ecosystem"

The State's Responsibilities

- The Secretary for Resources is to prepare:
  - An Ecosystem Restoration Plan
  - A Programmatic Environmental Impact Report (PEIR), as required by the California Environmental Quality Act (CEQA)
  - Financing Plan
  - Submit to Legislature by December 2006

The Process & Where We are Going

- The State is working vigorously to meet the requirements of the implementing legislation and of CEQA
- A preferred alternative will be selected only after **a full and open public process**
- This effort will build upon and utilize previously performed work - ***it will not "re-invent the wheel"***

Salton Sea Ecosystem Restoration Plan

- Restoration Plan involves more than infrastructure development
- Some plans only focus on what will be built
- State is focusing on all components of Restoration

Major Components of Restoration Plan

- Water Management Infrastructure
- Air Quality Management
- Water Quality Management
- Habitat Restoration

Restoration will not be complete unless all four components are addressed

Water Management Infrastructure

- Many possible alternatives exist
- Different plans could reconfigure the Sea and could expose areas of land currently underwater

Water Management Infrastructure

- Barriers to divide the Sea
- Evaporation Ponds
- Pipeline / Canals to the Gulf of California

Air Quality Management

Air Quality Management: Existing Problems

- Major air quality problems exist in the Salton Sea region
- Restoration project will not solve existing regional air quality problems
  - Local plans are addressing these problems

Portions of the Salton Sea Watershed that Exceed National and California Ambient Air Quality Standards

Areas that Exceed the National (N) or California (C) Ambient Air Quality Standards				
County (or Portion of)	**Carbon Monoxide**	**Fine Particulate Matter (PM10)**	**Fine Particulate Matter (PM2.5)**	**Ozone**
Imperial	C	N and C		N and C
Riverside (Coachella Valley)		N and C		N and C
San Bernardino		N and C	N and C	N and C
San Diego		C	N and C	N and C

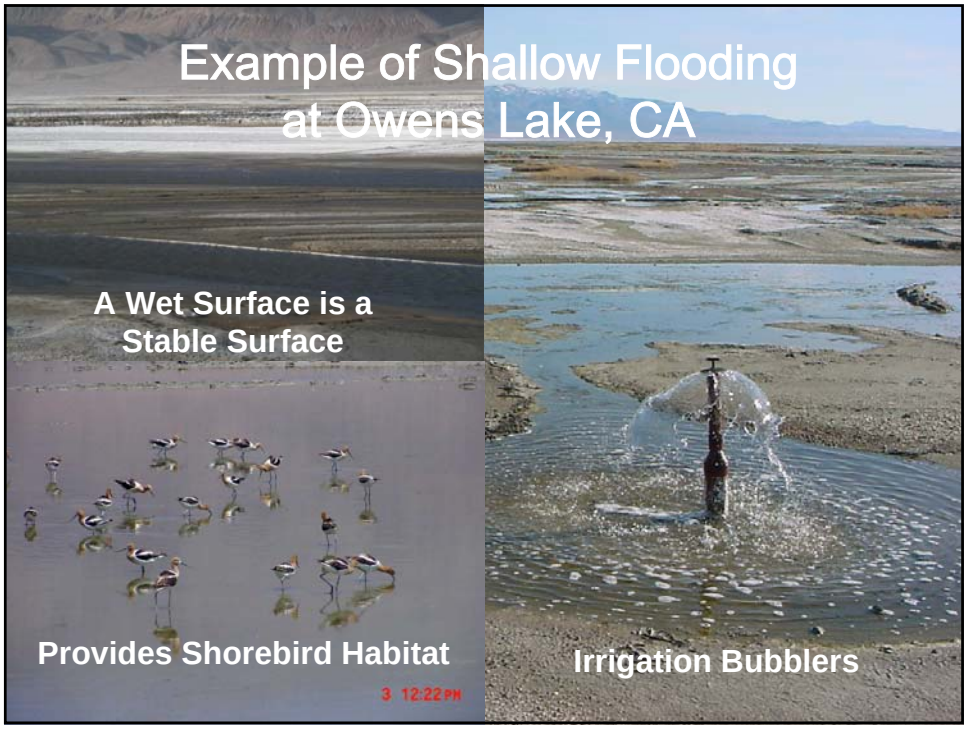
N = Ambient air concentrations exceed the National Ambient Air Quality Standards
C = Ambient air concentrations exceed the California Ambient Air Quality Standards
Source: California Air Resources Board, Area Designations, www.arb.ca.gov

Air Quality Management: Objective

- Restoration's air quality management objective:
  - Eliminate air quality impacts of Restoration Plan as much as possible
  - Meet Clean Air Act's requirement to not cause or contribute to violations of air quality standards
- Project will comply with local regulations

Example of Long-Term Dust Management Actions

- Shallow Flooding
  - Wetting of land surface by irrigation to reduce dust emissions
- Managed Vegetation
  - Protection of land surface by plants


Example of Shallow Flooding
at Owens Lake, CA
A Wet Surface is a
Stable Surface
Provides Shorebird Habitat
Irrigation Bubblers


Example of Managed Vegetation
at Owens Lake, CA
Drip Irrigation
Filters
Saltgrass
Salt-tolerant desert shrubs

Air Quality: Current Studies

- Meteorological and dust emissions
  - Installing additional 10-meter meteorological monitoring stations
  - Conducting wind tunnel tests around Sea margin
- Shallow Sediment Samples
  - Analysis of soil texture and potential emissivity (potential for wind-blown dust)
  - Analysis for human health concerns if areas are exposed

Water Quality Management

Water Quality: Key Components

- Salinity
- Selenium
- Nutrients (nitrogen and phosphorus)
- Temperature
- Pesticides
- Metals
- Sediment

Water Quality Management

- Legislative goal: “Protection of water quality”
- Restoration project will address water quality associated with the Plan
  - Local plans also addressing water quality through TMDL implementation

Water Quality Management

- Water Quality considerations:
  - Beneficial uses
    - Aquaculture
    - Water Contact Recreation
    - Non-Contact Water Recreation
    - Water Freshwater Habitat
    - Wildlife Habitat
    - Preservation of Rare, Threatened, or Endangered Species
  - Water quality needs for habitat maintenance and restoration

Selenium at the Salton Sea

- Naturally occurring element
- Source is Colorado River water
- Salton Sea acts primarily as a selenium "sink"

Why is Selenium Important?

- Accumulates in the food chain
- Toxic to humans and wildlife

Water Quality: Treatment Options

- Treat Inflows
- Possible treatment methods
  - Natural treatment through wetlands
  - Treatment Facilities
  - Blending of treated and untreated water

Water Quality: Current Studies

- Shallow sediment samples
  - Analysis for selenium, arsenic, and other constituents of concern
- Fish tissue sampling
  - Salton Sea and Lower Colorado River fish
  - Analysis will focus on selenium and arsenic
- Human health and wildlife risk assessment
- Lab testing for remobilization of selenium from sediments

Habitat Restoration

Ecological Importance of Salton Sea Ecosystem

- Major stopover on the Pacific Flyway
- Over 400 bird species recorded in Salton Sea area
- There are currently 140 bird species commonly observed at the Sea
- Important wetland habitat in proximity to Colorado River Delta

Habitat Restoration: Legislative Direction

"Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea."

Habitat Restoration: Historic Levels and Diversity

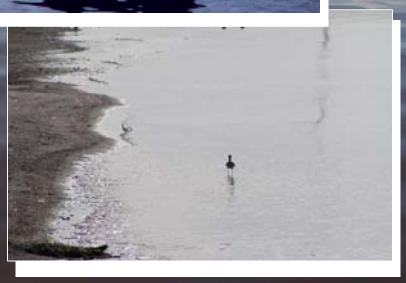
- Historic levels for habitat restoration are difficult to define
- Salton Sea ecosystem is dynamic
- Each alternative will be developed to maximize fish and wildlife habitat diversity, habitat quality, and species abundance

Habitat Restoration: General Approach

- Identify key habitats based on historic use
- Identify species dependent upon each habitat type
- Identify physical factors that can be influenced through intervention
- Preserve environmental values by maintaining key habitats

Key Salton Sea Habitats

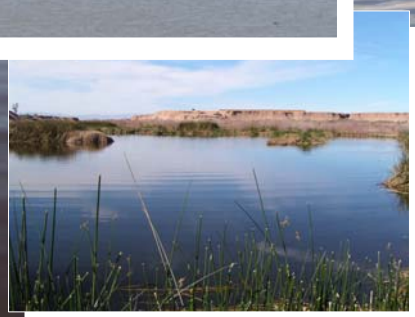
- Open Water
  - deep
  - inshore



- Shoreline
  - shoreline pools
  - mudflats

Key Salton Sea Habitats

- Estuaries and Deltas



- Marsh
  - freshwater
  - saline

Key Salton Sea Habitats

- Agricultural Fields

- Native Tree Habitat

How Components of Restoration Plan are Connected

- Components of Restoration Plan are linked
  - Water has to be treated so fish and wildlife can flourish
  - Air Quality affects habitat, wildlife and local communities
- All components of Restoration Plan must be addressed for Plan to be effective

Ecosystem Restoration Plan Implementation Schedule

- Over the summer of 2005, the alternatives will be defined and evaluated
- Draft EIR published in early 2006
- Final EIR published in fall 2006
- Notice of Determination in December 2006
- Secretary for Resources submits plan to Legislature by December 31, 2006
- Decision by State Legislature

Send your comments to ….

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Visit *www.water.ca.gov* for more information