Overview of PEIR Alternatives

March 16, 2006
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Approach to Define Alternatives

- Identify Project Objectives
- Develop a Wide Range of Concepts based on Scoping and other meetings
- Use laws, regulations, & CEQA Guidelines as Broad Screening Criteria to define Concepts
- Use "Criteria" developed by Working Groups to focus/define Configurations
- Compare Configurations to Broad Screening Criteria to define Alternatives
- Use "Criteria" to focus definitions of Final Range of Alternatives

Range of Final PEIR Alternatives

- **No Action Alternative** *(CEQA and Variability Conditions)*
- **Alt. 1 - Saline Habitat Complex I**
  (previously "Minimal Infrastructure")
- **Alt. 2 - Saline Habitat Complex II**
  (previously "Maximum Saline Habitat Complex")
- **Alt. 3 - Concentric Rings**
- **Alt. 4 - Concentric Lakes** *(per the Imperial Group)*
- **Alt. 5 - North Sea**
- **Alt. 6 - North Sea Combined**
- **Alt. 7 - Combined North and South Lakes**
  (per Salton Sea Authority)
- **Alt. 8 - South Sea Combined**

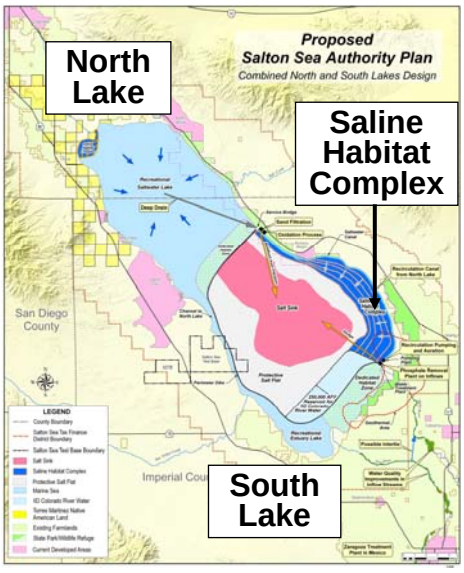
Descriptions of Alternatives 4 and 7

- **Alternative 7 - Combined North and South Lakes**
- **Alternative 4 - Concentric Lakes**

Overview of Alternative 7 - Combined North and South Lakes Alternative

Combined North and South Lakes Alternative - Water Components

- **North Lake**
  - Elevation at -230 ft
  - Salinity - 35,000 mg/L
  - Barrier near center of Salton Sea
- **South Lake**
  - Elevation at -228 ft
  - Salinity - 20,000 mg/L
  - Pupfish connectivity
- **Saline Habitat Complex**
  - Receives treated water from North Lake

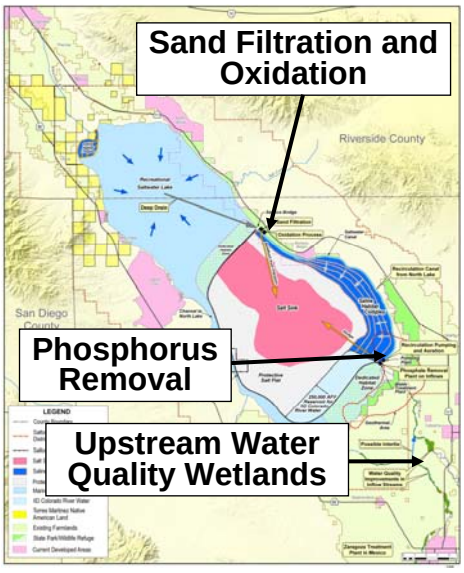


Combined North and South Lakes Alternative - Conveyance

- **Water flows from New and Alamo Rivers into South Lake**
- **Flows by gravity to North Lake**
- **Whitewater River flows into North Lake**
- **Flows through treatment plant to Saline Habitat Complex and South Lake**

Combined North and South Lakes Alternative - Water Quality Management

- **Upstream water quality wetlands**
  - 4,000 acres wetlands treatment
- **Phosphorus removal on New and Alamo Rivers inflows**
  - Possible intertie from New River to Alamo River
- **Sand filtration and oxidation**
  - Withdraw 25%/year of North Lake by deep drain and treat
- **Sludge dewatering**

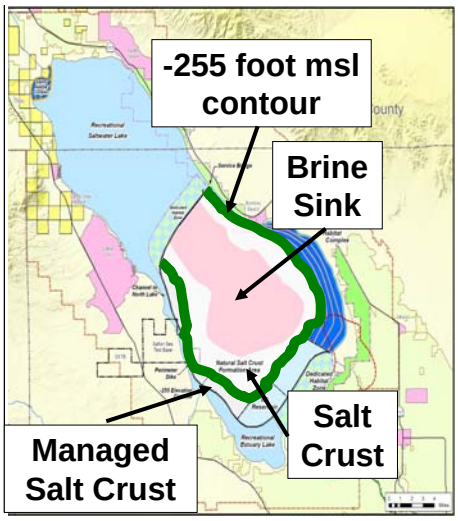


Combined North and South Lakes Alternative - Habitat

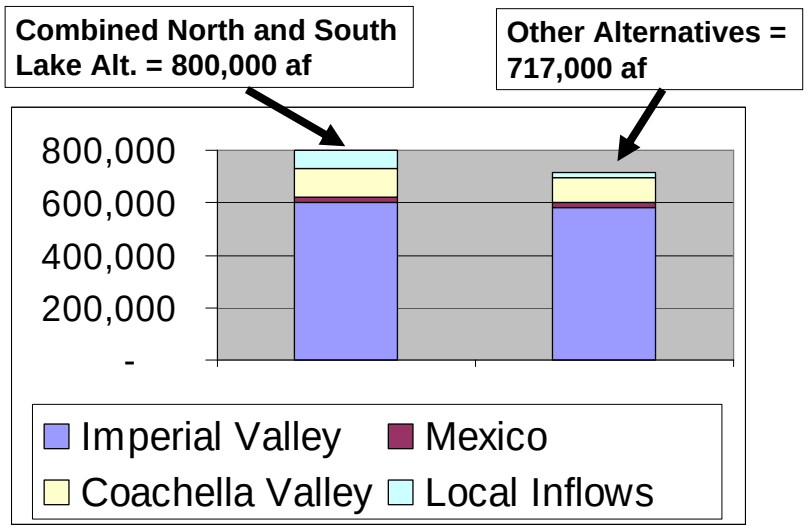
- **Pupfish connectivity**
  - Within North and South Lakes and Connection Canal
  - Possible connection in Recirculation Canal
- **Dedicated Habitat Zones**
  - Portions of North Lake and South Lake
  - Areas of lakes without motor-driven boats
- **Saline Habitat Complex**
  - Designed for available water after other water demands are met
  - At least some of the complex, if not all of the complex, will not receive water if inflows are less than "design flows"

Combined North and South Lakes Alternative - Air Quality Management

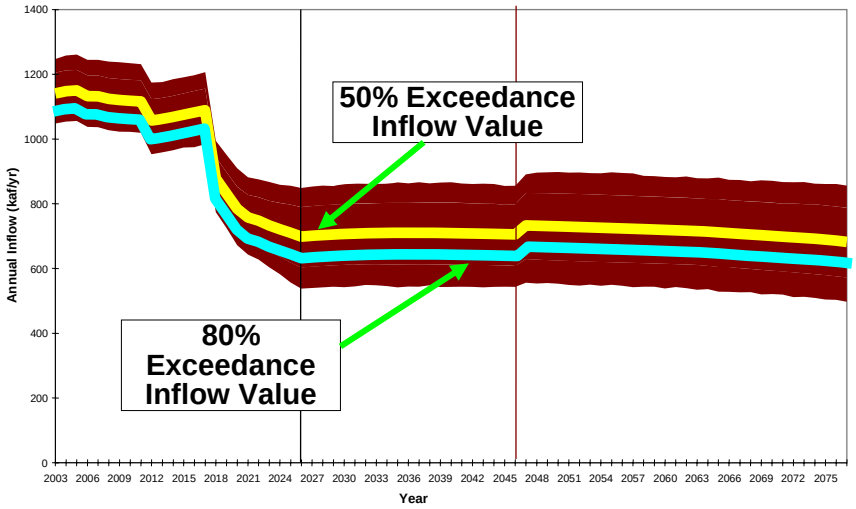
- **Exposed playa within -255 ft msl contour**
  - Brine Sink
  - Managed Salt Crust
- **Exposed playa above -255 ft msl**
  - Only on west side
  - Prevent access
  - Seepage may support vegetation
  - Salt crust may be managed
- **Exposed playa reduced due to Imperial Irrigation District reservoir**



Comparison of "Average Inflow" Assumptions for the "mean value" (2018-77)



All Alternatives will be Analyzed for Entire Range of Inflows



Combined North and South Lakes Alternative - Barriers

- **Rock-filled barriers of 1 to 3 foot diameter rock**
- **Vinyl sheeting or bentonite slurry wall in barriers for seepage control**
- **Designed in accordance with Division of Safety of Dams criteria**
- **Soft foundation material will be excavated under barriers prior to placement of rock**
- **65 to 70 million cubic yards of rockfill needed**

Combined North and South Lakes Alternative - Other Features

- **Reservoir**
  - Freshwater reservoir for Imperial Irrigation District with total volume of 250,000 acre-feet
- **Recreational Opportunities**
  - North and South Lakes
  - Adjacent State Park
  - Could support future parks
- **Local Economic Opportunities**
  - Could support Development Zones along shoreline
- **Accommodations for Geothermal Zone**

Combined North and South Lakes Alternative - Summary

- **North Lake – 87,000 acres**
- **South Lake – 22,000 acres**
- **Saline Habitat Complex – 17,000 acres**
- **Salt Sink – 42,000 acres at -269 ft msl**
- **Protective Salt Crust – 40,000 acres**
- **IID Reservoir – 11,000 acres**
- **Assume Construction Period 2008 – 2013**
  - North Lake at marine salinity in 2015