SSMP Science Oversight, Monitoring and Adaptive Management

Implementation of USGS Salton Sea Ecosystem Monitoring and Assessment Plan

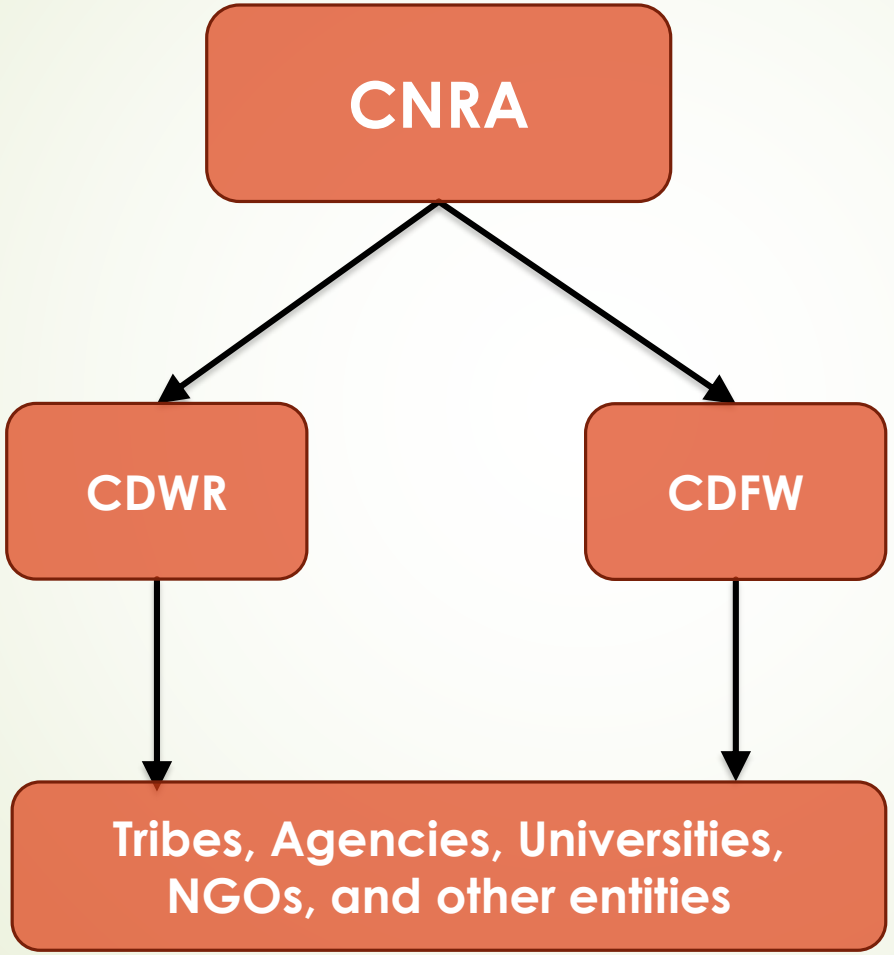
Outline

- Purpose and Scope
- Roles, Responsibilities, and Collaborations
- The Planning Process
- Monitoring Elements and Drivers
- Monitoring at the Salton Sea
- Adaptive Management at the Built Habitats

Purpose and Scope

- Purpose of the Science Oversight for SSMP is to coordinate scientific activity among the agencies, institutions and stakeholders.
- Scope of the monitoring activities at the Salton Sea is to collect information on the state of the Sea with respect to physical, chemical and biological attributes.
- Scope of the adaptive management program is to collect information and adjust management at built habitat projects to optimize conditions for fish and wildlife.

Roles, Responsibilities & Collaboration



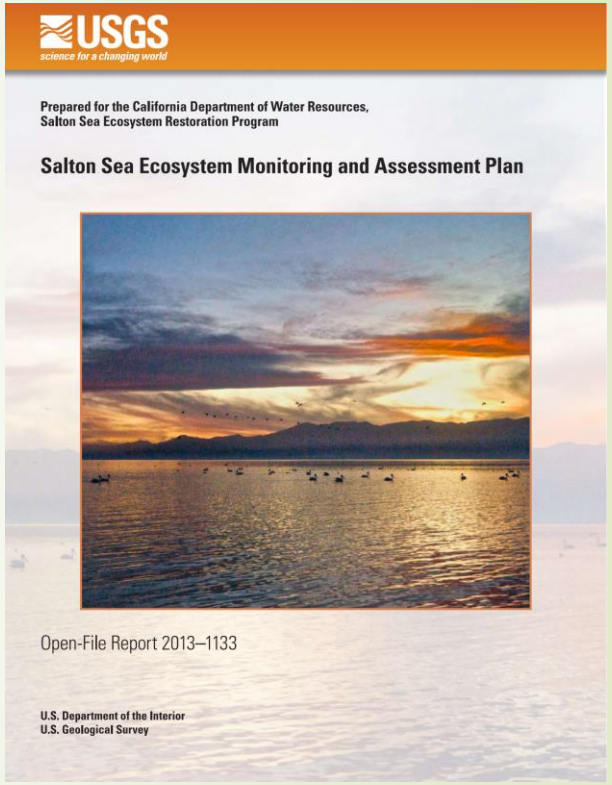
Salton Sea Policy & Overarching Responsibility

Implement SSMP Projects

Partner with CDWR & CDFW (contracts or MOUs) to fulfill on-the-ground monitoring and project implementation

Planning Process

- Development of implementation plan and standardized protocols
  - Priorities, goals and objectives of the SSMP monitoring
  - Review prior monitoring and available data
  - Refine key questions and information needs
  - Select indicators and refine survey approach, including new technologies
  - Formalize data management and assessment protocols
  - Identify resource needs
- Build off the 2013 USGS Salton Sea Ecosystem Monitoring and Assessment Plan



Monitoring Implementation Plan Timeline

- Fall 2019 - review existing data, identify information needs and key questions, refine indicators
- Winter 2019-2020 – develop sampling and data management protocols
- Summer 2020 – complete MIP

Monitoring Elements & Drivers

- Hydrology and Water Quality
- Geography and Geology
- Air Quality
- Biological Resources
  - Bird
  - Fish
  - Aquatic Food Web
- Socioeconomics

Desert Pupfish
USGS

California Mozambique Hybrid Tilapia
Sharon Keeney CDFW

American White Pelican

Core Monitoring Indicators of the Salton Sea

- Inflow
- Water quality – physicochemical conditions
- Air quality – PM 10
- Birds at Salton Sea habitats
- Fish community at the Salton Sea
- Plankton, benthos and the microbial loop

Nasseer Idrissi CDFW measuring water quality

Indicators are currently being defined and prioritized

Adaptive Management Process at State-Sponsored Built Habitat

- MIP will outline the steps each built habitat project should use in preparing site-specific monitoring and adaptive management plans

- Adaptive Management process
  1. **Plan** – define desired outcomes and identify uncertainties
  2. **Design** – physical structures and operational scenarios for created habitats
  3. **Implement** - construct and operate ponds
  4. **Monitor** – measure indicators of status, progress toward objectives, and triggers for management actions
  5. **Evaluate** - analyze, synthesize, & manage data
  6. **Adapt & Learn** – share findings with decision-makers and managers, adjust management to improve performance, and inform future actions.

Questions?