

**Salton Sea Science Subcommittee**

**Request for Proposals #2**

**to Provide**

**Environmental Assessments of  
Project Alternatives**

**for a**

**Salton Sea Remediation Project**

**Month Day, 1998**

## **Study Site**

see RFP #1

## **Project Background**

see RFP #1

## **General Description of Needs**

Any Salton Sea remediation project will have significant environmental effects which will require thorough NEPA/CEQA analysis. Despite its size and importance, there has been surprisingly little biological research on the Salton Sea. Much of our knowledge of the Sea's ecology is dependent upon work dating back to 1961. This predates the introduction of tilapia, arguably the dominant fish species in the Sea. Since 1961, there has been additional work on salinity tolerances of the sportfish species, productivity of the sportfishery (creel surveys), and selenium concentrations in water, sediment, and biota. Many aspects of the Salton Sea's ecology however, remain largely unknown.

This RFP is intended to elicit proposals to address specific aspects of this problem. The intent is to assess the probable/potential environmental impacts of alternative remediation projects.

Because salinity is the stressor on the Salton Sea ecosystem known to be increasing and because reproduction of the sportfish species may be immediately threatened by rising salinity, salinity control has been the focus of most proposed Salton Sea remediation projects. Salinity control alternatives can be divided into two classes:

- 1) diked impoundments - the construction of a within-Sea impoundment (or shoreline ponds) to serve as an artificial outlet (and evaporation basin) for the main body of the Sea; and
- 2) water exchange pipelines - the construction of pipelines to discharge Salton Sea water into and/or import water from other basins.

These alternative project classes have significantly different potential environmental impacts and therefore require assessment of widely different environmental issues. Evaluation of these alternatives is expected to be conducted largely through the review of existing information supplemented by reconnaissance studies being solicited under a different RFP.

## **Diked Impoundment Issues**

It should be noted that some issues listed below concerning water movement are already under investigation by a SSA-funded study at UC Davis.

### Wildlife Issues

- Would waterfowl utilize an evaporation impoundment? Which species? Would utilization stop at a certain salinity?
- Would an impoundment alter the mixing pattern of incoming freshwater and thereby the spawning area of sportfish species?
- Would an impoundment create stagnant areas in the Sea where fish eggs might settle out and die or plankton blooms might originate?
- Would an impoundment create upwelling zones, bringing bottom water and sediment to the surface, depleting surface oxygen and increasing the likelihood of fish kills?

### Contaminant Issues

- What would be the fate of environmental contaminants within an impoundment? Will contaminants be bioavailable?
- Would the use of Salton Sea sediment for construction of dikes create significant hazards to wildlife?

### Future Management Issues

- Should brine shrimp or other halotolerant invertebrate species be seeded into the impoundment? Will this attract new species to the Sea?

## **Water Exchange Issues**

### Pipeline Routes

The most commonly suggested sites for the discharge of Salton Sea water are: 1) the Gulf of California; 2) Laguna Salada, Mexico; and 3) Palen Dry Lake (east of the Chocolate Mountains). A general description of the habitats between the Salton Sea and each of these sites is required. Estimates of environmental impact, including the amount of habitat disturbance, associated with the construction of a pipeline to each site should be made. Significant environmental issues need to be identified and assessed. Among the issues requiring evaluation are:

- what would be the impact of a pipeline to Palen Dry Lake on desert tortoise populations?
- would a pipeline to Laguna Salada impact flat-tailed horned lizard populations on the west mesa and Yuha basin of Imperial Valley?

### Pumpout Issues

- Would waterfowl utilize the pools of Salton Sea water created in the dry lakebeds?
- What would be the fate of environmental contaminants in a dry lakebed? Will contaminants be bioavailable?
- What would be the fate of environmental contaminants in the Gulf of California?

### Pumpin Issues

- Does Gulf of California water contain contaminants other than those already reaching the Salton Sea?
- How much Gulf of California water could be imported without altering salinity patterns in the Gulf?
- What are the chances of importing new species into the Salton Sea? Would this be detrimental to the Sea?

## **No Project Issues**

NEPA and CEQA both require evaluation of a No Project alternative. In the case of the Salton Sea, 'no project' implies continued increases in salinity. Among the issues raised by this are:

- At what salinities will each fish species fail to reproduce? What would be the ecosystem effect of losing each fish species?
- At what salinities would the invertebrate fauna change? How would this affect the fish and bird communities?

- How would salinity changes alter the phytoplankton composition? Would this change the Sea's primary productivity?