

Title:

Oil Shale, Salinity and the Lower Basin States

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The Colorado River and its tributaries provide municipal and industrial water to about 33 million people and irrigation water to nearly 4 million acres of land in the United States. The river also serves about 3 million people and 500,000 acres in Mexico. The effect of salinity is a major concern in both the United States and Mexico.

Salinity damages in the United States are presently at \$306 million per year at 2004 salinity concentrations. The Salinity Control Act authorizes the Secretaries of the U.S. Department of the Interior and the U.S. Dept of Agriculture to enhance and protect the quality of water available in the Colorado River for use in the United States and the Republic of Mexico.

Two thirds of the western U.S. oil shale is located in the Piceance Creek Basin. In addition to oil shale, the Green River Formation contains deposits of salts. Twenty nine billion tons of Nahcolite and 17 billion tons of Dawsonite.

The primary threat to water quality is the leachate from spent shale, which contains significantly more salt than raw shale. A one million barrel per day commercial operation could increase salinity in the Lower Colorado River Basin by 2.4% causing an estimated \$25 million in damages each year.

Salinity represents a serious threat to the Colorado ecosystem and the lower basin states that depend on the water

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