

ABSTRACT

Arid Regions Water Challenges

Michael Gritzuk, P.E.

There are many challenges that impact the sustainability of water resources in the arid regions of the United States. This presentation will describe the various water issues that are complex and unique to the arid regions starting with an explanation of the origin of western water law that dates back to American Indian first use doctrine and the Law of the Colorado River.

The historical population growth and vast agricultural development in the arid regions of the west eventually depleted and/or contaminated the traditional ground water resources forcing new water laws and the creation of very challenging and costly water resource projects such as damming the Colorado River, the Salt River Project and the Central Arizona Project. However, along with these projects the challenges continued. Major issues of drought, contamination, salinity, environmental issues, regulatory issues and water rights needed to be addressed.

The continued quest for new water resources have lead to the next era of developing resources such as reclaiming wastewater for irrigation and potable water use, treatment of brackish ground waters, water ranches and desalination of ocean waters. Each of these options involved consideration of factors such as financing, technology, political implications, and implementability.