



CENTRAL ARIZONA SALINITY STUDY AND CONCENTRATE MANAGEMENT VIABILITY ASSESSMENT

U.S. Bureau of Reclamation

Request: Seek \$500,000 from U.S. Bureau of Reclamation (BOR) in FFY 2014 to evaluate concentrate management options in central Arizona.

Community Value:

The Central Arizona Salinity Study (CASS) is examining the problems created by importing highly saline water, human activities that concentrate salts and the lack of drainage needed to export salts in central Arizona. Scientists, engineers and academicians have warned that the continued importation and concentration of salts will cause problems in the future for the communities of central Arizona. CASS serves as a vehicle to coordinate the participating agencies and communities to efficiently and effectively identify and assess salinity problems and develop possible solutions for this growing problem.



Background:

CASS Phase I examined the current and future issues and factors associated with highly saline waters in central Arizona. Issues and factors include identifying those communities affected, the severity of the problem and time frame for when action is needed.

Phase II used the data and information gathered in Phase I to develop trends, projections and recommendations of possible regional salinity management strategies.

CASS Phase I and Phase II have been funded by a 50-50 cost share between the city of Phoenix and BOR. The BOR has funded just over \$2 million for the entire project, including Phase I and Phase II and follow-up work on these phases.

Dealing with salinity will require advanced treatment technologies, such as reverse osmosis membranes. The technologies produce a waste stream known as concentrate or brine. One of the greatest challenges will be management of concentrate streams. Currently in central Arizona, the two main concentrate management strategies are sewer disposal and evaporation ponds. Up to 40 million gallons per day of concentrate could be produced in central Arizona by 2045 - a viable water resource for central Arizona that needs to be recovered for either potable use or reuse options. CASS has developed several possible treatment technologies that could begin to help manage concentrate. However, additional research and pilot testing needs to be conducted to determine the viability of these technologies as well as the electrical, chemical and maintenance costs.



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