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Salinity Control by the El Morillo Drain, South Texas

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ABSTRACT

Potential increased sodium loads in the Rio Grande associated with drainage from Mexican farmer fields is avoided due to the El Morillo Drain, located in Mexico. Random failures of the Drain threaten the quality of source water available to Rio Grande Valley municipal water treatment plants as well for agricultural irrigation of high value crops. Economic analysis and capital budgeting methods are utilized to analyze the impacts of cities having to add reverse osmosis treatment components to conventional municipal water treatment facilities to reduce the excessive sodium loads and be in compliance with water quality standards. The alternative is bottled water for consumption as well as damages to landscape plants. The inferred marginal costs to facilitate such treatment are capitalized to identify the amount of annual support that is necessary to assure maintenance and rehabilitation of the El Morillo Drain. In addition, the expected crops losses due to yield reductions in irrigation are estimated to provide the benefits of the Drain to agriculture.

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