

# **Water Conservation and Wetland Restoration in the Colorado River Delta, Mexico**

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## **ABSTRACT**

In arid lands, wetland loss is caused not only by the scarcity of water itself, but by the inadequate management of this precious resource. The Colorado River delta in Mexico is one of the most important wetland ecosystems of the Sonoran Desert but has suffered alteration and fragmentation over the last 80 years. The disappearance of instream flows and over-bank flooding have caused the ecological degradation of this ecosystem. As a result there is growing interest to restore the delta. A major challenge in the restoration of wetlands is the allocation of an environmental flow. Water scarcity places the burden of water conservation on the agricultural sector and the competition for water is exacerbated by the fact that the demand for consumptive uses keeps increasing. Eighty percent of México's allotment of the Colorado River flows is used in the Mexicali Agricultural Valley (MAV), and another 20% is used to support urban areas in the region. This study used a survey methodology to evaluate the feasibility of restoring wetlands in the Colorado River delta through the use of water allocations for instream flows. Farmers in the MAV have little incentive to lower their water use, but they do receive monetary offers for their water-rights. Consequently, increasing demand for water drives the less profitable farmers to earn their income not from the production of their land, but from the sale of their water rights. However, interested farmers could receive support to improve their water-use efficiency in exchange for dedicating some of the 'conserved' water to the environment. This study analyzes whether some of the annual ecosystem requirements of water can be made available via: 1) water conservation practices in the MAV, and 2) an uncommon partnership between farmers and the environmental community.