

How an Ecosystem Services Assessment Informs Land and Natural Resource Decisions

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Although considered an invasive weed and subject to extensive efforts to eradicate, Tamarisk is known to provide certain beneficial ecosystem services. These include erosion control, habitat for certain bird species, and proven ability to thrive in higher salinity landscapes. In some places, especially those with adequate and more saline water (such as downstream from urban effluent), it may prove more beneficial to leave Tamarisk in place rather than go to the expense of removing it. To weigh the costs and benefits of preserving versus eradicating Tamarisk, I present an online decision support tool, The Santa Cruz Watershed Ecosystem Portfolio Model (SCWEPM), which uses information relevant to water allocation and land management in a binational watershed along the U.S.-Mexico border. The model includes an interactive ecosystem service valuation system within a suite of linked driver-response models and a multicriteria scenario-evaluation framework. The SCWEPM builds on GIS analysis and spatially-explicit models that characterize important ecological, economic, and societal endpoints and consequences that are sensitive to climate patterns, regional water budgets, and regional LULC change. I posit that this approach might be useful in rivers flush with salt cedar.
