

STATE OF THE SANTA CRUZ RIVER

PUBLICATION OVERVIEW



The Santa Cruz River's fascinating history illustrates the complex connections between human culture and the natural world. The *State of the Santa Cruz River* report explores these connections and highlights diverse efforts working to protect this rich heritage. The companion piece, *The State of the Santa Cruz River—Conservation Inventory*, provides the “who”, “what”, and “where” descriptions of conservation efforts along the Santa Cruz River.

HISTORICAL INFLUENCE OF THE SANTA CRUZ RIVER

In a dry land, the river is the secret to survival and the resource around which settlements converge. Concentrations of plant resources and prey along the river corridor attract early nomadic, hunter-gatherer inhabitants of Arizona. More than 12,000 years later, the river serves as a lifeline to Juan Bautista de Anza's contingent of inexperienced travelers in their attempt to discover a land route from Sonora to San Francisco. Stagecoach lines and railroad development also follow river ways and improve access to the Santa Cruz River Valley, driving settlement, increasing ranching and farming enterprises, and thereby placing higher demands upon the watershed.

NATURE ACTS UPON THE RIVER

Nature can prove temperamental and the Santa Cruz River cycles through periods of generous and meager flow caused by floods and droughts. Additionally, natural disturbance or

improperly managed lands affect the soil's ability to absorb water. This results in greater water runoff, accelerated erosion, and often downcutting, or deepening, of the river channel. It is possible that these natural impacts contributed to the decline of the Hohokam culture by the A.D. 1450s.



HUMAN DEMAND STRAINS THE RIVER

Simultaneous human influences on the river outnumber and outlast natural influences. The Hohokam peoples devise canal systems that divert water from the river to allow for agricultural activities farther from the water source. Father Kino, a Spanish missionary, arrives in southern Arizona in 1691, introducing the O'odham peoples, descendants of the Hohokam, to wheat, winter crops, and ranching. The use of draft animals greatly increases agricultural production, however over time, the surge in canal operation and overgrazing damages soils and accelerates downcutting.

Pumping ground water is perhaps the single greatest impact upon the watershed. Operation of steam pumps rely on wood, resulting in the devastation of hardwood forests along the river.

The transition to combustion pumps and continued research on groundwater ensure sufficient municipal water supplies for growing populations spurred by the Homestead Act of 1862 and the completion of rail lines. In fact, groundwater pumping to accommodate Tucson's transition to a metropolitan area coupled with the growth in Nogales, Arizona and Nogales, Sonora depletes the Santa Cruz, resulting in a river with only seasonal flows. With the river no longer able to meet demand, water importation begins when the Central Arizona Project canal first brings water from the Colorado River to Tucson in 1993.

The boom and bust cycles associated with World Wars I and II further stress the water resources of the Santa Cruz River Valley. Increased farming, notably in the northern sections, follows the growing demand for cotton. Likewise, the demand for copper reinvigorates mining efforts and increases water usage.

A RIVER DIVIDED

Long viewed as a single river, the Gadsden Purchase (1854) and the establishment of the Tohono O'odham Nation, San Xavier District (1874) divide the river between the United States, Mexico, and the Tohono O'odham Nation. This

management division creates additional challenges: fragmented environmental policy and disrupted wildlife habitat caused by the border and its fences, among other things. Addressing the threats of the natural and man-made worlds requires collaboration from all three countries and those stewards of the river who have undertaken to restore watershed health.



CONSERVATION EFFORTS IMPROVE RIVER HEALTH

While the river gives life to the people in the region, the people are now giving life to the river. Effluent, or treated wastewater, is one water source that increases with population growth and its release into the river is returning some sections to year-round flow. More than forty-six organizations, including federal agencies, city and county governments, nonprofit organizations, and others, are or have been engaged in conservation efforts along the length of the Santa Cruz River. The *State of the Santa Cruz River—Conservation Inventory*, the companion piece to the *State of the Santa Cruz River* report, highlights past and current conservation efforts, fosters collaboration among river stewards, and maximizes collective impact.

The active or complete endeavors listed in the *Conservation Inventory* include restoration and monitoring efforts of natural

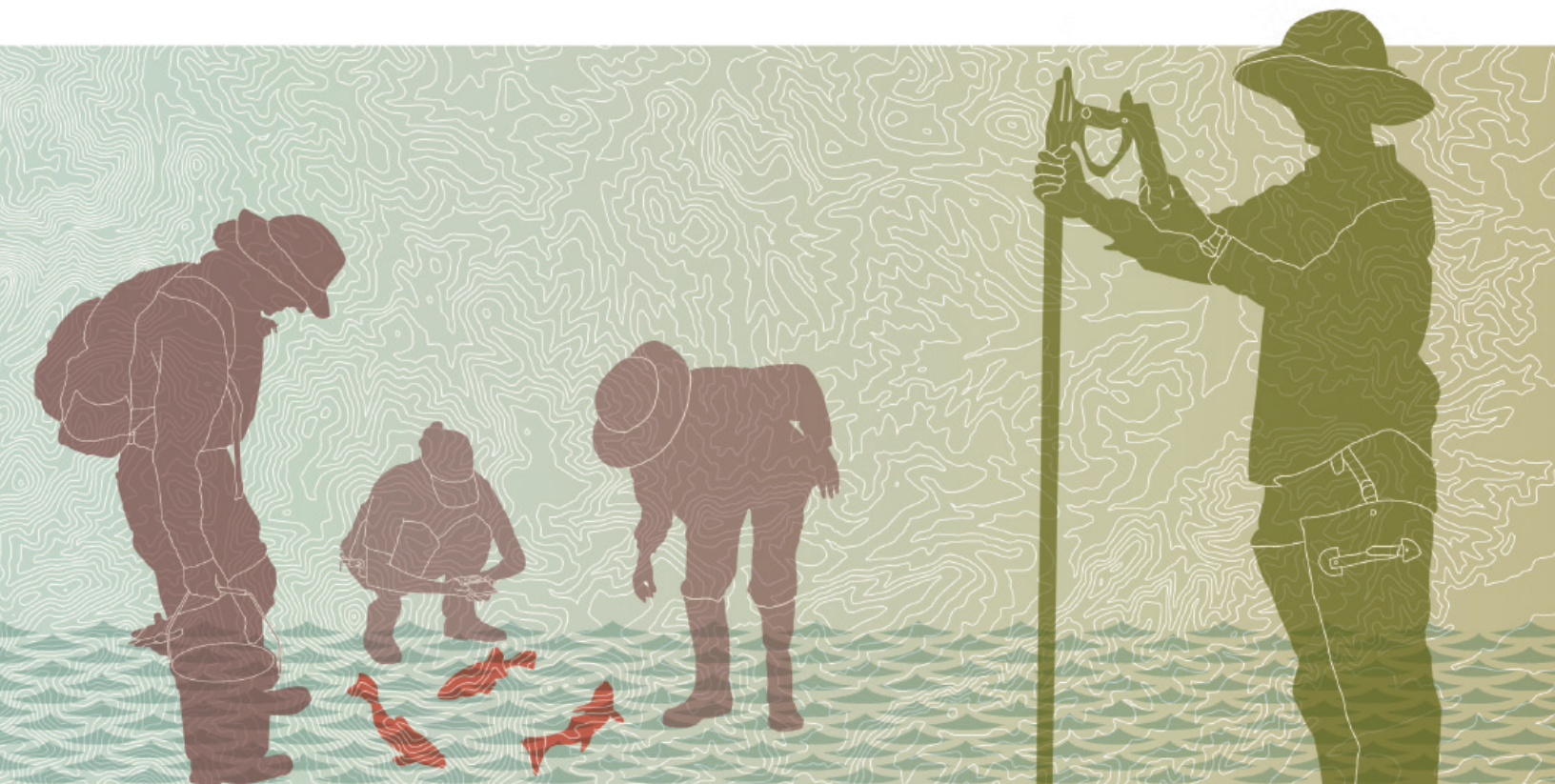
and cultural resources. Some sites attend to both types of resources and involve multiple partners. For example, a diverse bi-national partnership, including non-profits, government agencies, and schools, improves water quality and mitigates stormwater run-off in Nogales, Sonora.

Active groups can coordinate with each other to maximize the impact of their efforts. Meaningful, organized projects are easy for potential volunteers to find when they wish to become involved. Additionally, the *Conservation Inventory* helps identify conservation priorities, or general locations and descriptions of areas that are of high conservation value. Initial priorities were determined in a 2012 mapping session at the binational Madrean Archipelago Conference in Tucson where participants identified and described areas that were of high value.

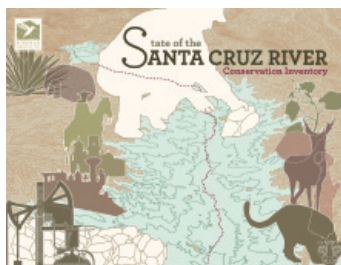
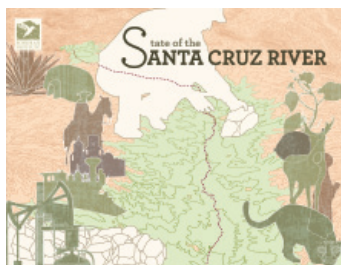
ROOM FOR IMPROVEMENT

The *Conservation Inventory* is flexible and designed for easy updates. Please contact us to include additional efforts and priorities on the maps. While the current inventory does not feature any stand-alone cultural conservation efforts, there are many

combined cultural and natural resource efforts. We plan to include more cultural conservation efforts in future updates to these maps. Email new information or modifications/updates to existing information to Claire Zugmeyer (see below). Type “Conservation Inventory” in the subject line and we will update the document.



Read the complete *State of the Santa Cruz River* and *State of the Santa Cruz River—Conservation Inventory* online at: <http://tiny.cc/scrci>. English and Spanish versions are available.



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