

Why is the Santa Cruz River Important?

Prepared by the Beyond Fronteras: Nogales/Santa Cruz County History Project

Water is essential for all life

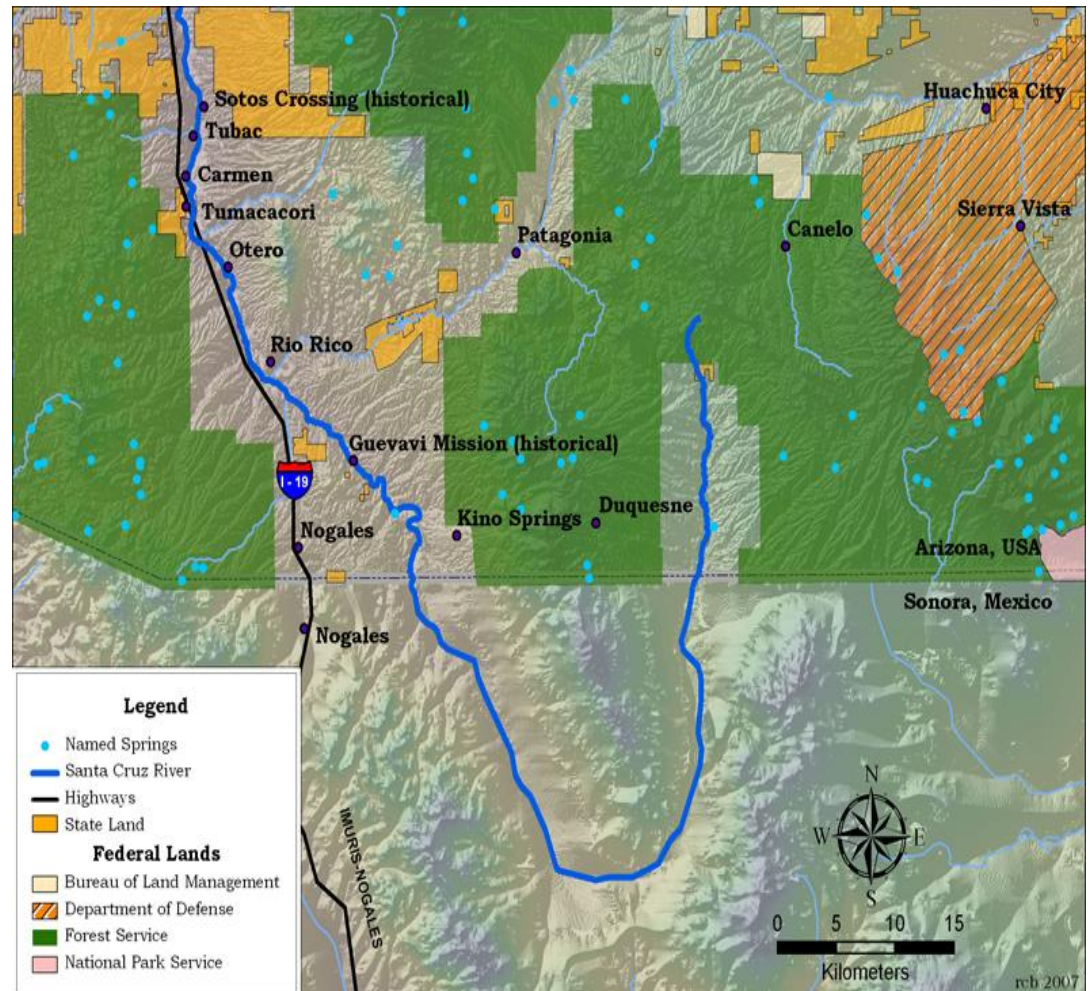


Valuable natural Desert Resource



Map of Santa Cruz River

The river begins in the San Rafael Valley, flows southward into Mexico, then makes a U-turn back into the United States. Then it flows from south to north, eventually joining the Gila River. The river creates essential habitat and a wildlife corridor for threatened and endangered species



*Key Terms to Understand

- **Headwaters – source of a river or stream.** The headwaters of the Santa Cruz River are mainly the Canelo Hills south of Sonoita and the Patagonia Mountains.
- **Confluence – the place where two or more streams come together.** The Santa Cruz River confluence is where it meets with the Gila River near Phoenix.
- **Tributaries – a smaller river which flows into a larger river.** The Santa Cruz River flows northward through Santa Cruz County fed by tributaries like the Nogales Wash and Sonoita Creek.
- **Aquifer – a body of groundwater that is found in layers of dirt, rock and unconsolidated materials underground.** As population increased and more ranches were created, the people relied on pumping groundwater from **aquifers** to meet their water needs.

*Key Terms (cont.)

- **Percolation** – the process in which water slowly filters downwards into the aquifer. We want more water returned to the aquifer, than what is being pumped out of the ground.
- **Central Arizona Project (CAP)** – a 336 mile canal that pumps water from the Colorado River to cities and farms in central and southern Arizona. This is the primary source of water for Tucson and into Green Valley. The aquifer is the primary source of drinking water. That is why good stewardship of our water supply is *essential* to support life.
- **Water Treatment Plant** – a facility that removes contaminants from water that goes into the sewer system from businesses and residences.

*Key Terms (cont.)

- (**Waste Water Treatment cont**) - River flows in Santa Cruz County are supported by water released from the Nogales International Wastewater Treatment Plant in Rio Rico. The wastewater treatment Plant treats water from Ambos Nogales and Rio Rico with over 80% of the water coming from Mexico.
- **Naturally Occurring Flow – places along the river where the groundwater comes up to the surface and creates flowing water in the river.** This naturally occurring flow along the Santa Cruz River is only for short and variable stretches.

Human impact on the Santa Cruz River thru History

Paleo – Indians, Archaic and Ancient Indigenous people have been using the Santa Cruz River for 12,000 years!

In the past the temperature was cooler and the environment provided abundant water, lush trees and plenty of wildlife to sustain agricultural communities.



In the 1690's the Spanish explorers and colonizers arrived.

They began to change and disrupt Indigenous practices of water use for agriculture, animal husbandry and mining in the Santa Cruz River Valley.



In the 1800's and 1900's American Western Expansion added to the water consumption

The newcomers had a mindset that water and land were to be used to the greatest extent for survival. So, they decided to pump groundwater out of the aquifers to sustain their water needs. In order to fuel the pumps, they cut down large amounts of Mesquite trees!

By 1910, perennial flows ceased! By 1940, only the winter and monsoon rains allowed flows to occur, but only for a short period of time following the rains.



By 1940 a century of overuse was devastating!

The Santa Cruz River dried up!! Still more people continued to move into the valley and the demand for water increased! In the 1950's scientists realized that the amount of water percolating into the ground was less than the amount being pumped out of the aquifer. This process of water overuse is called ***overdrafting***. Alarm bells started ringing!!



**In the early 1990's the
Central Arizona Project
started delivering water to
Tucson – uphill!!**

CAP is a 336 mile man
made canal that
pumps water uphill
from the Colorado
River to cities and
farms in central and
southern Arizona.



The Nogales International Wastewater Treatment Plant

Flows in the river are now supported by the water released from the Nogales International Wastewater Treatment Plant. The plant treats water from Ambos Nogales and Rio Rico with over 80% of the water coming from Mexico. The water was still slimy, stinky and dangerous. However, in 2009 the facility received upgrades that improved the water that it was discharging into the river.



**Now with the rio Rico
treatment plant, we now
have two more in Pima
County**

In 2015 and 2017 with a cleaner river, endangered fish like the Gila Topminnow, dragonflies, other fish like the Longfin Dace and wildlife which had been absent for almost 70 years, began coming back! With the water quality improvement people are now able to enjoy reconnecting with the river.



Tribal Water Settlements

Various tribal water settlements have now returned irrigation capacity to the San Xavier District of the Tohono O'odham Nation. This in turn results in runoff that has helped recharge the aquifers.



Conclusion

Various cleanup groups like the Friends of the Santa Cruz River and Tumacacori National Historic Park are helping to improve water quality by picking up trash along and in the river.

The Santa Cruz River is a vital natural desert resource that everyone must share responsibility for creating a new and brighter future for the environment around us!

