

Mexico: Southern Pacific Watersheds

EL TRIUNFO / LA ENCRUCIJADA

Intricate System of Watersheds Connects Two Biosphere Reserves



ecoregion Central American Pine Oak Forest; Southern Pacific Dry Forest; Sierra Madre De Chiapas Moist Forest.; Central American Pacific Dry Forest; Tehuantepec/El Manchon Mangroves

targets coastal watersheds; cloud forests; mangroves; resplendent quetzal; azure-rumped tanager; giant wren; puma; jaguar; tapir; spider monkey; migratory waterfowl

stresses deforestation; incompatible cattle and ranching activities and hydrologic management practices; uncontrolled use of agrochemicals; construction of canals and dams; urbanization

strategies strengthen protected area management; promote compatible cattle and ranching activities; work with local governments to improve land and water protection and management; develop long-term funding mechanisms to support watershed conservation

partners National Commission for Protected Areas; Instituto de Historia Natural y Ecología; Pronatura Chiapas; Coapa Watershed Committee; Grupo Pigua; El Triunfo Conservation Fund; municipal governments

funding need \$175,000 for conservation programs

leveraging opportunity USAID matching grant funds; TNC Wilson Challenge Grant Program



El Triunfo and La Encrucijada cover over 600,000 acres of forests and wetlands. © A. Hernandez

At daybreak, the tropical evergreen and moist cloud forests of El Triunfo Biosphere Reserve awaken to the melodic cries of the 392 different bird species that dwell in its 294,000 acres. El Triunfo is well known for having the world's largest concentration of horned guan, an endangered, near-mythical bird that is found only in the upper elevation cloud forests of Chiapas and adjacent Guatemala. The resplendent quetzal, a sacred symbol of the ancient Maya, also finds refuge in these forests, along with the azure-rumped tanager, ocellated quail, pink-headed warbler and green-throated mountain gem.

El Triunfo's southern neighbor is La Encrucijada Biosphere Reserve, a 333,000-acre mosaic of wetlands, mangrove forests, estuaries and coastal lagoons situated on the Pacific Coast of Chiapas. Like El Triunfo, the wetlands of La Encrucijada are important nesting areas for native and migratory birds, including the giant wren, roseate spoonbill, American wood stork, the chestnut-bellied heron and numerous other songbirds, pelicans, shore birds and waterfowl. Two hundred ninety-four bird species, 90 of them migratory, favor La Encrucijada's diverse terrestrial and aquatic habitats.



Roseate spoonbills migrate from the United States to La Encrucijada wetlands. © L. McBride

These two protected areas encompass more than 600,000 acres of tropical forests and coastal wetlands, providing habitat for a total of 11 amphibian species, 89 reptile species, 155 mammal species and 672 bird species. Jaguars, ocelots, tapirs, spider monkeys, anteaters, crocodiles and turtles coexist in this biologically rich region.

The Tie that Binds

Connecting these two biosphere reserves together is an intricate system of watersheds. The forested uplands of El Triunfo, located in the Sierra Madre de Chiapas Mountains, capture ten percent of Mexico's total rainfall and nourish streams and rivers. This network of rivers flows from El Triunfo to the coastal wetlands of La Encrucijada, forming an enormous watershed system critical to the health of ecosystems and human communities.

These watersheds generate clean, abundant water for local and regional populations and economies, they control flooding and they regulate the regional climate. The vegetation and biochemical cycles of wetlands also function like a filtering and transformation system for sediments and contaminants that flow down from the middle and upper watersheds.

Human Context

Approximately 260,000 people live in the coastal watersheds between El Triunfo and La Encrucijada. The area's original inhabitants were Mames (Maya-Quiche nation), fishers/gatherers who later practiced agriculture. The region's original inhabitants have virtually disappeared and production models, such as large plantations, brought in by immigrants from diverse backgrounds, have replaced traditional agricultural models.

Principal economic activities in the forested uplands include slash and burn agriculture, cattle-raising and coffee production. In the coastal wetlands, marine fisheries play an important role in the local economy.

Degradation of Land and Water

Regrettably, many of the economic activities in Chiapas employ practices that are destructive of the environment, threatening biological diversity and the long-term economic viability of the region. Critical threats include deforestation and hydrologic alteration, caused by incompatible agricultural and hydrologic management practices. Deforestation in the upper and middle watershed causes erosion

upstream and sedimentation in the lower watershed. The burning of fields often results in forest fires that destroy habitat and endanger crops and homes. Erosion off cleared hillsides affects the quality and quantity of water available for residents downstream and increases the likelihood of flooding and mudslides.

Additionally, the uncontrolled use of agrochemicals is contaminating soil and water. The construction of artificial canals, dams, and the detouring of natural waterways is causing erosion of sediments which obstruct estuaries, lagoons and mangrove forests downstream, killing aquatic species.

What the Conservancy is Doing

Efforts to date by The Nature Conservancy and its partners have led to important successes, including the development of a community-based conservation plan that assisted local communities in a pilot watershed; community-based compatible economic activities, including improved cattle management and reforestation; and tools and methodologies to develop water valuation campaigns and environmental service payments with municipal governments.

With support from USAID, the Conservancy is currently working on a multi-year project at these two key sites to protect and restore the ecological values that support the region's economy and transform productive activities to enhance livelihoods and mitigate threats, while creating the capacity for long-term results.

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