

Mexico: Maya Forest

EL OCOTE BIOSPHERE RESERVE

Fire Management Key Strategy in 300,000-Acre Forest Expanse



ecoregion Chiapas Depression
Dry Forests; Peten Moist Forests

targets evergreen seasonal forest; lower montane rainforest; tropical deciduous forest; pine-oak forest; short-tree savanna; cave systems; jaguar; puma; tapir; howler and spider monkeys; harpy eagle; resident and migratory songbirds; endemic freshwater species

stresses slash and burn agriculture; use of agrochemicals in agriculture; inadequate land use patterns; illegal timber extraction and logging; road construction

strategies build fire management program; promote ecologically compatible farming and forestry practices; support reserve management

results brought together government officials, land managers, scientists and fire experts to advance fire management activities in the reserve

partners Instituto de Historia Natural y Ecología de Chiapas; Comisión Nacional de Áreas Naturales Protegidas; El Ocote reserve staff

funding need \$85,000 for conservation programs

leveraging opportunity TNC's Wilson Challenge Grant Program



El Ocote's rivers provide water for numerous communities in the area. © L. Richardson

The El Ocote Biosphere Reserve rainforest in southern Mexico bursts with color, noise and life. Deep in the tropical terrain, jaguars and pumas prowl the land while howler and spider monkeys swing from trees. An amazing variety of migratory songbirds infuse the forest with their shrill melodies. Hundreds of tropical plants and flowers illuminate the forest's lush sea of green.

Located in northwestern Chiapas, El Ocote's 300,000 acres are characterized by evergreen seasonal forest, lower montane rainforest, tropical deciduous forest, pine-oak forest

and short-tree savanna. The reserve's forests catch rainfall which replenishes subterranean rivers that provide water for numerous communities, as well as for one of Mexico's most important hydroelectric dams.

Over 420 bird species, 97 mammal species, 68 reptile species, 556 vertebrate species, 5,000 invertebrate species and 2,000 plant species can be found in El Ocote. It serves as an isolated haven for endangered rainforest species such as the harpy eagle, tapir, jaguar, howler and spider monkeys. As one of North America's last remaining areas of undisturbed tropi-



Endangered spider monkeys find refuge in the undisturbed forests of El Ocote. © M. Sanchez

cal forest, El Ocote is also vital winter habitat for millions of migratory songbirds from the United States and Canada. With 429 registered bird species, El Ocote has the highest reported bird diversity in the state of Chiapas.

Endemic freshwater species inhabit over 200 caves that underlie El Ocote's forests. The area where the reserve is located has been identified as a Pleistocene Refuge, where numerous species survived the climate changes and extinctions of the Pleistocene period.

An Immigrant Population

Just as amazing as El Ocote's biological diversity is the cultural diversity of the communities that inhabit the reserve and its surroundings. In the early classic period (350-550 A.D) the forest was inhabited by the Zoque culture, which left behind numerous archeological vestiges. Descendants of El Ocote's original residents lived in the fertile valley of the La Venta River until the 1960's, when the construction of the Malpaso hydroelectric dam flooded their homelands and forced them to resettle in the marginal upland areas.

Today, the region is increasingly being populated by indigenous im-

migrants who, driven by past violent clashes and extreme poverty, have been forced to leave their homes in the highlands to establish communities in and around the reserve. Unfamiliar with the resources of lowland Chiapas, the newer migrants are unaware of appropriate forest extraction and production techniques.

Nearly all of El Ocote's residents are self-sustaining farmers or ranchers who have encroached on the reserve out of necessity. The main economic activities in the area are commercial and self-sustenance agriculture, ranching, timber extraction, hunting and small-scale commerce.

Inadequate Land Use

El Ocote was federally decreed a special biosphere reserve in 1982. However, during the first 10 years, the area was subject to illegal resource extraction, land distribution, road construction, forest clearing and other threats. Although these activities have since been largely controlled by the Mexican government, they have contributed to the deforestation of El Ocote's formerly intact forests.

Presently, inadequate land-use patterns pose the most important threat to the reserve. Residents and immigrants continue to establish

new settlements inside the reserve, relying on the forest's resources to survive. Unsustainable practices such as slash and burn agriculture and the use of agrochemicals are fragmenting habitat, provoking forest fires, contaminating resources and causing health problems. In 1998, nearly one half of the reserve was affected by catastrophic fires. Timber extraction is also leading to the destruction of habitat, deterioration of waterways and interruption of hydrological processes.

What the Conservancy is Doing

Aware that El Ocote's ultimate safekeepers are its local residents, The Nature Conservancy and its in-country partner organizations, the Instituto de Historia Natural y Ecología (IHNE), the National Commission for Natural Protected Areas and Pronatura Chiapas, are working with local communities to find productive alternatives that protect the site's unique forest and its highly important underground river system.

Much of the Conservancy's work in El Ocote is centered on building an ecologically sound and socially acceptable fire management program. The Conservancy is bringing together government officials, land managers, scientists and fire experts to exchange information and expertise, find solutions to common problems, share best practices, weigh the ecological costs and benefits of fire and advance fire management in the reserve.

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