

Tropical Deciduous Forest Conservation Business Plan

West Coasts of Mexico and Central America

INTRODUCTION:

In the past tropical deciduous forests stretched from Northwestern Mexico through Central America and into South America. Today, less than 15% of this biologically diverse ecosystem remains and only 1% of that total has been put aside for conservation. The forests in the area of this business plan are the northernmost tropical deciduous forest in the Western Hemisphere, and serve as an important area in desperate need of conservation for both resident and migratory birds. About 85% of the migratory passerine species that breed in the western United States and Canada spend the winter in this area and habitat.

GEOGRAPHICAL AND ECOLOGICAL DESCRIPTION AND IMPORTANCE:

The geographical area covered by this business plan includes parts of southern Arizona and California, the Baja peninsula, all Mexican states bordering the Sea of Cortez and the Pacific Ocean and south to the Guanacaste region in Costa Rica.

West Mexican Thornforest and Sinaloan Thornscrub of Brown (1994) are also variously called Thornforest, Tropical Thorn Woodland, and Tropical Deciduous Forest. Rzedowski (1990) refers to these as Bosque Espinoso and Bosque Tropical Cauducifolio types (Figure 1). We refer to this ecosystem collectively as West Mexican Thornforest (TDF) in this document, which covers the area from near sea level to 725 - 900 m in the mountains that border the area to the east. It occurs in isolated pockets in southern Arizona through Sonora and Baja California to as far south as Costa Rica. There are also Sonoran and Viscaïno desert elements (Matorral Xerofilio of Rzedowski 1990) that are included. Riparian ecosystems are present interdigitated throughout. Mangroves also of concern occur adjacent to thornforest in pockets from northern Sonora south. We include mangroves because many birds use both habitat types. Grasslands occur in the region, but are scarce and covered by another Conservation Business Plan, thus grassland birds are not a part of this plan.

West Mexico Thorn Forests and Mangroves have several conservation status designations, including:

- Critical/Endangered by Viva Natura.org.
- Mesoamerican Biodiversity Hotspot by Conservation International
- Contains over 50 Important Bird Areas
- Contains 32 Ramsar sites for mangroves

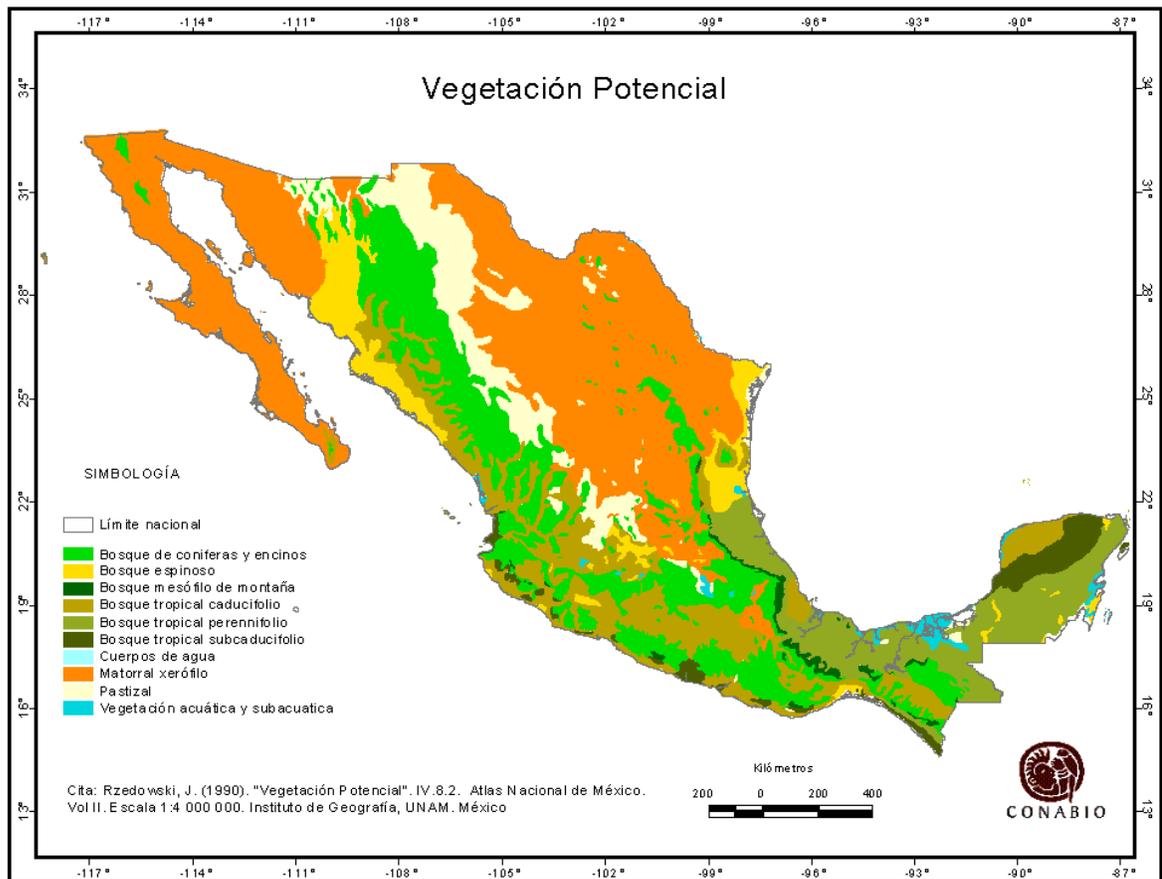


Figure 1. Potential vegetation types included in this plan include: Matorral xerófilo (dry scrub), Bosque espinoso (thornforest), Bosque tropical caducifolio (tropical dry forest), and acuatic and subacuatic (mangroves) (Rzedowski 1990).

AVIAN IMPORTANCE:

TDF is of interest conservation interest because of the large number of priority birds (the most priority migrants of any region considered by the PIF V Conference) that use this habitat type for both for over-wintering and for breeding (Figure 2). The region is also rich in endemic or near-endemic species, some of which have legal conservation status, such as, Yellow-headed, Yellow-naped, and Lilac-crowned parrots, Orange-breasted and Rosita's buntings, Black-capped Vireo, Bendire's Thrasher, and several hummingbirds (NOM 059 SEMARNAT-2010).

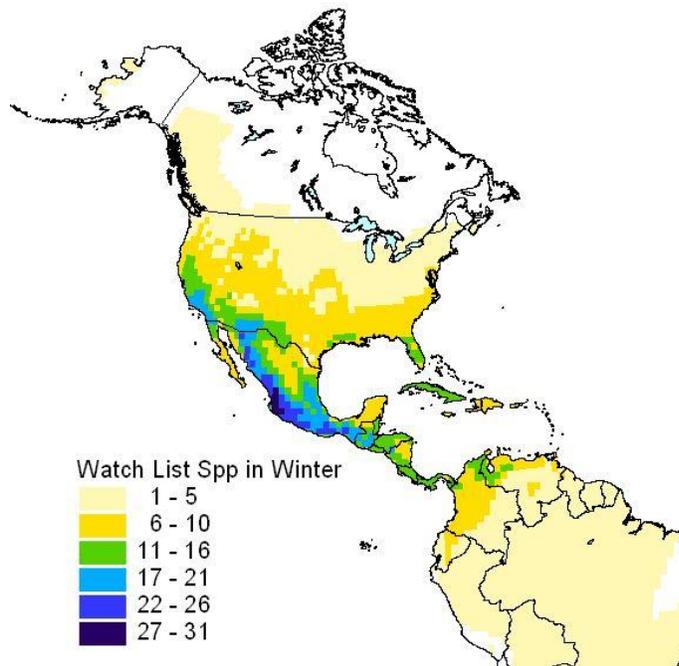


Figure 2. Number of Partners in Flight Watch List species occurring in each Lat-Long block during winter Partners in Flight (2004).

We have selected the following priority shared species to focus on for this plan: Black-capped Vireo, Gray Vireo, Varied Bunting, Painted Bunting, Bendire’s Thrasher, Five-striped Sparrow, Elf Owl, Reddish Egret, Rufous Hummingbird, and Bell’s Vireo. The following list shows the IUCN ranks for the shared species and their associated resident species.

Globally Threatened Species (IUCN/BirdLife International):

Yellow-headed Amazon	EN
Belding's Yellowthroat	EN
Great Curassow	VU
Lilac-crowned Amazon	VU
Yellow-naped Amazon	VU
Military Macaw	VU
Black-capped Vireo	VU
Bendire's Thrasher	VU
Reddish Egret	NT
Balsas Screech-Owl	NT
Bell's Vireo	NT
Cinnamon-tailed Sparrow	NT
Painted Bunting	NT
Rose-bellied Bunting	NT

Goal Identification for Conservation Targets:

Our Conservation Targets below all meet the following criteria:

1. Represent the biodiversity in our area. (non-breeding and breeding, different landscape scales)
2. Reflect ecoregional conservation goals.
3. Viable or feasibly restorable.
4. Face threat that when identified and addressed can be alleviated by conservation actions.

Species	PIF Plan target
Reddish Egret	Increase by 50%
Elf Owl	Maintain/Increase
Rufous Hummingbird	Double
Five-striped Sparrow	Increase by 50%
Bendire's Thrasher	Double
Black-capped Vireo	Double
Bell's Vireo	Double
Gray Vireo	Protect current
Painted Bunting	Increase by 50%
Varied Bunting	Increase by 50%

GENERAL CONSERVATION THREATS AND OPPORTUNITIES

The region is used for a variety of activities including urban/suburban and tourist development, agriculture, shrimp aquaculture, cattle ranching, logging, and mining among others. Impacts to species' habitat include: Soil erosion, habitat loss and modification, catastrophic fires, and invasive/nonnative species. Direct mortality is caused by excessive use of some agrochemicals and other pollutants used in

agriculture, shrimp farming, and mining. Also capture and sale of parrots, Painted Buntings, and other song bird species and over hunting contribute to direct mortality.

List of specific threats: We have used Open Standards for the Practice of Conservation nomenclature (Salafsky et al. 2008) for a basic threats analysis below (see the primary categories across the top of the table).

Private land conservation programs are important conservation tools. They are currently

Species	Residential and commercial development	Agriculture and aquaculture	Energy Production and mining	Transportation	Biological resource use including: Logging / Wood Harvest	Human intrusions and disturbance	Natural Systems Modification	Invasive and other problematic species	Pollution and poisoning	Geological events	Climate Change
Gray Vireo		x	x	x							x
Bendire's Thrasher	x	x	x		x	x	x	x			x
Five-striped Sparrow		x			x		X Fire				x
Elf Owl	x	x				x	X Fire				x
Varied Bunting	x	x				x	x fire				x
Black-capped Vireo	x	x			x		x				x
Painted Bunting	x	X could be positive				x	x				x
Reddish Egret	x tourist	x both	X		x	x	x	x	X		x
Rufous Hummingbird	x	x			x		x	x	x		x
Bell's Vireo	x	x					x	x	x		x

Private land conservation programs are important conservation tools. They are currently being used but need to be greatly expanded. There is also a need to increase research, monitoring, and environmental education programs. Ornithological studies are needed to document the area's biodiversity and to inform implementation of conservation actions.

Primary conservation actions needed include: increasing the amount of land in conservation programs and Natural Protected Areas, promoting ecotourism and conservation education, and diversifying local economies in rural areas. Conservation easements, payment for ecological services, sustainable harvest, reforestation, carbon sequestration, payment for wardens/stewardship, mitigation funds, official designations of protection are all tools that are used in the region to good effect when there are local people to champion the programs.

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To put these tools into effect the TDF Conservation Business Plan needs to move from planning to action. We will need funding to hire a coordinator to lead the effort and to hold regional meetings with conservations leaders to organize strategies and actions with local players.

APPENDIX—PROJECT SUMMARIES

Project 1: Endemic Parrot Linkage (in Jalisco)

Project Description- Within the immediate vicinity of Chamela Biosphere Reserve, Jalisco, there are several AICAs and ANPs which offer the opportunity to coordinate conservation activities for endemic parrot species. This project would use the Chamela – Cuixtla Biosphere Reserve as an “anchor” for conservation activities with the goal of establishing a community-run monitoring program for Military Macaw and Lilac-crowned Parrots, an easement and acquisition program for consolidation and protection of high value habitats to establish linkages between existing populations, and the establishment of a community-based ecotourism training to promote visitation and education of visitors from Mexico as well as abroad.

Threats to Target Species & Habitats- Habitat loss of mature forest, poaching for pet trade, agricultural depredation (shooting), and grazing and clearing for dairy cattle (especially for Yellow-naped Parrot habitat).

Measures of Success- Sustainable agricultural and forestry practices, functioning ecosystems and watersheds, sustainable economic infrastructure within the region.

Timeframe- 5 years. Funding: \$600,000

Project Leads.

Project 2: Yellow-naped Parrot: Mangroves to Mountains Habitat Restoration and Connectivity

The lowland region of southern Chiapas has lost the majority of its TDF cover. This region has well-preserved mangrove habitat with the La Encrucjada Reserve. Yellow-naped Parrots use habitat throughout this area but would benefit greatly from re-establishment of TDF. This is an opportunity to link habitats in the region, particularly as the dairy industry is at a low and converted land may be available for purchase at low prices. We propose establishing habitat linkages in the area to increase TDF by 10-20%, encompassing larger trees maintained in pasture.

Threats to target Species & Habitats- Habitat loss due to dairy farming and poaching of chicks for the pet trade.

Measures of Success- Increase the Tropical Deciduous Forest habitat availability from virtually 0% to 10-20% or more. Habitat connectivity will be increased.

Timeframe- 10 years. Funding-

Project 3: Building Economies with Hummingbird Conservation

Project Description- Our overall objective is to define a new conservation paradigm that generates economic opportunities while addressing hummingbird conservation needs. We envision building restoration economies throughout the Americas with Hummingbird Conservation Communities by celebrating a community's hummingbird stories and myths; engaging their craftsmen and artists to help hummingbird conservation; providing scientifically-based assessment services that can identify limiting factors for hummingbird populations; engaging and training community members to restore hummingbird habitats using traditional and proven techniques for restoring hydrologic processes and developing native plant nurseries for restoring the nectar landscape; and then teaching community members survey techniques that allow measuring impact and evaluating effectiveness of our conservation actions. We are beginning a conservation movement whose goal is to generate funds that directly benefit participating communities; allow conservation to expand into new areas and pay for itself.

Threats to Target Species & Habitats- Disruption of available food resources (floral and insect) throughout the year due to habitat loss/conversion, use of pesticides, altered hydrology and water regime changes caused by both changing climate and human activities, and other ecological changes due to human activity such as the use of feeders.

Measures of Success- # of certified hummingbird communities

Timeframe- . Funding- .

Project 4. Happy Hummer Resorts

Project Description- Establish a working relationship with Resorts and Resort developers to establish and enhance landscapes within Resorts to provide native nectar plants for hummingbirds

Threats to Target Species and Habitats- Loss of native nectar-producing plants for hummingbirds due to development

Measures of Success- Establish native nectar plant gardens in 50% of all resort locations. A 25% increase in hummingbird feeding activity in resort locations where native plants were introduced. Establishment of a native nectar plant nursery that can remain viable as a business 5 years post establishment.

Timeframe- 5 years. Funding- \$350,000

Project 5. Pacific Coast Thorn Forest Initiative

Project Description- To protect the threatened migratory and resident birds found in the unique Pacific Coast Thorn Forests of Mexico and Central America. These habitats are unique in that they host many of North America's western and hardwood forest birds during the winter months, and at the same time include a range of endemic resident birds. To protect the threatened migratory and resident birds found in the unique Pacific Coast Thorn Forests of Mexico and Central America, this project seeks to a) ensure the creation of habitat "stepping stones" and safe spaces for migrating birds in each bottleneck location, either geographical or human-induced, due to urbanization or agriculture, b) Establish large and contiguous bird conservation areas for at least three sites where it is feasible because of significant forest cover and low human population density, c) Increase overall protection for the remaining Pacific Thorn Forest from 5% to 25% over the next decade, and d) Strengthen local capacity for monitoring birds and protecting habitat so that each protected area targeted within this initiative is supported by skilled and committed local managers.

Threats to Target Species & Habitats- Historically forest conversion for subsistence agriculture and extensive rangeland was common, but more recently, intensive and industrialized agriculture is expanding rapidly, placing strain on scarce water resources and disrupting landscape connectivity for birds and wildlife. Land conversion is also being driven by urban growth, particularly along the coastal areas where hotels and housing developments are constructed in response to growing tourism (i.e. the Mexican Riviera, Nicaragua). Other threats include climate change. At a local scale, selective tree harvesting, hunting, wildfires, and firewood collection degrade standing forests. Wind and solar energy development is an emerging threat that is expanding rapidly throughout the region. Other threats include the development of mega-infrastructure (i.e. Trans-Oceanic Canal in Nicaragua), the draining of wetlands, and contaminants from agriculture.

Measures of Success- Increase overall protection for the remaining Pacific Thorn Forest from 5% to 25% over the next decade.

Timeframe- 10 years. Funding: 200 million

Project 6. Greening Communities for Birds

Project Description- Implementing a community based model for bird and habitat conservation through education, capacity building, and scientific monitoring at 10 communities of Bahia de Banderas-Sierra de Vallejo region.

Threats to Target Species and Habitats- Residential and commercial development (housing, tourism and recreational areas); agriculture (change from rustic to industrialized crops and land use change to agriculture), livestock farming and ranching, biological resource use (hunting, collecting of animals, illegal trade, and poisoning) and transportation and service corridors (highway construction).

Measures of Success- Maintain or increase key species population at demonstration and community managed sites. Number of people engaged in capacity building projects and ecotourism programs. Number of community-based ecotourism businesses created. Consistency and quality of community-based monitoring data. Hectares protected or conserved by community based projects and demonstration site.

Timeframe- 3 years. Funding- 100,000

Project 7. No More Loss of Mangroves: Mangrove Protection in West Mexico

Project Description- Establish a program of direct land protection and community engagement through conservation easements in the West Mexican mangrove habitats. Short term activities will include a system of prioritized mangrove easements and community outreach near protected areas. Long term activities will include the hiring of a project coordinator to pursue easement and community outreach, and the additional hiring of 5-10 local people to work on mangrove GIS and work on local communities outreach.

Threats to Target Species and Habitats- Loss of mangroves to shrimp farms and tourism development

Measures of success- Number of hectares under conservation easement. Percent of west Mexican mangroves covered by the easement. Number of communities along west Mexican coastal areas engaged in community outreach.

Timeframe- 5 years. Funding-

Project 8. Rufous Hummingbirds migration investigations

Project Description- Quantify factors contributing to overall decline of populations; measure mismatch and loss of nectar plants and key wintering areas; identify gender specific habitat, migration patterns.

Project 9. Isthmus of Tehuantepec Wind Turbine Mitigation

Project Description- Minimize overall impact of wind turbines and mitigation for development that occurs by using multiple strategies. Form a regional alliance to: a) Lobby with government, industry and community for best wind turbine locations, practices and mitigation, b) Work to inhibit construction in raptor migration corridors and prime habitat for focal species, and c) Work to obtain easements and to improve habitat for focal species. .Also work to increasing our knowledge of raptor migration corridors and prime habitat for focal species as well as conduct monitoring of population levels of migrating raptors of focal species. Work with local communities to promote sustainable wind practices & mitigation.

Threats to Target Species and Habitats- Energy Development, Wind Power Development, and other threats including: residential and commercial development, tourism, agriculture, livestock, transportation and service corridors, utility and service lines, and climate change.

Measures of Success- Fewer wind turbines than currently projected, agreements established to avoid turbines in high priority conservation areas, mitigation dollars are allocated for easements and habitat restoration (number of hectares under easement or restoration), and maintenance of focal species population levels.

Timeframe- 5 years, Funding-