

Gulf Coast Bird Observatory's Site Partner Network:

LINKING THE LAND, BIRDS AND PEOPLE OF THE GULF OF MEXICO

WITH ITS CENTRAL POSITION between the Americas, the Gulf of Mexico is a natural obstacle faced by millions of migratory birds that must either cross or go around it each spring and fall as they travel between their breeding and wintering grounds. The habitats surrounding the Gulf are used by over 800 bird species. About 300 of those species are nearctic-neotropical migrants that rely on these habitats for their survival in order to rest and refuel enroute. The Gulf of Mexico region contains the Hemisphere's most important stopover habitat, but much of it is threatened by urbanization, destructive tourism development, and other land conversion activities.

The Gulf Coast Bird Observatory (GCBO) was founded in 1992 to address declining bird populations through avian research and the protection of Gulf coastal habitat utilized as stopover by migratory songbirds. The Gulf region is shared among three countries—the United States, Mexico, and Cuba—which includes eleven U.S. and Mexican states. To fulfill our mission, the GCBO has established a *Site Partner Network* and pledged to assist the conservation work of organizations and sites throughout this region. This network of sites currently includes 54 locations and 30 partners around the Gulf who are responsible for over 7 million acres of coastal habitat. Fifteen of these partner sites protect Gulf coastal habitat outside the United States—seven in the Yucatan Peninsula, seven in the Mexican provinces of Veracruz and Tamaulipas, and one in western Cuba.

Many of the partner sites are staffed by trained biologists or have scientists carrying out studies at their sites. Other sites have good volunteers, and still others use seasonal assistance for land protection activities. Some of the Network sites are actively involved in environmental education and habitat management, and pass along their knowledge and skills to other partners via the Network listserv. The strength that the GCBO brings to the partnership is to coordinate the partnership network, provide biological information, assist with conservation and management activities, and provide technical assistance in public outreach, scientific research, development and conservation planning.

The GCBO is also involved in assisting site partners directly in their conservation projects and efforts, such as providing funding for private lands conservation efforts, habitat mapping, easements and acquisitions. The GCBO also recognizes the important role of education in accomplishing successful conservation, and we have facilitated training workshops in local communities of the Yucatan Peninsula and developed avian ecology classroom curriculum for students along the upper Texas coast. These educational ventures have been a remarkable success and have generated a spreading enthusiasm for bird conservation.

A new way in which the GCBO is encouraging international cooperation among Gulf coastal conservation organizations is through a Sister-site Partnership Program within the larger network of site partners. Sister-site partnerships are mutually beneficial relationships between two sites with commonly shared features. The birds themselves are shared features, but sometimes there are also similar threats or habitat issues that the two sites can help each other manage. Each sister-site benefits from the other's experiences and resources, which translates into greater efficiency and results. Four of these sister-site partnerships are already functioning to bring about greater conservation impact.



Over the life time of the project, the *Site Partner Network* has continued to grow and numerous joint conservation activities have been successfully completed involving habitat acquisition, restoration, environmental education, and technical assistance. Since signing the first Site Partner agreement in 1995, GCBO has been directly involved in facilitating: 13 land acquisitions, 5 land management plans, 4 ecotourism plans, 6 habitat restorations, 6 visitor access-enhancement projects, 16 avian inventories, and 10 educational workshops. These efforts, combined with the multitude of other important protection activities carried out independently by the Site Partners have made a significant contribution to the health and vitality of the Gulf of Mexico region.

This Sourcebook has been compiled so that you can learn more about each of the partner sites, their worthy conservation efforts, and goals for the future. We ask you to join us in supporting the conservation efforts of each Site Partner and encourage you to take an active role in the conservation of migratory birds...while we still have a chance to keep common birds common.

The Land

The landscape and habitat surrounding the Gulf of Mexico has been valued for centuries for its beauty, uniqueness, and abundance of natural resources. From the mangroves of south Florida to the tropical forests of the Yucatan Peninsula of Mexico, coastal lands have always been desirable locations for many human activities. In the last 75 years, ornithologists have begun to understand that these habitats are also critical to the millions of neotropical migrant birds that breed in North America, and spend the non-breeding season in the southern U.S. and Latin America. The coastal areas around the Gulf lie directly in the migration path of these birds, and provide critical stopover resting and feeding points in the long journey north in the spring and south in the fall.

From Florida westward around the Gulf in the U.S., to the eastern Mexican coast and the Yucatan Peninsula, the wooded habitats used by neotropical migrants are extremely diverse and variable. At least 19 different types of vegetation communities have been quantified in scientific publications. Generally, migration habitats, from east to west, can be described as follows. Mangrove and cypress swamps, pines, and hardwood hammocks (small wooded raised areas with a dense understory) are characteristic of the coast of Florida, Alabama, and Mississippi. The first great bottomland hardwood forests occur in the Pearl, Atchafalaya, and Mississippi River deltas in Louisiana, and are also found in the Columbia Bottomlands on the upper Texas coast. Between these Louisiana and Texas forests are expanses of chenier woods, narrow oak and hackberry woods that grow along old beach ridges near the Gulf. These chenier woods are some of the most important, and most imperiled neotropical stopover habitat. Further south along the central Texas coast, oak mottes (small oak woodlands) dot the landscape. As one moves into south Texas and northeastern Mexico, thornscrub and mesquite woodlands dominate. Along the central Mexican coast, mangroves, swamps, and tropical evergreen forests are found, especially in Veracruz, where a bottleneck is created by narrowing of the landmass and the intersection of the eastern edge of the Sierra Madre Oriental. This forest, though fragmented, funnels millions of raptors, swallows, and other migrants along the coast every spring and fall. The Yucatan peninsula of Mexico is a mixture of tropical dry forest, mangrove, and swamp forest. This area is a critical staging area for migrants as they prepare for their journeys to the north for the breeding season.

Unfortunately, most of the forests described above are threatened. Coastal areas are prime locations for development, especially along the eastern Gulf, central Texas, and the Yucatan. Agriculture, livestock grazing, and related activities have affected large areas of the chenier plain and coastal Mexico. Logging is prevalent in most coastal areas, and has greatly altered the landscape.

Many conservation organizations have divided these coastal areas into ecoregions, based on habitat type, climate, and plant and animal communities. The color-coding of our map of the coast of the Gulf of Mexico and our Site Partners is based on Partners in Flight ecoregions in the U.S. (www.blm.gov/wildlife/pifplans.htm), and in Mexico on broadly defined ecoregions as defined by the National Geographic Society and the World Wildlife Fund (www.nationalgeographic.com/wildworld/terrestrial.html).

The Birds

Each spring and fall, wooded areas around the Gulf of Mexico are witness to one of nature's greatest spectacles. Millions of birds who spend the North American winter months in the tropics head north for their breeding grounds in the United States and Canada. The journey is perilous, and many thousands of birds die each year attempting the flight. Many small songbirds fly directly from the Yucatan or Central America nonstop across the Gulf of Mexico, a journey of more than 600 miles. Others follow the coast around Mexico, or island-hop from the Caribbean to Florida. Migration routes of individual species are poorly known, and studies of the phenomenon are discovering surprising new details every year.

Why do birds migrate? Are these North American birds that fly south each fall to avoid the cold winters in the U.S. and Canada? Or are they tropical birds that move north in the breeding season to escape competition for nesting resources with other tropical birds? There is much disagreement on this topic, but the fact is that hundreds of species move from the tropics to the temperate zone to breed each year, and all of these birds need suitable habitat along the route to successfully complete the journey.

There are a considerable number of variables in the bird migration equation.

The routes the birds select

(even individual populations of the same species may select different routes), the sites selected for wintering and breeding, the habitats utilized in route, the timing, and even whether a species or an individual returns to the same area each summer or winter. Many of these variables are yet to be discovered for a number of species. For example, it is known that Cerulean Warbler (one of the most imperiled species of wood warbler) winters in a narrow elevational band of upper tropical and subtropical forest in the eastern Andes of northern South America between 1,200 and 2,400 meters. Even the extent of this elevational range is not completely known—some claim that the range is actually between 600 and 1,400 meters. The species is a wide-spread, but local breeder throughout the eastern United States. Ceruleans are seen regularly along the Gulf Coast during migration, but, until recently, nothing was known of how this warbler completed its long journey from South America to the eastern United States. In the last decade, a few of these warblers have been observed in the mountain forests of Belize and Honduras during the month of April. It has been postulated that the species moves northward through the mountains of Columbia to northern Central America or western Mexico, where it possibly flies across a portion of the Caribbean to the Yucatan, and then across the Gulf to the northern Gulf coast. This theory has not been proven, but it highlights the lack of knowledge of how birds migrate, and illustrates some of the research directions that must be taken to save this and other declining species.

While there is much to learn about bird migration, the one variable that is not in question is the need to protect the fragile habitats around the Gulf that are used by birds in migration. Our Site Partners provide a valuable infrastructure to protect this habitat, and to facilitate the study of this fascinating phenomenon.

