



Department of Defense
Partners in Flight

Fact Sheet #3
December 2016

Department of Defense Partners in Flight Program

Mission

To conserve migratory and resident birds and their habitats on Department of Defense lands.



International Conservation

DoD's Connection to Neotropical Migrants in Latin America and the Caribbean

What Are Neotropical Migrants

Neotropical migratory birds, sometimes called nearctic-neotropical migrants, are those species that nest in the United States and Canada ("nearctic" region) and migrate south to the tropical regions of Mexico, Central America, South America, and the Caribbean ("neotropics") for the winter. Migration is predicated primarily upon food resources. Since most insects become unavailable during our harsh winters, insect-eating birds find abundant food resources in the tropics. Many raptor species also follow this migrating food chain. Over half of all bird species nesting in the US are classified as neotropical migratory birds. Some or all of the populations of 338 species—which include many of our songbirds, waterfowl, birds of prey, waterbirds and shorebirds—migrate each fall to the tropics.

The Migration Cycle

Birds on breeding grounds establish territories, form pair bonds, build nests, lay and incubate eggs, and raise their young. Throughout this time, they are subject to predation, foul weather, disease, and disturbance from human activity. In late summer, migrant species begin to prepare for their southward exodus by consuming large amounts of food to build fat reserves. Billions of neotropical migrants fly southward to Latin America searching for suitable tropical wintering grounds. In addition to being up to eight times more concentrated on wintering grounds than on their breeding areas, these migrants also share their wintering habitats with the resident tropical species. The effect of this concentration makes the loss and alteration of tropical habitats especially destructive to neotropical migratory bird populations. Even the most effective management of habitats on U.S. military lands may appear deficient if migratory bird populations suffer losses in the non-breeding seasons.

Tropical Habitats

Habitat destruction and disturbance are the primary threats to West Indian birds. Over the past several centuries, approximately 9 out of 10 avian extinctions have been of endemic island species. Many neotropical migrants share these same habitats and are also adversely affected by their



The U.S.-Mexico border is the approximate boundary between the nearctic and neotropical ecological regions.

destruction and disturbance. Tropical arid scrub, mud flat, and mangrove and tropical dry forest habitats provide critical stopover and wintering habitat for neotropical migrants and support numerous island endemics. Scientists are studying these habitats, the impacts of weather and climate on migration patterns, and others factors affecting productivity and survivorship of bird species on Navy installations in Puerto Rico and Cuba. In particular, DoD lands offer the greatest potential for preserving and improving habitat conditions in the West Indies. These current and former DoD sites sustain some of the best remaining mangrove habitats in the West Indies.

Puerto Rico

Historically, mangroves covered about 60,000 acres of coastal lowlands of Puerto Rico. Located along the island's eastern coastline, the former Naval Station Roosevelt Roads contains about 2,300 of the 15,000 acres remaining today. Its 1,000-acre Los Machos mangroves constitute one of the largest remaining mangrove forests on Puerto Rico. Studies have shown that resident and migrant species rely on mangroves more heavily than other habitat types, underscoring the significance of maintaining the diversity of mangrove forest types for migrant, as well as resident, bird species.

The former Navy range on Vieques Island hosts excellent scrub (thick thorn, forest, and evergreen) and mangrove forest (white, red, black, and button) communities. The avian diversity includes eight endemics among the 40 resident species, as well as a dozen wintering neotropical migrants. This former range is being incorporated into the USFWS National Wildlife Refuge system.

A partnership with the BirdLife International Caribbean Programme has helped DoD explore important wintering lands in Puerto Rico and throughout the Caribbean where migratory birds breeding on DoD lands spend the winter (non-breeding) season.



The American Redstart, featured on the Partners in Flight logo, breeds on DoD lands in the U.S. and winters on current and former DoD lands in Puerto Rico and Cuba. Photo: Michael Stubblefield

Panama

The Panama Canal Treaty of 1977 stated that lands currently held by the United States were to revert back to Panamanian ownership and control by the year 2000. Recognizing the significance of the canal lands to the biodiversity of Panama, as well as the United States and countries in between, DoD PIF convened several

meetings to bring together biologists, economic development leaders, and politicians. The DoD PIF International Working Group met in Panama City in 1996 to document the economic, ecological, and cultural values associated with the canal lands. The report, "The Key Role of Specific Lands in the Panama Canal Area in Preserving the Value of Panama's Natural Heritage," was distributed to interested partners throughout Panama. As a result of this report and a follow-up workshop held in 1998, Panama has a developing ecotourism effort, and over 150,000 acres of former DoD lands are now identified as Important Bird Areas. Many of the best of these lands have been incorporated into Panama's national park system.

The Upper Bay of Panama hosts some of the largest concentrations of migrant and overwintering shorebirds in the Western Hemisphere. A study funded through DoD PIF documented a high single day count of nearly 300,000 Western Sandpipers in fall migration. The study helped the upper Panama Bay achieve status as both a Western Hemisphere Shorebird Reserve Network site of hemispheric significance and a RAMSAR site (wetland of international significance). A 2007 meeting set the stage for Panama Audubon to work with the Panamanian government to incorporate the Upper Bay into Panama's official Protected Areas Network. Current efforts are examining this species' use of military lands as migration stopover sites linking Panama, Mexico, the U.S. and Canada.

Cuba

Cuba's exceptional biological value can be measured by its high number of endemic plants and animals. The creation of Naval Station Guantanamo Bay in 1903 resulted in the preservation of exceptional habitat for many of these species, some of which are endemic to either Guantanamo or Cuba and are declining elsewhere. A rapid ecological assessment conducted by The Nature Conservancy found eight Cuban endemic bird species were abundant on the base, and significant stopover and wintering use by migrants. A follow-up multi-year, year-round study by The Institute for Bird Populations produced models for apparent survival for seven neotropical migrants and six endemics, and was the foundation for MoSI (Monitoreo de Sobrevivencia Invernal - Monitoring Overwintering

Survival) . Nearly 170 bird species have now been recorded on the base, including nine Cuban endemics.



*Migrations routes of neotropical migrants.
Map: National Geographic Society*

Partnerships in Latin America

DoD bird conservation programs are a vital part of the international Partners in Flight network. DoD works to develop cooperative programs and projects with PIF partners in Latin America and the Caribbean. One example is the Golden-cheeked Warbler partnership, which involves Fort Hood (TX), the National Fish and Wildlife Foundation, The Nature Conservancy, USFWS, and other groups. The partnership created a biologist exchange program between Texas and Latin America to facilitate a better mutual understanding of differences between breeding and wintering ground habitat requirements and management of this federally-listed species. Additional partnership opportunities throughout Latin America continue to be explored.

For more information:

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