



The Wings Across the Americas Program:

Supports habitat conservation activities on National Forests and Grasslands, and from Canada's Boreal Forest to the Grasslands and Wetlands of South America;

Organizes an annual awards program to recognize conservation partnerships involving Forest Service employees and their cooperators;

Provides training opportunities for biologists, land managers and administrators;

Participates in national and international conservation initiatives;

Enables partners and Forest Service employees to become more knowledgeable about global conservation needs.

Visit our website:

[www.fs.fed.us/
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Photos courtesy of US Forest Service, US Fish & Wildlife Service, Bat Conservation International, and Dennis Paulson.

A US FOREST SERVICE PROGRAM TO CONSERVE BIRDS, BATS, BUTTERFLIES & DRAGONFLIES

The US Forest Service—National Forest System, State & Private Forestry, Research & Development and International Programs—works with a wide range of partners here in the United States and overseas to conserve habitats and populations of birds, bats, butterflies and dragonflies.

Conserving Priority Birds

Wildlife watching is an increasingly popular American activity—and birding represents the lion's share. Almost 72 million people, age 16 and older, fed, photographed or observed wildlife in 2011 and spent nearly \$55 billion on their activities.

Birds are indicators of national and international environmental health and trends. Unfortunately, many bird populations are significantly declining due to habitat loss, climate change, development, fragmentation, invasive species, and other causes both here and abroad.

The 193 million acres of National Forests and Grasslands managed by the US Forest Service are critical to maintaining bird populations. However, more than 350 bird species migrate to Latin America and the Caribbean each year. Habitat conservation on our nation's forests and grasslands is not sufficient. Conservation is needed range-wide, in breeding, migration and wintering areas, to ensure habitat and populations; otherwise, investments we make here at home for bird conservation will not be enough for us to see common migrants in the future.

Wings Across the Americas invests in international conservation and uses Forest Service experience and expertise to improve bird conservation at home and abroad. Scarce federal dollars are leveraged



through partnerships with other agencies, non-governmental conservation organizations, local communities and private/corporate sources, both in the United States and abroad, to ensure long-term sustainable projects that benefit birds throughout their range.

Conserving Bats Worldwide

Bats are vital to the health of ecosystems and human economies worldwide. As primary predators of night-flying insects, bats consume enormous quantities of agricultural pests and reduce the need for chemical pesticides. Some bats are critical pollinators and seed dispersers for plants, many with great economic value such as the durian (high-priced Asian fruit) or the agave (source of tequila), closer to home in North America.

Protected bat colonies all over the world have become popular and valuable tourist attractions. A colony in downtown Austin, TX, adds some \$10 million tourist dollars a year to the local economy. The city boasts that it is the "Bat Capital of America".

Bats are threatened worldwide. Populations are in alarming decline because their colonies and habitats are destroyed both intentionally and inadvertently. Development, agriculture, climate change, and lack of scientific understanding of bat ecology lead to the inadvertent destruction of their habitats. With more than 1,200 species, bats account for nearly a quarter of all mammals, but they are among the least studied. In fact, population status and conservation needs of most bats have never been documented. Tragically, their populations also suffer from in-

tentional destruction due to myths and misinformation.

Wings Across the Americas is working to assist in bat research, conservation management and capacity building to maintain healthy ecosystems in our National Forests and Grasslands, as well as provide Forest Service expertise and experience for bat conservation internationally. Our investment at home and abroad increases our scientific knowledge of bats and creates a cadre of trained scientists and managers to conserve an important group of mammals that is often ignored by conservation planners.



Conserving Monarch Butterflies

The monarch butterfly is in serious decline. The loss of habitat on the wintering grounds and in the breeding areas is a continuing concern. In fact, this loss could severely affect the migration of the monarchs, as well as threaten their population. Current land use practices in the United States and in northern Mexico are degrading the pathways. There are fewer milkweed plants (for larvae) and nectar resources (for adults) available, and hence, fewer suitable breeding sites. Furthermore, in Canada and the United States, land use and farming practices (i.e., pesticides and herbicide-resistant crops) are unfriendly to milkweed. In the overwintering areas, habitat is threatened by deforestation and pressure exerted by human settlements, like

in areas around the Monarch Butterfly Biosphere Reserve. There, local communities greatly depend on both the monarch and the forests for their livelihood and identity.

As part of the *Wings Across the Americas* program, the Forest Service is working with partners to address habitat issues in Canada, the US and Mexico for the monarch, through the Monarch Joint Venture and educational and outreach efforts for inner city youth and wildlife biologists.



Protecting Dragonflies and Wetland Habitats

Although dragonflies are an endless source of fascination, they have received little attention from biologists. Consequently, little is known about them. Flying over ponds, streams and rivers, these charismatic species are derived from an ancient order of insects that emerged 300 million years ago. Fossil records show that little has changed in their design over time. Dragonflies are efficient predators. They use their extendable lower lip and teeth to snag mosquito larvae, tadpoles and even small fish. They are used as indicator species for assessing habitat and water quality in wetlands, riparian forests and lakeshore habitat around the world. In North America, citizen monitoring networks—involving teachers,

school groups, birders, nature societies and other partners—are forming to gather information and to collect data on dragonflies. In North America, there are 5 common migrating dragonfly species. There is not, however, much information on the natural history or ecology of their migration. The best known of these five species is the Common Green Darner, which travels south in the fall and whose offspring return in the spring. Various reports have specified migrations of the Common Green Darners in Chicago, IL; Cape May, NJ; Crescent Beach, FL; and Veracruz, Mexico.

Through the *Wings Across the*



Americas program, the US Forest Service has launched the Migratory Dragonfly Partnership, a flyway-level collaborative project that will increase awareness of the importance of dragonflies and their habitats as well as link projects and partners in Canada, the United States and Mexico for research, monitoring, capacity building, outreach and education. Recently, scientists and conservationists with an interest and expertise in migrating dragonfly research convened to discuss issues related to its migration in Canada, Mexico and the United States. A Migratory Dragonfly Action Plan that includes research, citizen science and education priorities related to migration, range shifts due to climate change and conservation of key habitats in North America is being developed.