

## US FOREST SERVICE INTERNATIONAL PROGRAMS



### **PRESERVING A MAGNIFICENT MIGRATION: THE US FOREST SERVICE MONARCH BUTTERFLY PROGRAM**

One of nature's most spectacular events is the Monarch butterfly migration. Every fall, millions of Monarchs migrate thousands of miles from Canada and the United States to spend the winter in only 12 mountain peaks in Michoacán, Mexico. In the spring, the Monarchs return to the US and Canada. During their migration, the Monarchs heavily depend upon milkweed, a prairie plant commonly found across the three countries, for its survival and successful reproduction.

While the Monarch migration is one of nature's most amazing phenomena, Monarch butterflies also play an important ecosystem function—as pollinators as well as indicators of healthy lands. Alarming, Monarch habitat across North America is rapidly disappearing, and these losses pose serious threats to the population's long-term viability.

The US Forest Service, through its International Programs, is actively addressing threats to the Monarch and its habitat by uniting a wide range of partners across its migratory path in all three countries. International Programs coordinates and advances habitat conservation efforts through training and community outreach that reach both urban and rural populations. Moreover, with environmental education programs related to the Monarch, the Forest Service is engaging a wide range of audiences, including urban youth and schoolchildren that reside along the entire migratory path, or flyway. In addition to these efforts, the Forest Service is creating and preserving milkweed and other prairie plants to create more habitats not just for the Monarch but also for *all* pollinators.

#### **THE FLYWAY APPROACH TO CONSERVATION**

Successful conservation of Monarch habitat requires coordination of diverse partners from the public and private sector to address threats across their flyway. Over recent years, the Forest Service has played an active role to conserve Monarch habitat. It has focused on both biological and human dimensions required to advance change:

#### **Flyway Conservation: The Biology**

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##### **Conservation planning and habitat restoration:**

- Creation of a North American Monarch Flyway Conservation Plan in 2008: The Plan provides a) a framework for local and regional conservation activities to be implemented by governments, non-governmental organizations and rural and urban communities, and b) strategies for addressing threats to critical habitats that are being identified;
- Conservation and restoration of Monarch habitat across Canada, the US and Mexico; In the US, many National Forests, National Parks and Monuments, State protected



areas, National Wildlife Refuges and private lands are potential Monarch butterfly migration and breeding habitat.

### **Improving technical skills, monitoring and understanding of the Monarch in Mexico and the US:**

- Development of the Monarch Monitoring Handbook to help researchers, managers and citizen scientists to monitor the status of the Monarch population;
- Workshops, such as one recently organized by International Programs and the Hiawatha National Forest in Michigan, increase the skills of government and non-government personnel in carrying out Monarch butterfly research and conservation. The workshops provide training in tagging and monitoring techniques.

## **Flyway Conservation: The People**

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### **Helping Communities in Mexico**

Communities in Michoacán, Mexico, depend on the resources and ecotourism generated by both their local forests and the Monarch for their livelihoods. The US Forest Service International Programs works with partners to conserve habitat around the Monarch Butterfly Biosphere Reserve in Mexico. Work to improve management capacity has been ongoing since 1993, and involves the Mexican government and non-governmental partners in the communities adjacent to the Reserve. The assistance focuses on forest inventory, ecological mapping, ecotourism, recreation site management, conservation, and outreach programs.

### **Connecting with Urban Youth in the United States**

Because the Monarch butterfly migrates through urban areas, outreach to inner city youth is an important component of International Programs' educational efforts. The Forest Service is teaming with community-based organizations and schools in several cities, most notably Chicago, Minneapolis, and Houston, to establish inner city Monarch gardens. This effort:

- Provides conservation training;
- Increases environmental awareness;
- Supports ongoing local environmental projects; and
- Stimulates interest in careers in the field of conservation.



### **Assisting American Farmers**

Many pollinator species in the US are declining due to herbicides, pesticides, diseases, and changing land uses. This poses a significant problem and economic losses for the United States, which produces over 150 food crops that rely on pollinators such as bees, beetles, butterflies, and other insects. The US Forest Service International Programs is making plans to form partnerships with 4-H clubs, Future Farmers of America, schools and Farms Bureaus to conserve and restore milkweed and other prairie plants around fields, ditches and roads. Milkweed is essential for the Monarch's survival.

### **Monarch Live**

In fall 2008, the US Forest Service International Programs, the Prince William Public Schools in Virginia, US Forest Service Conservation Education, and partners will initiate "*MonarchLive - A Distance Learning Adventure.*" This project will connect 500,000 students in classrooms across Canada, the US, Mexico and other countries via the internet—with live, interactive, electronic field trips to Mexico. Webcasts will trail the migration of the Monarchs in real time, and will showcase current conservation and research efforts of students, citizens and scientists. The project will integrate distance learning methods with hands-on activities to promote conservation and foster student-led research in urban communities.