

# MIGRATORY BIRD WATCH

## A NATIONAL PARK SERVICE RESEARCH, MONITORING, AND INTERPRETIVE PROGRAM ON MIGRATORY BIRDS

By

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### INTRODUCTION

Concern over the impending free-fall in global biological diversity is based primarily on the unprecedented destruction of natural habitats currently underway worldwide. Neotropical migrant passerines (North American songbirds) are particularly vulnerable to this phenomena due to the pell-mell destruction of their wintering grounds in the tropics, urban development of their migratory stopover habitat in coastal areas, and the fragmentation of breeding habitat in North America.

Migratory birds provide an extremely compelling subject to showcase the global biological diversity issue. Their heroic journeys are an inspiration of will and physical ability. Their dependance on critical habitats is not well known.

This project is designed to become a centerpiece of the emerging NPS program on biological diversity. It will demonstrate how a relatively modest commitment of resources can be leveraged to greatly elevate awareness of the primary global conservation issues of our time.

### RATIONALE

Populations of neotropical migratory birds provide a model system for interpreting and studying biological diversity issues in national parks.

1. Neotropical migrants illustrate the interconnection of global ecosystems and the need for a broad, cooperative approach in addressing threats to biological diversity.

2. Neotropical migrants comprise a diverse group with a wide range of ecological requirements. They illustrate the numerous factors that can affect biodiversity, such as competitive relationships, habitat loss, alteration or fragmentation, and the role of behavioral and ecological plasticity.
3. An enormous database exists on the distribution, abundance, and ecology of neotropical migrants. Much of this work has been conducted in NPS areas. However, there is no systematic national program to monitor these species in parks.
4. There is increasing evidence of declines in the diversity and abundance in neotropical migrant populations and their habitats.
5. Neotropical migrants are aesthetically attractive. Therefore, the products of this program will be of interest to a broad constituency, and may generate the political will necessary to affect public policy.
6. There are many people currently studying neotropical migrants in North, Central, and South America, and there is an army of trained volunteers available to assist in a long-term research and monitoring program. Parallel studies have been underway in Europe and Africa for decades.
7. Birds are good indicators of change in the environment. As the focus of a long-term population monitoring program, neotropical migrants should provide a good umbrella for other species.

The National Park Service is well suited to coordinate a long-term research, monitoring, and interpretive program for neotropical migrants.

1. The National Park Service interpretive program is unequalled in its ability to explain an issue of this nature to the public.
2. A network of habitats necessary to neotropical migrants, already exists in the National Park System. These areas are available in a wide range of sizes and boundary configurations which should permit an assessment of area, boundary, and regional effects on populations.
3. Many NPS areas possess a significant historic database on neotropical migrant populations, and some have related research projects currently underway.
4. A research network based in national parks provides an opportunity for the standardization of methods and experimental designs, long term research, and information exchange.
5. As natural landscapes become increasingly fragmented national parks will become more important in providing critical habitat for populations of neotropical migrants.

## PROGRAM GOALS

- I. Devise and implement a protocol for a long-term population monitoring program.
- II. Identify and assess the habitat status and rates of habitat loss for selected species.
- III. Develop and implement education programs targeted to specific audiences: school children, the general public, land managers, and public leaders.
- IV. Link the program to sites in Canada, Central, and South America.

## IMPLEMENTATION STRATEGY

This project is proposed as a joint initiative between the National Park Service and the U.S. Fish and Wildlife Service. The following steps are designed to culminate in the formation of a viable cooperative biodiversity program in time to become an integral part of the Quincentennial celebration of the arrival of Christopher Columbus in the Americas. The authors of this report are proposed as co-principal investigators of the project.

The following are a set of action statements to be implemented in FY89 designed to develop and field test the elements of the program. Other organizations and agencies will be asked to participate once the program becomes operative in FY90. Relationships between agencies and parks will be kept informal in FY89 in order to maintain maximum flexibility in program development. Two levels of effort are described, a base level proposed for implementation with existing resources (Level 1), and an expanded level of effort which will require supplemental funding (Level 2).

## POPULATION MONITORING

### Level 1:

1. Establish a working group of NPS ornithologists, chaired by Ted Simons, to select appropriate parks for monitoring.
2. Solicit participation from test parks and establish park level responsibility.
3. Develop park specific protocols from the USFWS breeding bird survey and breeding bird census for population monitoring.
4. Conduct field tests at pilot parks.
5. Analyze data from field tests in cooperation with USFWS.

### Level 2:

1. Establish park-specific bird census protocols for pilot parks as part of inventory and monitoring programs.

2. Conduct workshops and train park personnel in field techniques to ensure quality control and quality assurance.
3. Establish computerized data management and reporting mechanism, including high quality summary graphics suitable for interpretive/education applications.

## HABITAT ASSESSMENT

### Level 1:

1. Establish informal contact with USGS, NASA, and others, to solicit interest in using remote sensing technologies to evaluate the status of critical habitats.

### Level 2:

1. Contract with appropriate source to provide a synthesis of existing digital data sets and the feasibility habitat map production.
2. Produce a continental scale map of critical habitat for selected species suitable for interpretive/education program.
3. Develop prototype trend analysis of habitat change.

## INTERPRETATION

### Level 1:

1. Establish an NPS Interpretation/Education committee, chaired by Dick Cunningham, to develop program materials. These materials will be designed to complement the biological diversity initiative and the USFWS public education program.
2. Develop and distribute interpretive memoranda on migratory bird project.
3. Select linkage parks for implementation of interpretive programs.
4. Continue existing training on migratory bird issues currently being offered through NPS training academies.

### Level 2:

1. Compile a slide file to illustrate selected migratory species and critical conservation issues.
2. Produce an educational poster on migratory bird conservation issues.
3. Produce a travelling exhibit on migratory bird conservation issues.

4. Establish a foundation under natural history associations to collect donations and profits from the sale of educational materials to support conservation efforts in Latin America.
5. In cooperation with the National Geographic Society, develop a Kids-Net educational module on migratory birds.

## INTERNATIONAL PARTICIPATION

### Level 1:

1. Contact the Canadian Wildlife Service to explore potential for collaboration.
2. Explore potential interest by appropriate international biosphere reserves through the Man and the Biosphere program.
3. Explore opportunities for cooperation in Latin America through the USFWS, World Wildlife Fund, and the NPS International Affairs Office.

### Level 2:

1. Sponsor a workshop to exchange information and train personnel from affiliated reserves in Latin America.
2. Highlight the fully operational program in 1992 as part of formal ceremonies commemorating the Quincentennial of the Columbus landing. As part of this celebration, the National Park Service demonstrates leadership in the conservation of biological diversity by sponsoring an international conference on the status of migratory birds in the western hemisphere. The proceedings, published as a book, would provide a syntheses of current knowledge of the subject.