

Strategic Framework for Monitoring North American Bird Populations

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Guiding Principles and Assumptions

- There is a need for effective monitoring of all bird species in North America, not just migratory or shared species, or other special categories.
- Long-term monitoring programs covering extensive geographic regions or even the entire continent, and which provide basic information on distribution, habitat use and availability, and abundance (absolute or relative), as well as changes in these parameters, are fundamental elements of bird conservation programs and should be given high priority.
- Programs to monitor demographic parameters (e.g., productivity, recruitment, survival), and changes in those parameters over time are needed to provide information on habitat quality (e.g. differentiating source and sink populations) as well as to identify potential causes of observed changes in population size or distribution.
- Local or regional management initiatives require carefully designed monitoring programs so that the effects of management on bird populations can be assessed and evaluated. Depending upon the specific objectives of local/regional management actions, such monitoring programs may require different methods from long-term surveys and may have limited applicability beyond the local/regional study.
- Monitoring programs should be designed with explicit, quantitative objectives, and these objectives should be revisited periodically, so that survey effort can be focused where it is needed most and will be most effective.
- Survey methods should be standardized whenever possible to facilitate aggregation of survey data across projects or across regions, thereby enabling assessment of population patterns at different geographical scales.
- Data computerization, management, analysis, and delivery of interpreted results to managers and others are essential features of monitoring programs and should be considered in the design of each program. All data should be geo-referenced and original data bases should be available to researchers and others to ensure critical evaluation of analysis methods, and maximum use of the data.

- International coordination on monitoring programs is advantageous for several reasons:
 - Some bird species are distributed across countries, so that coordinated monitoring is required to determine the overall species status.
 - Populations of some species visit different countries at different times of year, and monitoring in one country may provide valuable information for management decisions in other countries.
 - Infrastructure can be shared through developing joint programs.
 - Expertise and resources can be shared.
 - Data can be more readily made available to participants in all countries, especially if similar protocols are adopted in each country.
 - Adoption of common international principles and standards may facilitate acquisition of resources for monitoring, and guide subsequent efforts.

- Monitoring initiatives under this strategy will be developed to complement, supplement or adapt any existing monitoring programs, and to the maximum extent possible will be carried out in collaboration with existing organizations involved in monitoring.

- All programs will respect national sovereignty.

Goals, Objectives, and Tasks

Goal 1 Establish a tri-national monitoring working group under the NABCI steering committee to ensure communication, coordination, and progress on NABCI monitoring developments.

Objective - Identify approximately 5 members from each country, ensuring a broad range of taxonomic expertise overall, and representation of the diversity of monitoring programs in each country, including both government and non-government participants.

Objective - Identify a chair for each country.

Objective - Develop a process for communication within the group and work towards the remaining goals, including identifying priority topics for immediate attention.

Objective - Develop a process for coordination and cooperation with existing or new partnerships and initiatives (e.g. Partners in Flight, North American Waterfowl Management Plan, Western Hemisphere Shorebird Reserve Network, Mexican monitoring program, etc.).

Goal 2 Improve the quality and geographic scope of long-term data-gathering on the status of bird populations in North America.

Objective - Develop a database of all North American bird species, indicating the effectiveness of coverage by existing surveys.

Objective - Identify existing surveys that could be extended geographically to improve our knowledge of populations and population change.

Objective - Identify taxonomic and geographic gaps in coverage by existing surveys.

Objective - Establish guidelines for prioritizing new, long-term monitoring actions.

Objective - In accordance with priority-setting guidelines, expand existing surveys or develop new surveys as needed to address gaps in coverage.

Objective - Explore the feasibility of using CEC regions/NABCI planning units as sampling units or analysis units.

Objective - Develop a strategic approach to enhancing long-term monitoring capability in Mexico.

Task - Plan a workshop in Mexico to outline an action plan for implementing bird monitoring objectives in Mexico.

Task - Develop pilot monitoring projects designed to attract government support and develop human resources, emphasizing citizen volunteer capability.

Task - Expand basic training programs in field identification and census methods.

Goal 3 **Establish effective mechanisms for ongoing management and evaluation of long-term bird population databases and for regular delivery of summary analyses to management agencies and others, including the public.**

Objective - Identify one or more candidate locations/organizations for computerized storage and management of bird population data in each country.

Objective - Develop software packages for home computers or interactive, web-based programs to facilitate electronic submission of original survey data to the data centers.

Objective - Develop procedures for sharing data among computer locations.

Objective - Institutionalize processes at the national or international level for conducting regular summary analyses of population trends integrated across key surveys, and for making these results widely available to the public, especially to contributors to the surveys.

Objective - Provide electronic access to complete data sets to ensure critical evaluation of analysis methods, and maximum use of the data, while protecting the rights of investigators and organizations who helped to collect the data.

Objective - Institutionalize the delivery of results to managers and policy-makers, so that reasonable conservation objectives can be established and updated.

Goal 4 Implement well-designed local monitoring programs, through which the effects of specific management actions on bird populations within planning units can be evaluated quantitatively.

Objective - Establish a process for assuring that local or regional NABCI management programs incorporate well-designed monitoring programs with explicit, quantitative objectives and using the most appropriate field protocols.

Objective - To the maximum extent possible, use data collection and sampling protocols that are compatible with those used at larger scales, so that data can be integrated into large-scale monitoring programs.

Objective - Where this is not possible, develop protocols that complement large-scale programs in terms of the data provided, and minimize competition with them for resources (e.g., financial, personnel).

Goal 5 Develop capacity to monitor habitat quality and change, using remote sensing technology.

Objective - Describe and evaluate the status of existing efforts to track change over time in remotely sensed habitat data, at scales appropriate to birds.

Objective - Identify and support opportunities for development of remote-sensing habitat monitoring capability at regional and continental levels.

Objective - Evaluate the potential role of habitat monitoring to provide co-variables for estimating or explaining changes in bird populations at the scale of the NABCI Planning Unit or at broader geographic scales.