Canadian Migration Monitoring Network – Réseau canadien de surveillance des migrations

Strategic Plan 2012 – 2015

MISSION

To contribute knowledge and public understanding of Canadian birds and bird migration through a collaborative network of independent migration monitoring and research stations, and to influence conservation in the Western Hemisphere.

VISION

To be an essential component of bird monitoring, migration research and conservation planning in the Western Hemisphere.

BACKGROUND and RATIONALE

Bird migration monitoring provides baseline information on avian populations which is crucial for bird conservation. The Canadian Migration Monitoring Network - Réseau canadien de surveillance des migrations (CMMN-RCSM) defines migration monitoring as any standardized program of sampling migrants, by capture or observation, that is repeated daily and annually and has the capacity to contribute scientifically meaningful data that further the understanding of bird migration ecology in Canada.

Accurate knowledge of population status and change is fundamental to species conservation, if scarce resources are to be allocated wisely. The primary program for monitoring population change for most North American landbirds is the Breeding Bird Survey (BBS). However, many parts of Canada are relatively inaccessible, and few birders are available to count birds in these northern regions. Consequently, the BBS provides very little information on population trends of birds breeding in the vast boreal forest and other parts of northern Canada. This limitation of BBS was recognized by the Partners in Flight North American Landbird Conservation Plan whose recommendations included "*continue improvement of migration monitoring to meet information needs of many raptors and the large group of northern nesting Neotropical migrants that are largely inaccessible for monitoring both in the breeding or wintering seasons*" (Rich et al. 2004:29). CMMN-RCSM was formed in 1998 primarily to fill that information gap.

The pioneering work of Long Point Bird Observatory led to an international forum on migration monitoring and the development of standardized methods for counting birds during migration (Hussell and Ralph 1998). CMMN-RCSM has promoted using those counts to analyze long-term population trends of many bird species. These methods are now in use across the CMMN-RCSM, a chain of stations across Canada. Analyses undertaken by Bird Studies Canada (BSC) provide much-needed baseline information on population trends of northern breeding birds, in accordance with the Partners in Flight recommendation.

As a large-scale collaborative network, CMMN-RCSM is in a unique position to contribute to understanding various other aspects of bird migration at a trans-continental scale. These include effects of weather and climate change on bird migration behaviour, stop-over ecology, timing of migration (e.g. chronology/phenology), as well as energetics, physiology, diseases, productivity and the survivorship of birds. CMMN-RCSM has already undertaken several such collaborative projects.

BSC published a comprehensive report on the accomplishments to date and current status of CMMN-RCSM in 2008. The report documents trends up to 2006 of over 100 species at a dozen member stations across Canada and describes other important CMMN-RCSM projects. Related work to refine migratory periods and add species to the trend analysis is ongoing. Further, a technical report detailing results of a feather isotope project focusing on catchment basins is nearing completion.

This strategic plan was created in 2008 and updated in 2012 to prioritize and guide the actions and operations of CMMN-RCSM.

PRINCIPAL FOCUS and STRUCTURE

CMMN-RCSM consists of a network of independent bird migration monitoring and research stations operated by volunteers and/or paid staff. It is a collaborative initiative among these member stations, BSC and Environment Canada's Canadian Wildlife Service (CWS). The latter two organizations have designated personnel to perform specific functions in support of the network.

The CMMN-RCSM Steering Committee, consisting of representatives of each of the three partners, primarily provides advice on the direction, goals and priorities of CMMN-RCSM, establishes criteria for membership, and reviews all applications for membership. It also: (1) provides Steering Committee reports, news and updates, (2) gives technical advice to member stations, (3) invites member stations to CMMN-RCSM meetings, and (4) invites member stations to participate in collaborative projects. Finally, if network funding is obtained, the Steering Committee provides advice concerning its dispensation within the network.

CMMN-RCSM partners agreed to perform the following functions:

BSC -- Created in 1998 as an outgrowth of the Long Point Bird Observatory (LPBO), BSC's mission is to advance the understanding, appreciation, and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm, and support of its members, volunteers, and the interested public. BSC is a not-for-profit organization built on the contributions of thousands of volunteer citizen scientists. Data from BSC's volunteer surveys and targeted research projects are used to identify significant population changes and help direct conservation planning. This CMMN-RCSM partner is responsible for: (1) storing and archiving electronic data submitted by member stations and retrieving data upon request, (2) reporting annually to member stations on status of data submitted, (3) providing opportunities for release and exchange of archived data sets among cooperating member stations for collaborative research projects that originate from within the network community or from parties external to the network, (4) promoting and coordinating collaborative projects, (5) developing and improving migration monitoring and population trend analysis methodology, (6) providing periodic reports and updates of these populations trends, (7) participating in assessing the conservation status of populations monitored by CMMN-RCSM, (8) providing special CMMN-RCSM benefits for participation by the member station in BSC's Baillie Birdathon™, and (9) securing funding and other resources to

support its activities, seeking opportunities to raise funds for CMMN-RCSM and administering successful contracts.

CWS -- Created in 1947 and now part of Environment Canada, CWS's mission is to conserve wildlife and the ecosystems of which they are a part. CWS administers wildlife issues related to Migratory Birds, Species at Risk and some other species that are the responsibility of this branch of the federal government. CWS manages or supports over 100 different bird monitoring programs including the Breeding Bird Survey in Canada, and is responsible for reporting on the status of many wildlife species. CWS also administers the Bird Banding Office, participates in numerous international conservation initiatives such as Partners in Flight, carries out wildlife research and, in cooperation with the provinces, undertakes or promotes a wide range of activities for conservation of wildlife or their habitats. This CMMN-RCSM partner is responsible for: (1) supplying guidance, technical manuals and other opportunities for bander training, (2) providing banding data management services, (3) providing technical/scientific expertise, (4) facilitating permitting as required, and (5) providing funding to the degree that is appropriate and possible.

Member stations -- CMMN-RSCM members are independent bird migration monitoring stations situated across Canada that monitor the spring and/or fall migration of birds, particularly landbirds. Each individual station is responsible for: (1) securing funding and other resources to support its activities, (2) adhering to a formal written field protocol for the duration of its membership in CMMN-RCSM, (3) committing to monitor for a minimum of 5 years with adequate seasonal coverage, (4) participating in CMMN-RCSM monitoring and research projects whenever possible and appropriate, (5) submitting annual project data to the network, and (6) working constructively with the other partners to advance CMMN-RCSM activities and interests. A description of each member station is available on the BSC website.

GOALS 2012 - 2015

CMMN-RCSM has identified two types of goals needed to carry out its mission and achieve its vision: Science and Conservation Goals, and Institutional Goals.

Science and Conservation Goals -- CMMN-RCSM aims to (1) generate high quality research and monitoring information on population trends, catchment basins, bird migration corridors/routes, migration/dispersal windows, stop-over sites and other aspects of the ecology of birds; and (2) influence bird conservation by making results readily accessible to the scientific community, decision makers, the general public and to CMMN-RCSM member stations, including their staff and volunteers.

Institutional Goals -- CMMN-RCSM aims to (1) strengthen and expand the network of independent migration monitoring and research stations; (2) enhance sustainability of its monitoring programs; and (3) increase organizational capacity for science, research and fundraising.

CMMN-RCSM will address these goals through the following specific objectives:

Data Collection and Analysis

a) Continue to coordinate the collection of high quality, consistent, standardized counts and related data from CMMN-RCSM member stations, with an emphasis on priority species for monitoring, and continual improvement through critical assessment;

b) Continue to improve the delineation of breeding origins and wintering destinations for all species via emerging and existing technologies (e.g. isotopic signatures, band encounters);

c) Continue to develop and use the best possible analytical procedures for estimating population trends, and improve their efficiency to facilitate frequent and timely updating of assessments of the status of birds;

d) Develop an analytical framework for integrating bird migration monitoring data from multiple stations, to facilitate the presentation of regional and network-wide trends for birds;

e) Improve monitoring standards and/or statistical procedures for trend analysis of irruptive or nomadic species;

f) Improve monitoring, documentation and analysis of habitat change at migration monitoring stations.

Network Development and Expansion

a) Promote and enhance communication among CMMN-RCSM stations by maintaining an active website, and continuing to hold biennial network meetings;

b) Maintain an up-to-date directory of member stations that summarizes the operational capacity of each member station to monitor species, as well as the station's organizational structure, infrastructure and resources;

c) Promote the development of CMMN-RCSM products in both official languages, ensuring that baseline documents are understood by all parties concerned;

d) Endeavor to maintain a geographically representative network of stable and secure CMMN-RCSM stations by (1) encouraging and assisting existing stations to become members of the network (including U.S. stations near the border) and (2) assessing the geographic coverage across Canada, and if warranted, recommending key locations where a monitoring station would benefit the network;

e) Increase training capacity across the network by encouraging/promoting training and knowledge-sharing opportunities (e.g. workshops and on-site visits, online materials such as *Piranga*, "How-To" manuals and guides);

f) Encourage diversification of monitoring activities and avian conservation by member stations through participation in MAPS, winter finch programs, etc.;

g) Implement institutional and funding strategies that will promote member stations' long-term sustainability, and facilitate access to funding opportunities for member stations (e.g., provide letters of support, promote Baillie Birdathon, prepare/review grant applications, alert member stations to new funding opportunities);

h) Work aggressively towards developing the support, infrastructure, and organizational capacity, in BSC, CWS and among the member stations, to maintain CMMN-RCSM as a long-term monitoring program.

Partnerships and Outreach

a) Promote and facilitate collaborative research on bird migration in Canada, at individual CMMN-RCSM member stations (e.g., station-specific projects which may then be broadened network-wide), across the network (e.g., stopover fidelity), drawing on both traditional CMMN-RCSM methods as well as other techniques (weather/marine radar, acoustic monitoring, etc.) and external resources (universities, etc.);

b) Develop and implement a mode of reporting on status and trends of birds at CMMN-RCSM sites that will effectively serve the conservation community and meet the monitoring needs for Neotropical and other northern-nesting species identified by the North American Bird Conservation Initiative (NABCI), via an appropriate mix of hard copy, electronic, and web-based products (e.g., CMMN-RCSM 10-year report);

c) Promote and facilitate the use of CMMN-RCSM data by third-party researchers by making datasets widely available in electronic form, via the Avian Knowledge Network and in other ways, while ensuring appropriate acknowledgement and protection of data ownership;

d) Increase scientific output and profile by frequent presentations at scientific conferences and publication of peer-reviewed papers in scientific journals, ensuring that CMMN-RCSM is prominently acknowledged, and that all such publications are posted on the CMMN-RCSM website;

e) Enhance communication with other migration monitoring stations and networks in the United States, the Caribbean, Central and Latin American countries, and elsewhere, to share expertise and promote development and capacity in the Western Hemisphere.

Approved by the CMMN-RCSM Steering Committee, 27 February 2012