

**MEMORANDUM OF UNDERSTANDING
CONCERNING MEMBERSHIP OF**

xyz Bird Observatory (the Member)

**IN THE
CANADIAN MIGRATION MONITORING NETWORK
RESEAU CANADIEN DE SURVEILLANCE DES MIGRATIONS (CMMN-RCSM)**

CMMN-RCSM is a collaborative initiative among the Member stations, Birds Canada and Environment Climate Change Canada (ECCC). The CMMN-RCSM Steering Committee, consisting of representatives of each of the three interest groups, provides advice on the direction, goals and priorities of CMMN-RCSM, establishes criteria for membership in CMMN-RCSM, and considers all applications for membership.

The current mission of the CMMN-RCSM is: *“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.”*

The purpose of this Memorandum of Understanding (MOU) is to describe and confirm the roles and responsibilities of the Xyz Bird Observatory (the Member), Birds Canada, and the Steering Committee, within the framework of the CMMN-RCSM partnership. Appendices detail requirements for station membership and present options for sharing datasets with third parties.

Signing of this MOU confirms that the Steering Committee has determined that Xyz Bird Observatory has met the criteria for membership outlined in Appendix 1 and has been accepted as a designated Member station of CMMN-RCSM.

To contact the CMMN-RCSM Steering Committee, email to cmmn-rscsm@birdscanada.org

By signing this MOU, the Member of CMMN-RCSM agrees that it will:

- a) Adhere to all membership criteria (Appendix 1) for the duration of membership in CMMN-RCSM, and report any impending or actual change in ability to meet any criterion to the CMMN-RCSM Steering Committee for purposes of record-keeping and evaluation.
- b) In the event standardized operation protocol must be altered due to unavoidable circumstances (e.g. permanent loss of access to part of study area), inform the CMMN-RCSM Steering Committee for consultation on how to mitigate effects on data quality. (N.B. For stations participating in the Trend Monitoring Program, change of protocol may result in ending one series of years contributing to trend analysis and starting a new series).
- c) Participate in CMMN-RCSM monitoring and research projects when feasible and appropriate.
- d) Provide CMMN-RCSM with current contact information for a station representative and an alternate who will respond in a timely manner to requests from CMMN for information, feedback or permission to release data.
- e) Acknowledge CMMN-RCSM, Birds Canada, ECCC and other partners or sponsors in reports and publications as appropriate.
- f) Neither facilitate nor conduct sponsored bird counts for fundraising other than Birds Canada's Great Canadian Birdathon, unless specifically exempted from this clause by an addendum to this MOU.
- g) In the event the station ceases operation or CMMN membership, allow data already submitted to BSC for posting on NatureCounts to be archived and administered by Birds Canada as a Level 5 data set (open access; see Appendix 2).
- h) Send a representative and/or provide a report to CMMN biennial meetings.

Under this MOU, Birds Canada agrees that it will:

- a) Store and archive electronic data submitted by the Member and make such data available on NatureCounts subject to any restrictions covered by Appendix 2.
- b) Report annually to the Member on status of data they submitted (i.e. acknowledge receipt, indicate when archived, identify any problems etc.).
- c) Acknowledge the Member in reports and publications that make use of the station's data, and obtain Member written permission for use of data for any purpose other than allowed by the station's chosen data sharing level (Appendix 2).
- d) Provide copies of manuscripts using Member data for Member input prior to finalization and publication.
- e) Keep a record of, and when permission is required (see Appendix 2) also forward immediately to the Member, all information that a person requesting download of information from NatureCounts submits with their request (name and contact information, purpose of request and how data are to be used, acknowledgement of having read and accepted data sharing policy).
- f) Perform trend analysis at regular intervals (funds permitting) for Members participating in the Trend Monitoring Program that have accumulated at least 10 years of data, and illustrate results for appropriate species as graphs and maps on the NatureCounts website.
- g) Provide opportunities for release and exchange of archived data sets among cooperating Member stations for collaborative research projects that originate from within the network community, on written approval among all cooperating parties. Provide special benefits to members that participate in Birds Canada's official Great Canadian Birdathon. At the date of signing it is in the form of an allocation of at least 75% of proceeds raised in the station's name.
- h) Maintain a CMMN-RCSM ListServe to facilitate communication among Members and other interested parties.
- i) Help with organization of biannual meetings.

Under this MOU, the CMMN-RCSM Steering Committee agrees to:

- a) Provide leadership in assessing, improving and promoting the value of CMMN-RCSM and its products.
- b) Promote good communication among Members and other interested parties through electronic means and appropriate distribution of CMMN-RCSM reports, and by organizing periodic meetings of Members.
- c) Provide technical and scientific advice, including review of protocols.
- d) Encourage and facilitate Member participation in CMMN-RCSM collaborative projects.

This agreement shall be effective from the date of signing by all parties and continue for the duration of the CMMN-RCSM program, subject to review by the Steering Committee at 5-year intervals, unless one of the parties requests in writing that the agreement be modified by mutual consent or terminated on 12 months notice.

For Xyz Bird Observatory

Signature: _____ Date: _____
(name, position, organization)

For Bird Studies Canada

Signature: _____ Date: _____
(President, Birds Canada)

For the CMMN-RCSM Steering Committee

Signature: _____ Date: _____
Chair (or Co-chair) of CMMN Steering Committee)

Signature: _____ Date: _____
(Co-chair of CMMN Steering Committee, if applicable)

CMMN MEMBERSHIP MOU – APPENDICES

APPENDIX 1. CMMN-RCSM MEMBERSHIP CRITERIA

Basic Membership Criteria

A CMMN-RCSM Member is a site-based operation ('station') managed by an individual or organization that conducts long-term research on migrant birds in Canada.

To be designated as a Member of the CMMN-RCSM, an operation should satisfy the following criteria. (Additional criteria follow for stations wishing to participate in the CMMN-RCSM's Trend Monitoring Program).

1. The station should operate with adequate standardized coverage for the species/group of interest. "Adequate coverage" will depend on study goals, monitoring protocol, geographic region, and other factors, so approval will be considered on a case-by-case basis. However, it is recommended that the following minimum criteria be met:
 - a) The station must adequately monitor migration of at least one Canadian breeding species, ensuring that the station is capable of making useful contributions to the study of bird migration.
 - The station should run daily during a consecutive period of at least 2 weeks during spring and/or fall.
 - The seasonal timing of coverage should be appropriate for sampling the target species.
 - b) The station should expect to conduct adequate coverage following a standardized protocol over at least 5 consecutive years.
2. Stations must hold valid permits and/or permissions to conduct their work. Banding operations are expected to meet or exceed all guidelines provided by North American Banding Council (<http://nabanding.net>), and in particular follow the Banders' Code of Ethics. Stations are expected to be aware of and adhere to any requirements for provincial and federal permitting and Animal Care Committee approval.
3. The station must operate in Canada, although exceptions may be considered on a case-by-case basis for stations located close to Canada's border.
4. The station must agree to operate under a written standardized that includes the following elements:
 - a) A brief statement of goals and objectives of the program, and an indication of the main groups of birds to be monitored (e.g. landbirds, diurnal migrants, neotropical migrants, raptors, shorebirds, waterbirds, seabirds). Alternatively, if only a small number of species are targets of the operation, these should be listed individually.
 - b) A definition of the study area being monitored, including a map or maps showing (where applicable) the boundaries of the count area and locations for standardized counts (census route, visible migration observation points, net and trap sites, etc); with sufficient detail for new personnel to find each location without additional instruction.

- c) A description of count methods sufficiently detailed to ensure that new personnel could set up and operate the station consistently in the future using only the protocol as a guide. Methods should include a description of techniques, dates of station operation, timing of daily time period(s) for data collection, and how to record data and effort.
 - d) A statement specifying the number of each type of personnel required to run the station in a consistent manner (e.g. number of qualified banders, skilled observers, general assistants), and outlining the knowledge, skills and experience required of participants.
5. The station should have a reasonable expectation of secure tenure of the site (5+ years) through ownership of the land, written agreement with the landowner, or a record of historical occupancy.
 6. It is strongly recommended that stations have a long-term institutional arrangement that provides a reasonable expectation of operation for at least 5 years. Options include operating under an oversight group such as a Steering Committee or Board of Directors responsible for the station; obtaining non-profit organizational status; or formally affiliating with a sponsoring organization such as a university, research station, or another non-profit organization.
 7. Stations are expected to submit standardized daily counts and measures of effort in a timely manner to BSC (using its DET data entry program unless otherwise approved by the CMMN- RSCSM database manager).

Trend Monitoring Program criteria

The CMMN's Trend Monitoring Program (TMP) is a cooperative CMMN project to track population change across Canada. Stations wishing to contribute to this program must meet the following criteria *in addition to* the basic requirements for CMMN membership.

- 1) Prior to being accepted as a TMP participant, the following should be submitted to CMMN (cmmn-rcsm@birdscanada.org) as evidence that the remaining criteria can be met. (Further detail can be found in the documents listed below.)
 - Station protocol suitable for TMP (see below.) (NOTE: audio luring is strongly discouraged, but may be deemed acceptable by the CMMN Science Subcommittee if its research value has been sufficiently justified and stringent standardization is detailed in the protocol);
 - Standardized daily counts conducted according to the station's protocol, from at least one year of operation.
 - Results of a baseline habitat assessment using the procedure outlined in the station's protocol;
 - Indication of whether landowner has been asked whether and what level of habitat management might be allowed (e.g. to trim vegetation around nets), and if so what was the response.
- 2) The following elements **must be included** in the station protocol in addition to those **required of** all Member stations:
 - Standardized habitat assessment procedure to be conducted at regular intervals to document both sudden or gradual change likely to affect counts;
 - Instructions for ongoing assessment of habitat, and where appropriate, for habitat management;
 - Instructions for timing and length of each count type contributing to a consistent index of daily migratory passage. If banding is part of the protocol, four hours should be covered at a minimum, and preferably at least six;
- 3) The station should operate with adequate standardized coverage for at least one species that meets all four of the following criteria:
 - Breeds in Canada;
 - Station coverage spans at least 75% of the days in the target species' spring or fall migration window (the site-specific span of dates within which 95% of migrating individuals are observed);
 - Abundance during the migration period greatly exceeds size of any local-area population present in the week(s) immediately before and/or after the migratory "pulse;"
 - Abundance will clearly meet abundance criteria for trend analysis (long-term average of at least 10 individual passage migrants per season and presence at site on at least 5 separate days per season);
- 4) Stations should have a long-term institutional arrangement that provides a reasonable expectation it can be operated for at least 10 years and through turnover in personnel. This could consist of non-profit organizational status or a formal agreement with an organization such as a university, research station, or another non-profit organization such as a local naturalists group. Secure tenure for use of the station's location should also be based on an expectation of at least 10 consecutive years of operation following standardization of its protocol;

- 5) Stations are expected to submit standardized monitoring data and measures of effort to BSC using the DET program, unless otherwise approved by the CMMN- RSCM database manager.

APPENDIX 2. CMMN-RCSM Data Use Conditions

CMMN-RCSM data sets are a tremendously valuable resource. Preserving and making them accessible for meaningful research and conservation purposes is a key objective of the CMMN-RCSM. Birds Canada does this on behalf of the Network, archiving data sets and displaying selected results on [NatureCounts](#), a node of the [Avian Knowledge Network](#) (AKN). Making data freely and widely available allows amateur and professional researchers to explore powerful databases and answer questions that could not otherwise be easily addressed, greatly enhancing our ability to understand patterns and dynamics of bird populations across the Western Hemisphere.

Birds Canada adheres to the AKN standard levels of data access that define how each data set can be accessed. The higher the level, the more likely your data are to be noticed and used by third parties. As part of this MOU, stations must choose one of the levels in the table below, which will apply to all data sets submitted (e.g. daily counts and banding records) Permission levels will stay in place until such time as a Member agrees that it be changed, with the following exception. In the event the station ceases operation or CMMN membership, data already submitted to BSC for posting on NatureCounts will be archived and administered by Birds Canada at Level 5 (open access).

It is strongly advised that all stations opt for level 3 or higher. At **Levels 1 and 2** the website shows that a data set is stored but provides no details on number of years or records, how data were collected, etc. Few users will bother contacting the station directly to request data, countering an important goal of CMMN-RCSM.

Stations opting for **Level 3 or 4** automatically receive information on requester and proposed use of data, so they can track use being made of their data and are able to contact the requester directly if needed (e.g. to explain peculiarities of the data that could impact the requester's intended use). **Note that stations must keep CMMN-RCSM up-to-date on contact information for the person who will respond to requests for permission to download a dataset. If no response to a request is received within three (3) weeks of the initial request, the data will be automatically released.**

Level 4 allows location records to be accessed by specific broad-scale geo-informatic programs, but still requires permission by other parties. CMMN-RCSM recommends Level 4 for stations wanting to retain the opportunity to deny a given request.

Most members selecting Level 3 or 4 have found over time that they never deny a request, indicating that **Level 5** (open access) could be a good choice. Full information on the request can be reviewed by members via NatureCounts.

Circle one	Access to other parties	Detailed description
Level 1	No access to anyone through NatureCounts	Birds Canada and the AKN act as permanent data repositories. Data and analytical results cannot be obtained from NatureCounts, but only through direct communication with the Member.
Level 2	No public access through NatureCounts, but selected use of TMP data by BSC is allowed without consultation	<p>Raw data submitted by participants for the Trend Monitoring Program can be used without need for further approval by BSC only, solely for purposes specifically related to the generation, reporting and interpretation of population statistics and trends. Data cannot be used by Birds Canada for any other analytical purpose without the express consent of the station.</p> <p>Birds Canada may share results of its trend analyses in publicly-available formats, including reports, publications and BSC-generated graphic visualizations on the Internet, including AKN partner sites. Unless otherwise authorized by the station, such results are limited to the display of population trend tables and graphs of annual indices, graphics illustrating migration phenology, and network-wide population trend maps.</p>
Level 3	Data can be downloaded from NatureCount once the Member has given permission	As for level 2 (Birds Canada access to selected data), PLUS complete raw datasets may be download by third parties through NatureCounts following approval by the Member station. An automated system will send the Member full information on the request (including user's agreement to the data sharing policy). Note that data will be automatically released after 3 weeks if the station has not responded to the request for permission.
Level 4	As above except that certain bio-informatic programs may be given access to selected data	Same as level 3 (permissions required) EXCEPT that Birds Canada may provide access to data fields describing positive observation occurrence data (location, date, observer, species, # of individuals recorded) to large-scale, bio-informatic efforts currently outside the formal AKN partnership (e.g. Global Biodiversity Information Facility, or ORNIS).
Level 5	Open access	Complete data sets posted on NatureCounts are available to anyone for immediate download. Members can check the site for download history.