



Introduction to Data and Information Security Policy and Procedures Templates NatureServe Canada Data Security Working Group

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Background

Conservation and management of species and ecosystems in Canada requires sharing of relevant data and information to facilitate effective, informed decisions. Challenges with uneven approaches to sharing and distribution of species and ecosystems data and information have been an issue within Canada for years (if not decades). Transparent and consistent access to data and information, particularly that for species and ecosystems at risk has, at times, been an impediment to the development and implementation of conservation initiatives. This issue has been the focus of discussions at numerous NatureServe Canada Annual General Meetings and discussions across the broader NatureServe network. Its resolution has also been a component of CWDC/RENEW workplans and the subject of considerable scrutiny by COSEWIC. Concurrently, Open Data and Open Information policies have been adopted by or are under consideration by the Federal, and many Provincial and Territorial governments. Discussions in 2019 among federal and provincial agencies and non-government organizations tasked with managing, distributing, and using species and ecosystems data and information led to a broad interest and agreement to collaborate in the development of consistent, harmonized approaches to the collection, management and distribution of species and ecosystems data and information.

Consistent approaches to management and distribution of species and ecosystems data and information should enable improved data-sharing, a more consistent and complete information base for conservation actions and ultimately improved conservation decisions. They should improve the flow of data and information among agencies, organizations and their clients and reduce the scope of data and information with various forms of restricted access. Key to the development of these approaches is a clear and transparent rationale that supports restrictions on access to data and information only in cases where it is absolutely warranted. This rationale depends upon a set of principles to guide data and information management and distribution, and the establishment of a common terminology. Both serve to improve efficiencies among agencies and organizations and improve institutional trust.

NatureServe Canada agreed to lead a process to develop a template set of policies and procedures that would be available for agencies, organizations, and other bodies (entities) to adopt/adapt and tailor to their own circumstances.

NatureServe Canada established a Data Security Working Group consisting of members from:

- Yukon Conservation Data Centre
- British Columbia Conservation Data Centre

- Ontario Natural Heritage Information Centre
- Atlantic Canada Conservation Data Centre
- NatureServe Canada
- New Brunswick Species at Risk Program
- COSEWIC/COSEWIC Secretariat
- RENEW
- Parks Canada Agency
- Environment and Climate Change Canada
 - Species at Risk Program
 - Migratory Birds
 - Data Management

The Data Security Working Group was tasked with exploring and developing approaches to improve the scope and ease of sharing of data and information on species and ecosystems throughout Canada. The Working Group's primary tasks were to develop a template suite of policies and procedures, provide open lines of communications and review from their respective agencies and organizations, facilitate the communication and extension of finalized products, and provide implementation guidance.

Products

The draft NatureServe Data and Information Security Policy and Procedures Template consists of the following components:

1. A policy document that includes:
 - a. A common terminology and associated definitions. Within the policy and procedures all terms that have an associated definition within this section are indicated in *italics*.
 - b. A set of principles that guide data management and distribution. Key to these is the philosophy that data should be readily available and shared except in the rare circumstances that a strong rationale exists that doing so may result in unwanted or unintended conservation outcomes or harm to the species or ecosystem or to agency/organizational programs and relations.
 - c. A series of policy statements that guide the approach of agencies/organizations to management and distribution of data and information.
2. A suite of procedures that enable the policy framework. The procedures were developed to encompass, as best possible, the range of circumstances within which Canadian agencies/organizations currently manage and distribute species and ecosystems data and information. The procedures have been written to be consistent in structure with generalized language that would facilitate their use in guiding management of all species and ecosystems data, or just that pertinent to those at risk. Each procedure is structured to be independent so that agencies/organizations can adopt those that make sense for their circumstances. A subset of the procedures, however, is considered mandatory in the establishment of a comprehensive data and information security policy for species and ecosystems data. The remainder are optional and reflect the variation in

how agencies and organizations manage data and information throughout Canada and the considerations they must make when reviewing data security. These include differences in Open Data/Open Information philosophies, differences in operational approaches to managing data and information, and difference in governance issues.

The procedures are structured around four primary areas of activity inherent in managing and distributing data and information on species and ecosystems (Figure 1):

1. Data Acceptance.
2. Data Labelling.
3. Data Distribution.
4. Administration.

Due to the principles outlined in the policy document, most data and information will be managed and distributed as Non-Sensitive Ecological Data. The procedures support required activities in all areas of this workflow, including providing detailed guidance for evaluating and labelling data as Sensitive Ecological Data where appropriate, and workflow requirements regarding distribution of both Sensitive and Non-Sensitive Ecological Data.

Communication

The policy and procedures template will be available in a dedicated space on the NatureServe Canada website. These will be accompanied by supporting communications materials that include:

1. An overview presentation outlining the context and objectives for the template policies and procedures and summarizing the key components.
2. An introductory overview document.
3. A detailed presentation(s) outlining the key aspects of the procedures.
4. An implementation guidance document.
5. Topic summaries (to be developed as needed during adoption).

Figure 1. Data flow schematic for managing and distributing species and ecosystems data and information.

