2.3.1 North American Biodiversity Information Network

Project Summary

The North American Biodiversity Information Network (NABIN) is a collaborative network of people and institutions involved in the management and use of biodiversity information. This network aims to identify the best ways to bring together information sources to support decision making in the protection and conservation of biological diversity in North America. NABIN participates in an emerging worldwide biodiversity information network by interconnecting national and international initiatives.

Goals and Objectives

NABIN's goal is to improve access and integration of biodiversity information in North America for better conservation decision-making. The project accomplishes this through the following objectives:

- To encourage and facilitate the participation of institutions in developing standardized and harmonized means to access and integrate biodiversity information throughout North America;
- To increase the usefulness of biodiversity information for decision making by identifying sources of biodiversity information and developing means of integrating species data with observational and monitoring data, and ecological information;
- To stimulate and catalyze projects and networks that provide for information integration and sharing across national, regional, and global biodiversity initiatives;
- To provide a forum for the exchange of scientific and technical knowledge and expertise related to the integration and inter-operability of biodiversity databases;
- To develop (and foster the development of) IT tools for improved information access, harmonization and inter-operability.
- To promote the free exchange of biodiversity information among private, public, and governmental entities.

Expected Results

- Improved access to biodiversity information in North America and hence improved ability for decision-making to embrace continental and regional perspectives;
- Increased open exchange of biodiversity information among private, public, and governmental entities;
- Improved understanding of the issues and opportunities surrounding biodiversity information exchange within North America;
- Increased availability of IT tools (including GIS analysis) to integrate, harmonize and analyze biodiversity information, and increased effective use of these prototype tools in decision-making applications and networks;
- An integrated perspective of the marine and terrestrial species of common conservation concern;
- Improved public awareness of biodiversity information and its availability;
- Improved availability of observational data for ecoregional monitoring;
- Improved ability to analyze and integrate programs of the CEC through the use of NABIN developed tools.

Rationale

There is no comprehensive understanding at the North American level of what biodiversity information exists, where and how reliable it is, and how it may be accessed. Existing biodiversity information and data are scattered in various formats and only sometimes documented. Numerous initiatives by federal, state, provincial and nongovernmental agencies are underway to develop national and global environmental databases, including information on species and other natural resources, information management standards, and different systems of taxonomic classification. NABIN seeks to identify the existence of data sets and tools related to North American biodiversity and the best means to present them publicly to enable better decision-making in biodiversity conservation.

The implementation of NABIN has focused on innovative opportunities to better access and exchange information. NABIN can then communicate the availability of information.

NABIN's approach is to provide access to data and tools that support management actions in and around ecological areas of critical concern. The enhancement of NABIN's Web presence in linking tools and institutional data with CEC programs will facilitate cooperation among communities with similar concerns and will support environmental management in North America.

Progress to Date

- NABIN seed funding and facilitation has leveraged national and international funding for such initiatives as the Species Analyst (TSA), and ITIS;
- Outreach activities maintained NABIN's presence in the biodiversity information community, and encouraged experts to exchange practical experiences on information management;
- Recommendations on the development of a NABIN web site for information exchange were received and reviewed during a workshop and Expert Advisory Committee meeting;
- Information management standards have been chosen for the web site: the FGDC-CSDGM international standards for maps, and the Dublin Core standard for non-mapping data;
- NABIN-assisted unification of TSA and Remib is still underway and will provide users a more efficient and powerful information-gathering tool;
- The University of Kansas and associated researchers have developed applications in support to Climate Change scenarios that affect species' ranges and their habitats using TSA;
- Developed in part with NABIN seed funding, the Yellowstone to Yukon Conservation Initiative pilot application is online at <http//www.rockies.ca/birds>. This innovative application is becoming a North American model to respond to transboundary conservation issues;
- The draft paper, "The State of Copyright Law and Its Impact on Distributed Environments in the NAFTA countries" was updated. The document is available through the CEC and Canadian Heritage Information Network (CHIN), and Internet publication by CHIN is pending in English and French;
- A workshop to identify best practices for ITIS North America will be held in January 2003.

Actions 2003

Overview

During 2003–2004, a Web presence for NABIN will be developed that will provide an online NABIN forum for the exchange of scientific and technical knowledge, and tools for biodiversity data exchange and integration. The network of participating institutions and individuals will be made more formal and concrete through registered memberships in the electronic NABIN Forum. NABIN will also provide online reference information on NABIN-developed or agreed tools and standards for biodiversity information integration and sharing, and links to the principal North American and global information sources, services, and networks, such as the TSA, NatureServe, Conabio, EMAN, ITIS-NA, IABIN and GBIF, as well as to to the Y2Y-NABCI pilot application site.

A demonstration of the web site with integrated mapping tools will be implemented for the CEC marine conservation initiatives, providing integrated access to marine protected areas data, marine ecosystems, and marine species of common conservation concern. This will demonstrate and test the concept of connecting databases on species within regional ecosystem maps and observational data, and apply results in support of CEC initiatives. Improvements will be made according to user feedback.

2003	**Estimated Resources Required (C$)**
Action 1: Strengthening the NABIN network of partnerships and expanding collaboration for biodiversity information management strategies in North America	**62,000**
• Activity 1: Develop a NABIN web presence in the form of a NABIN web site, that will host the NABIN Forum, promote agreements for collaboration to establish links to key resources and partners, NABIN-developed tools and demonstration of the web site	20,000
• Activity 2: Develop an online NABIN Forum with registered membership to solidify outreach to museums, government agencies, academic institutions and NGOs. The Forum will provide the means to discuss ideas, views, and technology, on biodiversity information and GIS tools suitable for data exchange and integration	22,000
• Activity 3. Confirm the membership and terms of reference of a NABIN Advisory Committee. Hold effective Advisory Committee meetings to establish priorities for extending NABIN activities and tools to ecosystems and observational data	20,000
Action 2: Demonstrate and promote the use of the NABIN web site and information management tools	**55,000**
• Activity 1: Integration, testing, and implementation of a CEC pilot with information on marine conservation initiatives providing public access and receiving feedback	25,000
• Activity 2: Analyze the needs and opportunities for integration of biodiversity and environmental information for North America to support CEC programs and how these information resources can best be made available to a wider audience. Also assess the institutional requirements and feasibility for NABIN to become the NA-CHM regional focal point	30,000
Total Resources Required	**117,000**

2004–2005

Action 1: Continue to expand and facilitate NABIN
• Activity 1: Strengthen knowledge-sharing and institutional participation in NABIN
Action 2: Improve and use NABIN online
• Activity 1: Continue testing, expanding, and receiving feedback on the web site and its demonstration
• Activity 2: Incorporate results of ecoregional monitoring online, and provide them to the CEC for the SOE, and the NAFTA 10-year retrospective

Public Participation

Public participation in NABIN will be encouraged through the establishment of and feedback from its online presence that links CEC programs, documents, and distributed databases containing biodiversity information.

Capacity Building

The unrestricted and free access to integrated biodiversity information offers North American communities and governments the means to better choose among policy and conservation options. NABIN also offers a feasible

model using accepted standards for other environmental data communities to integrate and share information. In summary, by giving interested stakeholders access to integrated biodiversity information, NABIN provides a tool to assist policy makers, to enhance environmental management, to enable communities to participate in environmental issues, to increase collaboration and sharing of expertise, and to access an integrated framework of projects and initiatives.

Expected Partners and/or Participants

In the development of the North American biodiversity information network, the project will work with national and international initiatives such as:

- University of Kansas,
- the University of Calgary,
- UNAM and other academic institutions,
- NatureServe, the Miistakis Institute, and other NGOs,
- Canadian Biodiversity Information Network (CBIN),
- Canadian Geospatial Data Infrastructure (CGDI)—Geoconnections,
- Canadian Information System for the Environment (CISE),
- Environment Canada
- Agricultural Canada
- The National Ecology Institute (Instituto Nacional de Ecología—Semarnat)
- Biodiversity Knowledge and Innovation Network (BKIN),
- Ecological Monitoring and Assessment Network (EMAN),
- National Oceanic and Atmospheric Association (NOAA),
- National Biological Information Infrastructure (NBII),
- the US Geological Service (USGS),
- the US Fish & Wildlife Service (FWS)
- the US Environmental Protection Agency (EPA)
- Federal Geographic Data Committee (FGDC),
- *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad* (Conabio),
- *Instituto Nacional de Geografía Estadística e Informática* (INEGI),
- Yellowstone to Yukon Conservation Initiative (Y2Y),
- Baja to Bering Conservation Initiative (B2B),
- InfoRain—EcoTrust
- North American Bird Conservation Initiative (NABCI),
- Inter-American Biodiversity Information Network (IABIN),
- Species 2000,
- the North American Integrated Taxonomic Information System (ITIS-NA),
- the Biodiversity Information Commons,
- the Global Biodiversity Information Facility (GBIF), and
- the Clearinghouse Mechanism (CHM) of the Convention on Biological Diversity (CBD).

Linkages to other CEC Projects

NABIN is intended to support improvements to the integration and access to information for biodiversity conservation within North America, and hence relates to virtually all CEC programs and projects. Given the CEC's mandate, NABIN will focus on transboundary case studies, which link people across the US/Canada border and the US/Mexico border. In pilot applications, NABIN will work with marine conservation initiatives, Grasslands SCCC, and CISE and EMAN (supporting NABCI in the Y2Y Region), to demonstrate how a network of biodiversity information can be used.