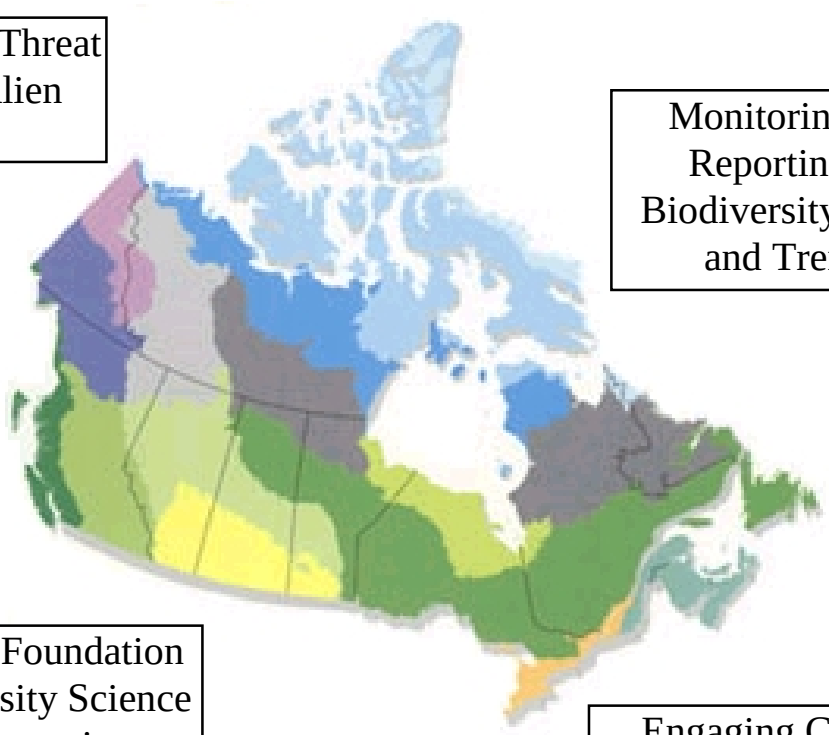
Working Together

Priorities for Collaborative Action to Implement The Canadian Biodiversity Strategy 2001-2006

Addressing the Threat of Invasive Alien Species



Monitoring and Reporting on Biodiversity Status and Trends

Building a Foundation of Biodiversity Science and Information

Engaging Canadians in Biodiversity Stewardship

A Report of the Federal/Provincial/Territorial Biodiversity Working Group
for
the Meeting of the Councils of Wildlife, Forest and Fisheries Ministers
September 19, 2001

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EXECUTIVE SUMMARY

The *Canadian Biodiversity Strategy*, developed jointly by federal, provincial and territorial governments, was released just over five years ago. The strategy is Canada's response to the Convention on Biological Diversity, which Canada ratified in 1992.

Considerable progress has been made by all jurisdictions in implementing the Strategy. However, major challenges persist, many of which are shared across jurisdictions and sectors.

In August 2000, the Wildlife Ministers Council of Canada requested that a report and recommendations on Canadian Biodiversity Strategy implementation priorities requiring collaborative action be tabled at its next meeting. Given the relevance of biodiversity to other biological-resource related ministerial councils, it was considered important that the report and recommendations be tabled at a multi-council meeting (to include Fisheries, Forestry and Wildlife Ministerial Councils) on September 19, 2001.

The Federal-Provincial-Territorial Biodiversity Working Group has worked together over the last year to identify biodiversity issues of Canada-wide concern. A federal official from the Department of Agriculture and Agri-food Canada and an official from the Saskatchewan Environment and Resource Management department, seconded to Environment Canada's Biodiversity Convention Office, acted as co-managers of the project. As a result of this effort, the Working Group reached agreement on a handful of priority areas for inter-jurisdictional collaboration. These are areas that cut across jurisdictions and across the mandates of Ministerial Councils. They are also viewed as fundamental to enhancing our ecological management capacity.

It is recommended, therefore, that ministers endorse the following priorities for collaborative action and seek a progress report and action plan for advancing each of these areas within one year.

- **Address the Threat of Invasive Alien Species—**develop a draft plan to address the growing threat of invasive alien species in Canada by the fall of 2002.

- **Build a Foundation of Biodiversity Science and Information—**develop a strategy to enhance the collection, management, sharing, analysis and accessibility of biological information by the fall of 2002; and develop a science and research agenda to more effectively understand and address the underlying causes of biodiversity loss and the conservation and sustainable use of biological resources by the fall of 2003.

- **Monitor and Report on Biodiversity Status and Trends—**develop a business plan, by the fall of 2002, aimed at enhancing the monitoring and integration of

biodiversity data across ecosystems and facilitating regular reporting on biodiversity status and trends in Canada, commencing in 2005.

- **Engage Canadians in Biodiversity Stewardship—**develop, by the fall of 2003, a biodiversity stewardship strategy that supports and builds on existing commitments to the *Canada-wide Stewardship Action Plan,* previously endorsed by the wildlife ministers; and enhances efforts to increase participation in biodiversity stewardship by all sectors of society.

Ministerial endorsement of the proposed priorities will set the stage for continued inter-jurisdictional collaboration and consultation and for the development of a more focused and costed program of work in support of each priority.

The program of work would build on, and link, the significant body of work that is already taking place within and among jurisdictions and sectors. Jurisdictions would base their participation on the relevance of the work program to their jurisdictional priorities as well as their capacity to contribute.

The Biodiversity Convention Office of Environment Canada will continue to act as secretariat to the Federal-Provincial-Territorial Biodiversity Working Group as they oversee the next planning phase.

WORKING TOGETHER
Priorities for Collaborative Action to Implement the *Canadian Biodiversity Strategy* 2001-2006

I. Introduction

Nearly 10 years have passed since world leaders gathered in Rio de Janeiro, Brazil, to attend the United Nations Conference on the Environment and Development, where the *Convention on Biological Diversity* was opened for signature. The Prime Minister of Canada signed the Convention, confirming Canada's commitment to conserve biological diversity, use biological resources in a sustainable manner, and share equitably the benefits arising from the use of genetic resources. On December 14, 1992, with strong support from all provinces and territories, the Prime Minister officially ratified the Convention, which entered into force on December 29, 1993.

Canadian Biodiversity Strategy - Statement of Commitment: We, the undersigned, confirm on behalf of our respective governments that we are committed to the conservation of biodiversity and the sustainable use of biological resources. We will use the *Canadian Biodiversity Strategy* as a guide to our actions and invite all Canadians to join with us in conserving Canada's biodiversity and using our biological resources in a sustainable manner.

In response to the Convention, the ministers responsible for the environment, forests, parks, and wildlife mandated the formation of a Federal-Provincial-Territorial Biodiversity Working Group (with representation from all provinces and territories and several federal departments with biodiversity responsibilities) to develop a Canadian biodiversity strategy. The intent of the strategy was to describe, in detail, Canada's understanding of its commitments under the Convention, and to plan appropriate responses to these commitments. The working group was guided in preparing the *Canadian Biodiversity Strategy* by a national Biodiversity Convention Advisory Group (BCAG) made up of representatives from industry, the scientific community, conservation groups, academia, and indigenous organizations.

The *Canadian Biodiversity Strategy* was completed and publicly released in 1996. As an indication of the high level of support for the Strategy, ministers from all jurisdictions signed a statement of commitment and invited all Canadians to join them in its implementation.

II. Canada's Biodiversity and Biological Resources

Our Diversity: With a land mass of 9.9 million km², Canada is one of the largest nations in the world. Our landscapes, waterscapes and ecosystems are expansive and diverse, making Canadians stewards of major portions of the world's tundra and temperate forests, and of expanses of grassland and mountain ecosystems. Almost

half of Canada is forested, representing about 10 per cent of the world's temperate forests and 30 per cent of the world's boreal forests. Canada's Arctic region constitutes about 20 per cent of the world's circumpolar areas.

Canada's aquatic ecosystems are also impressive. Rivers and lakes make up at least 7.6 per cent of the world's freshwater supply, and 25 per cent of the earth's remaining wetlands are found in Canada. Bordered by three oceans, Canada has 224,000 km of coastline and the second largest continental shelf, with an area of 3.7 million km².

Canada's diverse landscapes and waterscapes are inhabited by a wealth of species of flora and fauna. Estimates of total diversity were established in the preparation of Canada's biodiversity country study *Canada's Biodiversity: The Variety of Life, Its Status, Economic Benefits, Conservation Costs and Unmet Needs* which was completed in 1995. This taxonomic census documented that about 71,000 species of microorganisms, fungi, plants and animals have been found and reported on by scientists in Canada.

In addition to documented species, scientists estimate that there are more than 68,000 other species that have not yet been described or reported—raising Canada's total diversity to over 140,000 species. At least 54 of Canada's documented species of vascular plants, mammals, freshwater fish and molluscs are endemic, meaning that they are found nowhere else in the world. Some examples include the Vancouver Island marmot, the copper redhorse found in the Montréal area, and the Acadian whitefish of southern Nova Scotia.

In many instances, population size is as impressive as diversity. Canada is home to some of the largest free-ranging caribou herds in the world, as well as some of the largest wild populations of bears, wolves, martins, beavers, lynx and other mammals. Canada's marine ecosystems support large populations of marine mammals, sea birds, and invertebrates. Fish stocks are also diverse, and support a commercial, subsistence, and recreational fishery.

It is difficult to adequately describe the importance of biological resources to Canadians. Aboriginal and local communities have long depended on the sustainable harvesting of these resources for both food and income. Since the early days of colonial settlement, when the fisheries and fur trades were established, Canada's rich natural resources have provided the basis for its development and wealth.

The Economic Contribution of Biological Resources: Canada's biodiversity country study *Canada's Biodiversity: The Variety of Life, Its Status, Economic Benefits, Conservation Costs and Unmet Needs* was released in 1995 as an attempt to provide an understanding of the status and value of Canada's biodiversity. The Report concluded that the total estimated monetized benefits realized by Canadians from their biological resources are $70 billion annually. The estimates are considered conservative and do not include value-added processing.

Together, these sectors employ millions of Canadians and contribute billions of dollars to the gross domestic product. Eco-tourism and outdoor recreation are expected to continue to expand as our pristine landscapes, waterscapes, and abundant and diverse wildlife attract tourists from all over the world. Pharmaceutical and biotechnological research and development, which depend on access to biological and genetic resources, will also likely become increasingly important economic sectors in Canada.

For many Canadians, the diversity of spaces and species in this country is a source of emotional, artistic, and spiritual inspiration and cultural identity. Aboriginal peoples have also, over thousands of years, developed an intimate cultural relationship with nature that cannot be replaced or described in monetary terms. Conserving biological diversity is essential to support and maintain the cultural diversity and quality of life of all Canadians

III. Conservation and Sustainable-Use Challenges

Federal, provincial and territorial governments have developed and implemented numerous biodiversity conservation and sustainable-use policies, legislation, strategies, action plans and programs. Despite these efforts, many challenges remain.

The most recent report (May 3, 2001) on the status of Canada's species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) indicates that there are 380 species in various categories of risk, including 115 that are endangered and 82 that are threatened. Many more species may be at risk, but very little is known about them, their habitats or their ecological requirements.

Though in Canada, most species are harvested on a sustainable basis, sustainable management has not been achieved for all species in all areas. For example, Atlantic and Pacific coastal waters have experienced a considerable reduction in stocks of northern cod, salmon and other harvested fish. While most of the harvested species are not considered endangered or threatened, their reduced population size has meant closures or reductions in harvesting levels. This has affected thousands of jobs and the well being of residents in hundreds of communities, particularly those in coastal areas.

A number of Canada's major ecosystems have been almost completely lost as a result of human development and settlement patterns. Environment Canada estimates that 14 of 177 terrestrial ecoregions are at a high risk of biodiversity loss. For example, in western Canada, less than one per cent of Canada's tallgrass prairie ecosystem is intact, and only fragments remain of the pocket desert of the South Okanagan.

The Carolinian forest survives in tiny patches in central Canada, and in the Maritimes old-growth forests exist only in small patches. In many settled parts of Canada, wetlands and estuaries have been drained or significantly altered. Thousands of small lakes in eastern Canada continue to be impacted by acid precipitation, causing the loss of fish, amphibian and shellfish communities. The Great Lakes ecosystem has been greatly altered by intensive commercial fishing, successive invasions of alien species, pollution and habitat alteration. For many decades, the St. Lawrence watershed has received the accumulated discharge of toxic wastes, municipal sewage, and agricultural runoff.

New biodiversity challenges are also emerging. Global climate is expected to become one of the most significant threats to biodiversity, affecting species directly and indirectly through changes to their habitats. The combined impact of increased levels of greenhouse gases, ozone depletion, hazardous air pollutants, acid precipitation and ultra-violet radiation will force species to adapt or be displaced. How many will be able to make the transition and the potential effect on genetic diversity are difficult to predict.

Alien species introductions are continuing to this day and in fact the numbers of alien species in North America, including Canada, are on the increase as are the ecological and economic costs of these introductions (Pimentel 1999).

The total impact of these species has not been comprehensively assessed but it is known that they are causing hundreds of millions of dollars in damages across Canada. One plant species, leafy spurge, is by itself causing millions of dollars in damages to rangeland in western Canada.

The World Conservation Union (IUCN) lists leafy spurge as one the world's worst invasive alien species. Plum Pox virus was confirmed as present in Canada for the first time in 2000.

Without rapid detection and response mechanisms, this virus could threaten some of Ontario's most important fruit crops. Alien species are severely impacting the environment.

The problem of alien species invading new territories has become so severe that, on a global basis, it is considered the most significant threat to biodiversity next to habitat loss (IUCN 1998). Alien species are linked to the decline of native species, have reduced water quality in many locations and, in some cases, have caused human health risks. With increased global trade and travel, preventing the introduction of alien species is becoming more and more challenging.

Across Canada, conservation biologists, resource managers and developers are facing challenging questions related to the conservation of biodiversity and the sustainable use of biological resources, including:

- which ecosystems and species are conservation priorities and require the most urgent action;
- how do we more effectively build partnerships;
- how can we increase public awareness of conservation and sustainable-use issues and engage all Canadians in the stewardship of biodiversity;
- how do we integrate our economic, social and environmental policies and programs;
- what are the economic consequences of conservation measures and how can costs be shared fairly across society;

- how do we define and achieve sustainable use in different sectors, such as forestry, fisheries, and agriculture;
- how much habitat is required;
- what size and number of populations are required in order for a species to be viable over the long-term;
- why are some species increasing in number, while others are decreasing; and
- what conservation and sustainable-use tools do we have, and what improvements and innovations are required?

IV. Responding to Challenges

Biodiversity issues are complex, and require intergovernmental and cross-sectoral collaboration. Canada has a long history of collaborations, involving government departments responsible for such areas as forests, fisheries, agriculture, parks, environment, and wildlife, as well as indigenous and local communities, conservation organizations, business interests, landowners, scientific and educational institutions, and other stakeholders. Although there are many challenges in achieving agreement on solutions, and fairly sharing costs and responsibilities for action, the success of these collaborations has demonstrated that a team approach often produces longer-term benefits than isolated actions.

Collaborative, cooperative strategies are required to address the complex conservation and sustainable-use biodiversity challenges we face today. For example, the Southern Mountain population of woodland caribou has recently been put on COSEWIC's threatened list due to habitat loss.

Since many factors and sectors contribute to the loss, alteration and fragmentation of the caribou's habitat (e.g., forestry, agriculture, mining, oil and gas pipelines) the key to its recovery will be collaboration, data sharing and integrated decision-making.

Federal, provincial and territorial governments have collaborated to develop and implement several Canada-wide agreements and strategies that will contribute directly to biodiversity conservation goals and assist in ensuring the sustainable use of biological resources. In addition to the *Canadian Biodiversity Strategy*, these include (to name a few):

- a national forest strategy that demonstrates a commitment to sustainable forest management;
- a national statement of commitment to complete Canada's network of protected areas that are representative of land-based natural regions;
- numerous initiatives related to achieving sustainable agriculture and sustainable fisheries;
- the *Arctic Marine Conservation Strategy* and the *National Program of Action for the Protection of the Marine Environment from Land-based Activities*; and
- a national accord for the protection of species at risk.

As well, many federal, provincial and territorial policies, programs, acts and regulations implement and guide conservation and sustainable-use efforts to reduce human impacts on biodiversity and achieve long-term sustainable development. Areas covered include:

- setting sustainable harvesting rates;
- establishing wildlife and wild-land conservation areas;
- preparing integrated resource management plans;
- assessing environmental impacts; and
- land-use planning and management approaches.

Legislation and enforcement are also essential ingredients in the overall management of Canada's biological and non-renewable resources (e.g., wildlife, forestry, fishery, mining, oil and gas).

Recovery efforts for species at risk, including related incentives to encourage participation, have been enhanced, and the Canadian Endangered Species Conservation Council recently established a database on the general status of species in Canada.

While federal, provincial and territorial governments have primary responsibility for ensuring the conservation of biodiversity and sustainable use of biological resources, they cannot act alone. Individuals, landowners, businesses, conservation organizations, indigenous and local communities, local governments and many others have been engaged in conservation and sustainable-use efforts for many decades. Over the past few years, increasing awareness of environmental issues has led to many improvements in policies, programs, and community initiatives that complement and/or support government initiatives.

As a result of the activities of governments and efforts of individuals, communities, organizations, businesses and others, there are still large tracts of grasslands, forests, arctic areas, mountain regions, and fresh and marine waters in Canada that function as healthy ecosystems. While there are many species at risk in Canada, very few have become extinct or extirpated during the past 50 years, and the vast majority still exist at viable levels.

V. Renewing Canada's Commitment to Implement the Canadian Biodiversity Strategy

The 1996 release of the *Canadian Biodiversity Strategy* signaled governmental commitment to the conservation of biodiversity and the sustainable use of biological resources. Strategic directions in the Strategy dealing with its implementation include commitments to:

- strengthen linkages at the ministerial level to oversee the implementation of the Strategy;
- report on actions taken by governments to implement the Strategy;
- ensure opportunities for stakeholder involvement in implementing the Strategy;
- report periodically on the status and trends of Canada's biodiversity; and
- explore mechanisms to provide opportunities for the participation of indigenous communities in implementing the Strategy.

In August 2000, federal, provincial and territorial wildlife ministers met to review progress on the implementation of the *Canadian Biodiversity Strategy*, and to consider challenges that had emerged from implementation activities over the previous five-years. While the wildlife ministers emphasized the importance of continuing efforts to implement the Strategy, they also acknowledged that many implementation activities required inter-jurisdictional collaboration, and requested that the Federal-Provincial-Territorial Biodiversity Working Group develop a set of priorities for collaborative action for the ministers to consider at their next meeting.

The Federal-Provincial-Territorial Biodiversity Working Group met in the fall of 2000 to decide on a process for developing the report requested by the wildlife ministers. Two project managers were selected: a federal government representative from Agriculture and Agri-Food Canada; and a provincial-territorial representative from Saskatchewan Environment and Resource Management to work under the co-ordination of the Biodiversity Convention Office of Environment Canada.

Agreement on priorities for consideration by the ministers proved challenging. The working group reflected on a wide range of collaborative biodiversity initiatives, including sectoral initiatives such as ongoing federal-provincial-territorial efforts to achieve sustainable forest management, fish and wildlife harvesting, and agriculture. As well, numerous cross-sectoral initiatives were considered, including: ensuring agreement on measures for the safe handling of genetically modified organisms; advancing networks of protected areas; improving inventory and taxonomic efforts to better describe and report on the status and trends of wild and domestic species; collaborative species-at-risk recovery efforts; and the development of a wildlife and fish stewardship plan of action.

The working group, while focused on Canadian issues, also reflected on international biodiversity initiatives—in particular, emerging international efforts related to alien species, taxonomy, data and information management, and international requirements for reporting on the status and trends of biodiversity.

VI. Recommended Priorities for Collaborative Action to Implement the Canadian Biodiversity Strategy *(2001-2006*

Several areas for Canada-wide collaboration emerged as priorities through a series of national meetings, workshops, conference calls and discussions within each jurisdiction.

The Federal-Provincial-Territorial Biodiversity Working Group has proposed that the ministers endorse the following priorities for collaboration and mandate the working group to initiate action by developing a program of work and associated implementation costs to:

- **Address the Threat of Invasive Alien Species**—develop a draft plan to address the growing threat of invasive alien species in Canada by the fall of 2002.

- **Build a Foundation of Biodiversity Science and Information**—develop a science and research agenda to more effectively understand and address the underlying causes of biodiversity loss and the conservation and sustainable use of biological resources by the fall of 2003; and develop a strategy to enhance the collection, management, sharing, analysis and accessibility of biological information by the fall of 2002.

- **Monitor and Report on Biodiversity Status and Trends**—develop a business plan, by the fall of 2002, aimed at enhancing the monitoring and integration of biodiversity data across ecosystems and facilitating regular reporting on biodiversity status and trends in Canada, commencing in 2005.

- **Engage Canadians in Biodiversity Stewardship**—develop, by the fall of 2003, a biodiversity stewardship strategy that supports and builds on existing commitments to the *Canada-wide Stewardship Action Plan,* previously endorsed by the wildlife ministers; and enhances efforts to increase participation in biodiversity stewardship by all sectors of Canadian society.

The Federal-Provincial-Territorial Biodiversity Working Group also proposed that the ministers request the group to report back in one year on progress toward implementing these priorities and proposed actions.

The attached annex provides a detailed rationale and recommendations for each of the proposed priorities.

ANNEX

Addressing The Threat of Invasive Alien Species

Statement of Need:

Invasive alien species affect biodiversity within both natural and altered ecosystems through species displacement, the introduction of disease, parasitism, hybridization, predation and habitat alternation. This can result in the decline or extinction of native or endemic populations and the transformation or degradation of ecosystems. Invasive alien species cause significant social and economic costs to all sectors of society, particularly primary industries such as agriculture, forestry, and fisheries.

Next to habitat loss, invasive alien species are considered the most significant threat to biodiversity. Like air and water pollution and climate change, alien invasive species are a trans-boundary issue. Since the related legislative framework is highly fragmented across and within jurisdictions, effective management of these species requires collaborative action by all jurisdictions. Therefore, a comprehensive Canada-wide strategy is needed.

Background:

A preliminary assessment of the 1998 list of the Committee on the Status of Endangered Wildlife in Canada suggests that about 25 per cent of Canada's endangered species, 31 per cent of its threatened species, and 16 per cent of its vulnerable species are in some way at risk as a result of alien species.

Assessments in the United States estimate the total costs of invasive alien species in management efforts and lost production at US $138 billion each year. While there has never been a comprehensive assessment of the impacts of alien invasive species in Canada, evidence from the US and other countries, as well as numerous Canadian studies, indicates that invasive alien species pose a significant threat to Canada's economy. For example, current estimates are that at least $7 billion worth of damage is done annually to the agriculture and forestry sectors from invasive alien species.

Increasing Inter-jurisdictional Collaboration:

Each province and territory has a suite of legislation that deals with various aspects of invasive alien species. The Government of Canada also plays an important role in preventing such species from entering Canada by exerting primary control over the national import and export of goods and inter-provincial transport.

While legislation is in place in all jurisdictions, the current framework is fragmented and inconsistent, and major gaps in protection exist. Some programs to address invasive alien species have been successful, but many tend to be reactive and sectoral in

nature. These concerns must be addressed in order to prevent further introductions and the spread of invasive alien species.

Proposed Recommendations:

It is recommended that jurisdictions work together to develop a draft plan to address the growing threat of invasive alien species in Canada by the fall of 2002.

Building a Foundation of Biodiversity Science and Information

Statement of Need:

Canada is in urgent need of strong action to re-invigorate its biodiversity science capacity to: support biodiversity conservation and sustainable resource use; ensure its economic competitiveness; and meet its obligations under the *Canadian Biodiversity Strategy* and the *Convention on Biological Diversity*. As well, Canada's national expertise must keep pace with rapidly progressing fields of science related to biodiversity, such as conservation biology, landscape ecology, biotechnology and information management.

Many government and non-government agencies collect biodiversity data, however, these data are often not available because of exchange problems between management systems or because individuals are not aware of potentially useful sources. Also, the full range of data required by resource planners and managers to make well-informed decisions is often unavailable.

Effective management systems are required to ensure data are available to those who need them, *when* they need them. Data sharing among all jurisdictions and sectors is a priority for effective management on an ecosystem basis.

Background:

One of the main goals of the *Canadian Biodiversity Strategy* is to increase understanding of ecosystems and the capability of resource users and managers to use biodiversity in a sustainable manner. Several specific research-oriented strategic directions are found in the Strategy.

Collectively, the federal, provincial and territorial governments spend billions of dollars on research. The federal government currently allocates approximately $6 billion per year to scientific research and development and, in the January 2001 Speech from the Throne, promised to at least double its current investment by 2010. This could provide significant opportunities for biodiversity research and development, as long as priorities are clearly defined and considered. The establishment of a biodiversity priority research agenda endorsed by all jurisdictions would likely result in an increased allocation of funding for such research.

An enhanced capacity for data management is also a key element of the Strategy. Data must be widely shared in order to address complex biodiversity issues, and to provide a foundation for resource users and managers to achieve biodiversity conservation goals and ensure the sustainable use of biological resources. The *Canadian Biodiversity Strategy* includes specific commitments to enhance data and information management in Canada, including the continuation of efforts to establish conservation data centres, and the improvement of access to and distribution and sharing of data generated by publicly funded research.

There has been progress in enhancing data management across Canada over the past five years. Conservation data centres have continued their collection and dissemination of information on threatened and rare species and communities. In July 1999, the international, non-government Association for Biodiversity Information was formed, and is now working with conservation data centres across Canada to develop, manage and distribute critical information on biodiversity.

Environment Canada has established a task force to assist it in pursuing the development of the Canadian Information System for the Environment, which aims to ensure easy and timely access to information needed to make informed decisions relating to the environment.

In March 2001, a conference entitled “Canada’s Natural Capital—Investing in Biodiversity for the Information Age” took place to gather input on gaps in information management related to biodiversity science, and to address the critical lack of scientists in the field of taxonomy and systematics in Canada. Conference delegates recommended establishing an electronically linked knowledge base of all life forms to facilitate the understanding, conservation and sustainable use of biodiversity. A strategic plan is being developed to respond to these recommendations and to work toward creating a biodiversity knowledge and innovation network.

Much work remains to be done, and there is an increasing need for collaboration among all jurisdictions to ensure the inter-operability of systems and to address barriers to data sharing.

Recommendations:

It is recommended that jurisdictions work together to develop a science and research agenda to more effectively understand and address the underlying causes of biodiversity loss and the conservation and sustainable use of biological resources by the fall of 2003; and to develop a strategy to enhance the collection, management, sharing, analysis and accessibility of biological information by the fall of 2002.

Monitoring and Reporting on Biodiversity Status and Trends

Statement of Need:

Monitoring and reporting on the status and trends of biodiversity are essential to determine the effectiveness of conservation and sustainable-use policies and programs, detect significant changes that may warrant a management response, and keep decision makers and the public informed.

While monitoring and reporting efforts are ongoing within and across sectors (e.g., National Vegetation Classification, CDC-ABI network, COSEWIC, RENEW, and the related *General Status of Wild Species in Canada* report), there is no common framework to facilitate the integration of data from the species scale to the ecoregion, national and international scales.

Developing a common framework and reporting nationally on the status and trends of biodiversity would facilitate jurisdictions' access to nationally and regionally held data, enable integration of a wider range of available data sets, and increase understanding of changes in the environment across shared ecosystems. A common approach would also help to identify critical gaps and assist in planning to overcome these gaps.

Undertaking a Canada-wide biodiversity status and trends report would enable all jurisdictions to increase awareness and the profile of biodiversity issues, and meet reporting commitments under the *Canadian Biodiversity Strategy*.

Background:

Monitoring is an important element of the *Canadian Biodiversity Strategy*. Current monitoring efforts in Canada take place within and across sectors and jurisdictions, and are being undertaken by a variety of agencies and organizations—including government, industry, non-government organizations, universities, colleges, museums, and other scientific institutions—from the community to the ecoregion level. While these efforts are significant, they tend to meet the specific needs of a single sector or jurisdiction. There is no common framework in place to facilitate the integration of data, which is necessary to detect and understand changes in biodiversity, their causes, and the effectiveness of response measures.

Reporting on the status and trends of Canada's biodiversity is both a domestic and international obligation under the *Canadian Biodiversity Strategy*. Article 26 of the *Convention on Biological Diversity* also requires each Contracting Party to report on the effectiveness of measures it has taken to implement the Convention. The Convention is explicit in the need for scientific and technical assessments of the status of biodiversity.

Currently, there are several mechanisms for reporting on various aspects of the status and trends of Canada's biodiversity, including state of the environment reports at the federal, provincial, and territorial levels, *Species 2000—The General Status of Wild*

Species report prepared under the Accord for Species at Risk, reports on the state of forests, parks and the Great Lakes, and ecozone assessments, etc. Current reporting also tends to be sectoral or jurisdictional. The preparation of the first report on the status and trends of Canada's biodiversity will provide an opportunity to comprehensively assess, understand, and report on the subject and the underlying factors affecting it. This approach will enhance the effectiveness of monitoring and reporting, reduce duplication of effort, enable the integration of a wider range of available data sets, and help set priorities for addressing critical gaps. The report will also be beneficial in increasing public awareness of biodiversity issues.

Recommendations:

It is recommended that jurisdictions work together to develop a business plan, by the fall of 2002, aimed at enhancing monitoring and integration of biodiversity data and information across ecosystems, and facilitating regular reporting on biodiversity status and trends in Canada, commencing in 2005.

Engaging Canadians in Biodiversity Stewardship

Statement of Need:

Engaging and empowering the public and environmental, conservation and resource groups through stewardship is essential to effectively implement the *Canadian Biodiversity Strategy* over the long term. Efforts must be made to engage and enable a broader spectrum of Canadians to become involved in the stewardship of biodiversity. Since most Canadians live in urban areas, it is essential that stewardship be promoted in cities and towns. The educational system is another essential target, as it is vital that students learn at an early age the impacts of their decisions on the environment and the actions they can take to conserve biodiversity and use biological resources in a sustainable manner.

Background:

All jurisdictions can point to a variety of stewardship programs aimed at enhancing citizen involvement in the conservation of wildlife and habitat. A number of resource industries have also developed stewardship programs, environmental farm plans, and the Forest Stewardship Recognition Program being two good examples. Resource industries are also forming alliances such as the Biodiversity Stewardship in Resource Industries group that grew out of a biodiversity stewardship conference held in Regina in 1999.

In 1998, the wildlife ministers amended the Accord for the Protection of Species at Risk to include stewardship, and the Federal-Provincial-Territorial Stewardship Working Group was established to develop a common framework for stewardship that focuses on fish and wildlife and their habitats—particularly species at risk in rural areas of Canada.

The Government of Ontario, in co-operation with the federal department of Fisheries and Oceans is also developing a national stewardship web portal that will provide one-window access to stewardship programs across Canada.

Recommendations:

It is recommended that jurisdictions work together to develop, by the fall of 2003, a biodiversity stewardship strategy that supports and builds on existing commitments to the *Canada-wide Stewardship Action Plan*, previously endorsed by the wildlife ministers; and enhances efforts to increase participation in biodiversity stewardship by all sectors of Canadian society.

GLOSSARY

Biodiversity or Biological Diversity: the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Biological Resources: genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

Biotechnology: the application of science and engineering in the direct or indirect use of living organisms, or parts or products of living organisms, in their natural or modified forms.

Conservation: the sustainable use of the Earth's resources in a manner that maintains ecosystem, species and genetic diversity and the evolutionary and other processes that shaped them. Certain areas, species or populations may be excluded from human use as part of an overall landscape/waterscape conservation approach.

Ecosystem: a dynamic complex of plants, animals and micro-organisms and their non-living environment interacting as a functional unit. Describes small-scale units, such as a drop of water, as well as large-scale units, such as the biosphere.

Endangered species: species that are threatened with immediate extinction or extirpation if the factors threatening them continue to operate. Included are species whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

Endemic Species: species that exist in only one specific area, or ecological zone.

Extirpated Species: species that are no longer found in the wild in a certain area, but exist elsewhere in the world.

Habitat: the place or type of site where an organism or population naturally occurs. Species may require different habitats for different uses throughout their life cycle.

Invasive Alien Species: species that enter an ecosystem where they are not naturally known to exist—either through deliberate or inadvertent action by humans—and may pose a threat to native species.

Non-renewable Resources: resources such as minerals, metals, natural gas and oil, whose reserves are depleted by their use.

RENEW: Committee on the Recovery of Nationally Endangered Wildlife, consisting of government, non-government and private sector representatives. The RENEW committee prepares recovery plans at the multi-species or ecosystem level to benefit all components of biodiversity.

Sustainable Development:- development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable Use: the use of components of biodiversity in a way that does not lead to their long-term decline, thereby maintaining the potential for future generations to meet their needs and aspirations.

Threatened Species: species that are likely to become endangered if the natural or human pressures causing them to be vulnerable are not reversed.

Wildlife: includes mammals, birds, reptiles, amphibians, fishes, invertebrates, plants, protists, viruses, fungi, algae and bacteria.

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