

**PROTECTING WILD SPECIES  
AT RISK IN CANADA**

**Jean-Luc Bourdages  
Christine Labelle  
Science and Technology Division**

**24 October 2000  
*Revised 23 May 2003***

**The Parliamentary Research Branch of the Library of Parliament works exclusively for Parliament, conducting research and providing information for Committees and Members of the Senate and the House of Commons. This service is extended without partisan bias in such forms as Reports, Background Papers and Issue Reviews. Research Officers in the Branch are also available for personal consultation in their respective fields of expertise.**

**CE DOCUMENT EST AUSSI  
PUBLIÉ EN FRANÇAIS**

## TABLE OF CONTENTS

	<b>Page</b>
INTRODUCTION.....	1
OVERVIEW OF BIODIVERSITY .....	3
A. Biodiversity .....	3
B. Consequences of the Loss of Biodiversity in Canada .....	6
WILD SPECIES AT RISK IN CANADA .....	8
PROTECTING WILD SPECIES AT RISK IN CANADA .....	11
A. The Federal Level.....	11
1. Existing Legislation (other than the <i>Species at Risk Act</i> ).....	12
a. The <i>Fisheries Act</i> .....	12
b. The Migratory Birds Convention .....	12
c. The <i>Canada Wildlife Act</i> .....	13
d. The <i>Canada National Parks Act</i> .....	13
e. CITES and WAPPRIITA .....	14
f. The <i>Canada National Marine Conservation Areas Act</i> .....	15
2. The <i>Species at Risk Act</i> .....	15
3. Other Federal Initiatives.....	18
a. Recovery of Nationally Endangered Wildlife Program .....	18
b. National Policy on Oiled Birds and Oiled Species at Risk .....	19
B. The Provincial Level .....	19
LEGISLATION ON SPECIES AT RISK IN OTHER COUNTRIES.....	21
A. Various Aspects of the U.S. <i>Endangered Species Act</i> .....	22
B. Debates Surrounding the Reassessment of the U.S. Act .....	23
CONCLUSION.....	25



CANADA

LIBRARY OF PARLIAMENT  
BIBLIOTHÈQUE DU PARLEMENT

## PROTECTING WILD SPECIES AT RISK IN CANADA

### INTRODUCTION

As early as 1980, the International Union for Conservation of Nature and Natural Resources (IUCN), along with the United Nations Environment Programme (UNEP) and the World Wildlife Fund (WWF), developed a world strategy for the conservation of living resources in order to further sustainable development.<sup>(1)</sup> This strategy was based on three principal objectives:

- the maintenance of essential ecological processes and life-support systems;
- the preservation of genetic diversity; and
- sustainable utilization of species and ecosystems.

A few years later, the World Commission on Environment and Development, better known as the Brundtland Commission, further highlighted the concept of sustainable development in a report<sup>(2)</sup> that will undoubtedly be seen as the catalyst for the international community's collective focus on increased protection of the environment and natural resources. Although many countries supported the idea of sustainable development and were formulating policies for its implementation, the tendency was to pay little attention to the conservation of species and their habitats. However, the Brundtland report – like the World Conservation Strategy in 1980 – established that the protection of species and ecosystems is indispensable to the achievement of sustainable development.

---

(1) International Union for Conservation of Nature and Natural Resources (IUCN), *World Conservation Strategy*, Gland, Switzerland, 1980.

(2) World Commission on Environment and Development, *Our Common Future*, Oxford University Press, 1987.

In 1992, the United Nations Organization held an important conference on environment and development (UNCED) in Rio de Janeiro, Brazil. The leaders of 105 countries attended the Rio Summit. In addition to the development of Agenda 21 and the adoption of the Framework Convention for Climate Change, the Summit gave top priority in its discussions to the conservation of biodiversity, and adopted the International Convention on Biological Diversity. One year after the Rio Summit, 168 countries had signed the Convention; 187 countries, Canada being the first, have since ratified it. Under the Convention, which took effect on 29 December 1999, countries make a commitment to protect threatened species and habitats. Article 8k provides for signatory countries to “develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations.”<sup>(3)</sup>

Canada has long been concerned with the protection of its natural and historic heritage. For example, 115 years ago it had already laid the groundwork for a national system of parks and natural sites. These protected lands have ensured the conservation of the country’s most beautiful landscapes for current and future generations. Like a number of other statutes – the *Fisheries Act*, the *Migratory Birds Convention Act, 1994*, the *Canada Wildlife Act*, the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*, and the *Canada National Marine Conservation Areas Act* – the *Canada National Parks Act* also protects certain species at risk and their habitats. All these statutes play an important role with regard to the conservation of natural ecosystems and the wildlife they support, but they have not prevented the disappearance of species once found in Canada. The commitment Canada made in 1992, after the Rio Summit, should make possible the necessary measures to ensure more effective protection of species and ecosystems now at risk.

This paper begins with an overview of the general concept of biodiversity and its importance internationally and in Canada. This is followed by an examination of the consequences of the loss of biodiversity in this country. The different approaches and measures taken in Canada, including the most recent federal legislation to ensure the conservation and recovery of species at risk, are presented. The experience acquired in this regard in certain other countries – particularly the United States, which since 1973 has had a specific statute for the protection of species at risk – is then examined.

---

(3) The text of the Convention is available on the Internet site of the Convention on Biological Diversity at [www.biodiv.org](http://www.biodiv.org).

## OVERVIEW OF BIODIVERSITY

### A. Biodiversity

The term biodiversity – or biological diversity – can be defined as the variety of life and its processes. It includes the variety of living organisms, their genetic differences, the communities and ecosystems in which they are found, and the ecological and evolutionary processes that enable them to function, to change, and to adapt.<sup>(4)</sup> Simply put, biodiversity corresponds to the totality of genes, species and ecosystems that make up all the life forms found on earth. Each level of biological organization is important, and all are interrelated. Genes are the elements identifying each of the species living on earth. Species – the level of biological organization of particular concern in this paper – can be defined as a population or series of populations whose individuals have the potential to breed freely with one another, and in which any variation is discontinuous from other populations or series of populations. Finally, all the related species in a given environment together form an ecosystem.

The diversity of life forms on earth constitutes the basis of the human environment and is the reason the planet is habitable. It is these life forms that maintain the ecological functions essential to humanity's survival. Thus, the interaction of a number of species makes possible the production of oxygen, the conversion of energy from the sun into carbohydrates and protein, the purification of drinking water, and moderation of the climate. These life forms produce the soil that supports crop production, and they purify the air.<sup>(5)</sup> Biological diversity also contributes to the well-being of humanity and the satisfaction of its needs. Most food comes from natural sources; of the 80,000 edible plants in the world, approximately 20 species – particularly rice, corn and wheat – meet 90% of the world's needs.<sup>(6)</sup> Although people use only a few thousand plants, they count on wild species to improve their crop production. Many medicines also come from wild species. In North America, half of all drugs prescribed come from natural sources; for example, the active ingredient of aspirin was

---

(4) R. F. Noss and A. Y. Cooperrider, *Saving Nature's Legacy – Protecting and Restoring Biodiversity*, Island Press, Washington, D.C., 1994, p. 5.

(5) Biodiversity Working Group, *Canadian Biodiversity Strategy – Canada's Response to the Convention on Biological Diversity*, November 1994, p. 4.

(6) National Wildlife Federation, Endangered Species Program, *Why Should We Save Species?*

discovered in the White Willow.<sup>(7)</sup> Similarly, the Rosy Periwinkle is indispensable in curing certain types of leukemia. Finally, the economic benefits of biological diversity are far-reaching, affecting the development of resources, such as forestry, fishing and agriculture, as well as pharmacology, biotechnology and ecotourism.

Canada's responsibilities with respect to the conservation of biological resources are extensive. The country has 13 million square kilometres of land and water, while its coastline is the longest in the world, consisting of almost 244,000 kilometres bordering the Atlantic, Pacific and Arctic oceans. Canada is home to almost 20% of the planet's wilderness, 24% of its wetlands, 20% of its freshwater, and almost 10% of its forests.<sup>(8)</sup> It comes as no surprise, therefore, that the diversity of wild species is an integral part of this country's heritage and identity. This diversity has also given rise to numerous recreational activities, such as hunting, fishing and tourism, which bring in billions of dollars and provide jobs for many Canadians. Ironically, many of the species that are particularly popular with tourists are at risk; they include the Grizzly Bear, the Wood Bison, the St. Lawrence Beluga Whale, the Sea Otter, the Harlequin Duck, and the Whooping Crane.<sup>(9)</sup>

To satisfy some of its future needs, humanity will have to turn to nature, as it did in the past, to find new sources of medicine and chemicals, and to improve crop production. If it fails in its attempt to preserve biodiversity, it is in danger of losing these possibilities. A recent discovery in the pharmacological and medical sector, taxol, is an eloquent illustration of how important it is to maintain biodiversity and shows that the problem is not restricted to the tropical zones. Taxol is an anti-cancer agent discovered in the bark of the Pacific Yew, which grows on the west coast of Canada and the United States. As well, a powerful insect repellent, trans-pulegol, was recently discovered in an endangered plant of the mint family.<sup>(10)</sup> Furthermore, each species is a unique source of genetic information, and the future of research into genetics or biotechnology will depend on what information is available. Finally, biological diversity guarantees a good range of future options for reacting to changing and unexpected environmental conditions.

---

(7) Biodiversity Working Group (1994), p. 4.

(8) *Ibid.*, p. 8.

(9) Sierra Legal Defence Fund, *Recommendation for Federal Endangered Species Legislation*, prepared for the Endangered Species Coalition, 25 April 1995, p. 8.

(10) T. Eisner, "The Hidden Value of Species Diversity," *BioScience*, Vol. 42, No. 8, p. 578.

The worldwide decline of biodiversity is now recognized as one of today's most serious environmental problems.<sup>(11)</sup> The extinction of species goes on, of course, as a natural phenomenon; new species arise, while others disappear forever. Until a few decades ago, there was a general trend toward greater diversity, with losses amply offset by the appearance of new species. In recent decades, however, there has been a considerable reduction in biodiversity, largely because of human activities associated with industrial, agricultural and urban development. Some researchers estimate that the impact of human beings on forests and biologically rich environments has become so intense that the current rate of species extinction is 1,000 to 10,000 times greater than the natural rate of extinction that existed before the appearance of *Homo sapiens*.<sup>(12)</sup>

Nobody knows exactly how many species there are in the world, but Environment Canada's Canadian Wildlife Service estimates the total to be between 12 and 118 million, of which only 1.75 million have been identified.<sup>(13)</sup> Over the past 400 years, 484 animal species and 654 plant species may have disappeared, and more than 30,000 species may now be in danger of extinction.<sup>(14)</sup> The U.S. National Science Board estimates that 25% of the species now on earth could disappear over the next 25 years;<sup>(15)</sup> this is one of the most serious of all global changes, especially because the loss of biodiversity is irreversible.

It is recognized that biological diversity is greater in tropical zones than in those that are temperate or colder. This does not mean, however, that the protection of biodiversity is any less crucial in Canada than elsewhere; each species is important to the proper functioning of the ecosystem in which it evolves. As Table 1 shows, a total of 71,895 species had been listed in Canada as of 1999. Furthermore, scientists suspect the existence of another 53,780 species yet to be identified and described. The numbers are highest for insects, whether known or suspected species.

---

(11) Biodiversity Working Group (1994), p. 5.

(12) *Ibid.*

(13) Environment Canada, Canadian Wildlife Service, *Endangered species in Canada*, Hinterland Who's Who, revised 1999.

(14) "Humans Destroying Species At Alarming Rate, UN Says," *Ottawa Citizen*, 14 November 1995, p. A9.

(15) Q. D. Wheeler, "Systematics and Biodiversity – Policies at Higher Levels," *BioScience Supplement 1995*, S-2.



**Table 1: The Biological Diversity of Wild Species in Canada**

<b>Plant and Animal Groups</b>	<b>Known Species<sup>a</sup></b>	<b>Suspected Species<sup>a</sup></b>
algae and diatoms	5,323	2,800
slime moulds, fungi and lichen	11,400	3,600
mosses and liverworts	965	50
ferns and fern allies	141	15
vascular plants (about 78% native)	4,187 <sup>b</sup>	100
molluscs	1,121	100
crustaceans	3,008	1,100
insects	33,755	32,800
spiders, mites and ticks	3,171	7,700
other invertebrates	6,879	5,000
sharks, bony fish and lampreys	1,091	513
amphibians and reptiles	83	2
birds	578	0
mammals (excluding human beings)	193	0
<b>Total</b>	<b>71,895</b>	<b>53,780</b>

<sup>a</sup> “Known species” are those that have already been named and described, whereas “suspected species” are those that are thought to exist but have not been named or described.

<sup>b</sup> Of the species total for vascular plants, 3,269 are considered native species and 918 are introduced or non-native.

Source: Environment Canada, *The State of Canada's Environment – 1991; Canada's Green Plan*, Ottawa, 1991, c. 6, p. 5; and Environment Canada, Canadian Wildlife Service, *Endangered species in Canada*, Hinterland Who's Who, revised 1999.

## **B. Consequences of the Loss of Biodiversity in Canada**

A UN report on biodiversity offers a number of explanations for the decline in biodiversity. They include the increase in human population and economic development, which, in their individual ways, help to use up biological resources. Humanity has also failed in its attempt to evaluate the long-term effects of behaviour that involves destruction of habitats, exploitation of natural resources, and the introduction of exotic species. The inability of the laws of the economic market to recognize the value of maintaining biodiversity is another factor. Increases in human migration, travel and international trade also constitute a threat to biodiversity, as does the increase in pollution.<sup>(16)</sup>

(16) “Humans Destroying ...” (14 November 1995), p. A9.

In Canada, the primary cause of reduced biodiversity is loss of habitat. It has been estimated that 80% of the species reduction in this country has come about for this reason.<sup>(17)</sup> Overhunting (as in the case of the Grizzly Bear), overfishing, pollution, and the introduction of non-indigenous species such as the Zebra Mussel are the other principal causes.<sup>(18)</sup>

Environment Canada has attempted to estimate the number of eco-regions at high risk for biodiversity loss. Of the 177 eco-regions identified in Canada, 14 – or 7% of Canada – are considered to be at high risk, primarily because of conversion of lands to agricultural or urban use. Thus, less than 13% of Canada's shortgrass prairie remains, 19% of its mixed-grass prairie, 16% of its aspen parkland and only a few hectares of its tallgrass prairie. Urbanization is concentrated in the Quebec City–Windsor corridor, where the ecosystems with the most species are found. In these densely inhabited regions, which are home to almost half the species that are threatened or on the way to extinction in Canada, the wetlands have been reduced by almost 90%. Similarly, only small patches of the Carolinian forest remain, in the extreme southern part of Ontario.<sup>(19)</sup>

Forestry is another form of land use that has played a large role in the loss of habitats. With forests covering almost half of Canada, it is difficult to protect biodiversity unless we protect forest ecosystems and the species they contain. Unfortunately, the number of pristine, temperate west coast rainforests keeps shrinking: in the three Maritime provinces, old-growth forests cover a very small area and exist only in patches; and in central Canada, only a few small stands of old red and white pines remain.<sup>(20)</sup> In addition, a 2000 study suggests that species living on tundra and in coniferous forests, especially in Canada, could be among the most vulnerable to climate change. Researchers estimate that in seven Canadian provinces and territories, more than half the habitats could be lost to climate change, or transformed by it into other types of habitat.<sup>(21)</sup>

---

(17) Canadian Wildlife Service (1999).

(18) B. Czech, P. R. Krausman and P. K. Devers, "Economic Associations Among Causes of Species Endangerment in the United States," *BioScience*, July 2000, pp. 593-601.

(19) Environment Canada, Biodiversity Science Assessment Team, *Biodiversity in Canada: A Science Assessment*, summary, ed. A. Keith, 1994, p. 11.

(20) *Ibid.*, p. 9.

(21) David Spurgeon, "Global warming threatens extinction for many species," *Nature*, 14 September 2000, p. 121.

Canada's aquatic and marine systems have also undergone major changes. The Great Lakes ecosystem has been significantly affected by heavy fishing and successive invasions of various species, as well as by pollution and alteration of habitats. The disappearance of the Blue Walleye of Lake Erie is an example of overfishing. In Atlantic coastal waters, heavy exploitation of the Georges Bank ecosystem between 1963 and 1986 caused a drop in the proportion of cod in the total catch from 55% to 11%, while the proportion of dogfish in the catch jumped from 2% to 41%.<sup>(22)</sup>

A number of exotic species have been introduced; they include the fungus responsible for Dutch elm disease, which has eliminated almost all mature elms in many areas. Other species are on the increase, such as the Ring-billed Gull, which is invading cities along the St. Lawrence and the Great Lakes.<sup>(23)</sup> Ecosystems are not static, and changes in their composition are normal, but care must be taken not to accelerate the process or create conditions that could lead to the displacement of indigenous species.

The only means of maintaining an important portion of biological diversity is to lessen the impact of human activities on the global environment. The first step in this direction, however, continues to be the establishment of strategies for the management of threatened species. The importance of this measure resides in the fact that plants and animals, particularly birds and mammals, are known as excellent indicators of the general state of the environment. One of the best-known examples is, of course, DDT; this product bioaccumulated in the food chain to such an extent that even after it was banned it posed a serious threat to the survival of predatory birds, such as the Peregrine Falcon and the Bald Eagle, which had reproductive problems directly linked to the presence of this pesticide in the environment. When a species dies out or is at risk, it very often indicates that there is too much human pressure on the ecosystem of which it forms a part.

## **WILD SPECIES AT RISK IN CANADA**

For almost 20 years, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has determined the risk categories of wild species, sub-species and separate populations in Canada (see definitions in Table 2).

---

(22) Environment Canada (1994), p. 17.

(23) *Ibid.*, p. 25.

**Table 2: Risk Categories Used by COSEWIC**

Status	Definition
Species	Any indigenous species, subspecies, variety or geographically defined population of wild fauna or flora
Special concern	A species whose characteristics make it particularly sensitive to human activities or natural events
Threatened	A species likely to become endangered if limiting factors are not reversed
Endangered	A species facing imminent extirpation or extinction
Extirpated	A species no longer existing in the wild in Canada but occurring elsewhere
Extinct	A species that no longer exists
Not at risk	A species that has been evaluated and found not to be at risk
Data deficient	A species for which there is insufficient scientific information to support status designation

Source: Committee on the Status of Endangered Wildlife in Canada (COSEWIC), *Canadian Species At Risk – May 2000*, Ottawa, 2000.

COSEWIC is made up of independent scientific experts from each provincial and territorial wildlife management agency, four federal agencies and three non-governmental conservation organizations. Recently, two members specialized in Aboriginal traditional knowledge were added to the Committee.

Over the years, COSEWIC has compiled a credible and recognized list of Canadian species at risk, based on solid scientific facts. The species examined by the committee include birds, mammals, fish, amphibians, reptiles, molluscs, lepidoptera, vascular plants, lichens and mosses. Of the more than 612 species studied since 1977, the COSEWIC list in May 2003 comprised 431 species at risk, broken down as follows: 143 species of special concern, 102 threatened species, 153 endangered species, 21 species extirpated in Canada, and 12 extinct species (see Table 3).

**Table 3: Canadian Species at Risk as of May 2003**

Category	Birds	Mammals	Fish	Amphibians and Reptiles	Molluscs	Lepidop- tera (Butter- flies)	Vascular Plants	Lichens and Mosses	Category Total
Extinct	3	2	5	0	1	0	0	1	12
Extirpated	2	4	2	5	2	3	2	1	21
Endangered	21	22	19	10	11	5	58	7	153
Threatened	8	13	22	16	2	3	37	1	102
Special Concern	22	23	32	19	2	2	39	4	143
<b>Total</b>	<b>56</b>	<b>64</b>	<b>80</b>	<b>50</b>	<b>18</b>	<b>13</b>	<b>136</b>	<b>14</b>	<b>431</b>

Source: Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Internet site (<http://www.cosewic.gc.ca/>), May 2003.

COSEWIC's work entails reassessing species on the basis of new quantitative criteria used to estimate risk of disappearing. The criteria are based on the global model adopted by the IUCN. According to the COSEWIC findings, most of the species reassessed so far have remained in their risk category, but there will not be a clearer idea of the situation until all the reassessments have been completed. Generally speaking, although about a dozen species have been removed from the list, and others have been placed in a lower risk category, the list as a whole continues to grow.<sup>(24)</sup>

Some examples of species in each category are as follows:

- *Extinct*: The Great Auk and the Passenger Pigeon are two well-known examples of species that are extinct in Canada.
- *Endangered species*: The Swift Fox, which had ceased to exist in the wild in Canada, was recently reintroduced on the Prairies but is still in the endangered category.<sup>(25)</sup> The list of endangered mammals includes the Vancouver Island Marmot (1997) and the Peary Caribou. In Eastern Canada, the Piping Plover is endangered because its nesting sites are frequently disturbed by motorized vehicles and by building on its nesting grounds. Another species of bird, the Whooping Crane, survives primarily in Wood Buffalo National Park. In the

(24) It should be noted that the COSEWIC list is not complete, containing as it does less than 20% of all known species in Canada, and is dependent on the speed at which the Committee can examine and identify species at risk.

(25) COSEWIC, *List of Species At Risk in Canada*, Internet site of the Canadian Wildlife Service, Environment Canada, August 2000.

amphibians group, COSEWIC made its first emergency designation in November 1999: the Oregon Spotted Frog, found only in British Columbia and a few sites in the United States, is considered to be an endangered species.<sup>(26)</sup> Among plant species on the endangered list are the Western Fringed Prairie Orchid, the Eastern Prickly Pear Cactus (found in southern Ontario), and the Small White Lady's Slipper (also a member of the family Orchidaceae). The American Ginseng, the Blue Ash and the Eastern Fringed Prairie Orchid have been uplisted to endangered since 2000. The Newfoundland Marten used to be a threatened species, but since 1996, when it was last reassessed, it has been designated as an endangered species.<sup>(27)</sup> The St. Lawrence Beluga is another well-known example of a species that has slipped from threatened to endangered status in Canada, largely because of high levels of toxic pollution in the Great Lakes and the St. Lawrence. These last two are telling examples of species at risk in Canada that came to be at even greater risk because the factors that made it vulnerable were not reversed.

- *Threatened species*: The Copper Redhorse is very familiar to Quebecers because of the efforts that have been made to protect it. The only place in the world this fish species is found is a river in southwest Quebec, where water pollution and acid rain are the main threats to its quality of habitat and its food supply. Another threatened species, the Eastern Massasauga Rattlesnake, is also in jeopardy because of the fragmentation of its habitat in the Georgian Bay region.
- *Species of special concern*: The Polar Bear, the Wolverine, the Peregrine Falcon, the Green Sturgeon, the Gulf of St. Lawrence Aster and the Cryptic Paw Lichen are just some of the many species of special concern in Canada. The Peregrine Falcon is the best known of these species because of repopulation programs in several provinces, notably Quebec, whereby young falcons have been raised in captivity and then released in either natural or urban settings.

## PROTECTING WILD SPECIES AT RISK IN CANADA

### A. The Federal Level

On 12 December 2002, Bill C-5, the *Species at Risk Act*, received Royal Assent. Additionally, a number of statutes offer some protection, directly or indirectly, for plants and animals at risk. Canada also has a program for implementing recovery plans (RENEW) and a committee responsible for preparing a list of species at risk (COSEWIC). As well, certain Canadian conservation groups have taken initiatives to save some species at risk.

---

(26) COSEWIC, *Emergency Designation of a Species in Danger of Extinction*, press release, 1 November 1999.

(27) COSEWIC, *Canadian Species At Risk – April 1996*, Ottawa.

## **1. Existing Legislation (other than the *Species at Risk Act*)**

At the national level, the *Fisheries Act* and the *Migratory Birds Convention Act, 1994* afford general protection for groups of species as a whole but do not include specific provisions on species at risk. On the other hand, the *Oceans Act*, the *Canada Wildlife Act* and the *Canada National Parks Act* do contain specific provisions on species at risk, in addition to their broader mandate. These five statutes also protect some habitats that are crucial to the survival of species at risk. With regard to domestic and international trade, the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* applies to all species but also includes measures to protect species at risk.

### **a. The *Fisheries Act***

The *Fisheries Act* empowers the Governor in Council to regulate all matters related to fishing, including the conservation and protection of fish and their spawning grounds. The word “fish” in the Act includes shellfish, crustaceans, marine animals and the eggs, spawn, spat and juvenile stages of fish, shellfish and marine animals. The Act thus protects all species of fish and also provides strong protection for fish habitats, including marine plants.

### **b. The Migratory Birds Convention**

In 1916, Canada and the United States signed the Migratory Birds Convention, which regulates hunting, deters trade and marketing, controls the use of migratory birds through permits and licences, and provides for the creation of sanctuaries to control and manage protected areas. There are 101 migratory bird sanctuaries protecting some 11.3 million hectares. The Convention was revised in 1994 to include protection for sperm, embryos and tissue cultures from migratory birds, as well as birds and their eggs. The Convention covers all migratory birds, so that species at risk – such as the Eskimo Curlew, the Harlequin Duck, the Piping Plover, the Peregrine Falcon, the Spotted Owl and the Whooping Crane<sup>(28)</sup> – do have some protection. But there are no specific provisions for species at risk.

---

(28) Three regulations are made under the Act: the *Migratory Birds Regulations*, the *Migratory Birds Hunting Regulations* and the *Migratory Bird Sanctuary Regulations*.

**c. The *Canada Wildlife Act***

In 1973, Canada passed the *Canada Wildlife Act* with the aim of launching research on wildlife, especially the larger species, and enabling the federal government to work with the provinces on conservation and recreational activities affecting wildlife and their habitats. The Act was amended in 1994 to include all land species of flora and fauna and all species found within 200 nautical miles of the Canadian coast. The habitats of all these species are protected by the Act, and mechanisms are provided for protecting endangered wildlife.

In 1990, two years before the Rio Summit, the *Canada Wildlife Act* was strengthened by the adoption of a wildlife policy for Canada. The policy's goal is to maintain and enhance the health and diversity of Canada's wildlife, both for its own sake and for the benefit of current and future generations of Canadians.<sup>(29)</sup> The policy not only recognizes the importance of biodiversity, but also states that in policy-making and development planning, the consideration of economic, social and environmental factors together enables wildlife conservation to be incorporated into policies, plans and projects from the start. The policy also recognizes that protection of habitats and ecosystems is the cheapest and most effective way of conserving wildlife and must always take precedence over other means.

**d. The *Canada National Parks Act***

For more than a century, the *National Parks Act* and its successor, the *Canada National Parks Act*, have protected various sites for conservation purposes and for the benefit of current and future generations. Under the legislation, the Governor in Council has the power to make regulations concerning: the preservation, control and management of parks; the protection of fauna, including the taking of specimens for scientific or propagation purposes; the destruction or removal of dangerous or superabundant species; and the management and regulation of fishing and the protection of fish, including the prevention and remedying of any obstruction or pollution of waterways. All wild species of flora and fauna found within the boundaries of national parks are thus protected. In addition, the legislation provides for heavy fines for the poaching of protected or at-risk species in national parks. Bill C-27, the *Canada National Parks Act*, received Royal Assent on 20 October 2000. Its primary aim is to amend and consolidate the

---

(29) Wildlife Ministers' Council of Canada, *A Wildlife Policy for Canada*, 1990, p. 8.



*National Parks Act* and to provide for the future establishment of new parks. The new Act is linked to two other legislative measures: the *Parks Canada Agency Act*, passed in December 1998, which created the Parks Canada Agency; and the *Canada National Marine Conservation Areas Act*, which received Royal Assent on 13 June 2002. These three acts form a coherent legislative whole that will help the Canadian government to preserve and protect more effectively the ecological integrity of natural heritage sites.

#### **e. CITES and WAPPRIITA**

Trafficking in species at risk in 1995 represented a market worth approximately \$1.5 billion and affected some 37,000 plant and animal species. The United States and Canada, for example, annually import 10,000 monkeys for use in research and almost 450,000 live birds to be kept as pets. Canadians ship Caribou antlers and Black Bear gall bladders to countries in Asia.<sup>(30)</sup> According to Canadian government data on organized crime, illegal trafficking in species at risk represents a market worth \$6 billion annually.<sup>(31)</sup> These figures show how important it is to regulate international trade in wildlife.

Signed in 1973 by some 100 countries (including Canada), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is considered the most successful international conservation agreement in history.<sup>(32)</sup> The Convention plays an important role in controlling legal and illegal interstate trade in wild species at risk and products made from those species. The aim is not to eliminate this trade, but rather to encourage rational and sustainable use of resources for development. Thus, the government has included two species on the CITES control list, namely the Peregrine Falcon (threatened species status) and the Whooping Crane (in danger of extinction), to ensure that they will not be exported from Canada without authorization.

In the early 1990s, the Government of Canada, recognizing the need to strengthen CITES, passed the *Wild Animal and Plant Protection and Regulation of International and*

---

(30) Agence Science-Press, « Espèces menacées: la contrebande prend du poil de la bête », *Franc-Vert*, Vol. 12, No. 5, October-November 1995, p. 12.

(31) Solicitor General of Canada, *Organized crime, impact study*, Highlights, 1998.

(32) K. Douglas, *Endangered Species in Canada*, Parliamentary Research Branch, Library of Parliament, 15 April 1991, p. 16.

*Interprovincial Trade Act* (WAPPRIITA). This Act means that interprovincial trade, as well as international trade, can now be controlled; moreover, its scope now extends to indigenous species designated at risk by COSEWIC, all in accordance with CITES. WAPPRIITA prohibits the export and import of wild animals and plants at risk or parts or products thereof, in accordance with international agreements as well as conservation laws in the provinces and in other countries; it also prohibits the possession of wild animals or plants at risk, or parts or products thereof, for the purpose of sale or distribution.

**f. *The Canada National Marine Conservation Areas Act***

The *Canada National Marine Conservation Areas Act*, which received Royal Assent on 13 June 2002, is designed to create a system of national marine conservation areas. When complete, this system will be representative of the 29 marine areas in Canada, covering the waters of the Great Lakes, inland waters (including marshes), domestic waters and the 200-nautical-mile exclusive economic zone. Marine conservation areas have two main objectives: the protection and conservation of marine areas that are representative of ocean environments in Canada and the Great Lakes; and an appreciative, understanding and respectful use by the general public of the marine heritage. The Act amends the *Canada National Parks Act* to exclude the marine areas from its application. However, it does not apply to the Saguenay–St. Lawrence Marine Park, because special legislation applying to this park is already in force.<sup>(33)</sup>

**2. *The Species at Risk Act***

In Canada, the relevance of legislation relating to the conservation of species at risk was debated for more than 20 years. At a 1976 symposium on Canada's species and spaces at risk, it was pointed out that the programs for species at risk could definitely not protect Canada's flora and fauna unless they were supported by legislation. Similarly, in 1989, a special multi-stakeholder committee<sup>(34)</sup> submitted a report to the Prime Minister recommending the enactment of federal legislation to protect species at risk in order to consolidate Canada's biological diversity. At the time, the Government of Canada thought it could use all federal

---

(33) Mollie Dunsmuir, *Bill C-10: An Act respecting marine conservation areas*, LS 396E, Parliamentary Research Branch, Library of Parliament, 28 March 2001.

(34) The "Greenprint for Canada Committee," which consisted of 34 conservation and Aboriginal organizations.

statutes relating to fauna, flora and the environment in order to protect endangered species. However, following the signing of the Convention on Biological Diversity at the Rio Summit, the House of Commons Standing Committee on the Environment recommended that the Government of Canada immediately take the necessary measures to develop an integrated legislative approach to protect endangered species, habitats, ecosystems and biodiversity in this country.<sup>(35)</sup>

In 1995, three years after Canada signed the Convention on Biological Diversity and following the tabling of two Private Members' bills in the House of Commons, the federal government published a Canadian Strategy on Biodiversity in fulfilment of one of its main undertakings as a signatory of the Convention. Shortly after, the government submitted a working paper entitled *A National Approach to the Conservation of Species at Risk in Canada*, concerning which public consultations were held in 14 cities in Canada. In addition to a number of recommendations, including some relating to the importance of informing the public, the need for strict legislation emerged from these consultations.<sup>(36)</sup> Subsequently, Environment Canada issued draft legislation on the protection of species at risk in Canada. This proposal gave rise to two main criticisms from Canadian scientists at the time. First, the scientists noted that it did not impose sufficient restrictions, especially with respect to the protection of the habitat of species at risk. Second, they noted that the forthcoming legislation applied only to species located on federal lands, including national parks, or species that fall under federal jurisdiction, namely, migratory birds, migratory mammals such as the Beluga Whale of the St. Lawrence, and certain species of migratory fish. Federal lands account for only a very small part of the area of Canada, approximately 4%.<sup>(37)</sup> Shortly after this draft legislation was released in October 1996, two important initiatives followed.

First, the federal, provincial and territorial ministers responsible for wildlife management agreed in principle on an Agreement to Protect Species at Risk, pursuant to which the ministers agreed to take a national approach to the protection of these species. The Agreement is based on the constitutional division of legislative powers concerning protection of the environment. The ministers agreed to enact legislation and implement additional programs to

---

(35) Environment Canada, Canadian Wildlife Service, *Legislation on Species at Risk in Canada: A Working Paper*, 17 November 1994, pp. 4-5.

(36) Environment Canada, Canadian Wildlife Service, *Report on Public Consultations: A National Approach to the Conservation of Species at Risk in Canada*, 1995.

(37) P. Gingras, « Les scientifiques réclament une loi fédérale musclée sur les espèces menacées », *La Presse*, 23 November 1995, p. A10.

protect species at risk, and to cooperate in taking action with respect to species that cross borders within Canada.<sup>(38)</sup>

Second, the federal government tabled legislation in the House of Commons under the title Bill C-65: An Act respecting the protection of wildlife species at risk in Canada. This bill, which was substantially amended by the House of Commons Standing Committee on the Environment and Sustainable Development, nevertheless died on the *Order Paper* when Parliament was dissolved in 1997. A second bill, Bill C-33: An Act respecting the protection of wildlife species at risk in Canada, was tabled in the House of Commons on 11 April 2000 but died on the *Order Paper* when Parliament was dissolved in October 2000.

Passing such legislation was proving difficult for the Canadian government. Reintroduced as Bill C-5, the Species at Risk Act, the legislation died a third time on 16 September 2002 upon prorogation. This was the last time, however. Bill C-5 was reintroduced and passed, receiving Royal Assent on 12 December 2002.

The main objectives of the Act are to:

- create a legislative base for the scientific body that assesses the status of species at risk in Canada;
- prohibit the killing of extirpated, endangered or threatened species and the destruction of their residences;
- provide authority to prohibit the destruction of the critical habitat of a listed wildlife species anywhere in Canada;
- lead to automatic recovery planning and action plans through the listing of species at risk;
- provide emergency authority to protect species in imminent danger, including emergency authority to prohibit the destruction of the critical habitat of such species;
- make available funding and incentives for stewardship and conservation action; and
- enable the payment of compensation where it is determined to be necessary.

Budget 2000 contained a federal commitment of \$90 million over three years, plus stabilized funding at \$45 million in subsequent years, for the national strategy to protect species at risk.

---

(38) Kristen Douglas, *Bill C-33: An Act respecting the protection of species at risk in Canada*, Parliamentary Research Branch, Library of Parliament, 18 May 2000.

### 3. Other Federal Initiatives

#### a. Recovery of Nationally Endangered Wildlife Program

The Recovery of Nationally Endangered Wildlife (RENEW) Committee was established in 1988 to prepare recovery plans for species listed at risk by COSEWIC. Although the early years were difficult because of financial constraints and the need for additional scientific data, Environment Canada's budget for 2000-2001 included investments of \$90 million over the next three years and \$45 million in the following years to protect species at risk and their habitat. As well as promoting the RENEW program, this funding will allow Environment Canada to develop management programs and incentive measures to encourage public involvement in the protection of species and their habitat.<sup>(39)</sup> Three stewardship programs were announced for 2000:

- the injection of \$410,000 into the Coteau project (Saskatchewan), which is designed to provide protection for the Ferruginous Hawk, the Northern Leopard Frog, the Piping Plover and the Burrowing Owl over an area of 23,000 km<sup>2</sup>;
- an investment of \$200,000 to recover the Eastern Loggerhead Shrike; and
- \$1 million in funding for the South Okanagan–Similkameen Conservation Program.<sup>(40)</sup>

A number of recovery plans have succeeded in improving the status of species at risk, including the Wood Bison (for which an agreement of cooperation was concluded between Canada and the United States), the Peregrine Falcon and the Swift Fox. RENEW's latest annual report indicated that 14 recovery plans have been approved, 68 plans or strategies have been developed (at least on a temporary basis), and 83 recovery teams are currently at work.<sup>(41)</sup>

Efforts by conservation groups to protect some of Canada's species at risk should also be noted. The Wye Marsh Wildlife Centre in Midland, Ontario, for example, has been working in recent years to increase the population of Trumpeter Swans, a species that was vulnerable but is no longer threatened today.

---

(39) Environment Canada, *Estimates 2000-2001, Part III – Report on Plans and Priorities*.

(40) Environment Canada, *Environment Minister David Anderson announces \$1 million to help conserve habitat and species at risk in the South Okanagan–Similkameen region*, Osoyoos, 31 July 2000.

(41) Canadian Council for the Conservation of Species at Risk, *RENEW Annual Report 2001-2002 – Recovery of Nationally Endangered Wildlife*, RENEW Report No. 12, 2002.

## **b. National Policy on Oiled Birds and Oiled Species at Risk**

The National Policy on Oiled Birds and Oiled Species at Risk of January 2000, applied by the Canadian Wildlife Service, indicates the roles to be played and measures to be taken under the federal, provincial and territorial processes in the case of a spill where migratory birds or species at risk are contaminated by oil. This policy includes all species of migratory birds and their land, fresh water, marine and tidal habitats. It can be combined with the action plans of other organizations, which will make it possible to deal with all species of wildlife affected by oil spills.<sup>(42)</sup>

### **B. The Provincial Level**

Currently, seven Canadian provinces – Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, and Newfoundland and Labrador – have enacted legislation that specifically protects endangered species. Overall, this provincial legislation has been found useful by those who are interested in the protection of biodiversity, especially because it applies to both private and public lands. However, some people feel that none of these statutes is strict enough, especially because most of their provisions are discretionary in nature, especially those that apply to the listing of species at risk and the protection of habitats.<sup>(43)</sup> On the other hand, the Nova Scotia Act (which is more recent) confers much less discretionary power in the provisions governing the listing of species at risk and ensuring that their habitat is protected.

Ontario's and New Brunswick's older laws do not define the term "species" and include only one category of risk, namely, endangered. There is no requirement to prepare a list of species at risk or to determine their habitat. However, these two acts protect the habitat of species that the government recognizes to be endangered.

According to the Endangered Species Coalition,<sup>(44)</sup> the Quebec and Manitoba statutes are stronger than their counterparts in Ontario and New Brunswick. They cover a wider range of species and include two risk categories, namely, endangered and threatened; under the Quebec statute, these categories correspond to threatened and vulnerable respectively.

---

(42) Environment Canada, Canadian Wildlife Service, *National Policy on Oiled Birds and Oiled Species at Risk*, January 2000.

(43) Sierra Legal Defence Fund (1995).

(44) *Ibid.*

The Manitoba statute applies to all taxonomic groups of plants and animals (species, subspecies, breeds, varieties and separate populations) and also includes eggs and larvae. The definition of habitat is broad: an area of land, water or air that contains the natural resources on which the species depends for its life and propagation.<sup>(45)</sup> Although the Act provides for the creation of a scientific committee to advise the government concerning the identification and protection of species at risk, there is no requirement to establish a list of species at risk or their habitats. However, the Act also states that a permit is required for any activity likely to disturb species at risk.<sup>(46)</sup>

Like its Manitoba counterpart, the Quebec statute applies to all taxonomic groups of plants and animals, including invertebrates other than molluscs and crustaceans. It also includes the same two risk categories. Although listing designated species is not mandatory, the Act permits the habitat of each of the species at risk to be identified. In 1995, six years after the Act was originally passed, the Quebec government implemented the first two regulations to protect nine plants. The first regulation designated the Wild Leek as a vulnerable species, and prohibits trade in and regulates the harvesting of the plant. The second regulation designated the other eight plants as threatened species, and protects them and their habitats.<sup>(47)</sup>

Although they do not have statutes that specifically apply to the protection of species at risk, a number of Canadian provinces nevertheless have more general legislative measures concerning flora and fauna that make it possible to provide some protection, either directly or indirectly, for species at risk. This is particularly true of British Columbia, Alberta and Prince Edward Island, where the *Wildlife Act*<sup>(48)</sup> even authorizes the making of regulations – and thus the exercise of discretion – to list certain categories of species at risk and to take the measures required for their preservation, including protection of their habitat. Newfoundland and Labrador and the Northwest Territories have indicated their intention to introduce legislation on species at risk.

---

(45) J. P. Foley and L. S. Maltby, “A Summary of Endangered Species and Related Legislation,” Environment Canada, Canadian Wildlife Service, draft, 15 February 1995, pp. 17-22.

(46) *Ibid.*, p. 17.

(47) G. Lamoureux, « Plantes menacées: un moment historique », *La Presse*, 10 April 1995, p. B4.

(48) The *Wildlife Conservation Act* in the case of Prince Edward Island.

## LEGISLATION ON SPECIES AT RISK IN OTHER COUNTRIES

In 1973, the United States was the first country to pass a law on endangered species (the *Endangered Species Act*). Almost 20 years later, the Government of Australia also passed federal legislation on this issue. These two statutes are more comprehensive and much more stringent than the Canadian provincial legislation mentioned earlier. They provide for the development of a list of endangered species, the identification of their habitats, and the implementation of recovery plans for each of the species listed. They also prohibit a range of activities that could be harmful to endangered species. Finally, all federal bills likely to have an adverse effect on an endangered species or its habitat must have the approval of the authorities responsible for implementing the *Endangered Species Act*. In addition, the Australian Act<sup>(49)</sup> requires that two lists be prepared: one includes endangered ecosystems, and the other indicates activities considered to pose a threat to the species and ecosystems at risk. As well, it called for the creation of a scientific committee to advise the government on the implementation of the Act and amendments to be made to it.

The European Union adopted a “Habitats” directive in 1992 concerning the conservation of natural habitats and wild fauna and flora. This directive is designed to preserve the biodiversity of Europe on two levels. First, it requires the member states to protect 293 animal species and 490 plant species. Second, it imposes a duty on governments to protect the natural habitats of the most threatened species in Europe. Those governments have until 2004, however, to make an official undertaking to protect the sites chosen and to implement the necessary protection measures.<sup>(50)</sup>

Given the importance of the U.S. Act, which is still the basic model in this area, a more substantial analysis of it is given here. The U.S. Act concerning species at risk can be traced back to the mid-1950s, when a group of biologists met in Washington to discuss the expected extinction of the Whooping Crane, of which only 24 remained. The U.S. Congress took a number of initiatives in an attempt to check the problem, but was not successful.

---

(49) *Endangered Species Protection Act 1992*, now superseded by the *Environment Protection and Biodiversity Conservation Act 1999*.

(50) A. Debièvre, « Les enjeux de la directive ‘Habitats’ », *L’Environnement*, No. 1545, March 1996, Administration and Nature, pp. 12-15.



Following this failure, it passed the *Endangered Species Act* in 1973,<sup>(51)</sup> a move that was very progressive for its time.

#### **A. Various Aspects of the U.S. *Endangered Species Act***

The first requirement of the U.S. legislation is to designate species that are threatened or endangered. The majority of species, subspecies and distinct populations are included in this process, with the exception of insects; the Act also protects eggs and other developmental stages. The list of designated species is based on the best scientific information available and must be revised every five years. In September 1999, the U.S. Fish and Wildlife Service's list included 1,197 plant and animal species that were threatened or at risk.<sup>(52)</sup>

Second, the U.S. Act requires that a recovery plan be prepared for each species at risk that is included in the list. The purpose of the recovery plan is to promote the conservation and survival of a species at risk in such a way that the species will no longer need protection. However, even today, not all species benefit from such a plan. In the early 1980s, a recovery plan had been drawn up for only one-half of the 425 species then listed. Various measures taken after 1988, including increased funding, allowed a greater number of species to benefit from recovery plans. In 2001, a total of 1,254 species were listed as endangered or threatened, and were covered by one of the 1,102 recovery plans as of May 2003.<sup>(53)</sup>

The U.S. legislation also requires designation of the habitat critical to a species at risk. The focus is on specific areas within the geographic distribution of the species that are essential to its conservation and require management or special protection.<sup>(54)</sup> Currently, not all species at risk have designated critical habitats. The 1978 amendments have meant that it is no longer mandatory to designate the critical habitat of a species if the costs associated with protection of this habitat outweigh the benefits for the species, as long as this would not result in the extinction of the species. According to the National Wildlife Federation, this change has made it possible for the U.S. Fish and Wildlife Service to exclude 1.8 million hectares from the

---

(51) M. Kriz, "Caught in the Act," *National Journal*, 16 December 1995, p. 3092.

(52) A total of 1,775 species are covered by the U.S. Act because it includes the responsibilities of the United States under CITES; Lynne Corn, *Endangered Species: Continuing Controversy*, CRS Issue Brief for Congress-IB10009, 17 July 2000 (Internet version).

(53) U.S. Fish and Wildlife Service Internet site on endangered species (<http://endangered.fws.gov>).

(54) Foley and Maltby (1995), p. 28.

Spotted Owl's critical habitat in the northwestern United States, on the grounds that otherwise the job loss and reduction in federal payments outweigh the benefits of protecting the species.<sup>(55)</sup>

The bans imposed by U.S. law on disturbing species at risk apply equally to private and public lands. Thus, any private landowner must obtain a permit to develop lands on which representatives of the species at risk are present; such a permit is granted upon submission of a satisfactory conservation plan minimizing the impact of injurious actions. Finally, the U.S. legislation provides for a mechanism for the review of all federal projects that could disturb the critical habitat of species at risk. With two exceptions (the Spotted Owl and the Snailfish), this provision has not prevented projects from being implemented after a prior review, but has instead made it possible to make changes and take the necessary mitigating measures to protect species at risk.

### **B. Debates Surrounding the Reassessment of the U.S. Act**

For several years now, the U.S. Act on endangered species has been the subject of lively discussion. Primarily, industrial lobbies oppose the Act because they view it as an obstacle to development, while conservationist lobbies defend the Act, claiming that it has prevented the extinction of the Bald Eagle (the U.S. emblem) and the Grizzly Bear, as well as of some other lesser-known species. The conflict between opponents of the Act and its defenders was undoubtedly worsened by the injunction obtained by U.S. ecologists in the mid-1980s with respect to the habitat of the Spotted Owl. This injunction banned logging in federal forests in the U.S. northwest for a long period.

Opponents of the U.S. *Endangered Species Act*:

- fault it on many grounds, including ineffectiveness, because only a few species have been taken off the list;
- believe that the Act is detrimental to economic development and that the list is based on incomplete scientific information resulting in the inclusion of species that do not need protection; and
- believe that it focuses unduly on subspecies and geographically separate populations.

---

(55) National Wildlife Federation, Endangered Species Program, *Economics and the ESA: Flexibility and Balance*.

Defenders of the Act:

- believe that it has proved to be an essential and effective tool against extinction of species, because more than 40% of all species on the list are stabilizing or increasing,<sup>(56)</sup>
- note that only 69 projects out of the 145,000 federal measures reviewed under the Act between 1979 and 1992 were cancelled;
- note that very few species have been taken off the list because subsequent studies showed that they were more numerous than had been believed;
- note that subspecies and geographically separate populations represent only 20% of all species on the list but their ecological roles are often important in the ecosystem to which they belong;<sup>(57)</sup> and
- note that with respect to the unavailability of scientific information on which to base informed decisions on species at risk, new tools are constantly being discovered for improving taxonomic and ecological knowledge.

The U.S. legislation is also criticized for its emphasis on the protection of species as opposed to habitats. Although many scientists agree on the need to protect both individual species and habitats, there are many who believe that too much emphasis has been placed on the former and that a greater focus on habitats or ecosystems is needed. They believe that protecting an ecosystem, rather than an individual species, will also protect other species, including those not yet identified. For example, setting up a system of reserves for the protection of old-growth forests in the Pacific northwest (the habitat of the Spotted Owl) would simultaneously protect 280 species of plants and animals inhabiting the same ecosystem.<sup>(58)</sup>

It seems easier to achieve unanimity on the need to amend the Act with respect to private land. Many people believe that the government should give greater support and encouragement to the owners of private land containing species at risk. They suggest, for example, that these owners be eligible for programs that are already accessible to farmers, livestock owners and small landowners to protect wetlands, forests, and soil and water quality.<sup>(59)</sup>

---

(56) Corn (2000).

(57) National Wildlife Federation, Endangered Species Program, *The Endangered Species Act: Myth vs. Reality*.

(58) T. Eisner, J. Lubchenco, E. O. Wilson, D. S. Wilcove and M. J. Bean, "Building a Scientifically Sound Policy for Protecting Endangered Species," *Science*, Vol. 268, 1 September 1995, p. 1232.

(59) *Ibid.*

A number of legislative initiatives were introduced in the 106<sup>th</sup> Congress, most of them concerning the issues noted above. In particular, the proposals made to the House of Representatives or to the Senate related to the designation of critical habitat and compensation for landowners, the funding of measures for the conservation of species, conservation agreements, and reducing the red tape involved in the law, among others. A legislative proposal made by Representative Don Young (H.R. 3160), which was tabled in October 1999 and sent to the Resources Committee, was designed to effect an in-depth reform of the Act, more in the sense of a five-year reassessment required by the existing legislation. No major reform of the law, however, was enacted before the end of the 106<sup>th</sup> Congress.<sup>(60)</sup>

## CONCLUSION

Over the years, Canada has acquired various tools to ensure the protection of natural environments and the animal and plant species they sustain. The federal government has taken measures with respect to national parks, migratory birds, and fish and wild species generally, particularly in connection with their international and national trade. Despite these initiatives, many species have been able to maintain only a fragile hold or have disappeared altogether. The extinction and decline of certain species, combined with other pressures on natural ecosystems, have implications for Canada's overall biodiversity. It is by maintaining the highest possible level of biodiversity that we will be able to ensure, if not improve, our quality of life. The *Species at Risk Act*, an example of direct intervention, is considered to be a move in the right direction by many.

A number of countries, including the United States, Australia, Japan and the European Union, have also passed such legislation. The *Endangered Species Act* passed by the United States in 1973 is the best-known legislation and continues to be a model of its kind in the field of natural resource conservation. It was, to a certain extent, the inspiration for the initiatives of other countries, although these are more recent: Australia and the European Union did not take action until 1992. In Canada, seven provinces – Ontario, Newfoundland and Labrador, New Brunswick, Quebec, Manitoba, Saskatchewan and Nova Scotia – have also passed legislation of this kind.

---

(60) Corn (2000).

The passage of a federal statute on species at risk has added another tool to the existing array of instruments whose goal, in varying degrees, is the protection of the environment, natural habitats and the species they contain. The conservation of biodiversity and of the species themselves, in turn, is a critical part of an overall strategy to promote Canada's sustainable development.