Section 5

Species and Spaces at Risk

Section 5

Species and Spaces at Risk

5.1 Overview and Recommendations

Ecosystems and quality of life suffer

5.1.1 The Great Lakes and St. Lawrence River basin has almost 160 species at risk, according to the Committee on the Status of Endangered Wildlife in Canada (May 2001). This is more than 40 percent of all the species at risk in Canada. The loss of species indicates that the health of ecosystems is deteriorating, and this can degrade our quality of life.

5.1.2 Many species in the basin are at risk because their natural habitat has been lost or degraded. Since the earliest days of settlement, many of the grasslands, forests, and wetlands that once covered this region have been lost and are now heavily fragmented. Southern Ontario and the St. Lawrence Valley have lost more than 70 percent of their wetlands—more than 95 percent, in certain areas.

5.1.3 National wildlife areas and migratory bird sanctuaries are important biological assets in the basin. They provide habitat for a variety of species, including species at risk, and four national wildlife areas are recognized internationally as significant wetlands.

Conservation takes long-term effort

5.1.4 Recovering species and spaces at risk requires long-term, sustained action. Anyone who has tried to maintain an aquarium at home knows the ongoing attention and fine-tuning required to support life. Wetlands are a case in point. Although they can be resilient and respond to change, they can be destroyed overnight—and restoring them is a tricky, expensive, and long-term prospect. The restoration of the Oshawa Second Marsh has spanned more than 25 years and could take as many more to complete.

The federal role and mandate

Protecting and recovering species at risk

5.1.5 The federal government's present mandate for species at risk is based on various pieces of federal legislation, including the *Canada Wildlife Act*, the *Department of the Environment Act*, the *Migratory Birds Convention Act*, the *Department of Fisheries and Oceans Act*, the *Fisheries Act,* and the *National Parks Act*. (The *Oceans Act* also forms part of the federal mandate, but it does not apply to freshwater ecosystems.)

5.1.6 In February 2001, the federal government introduced new legislation to protect wildlife species at risk in Canada. The proposed Act, known as the *Species at Risk Act*, specifies that the federal government would be responsible for the protection and recovery of migratory birds at risk (those that are listed in the *Migratory Birds Convention Act*), aquatic species at risk (species in

fisheries and marine mammals), and species at risk that live on federally owned lands. This accounts for roughly 60 percent of all threatened and endangered species in the basin.

Conserving habitat and wetlands

5.1.7 Conservation measures for habitat, including wetlands, are included in the *Canada Wildlife Act* (establishing national wildlife areas), the *National Parks Act* (establishing national parks), the *Fisheries Act* (protecting fish habitat), the *Canadian Environmental Assessment Act*, and the *Income Tax Act*. Migratory bird sanctuaries are established under the *Migratory Birds Convention Act*. In all migratory bird sanctuaries, the federal government regulates hunting activities. In sanctuaries on federal lands, it manages habitat as well, but not in sanctuaries on private or provincial lands. In a variety of its policies and plans, the federal government has made commitments to protect and restore habitat.

Conserving habitat through stewardship

5.1.8 The federal government, provincial and territorial governments, and interested groups outside government (including Aboriginal communities) have led a range of efforts to encourage stewardship—voluntary actions undertaken to conserve habitat. The federal government's legislative authority is outlined in the *Department of the Environment Act*, the *Canada Wildlife Act*, and the *Department of Natural Resources Act*. The government also uses the *Income Tax Act to* encourage voluntary land donations and conservation easements for ecologically sensitive lands, in return for income tax benefits and incentives. The Habitat Stewardship Program for Species at Risk and the Ecological Gifts Program are two examples of federal programs aimed at encouraging stewardship.

What we audited

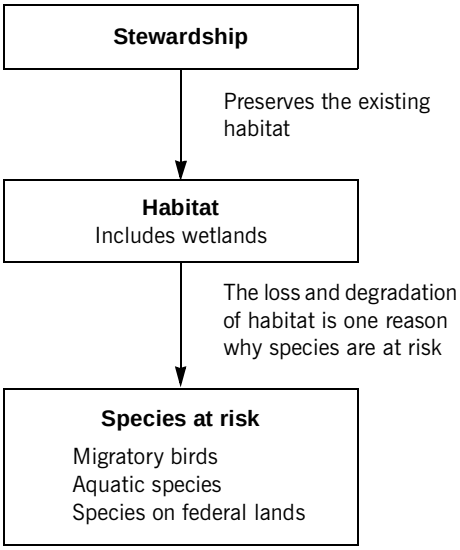
5.1.9 We examined three aspects of the federal government's efforts to conserve species and spaces at risk: to protect and recover species at risk (Subsection 5.2); to conserve wetlands habitat, including the management of national wildlife areas and migratory bird sanctuaries (Subsection 5.3); and to promote stewardship (Subsection 5.4).

5.1.10 One theme these aspects have in common is the importance of habitat. The loss and degradation of habitat, including wetlands, is one of the main reasons why species are at risk—without habitat, they cannot survive. Stewardship means preserving the habitat we still have (see Exhibit 5.1).

What we found

5.1.11 **Species at risk.** In theory, once a scientific determination is made that a species is at risk, the recovery process is straightforward. A lead agency is identified, a recovery plan developed, the plan's actions carried out by various stakeholders, the results tracked, and the plan adjusted. In practice, the scientific process is overburdened. In some cases, there is a need to clarify who leads what; the lead party cannot force unwilling partners to act; and, until recently, recovery efforts have been underresourced and results not measured and reported adequately.

Exhibit 5.1 **Without habitat there is no wildlife**



5.1.12 There are 50 species in the basin under federal jurisdiction that are threatened or endangered. These are rough estimates; there is no comprehensive inventory of all species on federal lands. Almost half of these species do not have recovery plans, despite federal commitments to prepare them. Historically, Fisheries and Oceans has not managed freshwater species at risk in the basin. However, as it gets more involved in recovery efforts, it will need to clarify its role in relation to provincial roles, especially where a province has already been active in recovering or protecting a freshwater fish.

5.1.13 Only 10 percent of the species under the federal government's jurisdiction in the basin have stable or improving populations; trends for the remaining 90 percent are either declining or not reported. Recovery plans and actions do not guarantee the recovery of a species. Recovery plans are not binding; recovery teams have no authority to ensure that they are carried out.

5.1.14 The federal government recognizes the need for federal species-at-risk legislation. However, meeting its commitments to pass such legislation continues to be a challenge. In 1997, its proposed *Canadian Endangered Species Protection Act* died on the order paper when a federal election was announced, as did Bill C-33 (the proposed *Species at Risk Act)* when the fall 2000 election was called. In February 2001, Bill C-5 (a revised version of the proposed Act) was introduced in the House of Commons.

5.1.15 In its February 2000 Budget, the federal government announced $180 million in national funding over five years for a new species-at-risk program, including stewardship initiatives. Despite this major increase in funding, the federal departments and agency involved in the program are concerned that there will be serious gaps.

5.1.16 Reporting of recovery actions has been incomplete and inconsistent. However, the federal government has developed comprehensive performance indicators for its new species-at-risk program. If progress measured by the indicators is reported consistently, it will be a significant improvement over current reporting.

5.1.17 **Wetlands.** The federal government has participated in restoring and protecting wetlands. While these activities are encouraging, there is not enough information on the current status of wetlands to say whether it is improving or getting worse. Environment Canada and Fisheries and Oceans are involved in efforts to improve the information on wetlands in both the Great Lakes and the St. Lawrence River.

5.1.18 National wildlife areas and migratory bird sanctuaries are important biological assets that are the responsibility of Environment Canada. Many of the national wildlife areas and migratory bird sanctuaries in the basin contain wetlands, some of international significance. However, Environment Canada lacks the personnel and financial resources to manage them effectively. Most management plans for national wildlife areas have not been updated since the early to mid-1980s. There is limited monitoring of public access to and use of national wildlife areas, and the federal government undertakes limited scientific research in them. Moreover, Environment Canada does not sufficiently enforce its regulations under the *Canada Wildlife Act* and the *Migratory Birds Convention Act* as they pertain to national wildlife areas and migratory bird sanctuaries.

5.1.19 There is no single federal department or agency formally responsible for wetlands. Designating a lead department or agency would strengthen accountability for monitoring, evaluating, and reporting federal action on wetlands.

5.1.20 **Stewardship**. Given the little amount of land it owns in the basin, the federal government needs to influence what happens on the land it does not own. To do this, it has made stewardship one of the three priorities of its national strategy to protect species at risk.

5.1.21 To that end, it is involved in 15 programs and initiatives that support stewardship in the basin; they offer financial support and incentives, rewards and recognition, and education and outreach services. However, it delivers these programs without a cohesive stewardship strategy. A strategy would ensure that the individual programs were focussed on complementary goals and their results could be reported consistently.

5.1.22 The performance of federally funded stewardship projects is measured and reported, but there is limited reporting of their longer-term outcomes. Nor does the federal government produce summary reports of its efforts, their costs, and the results they achieve. There is also limited reporting of habitat losses and the extent to which they offset the gains made by stewardship projects. This makes it difficult to determine the net benefits of stewardship projects and to know whether the state of habitat in the basin is getting better or worse.

What we recommend

5.1.23 Our findings show the need for better baseline information; clearer roles, commitments, and strategies; and better reporting on trends and results.

5.1.24 The federal government should develop better baseline information on species and spaces at risk, in the following ways:

- Environment Canada, Fisheries and Oceans, and Parks Canada Agency, with input from other federal landholding departments and agencies, should develop a comprehensive inventory of all species at risk under their jurisdiction, including those on federal lands in the basin. Where this information will not pose a threat to the protection of the species, they should make it publicly available.
- Environment Canada should comprehensively assess the environmental state and management of national wildlife areas and migratory bird sanctuaries in the basin.

5.1.25 The federal government should outline responsibilities and commitments and establish strategies for species and spaces, in the following ways:

- Environment Canada, Fisheries and Oceans, and Parks Canada Agency should ensure that recovery strategies developed for species at risk are implemented within a specified time frame. They should reassess the adequacy of funding provided for recovery actions and preventive measures, and present clear commitments consistent with the funding provided.
- Fisheries and Oceans, in consultation with other parties, should clarify its role and establish clear commitments for recovery of freshwater fish species at risk.
- With advice from the Federal Wetlands Forum, the federal government should identify a lead department for monitoring, evaluating, and reporting on federal actions related to wetlands.
- Environment Canada should prepare a strategy for effectively managing national wildlife areas and migratory bird sanctuaries in the basin.
- Environment Canada, with the participation of other federal organizations, should develop a federal strategy for all federal habitat stewardship programs in the basin.

5.1.26 To improve its reporting to Parliament and the public on the status of species and spaces at risk, the trends in their status, and the targets and results of its programs for their protection and recovery, the federal government should ensure the following:

- The department identified as the lead for wetlands should expand reporting on wetlands in the basin to include information on federal funding for wetlands conservation, the state of wetlands, and related trends in their status.
- Environment Canada should report regularly to the public on the state of national wildlife areas and migratory bird sanctuaries in the basin. Areas for reporting would include the state of their environmental

health, public access and use, scientific research, and enforcement activities.

- Environment Canada, with the participation of other federal departments and agencies, should produce an annual report on all federal habitat stewardship activities in the basin. The report should contain information on progress toward targets, the state of habitat and related trends, and longer-term outcomes so the net benefit of federal stewardship programs can be determined.

(See Summary for departmental responses.)

5.2 Protecting and Recovering Species at Risk

The issue

5.2.1 Species at risk are good indicators of the state of wildlife habitat and the health of our environment. Species at risk are our "canaries in the coal mine." There are almost 160 species at risk in the Great Lakes and St. Lawrence River basin—over 40 percent of all species at risk in Canada (May 2001).

5.2.2 A diversity of plants, mammals, and aquatic species helps to maintain the health and integrity of our environment. The loss of one or two key species that are fundamental to an ecosystem can severely disrupt it. The cumulative loss of species over time can make an ecosystem fragile and unable to adapt to change. One or two species lost may not seem significant, but continued losses of species over time degrade nature and, ultimately, our quality of life.

5.2.3 **The loss or degradation of habitat has put many species at risk.** Overhunting, overfishing, air and water pollution, and invasive species have all put species at risk. But the most common threat is the loss or degradation of habitat. For example, ongoing clearing of Carolinian forest habitat in southern Ontario has helped to put the Acadian flycatcher (a forest songbird) on the endangered list. The loss of wetlands habitat in the basin has contributed to the decline of species such as the king rail (a marsh bird) and the eastern massassauga rattlesnake.

5.2.4 Species are listed at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Its risk categories are based on the level of risk to survival of the species; the list ranges from species of special concern to those that have become extinct.

The federal role

5.2.5 Federal departments and agencies, particularly Environment Canada, Fisheries and Oceans, and Parks Canada Agency, deliver programs that are aimed at increasing public awareness of species and spaces at risk, promoting stewardship, conserving and protecting habitat, and recovering species at risk. Environment Canada provides a secretariat to COSEWIC and to the Recovery of Nationally Endangered Wildlife program.

5.2.6 At present there is no federal legislation that outlines federal responsibilities for protecting and recovering species at risk. However, the government is responsible for migratory bird species listed in the *Migratory Birds Convention Act*; fisheries species and marine mammals; and species such as plants, amphibians, and reptiles found on federal lands. Provincial governments are responsible for species outside federal lands and for migratory birds not covered by the *Migratory Birds Convention Act*.

5.2.7 In 1996, the federal, provincial, and territorial governments signed the National Accord for the Protection of Species at Risk in Canada. They agreed to develop recovery plans for endangered species under their own jurisdictions not more than a year after COSEWIC lists them and, for threatened species, within two years. They also agreed to "implement recovery plans in a timely fashion." The national recovery process is

co-ordinated by the federal–provincial-territorial Canadian Endangered Species Conservation Council established under the National Accord.

5.2.8 Recovery plans are important tools for organizing and directing recovery efforts. They set objectives, outline specific actions, and say who is responsible for taking those actions (either the federal or a provincial government, or organizations outside government). Leading the recovery of a species at risk includes preparing a recovery plan, setting up recovery teams, co-ordinating recovery actions, and monitoring and reporting the results.

5.2.9 The proposed *Species at Risk Act* would make Environment Canada responsible for the protection and recovery of migratory birds at risk and species at risk on federal lands (other than national parks). The Parks Canada Agency would be responsible for the protection and recovery of species at risk that are found in national parks, and Fisheries and Oceans for aquatic species. Under the Act, once a species was listed as threatened, endangered, or extirpated, prohibitions to prevent it from being killed or harmed and its residence from being destroyed would apply automatically where the species was under federal jurisdiction. The Act would also allow for a "safety net" where the species was not under federal jurisdiction: if the Minister of the Environment believed that a listed species was not protected by provincial or territorial legislation or regulation, the Minister would have to recommend to the Governor-in-Council that it order the prohibitions.

5.2.10 The proposed legislation would also incorporate the National Accord provisions on developing recovery plans, making the plans mandatory. However, the legislation would not make their implementation mandatory.

Our audit questions

5.2.11 Is the federal government meeting its commitments to develop and carry out recovery plans and to put forward federal legislation on species at risk? Are federal recovery efforts managed well? Are recovery actions working?

The story

Recovery plans are missing or not complete

5.2.12 Since 1988, the majority of recovery actions in Canada have been co-ordinated by the committee for the Recovery of Nationally Endangered Wildlife (RENEW). The committee, which has focussed primarily on terrestrial species, includes federal, provincial, and territorial wildlife directors and representatives of three national conservation organizations. Since the signing of the National Accord for the Protection of Species at Risk in 1996, RENEW has been in a transition period, redesigning its approach to co-ordination of recovery actions and expanding to include other species.

5.2.13 Between 1988 and 2000, RENEW approved 22 national recovery plans, 5 of them for species in the basin. By the end of 2000, another 30 plans (including 5 ecosystem plans) were at various stages of development; 16 of those are for species in the basin. The 21 plans that apply to the basin cover 35 of its 83 threatened and endangered species (42 percent).

5.2.14 There are 50 species in the basin under federal jurisdiction that are threatened or endangered; in 2000, 23 of them (46 percent) had no recovery

plan. These are rough estimates; there is no comprehensive inventory of all species on federal lands.

5.2.15 All 10 of the endangered and threatened migratory birds under federal jurisdiction in the basin have a recovery plan. But in 2000, six of the plans were still in draft form or needed updating.

5.2.16 There are 31 species at risk that are found on federal lands. In 2000, 13 of them (42 percent) were covered by a recovery plan.

5.2.17 Of the 9 endangered and threatened freshwater fish under federal jurisdiction in the basin, 4 are covered by a recovery plan; only one of those plans has been completed. This gap in recovery plans is due in part to the fact that historically, Fisheries and Oceans has not managed freshwater fish species at risk in the basin or acquired the necessary staff and expertise to do recovery work.

5.2.18 In the last two years, however, Fisheries and Oceans has been more active in the recovery of freshwater fish at risk in the basin. For example, in 2000 it got involved in the Sydenham River Ecosystem Recovery Program. The Sydenham River ecosystem (in southwestern Ontario) supports 12 species of fish and mussels that are threatened, endangered, or of special concern.

5.2.19 As Fisheries and Oceans becomes increasingly involved in the recovery of species at risk, including ecosystem recovery programs, it will need to clarify its role in relation to provincial roles. This will be especially important where a province has already been active in recovering or protecting a species of freshwater fish. Clarifying its role includes identifying who will be responsible and accountable for preparing and carrying out recovery plans, monitoring recovery actions, and reporting on results. (A broader discussion of Fisheries and Oceans' role in the basin is found in Subsection 6.5.)

5.2.20 The number of species under federal jurisdiction in the basin can be expected to change in the future as the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses and lists new species. The number of recovery plans can be expected to increase as a result of future recovery efforts.

Recovery efforts show mixed results

5.2.21 Despite the federal government's direct efforts and financial contributions, 40 percent of the threatened and endangered species under federal jurisdiction in the Great Lakes and St. Lawrence River basin continue to decline. Only 10 percent show stable or improving population trends. For the remaining 50 percent, population trends are not reported.

5.2.22 We recognize that the success of recovery actions depends on many factors, some of which are beyond the control of the federal government. The historic loss and degradation of habitat that has affected many species at risk cannot be reversed overnight. The state of knowledge of the threats facing species and our ability to overcome them are also factors.

Did you know?

- Number of species at risk in the basin in May 2001: **157**
- Number of these that are threatened or endangered: **83**
- Number of threatened and endangered species under federal jurisdiction: **50**
- Percentage of these that are covered by a recovery plan: **54**
- Percentage of these that have stable or improving populations: **10**
- Amount the federal government spent on species-at-risk recovery actions and habitat stewardship in the basin in 2000–01: **$2.7 million**
  amount it spent per year in the late 1990s: **$1 million**
  amount it spent per year in the early 1990s: **$250,000**
- Amount the federal government spent on species-at-risk recovery programs across Canada under the Recovery of Nationally Endangered Wildlife process, between 1988 and 2000: **$9.2 million**
- Number of people it employed in recovery programs: **213**
- Number of national recovery plans developed over the last 12 years, including five ecosystem plans: **52**
- Amount the federal government expects to spend on species-at-risk recovery programs across Canada between 2000 and 2005: **$180 million**
- Number of new recovery plans it plans to develop across Canada: **101**
- Number of related recovery actions it plans to implement across Canada: **48**

Peregrine falcons, a species downlisted from endangered to threatened in 1999, can be viewed from the Cap Tourmente National Wildlife Area.

5.2.23 Successful recovery depends on the participation of many parties such as the federal government, provincial governments, non-government organizations, industry, and local landowners. Achieving buy-in and co-ordinating efforts among these parties can slow down the recovery, planning and implementation process. Furthermore, recovery plans are not binding and the lead organization and recovery teams often have no authority to ensure that they are carried out.

5.2.24 Those factors aside, we observed aspects of the federal government's approach to species recovery that in our view, have contributed to the mixed results. They include the absence of a comprehensive inventory of species under federal jurisdiction, a need to clarify who leads what, and until recently, underresourced recovery actions and inadequate mechanisms for priority setting and internal review.

5.2.25 There have been successes. For example, the peregrine falcon (found not just in the basin but across Canada) was downlisted in 1999 from an endangered to a threatened species. Although uplisted from vulnerable to endangered in 1996, the prothonotary warbler (a migratory bird on federal lands) shows some recent signs of recovery—the adult population grew from 20 in 1996 to 46 in 1999. And recovery efforts have led to better scientific knowledge of the beluga whale and its habitat and to more public awareness about species at risk (see case study, The St. Lawrence beluga whale—Recovering a species at risk). In addition, the status of three species of plants at risk on federal lands is stable or improving. Despite the successes, however, all of these species still face extinction in Canada.

Reporting on recovery actions is incomplete and inconsistent

5.2.26 We reviewed progress reports on the federal flagship programs in the basin—Great Lakes 2000 and St. Lawrence Vision 2000. We also looked at national reports issued by the RENEW committee. We found that neither provided complete and consistent information on the following:

- the extent to which recovery plans have been carried out and the types of recovery actions under way;
- estimated populations of species, and population trends; and
- the state of habitat of species at risk.

Federal legislation on species at risk has not been passed

5.2.27 The federal government has made several commitments to pass federal legislation on species at risk. Meeting those commitments continues to be a challenge; the government has made two attempts. In 1997, the proposed *Canadian Endangered Species Protection Act* died on the order paper when a federal election was announced, as did Bill C-33 (the proposed *Species at Risk Act*) when the fall 2000 election was called. Bill C-5, a revised version of the proposed *Species at Risk Act,* was introduced in the House of Commons in February 2001.

The St. Lawrence beluga whale—Recovering a species at risk

Location. In the summer, the St. Lawrence beluga population is distributed along a 160-kilometre stretch of the St. Lawrence River near the Saguenay River, from Saint-Jean-Port-Joli to as far downstream as Forestville. In winter, it extends northeast into the Gulf of St. Lawrence.

Status. In 1983, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed the beluga as endangered, given the continuing and significant decline in its population. The beluga's status was re-evaluated in 1997 but remained unchanged.

Reasons for the decline. Hunting played a big role in the initial decline of the beluga. Between 1880 and 1950, when the 400-year-old beluga fishery was most intensive, around 15,000 beluga were removed from the St. Lawrence. Today, factors believed to limit population growth are contaminants, marine traffic (including whale watching), and alteration of habitat by, for instance, the construction of dams on rivers draining into the St. Lawrence River. Their small population and low reproductive rate make the beluga vulnerable to oil spills and viral outbreaks. Climate change is considered a long-term threat.

Population trends. The St. Lawrence beluga population is estimated at 1,000, using the most recent methodology. It was estimated at about 900 in 1988. Participants in the recovery plan note that population survey results are not significant enough statistically to represent changes in the beluga population. A recent DNA study indicates a low genetic variation in the population, which may be slowing the rate of recovery. Monitoring will have to continue for some time before population trends can be confirmed with confidence.

Achievements. A significant factor in the recovery of the beluga whale has been the creation of the St. Lawrence River Beluga Protection Regulations of the *Fisheries Act* (1979); they prohibit the hunting, killing, chasing, or deliberate disturbing of beluga whales. Continuing protection and recovery efforts have led to a better scientific knowledge of the beluga and its habitat, more public awareness, the creation of the Saguenay–St. Lawrence Marine Park, and a reduction in contaminants entering the St. Lawrence River. Recovery efforts have involved many partners, including Fisheries and Oceans, Parks Canada Agency, Environment Canada, the World Wildlife Fund, Group for Research and Education on Marine Mammals, the St. Lawrence National Institute of Ecotoxicology, Université du Québec à Montréal, Dalhousie University, McMaster University, and Alcan Inc.

Challenges. The recovery plan is not binding; the recovery team has no authority to ensure that it is carried out. The success of recovery efforts depends on available resources and the good will of stakeholders. The recovery of the beluga will require long-term monitoring and funding. Unfortunately, recovery efforts since 1988 have relied primarily on uncertain, year-to-year funding.

New federal initiatives under way will not close all gaps

5.2.28 In its February 2000 Budget, the federal government announced $180 million in national funding over five years for a new species-at-risk program (including stewardship initiatives). This is about nine times more funding than the government contributed for species recovery under the RENEW process from 1988 to 2000. Results expected from the new funding include better science and knowledge of species at risk, better listing, and recovery strategies for around 100 species at risk that are under federal jurisdiction.

5.2.29 The funding included $2.7 million to Environment Canada, Fisheries and Oceans, and Parks Canada Agency for species recovery actions and habitat stewardship in the basin in 2000–01. The funds have been targeted over the next five years at getting federal species-at-risk legislation passed ($2 million); strengthening COSEWIC ($10 million); developing institutional support for the national species-at-risk program ($15 million); a new Habitat Stewardship Program for Species at Risk ($45 million); existing programs in Environment Canada, Fisheries and Oceans, and Parks Canada Agency for species under federal jurisdiction ($95 million); and a new Interdepartmental Recovery Fund ($13 million).

5.2.30 Despite this major increase in funding, the federal departments and agency involved in the program are concerned that there will be serious gaps. For example, recovery strategies may not be developed for all species under federal jurisdiction, and half of the strategies that are developed may not be carried out (or only partly). Furthermore, the limited funding for preventive measures will limit the government's ability to protect species of special concern from the risk of extinction. In addition, Agriculture and Agri-Food Canada has expressed concern that the new initiatives do not address the need for increased scientific work in biosystematics and taxonomy to identify and classify species at risk and to develop meaningful indicators of population trends (particularly for insects, arachnids, and fungi).

Reporting of results is expected to improve

5.2.31 Environment Canada, Fisheries and Oceans, and Parks Canada Agency have prepared a framework for co-operative management that outlines their roles and responsibilities. The framework also sets out mechanisms for assessing and reporting on progress. They include annual progress reports to Parliament, annual recovery reports, reports on the Habitat Stewardship Program for Species at Risk and on the Interdepartmental Recovery Fund, a five-year report on the status of wildlife, and a five-year evaluation.

5.2.32 The commitment to a five-year evaluation is particularly important: no formal evaluation of the federal government's species recovery efforts has ever been undertaken. But there is no provision for an interim evaluation that would focus on improving the design and delivery of the species-at-risk program as a whole. An interim evaluation would give senior management an early indication of what is working and what is not, and whether there are more innovative, cost-effective ways to achieve federal goals.

5.2.33 **Performance indicators are balanced, clear, and meaningful.** The federal government has developed comprehensive performance indicators for its new species-at-risk program. They include population trends of endangered and threatened species, percentage of endangered and threatened species under federal jurisdiction that have a recovery strategy, number of recovery actions undertaken, progress toward the goals set in recovery strategies and action plans, trends in protection of critical habitat, and trends in enforcement activities and related outcomes. If progress

measured by the indicators is reported consistently, it will be a significant improvement over current reporting.

Conclusion

5.2.34 Over the last decade, the federal government's efforts to recover species at risk have had mixed results. With the new species-at-risk program, funding for species protection and recovery will increase and recovery efforts should improve significantly.

5.2.35 In theory, once a scientific determination is made that a species is at risk, the recovery process is straightforward. A lead agency is identified, a recovery plan developed, the plan's actions carried out by various stakeholders, results tracked, and the plan adjusted. In practice, the scientific process is overburdened. In some cases, there is a need to clarify who leads what; the lead party cannot force unwilling partners to act; and, until recently, recovery efforts have been underresourced and results not measured and reported adequately.

5.2.36 Although the federal government has a preliminary list, it has not prepared a comprehensive inventory of all species under its jurisdiction that are at risk.

5.2.37 As Fisheries and Oceans gets more involved in recovery efforts for species at risk, it will need to clarify its role in relation to provincial roles. This will be especially important where a province has already been active in recovering or protecting a freshwater fish species at risk.

5.2.38 The federal government is entering a transition period, with changes in its program for protecting and recovering species at risk. While we are encouraged by the framework for measuring results of the new program, we think an interim evaluation is warranted.

Our audit objectives and main findings

Holding the federal government to account		
❶ **Has the government fulfilled its commitments?**	**Commitments**	**Results**
	Develop recovery plans for threatened and endangered species under federal jurisdiction.	The government has developed recovery plans for 54 percent of threatened and endangered species under its jurisdiction.
	Achieve positive recovery trends for species at risk.	It has achieved positive recovery trends for 10 percent of species at risk under federal jurisdiction.
	Pass federal species-at-risk legislation (a national commitment with implications for the basin).	At the end of our audit, legislation was before Parliament for a third time.
	Not allow new species to become threatened or their status to deteriorate to endangered.	In May 2001, the Committee on the Status of Endangered Wildlife in Canada added two species in the basin to the endangered category and uplisted another from special concern to threatened.
Assessing the government's performance		
❷ **Has the government applied good management practices?**	**Strengths**	**Weaknesses**
	The government has identified risks (threats) to species at risk.	The government has not prepared a comprehensive inventory of species at risk on federal lands.
	It has outlined its priorities in *Canada's Strategy for Protecting Species at Risk*.	It has not reported population trend information for 50 percent of species under federal jurisdiction in the basin.
	It uses a variety of tools in recovery programs.	It has not evaluated its past efforts.
	Its performance measures for the new species-at-risk program are balanced, clear, and meaningful. It has identified targets for the development of recovery strategies and implementation of recovery actions.	
❸ **Has the government established good governance structures?**	The government's new co-operative management framework for the species-at-risk program outlines roles and responsibilities.	Fisheries and Oceans needs to clarify its role with Ontario and Quebec.
	Its future reporting mechanisms under the program are appropriate.	The government's past reporting has been incomplete and inconsistent.
	Environment Canada's 2001–02 *Report on Plans and Priorities* lists time frames, resources, expected results, and targets for the program.	

5.3 Conserving Wetlands

The issue

5.3.1 In the Great Lakes and St. Lawrence River basin, wetlands are under pressure from farming, urban development, and shoreline development. These activities can fragment, alter, degrade, or cause the loss of wetlands. Invasive species such as carp, purple loosestrife, and phragmites (common reed) also harm wetlands. Since the days of earliest settlement, more than 70 percent of wetlands in southern Ontario and the St. Lawrence River basin have been lost—in some areas, more than 95 percent.

Wetlands are one of the most productive ecosystems in the basin.

Many coastal wetlands in the basin have been lost or degraded since the first days of European settlement.

5.3.2 Wetlands are among the most productive ecosystems in the basin, providing habitat, food, and protection to many species. In the Great Lakes and St. Lawrence River basin these include species at risk, such as the spiny softshell turtle, the king rail (a marsh bird), Fowler's toad, and the eastern fox snake. Wetlands are also important to commercial and recreational fisheries—many species in the basin depend on wetlands for reproduction.

5.3.3 Wetlands can improve water quality, provide natural flood controls, store water in times of drought, recharge groundwater aquifers, and protect shorelines from storm damage. Wetlands also offer recreational and economic benefits by providing areas where people hike, birdwatch, canoe, fish, and hunt.

The federal role

5.3.4 Wetlands in the basin are generally under provincial jurisdiction. Where they are on federally owned lands—national wildlife areas and national parks, for example—they are protected by Environment Canada and the Parks Canada Agency. The federal government regulates hunting activities in migratory bird sanctuaries, which contain a variety of habitats, including wetlands. Migratory bird sanctuaries can be owned by the federal government, provincial governments, or private landowners. The federal government manages habitat only when sanctuaries are located on federal lands.

5.3.5 The federal government also protects against the loss of wetlands under section 35 of the *Fisheries Act* as well as the *Canadian Environmental Assessment Act*. Under the *Income Tax Act*, it encourages voluntary land donations and conservation easements involving ecologically sensitive lands, including wetlands, in return for income tax benefits.

5.3.6 The federal government provides funding and scientific advice to wetlands restoration projects, undertakes public awareness campaigns and outreach activities, participates in wetlands research projects, and supports training in wetlands restoration and environmental assessment. Selected wetlands restoration efforts in the basin are reflected in the federal Great Lakes 2000 and St. Lawrence Vision 2000 ecosystem programs and the Eastern Habitat Joint Venture (of the North American Waterfowl Management Plan). In the Great Lakes, wetlands are being restored under the Great Lakes Wetlands Conservation Action Plan, the first such plan produced under the 1993 Strategic Plan for Wetlands of the Great Lakes basin (there is no equivalent wetlands plan for the St. Lawrence River basin). The federal government has also prepared a federal policy on wetlands conservation. Provincial and local governments and organizations outside government also play a role in wetlands restoration in the basin.

Our audit questions

5.3.7 Does the federal government ensure that national wildlife areas and migratory bird sanctuaries are managed well?

5.3.8 Does it know to what extent it is meeting its goals and objectives for wetlands conservation in the Great Lakes and St. Lawrence River basin?

5.3.9 Does the federal government have enough information to make sound decisions about wetlands activities? Does it report the results of its efforts in the basin's wetlands?

The story

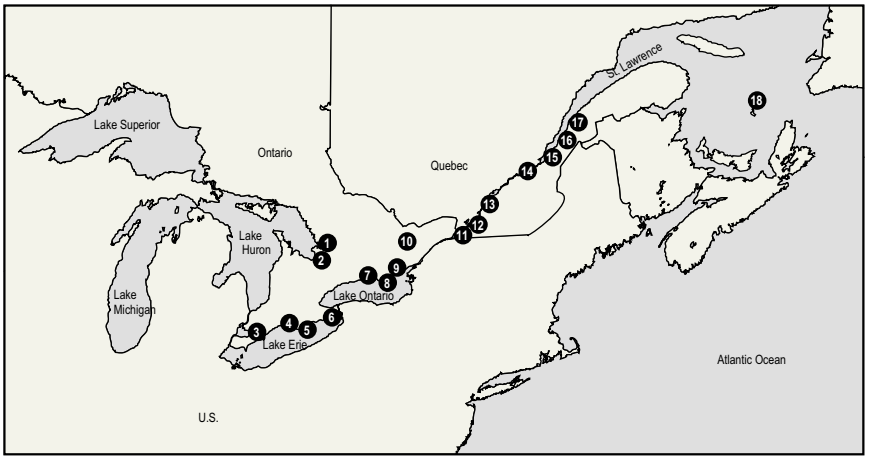
Important biological assets in the basin

5.3.10 In the geographic area covered by this audit there are 14 national wildlife areas (see Exhibit 5.2) and 21 migratory bird sanctuaries, covering over 22,800 hectares. Four of the wildlife areas are also "Ramsar" sites, indicating that they are recognized internationally under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. Several national wildlife areas have also been designated as important bird areas and monarch butterfly reserves. The Long Point National Wildlife Area is the core of the Long Point Biosphere Reserve.

Environment Canada's capacity to enforce restrictions in national wildlife areas is limited.

Because resources are limited, volunteers play an important role in delivering interpretation services in the Lac Saint-François National Wildlife Area.

Exhibit 5.2 National wildlife areas in the Great Lakes and St. Lawrence River basin



1	Eleanor Island (MBS)	**10**	Mississippi Lake (MBS)	BR	Biosphere reserve
2	Wye Marsh	**11**	Lac Saint-François (RS)	IBA	Important bird area
3	St. Clair (IBA, RS)	**12**	Îles de la Paix (MBS)	MBS	Migratory bird sanctuary
4	Big Creek	**13**	Îles de Contrecoeur	MBR	Monarch butterfly reserve
5	Long Point (BR, IBA, MBR, RS)	**14**	Cap Tourmente (IBA,RS)	RS	Ramsar site
6	Mohawk Island	**15**	Îles de l'estuaire (MBS)*		
7	Wellers Bay	**16**	Baie de l'Isle-Verte (MBS, RS)*	*	Outside geographic scope of audit.
8	Scotch Bonnet Island	**17**	Pointe-au-Pêre*		
9	Prince Edward Point (IBA, MBR)	**18**	Pointe-de-l'Est*		

Source: Canadian Wildlife Service, Environment Canada

National wildlife areas and migratory bird sanctuaries are at risk

5.3.11 The federal government is fully responsible for national wildlife areas. Yet Environment Canada lacks the personnel and financial resources to manage them effectively. Their environmental health is threatened as a result. We observed the following weaknesses in the federal government's care of national wildlife areas:

- Most management plans, including those for key wetlands such as Long Point, St. Clair, and Lac Saint-François, have not been updated since the early to mid-1980s. A management plan typically outlines objectives and goals for the national wildlife area and plans for enforcement, biological management, and public awareness activities. These plans also contain summaries of biological resources in the national wildlife areas, such as vegetation, mammals, birds, reptiles, amphibians, and fish.
- Environment Canada does not have comprehensive, up-to-date inventories of species living in national wildlife areas—including species at risk.
- There is limited monitoring and reporting of public access and use of national wildlife areas.
- The federal government undertakes limited scientific research in national wildlife areas. It has not assessed the stresses on them and the impact of those stresses on their environmental health.

- Environment Canada does not sufficiently enforce its regulations under the *Canada Wildlife Act* as they pertain to national wildlife areas.
- The federal government risks not meeting its international commitment to maintain the ecological character of each Ramsar site in the basin and ensure that the natural state of each is preserved for future generations.

The case study Management of selected national wildlife areas in the basin gives further details.

Management of selected national wildlife areas in the basin

In the Ontario region, the total operating budget for all 10 national wildlife areas in 1999–2000 was $83,000, with four full-time-equivalent staff devoted to wildlife and habitat management. With so few people managing 10 areas, management practices have not been consistent. Only the Long Point and St. Clair national wildlife areas have federal staff on site; Environment Canada visits the others about once a month. In contrast, in 1979 the Long Point National Wildlife Area alone employed three full-time wardens, two part-time wardens, one site biologist, one habitat technician, and 12 students.

In the Quebec region, the total operating budget for all eight national wildlife areas in 1999–2000 was $102,000, with five full-time staff devoted to wildlife and habitat management. In Quebec, we also observed that Environment Canada lacks the capacity to manage all its national wildlife areas effectively. For example, the Lac Saint-François National Wildlife Area, a Ramsar site, has a management plan dating back to 1986 and no federal staff on site.

Given that the mandate of national wildlife areas is exclusively for protection of wildlife and not for recreational use, there are not many opportunities to generate revenue. Some—for example, Cap Tourmente in Quebec—have been able to combine wildlife protection with activities such as public education and outreach programs that produce revenue.

National wildlife areas are receiving more visitors as they become better known, placing more pressures on these already sensitive environments. Furthermore, designating them as Ramsar sites and/or important bird areas has increased the demand for more public access and more information (particularly on Canada's fulfilment of international agreements). The federal government has not increased its resources in these areas to meet the demands.

5.3.12 We have similar concerns about migratory bird sanctuaries. In particular, Environment Canada does not have comprehensive, up-to-date inventories of species that use migratory bird sanctuaries—including species at risk. It has not assessed or reported stresses on these areas, and it does not adequately enforce regulations under the *Migratory Birds Convention Act* as they pertain to migratory bird sanctuaries. In addition, it is not using these designated sanctuaries to their full potential as tools to promote stewardship; they are not integrated with federal stewardship programs.

Meeting targets for wetlands in the basin

5.3.13 The federal government claims that since 1993 its efforts, with those of its provincial partners and others outside government, have created, reclaimed, or rehabilitated over 14,100 hectares of wetlands in the Great

Lakes basin and secured over 4,400 hectares. This represents 62 percent of the 30,000-hectare goal set in the 1993 Strategic Plan for Wetlands of the Great Lakes Basin.

5.3.14 Commitments under the St. Lawrence Vision 2000 program cover wildlife habitat in general and not wetlands specifically. However, wetlands are included in the program's targets for habitat protection. Between 1988 and 1998 (phases I and II), the program's partners claim to have protected 12,200 hectares of wildlife habitat in the St. Lawrence River basin (200 hectares more than the target). As part of the St. Lawrence Vision 2000 program's phase III (1998 to 2003), program partners claim to have protected 100,700 hectares of habitat at March 2001 (the goal for phase III is 120,000 hectares).

5.3.15 The targets of Great Lakes 2000 and St. Lawrence Vision 2000 have been met in part through federal contributions to finance wetlands projects in the basin. Funding for these projects came from the Great Lakes 2000 Cleanup Fund, the EcoAction Community Funding Program, and the Community Interaction program. The Ecological Gifts Program has also contributed to conserving wetlands in the basin.

5.3.16 The biggest federal contribution has been through the Great Lakes 2000 Cleanup Fund, which gave roughly $23.9 million to habitat restoration projects from 1990 to 1999. Projects that focussed on wetlands got $11.6 million of that, or 48 percent. The two largest Cleanup Fund projects have been the restorations of Cootes Paradise and Hamilton Harbour ($7.2 million) and the Oshawa Second Marsh ($1.6 million).

5.3.17 Wetlands conservation is also being accomplished through programs outside of the basin's ecosystem initiatives, including the Eastern Habitat Joint Venture (of the North American Waterfowl Management Plan). From 1986 through 2000, roughly 244,000 hectares of predominately wetlands habitat in southern Ontario and southern Quebec were protected through this joint venture.

5.3.18 The benefits of wetlands restoration projects include community participation, increased public awareness of wetlands and the environment in general, and better knowledge of wetlands restoration techniques. Increased public awareness is a stated goal of both the Federal Wetlands Policy and the Great Lakes Wetlands Conservation Action Plan.

5.3.19 Important lessons learned from wetlands restoration projects include the following:

- Restoring the biological diversity of degraded wetlands is a long-term endeavour that can be hard to achieve.
- Restoring wetlands is more expensive than preventing their degradation in the first place.
- Long-term monitoring is needed to determine whether restoration activities are working.
- Influencing behaviour in the broader watershed of a wetland is essential to the long-term success of restoration projects.

- Wetlands restoration is an emerging science that involves adaptive management.

Are wetlands improving or getting worse?

5.3.20 Although the federal government is contributing to wetlands restoration and protection in the basin, recent overall trends are unknown. Less information is available on some wetlands than on others in the basin; there are important gaps in information on their size, losses or gains, and state of health. Where information has been compiled, inconsistent methods have been used. This makes it hard to compare the state of wetlands in different areas and to determine trends in their health (see Exhibit 5.3).

5.3.21 As a result, the government cannot determine and report the net benefit of its contribution or the net change in the state of the basin's wetlands. It is unable to determine and report whether it is achieving the objective stated in the Strategic Plan for Wetlands of the Great Lakes Basin, namely, "no net loss of Great Lakes coastal wetlands."

Closing gaps in the information on wetlands

5.3.22 The federal government is taking part in several initiatives to close the gaps in information on wetlands and resolve the inconsistencies in data collection. For example, Environment Canada and Fisheries and Oceans both participate in the Great Lakes Wetlands Consortium. Led by the Great Lakes Commission, a binational agency for the eight Great Lakes states with associate member status for Ontario and Quebec, the Consortium is a large-scale collaborative effort to design a long-term monitoring program for Great Lakes coastal wetlands. Environment Canada is also involved in developing a Web-based inventory of wetlands in the Great Lakes.

5.3.23 In Quebec, the St. Lawrence Centre of Environment Canada is leading a program to record how wetlands vegetation along the St. Lawrence River has changed since 1980. Researchers will use that information to try to identify possible causes of change, such as changing water levels, erosion, encroachment, and habitat restoration.

5.3.24 It will be important that these initiatives use consistent methods to collect information so the state of wetlands and the related trends can be compared throughout the basin.

Contribution of legislation not well understood

5.3.25 The *Fisheries Act* and the federal fish habitat policy deal with the protection of fish habitat in the basin, which includes wetlands. However, Fisheries and Oceans has not assessed whether it is achieving the goal of no net loss of fish habitat, and it has not measured its progress in protecting fish habitat. Although Fisheries and Oceans has a Habitat Management Program Renewal project under way to revamp its management of fish habitat, it is too early to say what impact it will have on wetlands.

Did you know?

- Number of national wildlife areas and migratory bird sanctuaries in Ontario and Quebec: **56**
ranging from James Bay to the Gulf of St. Lawrence, number of hectares they cover: **about 109,000**
number of full-time people taking care of them: **9**
total operating and maintenance budget in 1999–2000: **$185,000**
total operating and maintenance budget per hectare: **about $2**

- Percentage of national wildlife areas designated as Ramsar sites that have management plans dating from the early to mid-1980s: **75**

- Number of species at risk in the Long Point National Wildlife Area (NWA): **49**
number in the Lac Saint-François NWA: **35**
number in the Cap Tourmente NWA: **17**
number in the St. Clair NWA: **13**
number in the Prince Edward Point NWA: **11**

Exhibit 5.3 **Are wetlands improving or getting worse?**

Wetlands	Percentage lost	Time period
Lake Superior	Not available	
St. Marys River	No significant losses reported although recent losses have occurred	
Lake Michigan	Not available	
Lake Huron	Not available	
Severn Sound	18% to 68% in certain areas	1951 to early 1990s
St. Clair River	Not available	
Lake St. Clair	42%	Pre-settlement to 1978
Detroit River	Not available	
Lake Erie	Not available	
Point Pelee Marsh, Lake Erie	71%	1880 to mid-1970s
Niagara River	Not available	
Lake Ontario	Up to 100% in certain areas	Pre-settlement to 1990
Between Niagara River and Toronto	73% to 100%	Pre-settlement to 1979
Between Toronto and Presqu'ile	32%	Pre-settlement to 1980s
Between Presqu'ile and Bay of Quinte	8%	Pre-settlement to 1980s
Bay of Quinte to St. Lawrence River	43%	Pre-settlement to 1980s
St. Lawrence River (Ontario)	Not available	
St. Lawrence River (Quebec)	Up to 29% in certain areas	1945 to 1978

5.3.26 Environment Canada developed and provided training materials on how the *Canadian Environmental Assessment Act* applies to wetlands. However, the federal government has done little analysis of the extent to which the Act has contributed to protecting wetlands or mitigating losses.

Federal Wetlands Forum recently established

5.3.27 No one federal department or agency is responsible for monitoring, evaluating, and reporting on all federal activities related to wetlands. A Federal Wetlands Forum was established recently to provide a co-ordinated approach to achieving federal objectives for wetlands conservation. The

Forum is currently preparing an action plan to guide its activities, including a proposed review of the positive and negative impacts of federal programs and policies on wetlands.

Reporting in the basin is fragmented

5.3.28 Information on wetlands is provided in a variety of reports. The most comprehensive information is in the two progress reports prepared so far under the Great Lakes Wetlands Conservation Action Plan. In a reader-friendly way, they document progress toward goals and milestones in the action plan, including key activities and accomplishments.

5.3.29 However, the action plan reports cover only the Great Lakes part of the basin. Moreover, they omit certain facts that would make for more complete and transparent reporting. For example, the reports do not cover the status and trends of wetlands. Nor do they document the impact on wetlands of such federal tools as the habitat protection provisions of the *Fisheries Act*, environmental assessments, and the Ecological Gifts Program. And the reports do not show the federal government's financial contributions to the action plan achievements.

Phragmites (common reed) is an invasive species that threatens wetlands throughout the basin.

Invasive species are threatening wetlands

5.3.30 Invasive plant species—such as purple loosestrife, phragmites, European frog-bit, and glossy buck thorn are threatening the biological diversity of wetlands in the basin. These species develop into monospecific stands—large areas of just one species that crowd out other wetlands species. Wetlands in the Basin are also susceptible to aquatic invasive species such as zebra mussels and carp.

5.3.31 The Canadian Wildlife Service of Environment Canada is the most active federal presence in combating the threat of invasive species in wetlands. However, federal efforts so far have not been co-ordinated and have not been adequate to manage the threat of invasive species. An interdepartmental committee on invasive species was established in January 2000 to clarify the roles and responsibilities of federal departments and develop a national strategy for dealing with invasive species. At the time of this audit, the national strategy had not been completed.

Conclusion

5.3.32 National wildlife areas and migratory bird sanctuaries are important biological resources in the basin. They contain a wide variety of habitats, including wetlands. We are concerned about the way they are managed. We conclude that the ecological integrity of these areas is at risk and their potential as a conservation tool is unfulfilled. Environment Canada lacks the personnel and financial resources to manage them well.

5.3.33 Since the basin was first settled, many wetlands have been lost or degraded. In response, the federal government has participated in restoring and protecting wetlands. While these activities are encouraging, there is not enough information on the current status of wetlands to say whether it is improving or getting worse. Environment Canada and Fisheries and Oceans

are involved in efforts to improve the information on wetlands in both the Great Lakes and the St. Lawrence River.

5.3.34 In our view, the progress report of the Great Lakes Wetlands Conservation Action Plan is a useful report. However, it could be expanded to provide a more complete picture of federal activities and their results.

5.3.35 There is no single federal department or agency formally responsible for wetlands. Designating a lead department or agency would strengthen accountability for monitoring, evaluating, and reporting federal action on wetlands.

Our audit objectives and main findings

Holding the federal government to account		
❶ **Has the government fulfilled its commitments?**	**Commitments**	**Results**
	Restore and protect 30,000 hectares of wetlands in the Great Lakes basin by 2020.	Combined efforts of federal and provincial governments and non-government organizations have restored and protected 18,500 hectares.
	Protect 132,000 hectares of habitat, including wetlands in the St. Lawrence River basin (phases I, II, and III of St. Lawrence Vision 2000).	Combined efforts of federal and provincial governments and non-government organizations have restored and protected almost 113,000 hectares (March 2001).
	Increase public awareness and commitment to protecting wetlands.	The government has encouraged public participation in restoration and protection initiatives, increased public awareness of wetlands, and improved understanding of wetlands restoration techniques.
Assessing the government's performance		
❷ **Has the government applied good management practices?**	**Strengths**	**Weaknesses**
	The government knows the risks and threats to wetlands. Great Lakes 2000 has clear priorities and expected results (targets) for wetlands. St. Lawrence Vision 2000 has clearly stated priorities and expected results (targets) for habitat, including wetlands. The government is applying a wide range of tools (such as protected areas, funding programs, education and awareness, research) to conserve wetlands.	The government is lacking information on the number and size of wetlands, up-to-date trends in wetlands losses and gains, and the quality and health of wetlands. It evaluated, in a limited way, certain tools (such as legislative provisions). Environment Canada lacks the personnel and financial resources to manage national wildlife areas and migratory bird sanctuaries effectively.

Our audit objectives and main findings

Assessing the government's performance		
❸ **Has the government established good governance structures?**	The two progress reports under the Great Lakes Wetlands Conservation Action Plan document in a user-friendly and transparent way the progress toward goals and milestones established in the action plan. However, they focus only on the Great Lakes basin. Federal contributions to restore and protect wetlands (for example, through Great Lakes 2000 Cleanup Fund, Community Interaction program) are accounted for adequately.	The government lacks summary reporting on the status and trends of wetlands, the impact of federal tools (for example, *Fisheries Act*, *Canadian Environmental Assessment Act*, and Ecological Gifts Program), and federal contributions to conserve wetlands.

5.4 Conserving Habitat Through Stewardship

The issue

5.4.1 The loss or degradation of habitat has affected roughly 80 percent of the species at risk in Canada. Activities that conserve habitat can therefore be important to protecting and recovering species at risk and ensuring that others are not threatened. These activities range from enhancing habitat (planting trees, cleaning up marshes and shorelines, installing nesting boxes) to securing habitat (by using conservation easements, for example, which may restrict development in areas of wildlife habitat in exchange for tax benefits to the donor).

Stewardship can be as simple as using fences to keep cattle away from streams and wetlands.

5.4.2 Stewardship is the term the federal government uses for voluntary actions that individuals, communities (including Aboriginal communities), industries, and non-profit organizations undertake to help conserve habitat. Through various stewardship programs, the federal government encourages voluntary actions by providing financial incentives, rewards, and recognition. Stewardship programs can also include public education and outreach. The federal government has stated that stewardship is its preferred approach to conserving habitat for the protection and recovery of species at risk.

5.4.3 Examples of stewardship activities in the Great Lakes and St. Lawrence River basin that benefit species at risk include the following:

- Encouraging private landowners to protect woodland habitat that certain migratory birds at risk need for survival—the hooded warbler and acadian flycatcher, for example.
- Installing nest boxes for species of birds at risk, such as the prothonotary warbler.
- Erecting fences that keep cattle out of streams and ponds to protect shoreline and wetlands habitat.

The federal role

5.4.4 All levels of government, including the federal government, play an important role in encouraging stewardship. Private landowners, organizations outside government, natural resource industries, and Aboriginal groups also encourage and carry out stewardship activities.

5.4.5 A number of federal departments and agencies promote stewardship in the Great Lakes and St. Lawrence River basin, including Environment Canada, Fisheries and Oceans, Agriculture and Agri-Food Canada, and Parks Canada Agency. Environment Canada has the leading role. One of the stated commitments of the National Accord for the Protection of Species at Risk is to recognize, foster, and support effective and long-term stewardship by resource users and managers, landowners, and other citizens.

Our audit questions

5.4.6 What commitments has the federal government made to encourage stewardship? What is it doing to keep those commitments?

5.4.7 Is the government using good management and governance practices in its Habitat Stewardship Program for Species at Risk?

5.4.8 Does it have enough information on habitat to make good stewardship decisions? Does it report the achievements of stewardship programs in the basin?

The story

The federal government promotes a voluntary approach

5.4.9 Overall, the federal government owns and manages very little of the land in the Great Lakes and St. Lawrence River basin. Including protected areas such as national parks and national wildlife areas, federal land accounts for about one percent.

The federal government has supported many stewardship initiatives such as this one in southwestern Ontario.

5.4.10 The federal government has recognized that to conserve habitat and protect and recover species at risk, it has to influence what happens on the land it does not own. To do this, it has made stewardship one of the three priorities of its national strategy to protect species at risk. To that end, it is involved in 15 programs and initiatives that in one way or another support stewardship. These programs, collectively, use a range of techniques including financial support and incentives, rewards and recognition, and education and outreach services.

5.4.11 Examples of stewardship programs and initiatives involving the federal government include funding programs such as EcoAction, the Great Lakes 2000 Cleanup Fund, and the Community Interaction program that support a variety of environmental priorities, including stewardship; programs that focus specifically on the stewardship of habitat, such as the EcoGifts Program and the Habitat Stewardship Program for Species at Risk; public outreach activities such as those related to Parks Canada Agency's approach to park ecosystem management; and support for rewards and recognition programs such as Countryside Canada and the Forest Stewardship Recognition Program. The case study Oshawa Second Marsh—Lessons learned from a successful partnership provides a good example of how stewardship works.

The new Habitat Stewardship Program for Species at Risk

5.4.12 The federal government introduced its Habitat Stewardship Program for Species at Risk in summer 2000. This is the most significant federal stewardship program for species at risk announced so far, with $45 million allocated across Canada over five years. The program supports the promotion of land use practices that maintain habitat critical to recovering threatened and endangered species. It is also a preventive program, helping to carry out plans for managing species of concern before they become species at risk. Environment Canada, Fisheries and Oceans, and Parks Canada Agency manage the program together.

5.4.13 The Habitat Stewardship Program for Species at Risk is a "directed" program, funding only projects aimed at identified priorities. Projects must meet specific eligibility requirements; they must also apply directly to existing recovery or action plans for threatened or endangered species or to existing management plans for species of special concern. The program will provide long-term funding (such as three years) for eligible projects.

Many partners have been restoring the Oshawa Second Marsh for over 25 years.

Oshawa Second Marsh—Lessons learned from a successful partnership

The Oshawa Second Marsh has been described as the best remaining example of a cattail marsh along the western shore of Lake Ontario. Since the early 1970s, human activities have degraded the marsh significantly, mainly by the land use in the surrounding watershed.

Many partners in the community have helped to restore the marsh. Environment Canada has provided leadership and financial support through the Great Lakes 2000 Cleanup Fund and EcoAction Community Funding Program.

Recently, each partner has been establishing its own niche, assuming responsibility for the efforts in its area of expertise. At the same time, they all recognize the importance of continuing to share information.

The restoration efforts have been a community success. The partnership has reached out to the public and garnered public, business, and municipal support. There is widespread awareness about the marsh in the community. School groups, volunteers, and cub and scout groups have participated; 200 to 300 school children visit the marsh each year.

The Oshawa Second Marsh restoration project is an example of an ecosystem-based approach—the entire ecosystem benefits, not just targeted species. The marsh is not being restored to benefit only migratory waterfowl or migratory shorebirds. They will benefit, but as inhabitants of a wetland restored to health.

The partners have recognized the importance of adaptive management—learning as they go. Restoring and maintaining the delicate balance of a healthy wetlands ecosystem has proved to be a complex challenge. It is clear that no matter what is done to restore the marsh, success in the long run will depend on how the entire watershed is managed. The management and stewardship of the surrounding watershed are key to restoring and sustaining a healthy marsh and are the current focus of the partners' efforts.

The federal government's funding of $1.7 million over 10 years (from the Cleanup Fund and EcoAction) has been an invaluable support for the necessary but less satisfying restoration efforts (such as dredging) that other partners might not have funded. However, the volunteer organizations in the partnership are concerned about having no core funding to cover overhead costs and sustain the present network in the future.

5.4.14 Our review of the program found that it features many of the elements of good management. Our concern is that performance targets have yet to be established for the program. This includes targets for recovering species at risk and preventing new species from being listed. Environment Canada has informed us that once critical habitat is identified, the program will set those targets.

Evaluation and reporting of longer-term outcomes can be improved

5.4.15 We reviewed a sample of stewardship projects that received financial support from the Great Lakes 2000 Cleanup Fund, EcoAction Community Funding Program, the Community Interaction program, and the Habitat Stewardship Program for Species at Risk. We found that those projects have a significant amount of information on habitat, and they use it to set priorities and target stewardship activities and habitat conservation efforts.

5.4.16 Our review of project reports identified over 25 performance measures that are used, ranging from habitat restored to the number of "handshake agreements" with landowners. At the project level, project partners are measuring and reporting on performance. However, there is no summary reporting of the results achieved through the projects. To get a complete picture of the stewardship activities funded through these programs, for example, a person would have to search through the records of each funding program. This lack of summary-level reporting makes it hard to determine the full scope and cost of federally funded activities and the results they have achieved.

5.4.17 With the exception of the projects funded under the new Habitat Stewardship Program for Species at Risk, we are concerned about the limited monitoring and reporting of the longer-term outcomes of stewardship projects. These outcomes include the success of restoration and planting projects, for example, and the fate of habitat protected through handshake agreements. One promising approach that Agriculture and Agri-Food Canada is using in its Countryside Canada program is a before-and-after survey that aims to measure the increase in awareness of and participation in stewardship activities in the agriculture sector.

Did you know?

- Percentage of species at risk that are affected by habitat loss or degradation: **80**
- Percentage of Ontario and Quebec land that the federal government owns: **about 1**
- Number of federal departments and agencies that are involved in stewardship programs in the basin: **8**
- Number of stewardship programs and initiatives in the basin that involve the federal government: **15**
- Number of indicators that are used to measure and report on stewardship activities: **25**
- Number of reports that summarize results of federally supported stewardship activities: **0**

5.4.18 One indicator typically reported at the project level is the number of hectares of habitat restored or protected. However, there is limited monitoring and reporting of overall loss and degradation of habitat. This makes it difficult to determine whether the habitat conserved through stewardship projects is offset by habitat losses and degradation caused by urbanization, agricultural practices, and invasive species, for example. There is also limited reporting of habitat loss at the basin-wide level, which makes it difficult to determine the net benefit of federal efforts and to know whether the state of habitat in the basin is getting better or worse.

5.4.19 We also reviewed the Wetlands/Woodlands/Wildlife (3W) Program (part of the Canada–Ontario agriculture green plan). This was a successful program that prompted many farmers in the basin to adopt sustainable farming practices. Unfortunately, many of the lessons learned in delivering the program were not captured, and longer-term outcomes have not been assessed.

No cohesive federal approach to stewardship in the basin

5.4.20 In addition to looking at the management of specific federal programs that support stewardship, we looked more broadly at how the federal government manages its overall approach to stewardship. We found that there is no federal strategy to guide its efforts in the basin. A strategy would ensure that the individual programs were focussed on complementary goals and their results could be reported consistently.

5.4.21 At the national level, the Canadian Wildlife Service and its provincial and territorial partners began preparing a Canada-wide stewardship action plan in 1999. The purpose of the action plan is to promote and guide the stewardship efforts of the federal, provincial, and territorial governments; the

natural resources sectors; and others. At the end of our audit, consultations were planned to develop the action plan further and complete it in the spring of 2002. Further, in its 2001–02 *Report on Plans and Priorities*, Environment Canada noted that one of its priorities is to develop a natural legacy agenda in collaboration with other government departments, provincial and territorial governments, and other partners. The purpose of this agenda will be to advance conservation and stewardship of Canada's landscapes and seascapes. Whether these initiatives will serve as a suitable strategy for linking individual federal stewardship efforts remains to be seen.

Conclusion

5.4.22 The federal government owns less than one percent of land in the basin. It has recognized that to conserve habitat in the basin as whole, it has to influence what happens on the 99 percent of land that it does not own. To do this, a variety of federal departments and agencies are involved in 15 stewardship programs that encourage landowners to voluntarily conserve habitat.

5.4.23 The new habitat stewardship program has elements of successful management.

5.4.24 The performance of federally funded stewardship projects is measured and reported, but there is limited reporting of their longer-term outcomes. There is also limited reporting of habitat losses and the extent to which they offset gains made by stewardship projects. This makes it difficult to determine the net benefit of stewardship projects and to know whether the state of habitat in the basin is getting better or worse.

5.4.25 The federal government does not have a strategy to guide its stewardship efforts in the basin. Nor does it produce summary reporting of its efforts, their costs, or the results they achieve.

Our audit objectives and main findings

Holding the federal government to account		
1 **Has the government fulfilled its commitments?**	**Commitments**	**Results**
	Promote and encourage practices leading to the preservation and enhancement of the environment.	Stewardship is one of three priorities identified in the National Strategy for Protecting Species at Risk. Eight federal departments and agencies are involved in 15 stewardship programs in the basin. The government is achieving results, but it is very difficult to get an overall picture of its performance as there is no meaningful summary-level information on results of federal stewardship programs.

Our audit objectives and main findings

Assessing the government's performance		
❷ **Has the government applied good management practices?**	**Strengths**	**Weaknesses**
	The government has significant amounts of information on habitat at the project level. It is measuring and reporting activities and results at the project level. The new Habitat Stewardship Program for Species at Risk has elements of successful management.	The government does limited reporting on longer-term outcomes and ongoing habitat loss. It has no meaningful summary-level information on results of its stewardship programs.
❸ **Has the government established good governance structures?**		The government lacks a basin-wide or national strategy to guide its stewardship programs.