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Report of the
**Commissioner of the
Environment and
Sustainable Development**
to the House of Commons

Great Lakes and St. Lawrence River Basin

Chapter 1

**A Legacy Worth Protecting: Charting a Sustainable
Course in the Great Lakes and St. Lawrence River Basin**

The 2001 Report of the Commissioner of the Environment and Sustainable Development comprises seven chapters, The Commissioner's Perspective—2001, and a Foreword. The main table of contents is found at the end of this publication.

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Chapter

1

**Great Lakes
and St. Lawrence River Basin**

*A Legacy Worth Protecting: Charting a
Sustainable Course in the Great Lakes
and St. Lawrence River Basin*

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

COMMISSIONER'S FOREWORD

The fate of the Great Lakes and St. Lawrence River basin is a fascinating and compelling story. Growing up near the shores of the St. Lawrence, I have long felt a strong personal connection to the river. For me and 16 million other Canadians, the basin is our home and our life-support system.

And yet, many of the things we do—from making cars, and growing crops to shipping goods, harvesting timber, building housing subdivisions, and flushing toilets—can cause damage to the basin. If undertaken thoughtlessly, our actions can have damaging—and predictable—effects on the environment that can threaten our personal health and way of life. This is not just theory—it is happening: Today's science describes a Great Lakes and St. Lawrence River basin under growing pressure, changing in fundamental ways, and deteriorating in many respects before our eyes.

We audited the federal government to see what it is doing—in concert with the provinces, the United States, and many other partners—about the environmental threats facing the basin. This chapter, *A Legacy Worth Protecting: Charting a Sustainable Course in the Great Lakes and St. Lawrence River Basin*, looks at the federal government's ongoing efforts to achieve sustainability in the basin.

We found, on the plus side, that efforts by federal officials and scientists over past decades contributed significantly to many environmental improvements and innovations in the basin. The government has so far navigated successfully through still waters and some swift currents—the environmental threats and pressures of population growth; urban development; and changes in technology, infrastructure, industry, and agriculture. Past successes teach us crucial lessons, including the need for strong science, good planning, robust partnerships, innovative thinking, and constant vigilance.

Unlike the past, though, ahead the trip is uncharted and we are quickly approaching whitewater rapids. The future of the basin is one of increasing pressures, threats, and complexities. And so, I am troubled by the global messages emerging from our work.

Important matters are adrift. Declining and unstable funding to federal departments has significantly impaired their ability to achieve their environmental objectives and meet Canada's international commitments. Some of the government's stated priorities and policies have not been resourced adequately, and so exist only on paper.

No apparent plan for the next generation of efforts. Federal actions on many of the problems in the basin have been short-term and, at times, unconnected. The actions have been necessary but, with no long-term

strategy, it is hard to know where they are taking us. The federal government is uniquely positioned to take a basin-wide, long-term perspective, but so far it has not.

Scientific research, monitoring, and information systems are limited.

The government is missing some basic information it needs to measure the health of our environment, to understand existing and emerging pressures, and to gauge the effectiveness of the actions it takes. The quality of existing data sets is deteriorating; the federal capacity is going in the wrong direction.

A changing, waning, unclear federal role. The federal government has changed its role in fundamental ways. In some cases, it is retreating from important stated positions. Its commitments and priorities show a disquieting lack of transparency and clarity.

The basin our children will inherit will be much different from today's. Part of the challenge of sustainable development is to ensure that their future is secure. I look to the federal government, as the leader of this trip, to properly map the approaching rapids and obstacles (through robust science and monitoring), chart the destination and course (in vision, policies, and plans), obtain the right equipment (policy instruments and integrated programs) and, working with partners, mobilize the expertise and teamwork it needs.

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A Legacy Worth Protecting: Charting a Sustainable Course in the Great Lakes and St. Lawrence River Basin

Main Points

1. We prepared this chapter to answer three questions:
 - What is the state of the Great Lakes and St. Lawrence River basin?
 - What role does the federal government play in protecting and preserving this key ecosystem, and how is it performing in that role?
 - How can the federal government do better and advance the sustainable development of the basin for generations to come?
2. The environmental health of the Great Lakes and St. Lawrence River basin reached a crisis point in the 1970s; it has improved dramatically since then. However, this past year, scientists studying the waters in the basin concluded that the state of the St. Lawrence River and lakes Superior, Michigan, Huron, and Ontario and is “mixed.” Lake Erie is considered “mixed deteriorating.” While drinking water was rated “good” and fish consumption advisories and swimming advisories “mixed improving,” many indicators raise concerns about the state of the basin.
3. The federal government has played a key role in achieving many improvements in the basin in the past. It has helped to build an elaborate array of important institutions, laws, and programs. Past experience offers evidence of the ability to resolve crises as they appear. But we are concerned about the loss of momentum in recent years and the implications this has for the future.
4. Our audit revealed that many of the federal government’s priorities and commitments for the basin are general and vague. The results it hopes to achieve are difficult to measure. We found that funding to deal with many issues in the basin is unstable, declining, and insufficient to meet the government’s objectives. Many key commitments have not been met; many key initiatives have not been completed; and departments are spreading their efforts thin. Federal science activity in the basin has been weakened, resulting in major gaps in the scientific knowledge needed to understand and manage threats to the basin. And the information that is available to Parliament and the public does not afford a clear understanding of the progress the federal government may be making.
5. In addition to over 40 specific recommendations to departments, this chapter presents 11 higher-level things that the federal government can do better.

Background and other observations

6. Sixteen million Canadians depend on the natural resources of the Great Lakes and St. Lawrence River basin for their livelihoods or for the quality of their lives. That number is expected to increase 20 percent within a generation. The basin is subjected to considerable stress, including industrial, municipal, and agricultural pollution; the effects of invasive species of plants and fish; toxic contaminants; loss of biodiversity; climate change; and endocrine-disrupting chemicals, among others.

7. While achieving sustainability in the basin is not up to the federal government alone—actions are needed by many other governments and organizations—it has a crucial and distinct role to play.

8. **Water.** The federal government has been active on water issues in the basin for several decades, with some positive results. Ongoing federal commitment and action to ensure that industry reduces its contaminant discharges has helped to improve water quality throughout the basin, as has financial support to treat municipal effluents. However, recent trends show that some aspects of water quality may be deteriorating.

9. We are particularly concerned by the following:

- Of the 17 areas of concern identified in Canada in 1985, 16 are still on the list. It is not clear how or when the federal government plans to restore the remaining areas.
- Health Canada has played a key role in the development of drinking water quality guidelines to protect the health of Canadians. But it does not know the quality of drinking water or whether the provinces are applying the guidelines.
- Environment Canada is meeting its basic obligations to monitor water for the presence of contaminants listed in the Great Lakes Water Quality Agreement. However, its understanding of changes in water quality is based on a limited number of substances, while many are not monitored at all.
- Departments are acting without having clearly articulated what they want to achieve. And they often define their role as supporting the priorities of others rather than their own.

10. The government does not have some of the basic information it needs to develop priorities and action plans. Consequently, it is involved in many remedial actions with no way to determine which are the most important and what they will contribute.

11. **Agriculture.** Farming has a substantial impact on the environment. It causes soil erosion, water pollution, and loss of biological diversity. Farming practices in the basin are having effects that cannot be sustained.

12. The federal government is attempting to manage the environmental effects of agriculture in the basin. It is confronting the problems of soil erosion and the contamination of water and soil by manure and fertilizer. It has laid part of a foundation for effective management of these and other

environmental impacts. It has identified environmental sustainability as a priority.

13. But the federal government has left some critical gaps. It has not sorted out who is going to do what. Information is out-of-date. Some action plans have not been developed. Results of key programs are not measured. Effective management is needed to reverse these trends.

14. Livestock operations in Ontario and Quebec generate enough manure to equal the sewage from over 100 million people. And the problem of how to manage it safely is getting worse. The misuse of manure and fertilizer on farmland has damaged the ecosystem of the basin. For example, roughly 70 percent of Ontario and Quebec farmland had much higher nitrogen levels in 1996 than in 1981—and much of it above levels that cause groundwater and surface water contamination. It is time for the government to rethink its approach.

15. More than 40 percent of Ontario's cropland is at risk of eroding at an unsustainable rate. Federal and provincial efforts over the past decades have led to only a modest reduction in soil erosion.

16. Federal programs and policies are not working well together. Agriculture and Agri-Food Canada has not integrated its policies and programs in the basin effectively with those of its federal and provincial partners. In addition, the Department has failed to fully meet its commitments to evaluate the environmental consequences of its policies and programs such as income support and disaster assistance.

17. **Species and spaces at risk.** Over the last decade, the federal government's efforts to recover species at risk have had mixed results. Almost half of the endangered and threatened species in the basin that are under the federal government's jurisdiction do not have recovery plans. New federal initiatives are under way that should contribute significantly to the recovery of species at risk in Canada.

18. 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.

19. The environmental health of national wildlife areas and migratory bird sanctuaries—important biological assets in the basin—is at risk from a lack of human and financial resources needed to manage them effectively.

20. The federal government delivers stewardship programs—programs that encourage voluntary actions to conserve habitat—without a cohesive stewardship strategy. While the performance of individually funded stewardship projects is measured, there is no summary reporting of federal efforts. There is also limited reporting of habitat losses, making 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.

- 21. Fisheries.** Fisheries and Oceans has not clearly defined its role in the conservation and protection of freshwater fisheries in the basin. The Department has no formal vision of the aquatic ecosystem it wants to promote. It lacks sufficient scientific information to carry out its mandate effectively; does not have clear accountability relationships with the provinces; and does not report regularly to Parliament on actions it has taken and results achieved in the basin.
- 22.** There is no federal policy, no recognized lead department, and no plan to co-ordinate federal action to counteract the environmental, economic, and social impacts of invasive aquatic species on the basin's ecosystem. Fisheries and Oceans has helped the Great Lakes Fishery Commission control the invasion of sea lamprey for the last 40 years. However, ballast water and sludge carried by commercial ships—major pathways for invasive species to enter the basin—are not being controlled adequately.
- 23.** Fisheries and Oceans has not applied its fish habitat management policy fully and does not know whether the policy's objective is being achieved. It is in the process of strengthening its habitat management program in the basin, but the program is not designed to provide the same level of monitoring and enforcement in Quebec as in Ontario.
- 24. Ecosystem initiatives.** St. Lawrence Vision 2000 has a good structure for managing issues that involve several departments and governments, and it generally follows good management practices. But program managers, Parliament, and the public have little information on the state of the environment of the St. Lawrence River to assess how the program has contributed to protecting the environment and human health—its overall goals.
- 25.** Great Lakes 2000 was designed initially with clear roles and responsibilities and well-defined expected results. However, major budget cuts compromised the participation of departments and their capacity to meet commitments under the Canada–Ontario Agreement and the Great Lakes Water Quality Agreement. The federal government was not transparent about the consequences of budget cuts and did not report publicly on actual federal spending under Great Lakes 2000. For the next phase of the program—Great Lakes 2020—funding was approved for federal activities only in areas of concern, so it is still not clear whether the federal government can meet its commitments under the Great Lakes Water Quality Agreement.
- 26. The International Joint Commission.** The federal government has not provided the International Joint Commission (IJC) with enough information to properly assess Canada's progress under the Great Lakes Water Quality Agreement. It has delayed answering the Commission's requests for information and responding to its recommendations. The federal government does no formal follow-up to ensure that it will complete the actions it identifies in its responses to the Commission's recommendations.
- 27.** Over the years, federal officials have provided technical expertise to the IJC's boards and study teams. However, the loss of scientific and technical

capabilities as a result of budget cuts is putting that support at risk. Also, the government has delayed its share of funding for the Commission's reference studies.

In this chapter, we identify a number of areas where we believe the federal government can do a better job of managing for sustainability in the basin. We make a series of recommendations, directed to the departments of Agriculture and Agri-Food, Environment, Fisheries and Oceans, Foreign Affairs and International Trade, Health, and Natural Resources, and to the Parks Canada Agency.

Agriculture and Agri-Food Canada agrees with our recommendations to it. Its response identifies existing or planned activities that relate to the issues we address, although it is not clear whether they will address all aspects of the recommendations.

Environment Canada agrees with our recommendations to it. Its response indicates its commitment to take action. In several instances, the Department notes that its ability to implement such actions depends on the availability of resources.

Fisheries and Oceans agrees with our recommendations to it. Its response identifies existing and planned activities that relate to the issues we address, although it does not consistently provide a clear commitment to address all aspects of the recommendations.

The Department of Foreign Affairs and International Trade, Health Canada, Natural Resources Canada, and the Parks Canada Agency agree with our recommendations to them respectively and have indicated their commitment to take action.