

# Environmental Assessment Program

ANNUAL REPORT 2000-2001

## Annual Report 2000-2001

Canada

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## EXECUTIVE SUMMARY

This Annual Report provides an overview of the activities, opportunities and challenges of Environment Canada's (EC) National Environmental Assessment (EA) Program for the 2000–2001 fiscal year.

The National EA Program is composed of staff from the Environmental Protection Service, Environmental Conservation Service and Meteorological Service of Canada, from all five regions and headquarters. The headquarters contingent includes representatives from the Environmental Assessment Branch (EAB) and EA practitioners in the National Hydrological Research Institute, the National Water Research Institute and the National Wildlife Research Centre.

The Program's responsibilities and mandate are strongly directed by the *Canadian Environmental Assessment Act* (CEAA). As in previous years, the Department's EA practitioners have invested considerable time and effort in the review and preparation of an enormous number of EAs. Our role as a Responsible Authority (RA) continues to be an important aspect of the Program's responsibilities; however, our role as a Federal Authority (FA), providing expert scientific and technical advice, continues to dominate our daily agenda.

The Department has responsibilities under the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals (June 1999), also known as Strategic Environmental Assessments (SEAs). The EAB has provided advice to, or participated in, 44 SEAs this year. The EAB continues to

provide training on SEAs to other sections of the Department.

Last year, the Program continued to provide EC's comments and recommendations for improvement and renewal of the CEAA. Many of EC's recommendations were accepted and are included in the draft Bill that is currently before Parliament.

During this last year, the EA Program undertook a capacity study, examining the current scientific and technical capabilities in the Department and how they are used (or not used) relative to the EA Program. It is anticipated that recommendations suggested by the capacity analysis will be discussed and debated by the national EA Committee, and decisions made to improve the operations of the EA Program in the Department.

This coming year will present the Program with a number of important challenges and priorities; however, the greatest challenge will be continuing to ensure compliance with proposed changes to the CEAA. There appear to be emerging trends that need to be considered when looking to the future of the Program. Globalization in areas such as business, environmental management and communications is going to put increased pressure on Canada's natural resources. This will emphasize the need for international EA cooperation and standards. As well, decentralization of EA responsibilities from federal to provincial/territorial and local authorities will continue to challenge our Program.

## PURPOSE

This Annual Report demonstrates the commitment of Environment Canada (EC) to be accountable for its actions and to share the successes and lessons learned in the field of environmental assessment (EA). This report details our EA activity between April 1, 2000, and March 31, 2001, in compliance with the *Canadian Environmental Assessment Act (CEAA)* and the 1999 Cabinet Directive on the EA of policies, plans and programs.



## REGIONAL HIGHLIGHTS

### Atlantic

#### *Atlantic Salmon Cage Aquaculture, Grand Manan, New Brunswick*

Almost 100 proposals to construct and operate aquaculture facilities in the Atlantic Region were referred to EC for expert scientific advice during the fiscal year. These proposals included coastal shellfish and finfish farms as well as land-based hatcheries. In most cases, EAs in the form of screenings under the CEAA were undertaken by Fisheries and Oceans Canada (DFO), based on the need for a Navigable Waters Protection Act authorization. DFO relied heavily on EC's role as an expert Federal Authority (FA) under the CEAA in the review of 15 finfish aquaculture facilities proposed for the Grand Manan, New Brunswick, area of the Bay of Fundy. This region near the U.S. border at Maine features a rich and diverse ecology. Given this sensitivity, EC advocated a precautionary approach to the assessments of the 15 proposals involving different proponents but put

forward by DFO for review over the same



time frame. In taking a precautionary approach, EC outlined its perspective on those issues that must be fully assessed if a conclusion other than “environmental effects are likely to be significant” was to be supported.

As a result of EC's interventions, important departmental priorities such as species at risk (SAR), pollution prevention and climate change were put forward for consideration in the CEAA screenings. In the assessment of one particular aquaculture project, DFO concluded that impacts on the at-risk Harlequin Duck could be significant and that the project could not be supported as

proposed. Minimum buffer zones and guidance on the design of effects monitoring programs were developed to facilitate conservation and protection of this species of duck in the face of potential conflicts with the aquaculture industry.

The assessments highlighted the importance of early attention to EC expertise in the assessment of aquaculture projects and linkage to departmental programs responsible for such priorities as SAR. EC's assessment guidelines for aquaculture projects — published during the fiscal year — will help address these needs and ensure a consistent review of future aquaculture projects. The increased stress placed on ecological values in the Grand Manan area by multiple aquaculture projects and other activities subject to assessment review also highlighted the potential role of regional cumulative impact assessment in advancing departmental priorities in a strategic manner.

*Offshore Oil and Gas Developments, Nova Scotia and Newfoundland*  
Hydrocarbon exploration and development activities in Atlantic Canada's offshore continued to intensify during 2000–2001. In this increasingly active offshore “frontier,” EC's EA Program has been presented with the challenge of advancing the Department's priorities and of ensuring that obligations under the CEAA are met. The presence of the oil and gas industry in the Scotian Shelf off Nova Scotia and the Grand Banks off Newfoundland is especially notable. Oil and gas developments in these areas are principally governed by the Canada–Nova Scotia and Canada–Newfoundland Offshore Petroleum

Boards, respectively. Through participation in EA processes such as the CEAA, EC has reviewed proposed seismic surveys, drilling programs and, ultimately, development projects involving the extraction, processing and shipment of oil and gas. The Department's environmental emergencies, wildlife, meteorological services, disposal at sea and pollution prevention and control programs have been working closely with EA staff to ensure that offshore projects reflect a consideration of EC knowledge and expertise while also respecting the applicable legislation and departmental priorities.

During the fiscal year, EC participated in the EA of the Whiterose oil project situated on the Grand Banks in the vicinity of the Hibernia and Terra Nova oil projects. The proposed development includes a floating production and storage vessel connected to subsea wells located in glory holes on the seafloor. The field has an estimated 230 million barrels of recoverable oil, with production scheduled to begin in 2004. The Canada–Newfoundland Offshore Petroleum Board, EC, DFO and Industry Canada were each responsible for ensuring that a comprehensive study of the Whiterose project was conducted under the CEAA. EC's obligations as an Responsible Authority (RA) stemmed from the proponent's need to obtain a disposal at sea permit for materials excavated from glory holes and flowline trenches. Through participation in the assessment process, EC fulfilled its legal obligations as an RA under the CEAA and helped ensure that issues of key concern to the Department were given full attention. For example, as a result of the assessment, best practices related to selection and

management of drilling muds were advanced, provisions for avoiding areas important to seabirds were identified and information on ice, sea state and meteorological conditions was factored into provisions for project design and management.

The development of offshore oil and gas projects in the Grand Banks, such as Whiterose, highlights the continued need to advance initiatives related to the assessment and management of regional cumulative impacts. Indeed, given the large expanse of Canada's Atlantic offshore and the wide range of issues important to EC, the EA Program is actively pursuing opportunities to facilitate strategic consideration of EC information and expertise at the policy, regional and sectoral levels of assessment review.

## **Quebec**

### *Golf course construction at Leamy Lake, Hull*

In September 2000, the Department recommended that DFO, which is the RA for this project, and the National Capital Commission (NCC) ask the proponent to modify the golf course design in order to reduce encroachment on wetlands.

This recommendation gave rise to an exhaustive study of the options for relocating the problematic golf holes and to intensive negotiations with the proponent. These efforts eventually culminated in the relocation of three golf holes that alone would have resulted in wetland destruction of close to 25 000 m<sup>2</sup>.

The new design protects wetlands that provide habitat for Western Chorus Frog,

a species designated as "vulnerable" by the Quebec government, and enables us to achieve the objective of wetland avoidance that we had recommended to DFO and the NCC.

In order to ensure compliance with the principle of no net loss of wetland functions, as recommended by the Federal Policy on Wetland Conservation, a compensation program will be negotiated between the proponent and DFO and the NCC, with the scientific and technical support of our Department.

### *Road link — McConnell–Laramée highway*

The proposed road between Aylmer and Hull crosses the southern part of Gatineau Park, which is administered by the NCC. The Quebec Department of Transport is the proponent. Transport Canada is the lead federal RA, since it is contributing funding to the project, and DFO is also an RA in the project due to its regulatory responsibilities.

The construction of the road will destroy migratory bird habitat. The Red-shouldered Hawk, which is identified on the list of Canadian SAR as a species of "special concern," and Cooper's Hawk, which appears on the Quebec list of species that are rare, threatened or vulnerable (or likely to be designated as such), are two of the species that could be affected by the project. Several species of flora that appear on the Quebec list of species that are rare, threatened or vulnerable (or likely to be designated as such) are found on the proposed road alignment, which was selected more on the basis of economic and technical criteria than on the basis of environmental criteria.

In December 2000, the Department recommended that the RAs and the NCC ask the proponent to modify the road alignment to reduce the adverse impacts of the project on SAR and on wetlands. EC explained its position at public hearings held by the Quebec *Bureau d'audiences publiques sur l'environnement* in March 2001.

The Department's recommendation was adopted by the RAs and the NCC, and in the summer of 2001 the Quebec Department of Transport conducted additional plant and animal inventories, which are required to identify the alternative alignment that has the least impact. The selection of the least-impact alternative will be based on environmental, socioeconomic and technical criteria that are approved by the FAs. This project is an excellent example of an EA conducted and used as a planning tool.

#### ***Expansion of Wharf No. 103 in the Port of Quebec***

The Quebec City Port Authority is proposing to expand Wharf No.103 in order to address problems related to the sagging of the wharf. The solution retained is to install six concrete caissons in front of the existing structure and to fill them with granular fill to keep them in place. In its initial proposal, the Quebec City Port Authority had proposed using highly contaminated soil currently stored at this site as fill.

The Quebec City Port Authority is the lead RA for the EA under the CEAA. Because the project requires a permit under section 35 of the Fisheries Act, DFO is also an RA. EC is acting as

environmental advisor to the Quebec City Port Authority and DFO under the CEAA.

In our recommendations, we indicated that the use of highly contaminated soils as fill materials is inconsistent with the Federal Approach to Contaminated Sites and with the Quebec Soil Protection and Contaminated Sites Remediation Policy. Moreover, the use of such material would set a precedent; to date, no project involving contaminated soil containment in a wharf has been authorized in Quebec or elsewhere in Canada. Only sediment containment projects have been authorized in wharves; in such projects, contaminated materials are removed from the aquatic environment, which constitutes a gain.

DFO shares our concerns regarding the project and has indicated that it will not give its authorization until EC is satisfied with the management of the contaminated soils.

The Quebec City Port Authority recently informed EC and DFO that it was modifying its wharf expansion project as recommended by EC. It stated that the concrete caissons for the new wharf would be filled with uncontaminated granular fill. This modification to the project is the result of the intervention and firm position taken by EC.

#### **Ontario**

##### ***Red Hill Valley Expressway***

The Court challenge of the federal panel review for the proposed Red Hill Valley Expressway in Hamilton, Ontario, launched by the proponent (the City of

Hamilton), was heard in late November 2000. The City challenged the scope of the panel review and the need for the federal EA and approvals from DFO and claimed conflict of interest of panel members and staff within EC. The project was referred to a panel hearing by the Minister in May 1999, on the basis of significant environmental effects on migratory birds and the level of public concern. EC had identified major concerns over the loss of a migratory corridor for landbirds as a result of the expressway construction through the creek valley connecting the Niagara Escarpment to Lake Ontario. Leading up to the Court hearings, considerable effort by EC staff was required to prepare for the Department's involvement, including writing affidavits, responding to Access to Information Program requests, briefing senior management and conducting cross-examinations during preliminary hearings. The Court's decision on the challenge was subsequently rendered in April 2001.

#### ***Adams Mine Landfill***

EC participated in the analysis of petitions to the Minister under sections 46 and 48 of the CEAA to require a panel review of this project based on potential transboundary effects. The project involves the siting of a new solid waste landfill within the abandoned Adams Mine open pit near Kirkland Lake, Ontario. The primary source of solid waste was to be from the City of Toronto. The project had received provincial EA approval in 1999. EC had been involved in a limited capacity in the review of the provincial EA with respect to water quality concerns related to the discharge of treated landfill leachate. The CEAA transboundary petitions submitted by the

Timiskaming First Nation and Quebec MPs raised concerns over water quality impacts from the landfill leachate on Aboriginal lands and waters within Quebec, respectively. EC was requested by the Canadian Environmental Assessment Agency (Agency) to provide specialist departmental advice on the potential for transboundary effects as part of their analysis of the petitions. A technical review of project-related information was undertaken by Ontario Region staff and scientists from the National Water Research Institute (NWRI), in cooperation with scientists from Natural Resources Canada. In October 2000, the agreement between the City of Toronto and the landfill proponent to transport Toronto's waste to Adams Mine was cancelled in the face of considerable public opposition. As a result, the Agency terminated its consideration of the CEAA petitions.

#### ***Hwy. 407 Extensions***

During 1999 and early 2000, EC participated in the federal EAs conducted by DFO for the Hwy. 407 West Extension between Burlington and Mississauga and the Hwy. 407 East Partial Extension from Markham to Pickering. The Province of Ontario had sold the rights to design and build these extensions and to operate and maintain the entire Hwy. 407 toll highway to a private consortium. During 2000–2001, EC staff continued their participation during the detailed design and construction phases of the highway projects. A condition of the provincial EA approval for the highway required that federal agencies would participate in a Stakeholder Consultation Process with the proponent and provincial agencies during the design and construction phases



to ensure that federal issues raised during the EA would be adequately addressed. This involvement entailed participation at frequent meetings (on a weekly or monthly basis) and site visits by our technical experts, as well as review and comment on design details and monitoring plans. This level of involvement helped to ensure that mitigation measures were adequately developed by the proponent to protect water quality and terrestrial and aquatic habitats along the highway corridor, and that commitments made by the proponent during the federal EA were being adhered to. Substantial technical input was provided by our staff on the design of stormwater management facilities, highway construction erosion and sedimentation protection plans, and terrestrial habitat restoration and compensation plans. Inspection and enforcement protocols were also developed amongst EC, DFO and provincial agencies, which allowed for the identification of environmental problems during construction operations and timely implementation of contingency measures by the proponent in many cases. This level of participation by EC in the project implementation phases following the EA stage is an example of extensive follow-up activity, which is warranted for projects that are of high profile and have serious environmental effects. However, such a degree of follow-up activity also requires considerable resource effort on our part.

### **Prairie and Northern**

EA activities often go hand in hand with the work that the Department conducts under the air, water, wildlife and climate themes. This linkage is demonstrated by two of the highlights of the EA Program in the Prairie and Northern Region this year. These highlights involve the

acquisition of valuable new information about our environment in the region.

### ***Ord's Kangaroo Rat***

EC biologists have long known about the Ord's Kangaroo Rat, a species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as of "special concern." However, the life history of this species and its response to a pipeline construction disturbance were relatively unknown territory. When the Alberta Energy Company (AEC) proposed to build a pipeline in an area that was likely to be prime Ord's Kangaroo Rat habitat, EC biologists recommended that a survey be undertaken to determine the presence of the species on the pipeline right-of-way.

The results of the survey showed that several of the rodents inhabited the right-of-way, which is near the Red Deer and South Saskatchewan rivers. Consultations with EC biologists were enough to convince AEC to change its plans to avoid as many of the Ord's Kangaroo Rat burrows as possible and to put forth \$135 000 to finance a study to see how the species may be affected by this pipeline construction.

Knowledge gained from this study will contribute to our understanding of the Ord's Kangaroo Rat and will be integral to our future conservation efforts with the species.

### ***Migratory Bird Diversity Greater Than Expected***

Resource development pressures in remote areas and EA activities often associated with these pressures can lead to improved understanding of landscapes

about which we have very little information. One example is the newly acquired knowledge on migratory bird diversity in the Fort Liard region of the Northwest Territories.

With the current boom of oil and gas and logging developments looking to expand even further into this area, EC scientist Craig Machtans has gone to the Liard River valley to identify bird species–habitat associations, helping understand how the birds may be impacted by industry expansion. Machtans described the diversity of the area as remarkable. Species including the Magnolia Warbler are surprisingly abundant, while the Long-eared Owl is one example of rare bird species seen in the Liard River valley. These owls are usually not seen north of central Alberta. According to Machtans, permanent habitat loss due to industrial development and conversion of mixedwood and old forests to younger monocultures are the major threats to the area in particular, and to the boreal forest in general.

The first step in the EA process is to determine the existing conditions in the area. From this information, a full understanding of how a project or development may impact the habitat and its species can be obtained. This initial collection of information, such as the work performed by Machtans, can often lead to important new discoveries, such as the relative importance of a particular area to a wide range of species. This knowledge can then be applied to the EA process to ensure that sustainable development objectives are achieved.

### **Pacific and Yukon** *Squamish Estuary Management Plan*

The Squamish Estuary, located about 50 km north of Vancouver, provides a good example of an important estuary seriously impacted by human activity. Its productivity ranks among the highest reported in the literature, and it supports very important salmon stocks as well as large populations of overwintering birds. Squamish is also one of the few areas along the south B.C. coast that has the potential for deep sea port development, which is complemented by excellent road and rail access.

In the mid-1970s, a report by EC was instrumental in the decision not to establish a large coal port in the middle of the estuary. More recently, EC worked diligently with several other agencies to implement a new Squamish Estuary Management Plan. This plan designates conservation areas for the ecologically valuable eastern side of the estuary and development areas for the more heavily disturbed and ecologically less valuable western side. The plan also provides for a coordinated EA review for projects in the estuary; EA staff participate on the Environmental Review Committee. With the implementation of the plan, the estuary now stands at the threshold of reducing the trends of past ecological losses.

#### *Tulsequah Chief*

The Tulsequah Chief mine is located on the Tulsequah River, 30 km upstream from the Alaska border. The Tulsequah River is a tributary of the Taku River, which flows from British Columbia through Alaska to the Pacific Ocean and has very important salmon runs. Mined ore was originally barged down the Tulsequah and Taku rivers to Juneau, Alaska. The mine was closed in 1957. For the proposed resumed operation,

barging was deemed financially unviable, and the construction of a 160-km access road through the Taku watershed was proposed. In 1998, a B.C.–federal harmonized EA was conducted with respect to the proposed reopening. British Columbia terminated the process rather precipitately, giving all parties (including Canada) only 48 hours to comment on the Project Committee Recommendations Report. The B.C. government determined through the foreshortened process that reopening the mine was unlikely to cause significant adverse environmental effects. The United States participated in the assessment, but did not accept the report's conclusions. Since 1998, the United States has called for a reference to the International Joint Commission (IJC) and, more recently, the establishment of an international watershed board for the Taku River. However, the Minister of Foreign Affairs has written to the Secretary of State indicating that an IJC reference would be premature.

In February 1999, the Taku River Tlingit First Nation (TRTFN) initiated a court challenge in the B.C. Supreme Court, seeking an application for judicial review of the B.C. environmental review process. In June 2000, the B.C. Supreme Court found that decision makers had committed substantive errors with respect to the issues of sustainability and evaluation of impacts on wildlife as they relate to the Tlingit. The Court also held that the Tlingits had and continue to assert Aboriginal rights in the Taku watershed and that the government had an obligation to consider the impacts of this decision on the Aboriginal rights of the Tlingits. The Court ruled that the B.C. Ministers' decision to issue the certificate should be quashed.

The State of Alaska, U.S. Department of the Interior, U.S. Environmental Protection Agency, TRTFN, EC, DFO and the Department of Indian Affairs and Northern Development (DIAND) are participating in the reactivated Tulsequah Chief Project Committee, which reviewed the original project proposal. EC is participating on the Committee and continues to provide advice to the RAs (DIAND and DFO) in its capacity as an FA pursuant to the CEAA.

The work of the Committee has not, however, reduced the U.S. demand for a reference to the IJC. The Deputy Minister of the Department of Foreign Affairs and International Trade (DFAIT) wrote to the Deputy Secretary of State on January 5, 2001, with an update on the situation. The letter states that only after receiving the final report from the B.C. Tulsequah Chief Project Committee and reviewing the IJC's report on Transboundary Watersheds "will future options for governments be clearer and only in this context would it be appropriate to take major decisions on binational mechanisms."

### *Georgia Strait Crossing Project (GSX)*

A consortium formed by B.C. Hydro and Williams Energy (USA) is proposing to construct approximately 97 km of 406-mm natural gas pipeline from Cherry Point in Washington State across the Strait of Georgia to a landing on Vancouver Island and connecting with the existing Centra Gas British Columbia Inc. pipeline south of Duncan. This pipeline will cross the International Boundary in mid-Strait at Boundary Pass and will involve approximately 44 km of offshore construction and a further 15.6

km onshore within Canada. The gas supplied by the pipeline is intended to replace electrical energy currently supplied to the Island through an existing submarine cable, which is nearing the end of its dependable service life, as well as provide additional energy for future development on the Island. A significant portion of the gas will be converted to electrical energy through combustion in existing and proposed co-generation and stand-alone thermal generating plants on the Island.

Both the National Energy Board (NEB) and DFO have identified themselves as RAs. The project triggered a requirement for a Comprehensive Study, and the announcement of this in mid-2000 attracted a very high degree of public attention. The project has been the subject of commentary both in the media and in letters to various Ministers,

including Minister Anderson. Concern regarding the project's influence on the regional contribution to Canada's greenhouse gas (GHG) emissions has been a key issue.

The level of public concern eventually reached the point where the level of the CEAA review was raised to the Panel level in late 2000. The full Panel membership has yet to be announced. The fact that this is a transboundary project that will require coordination of the review with our U.S. counterparts who are evaluating the U.S. portion of the project will add a considerable level of complexity to the review. A key challenge for the Department will be to develop a position statement on the climate change issue given the public expectation that our Minister should speak for the federal government on this matter.

## PROJECT ACTIVITY

As an RA, EC registered 531 new projects between April 1, 2000, and March 31, 2001\*. This is a sharp increase from last year's 398 new projects. All projects were screenings. EC took the lead role for 473 of the projects.

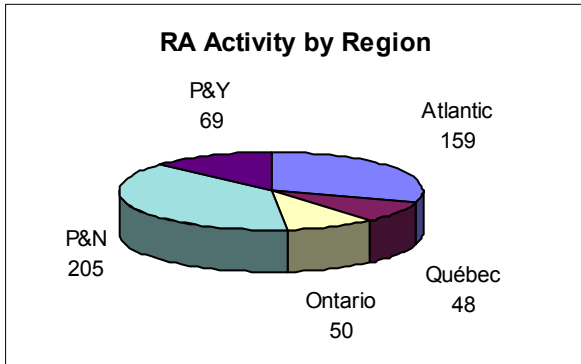
Figure 1 shows that the Prairie and Northern Region and the Atlantic Region conducted the largest number of screenings, accounting for approximately 40% and 30%, respectively, of EC's RA activities.

Overall, the division of RA activity by type was very similar to that in the past fiscal year. Figure 2 shows that almost half of the screenings (46%) dealt with regulatory approvals, as was the case in 1999–2000. There was a slight increase in the number of EC-triggered screenings, at 31%, up from 27% last year. No screenings were triggered based on the provision of land.

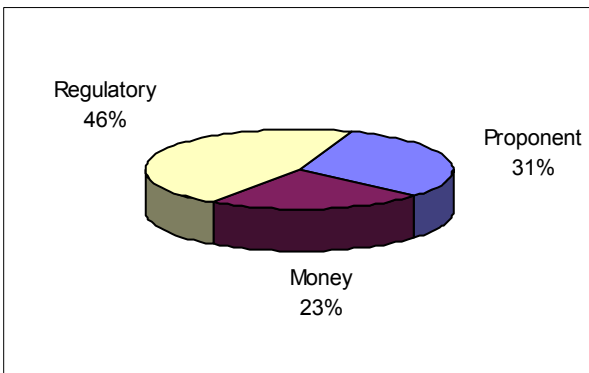
Figure 3 demonstrates the distribution of permitting activity across all regions.

Ocean dumping permits accounted for approximately half of the permits issued (47%), a slight increase from last fiscal year (39%). Permits under the Migratory Birds Regulation (section 19.1) accounted for almost one-third of all permits issued last year, similar to the number of permits issued in the last two years.

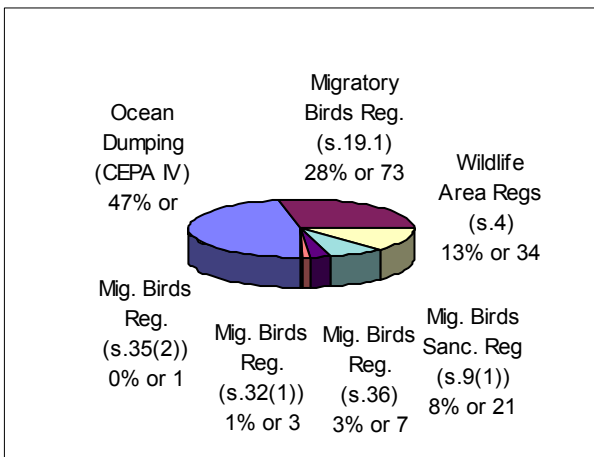
**Figure 1. RA Activity by Region**



**Figure 2. RA Activity by Trigger**



**Figure 3. Permits Issued Under Specific Regulations**



## NATIONAL ACTIVITIES

### **Strategic Environmental Assessment (SEA or Policy EA)**

The EA Branch (EAB) participated in Department-led initiatives, providing SEA support to drafters of Canada-wide Standards, Meteorological Services Renewal, Clean Air, Biomass, Biosafety, Signing of the Basel Convention on Hazardous Waste, Persistent Organic Pollutants Convention and Building Confidence in a Pesticide Regulation.

We examined and contributed to Memoranda to Cabinet (MCs) and SEAs of other federal initiatives, such as Seabed Mapping, Climate Change, Sustainable Aquaculture, CEAA Five-Year Review, Strategic Highway Infrastructure Program, Canadian Oceans Strategy and International Science and Technology.

EAB staff examined a total of 44 MCs, *Aide-mémoires* and decks (briefing packages).

### **CEAA Five-Year Review**

The five-year review of the CEAA began officially in January 2000 as the response to a specific requirement in the legislation (section 72(1)). Preparatory work was done by the Agency and by federal departments to identify and characterize some of the concerns and recommendations that needed to be addressed in the review.

EC undertook considerable work in this regard, and all parts of the Department (both regions and headquarters) were

directly involved in the development of the departmental position and related recommendations.

Prior to and after the proclamation of the CEAA in January 1995, EC has been a strong proponent of the principles and use of EA, to be undertaken at the earliest possible stages of development proposals. EA is a strong element supporting the Department's core mandate and business lines, particularly the achievement of a clean environment and the preservation of nature. In the first five years of experience with the CEAA, the Department has encountered a number of challenges in implementing the CEAA and its regulations and particularly in establishing the Act as an effective planning tool. The more significant issues relate to coordinating management of the process, establishing clear accountabilities (e.g., for monitoring and follow-up), the need for improved efficiency, effectiveness and predictability, and the need for more effective development and use of tools and innovative approaches to facilitate better EA. A creative, innovative, consistent and predictable approach to EA is very important, because the federal government's capacity to deliver effectively on all of the responsibilities is in most cases limited.

The Department's three top priority recommendations addressed strengthening accountability of the Agency and FAs to support better compliance, ensuring federal involvement in the EA process at an earlier stage (particularly for the Law

List) and facilitating the development and use of EA tools such as regional assessments of multiple projects. EC did not believe that the CEAA required a major structural overhaul. However, there were a number of ideas and recommendations presented in the departmental position paper that would contribute to greater efficiency and effectiveness for the process, as well as supporting better-quality EAs.

With these improvements, the demand for EC's scientific and technological expertise will continue to grow. Improved monitoring and follow-up and assessments of cumulative environmental effects will also increase emphasis on EC's advisory role in the process. EC's analysis was another critical element of the five-year review process to help establish greater efficiencies for delivering on the requirements of the CEAA.

Many of EC's recommendations have been accepted and are included in the draft Bill that is currently before Parliament.

### **Capacity Study**

The EA Program of EC not only deals with compliance with legislation such as the CEAA but also contributes in a direct way to departmental priorities, such as clean air, clean water, climate change and the protection of species. The scientific, technical and policy capability necessary for the Department to support the Program has often been deemed insufficient. At the same time, management in the Department has not always appreciated the contribution that the Program makes (and its potential) relative to departmental priorities, and

thus the Program has not always received strong support.

This Program capacity study looked at the current scientific and technical capabilities in the Department and how they are used (or not used) relative to the EA Program. Gaps were identified, and options for dealing with them discussed. Matrices developed as appendices to the report indicated the breadth of scientific capabilities in the Department needed to support EA, where gaps might exist, and whether or not the Department should fill those gaps internally or seek (or buy) the expertise elsewhere.

Program activity, resource use and involvement of departmental scientists were reviewed across the country with the objective of recommending an optimum program that could be implemented in a nationally consistent manner. Program and human resource recommendations were developed to support the results of the analysis. Methods of improving awareness and communicating the use and benefits of the Program were also evaluated and recommendations made.

The study concentrated on reviewing the vision and objectives of the National EA Program not so much as a distinct entity, but as an integral part of the Department's broader agenda and priorities for the foreseeable future. In this regard, the scientific and technical capabilities and needs of the Department will in many cases be synonymous with those of the EA Program.

The objectives of the Program capacity study were thus:

- to develop a program framework to support the maintenance of EA



Program resources in terms of potential program integrity or A-base reviews;

- to develop a program framework to aid in the national distribution of resources coming to the Program as a result of the five-year review of the CEAA;
- to optimize the use of existing EA Program resources through cooperative and coordinated approaches (e.g., access Agency research and development [R&D] funds, Natural Sciences and Engineering Research Council [NSERC] resources);
- to establish national consistency and comprehensiveness of program content to facilitate legal integrity and minimize the risk of court challenges; and
- to raise awareness and communicate the role that EA plays in supporting major departmental programs and priorities.

Across the country, there were different perceptions about the contributions that the EA Program makes in support of priority issues in the Department. As a result, the commitment to the Program and its effectiveness in the regions vary. While some regions see the EA Program merely as a legislative responsibility, others utilize the Program in major project assessments to contribute effectively to departmental priorities such as reduction of GHGs, clean air, clean water and the protection of species.

### *Recommendations*

Recommendations were presented in the report and dealt with the major components of the capacity study.

Organizational recommendations dealt with issues such as cooperative work planning and the need to revise and reissue the management framework for the EA Program.

Under human resource management, filling gaps in scientific and technical support for the Program through cooperative staffing was recommended, as was the need for a mentor system to support entry-level staff.

Recommendations on financial management addressed the need for a national R&D fund on EA and the need for regional and headquarters negotiation and cooperation for the allocation of new resources resulting from the five-year review of the CEAA.

The program directions section recommended a “moderate” level of program activity that is able to take advantage of opportunities to support departmental priorities but stops short of actively engaging in a wide range of new activities. Partnerships were highly recommended, as was the need for the Department to guide the development of regional environmental effects frameworks to take advantage of the numerous benefits they offer.

Under awareness and communications, partnerships with external groups such as Pollution Probe were recommended to reach a wider range of clients, and a reference document was recommended to identify and guide clients to the information and expertise that the Department possesses.

It is anticipated that these recommendations and other initiatives suggested by the capacity analysis will be discussed and debated by the national EA

Committee and decisions made to improve the operations of the EA Program in the Department.

### **Environment Canada's EAs in NEAS: Continuous Improvement**

EC practitioners have entered close to 1800 EAs into the National Environmental Assessment System (NEAS) since its introduction in 1998. Despite a rocky start, due in part to the need to learn this new tool, there has been a continuous improvement in the use of the system for carrying out EAs for which our Department was the lead RA.

Delays in entering EAs into the NEAS have significantly decreased. In the fall of 2000, less than 15% of the entries were made after the specified decision date, compared with more than 30% in 1998. An increase in the frequency with which the fundamental elements of EAs are entered, such as the scope (from 73% to 97%) and the description of impacts and mitigation measures (from 75% to 85%), has also been observed.

Aside from frequency of use, it is important to examine the quality of the information being recorded. In this regard, two guiding modules were introduced in 2000–2001 to assist in the preparation of assessments of ocean disposal projects and certain activities in wildlife reserves. We are also working with the Agency on developing an EA quality assurance program, which should follow shortly on the heels of the implementation of the new CEAA.

However, the analysis of the information from the NEAS suffers from one major

drawback. Although the use of the NEAS and its guiding modules assist practitioners in carrying out more consistent, higher-quality EAs in compliance with the CEAA, it is sometimes difficult to know whether EAs are always carried out when required. New programs are introduced each year, and their managers may be unaware of the requirements of the CEAA or the existence of the NEAS. This drawback could be largely addressed through constant vigilance by EA Program staff, at both the regional and national level. It is up to us to keep a watchful eye!

### **EA Tools**

#### *National Environmental Assessment System (NEAS)*

The NEAS is an electronic application to conduct and keep track of EAs for all projects for which the Department is the RA. Launched on April 1, 1998, the NEAS has continued to evolve. During the last fiscal year, the screening section of the application was extensively modified to include a model to prepare EAs of projects requiring ocean disposal permits and projects in National Wildlife Areas. These modifications will increase the quality of EAs performed by EC.

The National Working Group, responsible for the management of the NEAS, will face great challenges for the next fiscal year to ensure that it meets the requirements of the new CEAA.

#### *EAs Conducted by Environment Canada on the Green Lane*

EC's EAs under the CEAA or under any other EA processes are available on the Green Lane. The site can be accessed at the following URL:

<http://ea-ee.ncr.ec.gc.ca/glea/index.asp>

### *The Federal Environmental Assessment Index*

EC is dedicated to providing access to the public to its EAs. The Department has contributed over 500 assessments to the Federal Environmental Assessment Index.

### *New Referral Tracking System (NRTS)*

The New Referral Tracking System (NRTS) is a tool to assist the regional EA coordinators in managing all expert advice requests to EC in the course of an EA conducted under the CEAA or any other EA processes. Over the last fiscal year, the NRTS has been developed with great involvement of the National Working Group. The continuous participation of this group resulted in a very flexible tool for users of each region.

### *Cumulative Effects Assessment (CEA) Working Group Forum*

## **GUIDANCE MATERIALS**

### **Environmental Assessment of Aquaculture**

In December 1999, a legal determination by the Agency determined that most aquaculture operations in Canada are considered to be projects under the CEAA. This resulted in the referral of nearly 100 aquaculture projects from DFO and funding agencies in the Atlantic Region alone. To manage this increase, the Department, led by the Atlantic Region, began preparing national EA guidelines for the consideration of EC. The EC perspective in the guidelines was presented at a national DFO-led

This forum allows EC professionals (EA practitioners and research scientists) dealing with cumulative effects to exchange information and to engage in constructive dialogue on issues dealing with CEA within the EC's mandate.

### *Environmental Impact Assessment Follow-up Forum*

The purpose of this forum on the Internet is to bring together EA practitioners from around the world in an open discussion format to share their experiences, ideas and thoughts on this topic.

### *EA Program Infolane Site*

The new EA Program Infolane site was launched on April 30, 2001. Although the site is still under construction, it offers a more convivial way to navigate and search for information related to EA.

workshop in December 2000. During the year, representatives from the EAB and regional EA programs have participated in a number of other interdepartmental workshops and represented the Department on several working groups focused on EA and aquaculture activities. These guidance documents on marine and freshwater aquaculture (finfish and shellfish) will be finalized early in the new fiscal year.

### **Guide pour l'évaluation des impacts sur les oiseaux**

The use of the *Guide pour l'évaluation des impacts sur les oiseaux* by Quebec project proponents is becoming common practice. In the summer of 2000, EC had the opportunity to present the approach and to discuss it with analysts from the Quebec Environment Department's EAB at a one-day workshop devoted to the subject. Increasingly, Quebec government analysts are recommending the use of the guide for impact studies conducted as part of the Quebec EA process.

A similar meeting with representatives of Hydro-Québec was held to clarify several aspects of the recommended approach and to identify approaches tailored to the projects of the Crown corporation, which had been reluctant to use the guide. Hydro-Québec has realized the benefits of using the guide, particularly given that the vast majority of its projects are also subject to an EA by DFO under the CEAA. Major delays could be avoided in the future.

### **NEAS Screening Template for Decommissioning and Remediation of Hydrometric Stations**

The Water Survey of Canada (WSC), a component of the Meteorological Service of Canada (MSC), manages a network of water level and streamflow stations to monitor surface water quantity across Canada. Currently, there are approximately 2290 stations in operation. As part of its national network modernization strategy, WSC identified a large number of sites that will undergo decommissioning and remediation in the next few years. Remediation is needed at some sites to clean the soil because of

mercury that may have been spilled accidentally in the past when instruments containing mercury were used.

In order to help WSC managers prepare EA screening reports for these projects, MSC collaborated with the EAB to develop a template screening on the NEAS. The template can be accessed on the NEAS as record #1656 (English) and #1758 (French).

### **EA Follow-up Framework**

In response to the recognized weakness of EA follow-up and in anticipation of the pending amendments to the CEAA, EC developed a working document for an EA Follow-up Framework. The framework provides direction for EC staff in conducting and participating in EA follow-up programs. Specifically, the framework establishes criteria to aid in deciding on the need for EA follow-up, establishes criteria for scoping the follow-up issues, identifies potential tools and methodologies that may assist in the design and implementation of the EA follow-up, and identifies EC's roles and responsibilities in the EA follow-up. A working draft of the framework was completed by the end of March 2001. The framework will continue to evolve throughout the next fiscal year and as it is put into practice in the coming years.

## **EA Guideline: Wildlife Species at Risk in Canada**

The development of this guideline began in fiscal year 2000–2001, under the guidance of a Steering Committee chaired by the Canadian Wildlife Service (CWS) and consisting of staff from EC (EAB), CEAA, DFO and Parks Canada, as well as CWS Regional EA coordinators. The purpose of the guideline is to outline best practices for identifying, assessing and mitigating potential effects of projects on SAR. It will provide guidance to federal EA practitioners, as well as other EA practitioners and proponents. The guide will cover principles of good practice for all SAR, an approach to effectively address SAR issues in EA and key background information. The guide will also include appendices with additional information, including relevant legal and policy requirements, key contacts and their roles, as well as sources of information.

## **Cumulative Effects Assessment (CEA) Working Group**

In December 2000, a working group was formed within EC to discuss CEA. Its mandate is to develop and recommend tools, strategies and management options to carry out better assessments of cumulative effects related to EC's areas of expertise. To support the work of the group, an electronic discussion forum was created on the EC Intranet (to foster the exchange of information and ideas on CEA). To date, the forum has been used mainly as a storehouse of CEA-related documents. In time, it is hoped that the site can promote more informal exchange of information among the working group members (consisting of at least one person per region, plus representatives of MSC, CWS and NWRI). The working group has met four times by teleconference and shared information related to cumulative effects issues in the various regions. Requirements for possible future guidance material on CEA, for EC practitioners, were also discussed by the group members. Regional-level EAs, an issue that EC put forward during the CEAA five-year review process, will also be discussed by the working group in the months to come.

## **TRAINING AND MEETINGS**

### **Strategic Environmental Assessment (SEA) Training**

The release and delivery of the SEA training program in 2000–2001 have garnered significant positive feedback, with requests for headquarters and regional training. EAB trained several groups within the Department and provided one-on-one guidance for seven

departmental SEA drafters over the last 12 months.

For the upcoming year, in response to the release of EC's Sustainable Development Strategy, the SEA guidance material will be expanded to include guidance on sustainability assessment, supplying a basic understanding of how to identify significant environmental effects and flag

potential direct and indirect social and economic effects. Other plans include development of a new interactive training CD-ROM to be available later this fall (2001) to any EC staff interested in learning more about SEA. Also in the works is a regional training session planned for the Atlantic Region and an SEA presentation under Canada's Memorandum of Understanding with Hong Kong.

### **IAIA 2000 — Hong Kong**

The 20<sup>th</sup> Annual International Association for Impact Assessment (IAIA) Meeting and Conference was held in Hong Kong from June 19 to 23, 2000. The theme of the meeting was "Back to the Future: Where Will Impact Assessment Be in 10 Years — And How Do We Get There?" This meeting included a number of plenary and panel discussions on key issues such as environmental sustainability, SEA, social impact assessment, health impact assessment, biodiversity, follow-up, integrated appraisal, corporate environmental responsibility and urban environmental issues. Several EC staff attended this meeting and benefited from the information provided during the technical sessions, as well as the exposure to the various fields of impact assessment at the international level.

### **7<sup>th</sup> International Symposium on Concerns in Rights-of-Way Management**

More than 460 participants from 22 countries gathered in Calgary, from September 9 to 13, 2000, to discuss a variety of environmental implications and issues relating to rights-of-way

management. Subjects discussed at the symposium included cumulative effects, habitat fragmentation, wildlife crossings, and reclamation and mitigation plans, as well as impacts on migratory birds, wildlife and fish.

### **National Meeting for EA-EP Coordinators and Technical Specialists**

The 3<sup>rd</sup> Annual Meeting of the Environmental Assessment – Environmental Protection (EA-EP) Specialists Working Group was held September 28–29, 2000, in Halifax. A lot of discussion was generated on a recommended approach to providing advice to other review agencies in relation to section 36 of the *Fisheries Act*. EA guidelines for aquaculture and golf course projects were presented and discussed along with a proposed online version of guidelines for linear projects (roads, pipelines, etc.). There were open table discussions on EP issues related to the deliberate sinking of vessels in fresh and marine waters and the role of EA in the upcoming green infrastructure program.

### **Cumulative Environmental Effects: Management, Tools and Approaches**

From November 1 to 3, 2000, over 400 EA practitioners, proponents, regulators, academics and advocates gathered in Calgary to discuss and share their experiences in addressing and, more importantly, managing cumulative environmental effects. This conference, of which EC was a major sponsor, included a large number of technical presentations, a panel session consisting

of various perspectives (legal, regulatory, proponent, environmental advocate and management) as well as six case studies, also presented by panels (topics included Multi-sector Development in the Oil Sands Region; Regional Ecosystem Management in the Rocky Mountains; Regional Effects Management in Canada's North; Management of Cumulative Effects in a Boreal Forest; Effects on Urban and Industrial Activities on Canada's Fishery; and Intensive Livestock Management in Canada).

### **National Practitioners' Workshop**

The Pacific and Yukon Region was host to the 2000 Annual EA Practitioners' Workshop, held on November 8–10. The annual workshop allows for EC staff across the country to share work experiences related to conducting and reviewing EAs. Among the topics discussed during the workshop were regional highlights and high-profile projects/issues, an update of the status of the Five-Year Review of CEAA and recent legal decisions relating to EA. The workshop theme was "Science in EA," which was reflected in two presentations: Climate Scenarios: Innovative Tools for Air Quality Modelling; and Significance of Buffers and Corridors Around Wetlands. The agenda also touched on R&D in the EA Program, migratory bird regulations, cumulative effects and the evolving EA electronic tools. The EA Practitioner of the Year Award was presented to Bob Shepherd of the Pacific and Yukon Region, in recognition of his dedication and achievements in EA.

### **National EACC Annual Meeting**

The regional chairs of the Environmental Assessment Coordinating Committee (EACC) met in Hull for two days of discussions on March 7–8, 2001. They reviewed their regional workplan priorities and issues and discussed national initiatives, including the R&D Plans, the Core Capacity Analysis, the EA Follow-up Framework and the CEA Initiative. CEAA issues were discussed, including the Class Screening process and status, the Exclusion List amendment process and status and the Five-Year Review Status and Financial Report. Other new EC initiatives were discussed, including the National Climate Change Action Plan and the Northern Oil and Gas Initiative.

## CHALLENGES AND PROPOSED DIRECTION

The National EA Program is heading into a new era, with some exciting new opportunities presenting themselves. With the new legislation on the way, the Program has an opportunity to increase its profile while at the same time addressing its future needs.

Complying with the proposed changes to the CEAA is a priority and also the Program's biggest challenge. Implications to the resource levels of our program in order to meet the requirements of the proposals are substantive.

An EA capacity study is under development and will address the "program integrity" aspects of the National EA Program, as well as the new directions being dictated by the proposed changes to the Act. The initial draft of the study confirms that there are some scientific and technical areas related to EA that are in need of assistance. For the time being, we, as practitioners of EA, need to remain creative and make the best use of existing resources and any that become available. The new resources that have been designated for the Department to address proposed changes to the CEAA will be of benefit to the National Program.

The proposed changes to the Act bring an increased emphasis in areas such as follow-up and regional environmental effects. Follow-up is an important area with new requirements, since the Department will be responsible for implementing any recommendations it makes to other government departments.

Follow-up has been identified as one of those core areas where more attention needs to be paid. EC was a major proponent of including a reference to regional environmental effects studies in the proposed new legislation. Regional studies can be a way of increasing our development and sharing of knowledge and improving and cultivating our partnerships and could ultimately be an incentive to support the environment through facilitation of EAs and the encouragement of greater harmonization.

There are some basic trends that seem to be emerging, which need to be considered when looking to the future of the Program.

Globalization in areas such as business, environmental management and communications is going to put increased pressure on Canada's natural resources. This will emphasize the need for international EA cooperation and standards. The energy-related projects under way or in planning stages across Canada involve Canada's non-renewable resources, with the ultimate destination of the various forms of energy being outside Canada. SEA offers the potential to deal with broader national issues within a global context.

Decentralization of EA responsibilities is a fact of life, particularly considering the roles of our provincial/territorial governments and existing and emerging Aboriginal land claim agreements. The gradual shift of EA-type responsibilities from national to provincial/territorial and local authorities, Aboriginal groups,



industry and individual consumers is going to continue to challenge our Program.

As a priority, the National EA Program must ensure that the Department complies with the CEAA, including the new proposed changes. As practitioners, we need to make sure that the Program can continue to play a significant role in achieving EC's overall goals and objectives. EA can be used to help advance the Department's agenda and

can make significant contributions to the environmental priorities of the Department. Communicating departmental priority messages has always been difficult. However, making linkages via EA submissions and clearly communicating the messages through effective responses are essential for the long-term success and stability of the Program.

**Doug Tilden**

**Jon Gee**

**Ian Travers**

**Tim Hibbard**

**Claude Saint-Charles**

**Mike Nassichuk**

## **ABBREVIATIONS**

Act	<i>Canadian Environmental Assessment Act</i>
AEC	Alberta Energy Company
Agency	Canadian Environmental Assessment Agency
CEA	Cumulative Effects Assessment
CEAA	<i>Canadian Environmental Assessment Act</i>
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWS	Canadian Wildlife Service
Department	Environment Canada
DFAIT	Department of Foreign Affairs and International Trade
DFO	Fisheries and Oceans Canada
DIAND	Department of Indian Affairs and Northern Development
EA	Environmental Assessment
EAB	Environmental Assessment Branch
EACC	Environmental Assessment Coordinating Committee
EC	Environment Canada
EP	Environmental Protection
FA	Federal Authority
GHG	Greenhouse Gas
GSX	Georgia Strait Crossing Project
IAIA	International Association for Impact Assessment
IJC	International Joint Commission
MC	Memorandum to Cabinet

MSC	Meteorological Service of Canada
NCC	National Capital Commission
NEAS	National Environmental Assessment System
NEB	National Energy Board
NRTS	New Referral Tracking System
NSERC	Natural Sciences and Engineering Research Council of Canada
NWRI	National Water Research Institute
Program	National Environmental Assessment Program
RA	Responsible Authority
R&D	Research and Development
SAR	Species at Risk
SEA	Strategic Environmental Assessment
TRTFN	Taku River Tlingit First Nation
WSC	Water Survey of Canada