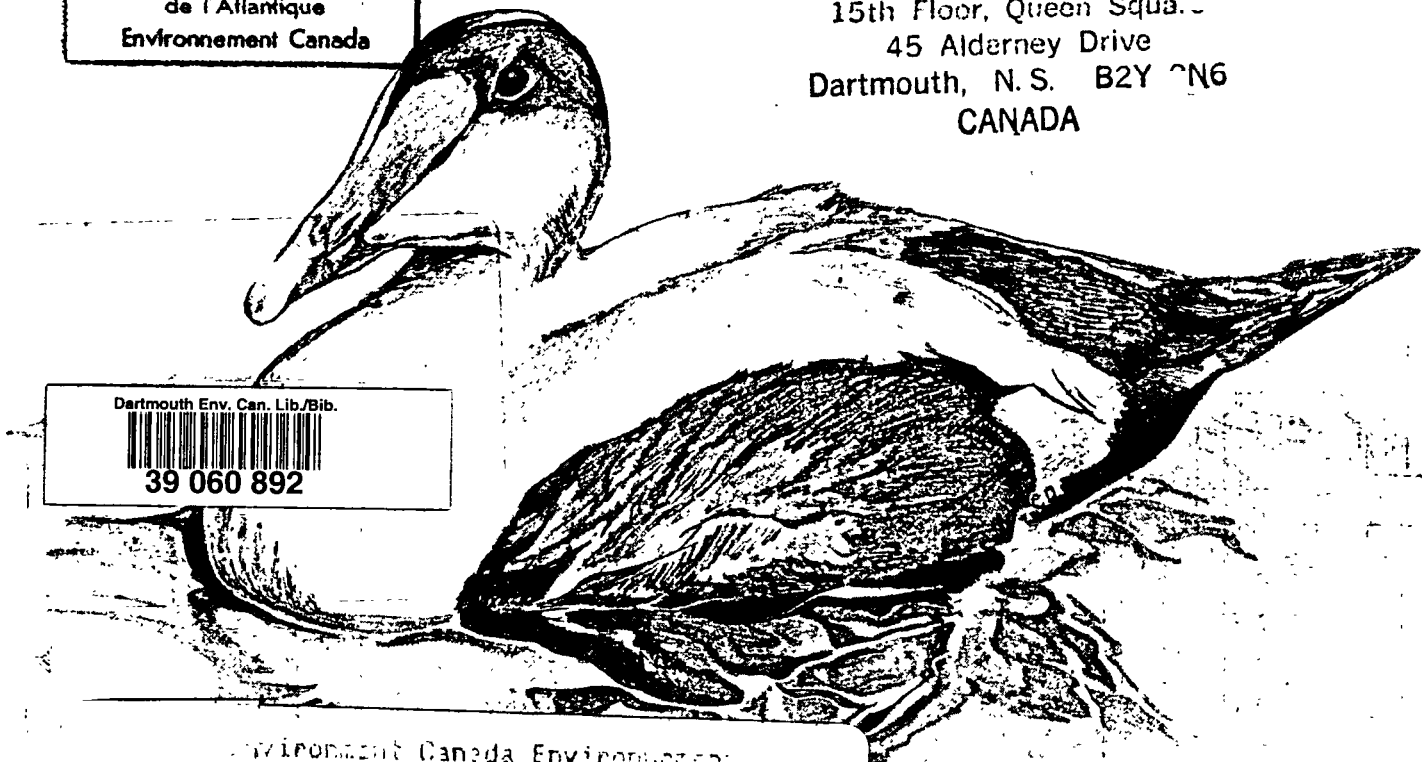
ENVIRONMENTAL CONSERVATION BRANCH

ATLANTIC REGION

BRIEFING BOOK

JUNE 1994



THE ENVIRONMENTAL CONSERVATION SERVICE

Putting Sustainable Development into Action

An Atlantic Region Overview

General Context

Canada has been a strong supporter of sustainable development since the earliest days of both the World Commission on Environment and Development (The "Brundtland Commission") and the World Conservation Strategy, which put the concept of sustainable development on the international political agenda. Environment Canada has played a key role in the evolution of this concept in Canada and in its implementation across the country. Indeed, the advancement of sustainable development lay at the heart of Environment Canada's contribution to the development of Canada's Green Plan and remains at the centre of the department's mission to this day.

The Environmental Conservation Service (ECS), one of Environment Canada's three main services (the other two being Environmental Protection Service and the Atmospheric Environment Service), is fundamentally oriented toward building on this historical commitment by striving help to put sustainable development into action throughout the country. Indeed, the business of ECS is the realistic, on-the-ground, effective practice of sustainable development. We salute the many bodies, in Canada and internationally, that are considering difficult theoretical questions about sustainability and remain eager to assist developing solutions to these issues.

However, in a world where there is still no guidebook on how to act sustainably, our focus is on action. Our hope is that in the course of our work, we will, in effect, contribute to such a book. We hope to do so by showing how sustainable development operates and what governments, businesses, communities and individuals must do if they are to translate admirable goals into workable decisions and results.

Our work in this regard is premised on the recognition that in the post-industrial world, knowledge is the key to action. In our context, this means collecting, generating, analysing and disseminating information on ecosystem science, managing and leading scientific efforts in the department, reporting on the state of the environment, developing indicators of sustainable develoment and continuing to manage the water and wildlife resources under the jurisdiction of the federal government. All these activities are essential elements supporting Canada's competitiveness and the creation of long-term business, employment and export opportunities for Canadians.

The basic *modus operandi* of ECS is one of open, consensus-seeking partnership approaches to resolving complex, multi-jurisdictional, multi-sectoral issues. ECS's experience in building partnerships and operating within them, particularly in the

wildlife area, forms the core upon which the operating approach of the Service is based. This approach is premised on the recognition that in today's society, governments cannot do everything and cannot remain isolated from the people and organizations whose existence we influence. What we can do - and what ECS is doing - is to support Canadians in making the changes to their attitudes, choices, behaviour and expectations essential to sustainable development.

The Atlantic Region Context

Atlantic Canada is blessed with a rich and diverse natural and cultural heritage. From the sub-Arctic regions of northern Labrador to the more temperate climes of southern Nova Scotia, the region is one of the most ecologically and physically diverse regions of Canada. Large stretches of relatively untouched coastline of great beauty remain throughout the region while the forests, lakes and streams of the region continue to support biodiversity throughout all provinces.

Culturally, Canada's original peoples, the Indians of the Maritime provinces and the Inuit and Innu of Labrador have an enduring tie to the lands and seas of the region and have a strong and vibrant culture which remains as much a part of the modern day life of the four Atlantic provinces as it was at the time of the first European contact with what is now Canada.

Nowhere in Canada is the history of non-aboriginal settlement in Canada as long standing and tradition filled as it is in Atlantic Canada. The first voyages of Europeans to the "New World" brought explorers and fishermen to Canada's Atlantic shores and led to the establishment of seasonal and permanent fishing settlements as far back as the early sixteenth century. Later, more permanent settlements were established throughout the region as settlers from Great Britain and France sought to establish new lives for themselves based on the forests, furs and fish of Atlantic Canada. The result is a modern day Atlantic Canada which, whether one thinks of the inimitable Newfoundlanders, the Acadians of New Brunswick and Nova Scotia, the Scots of Cape Breton or the farmers and fishers of Prince Edward Island, is as fascinating and enduring as any in Canada.

Unfortunately, the continued viability of this unique Atlantic heritage is under threat. Environmental stresses ranging from the exploitation of natural resources, siltation problems in tidal rivers which have been dammed, habitat disturbance, endangerment of flora and fauna species, contamination of coastal waters from land based sources, loss and or degradation of wildlife habitat and wetlands in particular, polluted harbours, waste disposal problems (land and sea based), mega-projects, and loss of aesthetic value threaten the health of ecosystems in all four provinces. More broadly, the full range of international pressures such as global warming, ozone depletion and so on, affect Atlantic Canada as well. Mega-projects such as Hibernia hydrocarbon development or the fixed link between PEI and New Brunswick pose a range of risks of their own.

Atlantic Canada is being buffeted by major economic challenges as well. The loss of many fish stocks has closed fisheries throughout the region and has put as many as 40,000 people out of work. Though communities dependent on the fishery have been the hardest hit by this disaster, its implications have been felt throughout Atlantic Canada and indeed, throughout Canada. Economic decline in the forestry, mining and manufacturing sectors has exacerbated these difficulties. At the same time, continued downsizing the public sector upon which the Atlantic economy is so dependent has placed additional stress on the region and has eroded the economic buffer which might normally have served to mitigate the impacts of the fisheries crisis.

In short, Atlantic Canada demonstrates, perhaps better than any other region of Canada, how fundamentally environmental and socio-economic issues are intertwined and how essential it is that integrated, cohesive efforts be made to address these issues as two elements of the same problem and not as separate matters requiring separate solutions. This approach is the essence of sustainable development and lies at the root of all ECS activities in Atlantic Region.

ECS Organization: Headquarters and Atlantic Region

ECS was established in 1993 and was designed with the mission and challenges outlined above in mind. At the national level, the Service is headed by Dr. Robert W. Slater, Assistant Deputy Minister and consists of the following four Directorates, each headed by a Director-General: Canadian Wildlife Service, Ecosystem Conservation, Biodiversity, State of the Environment. These Directorates are also supported by the Program Integration Branch housed within the Environmental Protection Service.

In the Atlantic region, which include the three Maritime provinces as well as Newfoundland and Labrador, Environment Canada has been consolidated into an integrated organization consisting of seven units reporting to a single Regional Director-General who in turn reports to the Deputy Minister in Ottawa. These units include Atmospheric Environment Branch, Environmental Protection Branch, Environmental Conservation Branch, Informatics, Human Resources, Management Services and Corporate Policy. The Directors of each of these units, together with the Regional Director-General, constitute the Regional Management Committee which manages the affairs of the department within the region.

At the regional level, ECS is known as the Environmental Conservation *Branch*, to distinguish it from the national *Service* based in Ottawa. In the Atlantic Region it is headed by a Director, Dr. George Finney (506-364-5011) and consists of five operational divisions, each headed by a "Manager" reporting to the Director. These divisions are: Environmental Conservation Strategies based in Dartmouth, Ecosystem Science with offices in Moncton, Sackville and Dartmouth, Wildlife Conservation in Sackville and Dartmouth and Environmental Quality Laboratories in Moncton, Bedford and St. John's. Finally, ECB's program delivery in Newfoundland and

Labrador are coordinated through the ECB District Office in St. John's. In addition, the Director and the five divisions are supported by a Financial Planner, a Secretary and a Manager of Biodiversity Program Development based in Sackville. The Branch consists of approximately 96 staff located in Moncton, Sackville, Dartmouth, Bedford and St. John's.

ECB Activities in Atlantic Region

Detailed descriptions of the various issues with which ECB is involved are provided in the pages which follow. In general however ECB Atlantic Region, operating with a budget of approximately $11,000,000, will deliver on ECS agenda in a number of ways. The Branch will continue to ensure that the Department's legislative obligations under the Canada Water Act, the Migratory Birds Convention Act, the Canada Wildlife Act and the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act are met in the Atlantic Region. While hydrometric monitoring will be carried out by the Atmospheric Environment Branch, ECB will lead other water related programs with the four Atlantic provinces. The "traditional" business of the Canadian Wildlife Service with respect to the Migratory Birds Convention Act and the Canada Wildlife Act (population surveys, bird related science, habitat management and protection, NAWMP...) will remain an integral part of the ECB-AR's operations.

ECB will continue to build upon its existing capacity in the area of ecosystem science. Work in this regard will consist of scientific efforts to increase our collective understanding of Atlantic ecosystems and the impacts of human activities upon them and to support the natural resource management programs of the ECB and other agencies. The necessary laboratory support for these activities, as well as those of other DOE units, will also be provided within ECB.

Efforts to unite environment and economy decision making through programs such as the Nova Scotia Sustainable Economic Development Agreement will also form a significant element of ECB-AR activities. Similarly, the Atlantic Coastal Action Plan will continue to support community based sustainable development initiatives in each of its thirteen sites across the region.

Very few ECB activities will be conducted without the direct involvement of one or more provincial agencies. Indeed, partnerships with the four provinces in the region are absolutely central to ECB activities and will need to be forged and maintained by staff at all levels of the organization. At the same time, ECB, particularly in light of its scientific roles, will work in close partnership with the academic community through mechanisms such as the Atlantic Canada Wildlife Ecology Research Network as well as a host of more informal links. ECB's contacts with ENGO's and the private sector, particularly the forestry industry, will continue to be frequent and important.

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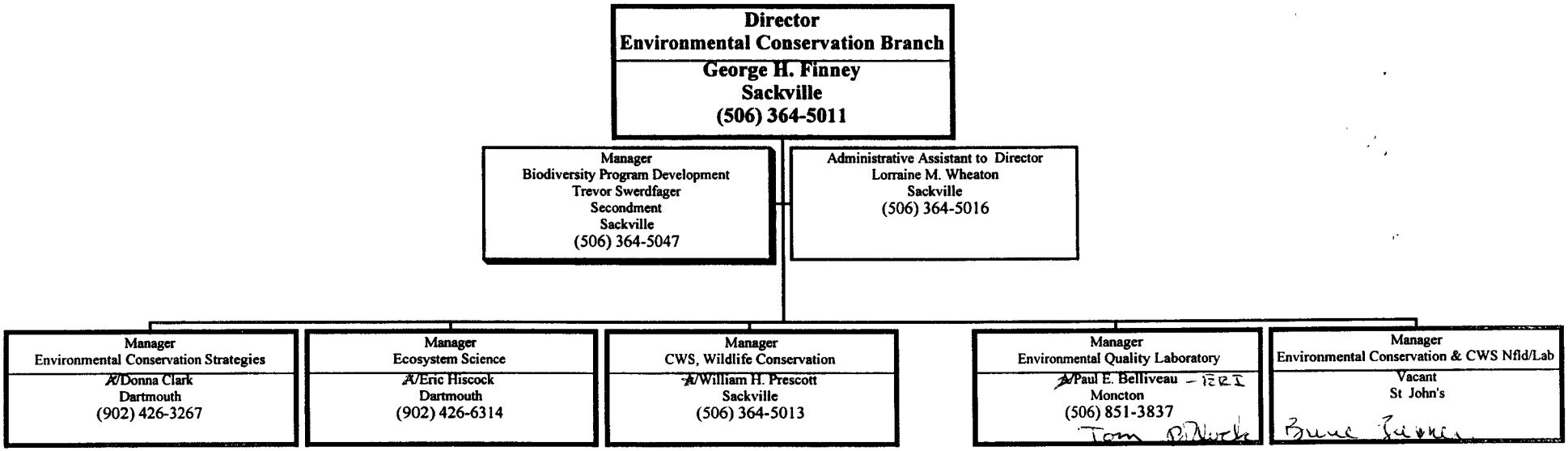

- A- Atlantic Coastal Action Plan coordination
- NS Sustainable Economic Development Agree. (SEDA)
- Fed-Prov. Sector Agreements
- Water conservation strategies
- Resource conservation education
- Water planning & management
- Federal Water Policy
- Flood Damage Reduction
- Canada Water Act Implementation
- Coastal Zone Mgmt & MEQ

Water Agreements

- Wildlife population science
- Habitat research
- Biodiversity research
- Water quality data interpretation
- Hydrology & water quality science
- IJC data support
- State of Environment (SOE) Indicator research
- SOE reporting
- Long Range Transport of Air Pollutants research
- ACWERN &other university links
- Links to DOE Institutes
- Advice and support to management programs
- Environmental assessment

Disgruntled Staff.

- Migratory bird management programs
- Endangered species conservation
- Wildlife population surveys & studies
- Mig. bird damage reduction
- National Wildlife Areas
- Mig. Bird Sanctuaries
- Wildlife habitat cons. strategies
- Protected areas
- NAWMP-EHJV
- Wildlife toxicology
- Habitat monitoring & studies
- Wildlife enforcement
- Wildlife trade

- Organic chemical analysis
- Inorganic chemical analysis
- Bio-assays
- Program support for:
  Water quality program
  Shellfish monitoring
  FA Sect 36 enforcement
  Environmental emergencies
  Wetland research and others
- Advice to management and science programs

- CWS programs in Nfld/Labrador
- Water management programs in Newfound/Labrador
- Native Issues
- Marine wildlife cons strategies
- N/L fed-prov. sector agreements

JUNE 1994

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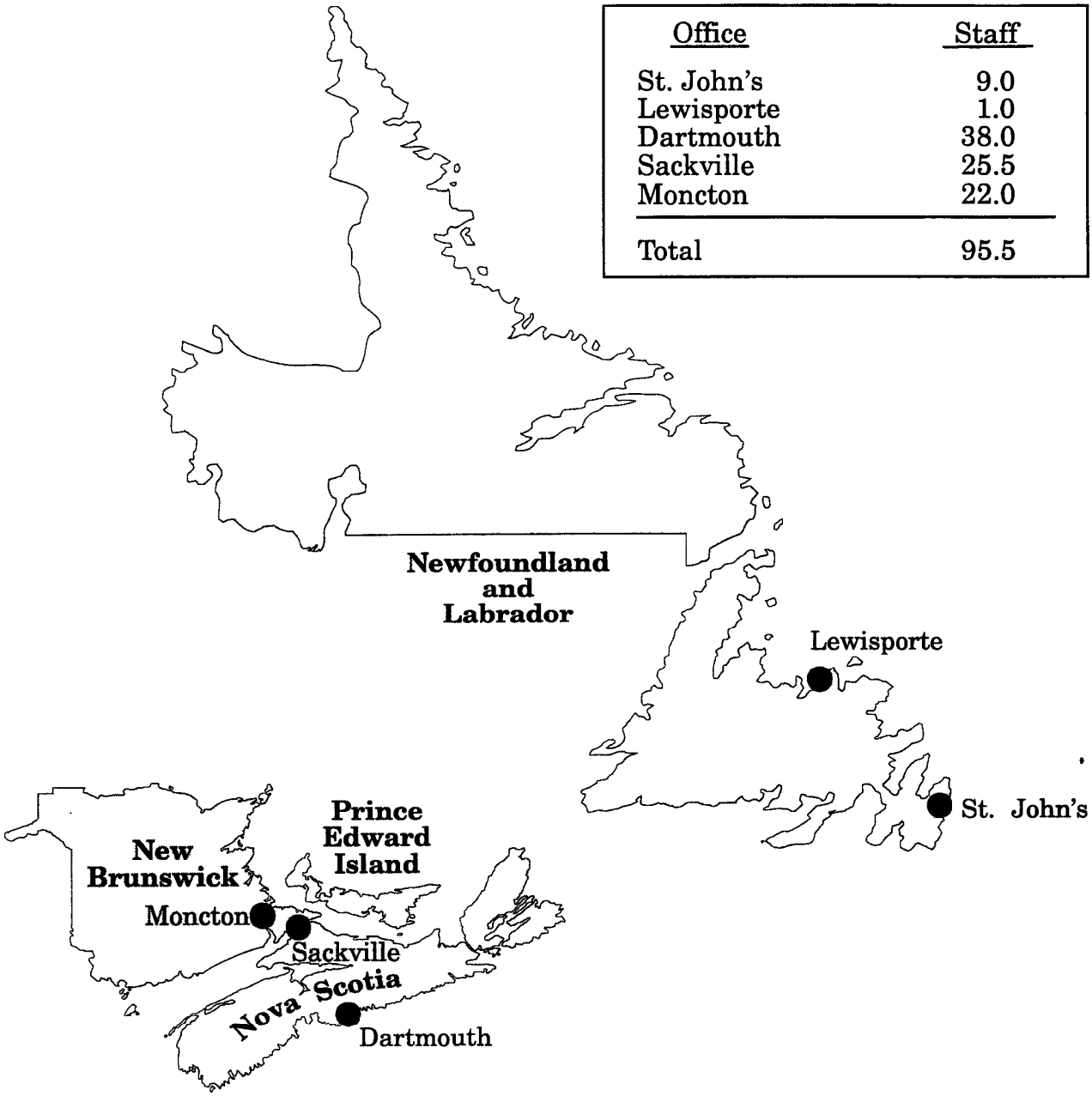
CANADIAN WILDLIFE SERVICE
ATLANTIC REGION 1993-94

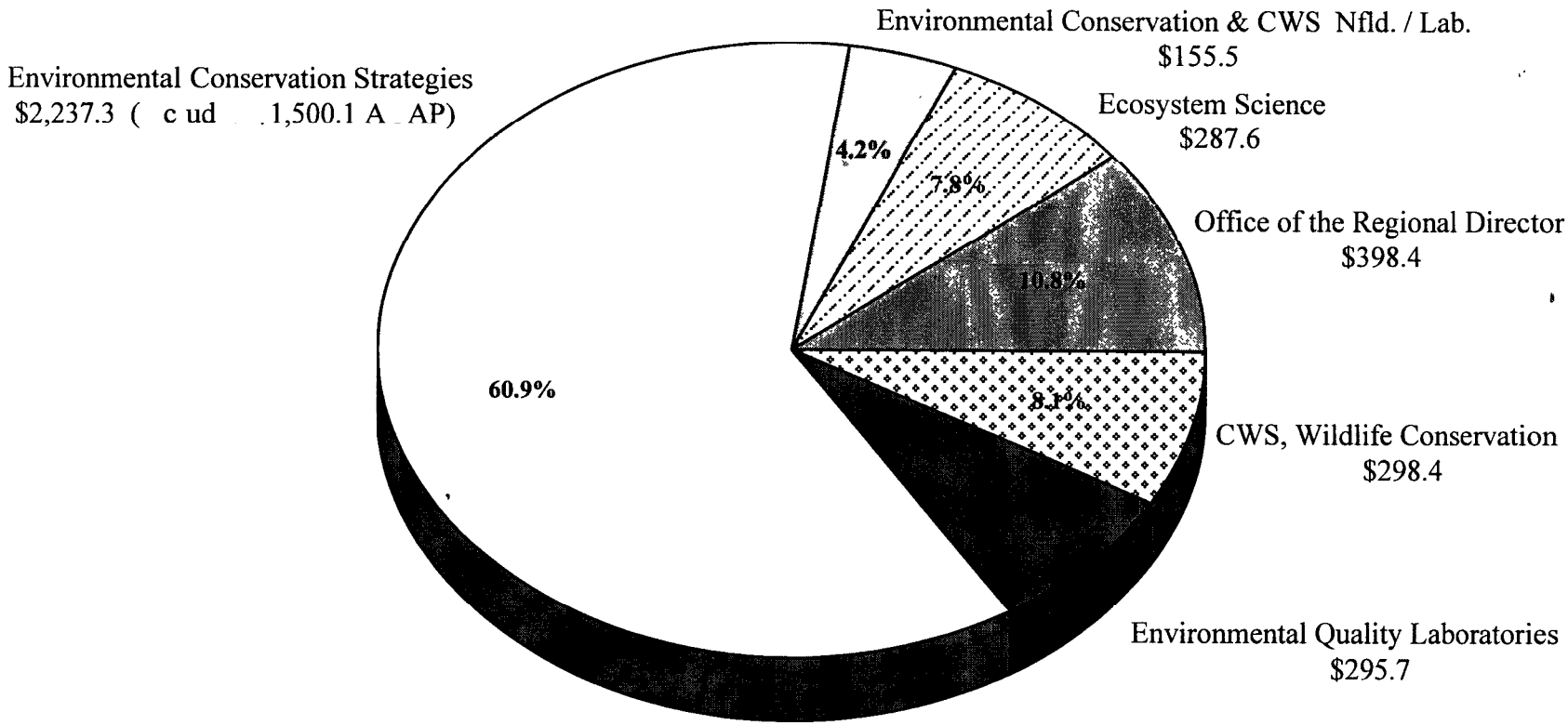
Office	Staff
St. John's	9.0
Lewisporte	1.0
Dartmouth	38.0
Sackville	25.5
Moncton	22.0
Total	95.5



A-Base Budget 1994 - 1995

Operating and Maintenance ($ x 1000)

This diagram shows the distribution of the Environmental Conservation Service internal operating and maintenance among six divisions in the Atlantic Region.



Total - $3,672.9

ENVIRONMENTAL CONSERVATION STRATEGIES

The Environmental Conservation Strategies Division (ECSD) is responsible for a number of significant program areas. These include the Canada Water Act (CWA), the Atlantic Coastal Action Program (ACAP), the Canada-Nova Scotia Sustainable Economic Development Agreement (SEDA), Marine Environmental Quality and Coastal Zone Management. In addition to these broad areas, ECSD is active in developing decision tools for environmentally sensitive development and use of groundwater.

The ECSD plays an important catalytic role in developing partnerships in the pursuit of sustainable development with federal and provincial resource and economic development partners with the business sector and with communities in the region's coastal areas. Funding mechanisms such as ACAP, CWA and SEDA are utilized to lever additional resources in developing strategies and actions for environmentally sustainable development.

Mandate

The mission of the ECSD is to work with Atlantic Canadians in integrating environmental and economic factors into their decision making, in particular where these decisions affect water quality.

The ECSD draws its mandate from a number of sources. These include such legislation as, the Government Organization Act and the Canada Water Act. The Division works to achieve commitments that Canada has made under a number of international agreements such as UNCED and UNCLOS, and through mechanisms such as the International Joint Commission (IJC) and the International Energy Agency.

The Division also works under a number of policies of the federal government. These include the Federal Water Policy and the Federal Policy on Land Use.

Organization

ECSD has adopted an innovative horizontal organizational structure that uses team based approaches to program delivery. These teams draw not only from the 18 member staff of the Division itself, but also from the other divisions of the Environmental Conservation Branch and the other branches of Environment Canada.

Teams have been developed to support the activities of each program area as well as special issue/project teams. The Division staff are located principally in Dartmouth, but also includes one engineer in Moncton to enhance our linkages with the Science Center there.

Program Thrusts

Canada Water Act

- The Canada Water Act (CWA) provides a legislative framework for the joint federal/provincial management of Canada's water resources. It provides the opportunity to establish co-operative rather than competitive working relationships with the provincial water agencies. The harmonization of federal-provincial conservation, protection and regulatory policies can thus be accomplished via CWA agreements. Also, in the long-term the CWA allows Environment Canada the opportunity to influence provincial policy via national standards and by using knowledge gained from agreements with other provinces.

- CWA resources will be used to further the federal government's agenda for water efficiency and conservation, economic approaches to environmental management, groundwater research and guideline development, maintenance of flood plain mapping products, public awareness and integrated ecosystem management planning and action. The Division works actively with other branches in Environment Canada, Atlantic to integrate the federal/provincial management of Water Quantity, Water Quality, Flood Damage Reduction, Water/Economy and shellfish agreements.

- The CWA resources for the Atlantic, totalling approximately $1 million annually, are managed on a province by province basis for the Region. In 1994/95 the CWA Water/Economy Agreement with New Brunswick enters its fourth year; the Newfoundland Agreement will enter its second year and it is anticipated that agreements with Nova Scotia and Prince Edward Island will begin in 1994/95. In addition, Flood Damage Reduction Agreements are in place in Nova Scotia and New Brunswick. An agreement is also ongoing with New Brunswick to further develop the provincial flood forecasting system.

Atlantic Coastal Action Program

- ACAP is one of four ecosystem management programs presently underway within Environment Canada. This $10 million, six-year program announced in 1991, assists 13 project sites in developing comprehensive environmental management plans to restore and maintain coastal environments. Planning assistance is provided in a wide range of areas from identifying environment quality objectives to sustaining social and economic needs, to identifying and evaluating remedial options.

- In addition to planning activities, ACAP assists communities in acquiring the knowledge base, the skills, and the alliances necessary to develop and implement comprehensive environmental management plans. Planning is

complemented by citizenship activities, partnership activities, and technical and economic innovations.

- Communities are active in all of the above mentioned activity areas. Their actions are funded by many government and non-government sources. In addition to direct funding, valuable in-kind support is provided through scientific support and by focusing existing programs on the needs of ACAP communities.

- Building on this ACAP experience, the Division is facilitating the further development of coastal initiatives which will ensure healthy coastal ecosystems.

Coastal Zone Management

The focus of the division's efforts in Coastal Zone Management are focused on the use of existing coordination mechanisms for the harmonizing and development of partnerships in the area of coastal zone management. Two of the mechanisms to be used are:

1. Gulf of Maine Council on the Marine Environment, and

2. Atlantic Coastal Zone Information Steering Committee

Through these mechanisms a number of project areas are being pursued. One of these includes the East Coast of North America Strategic Assessment Project, a cooperative venture between the National Oceanic and Atmospheric Administration in the United States and a number of Federal and Provincial government departments in Canada. The project area extends from Florida to northern Labrador and involves the development of a Strategic Environmental Information Base for offshore and coastal waters and two specific case studies. The case studies will focus on community structure and assemblages in the North Atlantic and the impacts of coastal contamination on nearshore ecosystems.

Marine Environmental Quality

- The National Marine Environmental Quality initiative is a broadly based partnership between 15 federal departments who have an interest in the marine environment. Environment Canada along with the Department of Fisheries and Oceans provides the leadership on several interdepartmental committees and internal committees. The coordination effort is currently focused on the implementation of the Federal Marine Environment Framework and Action Plan produced through the MEQ Working Group of the Interdepartmental Committee on Oceans. The Atlantic Region carries the role of coordinating and maintaining effective linkages, communication and information among the partners. Some specific project areas which the Division supports under the Action Plan include:

- Design of a National MEQ Status and Trends Monitoring Network

- The development of MEQ indicators for use in State of Environment reporting products

- Reporting on the progress and achievement under the Action Plan.

Canada-Nova Scotia Sustainable Economic Development Agreement

- The Canada-Nova Scotia COOPERATION Agreement on Sustainable Economic Development (SEDA), is funded 60/40 by the federal and provincial governments and is jointly administered by Environment Canada, the Atlantic Canada Opportunities Agency (ACOA), the Nova Scotia Department of the Environment and the Nova Scotia Department of Economic Development. The Agreement, signed in March of 1991, is the first of its kind in Canada and will expend $15 million over five years to achieve its goals.

- Its mandate is to work towards achieving sustainable development in Nova Scotia, while taking advantage of business opportunities associated with the conservation and protection of the province's environment. Equally, the Agreement encourages and supports the integration of environment and economy in all aspects of development, and the involvement of informed publics in decision-making processes. The Agreement has been realizing these objectives through the delivery of four programs:

  - The Environmental Assistance to Business Program and the Demonstration and Business Support Program collectively provide assistance to small and medium-sized companies to help them find solutions to their environmental problems, implement new environmentally-friendly technologies, and develop and demonstrate new products and services that promote sustainable development.

  - Through the Public Education and Information Program, the Agreement offers funds to companies or groups with creative educational projects that will provide information to business people and the public about the nature, role and importance of sustainable development in Nova Scotia.

  - The Nova Scotia Centre for Environmentally Sustainable Economic Development (CESED) has been established to bring together the environmental concerns of Nova Scotia's businesses and industries with the research capabilities of the province's universities and colleges to create readily accessible solutions and marketable products that will benefit everyone concerned.

- To date, approximately 130 projects have been approved and among these a number of projects have been completed. The accomplishments of many of these projects suggest that the Agreement is successfully promoting the integration of

economy and environment in development and decision-making processes in Nova Scotia.

Groundwater/Aquifer Thermal Energy Storage

- A technology for conserving waste heat using aquifers for storage, on a seasonal basis, has been developed in Canada, the USA and Europe. It is estimated that at least twenty percent of Canada's energy requirements can be conserved with groundwater source earth energy technologies. ECSD is participating in a five year, International Energy Agency (IEA) Research Development and Demonstration Agreement that will ensure that ATES is developed in an environmentally sensitive manner. This will be done by documenting the environmental aspects of ATES on the ground and groundwater and by providing screening and decision tools for environmentally beneficial applications using an integrated community approach. ATES can be beneficial to all sectors of the economy including the institutional building sector, and the industrial, agricultural and aquaculture sectors.

- A community-based multi-partner ATES development project is underway in Sussex, N.B. It is intended to integrate various earth energy technologies available to Canadian utilities, engineering groups, and groundwater management experts.

- In addition the Division is actively developing and implementing a groundwater research strategy for Environment Canada, Atlantic. As part of this strategy we are developing, in cooperation with government, universities and the private sector, an Atlantic Canada Groundwater Network to promote the advancement of groundwater research, development and education.

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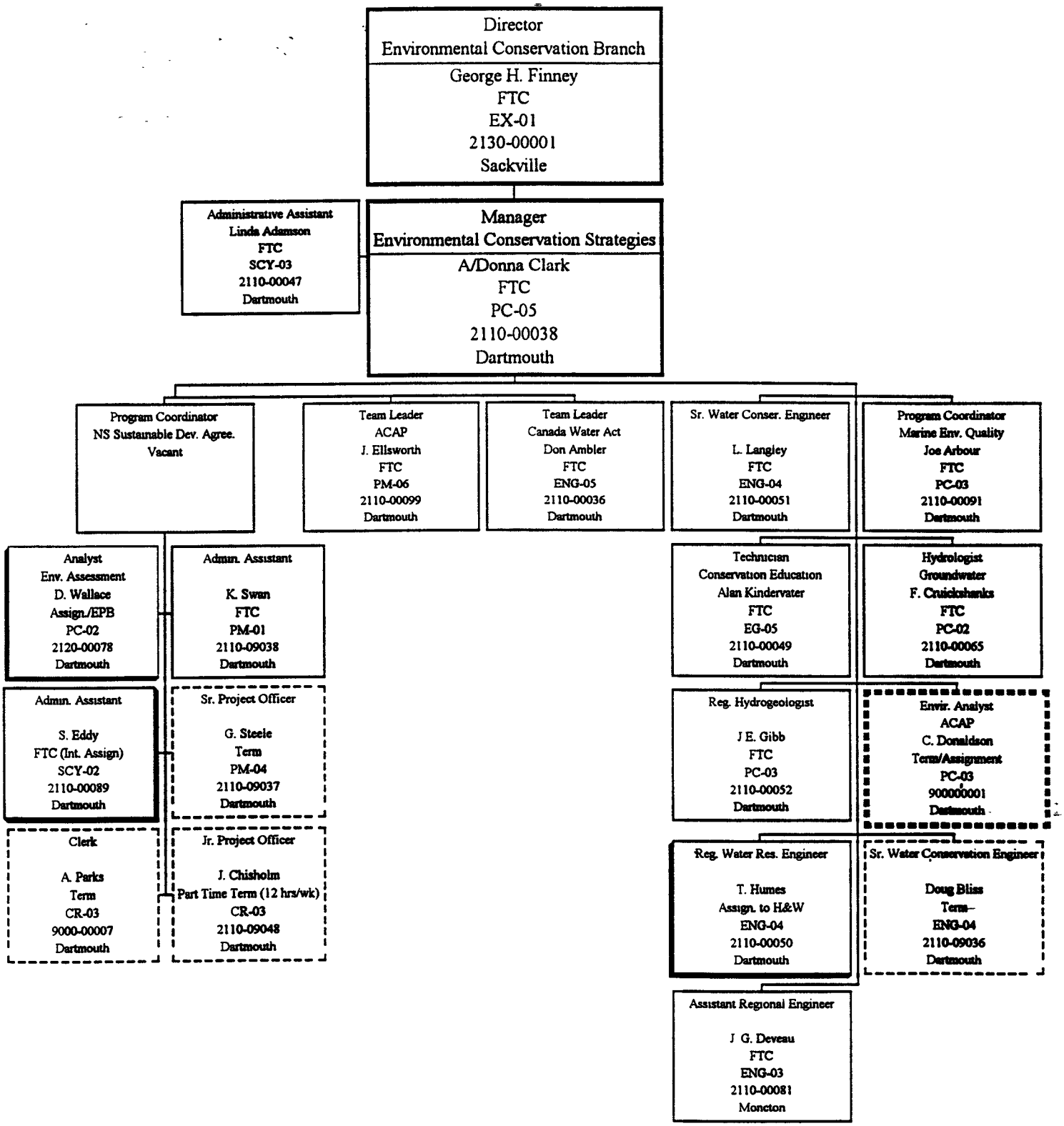

ECOSYSTEM SCIENCE DIVISION

The Ecosystem Science Division is the Branch's focus for research monitoring and applications related to priority water and wildlife issues. The role of these resources in Ecosystem functioning will be emphasized as will the need to ensure biodiversity.

More specifically the Ecosystem Science Division conducts directed research and related scientific monitoring of physical and biological components of ecosystems to provide information on ecosystems diversity and structure. The effects of human activity on biological diversity and ecosystems are addressed. Research and monitoring data are evaluated and interpreted. Information for environmental assessment state of environment reporting, regional flagship programs and other applications is integrated.

The seven major program areas listed below, are undertaken by 22 staff located in St. John's, Newfoundland; Dartmouth, N.S.; Sackville and Moncton N.B. A brief description of each program is followed by an assessment of likely changes in emphasis and the rationale for addressing each topic.

Biological, Diversity and Ecosystem Research

- Included are research and broad-scale monitoring on biological diversity and abiotic and biotic components of ecosystem structure, interpreting and modelling ecosystem functions, and extending effectiveness through formalized cooperative research with three regional universities, other federal departments and provincial agencies, and through links with other elements of Environment Canada.

- Increasing priority is placed on the ecosystem approach, the need for a scientific basis in assessing and addressing biodiversity issues. Resources will be redirected from the following two program areas over time, while ensuring that key sectoral science needs are still met.

Scientific Support for Wildlife Programs

- This activity includes research and ecosystem monitoring in support of management of migratory bird populations, endangered species and wildlife habitats, where information is required beyond that obtained from biodiversity and ecosystem research.

- It is anticipated that this requirement will eventually be accommodated

through increased broad-based ecosystem research and contributions from research partners. Over a period of years a reduced proportion of resources will likely be assigned specifically to these sectoral needs.

Scientific Support for Water Science Programs

- This activity addresses science aspects of present water and environmental effects monitoring programs, and the quality control and interpretation of water-based environmental quality databases and international water obligations.

- In the future priority will shift from water sampling at many sites to collecting specific water quality data and using them and hydrological data to address ecosystem-based questions, in linking biotic and abiotic components of ecosystems science.

Ecosystem Impact Research

- Included are research and monitoring of impacts of human activity on ecosystems, including studies of the effects that airborne and waterborne pollutants, toxics and pesticides, and land use changes have on components of ecosystems.

- The increased need to address effects of specific stressors on components of ecosystems will be addressed through redirection of priorities and through cooperative approaches with research partners.

Ecosystem Impact Assessment

- This activity involves collecting and integrating information to provide input to EPB on conservation requirements and ecosystem aspects of environmental impact assessment. It will remain a high priority.

Data Integration and Interpretation

- Emphasis is on integrating and interpreting ecosystem research and monitoring data, together with databases from other sources, using GIS, remote sensing and other analytical tools. ACAP and "Green Projects" are supported and integrated and interpreted data are provided to clients and partners in EC, OGD's and the private sector. An increasing priority will be placed on this function as the ecosystem approach matures, requiring effective integration of data from many sources.

State of Environment Reporting

- This activity includes research and monitoring of SOE indicators, integrating data from other program areas for state of environment assessments, producing regional state of environment report cards and fact sheets, and coordinating regional and HQ SOE initiatives.

- Increased priority will be placed on packaging key scientific findings to best inform the general public and specific target groups of EC accomplishments, concerns, and action needed to improve the state of Atlantic Canada's environment.

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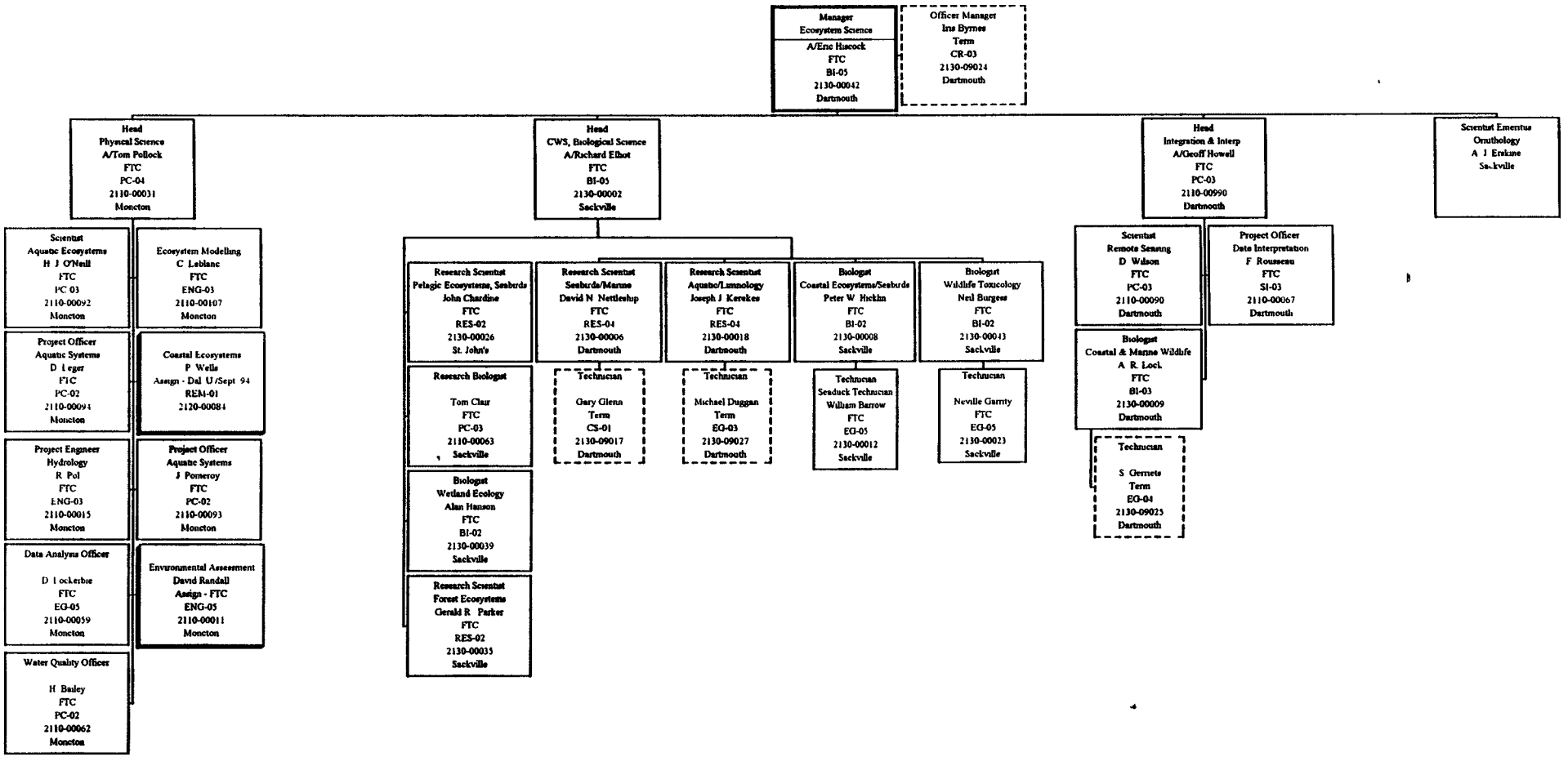

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WILDLIFE CONSERVATION DIVISION

The Wildlife Conservation/Canadian Wildlife Service Division (WCD) is located principally in Sackville, N.B. at the regional ECB office, with enforcement officers at BIO, Dartmouth, N.S. and in Newfoundland at St. John's and Lewisporte. The WCD is responsible for the protection and management of migratory birds in the Atlantic Region. This includes setting and enforcing regulations under the Migratory Birds Convention Act (MBCA), the Canada Wildlife Act (CWA) and the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA), monitoring population levels and trends, identifying and protecting important and critical wildlife habitats, protecting and rehabilitating rare and endangered wildlife species, and providing information and advice to other agencies and the public that will help them protect wildlife and wildlife habitats. Management and protection programs are jointly implemented and supported by the Ecosystem Science Division, the Environmental Conservation & CWS Newfoundland/Labrador Office, Provincial Wildlife Offices, Non-Government Organizations and the general public.

Regulations and Enforcement

- The first and principal approach to protecting migratory birds was through the setting and enforcement of regulations under the Migratory Bird Convention Act of 1917. These regulations provide protection for migratory game birds, migratory insectivorous birds and migratory nongame birds. For migratory game birds, hunting seasons, harvest limits, hunting zones and methods of hunting were all defined and modified as required on an annual basis.

- Illegal hunting remains a significant problem in many areas. In parts of the Maritimes, spring hunting is a tradition. In Newfoundland, consistent enforcement effort only began in the 1980s, and compliance to regulations has generally been poor. Enforcement of migratory bird regulations in Labrador remains sporadic, and has been complicated by uncertainties in interpreting the rights of access to migratory birds by native groups.

- The Atlantic Region has 4 enforcement officers who coordinate the MBCA enforcement activities of the RCMP, provincial and other enforcement agencies in the region. This includes the gathering of information on illegal activities, training, coordination enforcement activities and on occasion direct enforcement. The issuance of special permits for aviculture, taxidermy, problem birds and scientific research is handled through the Environmental Conservation Branch regional office.

- Recent enforcement of CITES (Convention on International Trade of Endangered Species) with Customs Canada to prevent the importation of international endangered wildlife species (or their parts) has increased and thereby provides some protection of those species. A new act, WAPPRIITA, was declared in 1993 and will include CITES regulations. One special WAPPRIITA officer is now located in Sackville, N.B. A second officer will be hired in 1994 to help coordinate these activities.

Migratory Bird Surveys

- In order to conserve and protect migratory birds, their numbers and movements must be monitored using a variety of methods. Significant changes in population levels and distribution may require changes in protection activities or regulations to restrict or expand hunting opportunities as appropriate.

- Waterfowl are important game species in the region, especially in Prince Edward Island where there are no big game animals. Major game species are the Black Duck, Canada Goose, and seaducks, especially the Common Eider. There are approximately 50,000 registered migratory bird hunters in Atlantic Canada.

- In order to ensure proper management of game bird species, provincial Waterfowl Management Plans were developed and are now being implemented. WCD/CWS also coordinates the implementation of the Black Duck Joint Venture in Atlantic Canada, particularly through improved surveys of Black Ducks and other inland ducks. Considerable effort is made through the Cooperative Banding Program to capture and band waterfowl to determine species survival rates and migration movements. Information on waterfowl and management regimes must be exchanged and carefully correlated with neighbouring provinces and U.S. states in order to ensure a coordinated approach throughout their range.

- Lead shot, if ingested by waterfowl, can cause sickness or death. Surveys of hunting areas in the Maritimes have shown that there are many problem areas where expended lead shot is readily available to feeding waterfowl. By 1993, five such areas were designated as non-toxic shot only zones, and by 1997 only steel or other non-toxic shot will be permitted for duck hunting throughout the three Maritime provinces.

- Non-game bird species, such as shorebirds, loons, songbirds, etc., are monitored through a series of volunteer assisted survey programs. These include the Breeding Bird Survey, Maritime Shorebird Survey and Christmas Bird Count. WCD/CWS coordinates many of these and maintains an extensive network of volunteers throughout the Maritime provinces.

- Migratory bird surveys are carried out and/or coordinated by 2 biologists and a technician assisted by many other departmental and provincial wildlife staff and a host of volunteers. A third biologist will be added in 1995 to concentrate on forest songbirds.

Endangered Species Recovery Program

- Several wildlife species in the region have been identified as endangered or threatened. The principal endangered or threatened bird species in the region are the Peregrine Falcon, Eastern Harlequin Duck, Piping Plover and Roseate Tern. Environment Canada leads and/or coordinates the development and implementation of recovery plans and programs, much of which are carried out by volunteers and other government agencies. One biologist coordinates this program.

Habitat Protection and Management

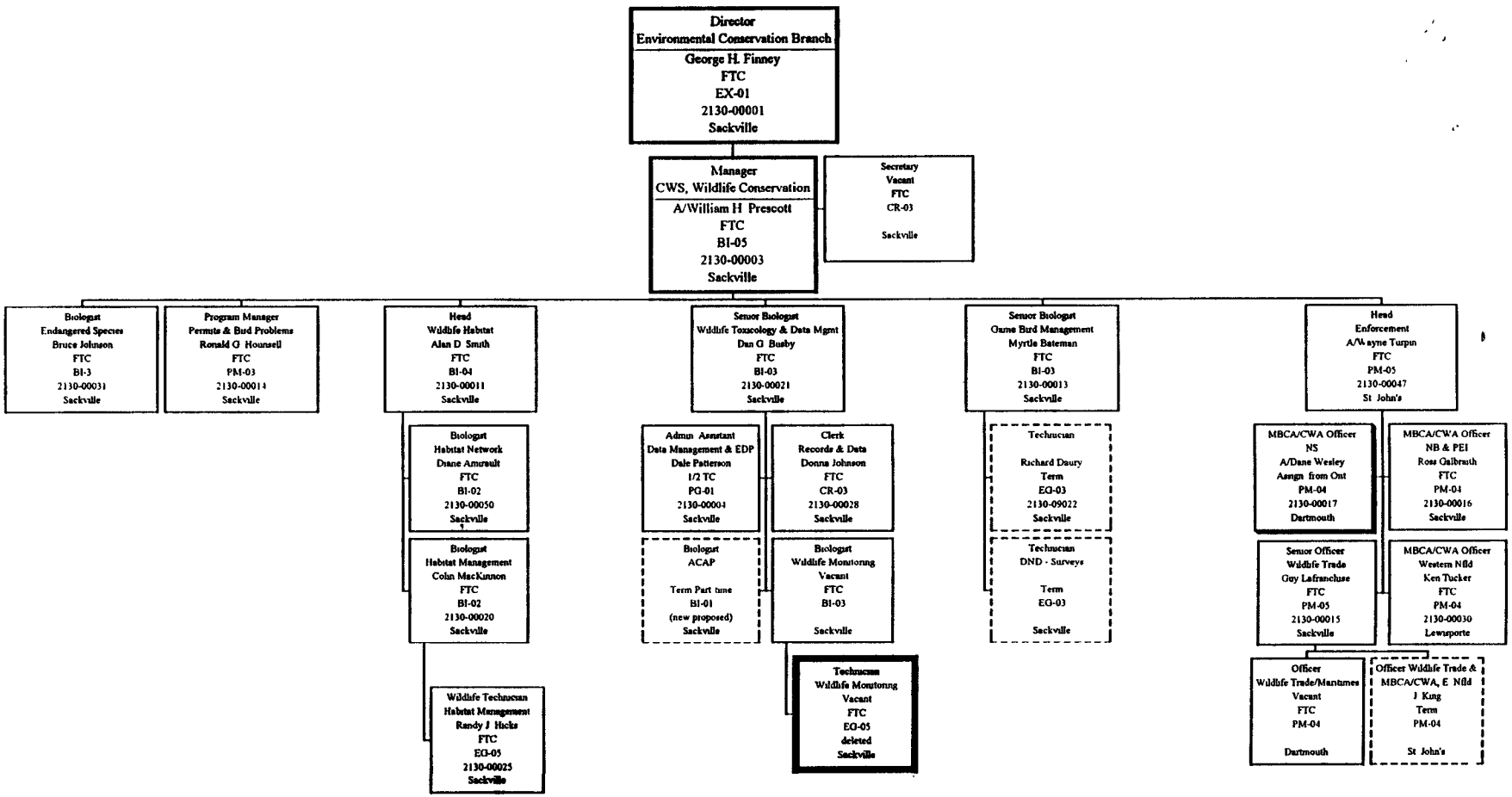
- WCD/CWS-AR manages 10 National Wildlife Areas and 14 Migratory Bird Sanctuaries. Most were acquired or designated to complement the waterfowl conservation program, with notable exceptions such as Mary's Point, a key staging area for migrating shorebirds.

- Provincial governments have the principal responsibility for habitat conservation. With the aid of Ducks Unlimited Canada and Wildlife Habitat Canada, provincial programs for wetland conservation have become much more active in the Maritimes during the last decade. The WCD/CWS role has evolved to become one of the coordinator of regional activities, cooperator in some federal-provincial projects and influencer of programs and policies of other federal agencies. WCD/CWS-AR has the lead in implementing the Eastern Habitat Joint Venture, a cooperative program worth $3.0 million in Atlantic Canada in 1992.

- Habitat activities for 1994-95 include the designation of the Portobello NWA in central New Brunswick; the development and implementation of management plans for key internationally important areas used by migrating shorebirds in Minas Basin and Shepody Bay in the Bay of Fundy; the development of a regional systems plan for NWAs and MBSs; the identification of important and critical wildlife habitats; the maintenance of a network of protected areas; and the review and provision of information and advice on potential impacts of proposed developments and the use of toxic chemicals.

- The habitat activities in the Maritimes are provided by three biologists and a technician located in Sackville, N.B. The habitat program in Newfoundland/Labrador is provided by the Newfoundland CWS Office.

ENVIRONMENTAL CONSERVATION BRANCH - ATLANTIC REGION



MAY 1994

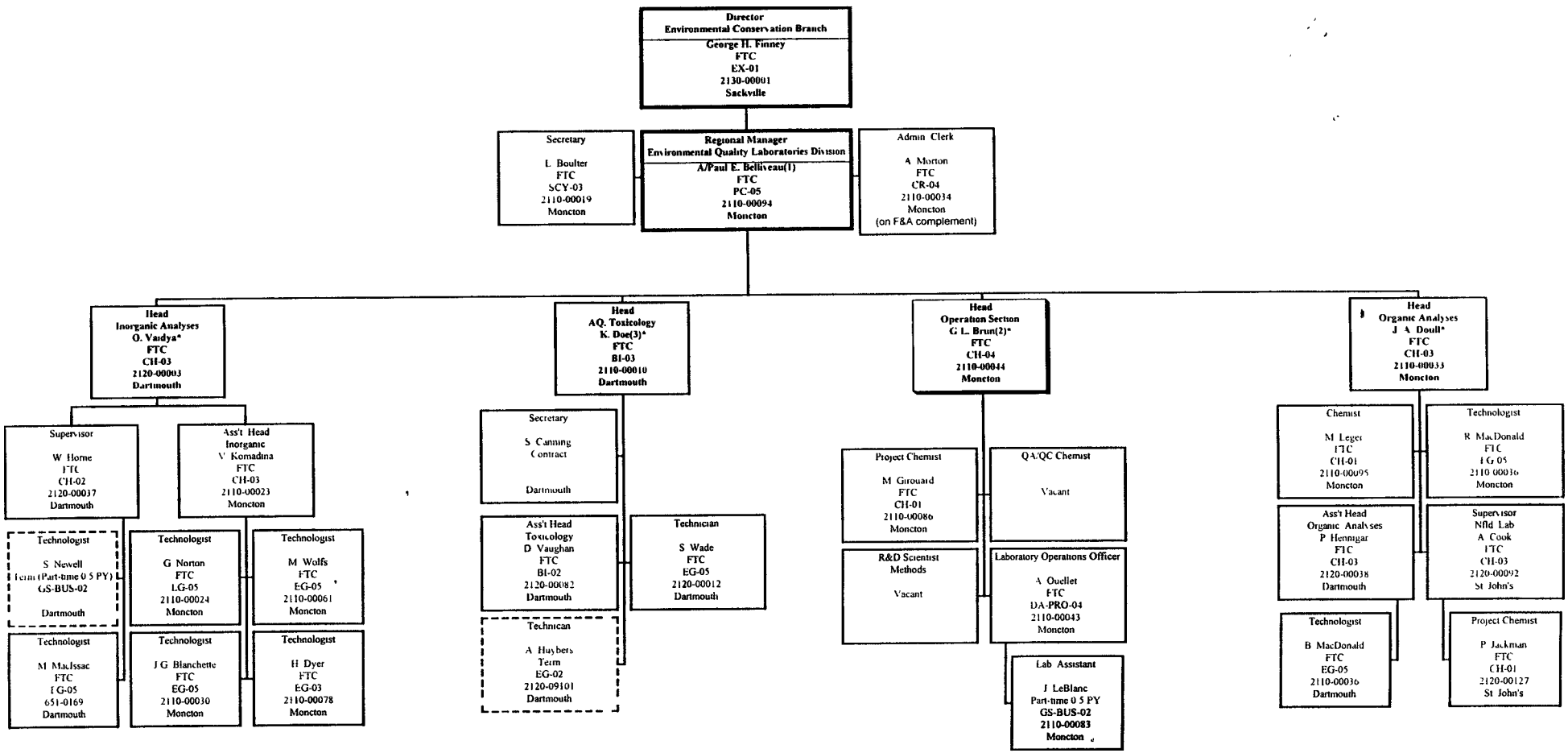
ENVIRONMENTAL QUALITY LABORATORIES

- The Environmental Quality Laboratories Division provides analytical and toxicological support, and consultative services to all Environment Canada Branches in the Atlantic Region. Its major role is to ensure that the environmental data generated in the Region is credible and defensible both scientifically and in a court of law. In addition it plays a major role in the development of analytical and toxicological methodology, in the transfer of laboratory technology to the provinces, universities and the private sector, and in the maintenance of quality control programs for partnership and contracted laboratories.

- The Division has laboratories in Moncton, N.B., Dartmouth, N.S. and St. John's, Newfoundland and is organized into four Sections: *Operations Section Organic Analyses Section, Inorganic Analyses Section and a Toxicology Section.* It has a total full time staff complement of 24.5 person years with an additional half dozen term and contract analysts. Furthermore, through partnerships and joint ventures, the laboratory capability is enhanced by another five person years providing a total work force of approximately 36.

- Over the past few years the Regional Laboratories have provided support to 14 major departmental programs representing over 50 different projects including: *LRTAP, Acid Precipitation, Ecosystem and Integrated Monitoring, Enforcement, Compliance Monitoring, CEPA, Federal/Provincial Agreements and Environmental Emergencies.* In addition to the analytical and toxicological data generated for the above noted projects, laboratory staff also provided project planning, data interpretation and legal testimony for many of these projects.

ENVIRONMENTAL CONSERVATION BRANCH - ATLANTIC REGION



* on assignment
(1) also Manager of the Environmental Science Center
(2) also Assistant Regional Manager of EQL
(3) also Administrative Head, Dartmouth Laboratory

JUNE

NEWFOUNDLAND & LABRADOR DIVISION

The Newfoundland and Labrador Division delivers all of the Branch's activities pertaining to that province. This is accomplished with a staff complement of 8.5 person years located mainly in St. John's but with individuals in Lewisporte and (planned for 1994/95) Goose Bay.

Issues

The people of Newfoundland and Labrador have had a long tradition of hunting seabirds, and a very significant hunt of thick-billed murres continues. Traditionally 15,000 hunters look at an estimated average of 750,000 birds annually. Little control of that harvest has been possible prior to the implementation of new interim restrictions for 1993-94 to reduce the harvest by 50%, with bag limits and shorter seasons. While these restrictions appear to have been quite successful in their first year of application, adjustments are required to ensure both conservation of murres and fair access to them by hunters.

Illegal hunting remains a significant problem in many areas. Consistent enforcement effort only began in the 1980s, and compliance to regulations has generally been poor. Enforcement of migratory bird regulations in Labrador remains sporadic, and has been complicated by uncertainties in interpreting the rights of access to migratory birds by native groups.

Native people hunt migratory birds in significant numbers only in Labrador where, as in other parts of Canada, there are demands to legalize the spring hunt. Recent court cases have put the legal issues surrounding native hunting into some doubt and elevated its profile. Spring hunting has recently increased dramatically and may affect local populations of Common Eider and the endangered Harlequin Duck. A considerable education and communications effort is required to alert aboriginal and non-aboriginal Labradorians to migratory bird concerns.

Marine birds represent by far the most important group of birds numerically in the region. In Newfoundland, there are huge colonies of Common Murres, puffins, gannets, petrels, and other species. While the most significant of these colonies are protected under the provincial Wilderness and Ecological Reserves Act, considerable work remains to be done on the development of management plans and regulations which will ensure that the populations and habitats are adequately protected from a variety of impacts including hunting, tourism and oil spills. The offshore banks provide winter feeding areas for millions of seabirds which nest in Canada's Arctic. Greenland, Iceland, and northern

Europe. In our summer, the Grand Banks are the home to shearwaters from South Atlantic colonies.

Newfoundland's wintering population of Thick-billed Murres which supports the bulk of the hunt, originate in colonies in the eastern Canadian Arctic, western Greenland, and to a lesser degree, other countries. However, to date no international strategy exists to guide joint murre management efforts. All seabirds suffer from pollution of their environment, especially with oil and plastics.

Breeding Common Eider populations have been decimated in many areas through illegal hunting and egging. Enhancement initiatives undertaken in accordance with the federal-provincial Newfoundland and Labrador Eider Management Plan are showing signs of success but are being met with resistance from shellfish aquaculture interests.

Perhaps the most significant current generator of migratory bird management challenges and opportunities is the collapse of the inshore fishery. This has had a wide spectrum of effects ranging from increased illegal hunting to heavy emphasis on utilization of coastal habitats for other purposes such as aquaculture, sea urchin harvest, increased tourism, etc. Migratory birds themselves are seen as the basis of some of this increased economic activity, particularly ecotourism and a crafts industry based on eider down. Ensuring sustainability of these uses through conservation oriented resource management regimes will be a major challenge.

Initiatives

Evaluate 1993-94 murre harvest restrictions and amend as required.

Approach

1. assess effectiveness of 1993-94 restrictions
2. consult with hunters
3. implement revised interim bag limits and seasons as required
4. amend Migratory Birds Convention to allow for long-term harvest regulations
5. continue education programs
6. direct enforcement to reduce selling of birds and ensuring compliance with interim restrictions
7. monitor population trends at Arctic breeding colonies
8. undertake research to support management strategies
9. implement Newfoundland and Labrador Murre Management Plan

Ensure proper management of game bird species

Approach

1. maintain improved breeding pair surveys of Black Ducks and other inland ducks
2. monitor population trends and distribution through Surveys and banding programs
3. modify hunting regulations as required
4. implement provisions of provincial Waterfowl Management Plans
5. implement Newfoundland and Labrador Eider Management Plan
6. implement specific policies to accommodate native harvesting rights and conservation programs
7. undertake conservation and education programs in Labrador

Protect important wetlands, estuaries, and coastal areas in the Maritimes

Approach

1. coordinate implementation of the Eastern Habitat Joint Venture in eastern Canada and Atlantic Canada
2. assist in implementation of approved projects under the EHJV
3. develop and maintain a comprehensive monitoring of wetlands and coastal habitats in the region
4. assist in implementation and monitoring of Atlantic Coastal Action Program

Regulate the impact of expanding gull populations on human activities and other bird species

Approach

1. implement the Atlantic Gull Management Plan setting out approaches to gull management
2. monitor impacts of gulls on other species and human activities
3. implement the Atlantic Tern Management Plan to ensure the conservation of Common and Arctic Terns in the province.

Minimize the negative impacts of major developments on wildlife and wildlife habitats

Approach

1. provide information and advice to the Environmental Protection Branch, other government agencies and industry on potential impacts and mitigative measures of proposed developments

2. provide information on the distribution of important wildlife and habitats to potential developers and land managers
3. participate on regional impact assessment advisory committees and programs to review and assess proposed developments
4. continue to work with the Aquaculture industry to reduce the potential for conflict between eider duck enhancement and mussel culture

Protect areas of national significance in Atlantic Canada to migratory birds

Approach

1. implement management plans for Newfoundland seabird sanctuaries with Parks Division of the Newfoundland Department of Tourism and Culture
2. manage the Migratory Bird Sanctuaries at Green and Shepherd Islands
3. revise and continue implementing the Newfoundland and Labrador Migratory Birds Habitat Protection Plan

Minimize the impacts of oil pollution on seabirds

Approach

1. implement phase 4 of Operation Clean Feather
2. contribute to the development and implementation to the Atlantic Region Oil Spill Contingency Plan for Migratory Birds

Assist in international wildlife conservation activities

Approach

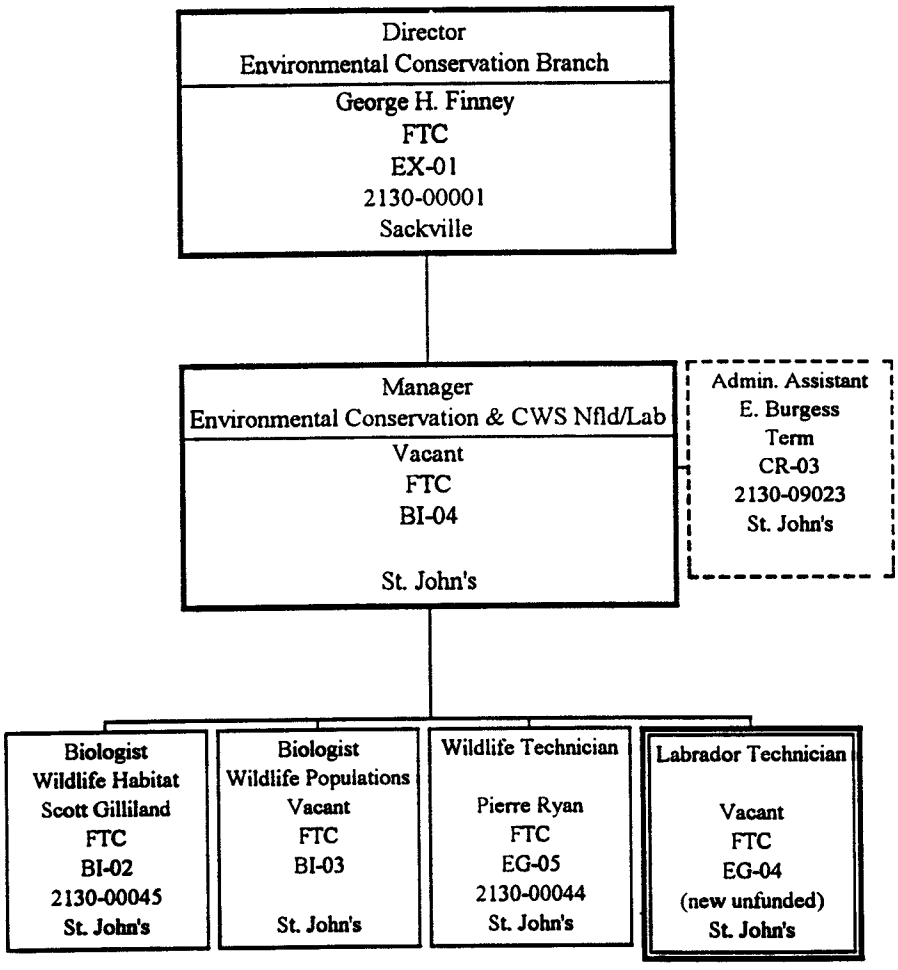
1. lead in the development of an International Murre Conservation Strategy

Protect and rehabilitate endangered, threatened, and vulnerable species

Approach

1. assist in implementation of the regional recovery plan for the eastern population of the Harlequin Duck
2. consult with aboriginal people in Labrador on the need for Harlequin Duck conservation
3. produce combined technical report on the 1993/94 and 1994/95 aboriginal consultation

ENVIRONMENTAL CONSERVATION BRANCH - ATLANTIC REGION



ENVIRONMENT CANADA - ENVIRONMENTAL CONSERVATION BRANCH - ATLANTIC REGION
(Sackville, Moncton, N.B.; Dartmouth, N.S.; St. Johns, Nfld.)

Adamson, L. . . . . (902)426-3266
Ambler, D. . . . . (902)426-1718
Amirault, D. . . . . (506)364-5060
Arbour, J. . . . . (902)426-1701
Bailey, H. . . . . (506)851-7882
Barrow, B. . . . . (506)364-5046
Bateman, M. . . . . (506)364-5041
Belliveau, P. . . . . (506)851-3837
Bernier, M. . . . . (506)851-7843
Blanchette, J. G. . . . . (506)851-7844
Bliss, D. . . . . (902)426-3808
Boulter, L. . . . . (506)851-6606
Bourassa, Y. . . . . (902)426-8620
Brown, R. . . . . (902)426-2578
Brun, G. . . . . (506)851-2366
Burgess, B. . . . . (709)772-5585
Burgess, N. . . . . (506)364-5049
Byrnes, I. . . . . (902)426-6469
Busby, D. . . . . (506)364-5037
Chardine, J. . . . . (709)772-2778
Clair, T. . . . . (506)364-5070
Clark, D. . . . . (902)426-3267
Cook, A. . . . . (709)772-4333
Cruickshanks, F. . . . . (902)426-6885
Daury, R. . . . . (506)364-5034
Doe, K. . . . . (902)426-3284
Donaldson, C. . . . . (902)426-8606
Doull, J. . . . . (506)851-7842
Duggan, M. . . . . (902)426-3430
Dyer, H. . . . . (506)851-4014
Eddy, S. . . . . (902)426-1649
Elliot, R. . . . . (506)364-5014
Ellsworth, J. . . . . (902)426-2131
Erskine, T. . . . . (506)364-5035
Finney, G. . . . . (506)364-5011
Galbraith, R. . . . . (506)364-5032
Garrity, N. . . . . (506)364-5030
Gerriets, S. . . . . (902)426-6052
Gibb, J. E. . . . . (902)426-1698
Gilliland, S. . . . . (709)772-2013
Girouard, M. . . . . (506)851-7843
Glenn, G. . . . . (902)426-3827
Hanson, A. . . . . (506)364-5061
Hennigar, P. . . . . (902)426-6191
Hicklin, P. . . . . (506)364-5042
Hicks, R. . . . . (506)364-5031
Hiscock, E. . . . . (902)426-6214
Horne, W. . . . . (902)426-6196
Hounsell, R. . . . . (506)364-5033
Howell, G. . . . . (902)426-4196
Hoyeck, J. . . . . (902)426-3288
Hume, T. . . . . on assignment
Huybers, A. . . . . (902)426-8491
Jackman, P. . . . . (709)772-4333
Johnson, D. . . . . (506)364-5017
Johnson, B. . . . . (506)364-5040
Kerekes, J. . . . . (902)426-6356
Kindervater, A. . . . . (902)426-1704
Komadina, V. . . . . (506)851-7841
Lafranchise, G. . . . . (506)364-5048
Langley, L. . . . . (902)426-2132
Lawson, J. . . . . (506)364-5012
LeBlanc, C. . . . . (506)851-7245
LeBlanc, J. . . . . (506)851-7844
Leger, D. . . . . (506)851-7884
Leger, M. . . . . (506)851-7843
Lock, T. . . . . (902)426-6052
Lockerbie, D . . . . (506)851-7965
MacDonald, R. . . . (506)851-7843
MacDonald, B. . . . (902)426-6194
MacIssac, M. . . . (902)426-2315
MacKinnon, C. . . . (506)364-5039
Marsh, D. . . . . (709)772-4333
McFee, S. . . . . (506)364-5067
Morton, A. . . . . (506)851-7879
Nettleship, D. . . . (902)426-3274
Newell, S. . . . . (902)426-9784
Norton, G. . . . . (506)851-7844
O'Neill, H. . . . . (506)851-7878
Ouellet, A. . . . . (506)851-7880
Parker, G. . . . . (506)364-5045
Parks, A. . . . . (902)426-1572
Patterson, D. . . . . (506)364-5068
Pol, R. . . . . (506)851-4063
Pollock, T. . . . . (506)851-3836
Pomeroy, J. . . . . (506)851-7883
Prescott, B. . . . . (506)364-5013
Randall, D. . . . . (506)851-2622
Rousseau, F. . . . . (902)426-3958
Ryan, P. . . . . (709)772-4431
Sealy, J. . . . . (506)364-5019
Smith, A. . . . . (506)364-5038
Steele, G. . . . . (902)426-2383
Swan, K . . . . . (902)426-2350
Swerdfager, T. . . . . (506)364-5047
Tucker, K. . . . . (709)535-0601
Turpin, W. . . . . (709)772-2198
Vaidya, O. . . . . (902)426-6195
Vaughan, D. . . . . (902)426-3287
Wade, S. . . . . (902)426-8491
Wallace, D. . . . . (902)426-9919
Wells, P. . . . . on assignment
Wesley, D. . . . . (902)426-1188
Wheaton, L. . . . . (506)364-5016
Wilson, D. . . . . (902)426-4197
Wolfs, M. . . . . (506)851-4014

****

FAX NUMBERS:

ECB/CWS SACKVILLE(506)364-5062
ECB MONCTON . . . .(506)851-6608
ECB DARTMOUTH . .(902)426-4457
ECB/CWS/BIO . . . . .(902)426-7209
ECB/LAB/BIO . . . . .(902)426-8041
ECB/CWS/NFLD . . . .(709)772-6309
ECB/Labs/NFLD. . . . .(709)772-5097