



Environment, Energy and Forestry

Annual Report 2005-2006

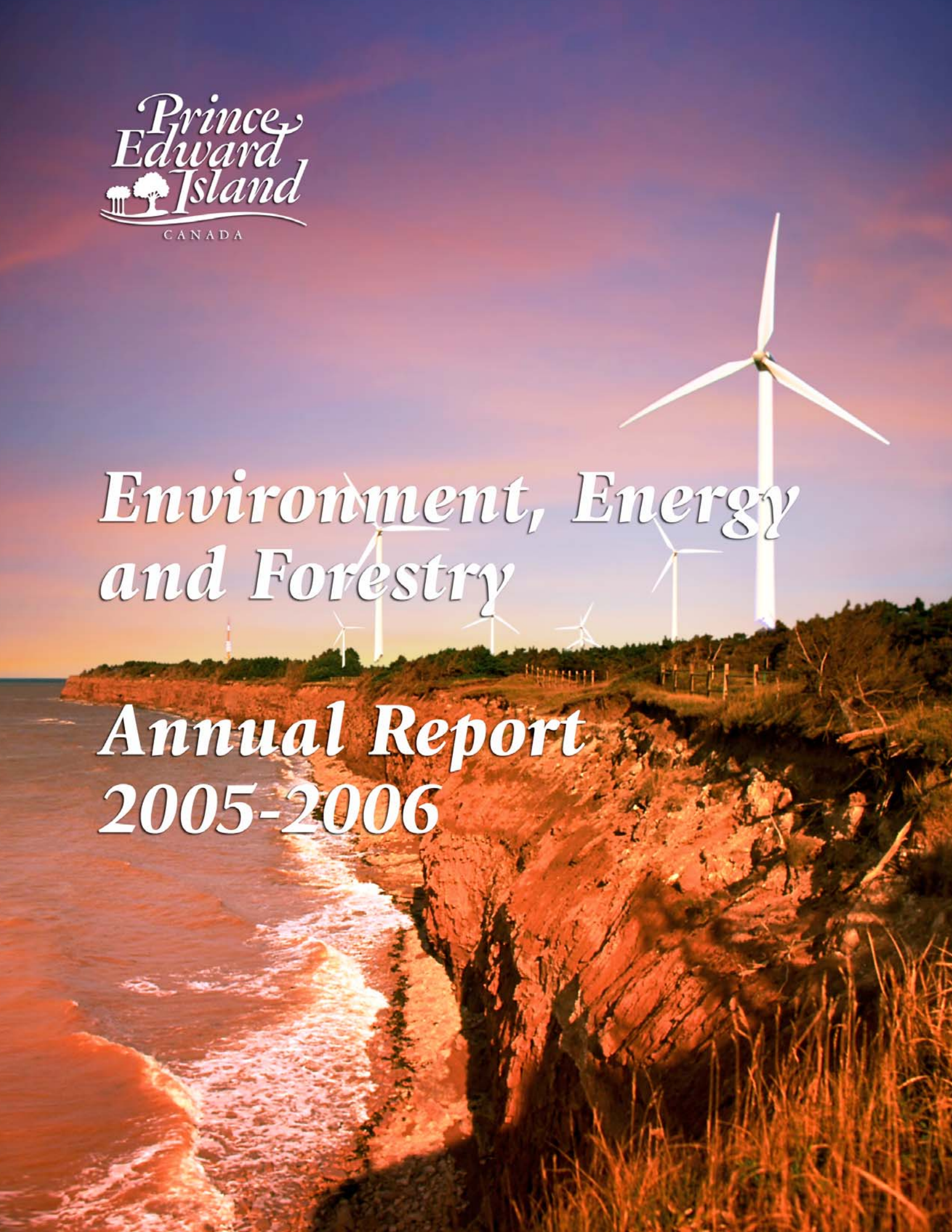


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Minister's Message

The Honourable Barbara A. Hagerman
Lieutenant Governor
Province of Prince Edward Island



May It Please Your Honour:

It is my privilege to present the Annual Report of the Department of Environment, Energy and Forestry for the fiscal year ended March 31, 2006.

Respectfully submitted,

A handwritten signature in cursive script that reads "Jamie Ballem".

Jamie Ballem
Minister during the Reporting Period

Deputy Minister's Message

To the Honourable Jamie Ballem
Minister of Environment, Energy and Forestry



Sir:

I am pleased to submit the 2005-2006 Annual Report of the Department of Environment, Energy and Forestry for the fiscal year ended March 31, 2006. This report will focus on the results achieved by the department during the period of April 1, 2005 to March 31, 2006.

I would like to recognize and thank the employees of the Department of Environment, Energy and Forestry for their dedication to hard work throughout the fiscal year and for their contributions to public service.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John MacQuarrie".

John MacQuarrie
Deputy Minister

Department Overview

Mandate

The mandate of the Department of Environment, Energy and Forestry is to contribute to economic and community development throughout Prince Edward Island by:

- promoting the protection and responsible stewardship of our environment and natural resources;
- developing and implementing energy policies and programs, and administering mineral resources development; and
- promoting sustainable forest management.

Vision

The Department of Environment, Energy and Forestry is committed to the development of policies and legislation and the delivery of programs and services which contribute to social well-being, protection of the environment and economic development of communities throughout the province.

Department staff are dedicated, and sought after by clients for their knowledge and expertise. We engage our clients and work in close co-operation with them to achieve objectives and to make Prince Edward Island a model of sustainability.

Legislative and Other Responsibilities Assigned to the Minister of Environment, Energy and Forestry

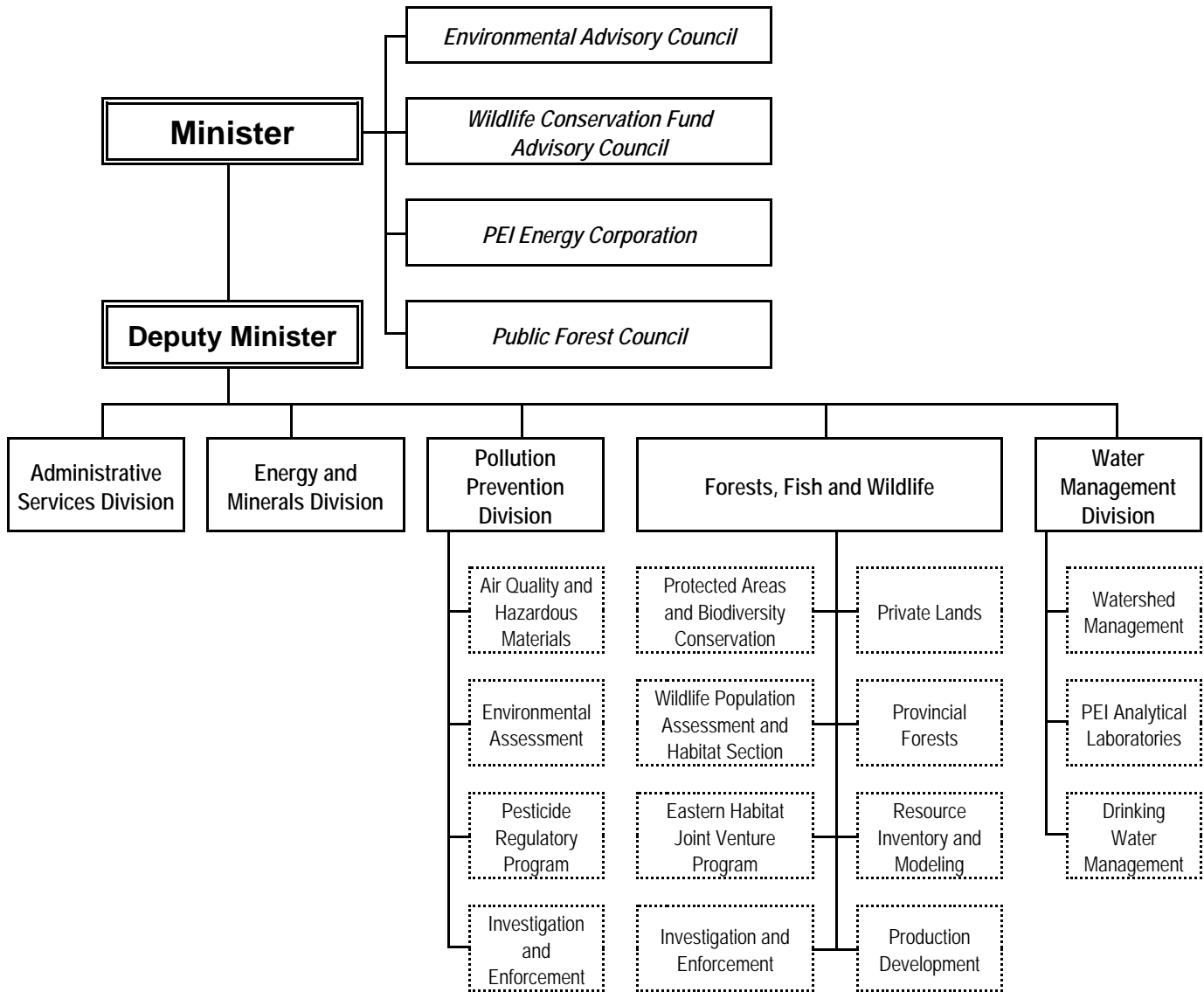
Acts/Statutes

Agricultural Crop Rotation Act
Automobile Junk Yards Act
Energy Corporation Act
Energy Efficient Appliances Act (when proclaimed)
Environmental Protection Act
Fire Prevention Act (Part VII)
Forest Management Act
Institute of Man and Resources Act
Mineral Resources Act
Natural Areas Protection Act
Natural Gas Distribution Act (when proclaimed)
Oil and Natural Gas Act
Pesticides Control Act
Public Forest Council Act
Unsightly Property Act
Wildlife Conservation Act

Board/Agencies/Commissions

Atlantic Wind Test Site Inc.
Energy Corporation
Environmental Advisory Council
Environmental Co-ordinating Committee
Natural Areas Protection Act Technical Advisory Committee
Natural Gas Distribution Board (upon proclamation of the *Natural Gas Distribution Act*)
Pesticides Advisory Committee
Public Forest Council
Sewage Disposal Regulations Board of Examiners
Species at Risk Advisory Committee
Wildlife Conservation Fund Advisory Committee

Organizational Chart



Year in Review

The year 2005-2006 saw the formation of the Forests, Fish and Wildlife Division when the Conservation and Management Division and the Forestry and Land Resource Modeling Division amalgamated.

Following are highlights of department activities in 2005-2006:

- Major amendments were made to the *Pesticides Control Act* Regulations to clarify transportation requirements and provide a one-year, phase-in period for changes to the applicator certification system.
- The department entered into a SAVE (Shared Atlantic Vision for Energy Efficiency) awareness campaign which, combined with other measures in each of the provinces, will help Atlantic Canadians deal with increased energy costs.
- The department and the Tourism Industry Association of PEI (TIAPEI) offered a pilot project for Islanders interested in taking a first step toward earning their national certification as freshwater angling guides.
- The Minimum Purchase Price Regulations, Designated Area Regulations, and Net-Metering System Regulations were approved to govern key aspects of renewable energy in the province.
- The department entered into a 10-year lease agreement with the Environmental Coalition of PEI to demonstrate the sustainable forest management of 800 hectares of public land.
- The Wildlife Conservation Fund was transferred from the department to the Wildlife Conservation Fund Committee so that representatives of those who contribute to the fund, manage it and set the priorities.
- The department, the Government of Canada and Maritime Electric signed a Memorandum of Understanding to upgrade the electricity transmission system between Prince Edward Island and New Brunswick.
- The *Prince Edward Island Wind Atlas* was unveiled as a valuable new technological resource to encourage wind energy development in the province.
- The *Prince Edward Island Road Atlas* was updated to include information on natural features such as forest cover, streams, wetlands, sand dunes and Island contours.
- The department released plans to build a 30-megawatt wind farm in eastern Kings County and the Prince Edward Island Energy Corporation received approval to proceed with final design and development.
- The department assisted the Nature Conservancy of Canada in acquisition of the privately owned acreage on Boughton Island. The balance of this land is owned by the Province and protected under the *Natural Areas Protection Act*.
- Based on recommendations from the Public Forest Council, the department acted to set mandatory standards for the harvest, purchase and transportation of Ground Hemlock.

- The department released *Recommendations for Regulation of Construction and Demolition Debris Sites in Prince Edward Island* written by the Environmental Advisory Council, which is appointed under the *Environmental Protection Act*.
- The department announced several important changes to further strengthen wildlife guidelines for harvests on Provincial Forest lands.
- Hydrogenics and PEI Energy Corporation formed a partnership to develop the PEI Wind-Hydrogen Village Project to advance Prince Edward Island's reputation as a centre for research and development of renewable energy technologies.
- In the fall of 2005, government announced two programs designed to help Islanders cope with the unprecedented energy prices experienced over the past year and to purchase and install alternative heating systems: the Residential Energy Assistance Program (REAP) and the Low-interest Loan Program.
- The *Climate Change Strategy for Prince Edward Island*, intended to contribute to new climate change policies, was released.
- The Drinking Water and Wastewater Facility Operating Regulations were adopted in January 2005 to prescribe the requirements for system classification, operator certification, monitoring and public reporting.

Bilan de l'année

Au cours de l'année 2005-2006, on a formé la Division des forêts, de la pêche et de la faune lorsque la Division de la conservation et de la gestion et la Division de la foresterie et de la modélisation des ressources ont été fusionnées.

Voici les points saillants des activités du ministère en 2005-2006 :

- On a apporté des modifications importantes aux règlements de la loi intitulée *Pesticides Control Act* afin de clarifier les exigences en matière de transport et d'offrir une période de mise en opération graduelle d'un an pour les modifications au système d'attestation de formation des applicateurs.
- Le ministère a entrepris une campagne de sensibilisation SAGE (Solution atlantique de gestion de l'efficacité énergétique) qui, en combinaison avec d'autres mesures dans chacune des provinces, aidera les résidents des provinces de l'Atlantique à prendre des mesures concernant l'augmentation des coûts énergétiques.
- Le ministère et l'Association de l'industrie du tourisme de l'Î.-P.-É. (TIAPEI) ont offert un projet-pilote aux Insulaires qui désiraient franchir la première étape vers l'obtention de leur certification nationale en tant que guides de pêche à la ligne en eau douce.
- Les règlements sur le prix d'achat minimum, les règlements sur les zones désignées et les règlements sur le système de facturation nette ont été approuvés afin d'administrer les aspects principaux de l'énergie renouvelable dans la province.
- Le ministère a conclu un contrat de location de dix ans avec le Environmental Coalition of PEI afin d'exhiber la gestion forestière renouvelable de 800 hectares de terres publiques.
- Le Fonds de conservation de la faune (WCF) a été transféré du ministère au Comité WCF afin que les représentants des parties qui contribuent au fonds puissent le gérer et établir les priorités.
- Le ministère, le gouvernement du Canada et Maritime Electric ont signé un protocole d'entente pour moderniser le système de transmission de l'électricité entre l'Île-du-Prince-Édouard et le Nouveau-Brunswick.
- Le *Prince Edward Island Wind Atlas* a été dévoilé comme étant une nouvelle ressource technologique utile pour encourager le développement de l'énergie éolienne dans la province.
- Le *Prince Edward Island Road Atlas* a été mis à jour pour inclure des renseignements sur les particularités naturelles tels que la couverture forestière, les ruisseaux, les zones humides, les dunes et les courbes de niveau de l'Île.
- Le ministère a publié des plans portant sur la construction d'un parc éolien de 30 mégawatts dans le comté de Kings-Est. De plus, la Société de l'énergie de l'Î.-P.-É. a reçu l'approbation de procéder à la conception finale et au développement du parc.

- Le ministère a aidé la Société canadienne pour la conservation de la nature à acquérir les terres de propriété privée sur Boughton Island. Les terres restantes appartiennent à la province et sont protégées par la loi intitulée *Natural Areas Protection Act*.
- En s'appuyant sur les recommandations du Conseil sur les forêts publiques, le ministère a agi pour établir des normes obligatoires en ce qui a trait à la récolte, l'achat et le transport de l'if du Canada.
- Le ministère a publié les Recommandations pour la réglementation des sites de débris de construction et de démolition à l'Île-du-Prince-Édouard écrites par le Conseil consultatif sur l'environnement, nommé dans le cadre de la loi intitulée *Environmental Protection Act*.
- Le ministère a annoncé de nombreuses modifications importantes visant à solidifier davantage les principes directeurs des récoltes sur les terres forestières provinciales.
- Hydrogenics et la Société de l'énergie de l'Î.-P.-É. ont formé un partenariat pour développer le projet du Village vent-hydrogène afin de renforcer la réputation de l'Île-du-Prince-Édouard à titre de centre pour la recherche et le développement de technologies en matière d'énergie renouvelable.
- À l'automne 2005, le gouvernement a annoncé deux programmes conçus pour aider les Insulaires à prendre des mesures concernant l'augmentation des coûts énergétiques sans précédent connue au cours de la dernière année et pour installer des variantes aux systèmes de chauffage : le Programme d'aide liée aux coûts d'énergie domestique et le Programme de prêt à intérêt réduit.
- On a publié la Stratégie en matière de changement climatique applicable à l'Île-du-Prince-Édouard, dont l'objet est de contribuer aux nouvelles politiques en matière de changement climatique.
- En janvier 2005, on a adopté les Règlements portant sur l'exploitation du réseau d'assainissement et de l'eau potable afin d'établir les exigences pour le système de classification, les certificats d'opérateur, la surveillance et la présentation de rapports destinés au public.

Administrative Services Division

Mandate

The Administrative Services Division provides financial, human resource and administrative services to department personnel. The division has the overall responsibility for preparing and monitoring the department budget and providing financial analysis and advice to department management. Human resource management support for the department is provided in areas such as recruitment and selection, position management, orientation, training and planning. The division processes all financial and payroll transactions; and is responsible for various administrative services such as reception, vehicle management, telecommunications system administration, accommodation requirements, records management activities, information technology services, risk management, freedom of information and protection of privacy coordination, and occupational health and safety program planning.

Department Staff Summary

There were two Workforce Renewal Programs, Phase I and Phase II, that staff took advantage of during this fiscal year. As a result, two permanent staff took the voluntary severance package and six permanent staff left under the voluntary retirement package. As well, 11 staff took advantage of the unclassified workforce incentive.

With the retirement of the Director of Fish and Wildlife, a reorganization of staff in this division occurred. The position was reclassified as Manager of Fish and Wildlife reporting to the Director of Forests. The two divisions amalgamated and became the Forests, Fish and Wildlife Division.

Permanent Position Establishment (as of March 31/06)		
	Full Time	Part Time
Pollution Prevention	22	4
Water Management	29	5
Administrative Services	11	0
Energy and Minerals	3	0
Forests, Fish and Wildlife	35	23
Total	100	32

In addition to the above established positions, the department employed 57 casual employees and 57 students during the fiscal year 2005-2006.

Department Financial Summary

2005-2006 Actual Expenditure and Revenue*			
Division	Original Budget	Revised Budget	Actual Expenditure/Revenue
Expenditure Budget:			
Department Management	\$309,000	\$342,700	\$354,982
Pollution Prevention	\$2,173,700	\$2,263,200	\$2,410,455
Water Management	\$2,335,600	\$2,300,400	\$2,201,160
Administration	\$295,600	\$440,200	\$521,677
Forests, Fish and Wildlife	\$6,684,100	\$6,406,600	\$6,030,781
Energy and Minerals	\$305,600	\$1,305,600	\$834,142
Total Expenditure	\$12,103,600	\$13,058,700	\$12,353,197
Revenue Budget:			
Pollution Prevention	\$201,100	\$201,100	\$193,301
Water Management	\$543,700	\$543,700	\$562,012
Administration	\$500	\$500	\$941
Forests, Fish and Wildlife	\$1,457,800	\$1,457,800	\$1,239,686
Energy and Minerals	\$105,000	\$105,000	\$133,609
Total Revenue	\$2,308,100	\$2,308,100	\$2,129,549
Total Net	\$9,795,500	\$10,750,600	\$10,223,648

*Based upon financial reports dated February 8, 2007.

There was a Special Warrant in the amount of \$1,000,000 for the Residential Energy Assistance Program (REAP). In 2005-2006 the expenditures for REAP were approximately \$503,500 and the program was extended into the 2006-2007 fiscal year.

Freedom of Information and Protection of Privacy Act

The department received 20 new Access to Information requests under the *Freedom of Information and Protection of Privacy Act* between April 1, 2005 and March 31, 2006. In addition, there were seven previously received requests that were still open as of April 1, 2005, including requests that were under appeal; thus, there were a total of 27 requests that were active during the 2005-2006 fiscal year. Of these 27 active requests, 19 were closed prior to March 31, 2006, and eight remained open (including requests under appeal).

Access to Information Request Summary from April 1, 2005 to March 31, 2006	
Open requests as of April 1, 2005 (including requests under appeal)	7
New requests received between April 1, 2005 and March 31, 2006	20
Closed requests that were re-opened between April 1, 2005 and March 31, 2006	0
Total active requests between April 1, 2005 and March 31, 2006	27
Active requests that were closed between April 1, 2005 and March 31, 2006	19
Open requests as of March 31, 2006 (including requests under appeal)	8

Energy and Minerals Division

Mandate

The Energy and Minerals Division is responsible for the development, implementation and administration of energy policies and programs. The division also regulates and administers hydrocarbon and mineral resources in the province and provides administrative and technical assistance to the Prince Edward Island Energy Corporation.

Highlights

Oil and Natural Gas Exploration

During the reporting period, four exploration companies held 12 oil and natural gas permits that comprised approximately 1.1 million acres (445,000 hectares). These hydrocarbon exploration rights were reissued to Shannon Resources International, Corridor Resources Inc., BP Canada Energy Company and Petro Worth Resources Inc. Pursuant to the *Oil and Natural Gas Act* (Prince Edward Island), exploration permits are issued through a competitive bidding process. On-land permits have a tenure of six years, while offshore rights are issued for nine years.

The most significant exploration activity during 2005-2006 was the completion of Petro Worth Resource's 164 kilometre high resolution 2-D seismic program in their permits which are located in Kings County and eastern Queens County. The \$1.33 million program results will assist the company in delineating drilling targets and add to Petro Worth's growing compilation of updated seismic data in the eastern end of Prince Edward Island.

Energy Database

Maintaining a current database of energy statistics is crucial for the preparation of policy documents and other various reports that deal with energy and the environment. The Energy and Minerals Division tabulates supply, demand and costs of energy fuels used in Prince Edward Island. In addition to acquiring data from a variety of agencies, the division commissions a bi-annual wood fuel survey to track the volume and pricing of this energy source. This information is not otherwise available from other data providers. Wood biomass represents a significant energy supply for the residential sector and is the province's largest source of renewable energy.

In November 2003, the Canadian Energy Research Institute (CERI) released a report of provincial and sectorial impacts on Atlantic Canada that may be expected from complying with greenhouse gas emission reductions under the Kyoto Protocol. Commissioned by all four Atlantic provinces, the report is an update of federal information but provides a more regional focus of the economic implications of meeting the Kyoto Protocol's reductions. A key finding in this report was that greenhouse gas emissions in the region have been understated to date, which means increased effort and expense will be required to achieve compliance.

Regulations under the *Renewable Energy Act*

With the passage of the *Renewable Energy Act* in the 2004 fall sitting of the Legislature, statutory force was given to a number of policy initiatives regarding the province's desire to embark on an energy future that is less dependent on fossil fuels. Key sections of the act include providing small electric generators which use renewable sources with the ability to operate a net-meeting system, designating areas of the province in which citing of large-scale wind turbines is permissible, and defining a minimum price for renewable energy generated from large-scale developments. In the spring of 2005, regulations pertaining to these sections of the act were brought into force.

Under net-meeting, producers receive the same value for any energy that they supply to the utility's system as is charged for electricity received from the grid. This significantly improves the economic feasibility of installing small renewable energy systems. The Net-Meeting System Regulations provide the technical and administrative details for these installations. It is expected that residential customers, small businesses, farms and other enterprises will install wind power equipment or other renewable energy generating equipment to capitalize on this opportunity.

Assurance that large-scale wind developments are situated in areas of the province that have wind profiles to provide economic viability to these projects is also addressed in the act. Through regulation, renewable energy generators with a capacity of greater than 100 kilowatts must be located in an approved zone. Zones are described in the Designated Areas Regulations.

Under the Minimum Price Regulations, public utilities are required to pay a minimum rate or price for electricity created from renewable energy. The affected generators include municipal systems, medium capacity generators (between 100 kilowatts and one megawatt) and large capacity generators (greater than one megawatt), to the extent that this power is required to meet the Renewable Portfolio Standards under the act. Providing a reasonable return on investment to the developer, while ensuring that Island electrical consumers would enjoy a stable and reasonably priced source of energy, was integral in setting the price at \$0.0775 per kilowatt hour. After April 1, 2008, and continuing on an annual basis, two cents of this price will be adjusted based on fluctuations in the Consumer Price Index (CPI).

PEI Energy Corporation Activities – East Point Wind Plant

Building on the past successes of wind development at North Cape, government provided the PEI Energy Corporation approval in September 2005 to proceed with a 30 megawatt facility on the Elmira Road near East Point. Preliminary activities leading to the construction of this project included conducting avian studies of migratory species, preliminary filing of an environmental study with federal authorities, obtaining private land easement options and conducting geo-technical investigations on proposed turbine sites.

After a tendering process, Frontier Power Systems of Alberton, Prince Edward Island, was awarded a contract for managerial services for the project. Initial duties of Frontier were to select a wind turbine that would provide excellent performance for the wind regime in the area and provide a wind flow model that would lead to the optimal placement of the structures.

In December 2005, an order for 10 V-90 turbines was placed with Vestas Wind Technologies of Denmark. A prototype of the V-90 has been undergoing tests near North Cape since 2003. The erection of a series of three MW turbines in one location marks the North American entrance into a wind park setting.

It is expected that the East Point Wind Plant will annually produce between 90 and 95 million kilowatts of power, thus supplying enough electricity to service about 12,500 Island homes. The facility will also meet 9.5 per cent of the province's electricity requirements.

To maximize economic spinoffs to the community, all turbines will be located on private property. Landowners that have turbines situated on their land, as well as adjacent property owners, will share in a percentage of the revenue from the facility.

The Community of Eastern Kings will also receive a fixed annual contribution of \$25,000 for municipal spending. Pending environmental and regulatory approval, it is expected that the wind development will proceed by mid-summer 2006. Commissioning of turbines is scheduled for late 2006 to early 2007.

Re-firing Institutional Biomass Combustion Facilities

The combustion of biomass and municipal garbage at PEI Energy System's Charlottetown energy-from-waste facility continues to demonstrate the economic viability of utilizing renewable energy in a district heating application. Originally constructed and operated by the province through the PEI Energy Corporation, the system was sold to private interests. In the early 1990s the Corporation also installed several biomass combustion systems in schools, hospitals and manors when oil prices

were reaching historical highs. Virtually all these systems were abandoned for a variety of reasons but mainly because petroleum prices declined by the mid-1990s.

With the resurgence in oil prices over the past few months it was determined that a return to biomass combustion for small institutions may again be economic. The Energy and Minerals Division co-sponsored a study with other provincial departments to evaluate the feasibility of re-firing selective sites. From an engineering evaluation of all the sites it was revealed that most of the units were no longer fit for service. The installation at Beach Grove Manor in Charlottetown, however, was basically intact and, with a few minor retrofits to bring the system in compliance with the safety codes, the system was re-fired in January 2006. It is expected that converting the facility back to wood biomass and away from light oil will result in a fuel savings of more than \$25,000 per year. This will enable the province to recoup the retrofit cost in one year.

Intergovernmental Committees

Division staff represent the province on a number of intergovernmental committees pertaining to energy and the environment as part of Prince Edward Island's responsibility as a participant in the Council of Energy Ministers and the Joint Ministers of Energy and Environment Ministers. Staff sit on a number of federal/provincial/territorial committees that deal with various energy issues including electrical reliability and pipeline regulation; and represent the province internationally on energy issues through the Northeast International Committee on Energy which is a subcommittee of the Conference of New England Governors and Eastern Canadian Premiers.

The Atlantic Energy Ministers' Forum, in which Prince Edward Island continues to be the lead,

has served as a useful body for energy officials to discuss and take action on a variety of issues through a co-operative and collaborative approach with their regional counterparts. Utilizing a format of both formal face-to-face meetings and informal conference calls, the forum has dealt with such issues as harmonizing the regulation of oil and gas exploration, sharing energy efficiency information, and preparing the groundwork for greater co-ordination and co-operation by the region's electrical utilities.

The Atlantic Energy Ministers' Forum has been active over the past several years with ministers meeting twice in the past year. Work to date has included the completion of an Electricity Sector Assessment and the completion of the Maritimes Wind Integration Study (Phase 1) by the NB System Operator.

Prince Edward Island and Natural Resources Canada co-chair the federal/provincial/territorial Renewable Energy Working Group. Promoting the advancement of renewable energy in Canada and examining possible standards or quotas for renewable energy in Canada are among the responsibilities of this working group.

The division also provides provincial representation to the Ethanol and Biofuels Working Group. As Prince Edward Island is presently exploring the feasibility of developing biofuel facilities, this working group provides a conduit to expertise from other jurisdictions that have proceeded with establishing ethanol facilities.

Regulatory Matters

In January 2004, the *Electric Power Act* was enacted. This act supersedes the *Maritime Electric Company Limited Act* which was repealed, and gives broad powers to the Island Regulatory and Appeals Commission (IRAC) to regulate the activities of electric utilities in the

province. It also allows for electric utilities to be regulated under a "cost of service" regime. This forces electric utilities operating within the province to file an accounting of all costs incurred with the commission, ensures that the Island's electricity consumers are only charged what is fair and reasonable as determined by the commission, and allows electric utilities to earn a reasonable rate of return.

In the Renewable Energy Strategy, government identified the following two regulatory initiatives as integral to the further development of a sustainable energy solution to Prince Edward Island:

1. Open Access Transmission Tariff to facilitate the development of wind energy for the export market, and
2. Mandating that electric utilities implement demand-side management programs to reduce the intensity of peak demand by five per cent by 2010.

IRAC has indicated that work will commence on these issues in the upcoming year.

PEI EnerPool Program

The EnerPool Program, initiated in 1978, continues to demonstrate the effectiveness of ride-sharing transportation in optimizing energy consumption and reducing traffic congestion. Routes from Souris and Summerside provide weekday transportation to and from Charlottetown.

Government's Response to High Energy Prices

In the fall of 2005, government announced two programs designed to help Islanders cope with the unprecedented energy prices experienced over the past year.

The Residential Energy Assistance Program (REAP) is designed to assist low-income homeowners in making their homes more energy efficient. Through government's investment of \$200 on materials and \$100 for labour per household, eligible clients should see a significant reduction in their home heating costs. Air leakage alone can account for up to 30 per cent of a typical home's heat loss. An automatic setback thermostat should easily reduce heating bills by 10 per cent. Initial estimates indicate that the average home should save approximately 20 per cent or over \$500 on their annual heating bill.

To provide incentive for all Islanders to make long lasting improvements, diversify their home heating system, and provide some protection against global energy price shocks that we have seen over the past weeks and months, government also announced a Low-interest Loan Program for the purchase and installation of alternative heating systems including wood and wood pellet appliances, solar air and water heating systems, ground source heat pumps, and drain water heat recovery systems.

Furthermore, in the spring budget, government announced the elimination of provincial sales tax on a host of small scale renewable energy equipment including small wind generators, solar panels and ground source heat pumps. There is also a PST exemption on wood and wood pellet stoves until March 31, 2006.

Forests, Fish and Wildlife Division

Mandate

The Forests, Fish and Wildlife Division promotes sustainable forest management and wildlife and habitat conservation on public and private lands. To achieve this, the division manages approximately 30,635 hectares of public land, including 18,900 hectares in Provincial Forests and an additional 8,862 hectares in Wildlife Management Areas and Natural Areas. The lands include 90 impoundments which provide important habitat and also serve as sites for angling, hunting, trapping, canoeing, bird-watching and other outdoor recreation.

The division also provides assistance and advice to private landowners, and collects and maintains forest inventory information, wildlife population and habitat data, and other land use information. Work centres on producing seedlings for public and private land planting and tree improvement work, and on licensing more than 7,960 anglers, 2,940 hunters, 95 trappers and 155 guides on PEI. Forest fire suppression on public and private lands is provided by the division, and information programs engage the public in forest, fish and wildlife issues, contributing to all the division's programs.

Highlights

The department reorganized in 2005 by combining the Conservation and Management Division with the Division of Forestry and Land Resource Modeling. The Director of Forestry and Land Resource Modeling became Director of a new Forests, Fish and Wildlife Division.

In April, the division launched strengthened wildlife guidelines for its Standing Wood Harvest Tenders on Provincial Forest land. The new guidelines require contractors to leave more coarse woody material on-site, as well as more standing legacy trees. Coarse woody material includes tree trunks and branches left on-site after a harvest, while legacy trees are larger standing trees left after harvesting. Both are important for wildlife, and are critical components of forest health.

In May, the Public Forest Council presented its report on a new forest policy for Prince Edward Island to Minister Jamie Ballem. The report, entitled *Woodlands Hold the Island Together*, included 20 recommendations based on the more than 300 pages of submissions council received from the public during consultations held over the winter. These recommendations will form the basis of a new Forest Policy for Prince Edward Island that is expected to be released in 2006.

In May, the division consulted with the Ground Hemlock industry about proposed new harvest and buying regulations. This was followed with public and landowner consultations in June. As a result, Ground Hemlock Harvest Regulations will be enacted under the *Wildlife Conservation Act* in 2006. They are designed to address landowner concerns about theft and unsustainable harvest of this forest plant, while creating a level playing field for all involved in this industry.

In August, the province announced it would contribute \$300,000 to help the Nature Conservancy of Canada acquire and protect Boughton Island. Located in Cardigan Bay,

Boughton Island is home to nesting great blue herons, common terns and the endangered piping plover. The Nature Conservancy of Canada plans to purchase 390 acres of the offshore island for \$2.3 million and will be turning it over to the province of Prince Edward Island, where management responsibility will be assigned to the Forests, Fish and Wildlife Division.

In September, new regulations came into effect governing hunting guides in the province. Enacted at the request of hunting and wildlife groups, including the Prince Edward Island Wildlife Federation, the regulations require any nonresident hunter to be accompanied by either a licensed guide or a licensed resident while hunting. These regulations bring Prince Edward Island in line with most other jurisdictions in Canada. They are designed to ensure nonresident hunters have a safe and enjoyable hunting experience, and to increase hunting opportunities for Islanders.

Also in September, the department joined with the Prince Edward Island Chapter of the Ruffed Grouse Society and the Prince Edward Island Model Forest Network Partnership to host the first-ever novice Upland Game Workshop. The full-day workshop gave novice hunters of all ages an introduction to upland game species, habitats and hunting. The well attended workshop was an excellent complement to the department's annual Youth Waterfowl Day.

In December, the department signed a 10-year agreement with the Environmental Coalition of Prince Edward Island allowing them to manage approximately 2,000 acres of land in the Orwell/Caledonia areas of southeastern Prince Edward Island. Under the agreement, the lands remain in public ownership but the Coalition – sponsors of the highly-successful MacPhail Woods Ecological Forestry Project – will be

responsible for tree planting, harvest and other aspects of management, as well as reporting to the public. Designed as a pilot project, the agreement outlines set standards and schedules to ensure sustainable forest management practices that increase the social, economic and environmental benefits provided by these lands.

In December, full administration of the Wildlife Conservation Fund was transferred from the department to the Wildlife Conservation Fund Committee. Comprised of nine non-governmental representatives from hunting, fishing, trapping and watershed sectors and one government representative, the committee will oversee all aspects of the fund. This includes setting criteria for applications, promoting the fund, receiving and reviewing applications and making funding decisions. The fund is supported by a contribution made once each year by every licensed hunter, angler and trapper in the province.

In January 2006, the department partnered with the Tourism Industry Association of Prince Edward Island to offer a pilot project which enabled 12 anglers to take the first steps toward becoming nationally certified freshwater angling guides. While there are no plans to make angling guides mandatory in Prince Edward Island, certification of guides will help with the promotion of Prince Edward Island's quality angling opportunities.

Provincial Forests Section

Provincial forest land is managed to encourage public access and to ensure a sustainable wood supply, wildlife conservation, biodiversity, recreation opportunities, training facilities, job creation, forest education and other social benefits. Provincial forest staff continue to implement and demonstrate sustainable forest management on the 18,900 hectares of land

managed by the program through tendered contracts and public partnerships.

In 2005, 191,500 tree seedlings of 16 species were planted on 65.6 ha of provincial forests. Some 61 ha of manual plantation maintenance, 20 ha of stand improvement and two ha of commercial thinning was conducted on these lands. A total of 52 ha of recently harvested land was site prepared to allow planting in 2006. A forest access bridge was repaired, 3.4 km of provincial forest roads were constructed, 0.3 km of roads were upgraded, 34.3 km of roads were maintained and four culverts were installed.

Under supervision, seasonal forest workers implemented manual plantation maintenance on 24.4 hectares, pruned nine ha of plantations for value-added timber production, conducted site reclamation on 3.9 ha of declining softwood, and interplanted 12,800 seedlings to improve biodiversity. Using a mixture of partial and full harvesting techniques, 85.0 ha of softwood and mixed wood were tendered for harvest by local sawmills. Provincial forest tenders were offered on-site preparation, fuelwood, harvested softwood and poplar, standing timber, and balsam fir tips. Along with tendered sales of harvested wood and balsam fir tips, this brought in revenues of \$229,000 in 2005-2006.

Technical assistance was provided to several schools for the development and planting of nursery beds. Technical and silvicultural support was provided for the Scouts' Canada Trees for Canada program and the Batesville Memorial Planting program in the provincial forests. Technical and professional support was also provided for the development of community partnerships for new public walking trails, acquisition of public forest within the 22 provincial forest acquisition areas, school and community group education initiatives,

chainsaw silviculture training, natural areas designation, community plantings and environmental assessment of public forests. The cleanup of illegally dumped materials on provincial forest properties continued and efforts to curb this growing problem on public lands increased.

The green, diamond-shaped provincial forest identification signs were erected where forest roads join the public highway system on properties across the Island, and were publicized in newspapers, on the web and on the highway map. These signs are designed to inform Islanders about the location and management of this public resource, and to encourage Islanders to visit and use these properties for outdoor recreation. Signage on the Demonstration Woodlot trail system was upgraded and replaced and staff assisted and coordinated tours with schools, community groups and the Public Forest Council.

The Eastern Forest District hosted the sixth annual Provincial Forest Fall Frolic at the New Harmony Demonstration Woodlot in October 2005. More than 110 participants came to walk the 4.6 kilometre trail or run the 12.3 km trail and enjoy the natural beauty of the provincial forest. Participants raised \$750 for MacIntyre House in Souris.

Western District provincial forest staff assisted with the tree planting partnership for the Prince County Hospital Foundation. In addition, the provincial forest sugar bush school tours attracted 318 students, 35 teachers, seven bus drivers and 24 supporters at the Mill River Park.

A series of silviculture worker chainsaw safety courses was offered to various agencies across the Island in 2005. The very successful second annual *Giving Trees . . . Giving Hope* fundraising and education initiative with the

Canadian Breast Cancer Network was held in May 2005. Other special initiatives included the provision of forestry displays at the Dover Open House, Agriculture Fun Day and J. Frank Gaudet Nursery Open House, as well as the provision of technical advice to minimize the potential impacts of major projects on public and private forests.

There was a 50 per cent reduction in silviculture workers who deliver specialized silviculture and other forest management treatments on provincial forest land. These workers are also used to support forest fire suppression operations.

General Fire Situation and Statistics for 2005-2006

While the 2005 forest fire season got off to a quick start in mid-April, early green-up of trees and shrubs and higher levels of individual responsibility in the use of controlled burns reduced escape fires. During the season, 13 forest fires were reported on Prince Edward Island. In total, these fires burned 49.7 ha. Five volunteer fire departments participated in mutual aid forest fire responses.

Table 1: Summary of Forest Fire Statistics for the 2005 Fire Season

Fires			Hectares		
Full	Modified	Total (Ha)	Full	Modified	Total (Ha)
13	0	49.7	13	0	49.7

Costs			Values Lost			
Pre-Suppression	Suppression	Total	Forest Res.	Interface	Improvement	Total
\$ 169,600	\$ 20,000	\$ 189,600	\$ NA	0	0	\$ NA

Fire Prevention Activities

The Fire Weather Index (FWI) components were calculated by the Department of Environment, Energy and Forestry from the meteorological data collected at three sites using REMS software. The numerical ratings for fine fuel moisture content, duff moisture code, drought code, initial spread index, buildup index and the fire weather index, which are indicators of fire behaviour, were then conveyed to the district offices, headquarters and co-operating agencies for posting.

The wildfire danger rating was provided to the local media and other departments through Island Information Service and made available

during the fire season via telephone or the internet at www.gov.pe.ca/go/fwi.

Staff participated in the Western Mutual Aid group as well as consultations with air quality staff on fire permits. The 862 burning permits issued to encourage controlled burning practices were analyzed to explore the relationship between permit conditions and potential violations as well as the types of materials and complaints on smoke or escape fire.

Department staff met with fire chiefs to review fire prevention, due diligence, air quality and smoke management issues. A number of investigations were initiated for potential

violations of fire permit and air quality regulations. Staff participated in inter-departmental discussions on burning permits and air quality. New operating agreements were negotiated with the Souris, Georgetown, Wellington and West Point Fire departments to address the requirements of self-insurance risk management within the vehicle fleet. In addition, a 4 X 4 rapid attack tanker was deployed under a new operating agreement with the East River Fire Department.

Equipment Development

The fabrication of the new Muskeg Bombardier off-road tanker was completed in 2005 in co-operation with the Department of Transportation and Public Works.

Provincial forest staff provided input into the business planning initiatives of the Canadian Interagency Forest Fire Centre, Canada's forest fire mutual aid corporation. In addition, staff continued participation with the Canadian Wildland Fire Strategy initiative which resulted in provincial and federal government representatives signing the Canadian Wildland Fire Strategy Declaration.

Training

A joint forest fire workshop was held for Forestry and Parks Canada staff in May. This workshop included presentations on physical fitness and Par-Q, due diligence, fire preparedness review, static displays and active set-up sites. Basic forest fire suppression training was provided to volunteer firefighters at several locations using a CD-ROM version of the Basic Forest Fire Suppression Course. In addition, an Intermediate Forest Fire Behaviour Course was offered by Provincial Forest and Parks Canada staff for staff from the two fire agencies. In September, the department participated in the Atlantic Forest Fire Co-

ordinating Committee meeting in Oromocto, New Brunswick.

Public Forest Council

The Public Forest Council initiatives centred on the completion and delivery of recommendations for a new forest policy for Prince Edward Island, development of a public awareness program, and an exploration of public forest issues.

In 2005-2006, council membership was composed of five private sector representatives and three Forests, Fish and Wildlife Division staff members. The council's representation includes broad-based expertise relevant to the forest resource and the types of proposals which would likely be brought forward. Forest biology, business economics, community development expertise, forest management and/or tourism industry expertise are also skill sets sought on the council. In addition, a representative of the council participated in the Prince Edward Island Model Forest Network Partnership planning and project evaluation teams.

In May 2005, the private sector members of the Public Forest Council completed and submitted their forest policy recommendations report entitled *Woodlands Hold the Island Together*. The province accepted the report and agreed to use it in the development of a new forest policy in 2006.

In October, the council and the Prince Edward Island Model Forest Network Partnership co-hosted a public presentation at Carrefour on the Chiloe Model Forest. Efforts to stimulate the non-timber wealth potential of the Island's public forest land continued with the exploration of partnerships and the subsequent development and submission of project proposals. These proposals led to the

development and co-hosting of the Healthy Forests, Healthy Communities Workshop in March 2006, and the preliminary planning for a 2006 non-timber forest products event in eastern Prince Edward Island.

Also in March, the council obtained matching funding from the Prince Edward Island Model Forest Network Partnership to offer the council's video *The Forest is More than Just a Bunch of Trees* to school and community groups, and utilized these opportunities to foster discussions on appropriate forest management and value-added opportunities.

Representatives of the Public Forest Council and the Town of Kensington formed a joint management committee to develop and implement objectives for the Kensington Public Forest.

In addition to these efforts, council also responded to concerns and requests regarding Public Forest lands on the issues of ground hemlock, scenic heritage roads and recreational access licences.

Private Land Section

Some 88 per cent of Prince Edward Island's forest land is owned and controlled by thousands of private woodlot owners. The department offers a number of programs and services designed to help private landowners manage their forest lands.

Forest Enhancement Program

Initiated in 2002, the Forest Enhancement Program (FEP) continues to provide forest management advice to landowners and cost-share forest management treatments which enhance wildlife, recreation, bio-diversity and timber values.

In 2005, 161 forest management plans were prepared by private sector consultants. Once these plans were approved by the department, landowners were able to access grant monies for silvicultural treatments such as pre-commercial thinning, riparian zone enhancement and crop tree selection. Grants totaled \$105,000.

Forest Renewal Program

The Forest Renewal Program continued to attract landowners interested in receiving technical advice and financial assistance to plant their lands with commercial softwood tree species. In 2005, 1,738,500 seedlings were shipped from the J. Frank Gaudet Tree Nursery to private lands across the province. FRP expenditures and grants totaled \$870,500 for 2005-2006.

Maintenance was completed on 839 hectares of previously established private land plantations. Client uptake continued to be good for the pruning and plantation cleaning incentives. Both of these treatments will help to improve the growth and quality of softwood timber and sawlogs.

The Forest Renewal Program continues to be supported by the harvest and processing industry, with strong demand by landowners for the resources provided within the program.

Prince Edward Island Model Forest Network Partnership Forest Initiatives

The department continued to partner with the Prince Edward Island Model Forest Network Partnership, along with other groups including industry and non-government agencies. There are 26 partners involved in consensus building for sustainable forest management.

In 2005, the Prince Edward Island Model Forest Network Partnership was able to secure \$100,000 from the Canadian Forest Service for

the development and implementation of a work plan. Fourteen projects were funded, i.e., to support signage development for the MacPhail Forestry project; to create a virtual wood yard to foster connections between landowners and forest-based businesses; to study the distribution of forest-dependent bat relative to forest patch size, composition and context, etc. The department provided a project co-ordinator.

Production Development Section

The J. Frank Gaudet Tree Nursery produces high quality improved tree seedlings for reforestation projects, and wholesales native trees and shrubs to the retail landscape trade. In 2005, some 1.7 million seedlings, representing 11 softwood, nine hardwood and 11 native shrub species were planted on cutovers, riparian zones, hedgerows and special areas across the province.

Tours of Prince Edward Island's largest seedling production facility are provided to interested groups and individuals. In 2005, 686 people from school and youth groups, conservation groups and the public toured the nursery. In addition to these numbers, 585 people visited the nursery during Environment Week 2005. Displays included public and private forests, riparian zone management, environmentally friendly agricultural practice, horticulture, farm safety and many other subjects related to natural resources.

The nursery also offers advice and assistance on insect and disease problems for ornamental plants, trees and shrubs, as well as advice on landscape problems to thousands of property owners. Staff provided insect and disease analysis on nearly 500 samples and made 26 site

visits to individuals and Island communities to provide detailed information on landscaping and plant health issues.

Tree Improvement

In 2005-2006, measurements of eight test sites were carried out. These measurements included recording growth and survival. Maintenance was also done at 15 test sites and a grafting program consisting of 484 replacement grafts was completed.

The Dover Seed Orchard provided 11.7 kilograms of improved seed. Survival surveys were carried out on seven test sites along with the thinning of four test sites.

An ongoing maintenance program of the Dover Seed Orchard was also carried out in 2005-2006.

Greening Spaces Program

The Greening Spaces Program encourages tree planting projects with community and school groups. In 2005-2006, the program supported nine schools and 32 community projects, as well as 33 hedgerow/shelterbelt clients. Some 42,000 native trees and shrubs were planted to diversify public properties, buffer prevailing winds, provide shade, reduce noise, protect waterways and provide habitat for wildlife.

Staff also presented courses on ornamental horticulture, plant selection, pest control and pruning.

Forest Information Program

The Forest Information Program co-ordinates general awareness and youth education programs related to Island forests, and provides communications support and planning services to the director, managers and staff from the various programs.

Fifty-two local radio features were completed for *Agriculture Today*. Work on the *Woodland Notes* series for forest owners continued with the release of *Volume 3: Forest Management Plans*. The Forest Information program also continued to provide *ForestNet*, a monthly newspaper column, and to focus on increasing the profile of web-based resources related to forestry.

Development of ENVIROTHON, a voluntary science education program for senior high school students which emphasizes basic science skills in forestry, soils, aquatics and wildlife, as well as one other current topic, continued. In October, five teams from Charlottetown Rural, Bluefield, Colonel Gray and Three Oaks High schools and for the first time, Birchwood, a junior high school team, competed provincially. Three Oaks was the overall winner invited to the 2006 Canon ENVIROTHON competition in Manitoba.

The department, along with the Canadian Woodlands Forum, and other regional forest sector partners, developed and hosted the 2005 Atlantic Teachers Tour program. Five Island teachers were sponsored and spent three days visiting forest sites in northeastern New Brunswick. They were given the opportunity to learn about the science used to manage Maritime forests; to explore the economic and social aspects of large and small forest-based industries; and to examine the range of employment opportunities their students could find in the forest sector.

Logistical and communications support continued to be provided to the Public Forest Council, particularly in regards to the extensive forest policy consultation process. Communications support was also provided to several division and department programs, as

well as to external clients who work with the division.

In 2006, communications assistance was provided to the Prince Edward Island Model Forest Network Partnership and work began on a new watershed management plan guide which will help Island watershed groups improve their ability to gain and maintain public support for efforts to improve local water resources.

Market Development

Work continued with valued added wood products manufacturers to explore new market and product lines, develop connections between landowners and end product users, and increase awareness of the Island potential to produce high quality forest products in local, regional and international markets.

During the winter of 2006, the department, Wood West Network and the Prince Edward Island Model Forest Network co-sponsored a series of information lectures on non-timber and value-added wood products in western Prince County. Another co-operative project saw the development of a Virtual Wood Yard, an online web service designed to connect landowners and forest-based businesses, provide market opportunities for small volumes of high value end products, and access a range of woodlot management and harvest services.

The market development officer participated in an agri-forestry conference in Cornwall, designed to increase awareness of the possibilities in this field for Island farmers.

Resource Inventory and Modeling Section

Land Use Information

In order to provide the public and clients of the department with access to information on the land resources of the province, Resource Inventory and Modeling staff support the website PEI Land On-Line (www.peilandonline.com). This site provides information on specific properties to landowners who register with the department.

Staff also produce land use maps for forest clients, the public and the Environmental Farm Plan program. Buildings in the rural areas of the province with one dimension larger than seven metres were digitized and this information is now being used by a number of departments.

National Forest Information System

Staff provides ongoing support to update and maintain information on Prince Edward Island forests for the National Forest Information System website (www.nfis.org). This website provides public access to national forest information.

Climate Change Research

During the summer of 2005, staff from the Department of Environment, Energy and Forestry began a survey to determine which non-native tree and shrub species have been successfully planted in Prince Edward Island, where they are growing and how they are performing. The 2005 survey mostly focused on the Charlottetown area and found many non-native species such as sequoia, tulip tree, hickory and locust, as well as several oak and fir species. Most of them were planted as ornamentals in parks, lawns and gardens over the last several decades. Each tree was assessed to determine how well it was doing in terms of

growth development and health. This information will be used to determine if more climate change may make Prince Edward Island hospitable for more southerly species.

Another research project looked at tree rooting depth to determine how far down the roots of Acadian Forest species can reach in order to access water. The shallow nature of Island soils combined with the adaptation of many Acadian Forest species to northern growing conditions, has led forest researchers to conclude that most trees have root systems which only go down about two feet (60 centimetres). However, the 2005 study found that on two Island soil types, maples, birches and white spruce had root systems which penetrated two to three or more metres down. This means they have the ability to access deep water sources and thus may be better able to withstand periods of drought than was previously thought.

Work continues on mapping the 1958 forest outline which will be used to look at forest change under the Kyoto Agreement.

Growth and Yield

Staff continued to measure forest growth and change through the continued assessment of Permanent Sample Plots (PSPs) and plantation assessments. The 350+ PSPs are located in a variety of forest types across the province and are measured on a three-year cycle. Many of these plots are being measured for a fifth time, providing valuable detail on growth and change.

Plantation assessments are continuing to ensure planting quality and to monitor the early success and growth of plantations.

Plantation Mapping

Plantations are mapped as they are established through a combination of GPS and GIS technology so the province can keep track of all forest plantations.

Harvest Trends

Most of the wood harvested in Prince Edward Island each year is cut on private lands. Public forest harvesting usually accounts for less than five per cent of the annual harvest volume.

Forest inventory information over the last two decades has predicted a drastic decline in the amount of softwood fibre available for harvest by 2010. Industry's move to increased harvesting in mixed wood stands suggests that the predicted decline in pure softwood stand availability is becoming a reality.

The total log harvest for 2005 was estimated to be 632,000 m³ (275,500 cords), down more than 10 per cent from 710,495 m³ (308,910 cords) in 2004.

Softwood Products

Softwood harvest volumes peaked at almost 550,000 m³/year in 1999, and have leveled off at about 460,000 m³/year since then. The 2005 harvest was down more than 20 per cent at 359,838 m³ (156,451 cords) of which sawlogs and studwood accounted for 74 per cent. This is still above the estimated sustainable harvest level.

Hardwood Products

The hardwood harvest peaked in the late 1980s at about 310,000 m³ (134,783 cords) a year. Since 1998, the hardwood harvest has declined to about 100,000 m³ due mainly to a drop in demand for domestic fuelwood. In recent years, the annual harvest has been estimated to be increasing to some 275,000 m³ (119,565 cords)

per year. Most of this increase is due to higher fuel oil prices, primary product demand for Oriented Strand Board (OSB) in NB and chip exports to Japan. Hardwood pulpwood shipments to the United States have been on the rise as well.

Fuelwood (mostly hardwood) harvest for 2005 was 210,000 m³ (90,000 cords) and contributed an estimated \$7.2 million to the provincial economy.

Harvest Value

The 2005 value of the delivered primary softwood forest products was estimated to be about \$18.9 million, while the total delivered value of all wood products was estimated to be \$30.4 million. The secondary wood products manufacturing industry (cabinets, flooring, furniture, etc.) contributed an estimated value of between \$20 and \$25 million annually to the provincial economy.

Fish and Wildlife Section

Freshwater Fisheries

On August 2, 2005, the freshwater fisheries biologist discovered a fish kill on Barclay Brook, a tributary to the Trout River, near O'Leary. Heavy rainfall had occurred several days prior and at the time of discovery, there were few dead fish remaining. A potato field within the watershed was found to be in violation of headland regulations and the farmer was subsequently charged. Barclay Brook was the site of previous fish kills in 1967 and 2002.

In 2003, angling on the Wilmot River had been restricted to Marchbanks Pond and Arsenault's Pond following the fish kills in 2002. The restrictions were lifted in 2004 but electrofishing surveys indicated that populations

of trout had not returned to pre-kill levels. Based on these surveys and at the request of the Prince County Fly Fishers, the creel limit on this river was reduced to five for the 2006 angling season.

Angling on Southwest Brook, a tributary to the Dunk River, was prohibited in 2005 as a conservation measure to allow salmonid populations to rebound following the fish kill in September 2004. This restriction was lifted in 2006.

The division continued to collect fish in selected areas for analysis of mercury as part of a joint initiative with the New England Governors and Eastern Canadian Premiers Mercury Task Force. Fish were sampled from the Morell River, Boughton River, O'Keefes Lake, Glenfinnan Lake and Ben's Lake, with testing completed at Environment Canada's Environmental Quality Section Laboratory in Moncton, New Brunswick. Highest mercury levels were found in fish from O'Keefes Lake, with an average concentration of 0.42 ppm. Two of the fish exceeded the 0.5 ppm limit established by federal health authorities. The health advisory regarding consumption of fish from O'Keefes Lake remains in effect. The division will continue to monitor mercury levels in fish from selected areas of Prince Edward Island on an annual basis.

Monitoring continued on the six index rivers – Mill River, Little Trout River (Richmond), Wilmot River, West River, Morell River and Souris River. Sites on each system were electrofished to determine salmonid populations for long term monitoring.

In November 2005, salmonid redd surveys were completed on 10 rivers – North Lake Creek, Cross River, Naufrage River, Morell River, Midgell River, Bristol Creek, Pisquid River,

North River, West River and Little Trout River. When carried out annually, redd surveys provide a useful index of salmon populations and spawning activity.

The Cardigan Fish Hatchery which has stocked Prince Edward Island rivers since the 1930s was sold to Dover Fish Hatchery by the University of Prince Edward Island. With the withdrawal of federal funding, the future of the enhancement program is now in doubt. A Recreational Fisheries Advisory Committee was formed consisting of six members – Daryl Guignion, Todd Dupuis, John Jamieson, Steve Cheverie, Walter MacEwen and Dave Biggar. The committee prepared *A Stocking Proposal for Prince Edward Island* and recommended that the province, the federal government and the Wildlife Conservation Fund each contribute \$60,000 to enable the stocking program to continue. In October, the department committed \$60,000 from the Prince Edward Island Wildlife Conservation Fund and broodstock brook trout were collected from the Brudenell River, Morell River, West River and the Mill/Trout Rivers. Atlantic salmon were also collected from the Morell River.

In autumn 2004, tagged fish were released into the Foxley River to determine the effectiveness of stocking semi-naturally reared brook trout into an estuary with limited natural inputs of fish. A \$10 reward was offered for all returned tags. Tag returns from anglers in 2005 were higher than expected, with a return rate of 30 per cent. In autumn 2005, an additional 198 fish were stocked into the Foxley River and 225 fish into the Trout River in Coleman. The O'Leary Branch of the Prince Edward Island Wildlife Federation is no longer operating the Proffitt's semi-natural rearing pond.

The Family Fishing Weekend was once again held during the long weekend in May. In support of this venture, no angling licence was required to fish from May 20 to 23, 2005.

The division carried out the Island component of the national angling survey. This survey is co-ordinated by the Department of Fisheries and Oceans every five years to obtain the information required for the management of freshwater fisheries on Prince Edward Island. The results of the national survey are expected to be released in 2007.

Wildlife Conservation Fund

The Prince Edward Island Wildlife Conservation Fund was created in 1998 to support conservation initiatives led by community-based groups. Money for the fund comes from a \$13 contribution made once per year by each licensed angler, hunter and trapper. An advisory committee composed of representatives of a number of organizations reviews all applications received and recommends funding.

In 2005-2006, the Wildlife Conservation Fund provided \$60,000 to the Cardigan Fish Hatchery for the production of trout and salmon for public fisheries, and approximately \$55,000 to community groups and organizations for projects including wildlife habitat restoration and enhancement, research and education.

Full administration of the Wildlife Conservation Fund was transferred from the department to the Wildlife Conservation Fund Committee in December 2005. The committee will oversee all aspects of the fund including setting criteria for applications, promoting the fund, receiving and reviewing applications and making funding decisions. The fund is supported by a contribution made once each year by every

licensed hunter, angler and trapper in the province.

Public Awareness and Education

Staff from the division are regularly called upon to make presentations to various schools and community organizations. Staff members in the division assisted with Envirothon 2005. This involved making presentations to school teams, preparing exam questions, holding field sessions and conducting exams.

Environmental Futures Program

The Environmental Futures Program (EFP) helps to educate high school and university students on the importance of wildlife protection and habitat enhancement. There are 10 crews consisting typically of two high school students and one supervisor, with priority given to individuals enrolled in the fields of biology or environmental study. Crews are responsible for completing a variety of projects including enhancement of fish and wildlife habitats, soil erosion control, protecting and enhancing natural areas, environmental awareness and educational activities.

In 2005, students completed 56 projects across the Island including 18 stream enhancement projects, nine tree planting sites, 52 beach sweeps and participated in the Community Aquaculture Monitoring Program (CAMP) and the Invasive Species Education Campaign.

Eastern Habitat Joint Venture

This program focuses on the protection, restoration and enhancement of wetland habitats within the province. A primary focus of the Eastern Habitat Joint Venture Stewardship Program (EHJV) since 1991, has been to work with the agricultural community to remedy the detrimental impact of farming practices on the Island's streams and wetlands. Direct financial assistance has been provided in past years in

support of agricultural soil conservation projects and fencing livestock from watercourses and wetlands. These types of projects are currently funded through other sources, although the EHJV continues to provide in-kind assistance in the form of technical and planning advice. It is expected that these programs will continue to be supported with funding from the agricultural community.

Under the Stewardship Program of EHJV, 37.7 hectares of wetland habitat were enhanced at 23 sites in the province. Included in this total are three farm ponds, comprising 3.6 hectares of marsh, constructed to contain agricultural wastewater and the enhancement of six abandoned borrow pits, adding 10.2 hectares to the total wetland habitat conserved.

The EHJV also acquires wetland properties, often in support of the Provincial Protected Areas and Biodiversity Conservation Program. One 3.2 hectare property, with 2.0 hectares of salt marsh and 1.2 hectares of upland buffer, was acquired in 2005. An ongoing biological control program to contain Purple Loosestrife, an invasive plant that is extremely harmful to native wetland habitat, was continued in 2005.

Protected Areas and Biodiversity Conservation

In 2005, the *Natural Areas Protection Act* was amended to permit the de-designation of public lands designated as natural areas under the act. Grounds for de-designation could be the loss of the feature for which land was protected or the wish of the local community to develop the designated lands. A consultation process was also mandated by the legislation.

No new land was protected under legislation in 2005.

The province continued to work with input from the Cental Kings Development Corporation and the Boughton River Watershed Enhancement Committee to implement a management plan for the Forest Hill Wildlife Management Area. The community of Mount Stewart and the Hillsborough River Association continued to provide input on management of the Mount Stewart Wildlife Management Area Program.

The department continued its representation on the Basin Head Lagoon Ecosystem Conservation Committee. The designation of the Basin Head Lagoon Marine Protected Area was formalized in 2005 under the Federal *Oceans Act*.

Accord for Protection of Species at Risk

The Forests, Fish and Wildlife Division continued to participate in national processes under the Accord for the Protection of Species at Risk. The publication *Wild Species 2000: The General Status of Species in Canada* (www.wildspecies.ca) is the first work by knowledgeable experts and volunteers in Prince Edward Island and across Canada to assign status ranks to species in the country. This work is ongoing and will lead to an update of the publication in 2006. New field studies greatly assist in assigning status ranks.

The province continued to support conservation programs for the endangered piping plover on Island beaches, and to participate in the National Piping Plover Recovery Team.

As endangered species legislation is implemented in Canada, the division participated in the meeting of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and reviewed the degree of endangerment of 41 species of wildlife in Canada.

Wood Harvest on Provincially Owned Land

No commercial harvest activity occurred in wildlife management lands in 2005-2006. Lumber was harvested from provincial wildlife management areas and used to repair fishways and boardwalks on provincial land.

Wildlife Population Assessment and Habitat Section

Status of Wildlife

Waterfowl breeding pair and brood surveys were conducted in 2005. These surveys provide an annual index of waterfowl production for wetlands across the province and supply essential data for regulatory management decisions. Annual spring breeding pair counts have shown a stable to increasing population trend from 1995 through 2005.

Weekly surveys of wintering waterfowl were conducted on 33 sites in January and February. Results provide an index to changes in numbers, species composition and distribution of wintering waterfowl.

Efforts were also directed at banding locally produced ducks with the assistance and co-operation of the Canadian Wildlife Service. Waterfowl banded in the summer of 2005 included black ducks, blue-winged teal, green-winged teal, American widgeon and mallard. Three hundred black ducks and mallards were banded during the winter. The spring Canada Goose Banding Program continued in 2005, using rocket nets to capture the birds. Bald eagles were banded, in a continuing effort to gain information on migration patterns and

mortality factors for eagles raised at Island nest sites.

The November Canada Goose Aerial Survey Program continued in 2005 in co-operation with the Canadian Wildlife Service. The count was the fifth highest ever and equaled the previous 10-year average count. During the survey, 30,315 Canada geese and 4,600 black ducks were observed.

Other wildlife surveys conducted during 2005 included the cormorant nest counts, woodcock singing ground survey, and the annual monitoring of the wild fur industry.

Wildlife Management

Two trappers were hired from April to October to mitigate highway beaver problems across the Island. This reduced beaver problems, saved the Department of Transportation and Public Works valuable machine time, and resulted in improved beaver management.

The division continued to work with the Department of Agriculture, Aquaculture and Fisheries, the Sheep Breeders Association, and the Federation of Agriculture in dealing with problems associated with the coyote. As well, the division continued to monitor the population status, reproduction, food habits and annual harvest. Efforts continued to educate the general public on dealing with coyotes.

Geographic Information System

As part of the Corporate Land Cover and Land Use Inventory (2000), the division continues to update the Wetland Inventory in the government Geographic Information System (GIS). The section continues to maintain and improve other resource layers and develop more effective means of delivering GIS products within the department, interdepartmentally and externally.

The need to improve the accuracy of both the watershed and hydrographic (watercourse) layers is a priority. Most government resource agencies, as well as numerous community groups concerned with watershed management, use the watershed and hydrographic layers to develop watershed management plans, calculate soil erosion risk indices, develop groundwater models, produce buffer zone calculations, etc. More precise layers are needed to meet these objectives. Both the watershed and watercourse layers are being updated.

The Forests, Fish and Wildlife Division participates in the GIS Co-ordinating Committee and the GIS Technical Committee to develop and implement a policy framework for creating and distributing government GIS data.

Firearm Safety/Hunter and Trapper Education

Under a five-year contract signed in 2003, the Forests, Fish and Wildlife Division subcontracts the delivery of the Canadian Firearms Safety Course to the Prince Edward Island Wildlife Federation. The Prince Edward Island Wildlife Federation delivers both the federal non-restricted and restricted firearms safety courses.

In 2005, 13 volunteer Canadian Firearms Safety Course instructors provided training to 315 students, with 269 taking the non-restricted course and 55 taking the restricted firearms safety course. Most of the restricted firearm students were from the Atlantic Police Academy program. The division also monitors the delivery of the training, maintains a file system for clients who have completed the Canadian Firearms Safety Course Training, maintains an inventory of firearms used for training, and co-operates with the Provincial Firearms Office and the Atlantic Police Academy.

The Prince Edward Island Wildlife Federation is also responsible for the delivery of the provincial Hunter Education training. In 2005, the Hunter Education Program was delivered to 133 students, 74 per cent being youth ages 12-17. There are 20 qualified Hunter Education volunteer instructors although only seven were active this year. The division maintains the legislative requirements to issue firearms safety certificates required by all hunters.

Two Bow Hunter courses were held for 11 bow hunters. Bow hunters require this special course if they wish to hunt using a bow in other provinces. The department worked co-operatively with the Prince Edward Island Traditional Archery Association to encourage more hunters to try bow hunting

Trapper education is required for all first-time trappers. Training is conducted jointly by the division and the Prince Edward Island Trappers Association. Eleven students received training in 2005. Courses were held in Southampton and Wellington.

Investigation and Enforcement Section

The 2005-2006 Investigation and Enforcement Section was in a period of change. The head of Investigation and Enforcement moved to the Fish and Wildlife Division and the enforcement position was staffed intermittently.

The section operated as it had in the past with six conservation officers, as well as three part-time pesticide officers and one special investigative environment officer.

The conservation officers enforce the following pieces of legislation assigned to the department by Executive Council:

- *Environmental Protection Act*
- *Wildlife Conservation Act*
- *Natural Areas Protection Act*
- *Unsightly Property Act*
- *Automobile Junk Yards Act*

Through formal and informal agreements with Environment Canada, Fisheries and Oceans and the Royal Canadian Mounted Police, the province enforces several federal acts and regulations related to pollution prevention and wildlife protection. The following are other pieces of legislation enforced by the Investigation and Enforcement Section:

- *Trespass to Property Act*, related to hunting and fishing;
- *Fisheries Act (CANADA)*, related to sport fishing and habitat destruction;
- *Migratory Birds Convention Act (CANADA)*, related to the protection of migratory birds;
- *Pesticides Control Act*, related to release of contaminants into the environment and potential for destruction of wildlife habitat;
- *Wild Animal /Plant Protection and Regulation of International and Interprovincial Trade Act*, related to the illegal trade and harvesting of wildlife;
- *Planning Act*, related to conservation zones, destruction of sand dunes and coastal habitats;
- *Highway Traffic Act*, related to litter, unsecured loads and other environmentally related sections;
- *Off Highway Vehicle Act*, related to chasing wildlife and firearms;
- *Small Vessel Regulations Act*, related to boat safety;

- *Recreation Development Act*, related to hunting, fishing and trapping in parks; and
- *Criminal Code (CANADA)*, related to firearms and other criminal offences that an officer may come across in the field.

The following table illustrates the number and nature of violations and warnings recorded by county between the period of January 1, 2005 and March 31, 2006. There were a total of 221 violations across the province.

Statute	Charges	Warnings
<i>Environmental Protection Act</i>	31	32
<i>Unsightly Property Act</i>	1	-
<i>Off-highway Vehicle Act</i>	-	5
<i>Trespass to Property Act</i>	1	2
<i>Wildlife Conservation Act</i>	10	38
<i>Migratory Birds Act</i>	4	-
<i>Pesticides Control Act</i>	4	91
<i>Fish and Game Protection Act</i>	1	-
<i>Trails Act</i>	1	-
<i>Fire Prevention Act</i>	1	-
Total	53	168

The Investigation and Enforcement Section continues to focus on consistency and fairness in enforcement. Issues the section faced in 2005-2006 include the continued investigation of illegal dump sites, although few resulted in charges as it is extremely difficult to prove the person responsible for depositing the waste.

The Investigation and Enforcement Section continued to provide technical support to other divisions in 2005-2006. Following are highlights of assistance provided.

Forests, Fish and Wildlife Division

- Survey of birds (waterfowl, cormorants, woodcock)
- Band waterfowl/eagles
- Collect specimens (coyote, beaver, fox)
- Deliver and collect licences (hunting and fishing)
- Deliver nuisance animal program
- Provide public with information on wildlife
- Assist in the Firearm/Hunter Safety and Trapper Education programs
- Conduct site inspections for watercourse crossings
- Check compliance of irrigation sites, water crossing, buffer zones, etc.

Pollution Prevention Division

- Conduct investigations regarding pits and junkyards
- Check land disposal sites

Pollution Prevention Division

Mandate

The Pollution Prevention Division has a mandate to promote the protection and responsible stewardship of our environment and natural resources. This includes responsibility for quality of our air, water, soil and natural habitat; assessing the impact of undertakings on human health, animal health and the environment; and the management of pesticide use in the province. Activities which help promote public acceptance of responsibility for the environment and sustainability of our natural resources are included in this mandate.

Overview

The Pollution Prevention Division administers a wide range of programs, legislation and activities which are designed to protect the quality of water, soil, air and landscape in the province. The activities include measures to preserve, control or enhance: outdoor air quality, the ozone layer, climate change factors, noise, solid waste management, management of hazardous waste, litter, excavation pits, unsightly properties, automobile junk yards, beverage containers, pesticide use, petroleum storage tanks, used motor oil, tires and special projects. Promoting pollution prevention and environmental stewardship, and educating all Islanders on responsible environmental practices are key initiatives of the division. Staff participate on a number of provincial, regional, national and international committees regarding pollution prevention, air quality, climate change, noise, pesticide use and management of waste and toxic substances.

The division is responsible for the following legislation and regulations.

- *Environmental Protection Act*, particularly Sections 9, 20 and 24
 - ▶ Air Quality Regulations
 - ▶ Ozone Depleting Substances Regulations
 - ▶ Excavation Pits Regulations
 - ▶ Lead Acid Battery Regulations
 - ▶ Litter Control Regulations
 - ▶ Used Oil Handling Regulations
 - ▶ Petroleum Storage Tanks Regulations
 - ▶ Waste Resource Management Regulations
- Pesticides Control Act
 - ▶ Pesticide Control Regulations
- *Automobile Junk Yards Act*
- *Unsightly Property Act*
 - ▶ Unsightly Property Regulations

Air Quality and Hazardous Materials Section

Petroleum Storage Tank Program

Petroleum hydrocarbon products are by far the most commonly used hazardous materials in the province and are an essential component of our Island economy. The department continues to lead the country in preventive efforts to avoid petroleum spills, and in using the most up-to-date science to determine the necessary corrective action when petroleum spills do occur.

On the preventive side, the Petroleum Storage Tank Program focused on the handling and storage of petroleum products according to the provisions and regulations of the *Environmental Protection Act*. In 2005, there were 10 underground storage tank spills (52 of five litres or less) compared to 167 in 1992 (when the program became fully active); and 146 aboveground home heat tank spills compared to 293, 162, 191 and 179 spills in 2001, 2002, 2003 and 2004.

In 2001, regulations were amended to include the replacement age for the installation of aboveground home heat tank systems. Since then, 480 installers and inspectors have been certified and licensed; and 25,942 home heat tanks have been inspected, tagged and registered.

In 2005, an Oil Giveaway Campaign was launched. This initiative between the department and the Canadian Oil Heat Association was aimed at encouraging Islanders to have their home heat oil tanks inspected and tagged. The campaign included an extensive public awareness program emphasizing a “do-it-now-rather-than-later” message.

Atlantic Canada Harmonized Approach on Petroleum Contaminated Site Management

The division continued its participation in the Atlantic Partnership in Risk Based Corrective Action Implementation. This group has a mandate to develop and maintain the technical tools required to manage the risk-based corrective action process, harmonize the management processes and best practices among the four provinces, and manage implementation within the region. Members of Atlantic PIRI include regulators from the environmental protection departments of the four Atlantic Provinces, representatives from

Environment Canada, the national petroleum industry, and regional environmental and communications consultants.

The Atlantic RBCA software tool is used in conjunction with the management processes developed by each province. Together, these tools are designed to facilitate the cleanup of sites, by providing clear guidance that is responsive to local conditions. Efficiency in remediation and management returns properties to full and active use faster, whether the site experienced a recent spill or historical contamination. To ensure site professionals optimize the application of the Atlantic RBCA tools, two advanced-level training sessions were held in 2005. These sessions provided “hands-on” instruction and enhanced the problem-solving skills of 65 professionals in the Atlantic region.

In 2005, 97 reported spill files were closed where contaminated soil removal effectively remediated the impacts from the loss of petroleum products. At sites where the impacts were more extensive, it was necessary to obtain additional technical information to plan appropriate remedial action. Environmental consultants completed Environmental Site Assessments (ESAs), and assessed soil and groundwater to determine the full extent of the spills. In 2005, 23 spill files were closed where ESAs were completed.

In 2005, 91 petroleum contaminated sites were monitored with departmental staff either supervising the on-site cleanup procedures or monitoring a consultant’s remedial actions to ensure that the cleanup took place in a timely manner and to a level that protected both human health and the environment.

Phase I ESAs are commonly required by purchasers or the purchaser’s lending

institution, although they are not required by the department. The division has been involved since April 1997 in searching records for past activities on a property that could be interpreted as contributing to existing contamination, and monitoring remediation efforts. In 2005, 945 Environmental Records Review Requests were completed.

The section continued its participation in the following provincial, regional, national and international programs.

- National Air Pollutant Surveillance (NAPS) Program (federal/provincial)
- Emissions and Projections Working Group (federal/provincial)
- National Pollutant Release Inventory (NPRI) Work Group (federal/provincial)
- Air Management Committee (federal/provincial)
- Air Quality Health Index Management Committee (federal/provincial)
- Atlantic Region Air Issues Team (regional – federal/provincial)
- Air Quality and Acid Rain Steering Committee (regional – Atlantic Canada/New England States)
- Real-time Monitoring Work Group (regional – Atlantic Canada/New England States)
- Canadian Council of Ministers of the Environment, Canada-wide Standards on Mercury (federal/provincial)
- Childrens Secretariat on Healthy Child Development (provincial)
- Federal-Provincial Working Group on Ozone-Depleting Substances and Halocarbon Alternatives
- Mercury Task Force (regional – Atlantic Canada/New England States)

National Air Pollutant Surveillance Program

Ambient air samples collected at Charlottetown, Wellington and Southampton NAPS stations provide information to the province and Environment Canada on ground level ozone, sulphur dioxide, nitrogen oxides, mercury, particulate matter and acid rain levels found in the local air. Eighty percent of the installed equipment operates continuously and sends data hourly to a central computer in Charlottetown for processing and distribution to our partners.

In 2006, a continuous fine particulate monitor and a nitrogen oxides monitor were installed at Wellington, and all of the site computers were updated.

The table on the following page lists current equipment distribution.

The Air Quality and Hazardous Materials Section continued to provide data for the Air Quality Forecast Program (formerly the Smog Forecast Program launched in June 2000) in partnership with Environment Canada, the Prince Edward Department of Health and Social Services, and the PEI Lung Association. Environment Canada issues the forecast twice a day, at 5 a.m. and 4 p.m., from May 1 until the end of October, and it can be accessed by telephone in each of the three counties, at the Environment Canada website, and from a link at the Department of Environment, Energy and Forestry website. It is a two-day prediction of expected levels of ground-level ozone – the key component of smog. Soon, fine particulate matter will also be used to develop a more realistic air quality forecast.

Current Air Quality Monitoring Equipment Distribution		
Location	Equipment	Sample Frequency
Charlottetown	Ground level ozone	Continuous
	Sulphur dioxide	Continuous
	Nitrogen oxides	Continuous
	Fine particulate matter (PM _{2.5})	Continuous
Southampton	Mercury	Continuous
	Acid rain	Triggered by precipitation events
	Ground level ozone	Continuous
	Fine particulate matter (PM _{2.5}) – continuous	Continuous
	Fine particulate matter (PM _{2.5}) – 6-day sample, reference standard	Every 6 th day
Wellington	Ground level ozone*	Continuous
	Nitrogen oxides	Continuous
	Fine particulate matter (PM _{2.5})	Continuous

* Operated in conjunction with Environment Canada

Stack emissions testing was conducted at a number of asphalt plants in 2005 and 2006. Where unsatisfactory results were obtained, plant owners were asked to upgrade in preparation for further testing. Annual testing continued at the PEI Energy Systems incinerator, but this time, particular attention was given to mercury and dioxins and furans to assess the performance of additional air pollution control equipment recently installed to address these two pollutants.

Mercury and Fish

Fish tissue sampling for mercury, ongoing since 1998, continued. For the first time in April of 2005, it was necessary to issue a mercury fish advisory for Prince Edward Island. The Health Canada maximum allowable limit of 0.50 mg/kg, has been confined to O'Keefes Lake. The samples collected in July of 2005 and January of 2006 from this lake were also in excess of the guideline.

Key Statistics for Air Quality and Hazardous Materials	
Type of Review	2005 Key Statistics
Inspections of refrigeration/air-conditioning equipment at landfills	3,660
Recovery of ozone depleting substances from landfills	3,381 units for a total of 485 kg
Investigation of petroleum spills	277
Removal of underground petroleum storage tanks	37
Recorded home heat tank/storage tank spills	146
Records Review Requests	204
Registered generators of hazardous waste*	454
Shipping manifests processed	920
Hazardous Waste shipped for disposal/recycling	2,179,458
Import of lead-acid batteries to the province	20,556
Recovery of lead-acid batteries for recycling out-of-province**	16,394 (79.8% recovery)
Number of after-hours calls received by the Environmental Emergency Response Team	99

*The *Transportation of Dangerous Goods Act* requires that generators of hazardous waste register with the department and provide information about the types and quantities of wastes generated.

**Lead-acid batteries can represent a threat to groundwater as their components have the potential to leach into soil. With the development of the lead-acid battery recovery program, attempts to reduce the risk have been highly successful.

Climate Change Section

Pollution Prevention maintains responsibility for climate change and greening of government activities and programs government-wide. Staff co-ordinate and participate in climate change activities throughout the province, monitor compliance with provincial commitments (including the New England Governors and Eastern Canadian Premiers Climate Change Action Plan), and represent the province on national and regional committees.

A Climate Change Strategy for Prince Edward Island

In May 2004, the Special Committee on Climate Change was directed by the Legislative Assembly to consult with Islanders and develop recommendations on a new climate change strategy for Prince Edward Island Government. In April 2005, Wayne Collins, chair of the Special Committee on Climate Change presented *A Climate Change Strategy for Prince Edward Island* to the Legislative Assembly. This report made a series of recommendations which would lead to a reduction in greenhouse gas emissions, better understanding and co-operation on climate change issues, more efficient use of energy, reduced dependence on fossil fuels, and adaptive strategies to deal with

the impending social, economic and environmental impacts of a changing climate. A *Climate Change Strategy for Prince Edward Island* is intended to contribute to new climate change policies.

United Nations Climate Change Conference (COP 11 and COP/MOP 1)

The Government of Prince Edward Island participated in the 11th session of the Conference of the Parties to the Climate Change Convention and the first meeting of the Parties to the Kyoto Protocol in Montreal, Quebec. This was the largest intergovernmental climate conference since the Kyoto Protocol was adopted in 1997, with over 10,000 participants. More than 40 decisions were adopted at the United Nations Climate Change Conference, strengthening global efforts to fight climate change.

A Bright Idea

The PEI Climate Change Hub, along with the Government of Prince Edward Island, Maritime Electric, Southeast Environmental Association, City of Charlottetown, City of Summerside, Town of Stratford, Environment Canada, and Conglom (a bulb manufacturer) launched *A Bright Idea* in February 2006. Approximately 100 residents of Charlottetown, Summerside and Stratford were retrofitted with up to 20 compact fluorescent light bulbs (CFLs). In each participating home, residents are expected to save \$95 and reduce greenhouse gas emissions by 650 kg each year.

Environmental Assessment Section

The Environmental Assessment Section deals with proposed developments which may qualify as “undertakings” as defined in the *Environmental Protection Act*. In addition, the section co-ordinates the subdivision environmental review process for provincial and municipal authorities, and administers the Waste Resource Management Regulations, the Excavation Pits Regulations, the *Unsightly Property Act* and the *Automobile Junkyard Act*.

The Environmental Assessment Section becomes aware of potential undertakings either through referrals from other government departments or through direct application by a proponent. On receipt, potential undertakings are screened to determine if approval under Section 9(1) of the *Environmental Protection Act* is required. If the project meets the definition of an undertaking, it is registered and the approval of the Minister is ultimately required before it may proceed. If the project is not considered an undertaking but there are environmental issues that may need to be addressed by the proponent, it is considered a referral and conditions for mitigation are typically applied to a Building Permit or other required government approval process.

Registered Undertakings

In 2005, a total of 14 undertakings were reviewed by the Environmental Assessment Section. The variety of projects included:

- 1 compost storage facility,
- 2 wind farm developments,
- 1 50 megawatt combustion turbine,
- 1 marine research facility,
- fish and shellfish processing facilities,
- 2 natural gas seismic exploration projects,

- agricultural buildings and facilities,
- 1 scrap metal yard, and
- 1 golf course.

Type of Review	Key Statistics	2005
Registered Undertakings	Development applications reviewed	6
Interdepartmental Referrals	Development application approved* Section 9, <i>Environmental Protection Act</i>	140
Subdivision Applications*	Agricultural developments approved* Section 9, <i>Environmental Protection Act</i>	144

* Advice was given to permitting authorities on how these subdivisions could be best serviced with regard to water and sewer servicing, as well as the protection of significant natural features.

Excavation Pits, Automobile Junk Yards and Unsightly Properties

The inspection and permitting of waste management facilities, excavation pits, and automobile junk yards are other important functions of the Environmental Assessment Section. Ensuring that these types of facilities are operating in compliance with their respective legislation is particularly important for the protection of groundwater and surface water resources. In 2005, a total of two composting facilities, 50 recycling facilities, one landfill facility, five construction and demolition facilities, 312 licensed pits and 53 automobile junk yards were on file with the department. Over the course of the year, most of these were inspected by section staff. As well, numerous inspections of properties were carried out under the *Unsightly Property Act* in 2005. Many of these properties required repeated visits and/or follow-up inspections to attempt to have problem areas addressed with the co-operation of the property owner.

Pesticide Regulatory Program

The Pesticide Regulatory Program maintains responsibility for administration of the *Pesticides Control Act* and regulations. This includes the review and update of legislation, licensing of commercial pesticide applicator and vendor businesses, certification of private pesticide applicators and the issue of pesticide application permits.

Legislation

Following a comprehensive consultation process involving stakeholder groups and the general public, new regulations to support the *Pesticides Control Act* were approved by Executive Council in late December 2005. Designed to safeguard human health and protect the natural environment of the province, these regulations require the licensing of pesticide vendor and applicator businesses; instate mandatory certification of private and commercial applicators, as well as vendor sales personnel; introduce new loader/mixer and applicator categories; lower allowable wind speeds for the application of pesticides; and

establish restrictions on the transport and storage of pesticides.

Licensing and Certification

At present, over 2,000 people hold private pesticide applicator certificates, including some 380 who renewed their certification during 2005-2006. The numbers of licensed commercial applicators include:

- 4 agricultural,
- 4 forestry,
- 16 landscape,
- 10 structural,
- 4 biting fly control,
- 6 structural fumigation, and
- 3 soil fumigation.

Across the province, 37 vendors held a licence to sell non-domestic pesticides.

The PEI Pesticide Re-certification Continuing Education Credit (CEC) Program introduced in 2003, allows certified, private agricultural pesticide applicators to renew their certification by participating in approved, continuing education events. There were 12 CEC events, offering a total of 26.5 hours of training in 2005. Over 400 individuals currently participate in the CEC Program. In December 2005, responsibility for administration of the CEC Program, including the tracking of participant credits, passed to the Prince Edward Island Federation of Agriculture.

Pesticide Application Permits

The number of permits issued for biting fly control (28) was down some 26% from 2004. No aerial pesticide application permits were issued in 2005. The department issued six Schedule 1 (restricted use) Permits (covering 109 hectares) for the application of azinphos-methyl, and two Schedule 1 Permits (covering

61 hectares) for the application of a soil fumigant.

Pesticide Monitoring

Surface water monitoring in 2005 centred on the Wilmot and Dunk rivers. Automated samplers were used, and sampling was triggered with rainfall events of 5 mm or more in one hour. In total, 40 samples were analyzed for 25 commonly used agricultural pesticides. There were no detections.

Sediment samples, collected from streams at the same time and location as the surface water samples, were analyzed for 14 commonly used pesticides. Dithiocarbamate was measured in nine samples. Four detections were made in the Wilmot River and five were made in the Dunk River.

Brook trout, blue mussels and soft-shell clams were collected from those river systems where the surface water monitoring was carried out. Analysis for 14 pesticides revealed no detections.

As in previous years, groundwater samples were taken from a sampling of private homes, municipal wells, schools, senior housing units and hospitals across the province. Household wells in an area of intensive agricultural production were also sampled. In 2005, 103 samples were analyzed for 25 commonly used pesticides. There were 16 pesticide detections but, in all instances, levels were substantially below Canada's established drinking water guidelines.

Water Management Division

Mandate

The Water Management Division is responsible for the sustainable management, protection and enhancement of the province's drinking water, groundwater, inland surface water and coastal estuaries. The division regulates water and sewer infrastructure and assists in the administration of funding that supports this infrastructure. It also provides water testing services (microbiological and chemical) and engineering advisory services to the public, other provincial departments and agencies, industry and municipalities; and is responsible for conducting baseline monitoring and assessment of the province's water resources.

Division Overview

The Water Management Division consists of three sections: Drinking Water Management, Watershed Management and Prince Edward Island Analytical Laboratories.

The main responsibility of the Drinking Water Management Section is to ensure sustainable management, protection and enhancement of drinking water and wastewater systems. The key program areas include:

- PEI Drinking Water Strategy
- Drinking water quality monitoring programs
- Water and wastewater servicing
- Licensing programs for contractors
- PEI Sludge Management Strategy

The Watershed Management Section is responsible for the management of groundwater, inland surface waters and coastal estuaries. The section recognizes the watershed as a principal unit of assessment, and that the quality and quantity of ground and surface waters are intrinsically related. The specific program areas for the section include:

- Groundwater quantity assessments
- Watershed management
- Water quality and quantity programs
- Publication of groundwater and surface water quality and quantity information
- Development of educational materials
- Public education and information sessions

The Prince Edward Island Analytical Laboratories is responsible for the management of the province's water microbiological and water chemistry laboratories. As a result of the co-operative arrangement between the Department of Agriculture, Fisheries, Aquaculture and Forestry and the Department of Environment and Energy, a single Lab Manager is responsible for the day-to-day activities of the labs under the PEI Analytical Laboratories. The program areas include:

- Drinking water quality analyses
- General water quality analyses for ground and surface waters to determine the health of water for interests including aquatic habitat, the fishery, recreation and aesthetics
- Wastewater programs
- Accreditation initiative with the Standards Council of Canada

Summary of Drinking Water Quality Results – 2005-2006

The provincial laboratory tests drinking water samples for bacteria (total coliforms and *E. coli*) and a suite of 19 inorganic constituents. Of these parameters, normally only a few occur at levels that are of concern, either from a health perspective, or from an aesthetic perspective. Accordingly, the key parameters the department focuses on include the health based parameters lead, nitrate and bacteria (total coliforms and *E. coli*) and the aesthetic parameters manganese and salt. Some parameters reflect the quality of source waters (nitrate, manganese, salt) while others may reflect the influence of plumbing or the integrity of local water supply or wastewater disposal infrastructure (lead, total coliform, *E. coli*).

For the 2005-2006 fiscal year, approximately 1% of wells tested exceeded the drinking water guideline for lead, and 4% of wells exceeded the guideline for nitrate. Total coliform and *E. Coli* results for about 15% and 2% of wells respectively also exceeded recommended levels. For the aesthetic parameter manganese 2.5% of wells tested had elevated concentrations while for salt (based on chloride) only 1.5% of wells had elevated levels. While there was a slight increase in total coliform levels in the 2006 data, the results of all other parameters were essentially unchanged from the previous year.

Drinking Water Management Section

The most significant occurrence for the Drinking Water Management Section was the continuing implementation of regulations brought in January 2005, governing the operation of central water supply and wastewater treatment systems in the province. The regulations prescribe requirements for

system classification, operator certification, monitoring and public reporting requirements, and the development of well field protection plans for municipal water supply systems. The regulations were intended to apply only to municipal systems until January 2006, at which time they would have also applied to privately owned or operated central water and wastewater systems, however, application to privately owned systems has been delayed for a year and implementation of the requirement for certified operators by municipal systems was delayed to April 1, 2005, to allow utilities sufficient time to achieve compliance. Consultations continued to be carried out with municipalities regarding the development of well field protection plans, in accordance with new regulatory requirements.

The Drinking Water Management Section continued to investigate water quality problems in 2005-2006. The majority of problems related to private wells, although some problems with small privately owned central water supplies were addressed as well. In many cases, these have been in recurring problem areas, often associated with older cottage subdivisions characterized by dense development on small lots with individual on-site sewage disposal systems.

The section continued to implement new procedures for the investigation of cases of *E. coli* contamination, and the notification of local residents. Staff were involved in such activities as soils assessments for on-site sewage disposal suitability, providing advice on remedies for failed septic systems, and assistance on oil tank surveys and sampling activities related to the department's pesticide monitoring program.

The Drinking Water Management Section also continued to supply resources to develop expertise in on-site sewage disposal. Three

workshops were held for licensed contractors, providing information for the assessment of soils and construction of on-site sewage disposal systems. In addition, collaboration continued on the development of an Atlantic Canada standards and guideline document for the design and construction of water supply systems.

The Water Management Division is responsible for administration of Section 13 of the *Environmental Protection Act* which requires ministerial approval for design, construction, operation and maintenance of all water supply and wastewater treatment and collection systems. In 2005-2006, a total of 53 Certificates of Approval were issued, with a value of work estimated to be \$14 million. The section continued to be involved in development and certification of treatment operators (required by regulation as of April 1, 2004) with exam sessions being held in the spring and fall.

The division continues to provide technical support representing both provincial/federal government interests in four major projects announced under the Strategic Infrastructure Program: upgrade of the Charlottetown and the Summerside wastewater treatment plants, the Stratford water and sewer expansions, and the Sludge Management Strategy.

Eleven Groundwater Exploration Permits were issued in 2005-2006, only slightly lower than 2004-2005 but down significantly from many other years. This trend is due in large part to the moratorium established on the construction of new irrigation wells.

As an important part of its activities, the Drinking Water Management Section conducts research on various topics of importance related to drinking water. The section continued work on an expanded pesticide monitoring program.

Results to date have been similar to previous surveys, with detections being rare; and where there have been detections, concentrations have been low compared to health guidance values.

Section staff, along with staff of the Watershed Management Section, continued collaborative research on nitrogen species in groundwater as part of a multi-disciplinary project led by the Geological Survey of Canada, and involving Agriculture and Agrifood Canada. Work on the project, centred in the Wilmot Watershed, has involved sampling of a network of domestic wells and the construction and sampling of a transect of dedicated monitoring wells, groundwater modeling and preliminary assessment of stable isotope geochemical results.

Watershed Management Section

The Watershed Management Section administers the Watershed Management Fund (WMF) and the Wildlife Conservation Fund. The WMF provides technical and financial assistance to community watershed organizations who are working on watershed restoration and/or watershed planning.

In 2005, 35 projects were approved through this watershed management initiative awarding a total of \$139,000 to community groups and researchers. Priority funding areas included watershed plan preparation, facilitation and strategic planning, and building capacity of watershed organizations.

Three pilot watershed projects were funded with assistance from the Canada-PEI National Water Program. The Trout River Environmental Committee, the Souris Wildlife Federation and the Central Queens Wildlife Federation are

developing holistic, community-led watershed plans with a focus on protecting water quantity and water quality.

As a result of funding, traditional watershed restoration activities including stream enhancement, fish passage restoration, riparian and upland tree planting, wetland enhancement and watershed group newsletters were carried out by many watershed organizations.

Long term water quality monitoring was continued on groundwater, fresh water and estuary sites as part of the Canada-PEI Water Quality Agreement and on estuary sites as part of the PEI Estuaries Program. A new program of monitoring a variety of freshwater streams across PEI was established to help determine nutrient loading rates to estuaries.

With funding and technical assistance from Environment Canada's ResEau Program, a new water data access website was developed in partnership with the Department of Development and Technology to create public internet access to fresh and estuarine water quality data collected as part of the section's ongoing monitoring programs (www.gov.pe.ca/envengfor). This site shows sampling locations in a web mapping program and displays data in an on-the-fly graphing program. Users can download data to their own computer as well.

Long-term groundwater level monitoring was continued at 13 groundwater wells throughout the province. These observation wells are instrumented and monitor fluctuations in the water table on a daily basis. Plots of both current and long-term water table levels are presented and updated at the government website on a frequency of approximately every two months. This data acts as one of the ambient quantitative indicators for the

province's water resources. A long-term goal of the program will be to have all of the sites fitted with communications equipment so that the public can view the results real time on the internet.

Short-term stream flow monitoring was completed at eight sites to assess the impact of irrigation from streams. Discharge measurements were performed three to four times during the irrigation season to calibrate the relationship of stage-discharge at each site. These curves were used to monitor the stream flow and assist the decision-making of issuing irrigation permits.

Prince Edward Island Analytical Laboratories

The PEI Analytical Laboratories, an amalgamation of the Department of Environment, Energy and Forestry Water Chemistry Laboratory and Water Microbiology Laboratory, as well as the Dairy Testing Laboratory and the Soil and Feed Laboratory operated by the Department of Agriculture, Fisheries and Aquaculture, continues to offer a wide range of analytical services.

An external audit of the laboratory which was conducted jointly by the Standards Council of Canada in February of 2006. As part of accreditation, the lab must participate in an external audit or Conformity Assessment conducted by the Standards Council of Canada (SCC) to verify that the lab has the competence necessary to carry out a specific testing in compliance with international standards. The lab was given formal notification in August 2006 that its SCC Accreditation is valid until January 2009.

In order to improve client service, the PEI Analytical Laboratories has extended its pickup schedule for water samples at the Access PEI sites to 3:30 p.m. Monday through Thursday. Friday samples must be dropped off by 12 noon. Samples are no longer accepted at the 4th Floor of the Jones building but can be delivered directly to the laboratory at the 5th Floor of the Sullivan building.

The past year was another busy one for water analysis with over 20,000 samples analyzed for various parameters. Following are the 2005-2006 statistics for the lab.

Water Sample Analysis Activity 2005-2006	
Category	Total
Drinking Water Microbiology	16,523
Drinking Water Chemistry	3,100
Other samples	440
Total samples analyzed	20,063



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