



ANNUAL REPORT 2021-22

Department of Environment, Energy, and Climate Action

For the Fiscal Year April 1, 2021 to March 31, 2022

Message from the Minister



The Honourable Antoinette Perry
Lieutenant Governor of Prince Edward Island

May It Please Your Honour:

It is my privilege to present the Annual Report of the Ministry of Environment, Energy and Climate Action for the fiscal year ending March 31, 2022.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. Myers'.

Steven Myers,
Minister of Environment, Energy, and Climate Action

Deputy Minister's Overview



The Honourable Antoinette Perry
Lieutenant Governor of Prince Edward Island

May It Please Your Honour:

It is my privilege to present the Annual Report of the Ministry of Environment, Energy and Climate Action, and Environment for the fiscal year ending March 31, 2022.

The report contains highlights and a general description of the work carried out by the department.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Brad Colwill', written in a cursive style.

Brad Colwill, CPA, CA
Deputy Minister of Environment, Energy, and Climate Action

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Department Overview

Mandate

Environment, Energy, and Climate Action has a mandate to promote the protection of public health and safety of Islanders and is responsible for the stewardship of our environment and natural resources. This includes responsibility for the quality of our air, water, land and natural habitat, and assessing the impact of undertakings on human health, wildlife and the environment, including climate change. Activities which help promote public acceptance of responsibility for the environment, and sustainability of our natural resources, are included in this mandate.

Mission

Our mission is to build an adaptive and strong society through the integrated priorities of people, prosperity, engagement and environmental protection.

Vision

To enhance our quality of life, advance our economic growth, and build healthy, vibrant, and safe communities throughout Prince Edward Island.

Organization

The operating and capital budgets are presented in Appendix 1, and organization chart in Appendix 2.

Strategic Direction

Particular priority has been given to:

- Developing and implementing the Carbon Mitigation and Adaptation Action Plans to address the effects of climate change, and to lower our overall carbon emissions;
- Supporting the collaborative work of the Climate Action Division and providing leadership for cross departmental action; and
- Implementing the new *Water Act* to support the protection and responsible use of our water resources.

Divisions

Environment

Environmental Land Management

The Environmental Land Management (ELM) Section oversees a variety of environmental legislation that provides protection to water, soil, and wildlife. The legislation includes section 9 of the *Environmental Protection Act*; administration of the Waste Resource Management Regulations; the Excavation Pits Regulations; and the Watercourse and the Wetland Protection Regulations.

The Section is also responsible for overseeing contamination prevention and compliance, especially with regard to petroleum products. These responsibilities include the enforcement of the Materials Stewardship Recycling Regulations; Contaminated Sites Registry Regulations; Environmental Records Review Regulations; and the Petroleum Hydrocarbon Remediation Regulations under the *Environmental Protection Act*.

Progress in 2021-2022

As the economic impacts of the pandemic lessen, the ELM Section continues to see an increase in permitting requests, environmental records reviews, and enforcement violations. The Section is working to update regulations under the *Environmental Protection Act* to ensure the continued enforcement of best practices for the protection of water, soil, and wildlife.

Environmental Assessment

The Environmental Impact Assessment (EIA) Section has an established review process to identify development projects that may have a negative impact on the environment. These projects include smaller residential developments as well as larger commercial and industrial ones.

The EIA review process ensures that a project applicant, the federal and provincial regulatory agencies, and the general public are all able to identify and address environmental issues that may arise as a consequence of development proposals. Proposals for commercial and industrial projects are brought forward to the EIA Section via Development Permit Applications, or directly through an application by a project proponent.

Design changes, or relevant mitigation measures to reduce or avoid any unacceptable environmental impact are a requirement of the approval process.

From April 1, 2021 to March 31, 2022, 2 projects were approved and 2 were rejected. The approved projects were for a new hog farming operation, and a change of ownership request for an existing beef feedlot.

Overall, fewer EIA documents were submitted during the report period. The EIA Section will be developing new EIA legislation in the coming year.

Environmental Emergency Responders

The ELM Section has a dedicated Environmental Emergency Response Team which attends all environmental emergencies. The five-member response team is on call 24 hours a day and is notified of an emergency by the National Environmental Emergency Centre (NEEC), or by the Department of Environment, Energy and Climate Action. The team responds to petroleum, pesticide and chemical spills, air quality problems, or fish kills.

From April 1, 2021 to March 31, 2022, the Environmental Emergency Response Team were called out to 50 hazardous materials events, 18 wastewater bypass events, and 11 environmental emergencies identified by the NEEC. ELM staff also responded to 119 hazardous material events at registered Contaminated Sites.

In recent years the number of petroleum related spills have decreased as residential and commercial properties transition to electric heat.

The ELM Pollution Prevention and Compliance group continues to update its Petroleum Hydrocarbon Remediation Regulations in concert with the other Atlantic provinces.

Environmental Record Reviews

ELM staff regularly receive and respond to environmental records review requests. In most cases, confirmation is sought regarding the existence of any environmental risks associated with a property. Environmental records review requests involve the examination of departmental files and electronic databases, including the Contaminated Sites Database.

Between April 1, 2021 to March 31, 2022, staff processed 189 environmental record review requests. This is a slight increase from last year and attributed to the rise in real-estate transactions. ELM staff continue to work to ensure the Contaminated Site Registry is kept up to date.

Inspection and Permitting Responsibilities (Waste Management Facilities, C&D sites, Recycling Facilities, and Excavation Pits)

The ELM Section inspects and provides permits for waste-management and recycling facilities; construction and demolition disposal sites; and excavation pits. Ensuring these facilities are operating in compliance with their respective legislation is important for the protection of those managing environmental waste material.

From April 1, 2021 to March 31, 2022, 1 composting facility; 1 landfill facility; 4 construction and demolition debris sites; 115 licensed excavation pits; and 40 recycling facilities were permitted to operate. Next year additional staff will be cross-trained to maintain the regular inspection and compliance enforcement of these sites.

Special Waste

The ELM Section issues Special Waste Permits for the disposal of hazardous materials in Prince Edward Island. The permits are issued for the disposal of hazardous material at the East Prince Waste Management Facility, or for incineration at PEI Energy Systems.

During the report period, 227 Special Waste Permits were issued. The majority of these dealt with the tracking and transportation of petroleum contaminated soil to the East Prince Waste Management Facility. Other permits were issued for the disposal of biomedical waste; asbestos insulation and siding; creosote treated timbers; pharmaceutical drugs; and dead birds impacted by Avian Flu, etc.

Watercourse/Wetland and Buffer Zone Activity Permitting Program

The purpose of the program is to ensure that aquatic habitat and riparian zones are protected from major disturbance and destruction by authorized development projects. Permit applications are carefully evaluated to ensure that any potentially harmful environmental effects, of proposed projects, are considered during the design stage. Permits issued for work in and around watercourses or wetland areas will contain environmental protection requirements which the applicant must follow.

In the past two years, this program has seen an increase in application requests; investigations; inquiries related to land purchases; and related complaints.

From April 1, 2021 to March 31, 2022, staff issued approximately 329 Watercourse, Wetland and Buffer Zone Activity Permits, and 289 contractor license registrations.

Water and Air Monitoring

The **Water and Air Monitoring (WAM) Section** is responsible for the management of groundwater, inland surface waters, and coastal estuaries. The watershed is the principal land management unit. The specific program areas for the Section include:

- Groundwater quantity assessments and issuance of permits;
- Water quality and quantity programs;
- Publication of groundwater and surface water quality and quantity information;
- Development of educational materials;
- Ground water and surface water pesticide monitoring; and
- Public education and information sessions.

The Section administers programs, legislation and activities to preserve, control, or enhance outdoor air quality. Key program areas include

- Air Quality Health Index Management
- National Air Pollution Surveillance

Progress in 2021-2022

- *Groundwater quantity assessments and permit issuance*

The Section provides water quantity and quality assessment for potential and existing water supply projects and groundwater management.

In the report year, 18 Groundwater Exploration Permits were issued, and 4 Groundwater Extraction Permits/Water Withdrawal Permits were issued for small central water supply systems. The new Water Act and Regulations were activated in June 2021 and permit fees began to be charged for Groundwater Exploration Permits and Water Withdrawal Permits.

The Section investigated water complaints and concerns related to domestic wells, and to stream flow impacted by groundwater extraction. Water usage information was collected from permitted wells on a quarterly basis. Quality control was conducted on well records from well drillers.

- *Water quality and quantity programs*

The Section manages 17 long-term ground water level, 9 surface water flow, and 11 long-term freshwater quality monitoring stations. Additional freshwater and estuarine water quality stations are maintained to meet the data requirements for nutrient loading in streams, and the occurrence of hypoxia and anoxia in estuaries.

During the report period, the WAM Section continued to monitor dissolved oxygen in ten estuaries across the province. Data from this program (2015 – 2021) will soon be able to be accessed on the Prince Edward Island open data portal. One additional automated sediment monitoring site was added in the West River, bringing the total number of sites equipped with near real-time monitoring equipment to three. The Bear River and Wilmot River being the others.

Eleven long-term freshwater monitoring sites were sampled up to 10 times during the report period, and long-term nitrate trends were provided for Prince Edward Island freshwater.

Data was also added to the Environment and Climate Change Canada (ECCC) Canadian Environmental Sustainability Indicators Series for water quality, for the period of 2018 to 2020. Other monitoring efforts, including the PEI Estuaries Survey, were carried out as prescribed, and data made available for download on the open data portal.

Several investigations of water quality issues, including complaints about discoloration, odor, and anoxic events were carried out. Bacteriological monitoring in shellfish growing/harvest areas were carried out on behalf of ECCC with more than 3700 samples collected from 51 sub-sectors across the province.

- *Publication of groundwater and surface water quality and quantity information*
The Section provided a new version of its Watershed Water Quality Report Card series in 2021-2022. Water quality data was collected for the 42 watersheds in the report. Water quality categories for individual creeks and streams (sub-watersheds) were included from some of the larger watersheds for the first time.

High capacity well locations and permitted withdrawal rates were posted on the provincial government website together with groundwater usage data. The Prince Edward Island open data portal also provided record data for public seasonal stream flow; water quality; high capacity wells; and well water.

- *Ground water and surface water pesticide monitoring*
Both drinking and surface water pesticide monitoring programs were operated by the Section. However pesticide sampling during the 2021-22 season was scaled back due to the Covid pandemic, and the routine 90-110 samples from residential, school, senior and municipal facilities, was scaled back to 22 municipal wells only. No school, senior's facility or residential samples were collected during lockdown.

Surface water monitoring was not affected by the Covid pandemic, and the number of stations sampled continued at three streams throughout the report year.

- *Air Quality Health Index*
The Air Quality Health Index (AQHI) is a Health Canada and Environment and Climate Change Canada public information tool that helps Canadians protect themselves from the negative effects of air pollution. The AQHI measures air quality as it affects to human health and is scored on a scale from 1 to 10. It also produces regular health advisories. Most of the time, Prince Edward Island falls within the "Low Risk" category (1-3).

The Section manages the monitoring equipment (ground-level ozone, particulate matter, and nitrogen dioxide) that provides the data used to calculate the AQHI. The AQHI for PEI can be found at: https://weather.gc.ca/airquality/pages/provincial_summary/pe_e.html

- *Air Pollution Surveillance*

Through the National Air Pollution Surveillance (NAPS) Program, the Section operates an ambient air monitoring network consisting of three stations located at Wellington, Southampton and Charlottetown respectively. The stations monitor ambient air parameters such as particulate matter (PM_{2.5}); ground level ozone (O₃); sulfur dioxide (SO₂); and nitrous oxides (NO_x) as part of the NAPS program. In addition, the Section also monitors Mercury (Hg) and acid precipitation at Southampton station.

Drinking Water/Wastewater

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

- Drinking water quality monitoring programs and advice/assistance to private well owners;
- Central water and wastewater management systems;
- Licensing programs for contractors or system operators;
- Municipal wastewater effluent strategies; and
- Advice or recommendations to planners regarding water-sewer servicing options or feasibility.

Progress in 2021-2022

- *The Water Act:*
The *Water Act* and four supporting regulations came into effect on June 16 of 2021. The regulations included Well Construction Regulations; Water Supply and Wastewater Treatment System Regulations; Water Withdrawal Regulations; and Sewage Disposal System Regulations. In the process, regulatory requirements previously addressed under the *Environmental Protection Act* were re-organized and updated under a new regime devoted exclusively to water related issues.
- *Approvals for Water and Wastewater Projects:*
The Section issued approvals for a number of major water and wastewater system extensions and modifications, with a total value of just over \$27.9 million. This figure included
 - \$7.6 million for water distribution projects;
 - \$14.3 million for wastewater collection projects; and
 - \$6.0 million for wastewater treatment projects.

A total of 33 Permits to Construct were issued, including up-grades to several major lift stations in Charlottetown; the Stratford lagoon decommissioning; the dredging of sludge and repairs to the North River and Cornwall Lagoons; major repairs to Borden's Water Tower; upgrades to Cavendish Farms Wastewater treatment plant; and significant subdivision development. During the report period, approximately \$12.2 million was spent on extending water and wastewater collection systems to service new residential subdivision development.

- *Operator Certification:*

One of the most important components of environmental and public health protection is ensuring that water and wastewater system operators are properly trained to manage the infrastructure for which they are responsible. During the report year a total of 66 candidates applied for operator certification - up from 45 in the previous report year. A total of 25 applicants passed the examination. A further 28 operators renewed their certification.

- *Summer field activities:*
Under the direction of Section staff, summer students completed inspections of approximately 62 small private water systems inspections; reviewed sampling history; examined the condition of water infrastructure (pumphouses); mapped the location of wells; and collected owner information.
- *Study assessing risk Protozoan occurrence in municipal wells from adjacent surface watercourses:*
The Section initiated the first field season - of a two-year investigation - examining whether municipal wells were likely to be vulnerable to contamination with pathogenic protozoan organisms often associated with surface watercourses. These pathogens are more resistant to the conventional disinfection processes, and their presence would require the need for costly additional disinfection steps.

Specialized sampling apparatus and materials were acquired, and samples were collected from eight communities, including fifteen municipal water wells and adjacent surface watercourses. Samples were sent to a specialist laboratory in Saskatchewan for analysis. A second round of sampling is planned for the coming year.

- *Wastewater Surveillance for Covid-19:*
Section staff began the groundwork for developing a wastewater surveillance system. Advice was sought from academic and provincial contacts, in collaboration with the Prince Edward Island Chief Public Health Office and the Public Health Agency of Canada National Microbiology Laboratory.

The use of wastewater surveillance as a tool for the early detection of Covid-19 began in Europe, and the practice is gaining acceptance in Canadian jurisdictions. Similar surveillance programs began with the Charlottetown and Summerside wastewater treatment plants in the spring of 2022. The potential to expand the surveillance network to additional provincial locations will be considered once experience has been gained from these initial studies.

Prince Edward Island Analytical Laboratories

The Prince Edward Island Analytical Laboratories (PEIAL) provides chemical and microbiological analysis for water; soil; dairy; animal feed; seed; plant tissue; manure; and compost samples, as well as a disease identification services for crops. The laboratory is accredited by the Standards Council of Canada (SCC) to the international standard for the general requirements for competence of testing and calibration laboratories, ISO/IEC 17025:2017. The PEIAL provides services to researchers, farmers, municipalities, corporations, other government departments, and the general public.

Progress in 2021-2022

PEIAL is cooperatively managed by the Department of Environment, Energy and Climate Action and the Department of Agriculture and Land. The laboratory is located in the Bio-Commons Park in Charlottetown which provides a location which is easily accessed by clients for sample drop off. The shared facility allows for the sharing of staff, equipment, and supplies resulting in an efficient and cost-effective service for all clients.

In January 2022, a free bacterial and general chemistry drinking water testing service was implemented for Islanders who use non-municipal well water. This resulted in an increase in demand for laboratory services.

In March 2022 PEIAL underwent an external accreditation assessment by SCC and received confirmation of re-accreditation and approval of the scope of testing offered.

The environmental accreditation 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; and
- Wastewater programs.

A summary of the number of samples and sample types analyzed during the report year is provided (Table 1).

Table 1. Sample type and numbers processed in 2020-2021

<i>Water Samples Analyzed in 2021-22</i>	
Sample Type	Sample Number
Drinking Water	19,750
Surface Water	1,499
Wastewater	1,169
Total	22,418

Pesticides Management Program and Agriculture Outreach

Pesticide management and agricultural outreach is provided by the Agricultural Environment Unit (AEU). This Section works collaboratively with the agriculture community to ensure the proper use and safe handling of pesticides; improve regulatory compliance; and protect public health and safety. The new strategy involves a more proactive approach that incorporates compliance coaching/support as a first step. Feedback from the agricultural community has been positive. Agriculture environmental enforcement officers are unarmed. Compliance is achieved in a collaborative manner.

Progress in 2021-2022

During the report year, AEU staff responded to over 200 incidents involving complaints and inspections. This number is down from previous report years, which appears to confirm the benefit of proactive and

compliance coaching for the farming and greater agricultural community. The most common issues related to buffer zones, soil erosion, and pesticide use.

Recent changes were made to modernize the regulatory compliance approach with the agricultural community. The use of so-called voluntary approaches has supplemented or replaced formal environmental regulation. Current approaches fall into two general categories: (1) industry-initiated codes of good practice focusing on environmental management systems or performance goals, and (2) negotiation between government and individuals (or industry sector trade associations) focusing on regulation or compliance.

The Agriculture Environment Officer (AEO) Unit assesses and promotes compliance with environmental legislation, regulations, protocols and policies, by inspecting, monitoring, and conducting field or technical inquiries. These can include assessments of air, water and land pollution with a focus on agriculture and agriculture-related operations. Negotiated compliance through abatement programs are preferred, and enforcement tools (written warning letters or tickets) are only used as a last resort.

Good collaborative and communicative efforts between the Departments of Justice and Public Safety; Agriculture and Land; and Environment, Energy and Climate Action will be key to maintaining the success of a modern, full compliance program.

Waste Reduction, Recovery and Recycling Programs

This Section is responsible for the planning and implementation of solid waste recycling and other waste reduction and diversion programs. This in collaboration with national product stewardship organizations, Island Waste Management Corporation (IWMC) and its contractors. Items processed include used paint, oil/glycol products, and electronics, etc.

One role of the Section includes conducting research into the development of new programs for extended producer responsibility (EPR) and establishing relationships with national product stewardship representatives to expand and improve Prince Edward Island's waste diversion goals.

In addition to the management of the provincial Beverage Container Program, this Section provides financial assistance and management advice for programs that support waste reduction objectives to:

- Reduce the amount of waste generated in communities;
- Reuse materials and products, rather than discard them;
- Recycle materials not already collected through an Island-wide recycling program;
- Reduce waste and prevent pollution from recyclable hazardous waste;
- Increase awareness about the importance of reducing waste; and
- Encourage environmental stewardship of waste resources.

Progress in 2021-2022

In the report year, amendments were made to the Materials Stewardship and Recycling Regulations to allow for an extended producer responsibility (EPR) program to help manage the recovery, collection and recycling of agricultural plastics. When this program starts, Prince Edward Island will become the first province in the Atlantic Region with a regulated program to manage this waste stream.

The Section is also closely monitoring the progress of EPR programs its sister Atlantic Provinces, as Nova Scotia and New Brunswick move towards industry funded programs for packaging and printed paper.

Forests, Fish and Wildlife

Division Mandate

The mandate of the Division of Forests, Fish and Wildlife is to contribute to the environmental, social and economic wealth of Prince Edward Island through the conservation, sustainable management and wise use of our forests, fish, and wildlife resources.

Progress in 2021-2022

In the report year, Forests, Fish and Wildlife priorities included completing the second year of the three-year 2020 Corporate Land Use Inventory; investing in Prince Edward Island's Protected and Conserved Areas Network; expanding support for the Island's community-based watershed groups; supporting forest management work on public and private lands; maintaining wildfire response readiness and fleet replacement; and exceeding the target of producing one million trees at the J. Frank Gaudet Tree Nursery.

Field Services

The Field Services Section works to manage approximately 33,000 hectares of public land across Prince Edward Island, and provides technical and financial support to private landowners wishing to implement sustainable forest management. This Section also leads the Province's forest fire suppression efforts.

Public Land

The Field Services Section manages public lands for a range of values including timber and non-timber products; wildlife; recreation; education; and research. More information on these lands may be found here: <https://www.princeedwardisland.ca/en/information/communities-land-and-environment/provincial-forests>

In the report year, public lands generated revenues of \$111,697 through harvested wood sales and standing timber tenders. Forestry crews commercially thinned 5.0 hectares of plantations and maintained 18 km of trails. Three stream crossings were installed, as well as one culvert. All work was done in accordance with the standards of the Division's Forest Management Manual, and all stream crossings and culverts were installed in accordance with the department's Watercourse, Wetland and Buffer Zone Activity Guidelines. Pre-harvest management plans are posted online for public comment for a period of not less than 30 days. Most work on public land occurs on properties that require thinning, the removal of commercially mature trees, maintenance of planted trees, or tree management for safety reasons (e.g. along roads and trails).

Public land and contractor crews planted approximately 50 hectares of trees on cutovers and other sites, and manually prepared planting microsites. About 75,770 seedling were planted on these sites in the report year. There were 83 hectares of plantations that received manual maintenance (chemical maintenance is not used on Prince Edward Island public lands). The creation and maintenance of public land roads required 204 m³ of fill and the manual or mechanical maintenance of 6.35 km of roads.

Private Land

The Field Services Section provided forest management advice and financial assistance to private woodlot owners through the Forest Enhancement Program. It also built private sector capacity for many different forest management services, and supported education efforts directed at private woodlot owners. Field Services worked with private landowners, through the Forest Enhancement Program and the Carbon Capture Tree Planting Program, to manage approximately 1370 hectares across the Island.

The Forest Enhancement Program provided funding to help landowners develop sustainable forest management plans for their properties. Plans are developed based on owners' objectives, the capabilities and limitations of their forests, and in accordance with the Division's Forest Management Manual. Once a plan is approved, the landowner can access funding and technical advice to implement the treatments recommended in the plan. More information on the Forest Enhancement Program may be found here: <https://www.princeedwardisland.ca/en/information/environment-energy-and-climate-action/forest-enhancement-program-fep-forestry-services>

In the report year, 191 new landowners enrolled in the Forest Enhancement Program. Table 2 summarizes the treatments performed and money spent under this Program.

Table 2: Summary of Private Land Management Services 2021-2022.

Treatment	Units	Amount	Cost (\$)
Planting	Hectares	210.0	108,710
Site Preparation	Hectares	210.0	100,359
Patch Harvest	Hectares	11.8	3,900
Commercial PN Thinning	Hectares	9.84	3,500
Precommercial Thinning	Hectares	41.6	33,346
Fill Planting	Hectares	41.9	11,700
Manual Maintenance	Hectares	360.0	249,851
Chemical Maintenance	Hectares	97.5	37,038
Pruning	Hectares	33.1	15,052
Management Plans Prepared	Number	150	43,070
Carbon Capture Tree Planting	Hectares	171	274,475
Miscellaneous			40,745
Total			941,973

Fire Suppression

During fire season (March 15-December 1), Field Services provided daily information on burning conditions across Prince Edward Island through the Fire Weather Index website. Staff also undertook continuous education on wildfire suppression, and worked with local fire brigades during wildfire incidents.

In the report year, staff went to assist with national wildfire suppression efforts in Alberta and Ontario. Locally, staff responded to one forest fire on Prince Edward Island, which burned a total of 1 hectare.

The Section took possession of the fourth of six vehicles required for the forest fire fleet replacement plan. A one-tonne 4x4 truck with 500-gallon water capacity was acquired. This will replace a truck that is more than 30 years old.

Fish and Wildlife

The Fish and Wildlife Section provides a suite of services including:

- Licensing anglers, hunter, trappers, and fur buyers;
- Conducting wildlife population research and data collection;
- Assisting communities and individuals with issues related to injured and nuisance wildlife;
- Providing hunter education and firearm safety training to the public;
- Protecting and recovering species at risk on Prince Edward Island;
- Protecting and conserving ecological areas;
- Providing wildlife management advice and assistance for public lands; and
- Overseeing ponds and fishway improvement work in communities across the province.

The Fish and Wildlife Section continued to administer regulations and policies relating to the sustainable use of wildlife resources, and to educate the public through its annual hunting and trapping summary booklets that are provided to registered hunters. In the report year, the Section continued a program to provide free hunter safety training and licenses to first-time hunters. In this fourth year of the program, 206 new hunters were trained.

Section staff supervised improvements to fish passage; public access; vegetation management; and general maintenance at several sites across the province, including Clearsprings; Milligan's; Moore's; Cass's; Egolf's; McPhail's Pond (Orwell); and Jay's and Indian River Ponds.

This Section continued its partnership with the Abegweit First Nation Biodiversity Enhancement Hatchery (located in Scotchfort) to produce Brook Trout and Atlantic Salmon for restocking efforts across the province. In 2021, fish were stocked in the following rivers:

- **Atlantic Salmon** – 74,000 salmon were released into the Morell River and 36,000 into West River;
- **Brook Trout**– 58,000 fall fingerlings were released into the Morell, Bristol, Brudenell, Montague, Valleyfield, Mill, Trout, Big Pierre, Dunk, and Wilmot Rivers, as well as the Harvey Moore ponds on Sturgeon River; and
- **Brook Trout** – 4,100 larger yearlings for derbies were released into Rink Pond (Kensington); Arsenaults Pond (Tignish); Arsenaults Pond (Egmont Bay); MacKinnon Pond (Bristol); Hermitage Creek Pond in Charlottetown; and Andrews Pond (East Royalty).

A collaboration with Canada and partners, through the PEI Forested Landscape Priority Place for Species at Risk program, continued in the report year and resulted in the implementation of conservation actions aligned with federal recovery strategies for species at risk. With support from this program, the PEI Invasive Species Council worked to control problematic invasive species; the Atlantic Canada Conservation Data Centre developed and validated habitat models for avian species at risk for PEI; and the Canadian Wildlife Health Cooperative maintained their bat hotline services, and continued to communicate the importance of bats to people, ecosystems, and biodiversity.

Wildlife monitoring efforts continued, including auditory surveys for upland game birds, marsh birds, forest songbirds, and remote surveillance for amphibians, bats and small to medium sized mammals throughout the province.

This Section also worked to establish protected areas on public and private lands across the province, including habitat areas deemed important for species at risk, and their prey in breeding and non-breeding areas.

In the report year, a significant investment was made in the Protected and Conserved Areas Program, which resulted in the purchase of 724 hectares of land by the Province with support from Environment and Climate Change Canada. In addition, the Province established a Provincial Protected Areas fund to support Conservation partners in land acquisition in the dollar amount of \$750,000. At the end of the reporting period, Prince Edward Island had 26,549.5 hectares of Protected and Conserved Area, equivalent to 4.7 per cent of the province's land area.

Production Development

The Production Development Section operates the J. Frank Gaudet Tree Nursery and produces high-quality trees and shrubs for a variety of social, environmental and economic benefits. It also works to improve the genetic traits of Acadian Forest tree species and provide insect and disease advice to landowners and local communities.

In the report year, the Section produced 1.1 million seedlings for reforestation work across the Island. More information on this Section and its services may be found here:

<https://www.princeedwardisland.ca/en/information/environment-energy-and-climate-action/j-frank-gaudet-tree-nursery-services>

In addition to the Public and Private Land programs, these trees are used by the following programs:

Greening Spaces

The Greening Spaces program provides seedlings and technical advice to schools, communities and watershed groups who want to create environmentally friendly green spaces. In the report year, 36,116 trees were planted under this program, supporting the groups listed in Table 3.

Hedgerow Planting

The Hedgerow Planting program provides tree seedlings, planting assistance and technical advice to landowners who want to establish hedgerows and treed buffers to prevent soil erosion, and to create wind breaks that lower home heating and cooling costs. In the report year, 52,738 trees were planted under this program.

Carbon Capture Tree Planting Program

The Carbon Capture Tree Planting Program was launched in 2018-19 with funding from the Environment and Climate Change Canada Low Carbon Economy Fund. This program enables landowners to have native trees planted on priority areas such as high sloped lands, watersheds with low forest cover, and sites with sensitive soils. In addition to trees, landowners are eligible for a one-time payment of \$650 per hectare. In the report year, 370,000 trees on 171 hectares were planted under this program.

Table 3: Groups supported by the Greening Spaces Program in 2021-22

Watershed Groups	General
<p>Bedeque Bay Environmental Management Association Belfast Watershed Group Cascumpec Bay Watershed Association Central Queens Branch PEI Wildlife Federation</p> <p>Cornwall and Area Watershed Group Ellen's Creek Watershed Group Friends of Covehead-Brackley Bays Harmony and Area Watershed Group Hillsborough & Area Watershed Group Hunter Clyde Watershed Group Kensington North Watershed Association Lot 11 and Area Watershed Management Group Morell River Management Cooperative Pisquid River Watershed Group Richmond Bay Watershed Association Roseville/Miminegash Watershed Inc Souris and Area Branch of the PEI Wildlife Federation South Shore Watershed Association Stratford Watershed Group Tignish Watershed Group Trout River Environmental Committee Trout Unlimited Canada Prince County Chapter West Point and Area Watersheds Wheatley River Improvement Group</p>	<p>Agriculture Minister's Farm Tours Batesville Tree Planting 4H Brookvale Ski Park Canadian Citizenship Ceremony EECA Planning Day Farmer's Bank of Rustico Habitat for Humanity International Children's Place Island Nature Trust Point Prim Lighthouse Society United Way Fund Raiser</p>
Schools, Kindergartens and Daycares	Churches and Community Groups
<p>East Wiltshire School Elm St. School Little Ducklings Daycare Morell Consolidated School Somerset School Souris High School</p>	<p>Albany Community Center Breadalbane Community Park City of Charlottetown Hillsborough Social Housing Holy Redeemer Church Souris Catholic Church Tignish Community Relations Town of Rustico Town of Souris</p>

Resource Inventory and Modelling

The Resource Inventory and Modeling Section (RIMS) works to provide mapping data related to a wide range of land use and natural resource topics; updated forest inventory information and carbon budget modelling for Prince Edward Island; and maintenance of Geographic Information Services for a wide range of government and non-government clients.

A priority for this Section was the completion of the second year of the three-year 2020 Corporate Land Use Inventory. The 2021 field season focused on completion of the inventory ground plots; completion of the province-wide canopy height model and Enhanced Forest Inventory from the LiDAR data; and initiation of aerial photo interpretation by private contractor Le Groupe Desfor.

Additional work completed by the Section included ongoing measurements for the Permanent Sample Program, with 196 plots and over 6300 trees measured. Annual forestry statistics (amount of silviculture, harvest areas, windthrow, etc.) were collected and submitted to the National Forest Database as part of the province's ongoing collaboration with the National Forest Inventory (NFI) and the National Forest Information Systems (NFIS).

RIMS continues to play an integral part in the activity of the Coastal Flood Risk Group. In conjunction with the Climate Action Secretariat, a Geospatial Analyst intern was hired to aid with planning and capacity building for flood modelling using new 2020 LiDAR data. An external web mapping application, called the Coastal Hazard Information Platform (CHIP), was created to display the projected flood layers for 2020, 2050 and 2100.

The Section assisted with Fish and Wildlife Section projects that involved predicting the extent of the Northern Goshawk Habitat; incorporating Circuitscape connectivity rasters into a property scoring algorithm; and flying drone imagery for Leard's Mill Pond; Brookvale Alpine; Crapaud Mill Pond; and Warren Grove Pond.

Additionally, the Section continued to aid the Department of Agriculture and Land with Alternative Land Use Services (ALUS); annual Soil Quality Monitoring; delimiting Nematode Properties and Bacterial Ring-rot Fields; the development of a Deadstock Disposal Location Planning Tool; creation of a 2020 Sloped Land Inventory; and the maintenance of a Livestock Premises ID database for the Emergency Response Coordinator.

Watershed Management Fund

The PEI Watershed Management Fund is housed within the Forests, Fish and Wildlife Division and provides financial support to 24 community-based watershed groups across the province. Financial support is also provided to the PEI Watershed Alliance. Funding allocations to individual groups are listed in Table 4.

More information on the PEI Watershed Management Fund may be found here:

<https://www.princeedwardisland.ca/en/information/environment-energy-and-climate-action/watershed-management-fund>

Table 4: 2021-22 Allocations under the PEI Watershed Management Fund

Watershed Group Name	2020-21 Funding
Bedeque Bay Environmental Management Association	\$92,626
Belfast and Area Watershed Group	\$65,465
Cascumpec Bay Watershed Association Inc.	\$55,756
Central Queens Branch of the PEI Wildlife Federation	\$65,409
Cornwall & Area Watershed Group Inc.	\$47,149
Ellen's Creek Watershed Group Inc.	\$36,076
Friends of Covehead-Brackley Bays Ltd.	\$29,152

Harmony and Area Watershed Enhancement Group Inc.	\$40,418
Hillsborough Area Watershed Cooperative (HAWC)	\$102,954
Hunter-Clyde Watershed Group Inc.	\$52,959
Kensington North Watersheds Association Ltd.	\$74,698
Lot 11 and Area Watershed Management Group, Inc.	\$52,293
Morell River Management Co-operative	\$84,879
Richmond Bay Watershed Association Inc	\$53,785
Roseville/Miminegash Watersheds Inc.	\$51,338
Souris & Area Branch of the PEI Wildlife Federation	\$117,118
South Shore Watershed Association	\$59,418
Southeast Environmental Association	\$116,274
Stratford Area Watershed Improvement Group Inc.	\$57,854
Tignish and Area Watershed Management Group Inc.	\$47,793
Trout River Environmental Committee Inc.	\$54,376
Trout Unlimited Canada Prince County Chapter Inc.	\$80,619
West Point & Area Watersheds Inc.	\$43,585
Wheatley River Improvement Group Inc.	\$47,769
Winter River-Tracadie Bay Watershed Association Inc.	\$66,241
PEI Watershed Alliance	\$39,000

Energy

Division Mandate

The Division of Energy will build upon the 'Provincial Energy Strategy' to bring renewable energy options into Island homes. It will review and champion green initiatives that are ongoing within government, and promote renewable energy research and knowledge in the province. It will secure Prince Edward Island's energy needs through the creation of innovation-driven programs and services that focus on energy-efficiency and conservation. An 'Innovative Clean Energy' fund will boost investments in new energy technologies and climate change solutions. The Division will also support the increase in electric vehicle usage in the province through a network of charging stations, increased public awareness, and the re-establishment of a provincial electric vehicle rebate programs.

Progress in 2021-2022

The Government of Prince Edward Island has set an aggressive target to achieve net zero greenhouse gas (GHG) emissions by 2040. "Net zero" is the difference between the amount of GHG emissions produced by human activity and the amount removed from the atmosphere through natural and technical methods and other measures.

Reaching net zero emissions will require incremental and significant changes to Islanders' daily lives, and to the industries and sectors that contribute to the economic well-being of our province. The PEI *Net*

*Zero Carbon Act*¹ enshrines in legislation a commitment to achieve net-zero emissions by 2040. The Act ensures transparency and accountability as the government works to deliver on its targets.

The Office of Net Zero

This Section oversees the direction of Prince Edward Island in the targeted delivery of emissions reduction and the achievement of the Province's net zero goals, on behalf of and in collaboration with government and all its stakeholders. In this regard it will work to develop effective action plans to manage and prepare for the unavoidable impacts of climate change.

The plan, **2040 Net Zero Framework**² provides the framework to achieve the goals and targets required for Prince Edward Island to become Canada's first Net Zero Province. The framework will see Prince Edward Island sequestering an amount equal to, or greater than, its greenhouse gas emissions. It provides a focus on targeted reductions in the province's emissions profile and sets a direction for how the Province will achieve these reductions.

Other program areas, collaborations and initiatives include

- an Active Transportation Fund - 39 projects totaling over \$10 million of approved Government Building Inventory/Greening Government funding; and
- a Clean Tech Academy and Clean Tech Challenge Fund as part of the new Clean Tech Park in Georgetown.

Efficiency PEI

The Section provides programs, rebates and information for Islanders who are interested in reducing their day to day energy consumption. The report year saw an increase in demand across programming, especially for heating equipment rebates (4,766 rebates processed), solar photovoltaics installation (568 applications processed), and home energy assessments (2501 assessments completed).

Other program areas, collaborations, and initiatives include

- commercial energy rebates, including business energy solutions;
- a Solar Photovoltaics Rebate Program;
- a Free Heat Pump Program for income-qualified island residents; and
- energy efficiency equipment rebates.

PEI Energy Corporation

The Corporation is responsible for the promotion and development of energy systems; the generation, production, transmission and distribution of energy in all its forms; the provision of financial assistance for the development, installation and use of energy systems; and the coordination of all government programs in the establishment and application of energy systems in the province.

¹ *Net Zero Carbon Act* https://www.princeedwardisland.ca/sites/default/files/legislation/n-03-01-net-zero_carbon_act.pdf

² *2040 Net Zero Framework: Accelerating Our Transition to a Clean, Sustainable Economy* (February 2022) https://www.princeedwardisland.ca/sites/default/files/publications/2040_net_zero_framework_for_feb_23_2022.pdf

As a Crown Corporation reporting to the Minister of Environment, Energy and Climate Action, the Corporation submits a separate Annual Report detailing its activities for the previous year. The Corporation's Annual Report is published each year and is available online.³

Climate Action

Climate Action Secretariat

The Secretariat provides interdepartmental coordination and leadership to reduce, prepare for and respond to the impacts of climate change. In the report year, the Secretariat maintained responsibility for coordinating and participating in both mitigation and adaptation activities throughout the province; monitoring compliance with provincial, regional and international commitments (including the *New England Governors and Eastern Canadian Premiers Climate Change Action Plan*⁴); and representing the province on national and regional committees.

The Secretariat also began in the development of a Provincial Climate Adaptation Plan which will outline a multi-disciplinary series of government actions to address and minimize the harmful impacts of climate change on people, places and the economy of Prince Edward Island. The successful implementation of the Adaptation Plan will rely on effective collaboration among provincial government departments, First Nations, stakeholders, and the public.

Key program areas, collaborations and initiatives include

- a Climate Change Action Plan⁵;
- a Sustainable Transportation Action Plan (STAP)⁶;
- federal/provincial funding agreements (the Low Carbon Economy Leadership Fund⁷, and the Building Regional Adaptation Capacity and Expertise Fund⁸);
- climate hazard and risk analysis (Coastal Hazard Assessment [CHA]⁹, and a province-wide Climate Change Risk Assessment [CCRA]¹⁰);

³ PEI Energy Corporation Annual Report 2021-22. 39th Annual Report for the year ended March 31, 2022 https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report_2022_final_5jul2022_0.pdf

⁴ *New England Governors and Eastern Canadian Premiers Climate Change Action Plan* <https://www.cap-cpma.ca/about/new-england-governors-and-eastern-canadian-premiers-annual-conference-negecp/negecp-resolutions/>

⁵ *Taking Action: A Climate Change Action Plan for Prince Edward Island (2018-23)* (CCAP) https://www.princeedwardisland.ca/sites/default/files/publications/climatechange2018_f8.pdf

⁶ *Sustainable Transportation Action Plan* https://www.princeedwardisland.ca/sites/default/files/publications/sustainable_transportation_plan-web.pdf

⁷ Low Carbon Economy Fund <https://www.canada.ca/en/environment-climate-change/services/climate-change/low-carbon-economy-fund.html>

⁸ Building Regional Adaptation Capacity and Expertise <https://www.nrcan.gc.ca/climate-change/impacts-adaptations/building-regional-adaptation-capacity-and-expertise-brace-program/21324>

⁹ Coastal Erosion and Flood Risk Assessment <https://www.princeedwardisland.ca/en/service/coastal-erosion-and-flood-risk-assessment>

¹⁰ *Prince Edward Island (PEI) Climate Change Risk Assessment*, July 27, 2021. The CCRA provides a consistent, repeatable, and scalable approach, customized for any jurisdiction or sector within PEI, for the analysis of climate hazards and associated multiple climate-related risks https://www.princeedwardisland.ca/sites/default/files/publications/pei_ccra_2021.pdf

- the launch of a Coastal Hazards Information Platform (CHIP) that features a tools and resources website with interactive online map, CHA application form, technical data sheets and a free online course¹¹;
- funding for local, innovative projects through the Climate Challenge Fund¹²; and
- partnerships with the UPEI Climate Lab, and the Canadian Centre for Climate Change and Adaptation¹³.

Progress in 2021-2022

Key highlights from the report year, include

- support for 45 projects through the Climate Challenge Fund, focused on reducing and removing emissions, reducing climate risks, and expanding research and knowledge;
- a province-wide climate change risk assessment that was completed to help better understand climate-related risks;
- province-wide coastal flood map made available online and showing the land areas at greatest risk of coastal flooding from sea level rise, tides, and storm surges, now and in the future (i.e., 2050 and 2100); and
- initiation of the development of an Adaptation Plan¹⁴ that will identify key actions needed in the next five years to manage climate risks and build resilience.

For the most recent information on programs, accomplishments and scope of work, please refer to the *Minister's Report on Climate Change Risks and Progress Towards Targets*¹⁵, which details program goals and accomplishments under the purview of the Climate Action Secretariat, and how it complements the efforts of the Net Zero Office on greenhouse gas reduction.

¹¹ The Coastal Hazard Assessment (CHA) is intended to provide guidance for current and prospective property owners who want to be aware of the potential impacts of coastal hazards as they buy, sell, develop, or maintain a given property www.princeedwardisland.ca/coastalhazards

¹² The Climate Challenge Fund program provides support for projects across the province, including businesses, not-for-profit organizations, municipalities, and academic research institutions.
<https://www.princeedwardisland.ca/en/information/environment-energy-and-climate-action/climate-challenge-fund-projects>

¹³ UPEI Climate Lab <http://projects.upei.ca/climate/>

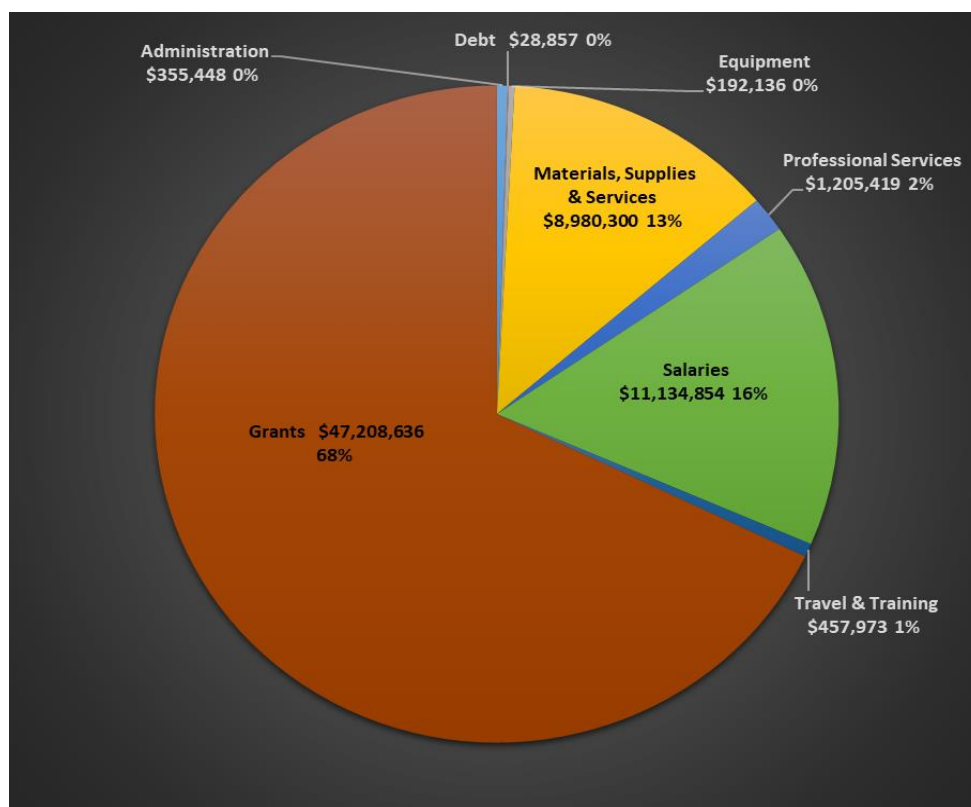
¹⁴ *Building Resilience: Climate Adaptation Plan, October 2022*
https://www.princeedwardisland.ca/sites/default/files/publications/building_resilience_climate_adaptation_plan_oct_2022.pdf

¹⁵ *Minister's Report on Climate Change Risks and Progress Towards Targets (2021-22) September 22, 2022*
https://www.princeedwardisland.ca/sites/default/files/publications/ministers_report_on_climate_change_risks_and_progress_towards_targets.pdf

APPENDIX 1

DEPARTMENT OF ENVIRONMENT, ENERGY AND CLIMATE ACTION Fiscal Year 2021-22

	2021-22 Budget Estimate \$	2021-22 Actual \$
EXPENDITURE		
CORPORATE SERVICES	538,700	539,968
FORESTS, FISH & WILDLIFE	10,514,800	13,185,475
CLIMATE ACTION SECRETARIAT	2,313,800	2,405,894
ENVIRONMENT AND WATER	20,612,200	22,656,986
SUSTAINABILITY	20,442,000	9,474,453
ENERGY AND EFFICIENCY	22,672,300	21,300,847
TOTAL EXPENDITURE	77,093,800	69,563,623
REVENUE		
ENVIRONMENT, ENERGY & CLIMATE ACTION	15,976,000	11,180,365
TOTAL REVENUE	15,976,000	11,180,365

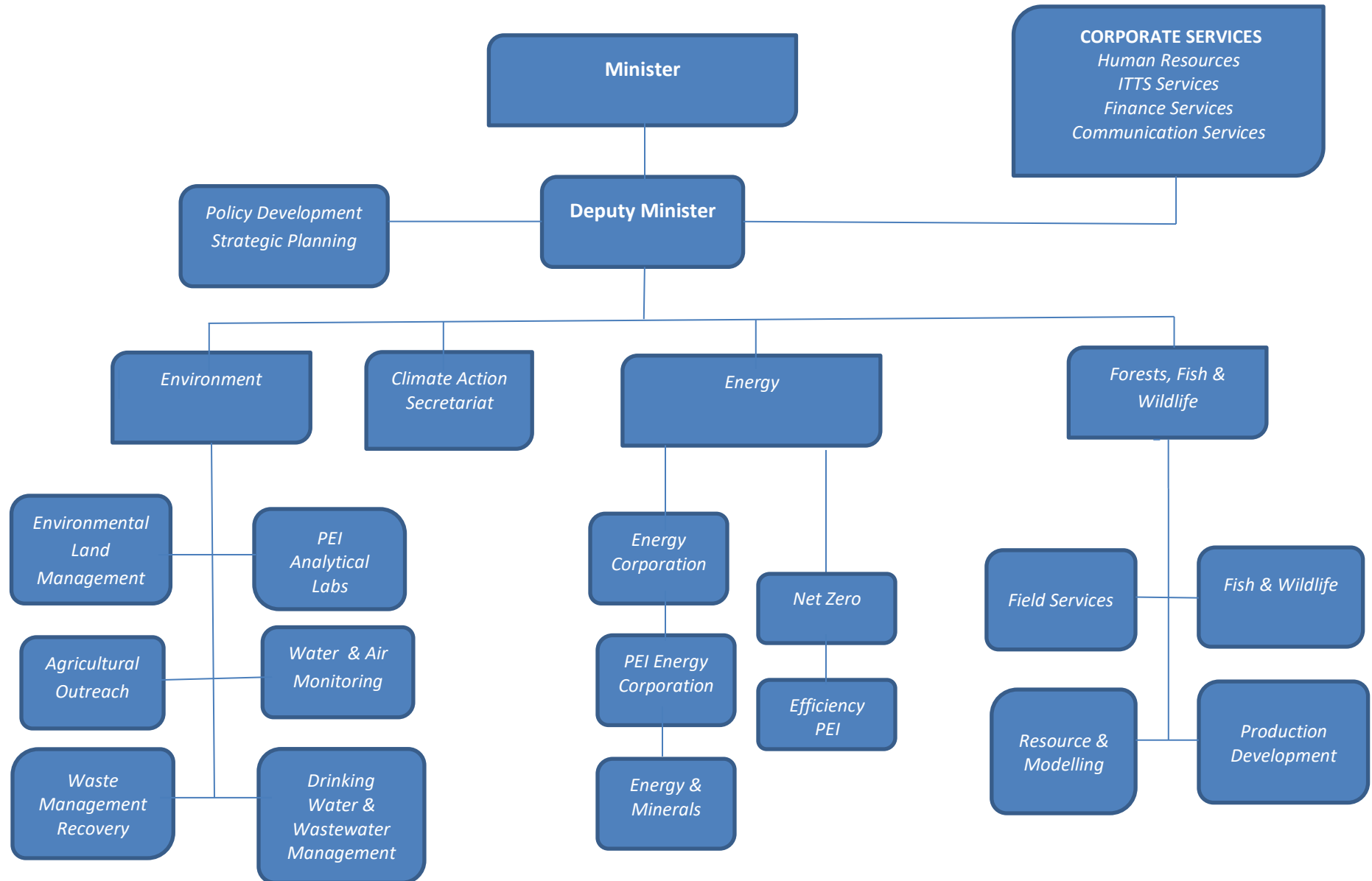


Departmental Financial Summary FY 2021-22		
Expenditure	Original Budget	Actuals
Summary		
Corporate Services	538,700	539,968
Forests, Fish & Wildlife	10,514,800	13,185,475
Climate Action Secretariat	2,313,800	2,405,894
Environment and Water	20,612,200	22,656,986
Sustainability	20,442,000	9,474,453
Energy and Efficiency	22,672,300	21,300,847
Total	77,093,800	69,563,623
Detail		
Corporate Services		
Corporate Services	538,700	539,968
Subtotal	538,700	539,968
Forests, Fish and Wildlife		
Division Management	2,281,800	2,277,330
Forest Fire Protection	219,700	213,881
Production Development	1,442,200	1,296,802
Field Services	3,315,300	3,217,017
Resource Inventory and Modelling	482,100	480,186
Fish and Wildlife	2,773,700	5,700,259
Subtotal	10,514,800	13,185,475
Climate Action Secretariat		
Climate Action Secretariat	2,313,800	2,405,894
Subtotal	2,313,800	2,405,894
Environment and Water		
Division Management	9,477,900	10,868,839
Water & Air Monitoring	1,415,500	1,243,648
Drinking Water & Wastewater Management	557,300	506,430
Microbiology and Chemistry Laboratories	986,900	1,030,446
Agricultural Outreach	407,900	323,516
Environmental Land Management	947,200	903,575
Waste Reduction, Recovery and Recycling	6,819,500	7,780,532
Subtotal	20,612,200	22,656,986
Sustainability		
Office of Net Zero	20,442,000	9,474,453
Subtotal	20,442,000	9,474,453
Energy and Efficiency		
Energy and Efficiency	22,672,300	21,300,847
Subtotal	22,672,300	21,300,847
Total	77,093,800	69,563,623

Departmental Financial Summary FY 2021-22		
Revenue	Original Budget	Actuals
Summary		
Forests, Fish & Wildlife	1,561,700	3,069,049
Climate Action Secretariat	10,385,300	4,752,707
Environment and Water	1,827,500	2,153,361
Energy and Efficiency	2,201,500	1,205,248
Total	15,976,000	11,180,365
Detail		
Forests, Fish and Wildlife		
Federal Revenue - Canada Nature Fund	810,700	2,199,113
J.F. Gaudet Tree Nursery	108,500	120,182
Forestry Establishment Fees	10,000	23,738
Forestry Checkoff Fees	20,000	40,294
Forestry Sales	145,000	149,349
Fish and Game Licenses	130,000	118,744
Wildlife Conservation Fee	175,000	219,905
Firearm Safety Administration	11,000	10,500
Other Revenue	151,500	187,224
Subtotal	1,561,700	3,069,049
Climate Change Secretariat		
Low Carbon Economy Fund	10,024,100	4,371,577
Building Regional Adaptation Capacity and Expertise	361,200	381,130
Subtotal	10,385,300	4,752,707
Environment and Water		
Environmental Attributes	435,000	543,233
Shellfish Monitoring	213,000	211,878
Water Testing Fees	750,000	919,785
Extended Producer Responsibility Program	95,000	60,000
Other Revenue	334,500	418,465
Subtotal	1,827,500	2,153,361
Energy and Efficiency		
Zero Emission Vehicle Infrastructure Program	1,000,000	-
Electricity Efficiency & Conservation	1,200,000	1,181,038
EV Charging Stations	1,500	24,210
Subtotal	2,201,500	1,205,248
Total	15,976,000	11,180,365

APPENDIX 2 – Organizational Chart April 2021

DEPARTMENT of ENVIRONMENT, WATER and CLIMATE CHANGE





ANNUAL REPORT 2021-22

Department of Environment, Energy, and Climate Action