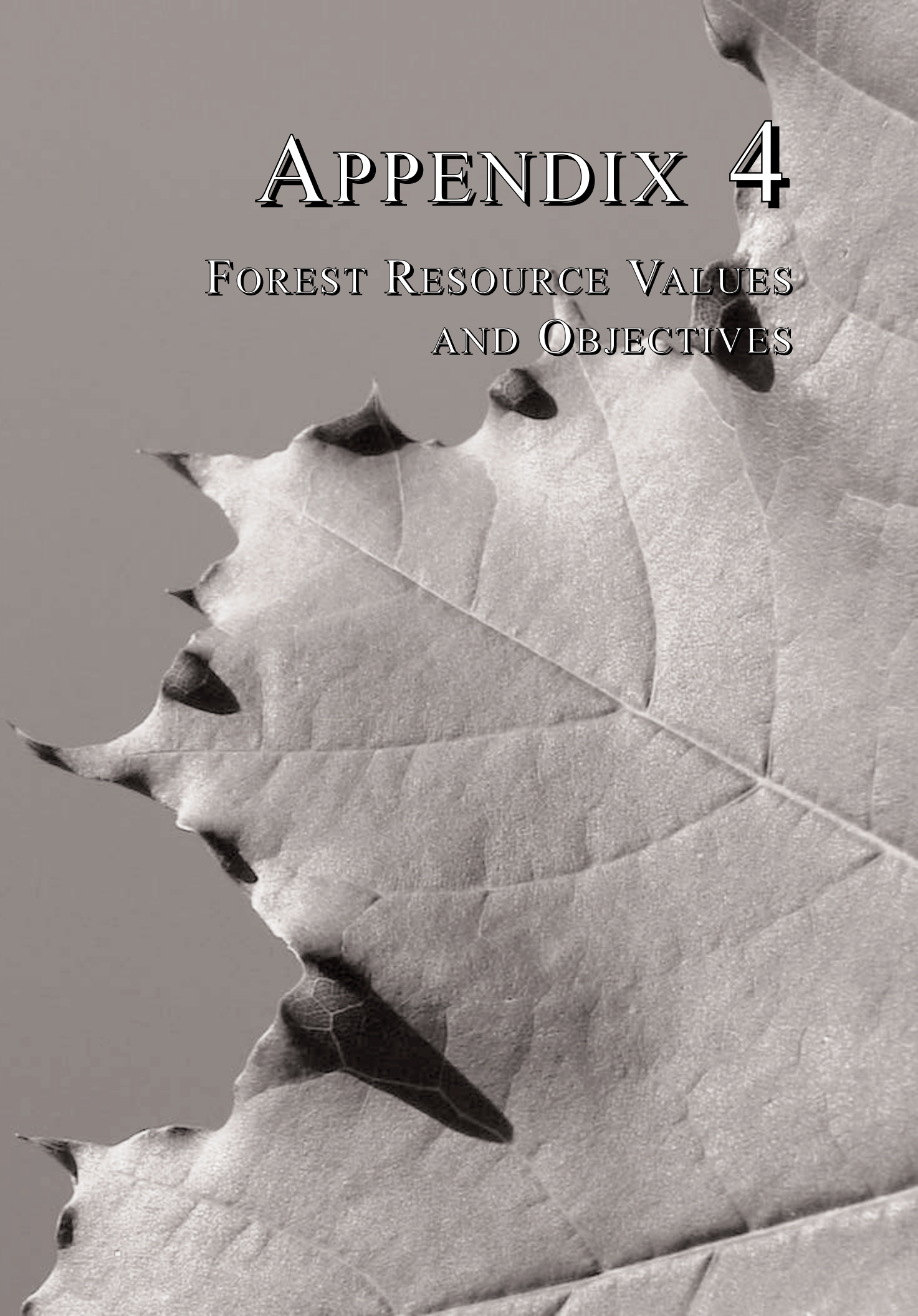


APPENDIX 4

FOREST RESOURCE VALUES AND OBJECTIVES



Wildlife

Newfoundlanders and Labradorians place great importance on the wildlife resources of the Province. In 1996 Environment Canada conducted the survey "Importance of Nature to Canadians" and reported that provincial residents spent \$193.7 million on nature-related activities, involving fishing, hunting, photographing wildlife, and so forth. The same survey reported Newfoundlanders and Labradorians to have the highest rate of participation by any adult population in Canada regarding hunting activities (27.2% compared to the 10.6% Canadian average).

While forest ecosystems are dominated by trees, they contain much more. For example, mosses, shrubs, herbs, fungi, and bacteria all combine with trees, terrestrial, aquatic and avian wildlife to create ecological structures and processes of ecosystems. Seventeen (17) native land mammal species have been reported for insular Newfoundland, including the now extinct Newfoundland wolf, and 11 species have been successfully introduced (Table 11a). Labrador has forty-one native species (Table 12a). There are 175 species of birds categorized as either resident, migratory breeders, or migratory visitors, reported for Newfoundland, with 146 reported for Labrador. These figures for birds exclude vagrants - rare or occasional visitors whose usual range does not include Newfoundland or Labrador (S.J. Meades, 1990).

Big game mammals, such as moose, caribou, and black bear support major recreational and commercial activities. The estimated populations for moose is 150,000, caribou 100 000, and for black bear over 10,000 animals. There are approximately 25,500 moose and 4,500 caribou hunting licences issued annually. Small game species such as rabbits, partridge, and grouse are also favoured for hunting.

Table 11a. Land mammals native and introduced to Newfoundland.

Native species	Introduced Species
Caribou	Moose (1904)
Black bear	Bison (1964) unsuccessful
Lynx	Mink (1935 through fur-farming)
Red fox, Cross fox, Silver fox	Coyote (Range Expansion)
Weasel	Eastern chipmunk (1962)
Newfoundland marten	Red squirrel (1963)
Wolf (extinct)	Bank vole (1967)
Otter	Deer mouse (prior to 1968)
Beaver	Red back vole
Muskrat	House mouse
Meadow vole	Snow-shoe hare (1860-1880)
Arctic hare	Masked shrew
Little brown bat	
Eastern long-eared bat	
Hoary bat	

Table 12a. Native mammal species in Labrador.

Caribou	Northern bog lemming
Moose	Flying squirrel
Muskoxen	Woodchuck (Ground hog)
Black bear	Norway rat
Polar bear	Woodland jumping mouse
Red fox	Rock vole
Cross fox	Red-backed vole
Silver fox	Deer mouse
Arctic fox	Meadow jumping mouse
Fisher	Ungava lemming
Mink	Porcupine
Otter	Snowshoe hare
Lynx	Arctic hare
Weasel	Little brown bat
Wolverine	Masked shrew
Wolf	Water shrew
Beaver	Pygmy shrew
Muskrat	Stomosed shrew
Meadow vole	Red squirrel
Bank vole	American marten
Heather vole	

The pine marten on the island of Newfoundland is listed as endangered by the Canadian Organization on the Status of Endangered Wildlife in Canada (COSEWIC). It is estimated that there are approximately 300 marten remaining in Newfoundland, while the pine marten in Labrador are trapped for their fur.

The basic objectives for wildlife management in relation to SFM are:

1. Manage the forests to have all forest age-classes represented on the landscape.
2. Improve the habitat and population levels of species identified by COSEWIC as vulnerable, threatened or endangered and to enable them to be eventually removed from the "species at risk" list.
3. Protect special wildlife areas such as caribou calving areas, osprey nest sites and moose yards.

These three wildlife habitat objectives will be outlined in the district forest management plans. The Newfoundland Forest Service in conjunction with the Inland Fish and Wildlife Division and district planning teams will ensure that the wildlife habitat objectives are attained.

Aquatic and Fish Resources

The Province of Newfoundland and Labrador has an abundance of freshwater resources. There

are 4,404 distinct stream systems in Newfoundland and a further 1,543 watersheds identified (Murray and Hammon, 1969), and within these watersheds there are 176 scheduled salmon rivers (Fisheries and Oceans, 1999). The number of freshwater species in insular Newfoundland is 23, of which 18 are native; Labrador has 26 freshwater species (Scruton et al. 1997). These figures include the eel, a catadromous species, which inhabits rivers but spawns in salt water.

The province's most valued inland fish species, in economic and recreational terms, are the salmon and trout. These species have similar life histories and ecological requirements to complete their full life cycles. Salmonoids have populations that may be either sea-run (juveniles go to sea and return as adults to spawn in freshwater) or resident (complete all their life processes in freshwater). Regardless of whether they are sea-run or not, all salmonid species in the province have young that spend their early life (2-4 years for Newfoundland and 4-6 years for Labrador) entirely in stream environments (Scruton et al. 1997).

The inland fish resource is important to residents of the province. A 1996 survey (Environment Canada 1996) reported that 49% of the residents of Newfoundland and Labrador expressed an interest in recreational fishing. There are 25,000 - 30,000 salmon licences issued annually. While there is no resident trout licence, anecdotal evidence suggests there are more than three times as many trout anglers as there are salmon fishers, plus about 500 non-resident trout licences. (Department of Fisheries and Oceans 1999). This high response to recreational fishing demonstrates the importance of this resource to the people of the province. The Integrated Management Plan for Newfoundland and Labrador Atlantic Salmon (1999) has five objectives:

1. Conservation for sustainable utilization.
2. Aboriginal groups in Labrador will have access to salmon for food, social and ceremonial purposes, subject only to conservation requirements being met.
3. Implement an adaptive management strategy for Atlantic Salmon recreational fishery using a river classification system.
4. Provide stability in the management of recreational salmon in line with conservation objectives.
5. Management of surplus fish to maximize the angling opportunities as well as social/economic benefits for various user groups.

The Integrated Management Plan for Newfoundland and Labrador Trout (1999) has four objectives:

1. Conservation and sustainable utilization of the trout population.
2. Aboriginal groups will have access to trout for food, social and ceremonial purposes, subject only to conservation requirements being met.
3. Maximize the participation in the recreational trout fishing as part of an

overall outdoor experience.

4. Special management initiatives may be implemented in local watershed areas, in line with the conservation initiatives in response to public demands for different angling opportunities.

Through application of the Newfoundland Forestry-Fish Habitat Guidelines, the salmon and trout objectives will be achieved. These guidelines are consistent with the Environment Protection Plan for Ecologically- Based Forest Management (Newfoundland Forest Service 1998).

Adventure Tourism, Parks, Recreation, Aesthetics

Tourism has recorded significant growth in the past several years. In 2000, non-resident auto, air and cruise visiting to the province reached about 415,000, up 1.5% from 1999 (Government of Newfoundland and Labrador 2000). The increase in non-resident visitors in recent years stems from more focused marketing (e.g., special celebrations, adventure tourism, outfitting), which increased product awareness and more business travel.

Forest ecosystems are used extensively by residents of the province for recreational activities such as fishing, hiking, camping, skiing, and snowmobiling. For example, approximately 30,000 salmon angling licences are sold annually. Some recreational pursuits use the access created for timber harvesting or cabin development, while others prefer wilderness experiences. These interests are pursued within and outside wilderness and ecological reserves, provincial parks and national park boundaries.

There are two national parks in the province. The first, Terra Nova National Park, was established in 1957 and is located on the northeast coast of Newfoundland, it is 39 600 ha in size. Gros Morne National Park (established in 1973) is located on the Great Northern Peninsula and is 180 500 ha in size. There are two proposed national parks under study in Labrador (Mealy Mountain and Torngat Mountain areas). The national parks are high recreational areas, with excess of 200,000 visitors per year.

Provincial Parks are established to provide a diverse range of outdoor recreational opportunities. There are 13 parks, 6 scenic parks, and 11 park reserves which encompass 19,357 ha. These parks protect portions of ecoregions, outstanding natural environment or special features and also provide for outdoor recreational facility development such as campgrounds and hiking trails.

Wilderness and ecological reserves are established to protect large wilderness areas, representative examples of the province's ecoregions, and special or unique natural processes and features. There are two wilderness reserves (Avalon and Bay du Nord), comprising 396 500 ha; 15 ecological reserves with 17,706 ha; one provisional reserve comprising 73,115 ha and an emergency reserve of 270 ha. There are a number of other areas that are under consideration for designation under the Wilderness and Ecological Reserves Act as part of the Natural Areas System Planning process. In October 2001, the Minister of Tourism, Culture and Recreation publically reaffirmed the province's commitment to complete a Natural Areas System Plan after extensive public consultations.

The spectacular beauty and wilderness of the province provides numerous opportunities for a

thriving adventure tourism industry. The industry is developing at a rapid rate, encompassing a variety of interests such as sea kayaking, hiking, and snowmobiling. Strategically positioned near the large population centres of the north-eastern seaboard and western Europe, the province's location is conducive to the development of a significant industry.

The outfitting industry has developed into a major user of forest ecosystems. Worldwide, clients come to fish for Atlantic salmon, trophy-size brook trout, while others hunt caribou, moose, and black bear. The industry's net economic return to the provincial economy is over \$40 million dollars annually, with 143 companies operating 225 outfitting camps across the province.

Agriculture Resources

The potential of the agrifood industry as a significant contributor to the provincial economy has often been underestimated and overlooked. It was not until the 1986 Royal Commission on Employment and Unemployment and the 1991 Report of the Task Force on Agrifoods that the industry's contribution and potential within the provincial economy was clearly recognized. Since 1988, agriculture has been the only resource sector that has maintained positive growth (an average of 4.35%). It has also exceeded the province's average GDP by 2.15%. It has withstood the negative impact of a severe national recession and generally continues to prosper.

Commercial agriculture development in Newfoundland began in the late 1800's and early 1900's with the issuance of land grants by the British monarchy to potential farmers. Initially, agriculture was looked upon as a way to supplement and stabilize income from the fishery. However, it eventually became an accepted and valued part of the economy, and in numerous communities, agriculture became the predominant occupation. For almost two decades following Confederation, agriculture went into a decline. Overall production and farming skills and labour gradually disappeared, while governments promoted large-scale economic activities aimed at turning the Province into a modern industrial state.

In the late 1960's and 1970's, commercial agricultural production began a process of revival led by the hog, broiler, dairy and egg industries. Today, the province is self-sufficient in dairy and egg production and is close in meeting its need for poultry. The traditional crops like potatoes and carrots continue to expand, while the development of new crops such as lettuce and broccoli continue to find limited markets. The berry sector (blueberry, partridgeberry, strawberry and raspberry) continues to expand. With the development of new technology and new strains of forage and grains, the livestock industry will expand. This, in turn, will place new demands on the province's forested lands. In recent years, a horticultural sod and turf industry has developed.

Compared to other provinces, Newfoundland and Labrador's agricultural land base is limited; however, it can supply local markets with climatically adapted commodities, provided it is properly used and managed. Agricultural products are considered by the province to be a strategic commodity that will become more important in the long term as imported produce becomes more expensive because of increased transportation costs. In addition, the export of various commodities, including Christmas trees, blueberries, strawberries and vegetables, dictate the protection of agricultural resources.

Soil surveys and land use studies show that approximately 100 000 ha, or 0.3%, of the total land surface are considered suitable for farming. In addition, there are extensive areas of native berry

land and peat soils. In fact, there are about 1.3 million hectares of peatlands made up of areas 30 hectares or greater in size. Soils on these peatlands can be quite productive and are being developed for a wide range of crops.

Dairy, poultry, eggs and floriculture are the mainstays of the Agrifoods industry, however, efforts to expand the industry are focussed on diversification and new product development. For example, experimentation is underway with new crops such as currants, partridge berries, cranberries, ginseng, and sea buckthorn.

One area which has experienced substantial growth in recent years is the provinces' greenhouse industry. Presently, sales of locally grown floriculture and nursery products account for about 10% of total farm receipts compared to an average of less than 6% during the 1990's.

The value of farm sales in 2002 was approximately \$82.7 million. Progress in the farming business has been steady as the value production has risen consistently in 24 of the last 26 years. The development of value-added food and beverage products from both locally produced and imported inputs has been a key strategy for the growing industry.

Agrifoods Branch objectives are:

1. To expand the industry's value as a tool for economic development, particularly in rural Newfoundland, and to strengthen its competitive response to changing market conditions.
2. Diversification and value-added production. The increasing globalization of the market place means industry must improve its ability to access and develop domestic and global market opportunities and increase its ability to diversify and add-value to the commodities produced and the food products manufactured.
3. Resource and environmental sustainability. The protection of the limited agricultural land base from conversion to non-compatible uses and the adoption of environmentally sound management practices as society and government shift to a more stringent level of operational requirements.

Historic Resources

A 1982 report entitled Culture and Future, states that cultural identity "represents the memory and the collective science of a community in which individuals find themselves at home and can draw freely on their own points of reference." It also "represents the will to build together a common future which is accepted by all and in which all participate through their very diversity. These cultures express the historical experience of people. They also delineate the life-styles of societies, their ways of being and acting, and their systems of values, both ethical and aesthetic."

A variety of different cultures inhabited the province prior to the arrival of the Europeans some 500 hundred years ago. The history of these cultures, including interactions with other groups, economic pursuits, settlement patterns, and religious or spiritual beliefs, are investigated and studied through archaeological excavations.

The Provincial Archeology Office (PAO) is the agency responsible for the management and protection of archaeological sites and artifacts in Newfoundland and Labrador. This program is carried out under the Historic Resources Act which ensures that developments with potential to have adverse impacts on historic resources are investigated and monitored by a qualified archaeologist through archaeological impact assessments.

Archaeological sites are non-renewable resources and play a vital role in understanding our heritage. It is important to professionally record as much information as possible at an archaeological site in order that one may fully understand its history. In order to do this properly the site must not be disturbed. Very often, archaeological sites are small, spatially bounded units, therefore protecting these resources usually do not have an adverse impact on forestry activities.

Archaeology is very important for our tourist industry. Archaeological excavations and interpretive sites draw thousands of visitors each year to this province. The preservation and interpretation of archaeological continue to benefit the tourism industry in this Province. Thousands of tourists from all over the world visit our archaeological sites each year and the numbers continue to increase, i.e. Ferryland alone saw 16,500 visitors in 2000.

Each year archaeology projects provide many seasonal jobs, i.e. Ferryland employs approximately 50 people. Many of these people are successful in obtaining employment in archaeology and conservation for longer periods of time. By calling for archaeological impact assessments on projects which have potential to negatively impact historic resources the PAO is providing jobs for consulting archaeologists in the province. New businesses are created as a result of archaeological projects. These businesses include bed and breakfasts, boat tours, restaurants and gift shops.

There are over two thousand recorded archaeological sites in Newfoundland and Labrador. These sites represent both prehistoric and historic occupation and include Maritime Archaic Indian, Palaeoeskimo groups, Thule, Viking, Basque, Beothuk, Innu, Inuit and European. Given their importance to the heritage of this province, these sites and all recovered artifacts are protected by law.

The objective of the Historic Resource Program is to:

1. Protect potential archaeological sites in the province.

Protected Water Supplies

The importance of protecting water resources has emerged as a major issue both nationally and provincially. Events such as the E.Coli 0157 outbreak in Walkerton, Ontario, the cryptosporidium problem in North Battleford, Saskatchewan, and our own trihalomethane controversy and numerous incidents of giardiasis, have heightened public awareness of water issues. While efforts usually focus on drinking water, it is also recognized that water outside protected water supply areas is also important.

Under the Water Resources Act communities may apply to the Department of Environment to have their water supply area designated as protected. The primary management goal within

protected water supplies is the maintenance of water quality and quantity.

Across the province there are more than 250 protected water supply areas, with a total area in excess of 3,000 km². Of this total area, about 1,400 km² is suitable for commercial timber harvesting. Forestry activities are permitted within protected water supply areas, subject to a Certificate of Environmental Approval from the Minister of Environment.

Currently, the Forest Service enforces operational guidelines to control forestry activities within protected water supply areas. These guidelines, entitled Environmental Protection Plan for Ecologically-Based Forest Management (1998), were developed jointly by the Forest Service and the Department of Environment. The guidelines provide specific on-the-ground restrictions for loggers, and also give direction for planners working in and near protected water supplies.

The Water Resources Management Division of the Department of Environment is responsible for administering the Protected Water Supply Area Program. The objectives of this program are:

1. To protect public water supply areas in order to ensure the safety and security of potable water supplies for the communities in the province.
2. To regulate land and water use activities taking place inside protected water supply areas to ensure they do not pose an unreasonable risk to the safety and security of potable water supplies.
3. To allow communities a legal mechanism to ensure the safety and security of their water supplies and to have input into the approval of proposed land and water use activities which may affect the safety and security of their water supply.
4. To monitor the water quality of the potable public water supplies of the province in order to ensure compliance with the Canadian Water Quality Guidelines and to assess the impacts of ongoing land and water use activities on water quality.

Mineral Resources

The province's mineral industry produces over a dozen mineral commodities, including iron ore, gold, copper, asbestos, pyrophyllite, slate, limestone, dolomite, stone, sand, gravel, and cement. Many of these commodities are critical elements in industry, and others are used on a daily basis and are sold in national and international markets. The mineral industry makes a significant contribution to the economy, for example, in 2002 mineral shipments were approximately \$792 million.

Mineral deposits are located throughout Newfoundland and Labrador with continued exploration efforts directed towards base metals, gold and industrial minerals. As an example of the Province's potential resource, the find at Voisey's Bay in Labrador has proven to be one of the world's largest nickel deposits, the value of this resource is estimated to be in the billions of dollars.

Intensive exploration activities capable of ground disturbance or disruption to the ecosystem are limited to very site specific advance exploration locations. Preliminary exploration activities cause minimal disturbance and do not have a major impact on the ecosystem. There is a permit procedure in place to mitigate the impacts of the more advanced intensive exploration activities.

The primary objective of the Department of Mines and Energy can best be described by the Department's mission statement.

"The Department of Mines and Energy promotes and facilitates the sustainable development of the Province's mineral and energy resources through its resource assessment, management and development activities for the overall benefit of the citizens of Newfoundland and Labrador."

In order to achieve this, the Department of Mines and Energy has set four goals:

1. To advance responsible mineral and energy exploration activities.
2. To maintain and/or enhance responsible mineral and energy resource development.
3. To ensure that mineral and energy resource activities are managed in the best interest of the province.
4. To be recognized as a leader in creating and following best practices in resource assessment, development and management.

In order to achieve these goals, a primary concern of the Department of Mines and Energy would be to "ensure that as much of the province's land base, as possible, is available for mineral and energy exploration and development."

The Department of Mines and Energy is concerned because other land uses have the potential to alienate significant areas of the province from future mineral and petroleum exploration activities. It is essential that any areas contemplated for designation that would prohibit exploration activities be assessed for resource potential before a final decision is made.