

urban pressures upon them, and land despoliation and reclamation with reference to mining in Canada.

The directorate represents Environment Canada on the Treasury Board advisory committee on federal land management and provides environmental advice and policy on federal land transaction proposals, particularly those in rural areas. Approximately 400 transactions are processed annually by this committee as well as a range of policy considerations and reviews.

The directorate played the lead federal role in the federal-provincial agreement to conduct baseline environmental studies in Northern Quebec. This agreement, commonly known as the James Bay environmental studies, ended on March 31, 1979. The directorate is also involved in the negotiation of native land claims in Canada.

The directorate operates a number of mapping programs. The largest is the Canada Land Inventory (CLI). Under federal-provincial agreement, all settled lands of Canada have been classified according to their capabilities for agriculture, forestry, recreation, wildlife, sportfish and present land use (circa 1967). These data, widely used for land-use planning at the regional level, have been placed in a computer system known as the Canada Geographic Information System (CGIS), enabling the production of statistics on land capability at the national level. In response to the need for other mapping techniques for those areas not covered by the CLI program, an ecological land classification system has been developed and applied in the James Bay area. A northern land-use information mapping program provides information regarding current land-use patterns and activities at a reconnaissance scale of 1:250,000 for Yukon and Northwest Territories. A program to monitor land-use change throughout Canada is under development.

The directorate provides a secretarial service and plays an active role in a committee on ecological (biophysical) land classification. This federal-provincial committee is developing a national ecological land classification system.

The directorate operates the Canada land data system (CLDS), a computerized system that stores and analyzes comprehensive, multi-disciplinary land resource data. The analytical capabilities of the system are available to resource managers and planners at cost. Regional use is possible through liaison officers and interactive terminals in various land regional offices in Halifax, Quebec City, and Burlington, as well as the University of Manitoba and the Alberta Remote Sensing Centre in Edmonton. Pilot studies testing the feasibility of mapping and incorporating federal property data into the CLDS are under way.

10.1.2 Forest depletion

The average annual forest utilization by cutting is shown in Table 10.2. The primary sources of Canada's current wood production are the areas of production Crown forest land (provincial and federal) and private forest land that are classed as productive. These ownerships constitute 163.8 million hectares (ha). On a volume basis, it was estimated in 1977 that the annual allowable cut to maintain productive forests was 276 million cubic metres (m³). From 1972-76, the average annual total of wood harvested amounted to about 132 million cubic metres, approaching half the allowable cut. In addition to cutting, extensive forest depletion is caused by fire, insects, diseases and natural mortality but no reliable estimates of these losses, either physical or economic, are available. A total of 8,960 forest fires occurred across Canada in 1977 (Table 10.3).

A surplus of timber exists in Canada although there are shortages in some regions and species which could be overcome by more intensive forest management and silvicultural techniques. Greater utilization of individual trees and of certain species could extend the resource. The estimates of wood volume in Table 10.1 include over 2 billion cubic metres on 375 000 km² of forest land reported as economically inaccessible.

10.1.3 Forest administration

10.1.3.1 Federal forestry programs

The provinces own 90% of the forests in their boundaries that are not reserved for special purposes such as national parks. The federal government owns or administers