

demands of man himself upon his environment. The early settlers used the land to provide themselves with the basic necessities, food and shelter, and the use of the topsoil for grains, vegetables and fruits, the forest for animals, skins and food and trees for shelter and fuel as well as for boats and rafts for transportation. With industrialization came a new set of demands; industrialization needed energy and so hydro energy needed land for its transmission and distribution. Industry grew out of the development of our resources; the minerals below the soil, the processing of trees into lumber, pulp, paper and other products. The products of industry had to be transported, which in turn used up more land for roads, railways, terminals and other transportation facilities.

Industrialization led to urbanization, which in turn led to specialization whereby farmers changed from subsistence farming to commercial agriculture. Urban centres relied upon farmers as producers of food while farmers relied on the sale of their food products to purchase many of the necessities that they used to make for themselves. Incidentally, with the growth of affluence among nations, this pattern is now being repeated on a world scale. Economically advanced nations such as the Soviet Union and Japan are now foremost food importers, thereby seriously affecting the food situation.

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Urbanization increased the demand on our land resources. Urban life tends toward concentration and crowding. As industrialization increased and people became more affluent they demanded better homes, better designs, better materials and larger housing lots for individual families. Collectively, they demanded wider streets and better communications with other urban centres. This meant construction of highways, airports and air terminals, all of which required large areas of land.

Growing affluence brought the automobile within the financial capacity of the middle class. This in turn created the need for parking spaces outside office buildings, churches, amusement centres, supermarkets, railway stations and airport terminals. This also greatly increased the demand on available land. It was at this point in Canada's development that a Special Committee of the Senate on Land Use in Canada was appointed in 1958. The committee submitted its final report in 1963. From the deliberations of that committee sprang two very positive results. One was the ARDA program, which was embodied in the Agricultural Rural Development Act. The other was the Canada Land Inventory. This grew out of the committee's findings that land use in Canada was greatly limited by topography, climate, location and difference in soil. The committee found there were over 500 different types of soil in Ontario alone. The Canada Land Inventory was also given great support by the Resources for Tomorrow Conference held in 1961. Experience with early ARDA programs and experiments and pilot projects designed for regional economic expansion made it apparent that without a land capability inventory, programs of land adjustments and regional economic development would be based on judgment which, in the absence of essential information, would be fallible and costly.

As stated in CLI Report No. 1, at the top of page 2:

[Hon. Mr. Carter.]

Canada's relatively abrupt transition from a primarily agricultural economy to a primarily urban-industrial economy resulted in changes in land use; further changes may be expected as new economic and demographic changes occur. Effective planning for change of this nature requires an information base of the physical quality of lands and soils and the location and quantity of each type.

Regional economic expansion, therefore, made this type of land inventory a necessity. However, since land is under provincial jurisdiction it could be carried out only in conjunction with the provinces. Federal approval for the inventory was given in October 1963, and federal-provincial consideration of the program took place one month later. The nature and the scope of the program were determined by each province and carried out in full or in part by the provinces in accordance with a specific federal-provincial agreement whereby the federal government undertook to reimburse each province for all direct operational and staff costs incurred in the conduct of the project. On the federal side, the projects were carried out under the aegis of the Department of Regional Economic Expansion, but it has since been transferred to the Department of the Environment. It was not only an inventory of land, but also a land capability inventory.

The survey was carried out and data compiled under four headings: agriculture, forestry, recreation and wildlife, wildlife being divided into two subheadings, one dealing with wild fowl, which comes under federal jurisdiction, and the other under the heading of undulates, which includes all animals and those birds which come under provincial jurisdiction.

The capability of land was classified under each of those headings, with ratings ranging from one to seven, class one being the highest or equivalent of excellent, and class seven signifying complete unsuitability.

The survey took into account not only the present use being made of the land, but alternative uses and possible multiple uses. The inventory is therefore geared to future planning rather than land management. The various classifications had to be worked out in conjunction with the provinces and concurred in by all of them. Much information had already been collected by the cooperative soil survey organizations of Canada by federal and provincial departments of forestry, parks and recreation, and from wildlife studies.

Land use had also been the subject of study by geographers, economists, land administrators and planners. Geographers from the federal Department of Energy, Mines and Resources had been engaged in a program of land use mapping since 1950 and had accelerated the program through extensive interpretation of aerial photographs. Statistics Canada, the Economics Division of the Department of Agriculture, and provincial statistical agencies had been continuously compiling information on the social and economic factors of land use.

A way was found to integrate all this information, along with the new data from the inventory itself, so that it could be computerized, stored, retrieved and analyzed by electronic computers. A way was found for recalling this information and producing it on computer-made maps. The computer mapping technique developed by the