

Prairies, energy development, new industrial activity and continuing agricultural activity. Research was focused on new systems for demand management and use of weather modification techniques to increase rain.

Studies in water quality include ground water contamination, acid rain on Canadian lakes, lake renovation methods, water quality and pollutants. Among priorities were the development of small scale sewage treatment systems, the automation of larger treatment systems, new methods of waste recycling, waste water treatment systems for cold climates, and development of oil spill control technologies for the Arctic and other offshore areas of Canada. The health and welfare department has re-evaluated guidelines for drinking water quality. Analytical surveys were carried out on the physical and chemical contaminants of drinking water to evaluate their toxicological significance.

Land. Land-related expenditures on environmental issues were estimated at \$6.2 million including a study of the environmental impact of mining and energy development at \$2.6 million. The environment department was to continue research on ecological land classification, applications of remote sensing and an analysis of Canada land inventory data on land use. Rapid conversion of agricultural land to industrial use and social and economic problems associated with the loss of agricultural land were also being studied.

Other. The environment department allotted \$11 million on other environmental issues, including wildlife. A 10-year banding program on lesser snow geese in the eastern Arctic and the possible effects of various kinds of development on wildlife and wildlife habitat were continued.

NRC planned to spend \$4.2 million on various environmental issues, mainly on biological research on waste and pest management. It also co-ordinated scientific activities through an associate committee on scientific criteria for environmental quality.

Food

14.1.6

Food science is concerned with primary production, processing, distribution and retailing of food. It includes nutrition, safety and quality and embraces the agriculture and fishery sectors.

Grain. Canada produces about 3% of the total world grain or about 11% of the grain that enters world markets. Cereal crops have a farm value estimated at over \$5 billion. Several new varieties of wheat, barley and corn have been licensed and distributed. The varieties of grain crops have undergone steady improvements as a result of research in the federal agriculture department.

Pest control. Reduction of losses by insects attacking agricultural crops has largely depended on the application of chemical insecticides. Agriculture Canada research is directed toward developing pest management systems that make more use of biological control methods and cultural practices.

The Canadian food strategy is to increase production and market research. A processing, distribution and retailing contract program aims at development of new or improved food products, energy conservation, better maintenance of food quality, improved food safety and more efficient processing, storage and distribution.

Fish stocks and habitats. In the fisheries and oceans department activities related to the East Coast fishing industry are funded under an Atlantic fisheries development program; 1980-81 expenditures were estimated at \$16.9 million. Research emphasis was on factors affecting the size and distribution of fish stocks. On the West Coast the department investigated ways of strengthening the stocks of Pacific salmon. Under a salmon enhancement program, hatcheries were constructed and other measures taken with an aim to boost production by more than 2 million fish.

The department continued to protect fish habitats that support Canadian commercial and recreational fisheries. Ecological work continued on stream rehabilitation, pollutants in the atmosphere and acidification of freshwater lakes. Other research was conducted in aquaculture technology, fish health and fish genetics. In the western region, 3,500 farmers have fish farms as a sideline.