

## 8.4 Wildlife

Original inhabitants of what is now Canada depended on wildlife for food and clothing and some still do in remote areas. Europeans brought development of the fur trade which to a large extent guided the course of exploration and settlement. When the country was being developed, a number of mammals and birds became seriously depleted or extinct. As settlement progressed, wildlife habitat was reduced by cutting and burning forests, polluting streams, by industrial and urban development, draining wetlands and building dams.

Today the arctic and alpine tundra, a major vegetational region, has begun to show serious effects of man-made changes. The adjacent sub-arctic and sub-alpine non-commercial forests have been affected principally by human travel and an increase in the number of forest fires. Arable lands, originally forest or grassland, have completely changed but in some cases became more suitable for some forms of wildlife than the original wilderness.

Canada's varied and abundant wildlife includes most of the world's stock of woodland caribou, mountain sheep, wolves, grizzly bears and wolverines. Many factors cause fluctuations in wildlife numbers, and hunting seasons and bag limits are based to a great extent on annual population surveys and other scientific data.

Early attempts at wildlife conservation began in 1885, when Rocky Mountains Park (now Banff National Park) in Alberta was preserved in its natural state. In 1887 the continent's first bird sanctuary was started at Last Mountain Lake in Saskatchewan. In 1893 when wood bison faced extinction, laws were passed to protect them. In 1907 a nucleus herd of plains bison was established at Wainwright, Alta.

As a natural resource, wildlife in each province comes under the jurisdiction of the provincial government. The federal government is responsible for the protection and management of migratory birds and for wildlife on federal lands.

### 8.4.1 The Canadian Wildlife Service

The Canadian Wildlife Service (CWS) began as an agency to administer the Migratory Birds Convention Act (1917). It was expanded in 1947 to meet the need for scientific research in wildlife management and is now part of the environmental conservation service of Environment Canada.

CWS conducts research in the Northwest Territories and Yukon on polar and grizzly bear populations and is conducting long-term studies of caribou and muskox in co-operative programs with the NWT wildlife service.

CWS research in the national parks includes studies in limnology, ornithology, mammalogy and general ecosystem relationships. Long-term studies on wolf and grizzly bear ecology are under way. A biophysical inventory of the mountain parks is continuing in Jasper and Banff national parks. A

bison-wolf interaction study is proceeding in and around Wood Buffalo National Park. Shorter duration projects, defined each year, are undertaken for Parks Canada according to its priorities.

A convention on international trade in endangered species of wild fauna and flora was signed by Canada in July 1974, with the CWS designated the scientific and management authority for Canada. The Canada Wildlife Act (1973) provides the federal government and the CWS a legislative basis for joint federal-provincial management programs. CWS has initiated a rare and endangered species program. Continuing studies on the wood bison, whooping crane and peregrine falcon are to be augmented with new projects on other species. An international agreement on the conservation of polar bears came into effect in 1976. Canada was the first of five signatories to ratify it. As administrator of the Migratory Birds Convention Act the CWS, in consultation with provincial wildlife agencies, recommends annual revisions of the regulations on open seasons, bag limits and hunting practices. The RCMP with CWS and provincial co-operation enforces the act and regulations.

Under a national program begun by CWS, more than 40 national wildlife areas exist across Canada and more are planned. A number of co-operative wildlife areas are managed jointly with the provinces. The land, its vegetation and the wildlife it supports are the main concerns. Over 80 key nesting areas for migratory birds, many privately owned, have been declared sanctuaries under the migratory bird sanctuary regulations; in these areas hunting is prohibited.

CWS conducts surveys of waterfowl hunters to obtain estimates of species taken and the kill of migratory game birds, of the national goose harvest, of crop damage and of waterfowl populations and habitat conditions in Western Canada, and a program to reduce hazards caused by birds flying near airports. Bird-banding provides information on migration and biology of birds, and is useful in waterfowl management. CWS headquarters in Ottawa keeps continental banding records and controls activities of banders.

Attention is given to species greatly reduced in number or in danger of extinction. For example, 21 young were raised from whooping crane eggs taken from the breeding grounds and incubated at the Patuxent Wildlife Research Center in Maryland in the mid-1970s. Progeny from these chicks will be released into the wild after enough breeding birds have been developed. Sandhill cranes have served as foster parents to hatch whooping crane eggs. By 1981 the population of whooping cranes in the world had reached 122 — 97 in the wild and 25 in captivity.

Research continues on the effects of toxic chemicals on wildlife, including the effect of herbicides on wildlife habitat in Alberta, the effects