

WILDLIFE MANAGEMENT IN NATIONAL PARKS, PAST AND FUTURE

Abstract: National Park policy concerning wildlife management has evolved from the preservation of endangered species in the early 1900's to maintaining quality and beauty of wildlife. Current indications are that emphasis is placed on habitat or ecosystem management. In managing wildlife, National Parks administrations must deal with numerous constraints, many of which they cannot change. The major constraints are unnatural park boundaries, incompatible land uses surrounding park lands, and policies which are not adequate to meet current requirements. It is suggested that Parks Canada will never completely attain wildlife management programs that are ecologically balanced. Nevertheless, measures are proposed for ameliorating some of the unacceptable conditions that currently exist.

The primary mandate of the National Parks Act dedicates Canadian National Parks to the people of Canada for their benefit, education and enjoyment while at the same time stipulating that the National Parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations. Use and enjoyment of the parks is to be in a form compatible with the protection of natural conditions. This priority is logical since without it, the wealth of natural beauty, which includes wildlife, would be impaired, and the purposes for which the parks were established would be defeated.

Throughout the history of Canadian National Parks system, the emphasis has swung in pendulum fashion between "use" and "preservation". Without adequate understanding or inventory of the natural resources, National Park Administrators were often forced to favour "use" or "preservation"

depending on their personal biases and convictions. Of late, Parks Canada has endeavoured to resolve the "use" versus "preservation" situation by basing decisions on scientific research and public opinion.

This principle was recommended by a committee on Management of National Parks and Equivalent Areas reporting to the First World Conference on National Parks that was convened in Seattle by the International Union for the Conservation of Nature (I.U.C.N.) in 1962. The committee recommended:

"The need for management, the feasibility of management methods and evaluation of results must be based upon current and continuing scientific research. Both the research management itself should be undertaken only by qualified personnel. Research, Management planning, and execution must take into account, and if necessary, regulate the human uses for which the Park is intended".

As new information becomes available and more sophisticated management concepts are developed, we realize that new policies may be required, while existing policies might be modified or elaborated.

The "use without impairment" concept adopted by the National Parks has been the source of many papers and debates as well as numerous administrative frustrations. One obvious solution to the apparent "use" versus "preservation" paradox is through management. In the past sporadic management efforts have been made by numerous well-meaning people; success however, has not been overwhelming. Piecemeal implementation, program by program, project by project, one park separate from another, while representing positive action is not sufficient especially in view of the increase in visitation we anticipate in the near future. "Management based on scientific research is therefore not only desirable, but often essential to maintain some biotic communities in accordance with the conservation plan of a National Park or equivalent area". (I.U.C.N., 1962). Moreover, management must be planned, co-ordinated and long term.

Management as defined by the I.U.C.N. is an activity which is directed towards achieving or maintaining a defined condition in plant/animal population and/or habitats in accordance with the conservation plan of the area. Management may involve active manipulation. Parks Canada has taken positive action in partially fulfilling the requirement expressed in the I.U.C.N. definition by the creation of Resource Management Planning positions in each of its five Regions.

The management of wildlife within National Parks is by and large governed by the following policy statement:

"It is part of the National Park purpose to maintain the quality and beauty of wildlife in National Parks, ie. to maintain healthy populations of native animals in balance with their environment. In the complete natural situation this would be accomplished by the steady pressure and persistent attrition of predators on animals in poor condition. Modern hunting methods tend to reverse the process of natural selection by favouring survival of the less fit. For this reason, where game populations exceed the carrying capacity of the range, their numbers should be reduced by a selective kill of the poorer specimens carried out by parks staff under scientific direction". (National Parks Policy, 1968).

Preceding this policy and going back to as early as 1900, our policy appeared to be one concerned mostly with preservation of endangered species. Our efforts date back to 1914 when the minister responsible for National Parks was advised that due largely to the severe winter of 1906-07 the total extinction of the antelope seemed certain unless this animal was fully and permanently protected in a wild state in its native range (Lothian, 1966). Steps to preserve the antelope were taken in 1916 when two areas frequented by antelope, one near Maple Creek, Saskatchewan, and another near Medicine Hat, Alberta were reserved by Order-in-Council. In 1922 these areas, together with a third located near Medicine Hat, Alberta were proclaimed respectively as Menissawok, Namiskan, Wawaskasey Dominion Parks "with a view to protecting the Pronghorned

Antelope and other rare species of wild life from extinction" (Houston, 1974). Efforts in preserving the antelope were so successful that by 1930 the area of Menissawok Park was considered no longer needed for preserving antelope and released for other purposes. By 1938 similar action was taken and Wawakasey was abolished. Finally in 1947 Nemiskam was abolished and the land reverted to the Province of Alberta.

Other early efforts in preservation of wildlife and perhaps the one for which Parks Canada is best known, deals with the preservation of the bison. At the turn of the century, shortly after the construction of the Canadian Pacific Railway across Canada, bison in Canada had almost virtually disappeared. To rectify this situation, a Park near Wainright, Alberta containing 170 square miles was established in 1908. This park was to become the permanent home of a buffalo herd purchased by the Canadian Government from a Montana rancher in 1907. Because the area at Wainright had not been fenced when the first two shipments totalling 410 buffalo arrived, the original group was taken to Elk Island National Park. A major portion of the original shipment, 325 head, together with a subsequent shipment of 306 bison were ultimately shipped to Wainright Buffalo Park. In just over 30 years the original herd which arrived at Wainright had increased by about 27,000.

The increased bison numbers were viewed as a tremendous success, unfortunately the Buffalo Park had deteriorated due to overgrazing and disease, and parasites had developed in the bison. Measures were then taken to reduce the herd. Between 1925 and 1928, approximately 6,700 bison were moved to Wood Buffalo National Park where they became the nucleus of the largest free roaming herd of bison in North America. Display herds were also established in Banff, Prince Albert and Riding Mountain National Parks.

In addition to the stocking program, a slaughter program was instituted whereby large numbers of bison and other ungulates were removed from the Park.

In spite of the various herd reduction attempts, the Wainright herd exceeded the carrying capacity of the range within the Park. The situation had become so drastic that the Park operation was concluded in 1940-41 and all the bison that remained there were slaughtered. The Park area was turned over to the Department of National Defence and remains to this day a military training base.

The emphasis on wildlife management is changing. Wildlife management is no longer just game management. It involves, according to Hendee (1974) the stewardship of a valuable and limited public resource. Lamprey (1972) similarly noted that there is a common misconception that the management of wildlife in National Parks consists mainly of the protection and control of animal life. He believes that the greater part of wildlife management lies in the perpetuation of natural animal habitat. Given reasonable freedom from disturbance, animal populations will require little or no management provided that the natural vegetation of their habitat remains intact. It is thus one of the major resource management objectives of National Parks Service is to maintain the natural integrity of biotic associations.

In line with this thinking it is quite possible that the current policy concerning wildlife management in National Parks will be revised to reflect these trends. For example, our policy might be revised to state that the basic goal of resource management in National Parks is to ensure that the greatest natural diversity of flora in each park will be allowed to progress through natural successional stages and that the fauna in each park will

be managed to preserve viable populations controlled by the natural environment.

Wherever possible, natural factors such as succession, predation, decay, disease or competition between or within communities of species of fauna and/or flora should be allowed to play their natural roles in the park ecosystem. Exception to this policy may be necessary where unmanipulated plant succession or naturally regulated animal populations would make it impossible to achieve the purposes and objectives of a particular park.

Objectives of the management of flora and fauna will vary from one park to another, and it is expected that each National Park administration will have its own ideas embodied in the general park theme and more detailed resource management plans. The latter should suit the needs of the park in its regional context and its role in the National Park system.

In considering this kind of management direction we must also consider the fact that people and their use of National Parks is an integral part of the day to day operation of the Park. This aspect is clearly stated in the National Park policy statement (1968). In fact, a number of parks, particularly the older parks, were established and have developed in a manner whereby recreation is a very significant component justifying their existence.

Recognition of public use is not intended here to propose a multiple use concept for National Park management. The Leopold Committee (1963) noted that "the multiple-use concept of park management is one which was never intended, which was not legally permitted nor for which we can find any impelling justification".

Although the ultimate goal in Natural Resource Management of National Parks and similar reserves is a self-regulating ecosystem, we must recognize that due to local peculiarities or regional conditions this goal is sometimes impossible to achieve. National Park Administrators face constraints arising from internal inadequacies as well as from surrounding land uses.

A major problem arises from the fact that National Park boundaries are seldomly based on ecological criteria. Consequently, these reserves are not ecological islands but integral elements of a regional and national mosaic of land management systems.

Because natural ecosystems do not recognize artificial political boundaries, the majority resource management problems facing National Park Administrators are shared mutually with Park neighbours - farms, ranches, industries, cities and other resource management agencies (Reid, 1968). For example, to allow populations of wolves to build up may be most desirable in controlling ungulate populations within the Park, but certainly creates problems for neighbouring ranchers whose land is within the wolves' range.

To partially overcome the consequences of unnatural boundaries and surrounding land uses which may be incompatible with National Park objectives, unnatural management practices have sometimes been adopted. One example is Elk Island National Park which is a fenced Park surrounded by farmland. In this situation the animal populations occasionally get out of balance with their habitat and threaten the continued existence of the desired environment. Even in the absence of fences external land uses and pressures as exemplified in Waterton, Riding Mountain and Prince Albert National Parks often disrupt the natural ecosystem by impeding movement or introduction of exotics. In either case, direct population control becomes essential.

Direct control is usually in the form of live capture and export in external stocking programs including game ranching. As a 1st resort, animals are sometimes shot and removed.

The latter raises the basic ethical question which all Park managers must answer, "How can National Park administrators reconcile the widely accepted traditional role of protecting plant and animal life with the possible necessity to employ drastic corrective management such as shooting of large animals?" (Lamprey, 1972).

Herd reductions programs as measures for rectifying ecological disbalance in Parks such as Elk Island can be difficult to discontinue. However, Blood (1974) questioned whether removals from more natural ecosystems in other Parks, could be justified. He pointed out that whether animals are removed dead or alive makes no difference to the ecological system. In this regard, an interesting point raised by Blood (1974) was the consequence of removing 2,000 tones of Elk from Banff and Jasper between 1943 and 1970.

The foregoing discussion seems to suggest Parks Canada will never attain wildlife management schemes that are ecologically balanced; nor does it appear advisable to continue shooting and removing those animals which exceed the carrying capacity of the Parks.

An obvious solution to many management problems is co-operative regional planning. Resource objectives can thus be better understood and attained through co-operation in scheduling, regulations and funding.

The compromising procedure that seems to be most promising is indirect wildlife management by habitat manipulation. Of the various methods in

this regard, the controlled use of fire is the most natural and very effective. Increasing numbers of people are recognizing that fire is a natural element and has played a vital role in the evolution and maintenance of some plant and animal communities.

Constant suppression of all fires, as provided by the current Parks Canada policy, results in a build-up of deadwood and litter with the result that the subsequent inevitable fire becomes much more intense, more destructive and more difficult to control.

Before any decisive policy is adopted on wildlife management in National Parks, it is essential that a policy on managing wildfire has to be adopted in line with it.

Moose, the topic of this conference, has to date, not created a major management problem within National Parks. I submit that one of the reasons for this is that all natural fires and wildfires have been suppressed immediately upon detection. In the absence of fire-produced habitat, moose must rely on marshes or meadow areas for their major habitat in National Parks. Because these areas constitute relatively small proportions of the Park, Wood Buffalo National Park being an exception, the moose populations have not increased beyond the carrying capacity of most Parks. It is conceivable that in time that some of these areas may be overgrown by less palatable forest species. Hence, we may, in the distant future, with the reduction of favourable habitat, have even fewer moose within our National Parks.

In retrospect, we realize that errors have been made in the management of the wildlife; however, we are not as interested in discussing past management

abuses as we are in avoiding their duplication in the future. We are confident that our current resource inventory programs, and resource planning effort will enable us to resolve many of our resource management problems. Furthermore, we will continue to monitor the results of all research efforts concerning resource and ecosystem management.

REFERENCES

1. Blood, Donald A., 1974, "The Functional Ecological Approach to Resource Conservation in Canadian National Parks", Lantzville, B.C. (mimeo).
2. Darling, F.F. & Eichhorn, N.D., 1967, "Man and Nature in the National Parks Reflections on Policy", Conservation Foundation, Washington, D.C.
3. Hendee, J., 1974, "A Multiple Action Approach to Game Management", Wildlife Society Bulletin, Vol. 2, No. 3.
4. Houston, C.S., 1974, "Abolished and Forgotten National Grassland Parks", Blue Jay, December, Vol. 32, No. 4.
5. I.U.C.N., 1962, "Management Criteria for National Parks and Equivalent Areas", Proceedings, First World Conference on National Parks, Seattle, July 1962.
6. I.U.C.N., 1972, "Recommendations", Proceedings of the Second World Conference on National Parks, Yellowstone and Grant Teton National Parks, September 18-22.
7. Reid, N.J., 1968, "Ecosystem Management in the National Parks, Transactions of the 33rd North American Wildlife to Natural Resource Conference, pp. 160-169.
8. Lamprey, H.F., 1972, "Management of Flora and Fauna in National Parks", Proceedings of Second World Conference on National Parks, Yellowstone and Grant Teton National Parks, pp. 237-257.
9. Leopold, A.S. (Chairman), 1963, "Wildlife Management in National Parks", U.S. Department of Interior, Advisory Board on Wildlife Management, Washington, D.C.
10. Lothian, W.F., 1966, "The Parks of Yesteryear", Intercom, 9:pp. 13-17.
11. Masyk, W.J., 1971, Wainwright Buffalo Park, "A Case for Co-ordinating Land Capability with Land Management", Calgary, U of Calgary, (Mimeograph).
12. Telfer, E.S., 1972, "A Reconnaissance of the Moose Range in the Peace Athabasca Delta", C.W.S., Edmonton.
13. Van Dyne, G.M. (Ed.) 1969, "The Ecosystem Concept in Natural Resource Management", Academic Press, New York, p. 383.

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