

1967

Transactions of the

THIRTY-FIRST

FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

held in Ottawa, Ontario

July 11 to 13, 1967



CANADIAN WILDLIFE SERVICE

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

Transactions of the
THIRTY-FIRST
FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

Held in Ottawa, Ontario
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CANADIAN WILDLIFE SERVICE
Department of Indian Affairs and
Northern Development

Issued under the authority of

THE HONOURABLE ARTHUR LAING, P.C., M.P., B.S.A.,

Minister of Indian Affairs and Northern Development

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Report on Recommendations Presented by
the 30th Federal-Provincial Wildlife Conference

RECOMMENDATION 1: that the meeting express its appreciation to the Honourable Gabriel Loubier, Minister of Tourism, Fish and Game of the Province of Quebec, for the splendid hospitality extended to delegates of the 30th Federal-Provincial Wildlife Conference in Quebec City.

Action Appropriate appreciation was extended.

RECOMMENDATION 2: that the Migratory Birds Convention Act be amended to provide appropriate bail bond for large or valuable pieces of equipment and for the disposal of forfeitures or seizures by either the provincial ministers or the Minister of Northern Affairs and National Resources.

Action Strong representation has been made to have amendments to the Migratory Birds Convention Act included in the next session of Parliament as part of the legislative program of the Government.

RECOMMENDATION 3: that a minimum fine of \$25 and a maximum fine of \$1,000 be established for convictions under the Migratory Birds Convention Act.

Action The recommended changes involve amendment of the Migratory Birds Convention Act and we are attempting (as indicated in action taken on Recommendation 2) to amend the Act.

RECOMMENDATION 4: that the Conference express its appreciation to the United States Fish and Wildlife Service and the Wildlife Management Institute for making it possible to have their respective representatives, Messrs. Noble Buell, Dan Poole, and Phil Barske at the 30th Federal-Provincial Wildlife Conference; to the Department of Northern Affairs and National Resources for its handling of Conference arrangements; and to the Royal Canadian Mounted Police for its support and co-operation at both provincial and federal levels.

Action Appreciation in each case was directed as required.

RECOMMENDATION 5: that the whole basis of issuance and renewal of permits to capture and possess migratory birds be studied by the Canadian Wildlife Service with a view to maintaining desirable standards and eliminating abuses.

Action The Canadian Wildlife Service has maintained rigid control on the issuance of Capture and Possession Permits. The Legal Adviser has examined the appropriate sections of the Migratory Birds Regulations with a view to tighter regulatory measures which has resulted in a change to Section 32. No basic study on the matter was conducted by the Canadian Wildlife Service during the past year.

RECOMMENDATION 6: that the Conference record its support for the Canadian Wildlife Service's proposal that regulations under the Migratory Birds Convention Act be amended to give the Minister of Northern Affairs and National Resources increased authority to control the use of certain chemical poisons which harm migratory birds or their habitat.

Action The Minister was informed of the views of the Conference. The matter is now under review with the Federal Inter-Departmental Committee on Pesticides. This procedure is necessary because of overlapping jurisdiction by other resource users.

RECOMMENDATION 7: since the ad hoc subcommittee on land capability classification for wildlife has completed its task, it is recommended that a National Advisory Committee on land capability for wildlife be created comprised of a representative from each provincial and territorial game branch, the Canadian Wildlife Service, the ARDA Administration, and not more than 10 appropriate and representative delegates from Canadian universities.

Action Appropriate action has been taken to form the National Advisory Committee which will comprise representatives of each of the provincial game agencies, universities, and federal agencies.

RECOMMENDATION 8: that all wildlife agencies in Canada consider the status and management of birds of prey under their jurisdiction in order to maintain the species and facilitate their national use, and to develop public appreciation of their niche in the environment.

Action No report on action has been received from any province.

RECOMMENDATION 9: that this Conference support the research now being carried out to find a suitable substitute for lead shot, and that test programs and adoption of a suitable substitute be carried out with all possible speed.

Action The recommendation of the Conference has been noted and substantial progress has been made. Test programs using a variety of shot are planned for the autumn.

RECOMMENDATION 10: since a federal inter-departmental committee is considering the rights of Indians under the various treaties or other commitments made to them and since the provinces are directly affected by such hunting and fishing rights, the Conference recommended that provinces should be represented in the continuing consideration of these problems.

Action The Minister was informed of the views of the Conference.

RECOMMENDATION 11: that the Canadian Wildlife Service study the problem of law enforcement of the Migratory Birds Regulations in Canada and make recommendations to the Federal Government that resources be made available to field a trained enforcement group fully adequate for the task.

Action The Canadian Wildlife Service has undertaken the recommended study and a report will be presented later in the meetings. Since the recommendation was made, the R.C.M.P. have added another five constables to the Special Enforcement Group.

RECOMMENDATION 12: that the Conference endorse the choice of the Canadian Wildlife Federation's theme of National Wildlife Week 1967 as "conservation in Canada's second century" and that the Conference endorse the desirability of furthering conservation education in the schools.

Action An extensive publicity campaign on Wildlife Week was developed by the Canadian Wildlife Federation on that theme. A report will be presented later in the meetings.

REPORT OF THE DIRECTOR OF THE CANADIAN WILDLIFE SERVICE

Dr. David A. Munro reported to the Conference as follows:

For the past several years I have made it a practice to report to the Federal-Provincial Wildlife Conference on activities of the Canadian Wildlife Service that are likely to be of interest to all the delegates. I cannot attempt to cover all our activities, but I do want to single out for special mention some of those that I think are of greatest interest. I should mention that if there are further questions with respect to any of the topics that I may mention or any other activities of the Service I would be quite happy to have these brought up at a later time.

Those of you who have attended the meeting of the Administrative Committee on Caribou Preservation will have heard something of our recent censuses covering the herds in the western mainland Arctic and of our venture in transplanting caribou from Coats to Southampton Islands. The survey in the western Arctic was planned by Dr. J.P. Kelsall and Mr. Don Thomas and carried out largely by Mr. Thomas, a contract employee who has had a good deal of experience in this work. Results of his work indicate a population of 322,000 in the western mainland Arctic. The intensive study of caribou which has been proceeding in the Keewatin District for several years now indicates a population of some 35,000 in that area. As a consequence we conclude that there is something in the order of 350,000 to 375,000 caribou in the mainland Arctic now - a somewhat better situation than existed some 8-10 years ago. The caribou transplant that I mentioned involved capturing 51 caribou on Coats Island and air-lifting them to Southampton Island. Southampton Island was once inhabited by caribou, but there have been none there for some 15 years. We hope that the transplant will be successful in establishing a population that will be of use to the natives there.

Our program for the maintenance of waterfowl habitat by land acquisition has been an active one during the past year. The largest project was for the assembly of land around the north end of Last Mountain Lake and there to the end of the last fiscal year we had purchased some 8,000 acres at a cost of \$575,000. During the present fiscal year we expect to purchase an additional 4,800 acres, bringing the total expenditure on the project to \$750,000. Plans for management and improvement of the lands have not yet been finally worked out, but among the uses to be facilitated are nature observation, public hunting, grazing on a community pasture, and the production of lure crops to help reduce the impact of damage to grain crops by sandhill cranes.

We have also become involved in two land acquisition projects in Nova Scotia, the first at an area known as the John Lusby Marsh, a salt marsh area near Amherst, Nova Scotia, totalling some 1,400 acres. We have acquired key properties scattered throughout this area but there are difficulties in determining the extent and ownership of other holdings and it seems almost certain that we will have to expropriate, using the word in its friendly sense, to clear title and ensure the proper payment to the legitimate owners. At the Sand Pond area, near Yarmouth, Nova Scotia, we are engaged in a project totalling 895 acres, where options have been secured from 11 owners. The key property here is now in our possession, and the project will eventually include the construction of a water control structure which will extend and improve the waterfowl habitat in the area.

We have purchased two small properties totalling 175 acres in New Brunswick near the Nova Scotia border for the specific purpose of enabling the provincial Department of Agriculture to build dams which will serve a dual purpose. They will eliminate the flooding of pasture lands downstream and, by ponding water above, improve and extend the area of good waterfowl habitat. We expect to acquire additional lands in this same vicinity.

In Quebec we are dealing with an acquisition of some 327 arpents involving about 11 marshy islands not too far from Montreal. We have reached a complete agreement with the owners of the land, but considerable difficulty is being experienced in clearing title to the land, which was originally transferred under a grant from one of the French kings.

One final item I might mention in respect of our land acquisition is that we will be purchasing a small area in Saskatchewan fairly close to the Saskatoon southeast irrigation project with the object of providing a site for the construction by Ducks Unlimited of a key structure for water level control.

We are presently negotiating with the Indian band near Creston, B.C., an easement agreement covering some 4,000 acres of wetlands in the Kootenay Flats. We are most hopeful that this will be successful and that it will be only the first in a number of such agreements with Indians.

Our easement program has gone beyond the pilot project stage this year and we expect to conclude agreements for which the annual payments will total some \$300,000. The total area to be involved by these agreements will be about 300,000 acres. We will have to step up the pace of the easement program considerably in the next two years if we are to reach a level of operation that will achieve our total objective within ten years from that date. We are already behind, but there have been practical difficulties in getting this under way; I think that most of them have now been surmounted.

With our colleagues in Saskatchewan we have undertaken a study of wildlife habitat in the Saskatchewan Delta area centred around Cumberland House. As an outcome of that study there has been prepared a land management plan for wildlife, which has been submitted to the Saskatchewan River Delta Planning Committee, and which I understand is likely to be supported by all interests concerned.

Just a few days ago there was the formal opening of our Prairie Migratory Bird Research Centre in Saskatoon, the first building put up especially for the Wildlife Service. The building had already been occupied for 14 months. We are getting together under Dr. Gollop's direction a group of people who will make a significant contribution to our understanding of ducks and duck habitat in the prairie region of Canada.

I expect that you have all received copies of our progress note reporting on the sales of Canada migratory game bird hunting permits last year. I won't repeat the details here, but should there be any questions with respect to the permit sales, either Denis Benson or I would be very pleased to answer them. This year we will be distributing to a sample of the purchasers of permits last year a questionnaire which will give us on a national scale information on the numbers of birds killed, the location where hunting took place, and the dates of hunting.

We will also be distributing to another sample of hunters a set of envelopes for the return of duck wings and goose tails which will give us a check on the age, sex, and species characteristics of the kill.

One of the reasons I don't feel that I need to cover all our activities during the past year in detail is that we have recently put out a publication called Canadian Wildlife Service '66. I believe that most of you have seen it. We have not made any commitment as to the frequency with which we will issue reports of this sort, but we hope that we will get them out sufficiently often that the public will be informed not only of our activities, but indirectly of the value that all of us here attach to wildlife in the Canadian scene.

I want to mention a new program in the information and interpretation field, namely the development of a series of conservation interpretation centres. These buildings and the lands associated with them will be somewhat like the nature interpretation centres that are springing up across the country in national and provincial parks, but there will be a difference. Their objective will be to interpret nature to the public, but in addition we will try to interpret how you manage nature - in short, the practical art of conservation. We will attempt to relate flora and fauna to the history and present life of the region of which

the centre is representative. I am hopeful that over a reasonable period of time we may have centres of this sort in every major biotic area of Canada. Construction of the first one, which is to be located near Midland, Ontario, is expected to begin within a few months.

Finally, I want to mention the launching in Canada of the Canadian Appeal of the World Wildlife Fund. The World Wildlife Fund is an international organization headquartered in Switzerland, and it has existed for some eight or nine years. Its founding was largely due to the initiative of Peter Scott, and it has been supported by such notables as H.R.H. The Duke of Edinburgh and Prince Bernhard of The Netherlands. The World Wildlife Fund is a fund-gathering organization and it disperses the moneys that it collects in support of endangered species. The activities that are carried out with World Wildlife Fund money include research, investigation, habitat acquisition, the support of protective services, and education. Within each nation in which there is an appeal one-third of the funds collected may be allocated to domestic projects, one-third must be submitted to the international headquarters for allocation primarily in the underdeveloped countries, and the disposition of the remaining third is being negotiated. The Canadian Fund will be headed by General Clarke, who is resigning as Chairman of the National Capital Commission in September. I am sure that he will make an efficient and diligent administrator of the Fund.

SUMMARY NOTES OF THE 31st CONFERENCE

Tuesday, July 11th

The Chairman opened the Conference, welcomed the delegates, and introduced the guests at the Conference. He then asked Mr. F.H. Schultz to report on action taken on the Recommendations of the 30th Conference. Dr. Munro then reported to the Conference on the activities of the Canadian Wildlife Service.

Report of the Canadian Wildlife Federation

1. Mr. R. Passmore, Director of the Canadian Wildlife Federation, presented his report to the Conference. Following presentation of the report there was some discussion on the way the Federation was helping in the promotion of ecology studies in the schools. The importance of bringing together biologists interested in wildlife and the professional educators in charge of the teacher training colleges was stressed and it was reported that this had been done successfully in Saskatchewan.

It was agreed to refer to the Recommendations Committee the proposal of the Federation that the 1968 National Wildlife Week deal with the subject of pesticides.

2. General consideration of the Migratory Birds Regulations

- (a) Spite baiting, baited areas, and "trespassing" by enforcement officer when posting such areas

Mr. J.E. Bryant introduced this subject, drawing attention to the relevant sections in the Regulations, namely 16 (1), (2), (3), and (4), and 34 and 50. He pointed out that spite baiting was not illegal and that to rule against baiting might be construed as an infringement of human rights. Although anyone offended by such baiting could have recourse to the civil courts, he knew of no action of this kind.

With respect to trespass by officers in order to post signs, he pointed out that there was no authorization for posting signs in the Regulations, only penalties for destroying such signs. The posting of the signs is a service to the public.

Discussion of the question revealed a number of problems to be solved:

- (a) to control hunters who would shoot over bait;
- (b) to avoid infringement of the right of individuals to feed birds.

- (c) to make certain signs were posted but avoid the problem of trespass by game officers putting up signs.

The proposal put forward by Mr. W.R. Miller and Constable R. Osika as set out below appeared to provide the best means of dealing with the issues.

The proposal was to amend the Regulations to include the following:

A waterfowl feeding station may not be operated by an individual, association, or corporation unless notification of such intent is made by letter to (a) Director of Canadian Wildlife Service and (b) the Chief Game Officer of the Province wherein such feeding is to take place with the provision of an adequate scaled map description of the area showing proposed feeding site and proof that the one-quarter mile shooting restriction (section 16 (f)) can be adhered to.

Posting of such area is to be the responsibility of the feeding station operator with signs of a type and wording designated by the Director, Canadian Wildlife Service. Such signs should be clearly visible to any person approaching the area by either water or land and should be spaced at a distance of not more than 100 yards apart around the periphery of said posted area.

Feed may not be placed at lesser distance than one-quarter mile of any adjoining landowner without written consent of such landowner, nor may two such feeding stations be operated within three-quarters of a mile of each other.

It is also proposed that provision be added to the Regulations providing protection for a duly authorized enforcement officer to acquire evidence during the course of investigation of illegal sale of migratory birds. In the present Regulations there are no provisions for an investigator to obtain such evidence. Should a situation arise where the only means of obtaining adequate evidence for prosecution is by making a "purchase", the authorized officer could exercise his authority for making a "purchase".

It was agreed to submit this proposal to the legal advisers of the Branch and circulate the results at the same time as other changes in the Regulations are circulated.

(b) Legal right of entry on private property by enforcement officers

Mr. A.G. Loughrey introduced this topic. The central issue was the right of game officers to stop and search vehicles or vessels. This is not specifically provided for in the Regulations and the recommendation of the legal advisers is to have the Regulations amended to make this provision.

It was agreed to seek this amendment.

The question of putting up posters was then dealt with. It was felt that even if action was taken in line with the decision on baiting ((a) above) there would still be no authorization for the posting of signs and, therefore, inadequate provision for access by officers of the Canadian Wildlife Service to forests and other properties.

It was agreed to study the question of authorization of signs and posters and specifically to study the authorization of signs under the Traffic Act and wildlife signs authorized under Ontario legislation; and to seek a provision in the Migratory Birds Act similar to that in the Manitoba Act, section 77, subsection 5.

(c) The use of live waterfowl for training dogs

Messrs. W.A. Morris and J.E. Bryant introduced this topic.

Discussion Points:

- (i) The use of good retriever dogs is desirable and humane since it reduces the loss of birds.
- (ii) Humanitarian demands require that the dogs be trained in ways that do not unnecessarily harm the birds. There is provision for action against those who do not use humane methods in the Criminal Code and action against inhumane treatment should be taken under the Criminal Code.
- (iii) It is in the general interest for the Canadian Wildlife Service, the R.C.M.P., and provincial authorities to work in co-operation with the S.P.C.A. and the National Retriever Association in establishing good practices in this matter.
- (iv) There would be some advantages in a change in the Criminal Code to permit shooting-to-kill at retriever trials.

It was agreed that concern for the humanitarian element should be manifested under the Criminal Code and that the Canadian Wildlife Service would check on what had happened with an earlier effort to change the Criminal Code to permit shoot-to-kill retriever trials, and that this would be reviewed at the Thursday meeting.

(d) Possession limits and uniform closing date

It was agreed, after a brief discussion, that the Canadian Wildlife Service would approach Quebec and British Columbia to discuss the matter of possession limits; and that Manitoba, Nova Scotia, and Quebec would retain the March 31st closing date as a control over illegal activity in spring hunting.

(e) Section 12 (2) (c)

Mr. W.R. Miller reviewed a number of recent difficulties related to this section.

It was agreed to seek the deletion of Section 12 (2) (c) from the Migratory Birds Regulations.

(f) Discussion of Section 7 of Regulations

Mr. J.E. Bryant introduced this topic, stating there was widespread abuse of the rule against holding wild birds, some, less serious, due to ignorance of the law, but most by people who captured wild birds to use as food or decoys. He estimated that 95 per cent of people with possession in Quebec did not have permits. He pointed out the difficulty of proving that wild birds were wild.

In discussion the following points were made;

i) The Ontario Act provides for control of native wild birds and introduced wild birds. This does not take care of the mallard since there are domestic mallards.

ii) The U.S. arrangement is that a person must have a permit to hold birds if they are not readily distinguishable from wild birds and are under restraint.

iii) The definition of a wild animal including birds in the Manitoba Act may provide an answer, see sections II, VII, and VIII.

It was agreed that the Canadian Wildlife Service would seek legal advice on a definition of a wild duck along the lines suggested by the U.S. arrangement and would provide another opportunity on Thursday for renewing this discussion.

(g) Section 49 - definition of a migratory bird

Mr. G.W. Malaher introduced this subject, pointing out that the definition of "migratory bird" in section 49 was inadequate from an enforcement point of view.

It was agreed after a brief discussion to substitute for "migratory bird" the phrases used in section 2 (j) of the Regulations.

3. Law enforcement in Canada under the Migratory Birds Convention Act

Two papers were presented on this subject, one by Superintendent A. Huget of the R.C.M.P. and one by Mr. W.R. Miller of the Canadian Wildlife Service.

Discussion of these papers made the following points:

(a) Convictions in the provinces are often, if not usually, under the provincial act and as a result there are many gaps in the statistics.

(b) The proposal to set up a special enforcement unit within the Canadian Wildlife Service is aimed at effecting greater co-ordination between the provincial officers and the special squad of the R.C.M.P.

(c) There is need for performance indicators in enforcement since the number of convictions is no indication of the quality of work done. What is the value of warning, of patrol, of apprehension? Further study of the magnitude of infraction will help put a better value on improved enforcement. Benefit-cost analysis which is just beginning will help provide performance indicators.

4. Information and discussion on current waterfowl status and water conditions in Canada

Information was supplied by a number of delegates, based on studies by the U.S. Bureau of Sport Fisheries and Wildlife, the Canadian Wildlife Service, and provincial agencies. Water conditions appeared to be good in most areas, except in the Nova Scotia-New Brunswick border area where some nests were flooded and in southwestern Manitoba and southeastern Saskatchewan. Bird populations seem to be equal to or better than last year except for mallard prospects in Manitoba, declining numbers of black ducks, and poor prospects for arctic-nesting geese.

Thursday, July 12th

5. Budgeting practices for fish and wildlife management

The paper on this subject was read by Dr. J. Hatter.

In the discussion following the presentation the following points were made:

(a) The intangibles are very important in wildlife management. We should not speak contemptuously of aesthetics because aesthetic considerations are very important. At the same time we should try to express these values in economic terms.

(b) Decisions are made on more than economic grounds. Many factors enter into decision-making and we should not put all our emphasis on the economic factors. The maintenance of standards, social problems, and political problems also affect decision-making.

(c) As game managers we should note that we are concerned not only with economic benefits but with the quality of the hunt.

(d) The problems are not simple ones of having the revenues from sale of licences put back into our budgets but are more complex and need study. We should persuade some biologists to take economics seriously and to demonstrate the values we see in good management practices.

(e) There is not only a problem of quantifying our values; we are also a long way behind in making our values known to people, particularly the people who make the decisions.

(f) The question of performance indicators raised in Tuesday's discussion is related to the problems raised in this discussion of budgeting. Probably this Conference should continue the process begun with this paper and develop more sophisticated methods of evaluating programs.

6. Provision of hunting and fishing opportunity through public ownership of land

Dr. C.H.D. Clarke made a brief summary of his paper.

In discussion the following points were made:

a) Some non-consumptive uses are made of public lands and some way should be found of getting a contribution from naturalists for maintenance of these lands.

b) The management aims in Europe are different than here. There the object is a quality hunt rather than the mass production of animals and birds. The production per unit area is poor in Europe by comparison with Canada.

7. Growth in the use of autoboggans for hunting

Mr. G.W. Malaher reviewed his paper.

Discussion revealed other problems than those identified in the paper:

(a) A dangerous situation is created by the fact that some people who are using these machines do not know how to fix them or how to dress for use of them.

(b) Some people use the autoboggans to run down game on the prairies in violation of humane rules that govern hunting. Many of these hunters also cut farm fences.

(c) Use of the autoboggans to gain access to remote areas is a benefit provided the machine is not used to run the game down.

(d) It was suggested that a regulation prohibiting shooting within 50 yards of a vehicle has been useful in Alberta with respect to automobiles and might be of use with autoboggans.

8. Report on ARDA activities

Mr. N.G. Perret presented the following report;

"In view of the short time available this morning I will not report on the progress of ARDA. I will, however, briefly cover the progress of the Canada Land Inventory.

"As you know, the Canada Land Inventory was started about three years ago but the wildlife sector did not get under way until last summer. The classification system was approved at a meeting held just prior to the 1966 Federal-Provincial Conference and the outline was mailed to all co-operators at the end of July 1966. In spite of the late start the waterfowl portion has completed 28 1:250,000-scale maps and 792 1:50,000 computer-input maps. The ungulate section began its work in the late fall and winter and has completed 4 1:250,000- and 60 1:50,000-scale maps.

"Publication of Land Capability maps is delayed because of lack of presses in the Department of Energy, Mines and Resources. However, the cartography unit is looking for outside contractors. We expect to have wildlife maps published by fall or winter."

Discussion reverted to the earlier presentation on budgeting to emphasize the importance of bringing wildlife experts into the planning of the large ARDA projects. At present these projects are being planned by economists and landscape architects and do not incorporate wildlife values.

9. Humane trapping

Dr. N. Novakowski spoke on his paper, stating that he thought those concerned with wildlife should take definitive action on humane trapping. He pointed out that the ultimate in humane traps was unlikely to ever be invented and that it was time to set limits and take action.

Discussion:

(a) Mr. Gimmer reported that the tests being conducted by the Indian Affairs Branch and the National Research Council would not be completed until Christmas. He also stated that the questionnaires required for the economic feasibility study would be redone but that it was hoped they would be ready for distribution in September.

(b) Because trapping is a bread-and-butter business for trappers (and for many trappers a marginal operation) progress in

introducing humane traps would be slow and would require subsidization, at least in the beginning. Problems of cost, portability, and effectiveness remain to be worked out and it is unlikely that the imbalance between the leg-hold and the humane trap will ever be overcome.

10. Additions to the list of birds protected under the Migratory Birds Treaty and Migratory Birds Convention Act

Dr. F.G. Cooch presented the list and outlined briefly the reasons for including these birds on the protected list.

It was agreed that the list would be checked with the Legal Adviser to the Branch.

11. Consideration of rare and endangered species

Papers on this subject were presented by Dr. N. Novakowski and Mr. B. Wright.

Discussion:

(a) Dr. Novakowski provided members of the Conference with the results of a study he had made and invited members of the Conference to discuss the problem with others in their home provinces to elicit interest and gather information on species that are now either extinct or rare. He also suggested that now that there is an international organization formed for the conservation of rare and endangered species (International Union for Conservation of Nature and Natural Resources), it would be appropriate to form a similar organization in Canada made up of interested organizations, universities, government departments, and individuals.

(b) It was suggested that animal calls be recorded on tape as a way of preserving information on species, particularly rare or endangered ones.

(c) A definition of rare or endangered species is needed, since species that may be rare in one place may not be rare in another. This problem is being worked on in both regional and national terms.

(d) Where animals, e.g. polar bear, are needed for livelihood the problem of protection is complicated. High prices for polar bear skins can lead to depletion. A quota system has been set up to protect the polar bear but it is not certain how this will work out. The barren-ground grizzly bear is also on the protected list. A unique system is being tried whereby Indians or Eskimos who kill these bears in self-defence are required to submit the skin to the authorities from whom they receive a nominal price for the hide.

(e) Dr. S.B. Smith reported that Alberta will declare the cougar a game animal under the Wildlife Act, thereby providing a measure of control.

12. Review of current developments in the U.S. Fish and Wildlife Service

Mr. Noble E. Buell of the U.S. Bureau of Sport Fisheries and Wildlife presented this review.

Mr. Buell stated that he had been most interested in the paper on budgeting because the same problem was occupying a good deal of attention in the United States. Although not much progress had been recorded so far he was hopeful that gains would be made.

Mr. Buell reviewed work being done in the United States on the problems of rare or endangered species. He reported the publication of the Red Book, a working document on over 100 species. This work was being followed up by the Division of Wildlife Research to determine the status of these species and what might be done about it. Action is carried out under a number of pieces of legislation - the Endangered Species Act, the Wetlands Holding Act, and the Agricultural Appropriations Act. The wetlands acquisition program is now in its seventh and last year and it is expected that by the end of the period 1,200,000 acres will have been acquired. It is expected that there will be about 20 million acres in wilderness areas in seven years. At present two major activities are engaging attention, the review of the wildlife refuge system and a study of the policies and practices with respect to public lands out of which he hoped a new order and consistency would emerge.

Mr. Buell mentioned three books for which the Bureau was responsible;

Waterfowl Tomorrow; Birds in Our Lives; and Fish and Fishing

13. Appointment of a delegate to the U.S. Advisory Council meetings

Mr. D. Robinson of the Fish and Game Branch, Department of Recreation and Conservation, British Columbia, was named the delegate from the Conference to the U.S. Advisory Council meetings in August 1967.

14. Wildlife Conferences - 1968 and 1969.

Dr. Munro advised the Conference that the 1968 meetings would be held in Whitehorse, Yukon Territory.

Dr. S. Smith, on behalf of the Government of Alberta, invited the Conference to hold its 1969 meetings in Alberta. On behalf of the Conference Dr. Munro thanked Dr. Smith and accepted the invitation.

Dr. C.H.D. Clarke extended a general invitation to the Conference to meet in Ontario. Dr. Munro thanked Dr. Clarke and promised to take note of the invitation.

15. Feedback form

Dr. Munro invited the members of the Conference to complete a "feedback form" designed to assist Mr. David Smith in the preparation of his report on the meetings. (See Appendix.)

RECOMMENDATIONS OF THE 31st CONFERENCE

MEMBERS OF THE COMMITTEE

Mr. E.F. Bossenmaier, Chairman
Mr. Hugo Maliepaard
Dr. Etienne Corbeil
Mr. Darrell Eagles, Secretary

RECOMMENDATION 1: that the Conference commend the Canadian Wildlife Federation for its continuing efforts to encourage teacher training in conservation subjects and for its valuable work in co-ordinating publicity on the annual theme for National Wildlife Week. It is also recommended that provincial resource departments distribute National Wildlife Week posters and classroom lessons widely, and use their good offices to encourage provincial departments of education to introduce conservation education into teacher training and into curricula. It is further recommended that the Conference endorse the suggested theme of "Wise use of Pesticides" for National Wildlife Week, 1968.

RECOMMENDATION 2: that the Minister of Indian Affairs and Northern Development obtain and circulate to the provinces legal opinion on (a) an adequate definition of "wild duck" and (b) a practical statutory provision and administrative procedure to discourage "spite baiting".

RECOMMENDATION 3: that the Minister of Indian Affairs and Northern Development seek an amendment to the Migratory Birds Convention Act to provide authority for game officers to stop and search vehicles and boats and enter private property in the performance of their duties.

RECOMMENDATION 4: that the Minister of Indian Affairs and Northern Development seek an amendment to the Migratory Birds Convention Act to authorize the various posters placed in connection with provisions to the Act.

RECOMMENDATION 5: that the Minister of Indian Affairs and Northern Development arrange for deletion of Section 12 (2) (c) of the Migratory Birds Regulations. Section 12 (2) (c) reads as follows:

- "12. (1) Subject to subsection (2), no person shall possess or transport a migratory bird unless at least one wing and the plumage thereof remains attached to the bird.

(2) The wings and plumage may be removed from a migratory game bird ...

(c) after the bird is deposited in a commercial preservation plant."

RECOMMENDATION 6: that the Conference express its appreciation to the United States Fish and Wildlife Service for making it possible to have their representatives, Mr. Noble Buell and Mr. Walter Crissey, at the 31st Federal-Provincial Wildlife Conference; Dr. Ira N. Gabrielson, President of the Wildlife Management Institute, for attending the Conference; the Department of Indian Affairs and Northern Development for its efficient handling of Conference arrangements; the R.C.M.P. for adding to the Special Migratory Birds Squad, and the individual members of the Squad for the exceptional effort they are making to enforce the Migratory Birds Convention Act and prevent violations through education of hunters; and the Honourable Arthur Laing, Minister of Indian Affairs and Northern Development, for the splendid hospitality extended to the delegates of the 31st Federal-Provincial Wildlife Conference in Ottawa.

RECOMMENDATION 7: whereas an increasing number of waterfowl management specialists are being employed by Canadian agencies concerned with the status and utilization of waterfowl, and whereas it is desirable and important that these specialists work together toward the achievement of common goals, it is therefore recommended that the Canadian Wildlife Service consult with other agencies with a view to establishing an organizational mechanism, such as a waterfowl technical committee, that will ensure full co-operation in the development, co-ordination, and evaluation of the expanding waterfowl management programs across Canada.

It was agreed to accept each of the recommendations of the Report.

REPORT TO THE FEDERAL-PROVINCIAL WILDLIFE CONFERENCE, 1967

Mr. R. Passmore
Executive Director
Canadian Wildlife Federation

When I reported to you, on behalf of the Canadian Wildlife Federation, at the Conference held last year in Quebec City, I made what could be described as a double-barrelled proposal relating to a suggested theme for National Wildlife Week in 1967 to be extended, as a separate but related undertaking, into a year-long effort to get more ecology-based conservation education into school curricula. Your meeting endorsed both of these proposals in Recommendation No. 12 adopted at the 1966 Conference.

National Wildlife Week, 1967

In keeping with your recommendation, the Canadian Wildlife Federation did adopt for the 1967 National Wildlife Week program the theme "Conservation in Canada's Second Century". In essence, materials produced for the program urged greater emphasis on ecological understanding as a means of maintaining quality of the environment through the next century of growth and development.

From the detailed summaries of orders which all of you received last February, you are already aware of the figures relating to production and distribution of materials for the 1967 National Wildlife Week program. To summarize, some 103,000 posters, of which approximately 90 per cent were distributed for use in schools, and 97,500 classroom lessons were produced. These figures constitute a substantial reduction from the approximately 130,000 posters and 120,000 classroom lessons used in 1966 but virtually all of the decrease is accounted for by reduced participation on the part of one province. As in 1966, 2,000 program leaders' kits were distributed to participating organizations and, through them, were used by the communications media and helped to stimulate local projects and programs. We have no way of obtaining accurate measurement of the coverage given to these National Wildlife Week programs by radio and television stations, but all of the somewhat sketchy information which reaches us indicates that this use is increasing annually and at a quite rapid rate. The newspaper clipping service which we use does provide us with a measurement of newspaper coverage received and, in this case, we are left to ponder the reasons for a 30 per cent drop in the number of clippings from the 1967 program compared to that of 1966. Perhaps our presentation of the subject matter was simply not sufficiently controversial to claim much space in the press.

While a large part of the effort of all of the organizations and agencies which participate in National Wildlife Week programs - effort which is expended both prior to and during the week of

April 10 - is aimed at getting a message across to the public at large, the greater part of the funds budgeted by resource departments for participation in these programs is spent on materials for distribution to school classrooms. There are some indicators of the effectiveness of this program in the schools, such as the sudden increase in inquiries from school children immediately following each annual program, but it may never be possible to get a truly objective measurement of the use and effectiveness of the program in the educational system. Even if such difficulties do, for the present, preclude a really satisfactory assessment, they should not prevent us from making sure that the program in the schools has the best possible chance of reaching students in a way which is sufficiently meaningful to warrant your investment and ours. Since the degree of use may depend very largely on the adequacy of arrangements made with or through departments of education, it does seem appropriate to seek to make the kinds of arrangements which will best serve our mutual objective. We hope to be in touch with all of you, during the next few months, to discuss ways in which our joint efforts in these programs might be made more productive and effective.

Canadian Wildlife Federation Centennial Project

The other proposal endorsed by the 1966 Federal-Provincial Wildlife Conference - the one relating to conservation education in school curricula - was, I am pleased to report, adopted as the Centennial Project of the Canadian Wildlife Federation. Furthermore, my Executive Committee, meeting early last September, instructed me to give this project top priority with respect to use of my own time and the funds available for travel. Although most of you are quite familiar with this program as it relates to your own jurisdiction, I would like to take a moment or two to summarize the over-all program and to report progress to date.

The first steps in our approach to this program involved review and appraisal of large numbers of text books which are either in use in the educational programs in one or more provinces or which, if found suitable, might be recommended for use. Secondly, we accumulated as much information as we could about the current status of conservation education and ecology in the curricula of elementary and secondary schools in each province. This assessment was greatly facilitated by a study of this very subject completed recently by biology students at Acadia University.

Armed with this rather limited information, and knowing very little about such important matters as standards of teacher training, we then ventured forth to visit each province, working in a generally west to east progression. With the exception of one province, my visits were preceded by correspondence with provincial wildlife directors and, in all but two cases, you were provided with copies of an outline whose main purpose was to state the objectives of

the program. You were also asked to help me make contact with a number of people performing various functions in the education field - and help you did. Your assistance and your encouragement have been extremely important factors in paving the way for any success which this program has achieved or will achieve in the future.

Although the itinerary had to be varied somewhat from province to province, depending upon circumstances, it was usually possible to have discussions with people involved in curriculum development and teacher training within departments of education, with chairmen of committees dealing with natural science in elementary schools and with biology in secondary schools, with heads of teacher training institutions, with chairmen of departments of biology in some of the universities involved in training teachers, with your own conservation education sections, with officers of regional chapters of the Canadian Society of Wildlife and Fishery Biologists and, of course, with the provincial affiliates of the Canadian Wildlife Federation.

These contacts in each province served to confirm some convictions which had begun to take shape during the preliminary study of text books and curricula. Dealing firstly with natural history and natural science taught in elementary schools, I am not aware of the existence of any Canadian text book or any teaching program which has the least likelihood of giving the young student any opportunity to develop the rudiments of ecological understanding or any real awareness of his relationship to his natural environment. At least two provinces have recently introduced American text books which do lend themselves to an ecological orientation but, in these cases, the teachers, like elementary teachers in all ten provinces, lack the background which would permit them to meet the challenge. There are exceptions to this deplorable state of affairs but, in every case encountered to date, these rare instances are attributable to the energy and dedication of some enlightened teacher or school board member. They occur despite the educational system, rather than because of it.

The situation in secondary schools is scarcely more encouraging. In about half of the high schools in Saskatchewan and in Nova Scotia, students following the academic stream do have an option to take biology courses based on the excellent B.S.C.S. Green Version High School Biology Text. For those in the non-academic stream, and for virtually all high school students in the other eight provinces, any exposure to the study of ecology is likely to be too brief and cursory to have the slightest chance of leaving the student with an ecological viewpoint or the attitudes which result from ecological understanding. For the sake of accuracy, it should be pointed out that the B.S.C.S. Green Version Text will be adopted in all high schools in Saskatchewan and Nova Scotia within the next two or three years. There is some chance that it may also

be adopted by seven of the other eight provinces. If it isn't, it certainly won't be for lack of encouragement by the Canadian Wildlife Federation.

However dark the present situation may appear, there are some glimmers of hope for the future. Everywhere in Canada there are signs of revolutionary forces at work within the rather staid and conservative education systems. One element of this revolution concerns teaching methods and the relationship between teacher and student. A more pertinent aspect of this revolution grows out of the "knowledge explosion" which has taken place during the twentieth century. Since it is no longer possible to teach all of the known facts relating to any subject on the curriculum, educators are now beginning to concern themselves with providing the student with an understanding of the fundamental concepts and principles of a field of study and with the ability to increase his knowledge through observation, experimentation and library research. Partly by design - and with a certain amount of luck - our approach to introducing ecology-oriented conservation education into school curricula fits the revolutionary pattern and thus finds a certain amount of favour with all but the most conservative of educators.

Besides a rather gratifying degree of official approval by departments of education in every province, this program has generated some other benefits which make the future look more hopeful. It turned out that there were, in every province, a number of individuals who are in some way connected with education or are in a position to influence educational programs who already held viewpoints completely sympathetic to the objectives of this Centennial Project. Our work has had the effect of bringing these people together and of letting them know that they are not working in complete isolation. The general effect of this preliminary round of visits to provincial capitals has been, if my impressions are correct, to kindle a number of small fires which are going to continue to smoulder and produce some smoke which will attract a certain amount of attention. It may take a good deal of fanning to produce visible flames in all cases, but the potential is certainly there.

I hope that I am giving you an accurate reflection of the aspirations of the Canadian Wildlife Federation when I tell you that this is one Centennial Project which is not likely to die with the horns and whistles and incipient hangovers of next New Year's Eve. This is undoubtedly one of the most useful and rewarding programs available to our organization. Your co-operation and encouragement have helped to get it off to a good start. We hope that we may count on your continued assistance in our future efforts to turn this project into something which will make a truly significant contribution to ecological understanding.

National Wildlife Week, 1968

It has been customary for us to initiate a certain amount of communication within the Canadian Wildlife Federation and between this organization and provincial wildlife directors, prior to this annual Conference, regarding the subject to be dealt with during the following National Wildlife Week. Perhaps the failure to communicate with you this year can be blamed on the rather large proportion of my time which has been devoted to the Centennial Project which I have just described. I have one suggestion to make and, with your permission, Mr. Chairman, I would like to ask the delegates to this Conference to make other proposals. Perhaps a brief discussion of the merits of each proposal would give the Recommendations Committee an indication of which subject warrants their recommendation.

My proposal is for the 1968 National Wildlife Week program to deal with the subject of pesticides. I suggest the program should recommend more research toward development of pesticides which are toxic over a narrow range of species and more work on biological control of pest populations which, taken together, would permit greater use of an integrated approach to control of insects and other pests. The ultimate objective would be that of eliminating the use of the broad-spectrum, highly persistent pesticides which now pollute the whole of the environment and disrupt ecosystems in all parts of the world.

THE ROLE OF THE ROYAL CANADIAN MOUNTED POLICE
IN CANADA'S NATIONAL WILDLIFE POLICY AND PROGRAM

A. Hugot
Officer in Charge
Criminal Investigation Branch
"G" Division
Royal Canadian Mounted Police

Mr. Chairman, wildlife administrators, guests - it was with mixed feelings of apprehension and pleasure that we accepted the Chairman's invitation to address this Conference on the subject of enforcement of the Migratory Birds Convention Act in Canada: apprehension because we have been criticized for our efforts in this direction in the past; pleasure because we have been afforded the opportunity of explaining to you gentlemen what we are attempting to do in this field of law enforcement.

Perhaps I should begin by briefly reviewing the evolution of game legislation and enforcement. During the 12th century, the Norman system of game preservation was introduced to England with great severity. Common people were barred from hunting in the forests and hundreds of officers were appointed to preserve wildlife. Special laws which were issued to protect game and to punish poachers were resented by the commoners who rebelled against them, particularly since the King and nobles were free to plunder the forests at will. This is the period when the famous Robin Hood bands roamed the forests of Sherwood.

These rigid laws were probably tied in with a growing scarcity of game throughout the land. Once the right to hunt and fish was relinquished to the landowner, he must have quickly seen the advantage of reserving this right for himself. Perhaps in these circumstances, we discover the background for the feeling which is sometimes expressed today that fish and game laws are passed to benefit the favoured few.

With the gradual emigration to North America by the peoples of Europe, the settlers brought with them more than a little of the resentment against fish and game laws. What is more, since there appeared to be an endless supply of game in the new world, they did not even consider conservation.

The tales of the great buffalo hunts, or perhaps slaughter is a better word, in western Canada and by our neighbours to the South, is an excellent example of the reckless abandon shown by our early settlers.

I have referred to the near-extinction of the buffalo - we were not so fortunate with the passenger pigeon which was needlessly slaughtered and has now been extinct for a considerable number of years. I understand the last pair was observed on May 18, 1902.

With the passing of the British North America Act at the time of Confederation, fisheries was made a federal responsibility, while through usage and general interpretation of Section 92 of the B.N.A. Act, game was made the responsibility of the provinces.

In 1916, however, the Migratory Birds Treaty, which recognized the need for the United States and Canada to protect our migratory birds by similar legislation, was signed in Washington.

I shall not dwell on the background leading up to the signing of this Treaty, as these facts are well known to you gentlemen gathered here today. Suffice it to say that this Treaty is now regarded by conservationists in both countries as a milestone in the history of wildlife management, as it marked the first attempt at game management on the North American continent.

In 1917 the Treaty was ratified in Canada and the Migratory Birds Convention Act was passed; the Treaty was made truly continental when it was extended to include Mexico in 1936.

After the passing of the Migratory Birds Convention Act, enforcement of its provisions was entrusted to employees of the Dominion Parks Branch, Department of the Interior. This arrangement was found rather unsatisfactory, and in September 1932, negotiations were begun between the Deputy Minister of the interior, and the Commissioner of the R.C.M.P., which culminated in the Force being given the responsibility for enforcing the provisions of the Migratory Birds Convention Act throughout Canada.

Following the transfer of responsibility by Order in Council P.C. 2283 on October 14, 1932, enforcement of the Act and Regulations was sporadic, with little consideration given to maintaining a consistent enforcement effort throughout Canada. Conditions would be allowed to deteriorate to the point at which complaints were received, and additional patrols would then be laid on to control the immediate situation.

One question which arose immediately following the transfer of responsibilities to the R.C.M.P. was: "What are the responsibilities of the federal service as opposed to the provincial wildlife agencies?" This question was answered in part by the Department of the Interior in a letter to the Commissioner of the R.C.M.P. dated December 19, 1932. Perhaps we should examine this matter carefully as this letter laid down certain guidelines which the Force has followed quite closely over the years. I quote;

"The main objective of this branch in enforcing the provisions of the Migratory Bird Treaty has been to have the provisions of the Treaty, and the Act and Regulations based upon the Treaty, made effective throughout Canada. If, as is the case in certain Western Provinces, the Provincial law is practically identical with the Dominion law, and where it is understood that officers of the Royal Canadian Mounted Police are enforcing both provincial and dominion law, I am quite prepared to leave the distribution of cases as between provincial and dominion law to the good judgement of the officers commanding in the different districts. If any special cases arise as to partition of cases between the dominion and provincial law, advice can be given if the circumstances are set forth.

"In provinces where the provincial law is practically the same as the dominion law, and where the province is maintaining its own game administration, it is probable that you will wish to continue the original understanding that the province will enforce the Treaty by enforcing its own game laws. In these provinces, however, specific complaints referred to the Royal Canadian Mounted Police will doubtless be dealt with as in the past, and international boundary cases as formerly."

This policy ruling gave rise to the present-day approach to enforcement of the Migratory Birds Convention Act by the R.C.M.P. throughout Canada. We have consistently followed the policy of co-operating with provincial game departments in enforcing this legislation and, wherever possible, encourage the provincial agency to take action under the provisions of its own legislation which, in many instances, closely parallels that of the federal Act.

A step of major significance to the Force was taken in 1960 when the Deputy Minister of Northern Affairs and National Resources reviewed the role of the Force in enforcement of this federal statute vis-a-vis the Canadian Wildlife Service. Two alternatives were suggested at that time: first, to create within the R.C.M.P. a group of members who would devote their full time to this work, or second, to incorporate such a group within the Canadian Wildlife Service.

After a series of discussions at that time, the R.C.M.P. agreed to the suggested concept of creating a special group within the Force and thus the Migratory Birds Convention Act Special Enforcement Group was born.

Our first efforts at organizing this group in the fiscal year 1961-62 proved unsuccessful. As an alternative, the R.C.M.P. agreed to provide one member for this duty to be stationed in the

Province of Quebec. This member along with our co-ordinator at R.C.M.P. Headquarters were provided a three-week course of training to prepare them for their new duties.

Another attempt was made to organize this group in the fiscal year 1962-63 and at that time five constables were approved by Treasury Board and were stationed in New Brunswick, Quebec, Ontario, and Manitoba.

These members, who were carefully selected on the basis of their aptitude and interest in this specialized duty, were assigned two main tasks; first, to travel extensively throughout their divisional areas discussing enforcement of the Act and assisting detachment members in the identification of birds and stimulating interest in enforcement; and second, to concentrate on trouble areas where their specialized knowledge could be used to the greatest advantage.

In addition, these members were instructed to maintain contact with Canadian Wildlife Service employees and, whenever time permits, assist with field work such as waterfowl census and bird banding, posting of sanctuaries, and other like duties.

An important and vital part of their work is to promote and maintain good relations with provincial game officials and to work along with them on combined operations whenever possible. Another duty of equal importance is to maintain contact with United States federal and state officials at border points with a view to effecting better co-operation in enforcement of this legislation.

These members submit a monthly report summarizing their activities and bringing to attention such matters as destruction or drainage of wetlands normally frequented by waterfowl.

As a result of the greatly improved enforcement in the provinces in which these members were stationed, we decided (perhaps with a little persuasion from the provinces) to extend this coverage by increasing the number to ten. We were successful in achieving this goal in the fiscal year 1966-67, and the ten-member Enforcement Group which we have with us today was realized in August of 1966.

I might stress here, however, that the number of our enforcement personnel is not restricted to ten - each and every detachment member in the Royal Canadian Mounted Police is an ex officio Game Officer. The Special Enforcement Group members have done, and are doing, an excellent job of promoting enforcement of this Act.

An important lesson which we have recently learned is the value of species identification. Thanks to the assistance of the Canadian Wildlife Service, we have provided specialized training

for these members in species identification, which is paying dividends. These members are now passing their knowledge on to other detachment members and through this means arousing their interest in this phase of our work.

We are currently arranging for distribution of Earl Godfrey's book Birds of Canada and Kortright's Ducks, Geese and Swans of North America to our various divisions, sub-divisions and detachments, thus providing them with yet another enforcement tool.

We have recently recognized the value of helicopters in enforcing the Act, and each year since 1965 we have been using this new enforcement technique in our major problem areas.

One problem which remains with us is that of measuring our performance in this field. I would welcome any suggestions from my fellow delegates as to how we may determine the value of a preventive patrol under the Act. What value should be placed on the apprehension of a known poacher, as opposed to the hapless soul who perhaps filled his bag with black ducks a week before he should have? Perhaps those of you who have been in this profession longer than we have can provide us with some help in this direction.

In the short period of time during which these Special Enforcement Group members have been operating, I believe we have succeeded in creating a high degree of interest within the Force and extending our co-operation and liaison with conservationists at both levels of government. I believe the favourable comments which we have received in recent months are a good indication of the success which we have achieved in this direction.

We welcome and wish to encourage the increased collaboration with the provincial game officials in every part of Canada in enforcement of the Migratory Birds Convention Act. Nothing should be permitted to stand in the way of a continuation of this close co-operation, since we firmly believe that an exclusively federal approach to this question of enforcement of the Migratory Birds Convention Act and Regulations is both undesirable and unrealistic. If we are to achieve the goal set out in the National Wildlife Policy and Program, we must approach such matters on a co-operative basis. I can assure you gentlemen that our continued participation in enforcement of this federal statute will be based on this premise.

We shall never again see the passenger pigeons blackening our skies, nor the buffalo roaming the plains in endless numbers, but thanks to the efforts of dedicated men such as yourselves, neither shall we see a return to such wanton slaughter and criminal waste of our renewable resources.

ASPECTS OF LAW ENFORCEMENT IN CANADA
- MIGRATORY BIRDS CONVENTION ACT

W.R. Miller
Canadian Wildlife Service

In an attempt to review the general enforcement level of the Migratory Birds Convention Act within the various provinces of Canada an examination of recent R.C.M.P. conviction reports on file at the Canadian Wildlife Service Head Office was undertaken. This study has emphasized that law enforcement has to be a co-operative effort by the local provincial game department, the Canadian Wildlife Service, and the R.C.M.P.

As most of you realize, our Service, under the Act, is charged with its administration and during the 1930's enforcement of the Act became a responsibility of the R.C.M.P. In addition most provinces have local "Wildlife Acts" encompassing the terms of the M.B.C. Act and as such become co-operators in enforcement. In recent years our Service policy has included appointment of biological staff of the Service as Game Officers. We have a few non-service personnel acting in this capacity on federal sanctuaries and elsewhere.

A central problem in making this co-operative effort at enforcement work is to indoctrinate biologists with enforcement principles and methods and to give police officers a broader biological background. A definite meeting of minds is necessary and the recent appointment of two Law Enforcement Co-ordinators in the Eastern Region and one in the Western Region is a proper step in this direction. A similar outgrowth of need in the law enforcement field is apparent in the reorganization of the Canadian Wildlife Service to include Regional Supervisors of Surveys and Law Enforcement. Several persons within our Service feel there is a need for a nucleus law enforcement group in the Canadian Wildlife Service. To imply such a unit would replace the provincial game offices or the role of the R.C.M.P. in M.B.C. Act enforcement is ridiculous but a group of specially trained personnel would act as a catalytic reactor resulting in closer co-operation of all parties involved. In addition to law enforcement responsibilities such a unit could also conduct the survey facets of our resource management. Canada has an obvious need for a group impartial in action, mobile in nature, that could, on short notice, be moved into a problem area on a clean-up basis. Coupled with modern wildlife enforcement tools such as radio, airboats, unmarked vehicles, helicopter surveillance, etc., a mobile squad could make a great impression on the violator accustomed in the past to flagrant abuse of his gunning privilege. This does not imply that "preventive" law enforcement is not necessary but it is my opinion that more drastic initial steps are necessary for many areas of Canada. It is appalling to me to learn that in at least one

province apprehension of a game law violator necessitates the provincial conservation officer being in full uniform to permit the laying of a charge. Provincial policy in this instance will not condone undercover activity even to the extent of the arresting officer appearing on the scene of the crime out of uniform.

Our counterpart to the south, the Bureau of Sport Fisheries and Wildlife, has at present on staff 156 game management agents and five criminal investigators (undercover operatives) assigned to 49 of the 50 states. Their organization provides supervision in the form of five regional supervisors each of whom has two assistants. One assistant is an experienced enforcement officer, the other a technically trained wildlife biologist. This, coupled with the several thousand state conservation officers, puts game law enforcement on an extremely high plane. It does not appear to me unrealistic to conceive of a 20- to 25-man unit primarily concerned with law enforcement and survey work within the Canadian Wildlife Service.

There is also a need to increase the role of the Special Squad operation within the R.C.M.P. I would visualize this group attaining a status similar to their Race Track Units with promotional opportunity as an incentive to permanency. This would entail the permanent assignment of a minimum of two or more persons on a provincial basis with the allocation of additional men depending on the need during seasonal problem periods, i.e. spring and late summer - hunting season. Provision would be necessary for bolstering of staff within the police organization to permit temporary assignment of this nature. As has been pointed out in criticism in the past, it is unsatisfactory that our problem periods always seem to coincide with priority criminal outbreak, i.e. murder, rape and safe-cracking! We even lose special squad service to guard duty priorities when political personages arrive on the scene. If my information is correct there has to date been a 100 per cent turnover of special squad members since its inception in 1961. Too often the present constable member is met with apathy and in some instances ridicule at the task ahead of him, that of selling the need for better wildlife law enforcement. It would appear to me a top-level need of our organization is to sell to the R.C.M.P. an adequate indoctrination course of basic biology and waterfowl law enforcement at the recruit training level. This might include actual instructor training for several days by personnel of the Canadian Wildlife Service or by contractual service through universities to become an incorporate part of the police training curriculum. The time is long overdue for the Canadian Wildlife Service to instruct our game officer personnel in the duties and responsibilities of this privilege. I am certain only the minority understand the procedure necessary to apprehend a game violator in the field. I believe we know even less of the chain of events necessary to culminate in a successful conviction. In this sense we are as much in need of training by the R.C.M.P. as we feel they are in need of basic biology and waterfowl identification knowledge.

In the U.S. Bureau officials are trying to sell Congress on providing funds for a National Wildlife Academy available to federal and state conservation personnel for various kinds of specialized training. It is not too difficult to imagine in the future selected personnel of conservation agencies of Canada through co-operative agreement having access to such a training opportunity south of the border. Similar specialized co-operative training is not uncommon within the armed forces.

I feel the responsibility of leadership and guidance both on the provincial level and to the R.C.M.P. rests with the Canadian Wildlife Service. We also have to sell the need for a high level of law enforcement to the public and the courts as well as to our co-workers if we ever hope to eliminate the present "wasted waterfowl filtering into the hands of the game violator. We cannot complacently sit back and argue a law enforcement problem does not exist. It is apparent to me preventive law enforcement is fine, but initially the situation needs a game officer in the marsh in plain clothes "making like a hunter".

I hope the comments offered will provoke a stimulating discussion period as I am sure there are many questions unanswered and other solutions to be offered.

CONSIDERATIONS IN BUDGETING FOR FISH AND WILDLIFE MANAGEMENT

J. Hatter, Director, Fish and Wildlife Branch,
Department of Recreation and Conservation
Province of British Columbia

The purpose of this paper is to discuss matters relating to the problems of budgeting for fish and wildlife conservation. Administrators are faced with these problems and biologists likewise are involved because their interests are often affected by the decisions that are made. As administrators, we must convey the requirements of fish and wildlife resource management to our political chiefs. It behooves us therefore to understand a few principles and to review the type of considerations that the decision-makers use in their allocation of revenue to maximize the total benefit of government spending.

The allocation of funds for fish and wildlife conservation is a function of government within the power of treasury boards to determine. The responsibility of wildlife administrators is to recommend a set of estimates which they consider necessary for operation of their organization and for carrying out functions for which they are responsible. Naturally, recommended increases in expenditures must be justified to the minister responsible who in turn must support his request before a treasury board.

It would appear to me that not all fish and wildlife administrators have the kind of information needed to convince their ministers and treasury boards that a larger appropriation of funds would produce greater social benefits. It is relatively simple for a branch or service to prepare fish and wildlife estimates but when it comes to justifying, in a meaningful way, the need for substantial budget increases, this is not so readily accomplished. It can be equally onerous to explain to those who are affected why budget submissions do not always succeed. Decisions to increase expenditures may be made to satisfy public demands for particular services without apparent economic benefits. Those of us who administer common property resources have a responsibility to try and direct expenditures in a manner that will produce the greatest public benefit for the amount spent.

We must, as a first consideration, acknowledge that in the public mind and in the eyes of politicians too, fishing and hunting are not vital to the over-all interest in comparison to such facilities and services as schools, public health and welfare, transportation, highways, and hospitals. More people are concerned with these than are seriously concerned about the benefits arising from the opportunity to shoot a duck or catch a trout. It would appear that there is a lack of public appreciation of the benefits arising from

such activities and hence as long as this situation prevails, there is not likely to be strong representation for greater investment in resources basic to hunting and fishing. When the revenue pie is cut, the larger portions will likely go to satisfy those public services for which there is the greatest need and for which people have the biggest appetite.

In economic theory, efficiency in spending government funds means allocating them among the alternative activities in such a way as to maximize the total benefit generated. In terms of economic efficiency, a particular agency should be allowed to spend more only if more public benefit will be derived by spending it in that way rather than by any other agency. To completely ignore this principle is to encourage the misallocation of public spending and to concede to special interest demands. We should try to make the sporting public more aware of the need to maximize benefits rather than being just service conscious as appears so often to be the case.

I think most conservationists accept the basic economic principles of budgeting but the doubt arises over whether or not fish and wildlife resources are being "short-changed" owing to the benefits they generate not being well understood.

I would say that the responsibility is largely ours to ascertain just what benefits fish and wildlife resources generate. It is important to find out who benefits, in what way, and by how much, particularly how much more benefit could be generated by spending more. In this respect, economists refer to the relation between marginal costs and marginal benefits as determining how much more can justifiably be spent. Economic studies are necessary if we are to obtain this type of information which is meaningful and helpful to treasury boards and government decision-makers, especially when dealing with support for and development of common property resources.

All provinces contacted agreed that economic studies are important. And by economic studies we should not think simply of expenditure surveys which comprise only a part of a meaningful approach to the value of resources. To merely say that much money is spent hunting and fishing is only part of the story.

There appears to be some confusion in our thinking about fiscal matters relating to fish and wildlife management. We frequently hear a lot about the discrepancy between investment and the social benefits arising out of the resource. When we talk about social benefits generated by fishing and hunting it behooves us to try and isolate and measure these benefits. This is necessary in order that the value of our resources becomes apparent to our citizens and as readily understandable to decision-makers as investment in education or health and welfare. When hunters and

fishermen are referred to as a minority interest there is the danger of governments assuming that the same status applies to the resource with which they are associated and this may not give the correct perspective. For these reasons also, a businesslike approach to budgeting is necessary. Total public benefits must be determined and the outcome of greater investment made apparent. This would seem to be the only effective way to dispel the puritanical notion held by some people that anything with which fun is associated is not worthy of much investment.

Unfortunately, our system of licensing hunters and fishermen does not tell us much about the value of fish and wildlife resources, i.e., what people would be prepared to pay rather than go without hunting and fishing or rather than change to some alternative recreational pursuit. It might surprise us to find out what many people would pay rather than not hunt or fish. This is one of the important factors that economists try to determine by indirect methods. At least one resource economist I know has stated that the fees we pay to hunt and fish, in relation to other types of spending, suggest to the nonparticipant that hunting and fishing are not worth very much. The amount we pay for something we want indicates its worth to us. A common error in evaluating hunting and fishing is to consider that licence revenue represents the value of the resource. Licence fees are costs, not values. The value of hunting or fishing is something in excess of what we are prepared to pay in the way of costs. If this were not so, our two dollar fishing licence would be paid for two dollars worth of value and would be like handing over a two dollar bill to somebody in exchange for two dollars.

Those who take exception to stressing the dollar in evaluating recreation refer to aesthetic values and intangible benefits which cannot be measured in this manner. The statement that these other values cannot be measured and related in economic terms or in stated benefits is, I believe, not altogether true. I further believe that we convince very few people with these subjective arguments, which at times may only indicate that we are confused or uninformed on the whole question of fish and wildlife benefits and values. Perhaps it is like being against motherhood to suggest that the term "aesthetic value" doesn't mean much. To me the aesthetic worth of something is what I am prepared to pay for it, what I am prepared to sacrifice to get it, how far I am willing to travel to enjoy it, how much time I am prepared to spend to get it, where I choose to live, the salary I am prepared to work for rather than go elsewhere and do without it, happiness, good health, and so on. These considerations can be meaningful in economic terms - they are understandable values that are the crux of common property, non-market resource evaluation. The sooner we get about the job of documenting them in more detail, the sooner we'll have something meaningful to talk about for our particular province in terms of fish and wildlife benefits.

You may have the impression that I think we haven't much going for us in our hopes to enlarge our fish and wildlife budgets. I think we have a great deal going for us but we need to be more factual and objective in the way we look at marginal costs and benefits.

Dr. Doug Clarke kindly sent me a copy of Dr. Peter Klopchic's recent report entitled "A Short Economic Evaluation of Hunting and Fishing in Ontario". To illustrate what I consider meaningful considerations to point out hunting and fishing recreational benefits I will quote from Klopchic's report:

"...it must be taken into consideration that it is becoming more and more important that government not only be aware of the increase in disposable income available to the population, but also they should be concerned about how this money is spent, and where it is spent. Disproportionate spending of disposable income in other areas could give cause to the same economic problems as defective functioning of production. For example, disposable personal income of Canadians in 1964 was 31.6 billion and less than a billion of this was spent outside of Canada. If spending outside of Canada should increase to 10 per cent of Canadian disposable income, tremendous difficulties in the balance of payments could be created, as well as in the value of the Canadian dollar, and finally, in the entire system of production.

"...hunting and fishing are an important tourist resource to the Province of Ontario. In order to attract domestic and foreign tourists, we must ensure the quality and availability of pleasant facilities for our visitors."

Klopchic goes on to say that hunting and fishing are among the top six attractions enjoyed by visitors to Ontario in all surveys carried out by the Travel Research Branch of the Department of Tourism and Information. It appears that this type of information is not available for all provinces.

In discussing the economic and tax impact of hunting and fishing in Ontario, Klopchic has this to say, "A number of economists have agreed that the economic multiplier in Ontario amounts to approximately two, therefore it can be said that the expenditure of approximately \$250 million by all anglers and hunters in Ontario in 1964 created an economic activity of \$500 million."

In referring specifically to the tax impact, the author stated that approximately 25 per cent of each hunting and fishing dollar in circulation in Ontario is paid in taxes. Accordingly, from direct and indirect taxation, Ontario obtains a tax income of at least \$25 million, and the Federal Government even more. "Obviously, it is tremendously advantageous economically that both the provincial and federal governments develop these two forms of recreation."

Modern air transportation now makes it possible for our people and our dollars to travel to all corners of the globe during the average vacation period. The people return but the dollars are lost. Drainage of national income because of tourism being deflected to other countries, both from the United States and Canada, can in large measure be avoided by effort and attention on our part to developing within our country the attractions to entertain our own people and to draw tourists from other countries.

Klopchic concludes by saying that more research is required, and this should be directed to the fields of expenditures of resident and non-resident hunters and anglers and also towards the hunting and angling habits of people involved in these activities.

Against the context of the foregoing quotations and discussion of the economic impact of hunting and fishing, it is interesting to note that almost all provincial fish and wildlife budgets are less than the direct revenue the provinces receive from licence fees. The difference between revenue and expenditure is presumably considered to be the fish and wildlife resources' contribution to other essential activities of government which are not revenue producing. In some areas, wildlife administrators must wonder about what appears to be the policy of spending less than the amount received in direct revenue for the preceding fiscal year. With such economic activity indicated by research so far conducted in Canada, one cannot help but wonder whether the argument is tenable that something less than total fish and wildlife receipts should, as a matter of policy, be allocated back to financing fish and wildlife conservation.

Straightaway, this brings us back to the question of marginal costs and marginal benefits. What benefit would be generated by spending more? I think it is only fair that we face up to this question because it is by no means true that if a \$6 million budget generates \$500 million worth of economic activity, a \$12 million budget will double this activity. It is not correct to say that we need not be concerned about marginal benefits with such an initially favourable benefit-cost ratio. The marginal benefit from some additional spending on fish and wildlife might be less than the marginal benefit from spending the same amount on some other function of the public service.

Let us now consider this question of additional costs and additional benefits. It cannot be said that we in Canada have a level of resource management that is below the standards of what we might expect of a civilized community. We are concerned, therefore, about increases in benefits brought about by additional expenditures and how we can justify the costs.

I think we have first to ask ourselves if we are maintaining our work standards in the face of increasing public demands upon our services. In other words, are we keeping up with the pace of

modern technological progress and expanding populations or are we required today to do a bigger job with more or less the same resources we had five years ago. If this is the case, I think we can justifiably ask for "more air in the life jacket to keep us afloat". I do not think you have to assess benefits against costs in this sort of situation because it is either a case of maintaining the same relative standard of performance or otherwise slipping behind. I suspect that this is the justification used for most routine budget increases for fish and wildlife management.

Public demand for additional services is also justification for expanded costs but one can expect that these demands will carry little weight if only a minority of people are concerned. Special interest demands are a common experience for government leaders and I suspect that attention given to them is proportional to the magnitude of the demands and the total benefits that can be demonstrated. Failure by a majority of persons interested in hunting and fishing to make their requests known is probably considered to reflect a satisfactory state of affairs. If enough people want something, it is generally accepted that the relation between benefits and costs is of less importance. I suspect that business enterprise in general takes much for granted and is not always familiar with the benefits to be derived from hunters and fishermen.

New programs in fish and wildlife management are the ones that are most likely to be challenged and benefit-cost principles applied. At the present time in British Columbia there is a study under way to test the hypothesis that participation in hunting is proportional to the level of hunter success enjoyed. If it can be shown that there is a significant increase in economic benefits as a result of higher densities of game, then one may be able to justify the costs of habitat improvement and development as being economically advantageous. This is an area of research that could provide justification for acquisition and development of waterfowl-production areas. It applies also to allocation of lands primarily for wildlife production in contrast to some other less beneficial but competitive type of land use.

Wildlife managers do not appear to do all they might to promote research designed to measure benefits associated with management programs. We are really missing an opportunity when we successfully introduce a new game bird or increase wildlife populations and fail to carry the research one step further into the economic field and demonstrate what the benefits are. Naturally, biologists are not economists but let us not overlook the advantages of having progress translated for us into economic benefits. Members of treasury boards are likely to be benefit-oriented rather than impressed by interesting biological progress. It is easier to justify research expenditures when there are economic implications involved in a particular project. Wildlife administrators should

consider budgeting for that final step to determine what benefits resulted from a successful program. Most often however, we are satisfied with our biological program and leave it at that. In industry, research is done to increase profits (benefits) and in our case we too ought to have research done to explore ways of increasing benefits. It is only common sense to realize that you should not spend more without benefits to justify the costs.

Another reasonable approach to the request for increasing marginal costs of wildlife conservation involves the amount of work fish and wildlife agencies are called upon to do for the non-consumer segment of our citizenry. In the course of a year, hundreds or even thousands of replies may be sent out to people in response to enquiries and other functions performed for people in general. Those who approve budgets may not always be aware of the time fish and wildlife workers spend on matters not associated simply with hunters and fishermen. Most of us could prepare a long list of the kinds of activities we deal with outside the actual management of fish and wildlife. These may range all the way from administration of zoo regulations to becoming involved with humane organizations, naturalists groups, photographers, and boat safety. In fact, fish and wildlife agencies can be a catch-all for anything dealing with the out-of-doors which isn't clearly the responsibility of some other agency. Oftentimes, these side issues conflict with the primary work function, but in the interest of public education and maintaining a good image, we try to do our best to satisfy these diverse demands. We must remember that fish and wildlife values touch upon every facet of our well-being and are not exclusively the concern of hunters and fishermen.

Numerous people have expressed the thought that fish and wildlife agencies should strive to encompass the many non-consumptive interests in wildlife conservation in order to justify a larger budget appropriation. It may well be that most of us already encompass the interests of diverse outdoor groups. It is difficult to determine the real value of this type of public relations and I suppose it is best referred to as an educational service which carries benefits in terms of public satisfaction and attitude toward government and the people who represent it. We must, however, watch this non-consumptive overload on our services because it has the potential to grow more rapidly than the demands of the consumptive users. Marginal cost and benefit determinations are difficult to make and it may therefore be difficult to convince the government that we have a case for additional services to handle the overload. We must, however, try to make the decision-makers aware of the job we do for the public at large.

In a paper "Elements of a Wildlife Policy" presented to the 1961 Resources for Tomorrow Conference, W.W. Mair proposed firstly that all matters relating to the general non-consumptive interest

in wildlife should be financed from general revenue. Secondly, programs to provide harvestable surpluses of wildlife should be financed through taxes upon special users and upon persons benefiting directly therefrom, all such tax revenues to be dedicated to fish and wildlife purposes.

A sound argument in terms of increased benefits to our provinces from effective fish and wildlife management is the need to keep pace with the success of government at all levels, numerous other agencies, and tourist bureaux in their bid to expand the non-resident tourist trade. As Klopchic pointed out, this is a lucrative business. Economic surveys are needed to find out more about the hunting and fishing habits and the priorities tourists put on this type of recreation. Our requests for further budget consideration must be accompanied by well-conceived proposals to show how certain activities or capital investments will be rewarding in terms of marginal costs and benefits. We need to know more about the tourist impact at the local level as well as province-wide. What, for example, are the benefits from rehabilitating a formerly barren or unproductive lake? What did this mean to tourist resorts, boat rentals, retail sales, and so on? I think we expect government to do a lot of guesswork if we merely ask for additional funds for another fish hatchery, for expensive toxicants to rehabilitate large lakes, for increased services to keep pace with the tourist demands upon fish and wildlife populations, and for resolving the conflicts that will ultimately arise between residents and non-residents for their share of resources which are in fixed supply.

Fish and wildlife populations represent an important resource base upon which tourist promotion can be expanded. We must ask ourselves if we are appealing to non-resident anglers and hunters with low licence fees in order to attract foreign dollars to our province. If so, we have a case for more support to take care of the required management, providing we can quantify the benefits.

On this question of need for additional expenditures for management, we should avoid being too general in terms of the benefits we expect. The need for more money should, if possible, be related to the particular benefits expected. Of course, in the itemized estimates we prepare this is taken care of but, the point is, we should be specific about our requests and relate them to benefits expected, even if our evaluation can only be a subjective one. I am sure most wildlife administrators do this at the present time. Do we, however, make an attempt later to verify factually our initial subjective evaluation of anticipated benefits in order to justify continued expenditures?

Much of the problem of having to justify additional expenditures before a treasury board would not exist if fish and wildlife budgets about equalled or exceeded direct revenue as they do in at

least three Canadian provinces and in most states where there are good conservation programs. Priorities would then be at ministerial discretion but it would not absolve wildlife administrators of having to consider marginal costs and benefits.

The case for a budget increase when required may be summarized as follows:

- (1) Hunting and fishing licences cost so little in most instances that the revenue they provide is only a small fraction of the economic activity generated by hunters and fishermen.
- (2) Direct revenue comes entirely from the consumer class, the hunters and fishermen.
- (3) The non-consumptive user makes no direct contribution to fish and wildlife conservation and yet he benefits from the resource and contributes to general revenue in various ways as a result of good resource management.
- (4) Fish and wildlife agencies provide public services not directly related to the resources they represent.
- (5) Increased budgets are a way of recognizing the responsibility of the non-consumptive public, as co-owners of the resource, to contribute a share to resource management rather than expect benefits unrelated to fish and wildlife to be provided to them by user fees paid by hunters and fishermen.
- (6) Wildlife resources must be managed for the long-run benefit they can produce. Short-run costs ought to be related to long-run benefits. An example here is the initial cost of land acquisition, habitat development, and other capital expenditures weighed against the long-term benefits provided.
- (7) Sportsmen generally oppose increases in licence fees unless the fish and wildlife budget equals licence revenue. It is difficult for a management agency to convince sportsmen that they ought to contribute more in licence revenue when they cannot anticipate commensurate expenditures and benefits resulting from the additional costs. This is where the American system of fish and wildlife budgeting on a "pay as you go basis" appears superior in some ways to the Canadian method. Not until budget exceeds revenue can it be said that wildlife interests are being subsidized by the taxpayer. Even then, it may be a sound investment in the public interest.

Let us now look at further justification for budgets in excess of revenue, in addition to what has been previously stated.

- (1) The marginal benefit created by a given increase in marginal costs may well show the most favourable ratio when compared to other spending alternatives.
- (2) When direct consumer revenue is equal to or less than expenditures it can be argued that the non-consumptive owner of the fish and wildlife resource is not shouldering a responsibility for conservation of the resource.

In order to round out these considerations let us review the arguments that are advanced to support the usual situation we find in Canada, i.e., budget expenditures less than direct revenue.

- (1) The usual argument is that all natural resources should contribute to public benefits and since the fish and wildlife resource belongs as much to the non-consumer as it does to the consumer, at least part of the resource benefits should go to services that benefit those not interested in hunting and fishing. This does not constitute a subsidy but simply means that the owners (the public via the government) are getting a return on their property. The argument this raises, however, is that this non-consumer segment of the public ought to be contributing in an acknowledged manner to the care of their property.
- (2) Another implication is that it is unwise to spend more because hunting and fishing do not involve a majority activity. It seems to me, however, that this statement is not economically valid if we consider the social benefits that might be generated by a larger investment resulting in a favourable cost-benefit ratio from well-planned expenditures.
- (3) The thought that owing to our vast fish and wildlife resources and low population level we, in Canada, can afford to concentrate simply on exploitation is open to serious doubt in many areas. Admittedly, there is a favourable supply-demand ratio in much of our country with under-use prevalent in our remote or lightly populated areas. But, once again, economic common sense tells us that it is not in these areas that greater investment is needed. The whole purpose of increased investment in some form of fish and wildlife activity should be to increase public benefits both in the short and long run. Any wildlife administrator could probably come up with examples of how more money could be spent to advantage in areas where real benefits could be demonstrated in a matter of time.

If expenditures are made with close attention to benefits, fish and wildlife budgets should not be confined to any particular level in relation to direct revenue. We have noted the tremendous disparity between direct investment and economic activity generated in the case of Ontario with a budget of about six million and economic activity estimated at \$500 million. It would be helpful to know what this ratio is for the other provinces. Such information is useful to the decision-makers at budget time.

I think we need to give more consideration to what we charge the consumer to hunt and fish. The present low cost for hunting and fishing licences does not appear to have been arrived at in any deliberate manner. One justification for low licence fees is a highly favourable demand-supply ratio, because in economic logic, if game resources are going to waste, the price we charge should be negligible. I doubt, however, if this is the purpose behind most of our low licence fees. Perhaps the most important fact to keep in mind is that for those provinces in which economic studies have been made, the direct provincial income from the fish and wildlife resource is but a small fraction of the economic activity generated by the resource. Income from hunting and fishing licences is not a realistic measure of the value of fish and wildlife any more than direct income from tourism is a measure of the importance of this industry to the economy of a province. The small amount of economic evaluation of fish and wildlife in the various provinces, combined with the fact that direct revenue is an inadequate statistic for evaluation, means that for the most part provincial fish and wildlife budgets are not based on a factual understanding of benefits in relation to expenditures. From this one can only conclude that the decision-makers are severely handicapped in not having the information they should be supplied.

In the attached table, a few comparisons of revenue and budgets in the various provinces are shown. This information was summarized from the questionnaire sent to each provincial director. It will not be my purpose to interpret or suggest the significance of these data. To do so would require a much more detailed study of provincial operations.

Some general comments, however, may be of interest. There is a wide range of increase in direct revenue in the various provinces and an equally wide range in budget increases over the past ten years. The largest budget increase over direct revenue is shown for Nova Scotia. Ontario and Alberta's percentage budget increase has doubled over revenue increase in the ten-year period 1956 to 1965. In British Columbia, on the other hand, budget has increased at about the same rate as revenue. Significant budget increases are shown for Quebec, Prince Edward Island, Manitoba, and New Brunswick. Care should be taken in attaching immediate significance to these comparisons however, because one must take into consideration the level of management, population density, numbers of hunters and fishermen, and other factors in the period prior to 1956.

Revenue derived from non-residents has increased in most provinces. Ontario shows the greatest percentage contribution from non-residents to direct revenue, followed by British Columbia. These two provinces are well ahead of the others in this respect. In the case of Ontario we must attribute a large part of the non-resident percentage to the fact that Ontario does not have a resident angler's licence.

By way of summary, attention is drawn to the following points which I believe are worthy of our understanding and appreciation.

- (1) It is important that we give close attention to marginal benefits when requesting larger appropriations for fish and wildlife management in view of the common property aspect of fish and wildlife resources and the minority participation in hunting and fishing.
- (2) Greater attention should be directed towards research on what we term intangible and aesthetic values in order to develop a more meaningful understanding of social benefits.
- (3) We need to develop within our respective provinces the attractions to entertain our own people and to draw tourists from outside in order to reduce spending of disposable income in other areas.
- (4) In contrast to the U.S. system of fish and wildlife budgeting, Canadian policy appears to be one of contributing to general public expenditure out of direct receipts from the hunting and fishing public, mainly from licensing. Direct revenue is not a measure of the value of fish and wildlife resources as it represents only costs sustained by the consumers.
- (5) There is a need to translate fish and wildlife management progress into economic benefits so that marginal costs and marginal benefits can be evaluated.
- (6) If expenditures are made with close attention to economic benefits there is less need to confine fish and wildlife budgets to any particular level in relation to direct income.
- (7) Economic research, as a means of planning expenditures, should become an integral part of fish and wildlife management programming.

In conclusion, may I express my appreciation for the co-operation received from those of you present in undertaking this cursory examination of matters relating to fish and wildlife budgeting.

Prov.	Total Anglers, 000'S '65	Total Hunters, 000'S '65	Fish & Wldl. Direct Rev. 000'S '65	% Rev. Non-Res. '56 '65	% Rev. Incr. '56-'65	Fish & Wldl. Bud. 000'S		% Bud. Incr. '56-'65	Pop., 000'S	Pop./Sq. mi.	Prov. Econ. Studies	Est. % who Hunt and Fish (All Age Classes)	Need for Econ. Res.
N.S.	70	72	491	13 12	34	56	201	258	759	37	yes	25	yes
P.E.I.	10	4	31	32 19	17	42	60	42	108	49	yes	15	yes
Nfld.-Lab.	15	40	365	7 9	135	186	272	46	503	4	no	12	yes
Ont.	2,000*	500	5,592	97 68	40	2,994	5,385	80	6,868	20	yes	20	yes
Que.***	412	345	2,418	11 23	84	1,849	4,145	124	5,733	11	no	--	yes
Man.	98	78	710	17 21	17	242	378	56	959	5	no	10 (fish)	yes
Alta.	123	120	1,595	5 5	115	450	1,092	142	1,459	6	no	11	yes
N.B.	61	78	790	35 23	60	54	122	125	626	23	no	13	yes
B.C.	231	140	2,000	25 56	68	912	1,500	63	1,850	5	yes	20*	yes
Eng.									41,000	818			
U.S.A.									178,000	49			

*Estimate. **Excluding leases. ***Data approximately comparable.

A PLACE TO HUNT

C.H.D. Clarke
Chief, Fish and Wildlife Branch
Department of Lands and Forests
Province of Ontario

Abstract

Control of land is the first requisite for public hunting as well as for a resource management program. On Crown lands there is no problem, if recognition is given to wildlife in the forestry program and if funds are available. Unfortunately most hunting in Ontario takes place in the southern part of the province, where lands, including marshes, have been alienated, and unlimited access to private lands no longer exists. Schemes to prolong public access are described, but the relief of congestion depends on acquisition and management of public hunting lands. Demand for these is created by the success of management on lands available in parks, through highway acquisition, and similar sources. In the long run it is recognized that most public hunting will always have to take place on private lands. The best inducement to co-operation by the land-owner is a feeling of security and protection. Individual farms are generally not capable of being managed in a way that would bring income from wildlife. The management of larger farm acreages under a European-style revier system is foreseen for the future.

Most of the land in the province is in the Crown, land on which the hunter walks with all the pride and assurance of ownership, and on which the game manager can carry out any program compatible with an official land-use policy oriented towards forestry, and for which he can get funds. We have been fairly successful there, a combination of good luck and good management. We have no reason to fear for the future, because, although they are still out of sight of it, foresters profess devotion to a goal of maximum sustained production of fibre, and this kind of forest is going to be reasonably productive of wildlife.

The only catch is that the great majority of hunters both live in and hunt in that portion of the province that is almost entirely in private ownership. Their hunting activities on private lands have caused a number of crises, spasmodic, each associated with a stage in recreational history, each different from its predecessor, often leading to some action.

One of the first things that happened was that very fine marshes were alienated. Even before Confederation people were making hunting trips to Lake St. Clair and Long Point Bay, and the alienation was far advanced by the turn of the century. So long as

there was plenty of room for everybody in Ashbridge's marsh in Toronto harbour, nobody worried about Long Point Bay. However, the province did retain control of the marshes of three provincial parks on the shores of Lakes Erie and Ontario, Rondeau, Long Point, and Presqu'isle. Controlled public hunting, with active management procedures, is recent. The original intent was just to perpetuate public access and the interesting point is that special permission was deemed necessary very early. Incidentally, when the Dominion Government made the federal admiralty lands on Point Pelee into a national park, the inclusion of the marsh was approved on the condition that public hunting be continued on a basis similar to that in the three provincial parks I have mentioned.

I suppose that the next stage came in the 1930's when hunting pressures became obvious in certain areas where that superb bird, the ring-necked pheasant, had become abundant. The essential ingredients of its abundance are land that is 80 per cent in field crops and a total snowfall under 60 inches. There is only a small area in Ontario meeting these requirements, and it is all close to large centres of population.

Traditionally, farmers accepted hunting on their land, and the real old-time Ontario farmer still feels embarrassed about objecting to it. When I hunted assiduously in my youth, the farmers who saw me cross the back 40 knew who I was. There were no hunters from distant centres. When, later, these first appeared, they aroused interest, but no hostility. If they had behaved themselves, one and all, one might think that there would never have been hostility. However, not all bad deportment is founded on conscious misbehaviour. Some of it is ignorance; these people just did not know anything about farms, farm animals, farm crops, and, especially, farm people and their very real interest in wildlife. Resentment of trespass had some basis in a fear of property damage, but the facts go to show that a good portion of it was based on a fear that the game was being pounded too hard, and the farmer and his family and friends, who never got in an automobile and drove miles for hunting, were not going to have game to hunt.

The proof that this was actually what was in their minds is to be found in the measures that were agreed to in the pheasant country. As a result of meetings held there, the old Department of Game and Fisheries authorized a number of townships to issue and charge fees for special permits - licences - to hunt pheasants and rabbits in the township area. The township was expected to make a certain number of licences available for the pheasant season, and an additional number thereafter, and a licence holder could hunt anywhere in the country once the pheasant season was over. The farmer in his turn - and mark this well - accepted that the hunters so licensed should be free to enter most of the farms in the township. All he asked in return was a few pheasants for release.

Now, our biologists know that nobody has ever succeeded in controlling a rabbit population by hunting pressure though the farmer can tell them that the first of 20 surplus rabbits is a lot easier to bag than the 20th. Also, the release of a few pheasants can never compensate for the lack of natural propagation. We hesitate to question the farmer's beliefs because for a few cents worth of pheasants per acre we have a system that keeps three-quarters of the farms in the densely populated area of Ontario open for public hunting, something not lightly to be cast aside.

Mutatis mutandis, as the lawyers say, the system still operates, and it still works. It is we who are aware of its deficiencies, not the farmer. It became established at a very low level of hunting pressure. The average for farms for the whole of northeastern United States is several times as great. We are painfully conscious of the fact that, because of urban encroachment, there are actually fewer hunters accommodated in important areas than in 1946, though the grand total of hunters has gone up several times.

The selection process for these few hunters in pheasant townships is discriminatory, but at that it is not as discriminatory as compulsory farmer consent, a measure often recommended, concerning which I have real misgivings. It works better on a large western farm where the birds are doing damage anyway and the place is big enough that you can hunt all day and never leave, than on small Ontario farms. You may kill your Ontario hare five farms from where you started him, and you don't know in advance in which direction it will be. Michigan once put the consent business to the test and found that one member of their staff could hunt on any farm in Michigan; he had the knack. Others were like me. We don't necessarily rub people the wrong way, but we are just easy to say no to. As for little friend Luigi, the construction worker, big Stan Kowalski from the steel mill, and that fellow with the southern accent and the dark complexion to go with it, let's be frank about it. They were just lost.

Please note that at this stage we are aware of the problem, the landowner is not, and the hunter only vaguely so. We know from the experience of many states that the pressure is relieved by accessible public hunting. This generally means that a department that already owns most of the land in the province has to go out and buy more. You may wait a long time before the inertia against such a program is overcome. We had a chance to state the case for capital expenditure in the interest of public hunting and fishing as long ago as a 1954 White Paper. There were two things that probably helped in incorporating these activities in a development program. One was the fact that we were not alone. The same problem existed in parks in Ontario, and it existed in the United States, where some of the solutions had already been successfully applied, with publicity that had reached us. The other was that we already had some pieces of land on which we could set up simple management procedures.

One case in point was the Luther Marsh, which we did not own but were free to manage. This impoundment was created for water control in 1952 by the Grand River Commission, on lands owned by them, or over which they had easement. Ducks went there right away. Previously the one place that was open to throngs of duck hunters near Toronto was Holland Marsh, on Lake Simcoe. Holland Marsh is all privately owned, and although hunting is unrestricted, management is out of the question. Every part of the marsh is pounded on opening day with the result that the ducks go away, sometimes within the first hour, and never come back. In the Luther Marsh the same thing was happening but we were able to act as agents of the owners and maintain a good control over access, so that such things as a noon opening can be enforced. We could also, which was most important, set up a large sanctuary, so that there may be 5,000 ducks until freeze-up, and much larger numbers earlier, all because of the sanctuary.

We rapidly extended the sanctuary holding-area principle to park marshes where we had a permit system, and added to it a system of pay blinds. The ideal system, which cannot be followed everywhere, is to have a sanctuary, a controlled area where blinds are rented, and an open area where Cox's army can go and bang away at sputniks. Personally, I should like to see other controls. Two boxes of shells, or ten per duck, should be enough for anyone in a blind, and No. 2 shot is too big - it simply encourages shooting at birds that are too far away. I admire those private marshes that allow a man one box of No. 8, though I would settle personally for No. 6, and would probably have to give in to No. 4.

You must have authority enough to do what you need to do. As I said, the Holland Marsh is private land. We have no means of preventing a hunter from entering the night before so long as his gun is encased. On one famous occasion when a bright moon broke through at two o'clock in the morning the shoot was over for the season before the season had started, in spite of the fact that we had the place well bracketed with officers. That was in the pre-ethnic days, when the native-born hunter went in the night before, with plenty of ammunition and high-calorie fluids. Nowadays Luigi has taken over. He is sober enough, but makes up for that in trigger-happiness. I can add, though, that immigrant hunters of all groups are rapidly becoming assimilated, and every year behave more and more like our own - rejoice at that, if you can!

Seriously, though, in any public hunting, whoever the people may be, some of your pearls are bound to be cast before swine, and you will have your work cut out for you to prevent everyone from suffering. What a day it would be if even the small per cent of hunters who belong to our clubs absolutely refused to tolerate swinishness!

Blinds were not instituted in the Luther Marsh. Almost immediately the opening day on this marsh drew over 1,000 hunters, and it has drawn 2,000. After the opening, in which the average hunter gets one duck or less, the whole thing simmers down to a few faithful duck hunters and close control on a marsh of that size may not be required. Admittedly 2,000 hunters on opening day on one marsh is not hunting, but there they are, a bunch of poor devils with nowhere else to go, and they point up the whole problem. We have places where the problem is dramatized, and we have places where the solution is also plain to see. The whole thing adds up to the acquisition of areas for public hunting. Our recreational land acquisition program features parks, and public hunting is lower on the priority list, but it is there and land is being acquired.

The public is a Johnny-come-lately in this business of duck shooting. Some good marshes in southern Ontario now go for anywhere from \$500 to \$1,000 an acre. Some are artificial, maintained by pumping and dyking on land that is worth that much as cropland. We hope that the pressure will get strong enough that one day we will buy a first-class marsh. In the meantime we get our best chances in the form of derelict marshes for rehabilitation or making new marshes by impounding. Each success makes the next one easier. You get the same sort of picture with fishing. We have converted one derelict fish hatchery and an old mill pond into public trout ponds, and here again the throng of people, especially youngsters, that converge on any place where there actually might be a fish to catch and, more important, where they know they won't be kicked off, should be seen from time to time by all of us, just so that we can get straightened out on our priorities. It doesn't have to be trout either. One of the prize press photographs of the century, so far as I am concerned, showed the face of a boy who had hooked a large channel catfish in one of these places. I am waiting for the day when someone builds a Florida-style fishermen's pier on one of our better warm-water lakes, because I am sure that it will just take one to get things started. I am also waiting for the day when outdoor press agencies take a second look at the high-priced writers who freeloader on tourist lodges all the way from Mozambique to Coronation Gulf and, instead, feature stories about the places where somebody has done something about hunting and fishing for the ordinary Joe, who somehow or other never made his million, but still has a car, and would hunt and fish if he only knew where to go. A few good stories about what is being done for people like himself somewhere else might give him ideas. The big trout of Patagonia are beyond him even if he envies the freeloader.

There is also upland hunting. I have had superlative upland game hunting on enormous tracts of public game land in Pennsylvania within easy drive of Toronto. Our plans for similar facilities move even more slowly than with marshlands. In the meantime, the areas we have available are small and the pressures on us have led to the adoption of put-and-take pheasant shooting with or

without a special fee. Intensive use with a special fee is applied where staff is available to man the operation, or where a sufficiently significant operation can be mounted to justify manning. The idea of a put-and-take pheasant shoot is borrowed from licensed shooting preserves but for a \$5 daily fee neither the privacy nor the assurance of success to be found in a shooting preserve can be provided. In spite of that there is still something of an appeal to the type who wants fish in a barrel, and this must be avoided at all costs. The Criminal Code stands between us and duck towers and tossed pheasants, but our obligation goes a lot further and it requires real skill to maintain the quality of any hunting based on released birds.

The obvious manned areas for pheasant shooting were provincial parks, and four out of five of our manned areas are parks. This horrifies those to whom a park is some kind of place on which a magic protective spell has been cast. Recreational parks do not fit this image and I will simply say that, within the land-use classification recently established for our parks, we would never set up hunting where nature preserve values would be affected. Properly managed hunting should never impair, or be allowed to impair, values related to nature. The management process should enhance them, though in most nature preserves I think it is the management that is suspect, not the hunting. Hunters do not mind seeing management directed towards nature preservation where this is important.

Parks we have had ready to hand. In addition, we have picked up a couple of former air fields and an ex-bombing and gunnery range. The latter is on a good basic wildlife soil and work is being done on it to improve access, which it needs, and to create a number of potholes. Airfields are on good agricultural soils and one will be farmed as a demonstration of methods of increasing the game species dependent on croplands. Other areas were acquired from the Department of Highways which had picked them up in the course of construction. Such lands become available to us when they are of minimum economic value. In an encouraging number of cases, however, the lands are really quite productive, but simply not suited to agriculture. The wildlife values can be quite high. Sometimes they really are derelict lands, in which case we can test plantings and procedures of various kinds to see just what can be done. There is no land form or soil type in Ontario so barren as to be devoid of wildlife or completely unable to furnish recreation.

Finally, we have the land acquisition program in which we deliberately set out to obtain a useful piece of land. So far we have concentrated on marshes or potential marshes. What else should we look for?

First of all there are two types of soils that are very rich, but for mechanical reasons cannot be put in crops. One is a very shallow soil on impervious rock, which holds water in depressions. The other is a water-deposited mixture of sand and rich organic mud,

known by the German name "glei," which means mud. Usually there is an organic top-dressing which soon disappears on cultivation. In fact, you can end up with wet sand. Usually these soils are quite wet and they often have stones in them. Both soil types are rich, yet commonly they are derelict. They can often be grazed, and a reasonable amount of grazing is desirable for deer, grouse, woodcock, rabbits, and even snipe and ducks. I would go with the Pennsylvania formula of 30 cow-days per acre per year. I have tried hard and I do not believe that I have ever succeeded in getting across to any agriculturalist, farmer or academic, the idea that agriculture fits into a wildlife management program, let alone vice versa. As for foresters, in my time in forestry school the word wildlife was not mentioned, but somewhere along the line they seem to have been taught that the forest is the place for wildlife, anyone who plants a tree is doing something good for wildlife, cows are bad for the forest, ergo bad for wildlife. Being associated with foresters rather closely I have tried persuasion, argument, ridicule, to no avail. The fact is that the richest wildlife areas are where field and forest are interspersed, and you find most of your wildlife out in the open. I, for my part, am not even convinced that cows are all that bad for the forest. Of course you can overdo it, but you can also overdo tree planting. Sometimes, however, the foresters cut trees, and that, most of the time, is very good for wildlife. Forest game, as strictly defined, furnishes far less recreation per unit area than do the species of wetlands, open, and semi-open country.

There are other land types that can be looked at for wildlife, but it shrinks in importance in them. Ideally, all publicly owned lands in such a densely populated area as southern Ontario are too important and too valuable for single-use management. I have cited the gleisols and Farmington soils with their rich nutrients and water regimes of extremes that are bad for farming but quite acceptable for wildlife, principally because when they are available they are first class for wildlife, and the claims of other users are weak by comparison. There are, however, other areas which might come into public ownership for other reasons, on which wildlife values, including public hunting, could be realized.

Experience has shown that a major obstacle to the expansion of publicly owned game lands is the fact that provincially owned lands have heretofore been tax-exempt. Municipalities with big swamps or derelict lands are the very ones that have trouble already getting enough revenue to maintain services. It is argued that an influx of recreationists creates income and raises property values. It is also said that they bring in even their sandwiches and pop, and fill the gas tank back where they turned off the main highway, whereas the sideroad takes increased pounding at times of the year when it is inclined to be a bit shaky, all the while the hunting area remains tax free. This is one matter that will have to be settled. I note that the Canadian Wildlife Service promises grants in lieu of taxes. Our corporate Conservation Authorities pay taxes. They also seem to find it easy to get land. All they need is a

wildlife management program. Some - and only some - seem to think that wildlife management consists of putting up "No Hunting" signs on areas that were once derelict and therefore open to hunting, thereby forcing the hunters back to the remaining private lands.

This all brings us to the fact that even in Pennsylvania and Michigan, with their extensive public game lands, or Wisconsin, with its tremendous recreational land acquisition program, the bulk of public hunting in the end has to take place on private lands. How do you institute the necessary management procedures to realize the values relating to wildlife, including public hunting, on private lands? Fundamentally, anything short of a formal management agreement with the owner is merely marking time. I have described how we, in the township licensing system, have catered to some erroneous but generally held ideas as part of a plan to keep game lands open. The action of the township is not binding on the individual owner and we find that within the urban shadow the system breaks down as farms come into the possession of people who do not make their living out of farming. There is quite a variety of "co-operative plans" so called, in the states, but, unless I am greatly mistaken, they have a tendency to run down and it is very hard indeed to wind them up again and get them going on the same course, if indeed, that is the course you want. Michigan (I can't give a citation because my impressions are gained from going to their meetings) years ago had a program of free hand-outs of materials for planting in return for public hunting. On a check of the areas they found that the ratio of farms in the scheme open to hunters was much the same as for farms outside the scheme. They also thought that the plantations had done some good to wildlife, but admitted that this was an impression based on individual cases rather than a fact demonstrable by actual game inventories. Certainly the cost was out of proportion to the good. They found out, incidentally, that what an owner said he would do about public hunting in advance of the season was not necessarily consistent with what he did when the chips were down. A great many of the "noes" broke down, especially if their petitioner had the "knack", while quite a few "yesses", especially if confronted with an old sourpuss like some of us here, changed their minds. I have been interested also in the control over participation in hunting by the accredited communal hunting societies in France, and similar communal or industrial groups in Russia, but would like to see them sampled by someone who had the feel of things over here. I couldn't help noticing, however, that Mr. Lee Harvey Oswald had no trouble getting a gun and signing up with his shop group in Minsk, a wonderful place to hunt.

The beauty of an individual management agreement with a private or corporate owner is that it is specific and binding. For that reason it may be hard to get. We have had legal provision for such a program in Ontario for years but we have not had the push behind

it to get it off the ground. We had, in fact, no formal agreement even with the corporate owners of the Luther Marsh, but all signs point to fish and wildlife management agreements with private and corporate owners as the next development, soon to come.

There have been several offers by owners to turn over property to us to manage wildlife, but all of them were obsessed with the sanctuary idea. I suggest that all of us should be prepared to operate a sanctuary when, and as long as, a public interest related to conservation is involved, but as public servants we have no mandate to operate in a purely private and personal interest. The desire of an owner to prevent me from hunting rabbits on his property is unlikely to have any relation to conservation. If he wants to cast this sort of spell around his place he should have powerful enough medicine to make it work himself. I see that the Canadian Wildlife Service is inviting such benefactions.

Likewise, we should be cautious about encouraging private or corporate owners in the hope of monetary gain from wildlife. A licensed shooting preserve for profit, yes, but there is certainly a limit to the number of farms that can be made into pheasant-shooting preserves. A suitable Ontario duck marsh in private ownership is certain to be operated for private duck hunting already, if it can be so operated. As for the rest of private lands, there is very little on any one of them worth paying for.

I can think of a typical farm near Toronto on which I had, over the years, about 60 days of hunting. The total kill for me was about ten rabbits, a half dozen raccoons, and a fox, though additional rabbits and foxes were killed by others on chases in which my hounds were involved. The whole association started when the farmer had \$200 worth of chickens smothered when a raccoon got in his buildings one night, and I happened to meet him soon after. He was hardly likely to protect coons. If he tried to charge me for hunting them, I could go somewhere else. As for foxes, thanks to rabies farmers are even afraid of them. A couple of rabbits a year, taken only because they were on chases? If I really want a rabbit for the larder there is a corn-fed population in my back yard, and rabbits are a nuisance to farm fruit trees. The only earthly reason for me to pay him a dollar would be for the security of parking in his yard. Ten or twelve dollars a year would have been nothing to the economy of that farm, I can tell you. I know that foresters try to sell reforestation to private owners as a business venture, but the owner becomes disillusioned when he comes to deal with the income tax. This may encourage him to turn the operation over to the government. You hear people say that there has to be something in it for the farmer, but there has to be something in it for the hunter too, and I can give you my view that wildlife management restricted to infertile soil is not going to make money for anybody.

In wildlife management we may ask ourselves what could induce a landowner to co-operate after you have been honest with him about his chances of making money. Most acceptable is protection, the assurance that damages will be made good and that he can summon officers whom he knows and who know him simply by making a collect telephone call. The public has a real interest in protecting any farmer who permits public recreation on his farm, and so we tell our officers, whereas the one who denies it is enforcing a private interest, and should do so himself, but you have heard the story about the squeaking wheel.

It has been maintained that compulsory liability insurance would be a protection for property owners. For the hunter - yes! Beyond the shadow of a doubt it is a very prudent thing for hunters to obtain liability coverage, and the very cheap club rates offered by our game and fish associations are surely an excellent inducement to membership. At the same time I would like to suggest that the reason for compulsion would have to be certainty of protection to the person sustaining injury. How this would come about is a little obscure. There is very little personal injury to property owners. Hunters shoot each other, not property owners, fortunately for the future of hunting. Property damage is usually discovered when the hunter is long gone. I doubt if many farmers would consider themselves protected if they had to confront the hunter, prove his responsibility, possibly in court, and deal with an insurance company. The nice little conventions and precedents that govern the adjustment of motor accidents are not going to be there to help and, besides, I have heard their efficacy questioned.

There have been other suggestions and you may as well have the benefit of them. It has been suggested that an agency might be set up or contracted that would automatically assume all the costs of injury or damage inflicted by hunters, and then, where the hunter was identified, attempt to recoup its funds from him. I understand that in France, which has two million hunters, or more than half as many per capita as Ontario, there is some sort of automobile fund that has been extended to cover hunting accidents. I do not know how it works. Maybe the Canadian Wildlife Service, which announces that it is taking responsibility for research of benefit to all of us, could send someone with time on his hands, like Ernie Paynter, over to Paris to find out.

One result of such a provision would certainly be more civil actions in hunting injury and damage cases than we have now! There is obvious responsibility in most of them, but few ever collect damages. We have always attributed this to the fact that most injuries are inflicted by members of the same party, often close relatives. We have also found it hard to lay criminal charges for property damage. On one occasion our own officer was a witness and identity was fully established. The officer drove the farmer to the "beak" in order to lay charges but when the chips were down the farmer would not

get out of the car. He said he did not like going to court and, besides, the men in question were properly frightened and would never come back. Of course he was right, but we dearly wanted the publicity of the case. A farmer to whom I spoke of it said, "You know, a farmer is like a groundhog. He pops his head up, and if he thinks anybody is looking at him, he goes back in his hole!" He does not want to have to change his habits in order to be protected.

Another suggestion is to fit hunter liability into the framework of compensation laws but, as nearly as I can understand, the basis of existing compensation law rules this out. Farmers in Ontario are already eligible for compensation for damages done to livestock and farm machinery by hunters, through special legislation administered by the Department of Agriculture. The cost to the province is in the order of \$15,000 a year, hardly enough to justify a special charge to hunters.

A thing for which some states, but no provinces, have special legislation is to exempt the farmer from liability to the hunter for any mishap that may be incurred when the farmer has entered into an arrangement for use of his land even if it is merely giving consent to trespass, and the hunter ceases to become an intruder on private land and is, instead, an invitee. I would not want to give my consent formally, in the presence of witnesses, in the present state of our laws, to hunters or even to bird watchers. If you can contrive to ignore them the chance that they will cause any trouble is very remote, but the day you give a formal consent may well be the day someone is chased by the bull, or trips over an old wire and breaks his neck.

This is a very long digression but it all deals with the problem of protecting the farmer. If we succeed in protecting him we will find that he is positively interested in having more wildlife, once it is clear that this is not a hazard. He is willing to have plantations, or to entertain suggestions about modifications of farm practices, where he is not going to be out of pocket. Where labour is involved, the sportsman has a golden opportunity to participate, but under any kind of agreement the job would have to be at least organized, if not done, by the department.

Actually the average single Ontario farm is too small a tract on which to manage wildlife, unless it has a marsh or a patch of gleisol. We could very well look to the experience of Europe. The French Revolution was a bourgeois revolution in which the royal prerogatives in game were destroyed, and ownership of game reverted to the soil. In Germany this philosophy of the Code Napoleon was never incorporated in the law until the revolution of 1848. Thereafter ensued what were known as the dark years of game management in which game declined because the individual property was usually too small for game management. Finally, after a generation of this, came the national hunting law which established

a revier system, with a minimum size of revier. The idea is that nobody can hunt except on an officially established revier. If the individual property is too small, it has to be joined to another or others. For each revier there must be an annual inventory of game and a shooting-off plan, approved by the state hunting authority. There must also be protection for the farmers against game damage and hunters. In state lands the forester prepares the plan and, although he may not rate a trophy buck, he gets to do a lot of the culling. That is why a profession can be very poorly paid and yet membership in it be looked on as highly desirable. All central European countries have a revier system, and Russia has adopted it. In France the German system persists in Alsace and Lorraine, at least in an adapted form, and is the envy of the rest of the country. Whatever the law or the ownership of wildlife, nowhere is a single small farm a viable wildlife management unit. There has to be a system for bringing them together.

We should, perhaps, aim for a revier system in years to come, and here again I suggest that once you get the first half dozen working, the rest of the country will follow, if your plan is really good. However, nobody will have the faintest idea how to operate a scheme until your department has been able to work out an operating wildlife management agreement on a suitable group of farms. You have to know how best to fit the production of wildlife into a modern farm and also you have to know the significance of any given group of hunters in terms of hunting pressure. You don't find out any of these things until you actually operate a hunting scheme.

I am, as you can judge, years ahead of myself. I have given you all sorts of ideas and especially the fact that we would like to get hold of a few wildlife areas just to see what we can do with them. There is no promotion to match an actual successful operation. There is not much to report yet in the way of actual accomplishment. We are haunted by the 500,000 anglers and hunters of the Toronto area who have, generally speaking, no place to go. Large acreages are devoted to serving the recreational needs of much smaller groups. The capacity to manage wildlife is the talent that gets buried in the ground. The thing I am not quite sure about is who is doing the burying. I wish all these people had something going for them because I am one of them. There is plenty of land within reach, including much that does not warrant the investment that modern farming requires. Heaven knows there is plenty of water - rivers that froth, and a lake that is the third largest cesspool in the world. The trouble is the people. You get a good reaction from them once you actually succeed in getting something started, but at the same time you can't start anything without them. I leave you on the horns of the dilemma.

IMPROPER USE OF SNOW VEHICLES FOR HUNTING

G.W. Malaher
Director
Wildlife Branch
Department of Mines and Natural Resources
Province of Manitoba

Abstract

The mechanized snow vehicle, autoboggan, ski-doo, snowmobile - call it what you will - provides a new form of recreation, is a new status symbol, increasing in numbers at a tremendous rate. Already being used in growing numbers for hunting purposes. Only legitimate hunting use can be for transportation or for retrieving carcass of big game taken. Used to reach otherwise inaccessible areas, but then used illegally for actual hunting. A problem in areas where normal ground transportation cannot be used. The legal aspect - "hunting" defined. Hunting illegal from vehicle or aircraft. Various types of illegal use of snow vehicles described. Effects of such use. The hunting ethics standpoint. The enforcement problem. Vehicle licensing requirements come under Highway Traffic Act. Definition of "highway" in Manitoba. Possible registration instead of licensing, similar to power boat registration. Other suggested means of control.

I suppose that since the archer was first faced with competition from firearms there has been controversy every time a new weapon or new tool has been introduced which makes man's hunting technique easier or more deadly. There are those who rationalize use of some new weapon or method of hunting by suggesting that this is "progress" which must not be impeded, and that adjustments must be made to seasons and limits if the introduction of the new method significantly influences the kill of game. These people will argue that anything contributing to an increased harvest of game, where such harvest is permissible or needed, is good. Others take the stand that the new weapon or machine has no place in the sport of hunting under any circumstances. Neither side is entirely right or wrong, but it is often hard to find middle ground.

We are I believe in this situation today with respect to the use of snow vehicles in the hunting of big game. Where that hunting takes place under snow conditions the autoboggan, ski-doo, snowmobile - call it what you will - is rapidly coming into wide use in the activity of hunting. It was introduced as a new form of recreation; one to be enjoyed at a season when many other forms of outdoor recreation are not possible. Its popularity has grown tremendously and ownership is rapidly becoming a status symbol. Its spread, at least in the snow-covered regions of this continent,

seems likely to rival the spread of the boat and outboard motor which occurred soon after World War II. Its price is only half that of the average boat and motor.

The snow vehicle has many other uses besides recreation - and good ones, but these are not the subject of this paper and I must confine myself to its use in the activity of hunting.

There is a legitimate use for snow vehicles as a means of transportation to a hunting area and for retrieving big game after it has been taken if the hunter will restrict himself to such use. In areas where roads for wheeled vehicles exist it may not be too hard to enforce only valid use but because of adaptation to travel where no roads or trails exist, the main use of these machines is in such areas, back in wilderness country where supervision is extremely difficult and adequate enforcement virtually impossible if the wild area is large.

The problem goes a good deal deeper than dealing with abuses arising from the use of a single machine. Not infrequently two or three machines are used in combined action and the walkie-talkie used for intercommunication. Again, aircraft may be used in conjunction with the snow vehicle and air to ground communication used to guide the ground party while the aircraft is used to haze and confuse the animal. It is to stop this type of use that Manitoba has had to resort to aircraft and helicopter patrols during the past two moose seasons. The slides which you will see illustrate that use.

Aircraft and helicopter patrol is expensive. Had we not used photography to illustrate in court the hunting pattern of the snow vehicle trails, it is doubtful if we would have obtained any convictions. The time and cost involved in obtaining sufficient evidence in each case are excessive. I should point out here that two magistrates have ruled that continuity of tracks must be established in obtaining a conviction. When I tell you that in the one area some 110 snow vehicles and 18 aircraft were checked in one week, you can see that these machines are already in quite wide use. In some cases hunters were 25 miles back in moose territory, in the middle of the afternoon, still weaving through the woods and still claiming they were looking for a place to hunt.

It is not possible to say conclusively that use of snow vehicles has added dangerously to the kill at this stage. It is evident, however, that there is major harassment and disturbance of big game both by snow vehicles and aircraft in season and out. There is tremendous temptation when operating for pleasure in game territory to chase deer hampered by deep snow, and this is done.

There is also the fact that snow vehicles and aircraft are the cause of much complaint from hunters operating on foot whose animals are spooked by these machines, thus ruining what may have been a long and arduous hunt.

One further use which began to crop up last season in deer territory involved the snow vehicle being used for driving game to hunters on point. A conviction was obtained where the operator of a ski-doo was found driving deer towards his three companions, even though no rifle was carried on the vehicle. This was possible under the interpretation section in the Wildlife Act for Manitoba which defines "hunting" in part as follows: "chasing, driving, flushing, pursuing,...following after or on the trail of...whether or not the animal or bird is subsequently captured, killed, taken or wounded...."

Showing of pictures taken by Cpl. J.A. Barrie, Royal Canadian Mounted Police, on helicopter patrol.

I submit that the uses I have described are undesirable whether or not they are illegal at the present time. To permit them is to debase the sport of hunting. We should not allow our finest trophy animals to be run down by machinery and treated like vermin that must be destroyed. There is enough callousness and lack of respect for game animals now, without encouraging this sort of abuse. If for the sake of expediency we condone such practices in remote territory, we surrender the quality sport principle entirely. It was Aldo Leopold who said:

"Nor has it dawned on the American sportsman that outdoor recreations are essentially primitive, atavistic; that their value is a contrast value; that excessive mechanization destroys contrast by moving the factory to the woods or to the marsh" and "the sportsman has no leaders to tell him what is wrong."

Is there a reasonable compromise and can ways and means be found of curbing such activity while providing for legitimate use of these mechanized snow vehicles in game territory? The majority of those reporting on the problems created by use of snow vehicles spoke of licensing under their highway code and prominent display of license number as a means toward control. In Manitoba we looked into this but did not find it very helpful for several reasons:

1. The definition of "highway" is so all-inclusive that it includes "any place, or way,...which the public is ordinarily entitled or permitted to use for the passage of vehicles." Under this definition every bush trail and indeed any public land over which any type of vehicle can travel is open to the licensed snow vehicle.
2. Registration of a motor vehicle, including the snowmobile, requires that it be equipped with two headlights, tail lights, turning signals, brakes, and so on. Snowmobiles are not so equipped and therefore cannot be registered under the Manitoba Highway Traffic Act. They may only be

operated across a highway (in the usually accepted meaning of that word) if operated by a licensed motor vehicle driver and after first coming to a full stop. They may not even cross a limited access highway or a provincial highway.

3. The snow vehicle is normally transported by truck or trailer over established road systems to the hunting area and does not require licensing while so transported.

Though almost every snow vehicle is operated illegally in the above circumstances, the operation is away from normal highway patrol, nor could we expect highway patrol to be extended beyond the general public road system. Conservation officers in Manitoba are not empowered to act under the Highway Traffic Act, nor should they be. Hunting regulations should not be hidden behind traffic laws.

Before any state or province relies too heavily on a Highway Traffic Act to control use of snow vehicles, it might be well to examine that Act quite carefully.

Discussion of Control Measures

1. Licensing of snowmobile operators has been suggested. A licence to operate a motor vehicle is no insurance against violations under a Wildlife Act. A licence to drive a motor vehicle would cover the operator of a snowmobile provided his vehicle met the standards required under the Highway Traffic Act.
2. Prohibition against carrying a loaded firearm with the added provision that all firearms be cased. Loaded firearms in a vehicle are prohibited now, but the offence is still the most common one on the books, even in areas covered by normal enforcement, and where "casing" is also required.
3. Restriction of snow vehicles to marked trails. This may be possible in some jurisdictions but I am advised it would conflict with provisions of the Highway Traffic Act in Manitoba.
4. An education program regarding the harmful effects of hazing game in their winter habitat and the need to maintain quality hunting. This might be quite profitable with the recreational non-hunter user but it is doubtful if it would have much effect on the type of hunter now using machines for actual hunting.
5. Registration of snowmobiles similar to the registration of small power boats. Such registration is already almost continent-wide for small boats. Similar registration of

snowmobiles, with a requirement for prominent display of the registration number, should provide a strong psychological deterrent to illegal use. In this connection a Manitoba conservation officer has experimented with a very novel and promising type of vehicle identification for which he is seeking a patent in Canada and the U.S.A. The problem here lies in conflict with a Highway Traffic Act which already sets out standards required for general motor vehicle registration and this problem would have to be resolved.

6. Prohibition against carrying any firearms, loaded or unloaded, on snowmobiles or trailers towed by snowmobiles when in use by a licensed hunter, either as operator or passenger. Such a regulation would virtually eliminate snowmobiles as transportation to otherwise inaccessible hunting areas and limit their use to retrieving game taken. Unless hunters voluntarily and collectively undertake to police the use of snowmobiles, some such regulation may shortly be necessary.

HUMANE TRAPPING

N.S. Novakowski
Staff Specialist, Mammalogy
Canadian Wildlife Service

Ever since the trapping of animals for food or clothing began the methods used have been less than humane. In general we have accepted the fact that hunting for food is a basic necessity and is relatively humane. Hunting for furs by trapping is not. The gun is a humane killing agent if used correctly, otherwise it is most inhumane because of wounding and consequent suffering. This has been a very disagreeable and hard to manage aspect of food and sport hunting. Wounding and the consequent abandonment of game is an offence, and regulations in all provinces and territories specifically prohibit abandonment, and where and when the legislation can be enforced, it is. This legislation was based on moral principles to alleviate suffering but no such legislation exists for fur trapping. Nevertheless, you are aware that any departure from a sure and quick merciful death must be considered inhumane and is judged so by the many humane societies throughout Canada and by the public at large.

After colonization began in Canada the hunting culture rapidly moved from the food and clothing phase to trapping furs for the fashion trade. We are all aware that the search for and procurement of these furs sparked the colonization of this country and was the backbone of the nation's economy for centuries. Trapping methods and traps have not changed drastically over those centuries.

The leg-hold trap has been used for many years because of its utility and reasonable price. Ironically it was a replacement for the more humane snare. Apparently our sophisticated sensibilities found strangling the animals too brutal but allowing an animal to suffer for days in a leg-hold trap has been acceptable these many years. This is not to say that we are necessarily callous in our thinking - it is partly that we have not found a reasonable substitute. Trapping has always been a marginal operation and trappers have, with few exceptions, made little more than a subsistence wage in an occupation that severely tests the man. Any trap that would be more costly, would increase the time necessary for setting, and would increase the bulk of a trapper's load, would not only reduce the trapper's efficiency but would also reduce his already precarious margin of income.

The above preamble outlines some of the realities of the trapping industry at the present time. However, as game administrators, we are faced with another reality and that is the constant pressure by humane societies and by the public at large for the institution of humane trapping. If we are deriving our livelihood from the

management of game, it appears that, ipso facto, we must have as much concern for the animal as we have for the people who utilize it. They are our responsibility. This is another reality we are aware of, so that we cannot much longer ignore public indignation particularly when one of our long-term interests is educating the public in an awareness and appreciation of the wildlife of our country. Increasing affluence and sophistication will tend to enlarge the scope of the pressure being brought to bear.

There are undoubtedly valid arguments on both sides but if we or others make the decision that humane traps must be used then we should not penalize the trapper with higher operating costs or reduced efficiency. To this end we have investigated a number of humane traps (see C.W.S.C. 772) and are expecting reports very shortly on a model produced by the National Research Council. This trap, called the "Mohawk", has been a co-operative venture with the Canadian Wildlife Service during its development. Some of the traps will be shown after this talk, but for the present we would appreciate from you an indication, by letter preferably, that you are prepared to prohibit the use of the leg-hold trap and substitute a humane trap in your province, the methods that should be used in doing so, and an assessment of the costs of a replacement program or subsidy. We would like you to know that our Minister and many of his colleagues are favourably inclined toward the institution of humane trapping and may be prepared to make some commitments on this matter at least in those areas under their jurisdiction.

ADDITIONS TO THE LIST OF BIRDS PROTECTED UNDER MIGRATORY BIRDS
TREATY AND MIGRATORY BIRDS CONVENTION ACT

F.G. Cooch
Staff Specialist, Ornithology
Canadian Wildlife Service

There has been a review of birds known to occur in Canada but not presently protected under the Migratory Birds Convention Act.

The following list includes a number of birds which are accidental or rare in Canada. This includes representatives of the following families:

Diomedelidae	Laridae
Ardeidae	Rynchopidae
Threskiornithidae	Alaudidae
Charadriidae	Turdidae
Scolopacidae	Vireonidae

Incorporation of these species is simply a reflection of increased knowledge of species of birds found in Canada. No new families have been added to those previously protected.

The longest list applies to the family Fringillidae.

Sparrows generally were not included in the list of birds protected by the Treaty.

A review of the food habits of many of the species would indicate that half the Canadian representatives of the Fringillidae are primarily insectivorous during their period of residence in Canada.

Because of that fact, these birds are protected under the terms of the Migratory Birds Treaty, and the Canadian Wildlife Service is planning to have them brought under the Migratory Birds Convention Act.

The following is a breakdown of species in each of the above-mentioned families:

FAMILY: Diomedelidae

Diomedea albatrus (Short-Tailed Albatross)
Diomedea nigripes (Black-Footed Albatross)
Diomedea chlororhynchos (Yellow-Nosed Albatross)
Status: accidental

FAMILY: Ardeidae

Bubulcus ibis (Cattle Egret)

Nyctanassa violacea (Yellow-Crowned Night Heron)

Status: infrequent

FAMILY: Threskiornithidae

Plegadis falcinellus (Glossy Ibis)

Status: infrequent

Plegadis chihi (White-Faced Ibis)

Status: infrequent

Eudocimus albus (White Ibis)

Status: infrequent

FAMILY: Charadriidae

Vanellus vanellus (Lapwing)

Status: infrequent

Pluvialis apricaria (Eurasian Golden Plover)

Status: accidental in Nfld.

FAMILY: Scolopacidae

Limosa limosa (Black-Tailed Godwit)

Status: accidental in Nfld.

Philomachus pugnax (Ruff)

FAMILY: Laridae

Larus thayeri (Thayer's Gull)

Larus ridibundus (Black-Headed Gull)

Status: infrequent

Larus minutus (Little Gull)

Status: infrequent

Sterna fuscata (Sooty Tern)

Status: infrequent

Sterna anaethetus (Bridled Tern)

Status: infrequent

Thalasseus maximus (Royal Tern)

FAMILY: Rynchopidae

Rynchops nigra (Black Skimmer)

Status: infrequent

FAMILY: Alaudidae

Alauda arvensis (Skylark)

Eremophila alpestris (Horned Lark)

FAMILY: Turdidae

Turdus pilaris (Fieldfare)
Status: accidental

FAMILY: Vireonidae

Vireo flavoviridis (Yellow-Green Vireo)
Status: accidental

Reference

FAMILY: Fringillidae

Guiraca caerulea (Blue Grosbeak)
Status: casual visitor

Passerina cyanea (Indigo Bunting)

Passerina amoena (Lazuli Bunting)

Spiza americana (Dickcissel)

Carpodacus purpureus (Purple Finch)

Carpodacus cassinii (Cassin's Finch)

Carpodacus mexicanus (House Finch)

Leucosticte tephrocotis (Gray-Crowned
Rosy Finch)

Carduelis carduelis (European Goldfinch)
Status: infrequent

Acanthis hornemanni (Hoary Redpoll)

Acanthis flammea (Common Redpoll)

Spinus pinus (Pine Siskin)

Spinus tristis (American Goldfinch)

Spinus psaltria (Lesser Goldfinch)

Status: casual visitor

Loxia curvirostra (Red Crossbill)

Loxia leucoptera (White-Winged Crossbill)

Chlorura chlorura (Green-Tailed Towhee)

Status: casual visitor

Pipilo erythrophthalmus (Rufous-Sided Towhee)

Calamospiza melanocorys (Lark Bunting)

Passerculus princeps (Ipswich Sparrow)

Passerculus sandwichensis (Savannah
Sparrow)

Ammodramus savannarum (Grasshopper
Sparrow)

Ammodramus bairdii (Baird's Sparrow)

Passerherbulus caudacutus (Le Conte's
Sparrow)

Passerherbulus henslowii (Henslow's
Sparrow)

Ammospiza caudacuta (Sharp-Tailed
Sparrow)

Peters - Birds of Nfld. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

M.Z.N. (1951)

Grosvenor - Book of Birds

<u>Ammodramus maritima</u> (Seaside Sparrow)	M.Z.N. (1951)
Status: casual visitor	
<u>Poocetes gramineus</u> (Vesper Sparrow)	Snyder - <u>Ont. Birds</u> (1951)
<u>Chondestes grammacus</u> (Lark Sparrow)	
<u>Aimophila aestivalis</u> (Bachman's Sparrow)	
Status: casual visitor	
<u>Amphispiza bilineata</u> (Black-Throated Sparrow)	
Status: accidental	
<u>Amphispiza belli</u> (Sage Sparrow)	
Status: casual visitor	
<u>Junco hyemalis</u> (Slate-Colored Junco)	Snyder (1951)
<u>Junco oreganus</u> (Oregon Junco)	Munroe - <u>Birds of Canada</u> (1950) and M.Z.N.
	Baumgartner - <u>Wilson Bull.</u> 49 (1937)
<u>Spizella arborea</u> (Tree Sparrow)	
<u>Spizella pallida</u> (Clay-Colored Sparrow)	
<u>Spizella breweri</u> (Brewer's Sparrow)	M.Z.N. (1951)
<u>Spizella pusilla</u> (Field Sparrow)	Taverner - <u>Birds of Canada</u> (1934)
<u>Zonotrichia querula</u> (Harris' Sparrow)	
<u>Zonotrichia leucophrys</u> (White-Crowned Sparrow)	Knight (1908)
<u>Zonotrichia atricapilla</u> (Golden-Crowned Sparrow)	
<u>Zonotrichia albicollis</u> (White-Throated Sparrow)	Taverner (1934)
<u>Passerella iliaca</u> (Fox Sparrow)	
<u>Melospiza lincolni</u> (Lincoln's Sparrow)	M.Z.N. (1951)
<u>Melospiza georgiana</u> (Swamp Sparrow)	M.Z.N. (1951)
<u>Melospiza melodia</u> (Song Sparrow)	M.Z.N. (1951)
<u>Rhynchophanes mccownii</u> (McCown's Longspur)	
<u>Calcarius lapponicus</u> (Lapland Longspur)	
<u>Calcarius pictus</u> (Smith's Longspur)	
<u>Calcarius ornatus</u> (Chestnut-Collared Longspur)	M.Z.N. (1951)
<u>Plectrophenax nivalis</u> (Snow Bunting)	M.Z.N. (1951)

CONSERVATION OF RARE AND ENDANGERED SPECIES
OF MAMMALS IN CANADA

N.S. Novakowski
Staff Specialist, Mammalogy
Canadian Wildlife Service

In introducing this subject to you it would seem appropriate to quote a single statement from the preamble to the charter of the International Union for Conservation of Nature and Natural Resources. The statement is as follows:

"The increasing impoverishment of natural resources will inevitably result in a lowering of human standards of living."

We have given too little thought to this in our own country because we are still actively involved in resource exploitation. Thus, when taken in a general view, the decreased numbers or threat of extermination of an animal receive little attention, not because we have no concern but because the animal in question may have little value in an economic sense. Talk of aesthetic values is more often derided than not and, failing the large publicity build-up such as was and is afforded the whooping crane, public sentiment is lacking or apathetic.

In the event that this apathy may be due to ignorance of the facts we feel it is our responsibility and the responsibility of all wildlife agencies and organizations across Canada to make known certain facts about animal species in danger of extinction so that remedial methods can be applied in time and with public awareness and support. To this end we have taken the responsibility to investigate, when and where possible, the status of many animals in Canada which are endangered, rare, or extinct and bring them to public view. We are presently documenting our findings with the Survival Service Commission of the International Union for Conservation of Nature and Natural Resources and this information will be published in their Red Data Book which is circulated to all participating nations throughout the world. Our second, and undoubtedly most important, responsibility is to inform our own public and provide positive goals and objectives for the preservation and conservation of endangered species.

I would like to outline ways in which this could be done by the use of specific examples which you will find in the preliminary list of species we consider to be endangered which was presented to you before my talk began. I say preliminary because we have not yet been able to obtain all the information we would like on the animals we have examined nor any indication of how many we may have missed. Obviously we need more involvement in this project by as many interested people as we can find so that we may increase our knowledge on all wildlife species in Canada and tap sources of information which may soon not be available to us.

Example 1. Great plains wolf
Northern kit fox
Black-tailed prairie dog
Black-footed ferret

It appears that all the above species can be recovered and maintained in perpetuity in a fenced national park of considerable size. Of the four only the prairie dog and the ferret still exist in Canada. An arrangement with the United States Government may possibly be made to obtain the other two for release into a sanctuary if we can convince the donating agencies of the sanctity of our purpose. Clearly the wolf and the fox might be incompatible with agricultural interests if they were allowed to roam at large.

Example 2. Blue bear or glacier bear

The blue bear or glacier bear might still exist in that area of the Yukon which is within the Kluane Game Sanctuary. We expect that a national park will be established in that area and a sanctuary for the animal made secure. In the meantime, we will make every attempt to determine the population status of the animal in the Yukon and if necessary re-establish it from stock taken in that region of Alaska where they still exist.

Example 3. Polar bear
Barren-ground grizzly bear

These are hunted species at present and we are in the situation where we must provide more information on their population status before we can present a rational plan for their preservation. A great deal of research is still required and we are only beginning.

These three examples, among many that can be used, should serve to alert us to a very urgent need for more research on endangered species and more public awareness. We must think in terms of not only securing the preservation of the animals themselves, but also of their habitat. The preservation of endangered species in Zoological Gardens and Game Farms is a very poor substitute and is an indication of our failure to act in a concerted manner as the keepers of our natural heritage.

It is evident that in some cases we will be asking for the co-operation of outside agencies, particularly in the United States, to supply us with animals which are now extinct or rare in Canada. These requests can be made at a provincial or federal level, so it appears that as a first positive step we should have a co-ordinating agency made up of individuals who will be able to set firm objectives and proposals for necessary action. This working group would draw on support from an advisory body on which, I am sure, all of you would wish to serve. We expect that in the very near future we will have a working unit of research personnel specifically assigned to a study of

rare and endangered species and this group would appreciate the fullest possible co-operation from all of you in this worthwhile endeavour. I would ask you to give me an indication of your willingness to serve in any capacity necessary and to appoint those in your organization who would be willing to become more fully involved in this project within those areas of your jurisdiction.

THE STATUS OF THE COUGAR
IN THE NORTHEAST

Bruce S. Wright
Director, Northeastern Wildlife Station
University of New Brunswick

When I first told Professor Aldo Leopold in 1947 that we still had a very few panthers surviving in New Brunswick he was overjoyed but fearful for their future. We decided to circulate the information to selected organizations and individuals who might help in getting the New Brunswick Government to pass protective legislation.

On May 5, 1947, he wrote me "If this relic can be preserved I would not be surprised to see eastern states begging New Brunswick for breeding stock within the decade. Possibly reprints of the attached deer paper would help convince your administrators of the value of this remnant."

It appeared to be a simple thing to ask, and the proper authorities were approached. However it was apparently naive of us to expect results without pressure, and I was informed that no action would be taken on my request as there was no demand for it.

The Dominion Minister of Lands and Mines in Ottawa then wrote on November 10, 1947 "In my opinion, full protection of the remnant of this species in New Brunswick is of great importance. Because of the scientific interest in the re-discovery of a supposed extinct race, New Brunswick holds a great responsibility to the remainder of eastern North America.

"I assure you that the National Parks Service will be happy to give full co-operation in preserving a limited population of eastern puma in New Brunswick."

This was powerful support, and we appreciated it.

The Curator of the Natural Science Department of the New Brunswick Museum then made an appeal. He was followed by the Provancher Society of Natural History of Canada from Quebec. Then came the Wildlife Management Institute of Washington, followed by the Nova Scotia Forest and Wildlife Conservation Association and the Nova Scotia Institute of Science. The Curator of Conservation of the American Museum of Natural History offered his help, and the Canadian Conservation Association added its voice.

The late Paul L. Errington, Research Professor at Iowa State College, suggested that the Wildlife Society should lend its support. He also urged that no specimens be taken for years to come. Taxonomic questions could wait.

Today the panthers of New Brunswick are protected in a backhanded sort of way. The Game Act now reads that certain named animals may be hunted in season, etc. All those not named may not be hunted, but nowhere does it specifically state that the panther is protected. Any hound man who trees one will shoot it just as quickly as a bobcat.

But since those days of 20 years ago we find that the panthers are not confined to New Brunswick. Rather, the whole part of the continent lying east of the Mississippi between Florida and the Laurentians is involved. In this region is the greatest concentration of people on the continent with the maximum opportunity of seeing panthers. A sample of how these rare and shy animals have been seen has been given in this book. But so far we have only counted the living. Let us now count the dead and wounded.

THE CASUALTY LIST

Panthers Killed and Injured by Man East of the Mississippi and North of Florida 1900-1965

No.	Date	Description and source
1	1900 approx.	Panther trapped Springhill, N.B. (Reported here).
2	1901	Panther trapped and shot Brookfield, Pa. (Shoemaker, 1943).
3	1902	Panther shot Scootac, Pa. (Shoemaker, 1934).
4	1903	Panther shot Scootac, Pa., by Earl Monaghan. (Shoemaker, 1934).
5	1904	Cub trapped Millville, N.B. (Reported here).
6	1908	Panther shot and lost, Porter Brook, N.B. (Reported here).
7	1908	Panther shot in Ontario and sold to Ward's Natural History Establishment. (Stoner, 1950).
8	1909	Panther shot on Mount Royal, P.Q. (Reported here).
9	1910	Panther trapped on Nashwaak River, N.B. (Reported here).

No.	Date	Description and source
10	1914	Panther shot Paddy Mountain, Pa. (Shoemaker, 1943).
11	Oct. 1915	Panther shot South LaGrange, Me. (Reported here).
12	1918	Panther shot and lost Pine Glen PO, Pa. (Shoemaker, 1943).
13	1919	Two panthers trapped between Redbank and Quarryville, N.B. (Reported here).
14	Oct. 1921	Panther wounded and bone splinter preserved. Jemseg River, N.B. (Reported here).
15	1923	Panther shot Dungarvon River, N.B. (Reported here).
16	1932	Panther shot and photographed, Mundleville, N.B. (Reported here).
17	1938	Panther trapped and mounted, Little St. John Lake, Me. (Wright, 1961).
18	1942 or '43	Panther road kill, Georgetown Co., S.C. (Sass, 1954).
19	Mar. 6, 1948	Panther shot, St. Clair Co., Ala. (Ala. Conservationist, April 1948).
20	Oct. 28, 1948	Panther wounded, Pollett River, N.B. (Reported here).
21	Autumn, 1948	Panther snared but broke out, Juniper, N.B. (Reported here).
22	Aug. 1, 1952	Cub run over but lost, N.S. (Reported here).
23	Oct. 1952	Panther road kill, Charleston, S.C. (Sass, 1954).
24	Autumn, 1952	Panther wounded and lost, Keswick Ridge, N.B. (Reported here).
25	Oct. 25, 1953	Panther wounded and lost, Grand Bay, N.B. (Reported here).

No.	Date	Description and source
26	1955	Panther wounded and lost, Stanley, N.B. (Reported here).
27	1955	Panther mortally wounded and lost, The Ledge, Charlotte Co., N.B. (Reported here).
28	May 15, 1960	Panther run over but not killed, Mass. Turnpike, Mass. (Reported here).
29	Nov. 1963	Panther wounded and lost Pollett River, N.B. (Reported here).
30	1963	Panther wounded and lost, Joyclin Brook, N.B. (Reported here).
31	1965	Panther shot and preserved, Keithville, La. (Reported here) ¹

This list, which makes no claim to completeness as no attempt has been made to follow panther reports in the southeast since the death of H.R. Sass in 1957, shows that the old saw "If no more are killed in the next 50 years than were killed in the last, the species is in no danger" is badly in need of revision. This is the philosophy of locking the door after the horse is stolen.

¹Keithville lies west of the Mississippi, but Louisiana panthers are grouped with the eastern subspecies.

In the last 65 years a panther has been wounded or killed by man every 2.1 years, and none of these was deliberately hunted. With the massive build-up of human population presently under way in this region, this rate may be expected to increase. The time is, therefore, ripe to take a second and harder look at the need for the protection of the species.

Fortunately, as we have seen, the animal is among the most versatile of all large mammals and can live in close proximity to man for some time without its presence being suspected. A few years ago a mountain lion lived for a period on a ridge that ran through a university campus in California. Its presence was a well-kept secret of the Department of Zoology until it moved on.

Animals that are dangerous to man, or harm his interests in any way, are always the first to be studied and have their innermost secrets exposed. It is a measure of the harmlessness of the panther that in all these years almost nothing is known about it from actual observation. It has never even been photographed alive.

The total number surviving in eastern North America, exclusive of Florida, may not be more than 100, and may well be less. We have all followed the long struggle to save the whooping crane. We have seen Canada put aside over 3,000 square miles as an inviolate sanctuary closed to all travel, even air, for about 40 cranes to nest in. We have seen the United States Air Force asked to move its bombing range so their winter home will not be disturbed. We have seen a strict sanctuary set up for the few remaining California condors to nest in, and we have seen what protection did for the North Pacific sea otters. All this is heart-warming and shows that we are a civilized people that can now, after a very slow start, be trusted to preserve endangered species.

But while we are taking this bow we must remember that the northeastern panther is still inadequately protected if at all in every state or province in its range except New Hampshire. A killing rate of one every 2.1 years is not high, but on the other hand not many whooping cranes are being shot today. Not many Florida crocodiles or key deer, grizzly bears or trumpeter swans, ivory-billed woodpeckers or Attwater's prairie chickens, California condors or sea otters. They are all endangered species, and are protected by law. The list is long.

Florida, a major cattle-producing state and acutely conscious of the value of its wildlife, has pointed the way. Many cattlemen would have reservations about declaring a potential cattle-killer a protected animal. However, the Florida panther was disappearing fast and some form of protection was obviously needed if the animal was to be saved. The first step was to make it a game animal that could be hunted only under licence in the open season, and the season limit was set at one per year. Provision was also made for removing individuals damaging personal property at any time.

A few seasons showed that this could be done with no loss of panthers simply because nobody hunted them. The open season was a sop to that portion of the human population that protest protection of any predator on principle. Then after a few seasons, and with no complaints, a resolution of the Game and Freshwater Fish Commission was passed, on the Director's recommendation, that the panther be given complete protection as an endangered species - and so it is today.

The first step is probably not needed in any northeastern state or province as this is not cattle country and damage to livestock is negligible. We have here an extremely adaptable and tenacious

species that was long thought to have been extinct. We now find that it has survived drastic changes in its environment and is holding its own at a bare subsistence level and has followed its prey into new territory. This has been possible solely because of an increase in the food supply. It has apparently passed the immediate danger of extinction but in so doing it is coming more and more in contact with man. No other large wild animal has been able to do this in the settled portions of this continent without help from man himself.

In the east private bills to protect the panther were introduced in the legislatures of New Hampshire and Vermont in 1967. The New Hampshire Bill passed but the Vermont Bill was defeated in the Senate. It will be back.

Thus at long last is a better appreciation of the relation of the panther and its prey being expressed in North America. It is now more generally understood that the availability of the prey controls the number of predators, and that predator numbers do not control the prey.

Then in the spring of 1967 the species' publicity took a turn for the worst. A major automobile manufacturer named one of its 1967 model the "Cougar". The campaign to sell this car could get under way with television commercials showing excellent pictures of a tame cougar, but all in a frightening attitude. These commercials were beamed into almost every house in Canada and many hundreds of thousands of homes in the United States as they were shown with the broadcasts of the semi-finals and finals of the Stanley Cup play-offs of the National Hockey League.

With them came the compelling voice of the announcer:

"There is a cougar bounty this spring...."

"Get your cougar bounty now...."

The greatest danger to the panthers today is from the "shoot it to prove I saw it" philosophy of most deer hunters. This, coupled with the ensuing panic which results from finding oneself at close quarters with a large and desperately wounded cat fighting for its life, has so far discouraged any attempt at following a wounded animal. Especially is this true if there is failing light. The crippling loss among the few surviving eastern panthers is unknown, but several carefully documented instances of it have been given and it is one of their greatest dangers.

Is the steadily mounting number of deer hunters in the northeast putting more and better equipped men into the woods each fall of no significance? Are the ever-increasing miles of woods roads carving into smaller and smaller chunks the remaining roadless areas where the panthers may feel secure meaningless? And finally,

are the endless miles of ski-doo or snow-go tracks criss-crossing the frozen lakes and seeking out the innermost secrets of the most inaccessible areas and making them available to anyone who can sit on a comfortable seat and be driven, of no consequence to the solitude-loving panthers? With the light plane overhead, and the radio-equipped ski-doo on the ground to aid the hounds, how much have the odds altered in favour of the hunter?

In view of these developments should the classification of the species be "varmint" or "endangered species"? Or should they at least have their existence acknowledged, and be classified as game animals and protected by a closed season during the months when their last defences are stripped from them by the light plane and the unstoppable ski-doo?

In the vast Idaho Primitive Area a detailed study of the life history and ecology of the mountain lion is under way. Lions are treed by dogs and immobilized with a dart gun and drugs so they can be examined, tagged, and released. This yields accurate measurements of their movements for the first time. This is reliable information gradually accumulating.

There is a growing body of naturalists, hunters, and professional wildlife biologists who think the panther has a place in the wildlife scene of North America and is a magnificent game animal in its own right, infinitely more difficult to hunt than any ungulate. However, experience has shown that no large mammal has survived in the east without the help of man in some form of protection. There is little reason to believe the panther will be the exception and succeed without it.

Loss of this remnant now would be unworthy of a civilized society. We have been given a second and last chance. Let us make the best of it.

The International Union for Conservation of Nature and Natural Resources in Switzerland issues a Main List of the World's Rare and Endangered Mammals. The issue of April 1966 lists among the Carnivora, Felis concolor cougar Kerr, 1972, the eastern panther; and F. c. coryi Bangs, 1896, the Florida panther. Florida has taken the necessary steps. How long will it be before the others follow? The eyes of the world are watching.

ALPHABETICAL LIST OF DELEGATES

Mr. S. Ali	Pakistan
Dr. R.J. Avery	Director of Animal Diseases Research Institute, Health of Animals Branch, Canada Department of Agriculture, Hull, Quebec.
Mr. E.A. Bennett	Territorial Division, Northern Administration Branch, Department of Indian Affairs and Northern Development, Ottawa, Ontario.
Mr. D.A. Benson	Head, Biometrics Section, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa, Ontario.
Mr. W.A. Benson	Chief, Canada Land Inventory, ARDA, Rural Development Branch, Department of Forestry and Rural Development, Ottawa 4, Ontario.
Mr. E. Bossenmaier	Department of Mines and Natural Resources, 908 Norquay Building, Winnipeg 1, Manitoba.
Mr. H. Boyd	Research Supervisor, Ornithology, Eastern Region, Canadian Wildlife Service, 293 Albert Street, Ottawa 4, Ontario.
Corporal Brière	Royal Canadian Mounted Police, Ottawa, Ontario.
Mr. J.E. Bryant	Supervisor, Lands, Eastern Region, Canadian Wildlife Service, 293 Albert Street, Ottawa 4, Ontario.

Mr. N. Buell	Assistant Director of Wildlife, Bureau of Sport Fisheries and Wildlife, Department of the Interior, Washington, D.C., U.S.A.
Mr. B.C. Carter	Director, Fish and Wildlife Branch, Department of Natural Resources, Fredericton, New Brunswick.
Mr. R.E. Chandler	Canadian Wildlife Service, Post Office Building, Aurora, Ontario.
Dr. C.H.D. Clarke	Chief, Fish and Wildlife Branch, Department of Lands and Forests, Toronto 2, Ontario.
Dr. F.G. Cooch	Staff Specialist, Migratory Bird Populations, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Dr. H.-E. Corbeil	Director of Wildlife Division, Fish and Game Branch, Department of Tourism, Fish and Game, Quebec City, Quebec.
Mr. W.F. Crissey	Director, Wildlife Research Laboratories, Bureau of Sport Fisheries and Wildlife, Department of the Interior, Laurel, Maryland, U.S.A.
Mr. B. Dawson	Department of Lands and Forests, Toronto 5, Ontario.
Mr. D.H. Dennis	Canadian Wildlife Service, Post Office Building, Aurora, Ontario.
Mr. P. Desmeules	Department of Tourism, Fish and Game, Quebec City, Quebec.

Constable L. Doyle	"E" Division, Royal Canadian Mounted Police, Vancouver, British Columbia.
Mr. D. Eagles	Head, Editorial and Information Section, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Constable C. Farquharson	"O" Division, Royal Canadian Mounted Police, Toronto, Ontario.
Dr. I. Gabrielson	President, Wildlife Management Institute, 709 Wire Building, Washington, D.C., 20006 U.S.A.
Mr. J.F. Gage	Department of Lands and Forests, Toronto 5, Ontario.
Mr. D.H. Gimmer	Natural Resources Division, Indian Affairs Branch, Department of Indian Affairs and Northern Development, Ottawa, Ontario.
Dr. J.B. Gollop	Research Supervisor, Ornithology, Western Region, Canadian Wildlife Service, Prairie Migratory Bird Research Centre, University of Saskatchewan Campus, Saskatoon, Saskatchewan.
Mr. P. Hardy	Managing Director, Canadian Audubon Society, 46 St. Clair Avenue East, Toronto 7, Ontario.
Dr. J. Hatter	Director, Fish and Wildlife Branch, Department of Recreation and Conservation, Victoria, British Columbia.

Mr. M. Higgins	Department of Lands and Forests, P.O. Box 516, Kentville, Nova Scotia.
Superintendent A. Huget	Officer in Charge, Criminal Investigation Branch, "G" Division, Royal Canadian Mounted Police, Ottawa 4, Ontario.
Dr. J.P. Kelsall	Acting Superintendent, Western Region, Canadian Wildlife Service, 10015 - 103rd Street, Edmonton, Alberta.
Mr. G.R. Kerr	Fish and Wildlife Division, Department of Lands and Forests, 10526 Jasper Avenue, Edmonton, Alberta.
Constable N. Knowles	"F" Division, Royal Canadian Mounted Police, Regina, Saskatchewan.
Mr. W. Kozar	Administrative Officer, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Constable J. Krusinckas	"A" Division, Royal Canadian Mounted Police, Ottawa, Ontario.
Mr. P. Kwaterowsky	Superintendent of Game, Northern Administration Branch, Fort Smith, Northwest Territories.
Mr. J.-P. Lamoureux	Canadian Wildlife Service, Suite 801, Place Laurier, 2700 Blvd. Sir Wilfrid Laurier, Ste-Foy, Quebec.
Mr. W.G. Leitch	Ducks Unlimited (Canada), 386 Main Street, Winnipeg, Manitoba.
Mr. A.G. Loughrey	Superintendent, Eastern Region, Canadian Wildlife Service, 293 Albert Street, Ottawa 4, Ontario.

Mr. R. Macherel	Canadian Council of Resource Ministers, 620 West Dorchester Blvd., Montreal 2, Quebec.
Mr. R.H. Mackay	Supervisor, Surveys and Enforcement Western Region, Canadian Wildlife Service, 10015 - 103rd Street, Edmonton, Alberta.
Dr. A.H. Macpherson	Research Supervisor, Mammalogy, Eastern Region, Canadian Wildlife Service, 293 Albert Street, Ottawa 4, Ontario.
Mr. G.W. Malaher	Director of Wildlife, Department of Mines and Natural Resources, Winnipeg, Manitoba.
Mr. H. Maliepaard	Department of Natural Resources, Regina, Saskatchewan.
Constable J.F.Y. Marquis	"J" Division, Royal Canadian Mounted Police, Moncton, New Brunswick.
Constable J.R. Massey	"C" Division, Royal Canadian Mounted Police, Montreal, Quebec.
Constable F. Meyer	Royal Canadian Mounted Police, Ottawa, Ontario.
Mr. W. Miller	Canadian Wildlife Service, Eastern Region, 293 Albert Street, Ottawa, Ontario.
Mr. W.A. Morris	Canadian Wildlife Service, University of British Columbia Campus, Vancouver 8, British Columbia.
Dr. D.A. Munro	Director, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.

Mr. A. Nebioglu	Turkey
Dr. N. Novakowski	Staff Specialist, Mammalogy, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Constable R. Osika	"D" Division, Royal Canadian Mounted Police, Winnipeg, Manitoba.
Mr. J. Ozer	Turkey
Mr. R.C. Passmore	Executive Director, Canadian Wildlife Federation, 37 Queensline Drive, Ottawa, Ontario.
Mr. F. Payne	Department of Lands and Forests, P.O. Box 492, Kentville, Nova Scotia.
Mr. E.L. Paynter	Director of Wildlife, Department of Natural Resources, Regina, Saskatchewan.
Mr. A.T. Pelletier	Assistant Deputy Minister of Natural Resources, Fredericton, New Brunswick.
Mr. N.G. Perret	ARDA Staff Specialist, Land Use, Canadian Wildlife Service, 161 Laurier Avenue West, Ottawa 4, Ontario.
Mr. A. Poitras	Canadian Wildlife Service, P.O. Box 180, Sackville, New Brunswick.
Mr. M.H. Prime	Director of Wildlife Conservation, Department of Lands and Forests, P.O. Box 516, Kentville, Nova Scotia.
Mr. A. Reed	Department of Tourism, Fish and Game, Quebec City, Quebec.

Mr. D. Robinson	Fish and Wildlife Branch, Department of Recreation and Conservation, Victoria, British Columbia.
Mr. J. St. Pierre	Canadian Wildlife Service, Suite 801, Place Laurier, 2700 Blvd. Sir Wilfrid Laurier, Ste-Foy, Quebec.
Mr. F.H. Schultz	Executive Assistant to the Director, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Mr. G. Sévigny	Director of Protection Division, Department of Tourism, Fish and Game, Quebec City, Quebec.
Mr. D.W. Simkin	Research Branch, Department of Lands and Forests, Maple, Ontario.
Mr. A. Smith	Canadian Wildlife Service, P.O. Box 180, Sackville, New Brunswick.
Mr. D. Smith	P.O. Box 136, Barrie, Ontario.
Dr. S.B. Smith	Director, Fish and Wildlife Division, Department of Lands and Forests, 10526 Jasper Avenue, Edmonton, Alberta.
Dr. V.E.F. Solman	Staff Specialist, Migratory Bird Habitat, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Dr. W.J.D. Stephen	Supervisor, Lands, Western Region, Canadian Wildlife Service, 10015 - 103rd Street, Edmonton, Alberta.

Mr. A. Stevenson	Territorial Division, Northern Administration Branch, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Constable J. Stoner	"H" Division, Royal Canadian Mounted Police, Halifax, Nova Scotia
Dr. J.S. Tener	Deputy Director, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Mr. W.J. Thurlow	Technical Officer, Migratory Bird Populations, Canadian Wildlife Service, Department of Indian Affairs and Northern Development, Ottawa 4, Ontario.
Mr. S.E. Vass	Department of Fisheries, Charlottetown, Prince Edward Island.
Mr. F.A. Walden	Department of Lands and Forests, Toronto 5, Ontario.
Mr. H. Walters	Director of Hunting and Fishing Development, Department of Mines, Agriculture and Resources, St. John's, Newfoundland.
Mr. G. Watson	Canadian Wildlife Service, P.O. Box 180, Sackville, New Brunswick.
Mr. R. Webb	Department of Mines and Natural Resources, 908 Norquay Building, Winnipeg, Manitoba.
Constable M. Weld	"K" Division, Royal Canadian Mounted Police, Edmonton, Alberta.
Mr. W.R. Whitman	Canadian Wildlife Service, P.O. Box 180, Sackville, New Brunswick.

S/Sgt. L. Winters

Royal Canadian Mounted Police
Headquarters,
1200 Alta Vista Drive,
Ottawa, Ontario.

Dr. V.A. Wood

Deputy Minister of Lands and Forests,
10526 Jasper Avenue,
Edmonton, Alberta.

Mr. R.S. Wright

Director,
Northeastern Wildlife Station,
University of New Brunswick,
Fredericton, New Brunswick.

APPENDIX

REPORT ON THE CONFERENCE

David Smith

Introduction:

In preparing this report, I have summarized the feedback forms then made comments and suggestions, which for the most part simply extend or modify proposals recommended by Conference members.

There were 51 feedback forms returned, 19 from delegates and 32 from observers. There was little significant difference in their assessments except that observers found it more difficult to hear speakers and, as might be expected, made almost all the references to an "interesting" or "enlightening" Conference. Only in the summary to the second question was it necessary to distinguish between the two groups.

Question 1: What is your general assessment of the Conference? To what extent did it meet your expectations? Where did it fall short?

The general assessment was "one of our most successful Conferences". One person felt it exceeded his expectations, 13 described it as "good", 6 felt it met their expectations, and 4 rated it as only "fair".

They gave many reasons for these opinions, some concerning the organization and handling of the Conference, others concerning the substantive elements.

Seven people thought the Conference had been well-planned. Six commented that the agenda items were handled well - one extending his comment to add that there had been the "correct degree of formality and/or informality". One approved of the "frank discussion" and another of the speakers making summaries instead of reading their papers.

On the substantive side, eight commended the prior distribution of papers. Four considered the method of bringing the new regulations before the Conference as helpful, though one wondered if the action resulted in less discussion. One commented favourably that the Conference was "moving toward more philosophical considerations" and another was pleased with the large number of R.C.M.P. personnel present.

Although most felt pleased with the Conference, they did find some flaws, and were less unanimous on its failings than on its successes. Two members felt the discussion on seasons and bag limits was not deep enough. One suggested "a review of the purposes, objectives, and management philosophies pertaining to the establishment of bag limits and seasons" presented with the use of visual aids. Two others

considered the agenda crowded and one that the discussion had been curtailed. Another remarked that the discussion on waterfowl was of little use and might have been included in an evening program. Two desired more active discussion and one considered that the provinces would have liked to discuss much more, had the "business not been prescribed". Two others considered there were too many people present. Other shortcomings mentioned were the lack of representation from the Yukon, and too great an orientation towards migratory birds as opposed to other wildlife.

Question 2: How could the Conference be improved?

The recommendations fall into three main categories: general organization and methods, suggestions concerning subjects, suggestions for organizing and handling meetings.

General organization and methods

A delegate made the most comprehensive statement:

"The meeting in its present format cannot handle effectively the wide range of subjects and reach the best decisions. There are at least three or four major functions being covered by the Conference: (a) exchange of ideas (informative stages); (b) formal completion of management regulations; (c) updating the provinces through brief reports of many Canadian Wildlife Service activities; (d) improving federal-provincial relationships so that more effective management can be implemented. The Conference could well either be split off into work groups or, better, some of the functions handled at other meetings or by other means of communication. These panels and seminars could be undertaken to ensure better topic coverage. More background work should be undertaken by persons giving reports so that brief but accurate assessments are made. Certain closed workshops on specific matters could be set up."

These ideas were echoed in other suggestions proposing workshops, more and earlier discussion - possibly on a regional basis, and also noting the variety in kinds of topics discussed.

Nine members (including one delegate) desired more discussion. Two suggested that papers be restricted to permit more time for discussion and two suggested that the Conference be extended one day to permit more discussion.

Two suggested that outside speakers be invited - one to get special expertise, the other for publicity.

Suggestions concerning subjects

One delegate suggested that the decisions on seasons and bag limits start with two groups, an eastern and a western. Each should engage in a first round of discussion, completed in a final session with

all the provinces present. This arrangement would allow fuller discussion, still inform each province of all the others' regulations, and would save time. Two other delegates proposed regional meetings to discuss regulations and one suggested the exclusion of all but delegates and advisers from the closed sessions. One observer agreed with this last suggestion and five others requested more and earlier information on proposed changes to facilitate discussion.

Two delegates and one observer requested more technical discussion on waterfowl, possibly in a special meeting. One delegate and one observer suggested that all papers revolve around a selected theme or subject. Three observers proposed more discussion of enforcement problems.

Other suggestions made were: that each province have five minutes to report its activities, that reporting on action include the results of management action on specific problems, that more emphasis be given to game management in Ontario and Quebec, that there be more technical papers on management of wildlife problems. One member commended the increased attention to mammals, and another proposed inclusion of a speaker to talk on lesser known wildlife.

Suggestions for organizing and handling meetings

Few of the suggestions here were mentioned more than once, but two came up several times; the desirability of a PA system was mentioned ten times. Three other methods of assisting speakers were proposed. Six commented on the number of days, including the free day: two wished to eliminate the free day, two approved the free day - though one thought it should be optional - and two wanted an additional day for discussion purposes. Two asked that the Conference stick closer to its time schedule.

Ten members made a number of other useful suggestions. A list of participants would assist observers in following the discussion. Advance notice of the free day plans would assist members to arrange for it. One delegate proposed that the provinces provide complete kill data to the Canadian Wildlife Service well before the Conference opens. Another wanted the detailed Conference plans much earlier. An observer suggested greater use of visual aids - especially a large wall map of Canada. One member considered that farmers have representation at the Conference and another asked if the Delta Research Station had been invited.

Observer's comments and suggestions

I would like to introduce my comments with a quotation from one of the delegates who wrote: "If the quest for efficiency and improvement will in any way interfere with the rather 'family-type', informal aspect of most of the meeting - I would say, 'to hell with efficiency'."

I endorse this comment. The "family-type", informal character of the Conference is one of its strengths and far from weakening this quality I would want only to strengthen it since this is a prime element in both learning and effective decision-making.

I think it was unfortunate, although not crucial, that the reception which is usually held the evening before the Conference begins was not held this year. This is desirable because it enables members of the Conference to greet old friends, get acquainted with newcomers and in general set the tone and atmosphere of the meetings.

I would also endorse the remark of the delegate who thought there was the correct balance of formality-informality in the handling of the sessions. The practice of having the Conference banquet without speakers and with only the entertainment that members of the Conference can provide for themselves is also in my opinion a source of strength. The informal, relaxed but business-like atmosphere that was evident throughout the Conference is a most important element in achieving its purposes. On the same grounds I would caution against bringing in name speakers or outside experts, however much publicity or expertise they might provide. Name speakers will tend to destroy the qualities of strength which the Conference gets by virtue of its "family-type" character. If experts are brought in they should be involved as consultants by a member of the Conference in the preparation of his paper and then remain as consultants in the discussion. Otherwise an expert is as likely to impede as enhance learning.

For the same kind of reasons I endorse those members of the Conference who advise in favour of keeping the free day and possibly improving on its use by prior information about it. In addition to other advantages the free day provides a useful change of pace.

Some members suggested that the nature of the Conference is changing. It is certainly very different from the meetings of the U.S. Advisory Council which meets, according to Mr. Buell, only to set the seasons and bag limits. The interest shown in budgeting, the review system expounded by Dr. Clarke, and the topics of other papers indicate that the members see the Conference as a most appropriate way to deepen and extend their knowledge and understanding of subjects directly related to their work. In addition, the request for more technical discussion on the philosophies and methods used in establishing the regulations is appropriate since such discussion is important in achieving one of the objectives of the Conference - "to improve federal-provincial relationships so that more effective management can be implemented".

I would concur with the comment of one delegate who felt the present pattern of the Conference was not adequate for doing all the things that were being attempted. I think consideration of the pattern should also take account of the large number of observers present. It is true that there is a variety of reasons for this number, some to provide technical information, some because of general interest, and some to gain acquaintance with the work of the Conference. However, if the work of the Conference is broadening out and the number involved is increasing it may be useful to consider a more complex pattern of meetings, involving some concurrent sessions where topics may be pursued in more depth and in smaller groups. The educational value of such sessions is much higher than discussion in large meetings. An additional day plus slightly better use of the time available would in all probability meet the needs of the Conference in the next few years.

Another device would be to prepare papers in a way similar to that used by Dr. Hatter, who, I understand, developed his paper on the basis of information provided by other members of the Conference during the past year. As we saw, this involvement meant that most members of the Conference had read the paper in advance and had come prepared to discuss it. The Conference is a yearly meeting of a number of people, organizations, and departments engaged in a common undertaking, and the Conference sessions will be strengthened by judicious exploitation of the reality of this common "life" - this set of interests, experiences, concerns which the members share and of which the Conference itself is a visible manifestation and an important part.

Distribution of the papers in advance of the meetings, as was done this year for some papers, can make a tremendous difference in the quality and usefulness of the discussion. The papers should be distributed at least one month before the Conference and members should be advised that the papers will not be read but that discussion will be based on knowledge of them. Not all papers can be distributed in advance (e.g. the material on the status of waterfowl and the proposed seasons and bag limits) but everything else can be and should be. In the case of the reports of the Director of the Canadian Wildlife Service and the Director of the Canadian Wildlife Federation, the Directors should speak to their reports in addition to distributing them in advance. This may also be necessary in a few other cases.

Instead of having the author read his paper the discussion can be led by one or two members of the Conference who have been invited in advance to start discussion.

In the present Conference the reading of the paper on budgeting took 40 minutes and the discussion 29 minutes. The discussion occupied the time set aside on the agenda for this item but could probably have gone on longer with profit had there been more time. It was immediately apparent that most members of the Conference had

read the paper in advance and that some had come prepared for discussion of it. An important topic for discussion, the teaching of ecology in the schools, was introduced in the report of the Wildlife Federation but lack of opportunity to reflect on the matter resulted in only a few comments. In a literate society there is no excuse for not providing people with information in written form, and equally no reason for reading the paper to them. It is important to get the flavour of the author's character and point of view but this we can secure more often in discussion than by listening to him read.

The papers that cannot be distributed ahead of time can be distributed when the Conference convenes and the discussion on them delayed until the second or third day. The planning of the Conference is co-ordinated at the federal level but suggestions and ideas for the program are offered by the provinces. It would appear to me desirable to get the suggestions and ideas from the provinces as soon as possible so that papers may be commissioned in advance and delivery dates set. In the case of major papers the delivery date should not be later than April 1st to allow time for reproduction, distribution, and study. Members of the Conference should, therefore, be invited to send in their suggestions before November 1st so that preliminary plans may be made by the staff responsible for planning the Conference.

