1966

Summary notes and papers of the

THIRTIETH
FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

held in Quebec, P.Q.,
July 12 to 14, 1966.

CANADIAN WILDLIFE SERVICE

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

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Held in Quebec City, Quebec
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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

CONTENTS

Papers presented:

Report on Recommendations Presented by
the 29th Federal-Provincial Wildlife Conference

RECOMMENDATION 1 recommended that the Minister of Northern Affairs and National Resources take the necessary action to sponsor as soon as possible an appropriate bill to amend the Migratory Birds Convention Act on the legislative program of the Federal Parliament in order that the textual amendments to this Act, as recommended by this Conference, may be put into effect.

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 2 recommended that the Department of Northern Affairs and National Resources define the term "sneak-boat" and include that definition in the Migratory Birds Regulations.

Action Definition of the term "sneak-boat" was found to be most difficult to accomplish and, therefore, no amendment was made in the 1966 regulations in that respect. At the request of the Province of New Brunswick, the regulation on the use of sneak-boats in that Province was removed. At the requests of Nova Scotia and Prince Edward Island, the regulation on the use of sneak-boats in those Provinces was left in the regulations.

RECOMMENDATION 3 recommended that since the payment of bounties for the taking of wolves in the Northwest Territories is inconsistent with methods and principles of predator control that have been developed from objective studies and are employed elsewhere in Canada, welfare programs should not include the payment of bounties on predatory animals.

Action The recommendation was distributed to the Northwest Territories Council through the office of the Commissioner of the Northwest Territories on October 5, 1965. No legislative change in that regard has resulted to date.

RECOMMENDATION 4 recommended that the Federal-Provincial Wildlife Conference express its appreciation to the Department of Transport for revising the Canada Shipping Act to increase the penalties provided for oil pollution. The Conference believes that higher penalties will help to prevent losses of wildlife and wildlife habitat owing to oil pollutions.

Action Appropriate information was forwarded.

RECOMMENDATION 5 recommended that the Conference express its appreciation to the Minister of Northern Affairs and National Resources for the action that his Department has taken toward the enactment of a National Wildlife Act and for the action taken to provide the funds required for the proper management of the waterfowl resource.

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

RECOMMENDATION 6 recommended that the Conference commend the Canadian Wildlife Federation and co-operating agencies for their efforts during National Wildlife Week 1965 that contributed to the success of communicating to Canadians the damaging effects of water pollution and that the theme for National Wildlife Week 1966 should be "Preservation of Wildlife Habitat".

Action An extensive publicity campaign on Wildlife Week was developed by the Canadian Wildlife Federation on that theme.

RECOMMENDATION 7 recommended that the Conference express its appreciation to:

The United States Fish and Wildlife Service for making it possible to have their representative, Mr. Lansing Parker, at the 29th Federal-Provincial Wildlife Conference;

To the Department of Northern Affairs and National Resources for its usual efficient handling of Conference arrangements and reception; and

The Royal Canadian Mounted Police for its continuing support and co-operation at both provincial and federal levels.

Action Appropriate information was forwarded.

RECOMMENDATION 8 recommended that the Conference express its appreciation to the Honourable Sterling R. Lyon, Minister of Mines and Natural Resources; to the Government of Manitoba; and to Ducks Unlimited for the splendid hospitality extended to the delegates of the 29th Federal-Provincial Wildlife Conference in Winnipeg, Manitoba.

Action Appropriate information was forwarded.

AGENDA

THE THIRTIETH

FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

CHAIRMAN - Dr. David A. Munro, Director, Canadian Wildlife Service

ASSOCIATED MEETINGS

CANADIAN FUR COUNCIL - Chateau Frontenac - Library
9:00 a.m. July 11, 1966

NATIONAL COMMITTEE ON WILDLIFE CLASSIFICATION - Chateau Frontenac - Quebec Room (Salon No. 2)
9:00 a.m. July 11, 1966

CARIBOU COMMITTEE - Chateau Frontenac - Quebec Room (Salon No. 2)
9:00 a.m. July 15, 1966

ANNOUNCEMENTS

1. MONDAY EVENING - July 11, 1966 - 9:00 p.m.

   The Department of Northern Affairs and National Resources will sponsor a reception and buffet in the St. Louis Room (Salon No. 4) of the Chateau Frontenac. All delegates are invited to attend.

2. WEDNESDAY EVENING - July 13, 1966

   The Department of Tourism, Fish and Game of the Province of Quebec will entertain delegates to the Conference at a banquet to be held in Laurentides Provincial Park. Further details will be announced at the Conference.

Tuesday, July 12, 1966 - Quebec Room (Salon No. 2)

ITEM			
1	9:00 a.m.	Conference opening and introduction of guests	Chairman
2	9:15 a.m.	Recommendations of 1965 Conference	Mr. F.H. Schultz
3	9:30 a.m.	Implementation of National Wildlife Program	Dr. D.A. Munro
	9:50 a.m.	Coffee	
4	10:00 a.m.	Report of the National Committee on Wildlife Land Classification	Dr. P.J. Bandy and Mr. W.A. Benson
5	11:00 a.m.	General consideration of Migratory Birds Regulations. A session for general discussion by the delegates on any aspect of the Regulations.	Chairman

Items will include:

1) Pollution regulations and legislation proposals resulting from pesticide studies

2) Use of sailboats

3) Standards for waterfowl possession permits

4) Hunting zones

5) Other items

LUNCH - 12:30 p.m. - 1:45 p.m.

Tuesday, July 12, 1966 - Quebec Room (Salon No. 2)

ITEM			
6	1:45 p.m.	Birds of prey and the practice of falconry in Canada	Mr. R.W. Fyfe
7	2:15 p.m.	Review of water conditions and waterfowl status in Canada Note: Dr. W.E. Stevens, Mr. A.G. Loughrey, provincial delegates, private agencies and U.S. delegates will be asked to report.	
8	3:00 p.m.	Closed meeting (federal and provincial delegates and R.C.M.P.) 1) Review of amendments to the textual portion of the Migratory Birds Regulations 2) Proposed amendments to Schedules A and B.	

Note: Wednesday, July 13, 1966

No meetings are scheduled for this day. Delegates may wish to take the opportunities offered to visit points of interest in the area. Further details to be announced.

Thursday, July 14, 1966 - Quebec Room (Salon No. 2)

ITEM			
9	9:00 a.m.	National Wildlife Week	Mr. R.C. Passmore
10	9:15 a.m.	National Pollution Conference	Mr. C. de Laet Canadian Council of Resource Ministers

Thursday, July 14, 1966 - Quebec Room (Salon No. 2)

ITEM			
11	9:30 a.m. -	Traffic of game between Canada and U.S.A. and regulations pertaining thereto	Dr. J. Hatter and Dr. Noble Buell
12	9:50 a.m.	Waterfowl losses and ways to reduce them (legislation, hunter training, shot ballistics, lead shot substitutes, etc.)	Dr. V.E.F. Solman
13	10:10 a.m. -	Acceptability of agreements for rental of rights to basins	Dr. W.J.D. Stephen
	10:25 a.m. -	Coffee	
14	10:40 a.m. -	Enforcement of Migratory Birds Regulations	Mr. A.T. Pelletier
15	11:30 a.m. -	A highlight report on some recent fish and wildlife matters in the United States	Dr. Noble Buell
		LUNCH - 12:15 p.m. - 1:45 p.m.	
16	1:45 p.m. -	Continuation of general discussion on Migratory Birds Regulations	
17	2:30 p.m. -	Report from Recommendations Committee	
18	2:45 p.m. -	Closed meeting for federal and provincial delegates only Final discussions on Migratory Birds Regulations	

SUMMARY NOTES ON THE 30TH
FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

Morning session, July 12

The Chairman opened the Conference, and after welcoming the delegates introduced the Honourable Gabriel Loubier, Minister of Tourism, Fish and Game for the Province of Quebec. Mr. Loubier welcomed the delegates to Quebec on behalf of Premier Johnson and wished them success in their deliberations.

Dr. Munro next introduced the Honourable Arthur Laing, Minister of Northern Affairs and National Resources. Mr. Laing said that he was delighted to be in Quebec and was enjoying his stay. He said that the people in his Department felt a great sense of responsibility because they must act as trustees of a resource which is in very great demand. Mr. Laing said that his Department did not wish to infringe on provincial responsibilities. However, because so many wildlife problems crossed political boundaries, he did wish the provinces to know that the federal government would contribute to co-operative projects. In closing, Mr. Laing reiterated his pleasure at being in Quebec and said that he was delighted to see the Honourable H.A. Ruste of Alberta and Mr. Buell, Assistant Director of Wildlife, U.S. Bureau of Sport Fisheries and Wildlife, at the Conference.

Dr. Munro then introduced other guests at the Conference, including the Honourable Henry A. Ruste, Mr. E.A. Côté, Deputy Minister of Northern Affairs, Mr. Paul-A. Brown, Assistant Deputy Minister of Fish and Game for the Province of Quebec, Mr. Stuart Anderson, Deputy Minister of Mines and Natural Resources for the Province of Manitoba, and Mr. Noble Buell.

The Chairman asked Mr. Schultz to report on recommendations of the 29th Conference. Complete texts had been distributed to the delegates, and Mr. Schultz summarized action taken on the recommendations.

The Chairman then appointed Mr. Walden as Chairman of the Recommendations Committee, to be assisted by Mr. Carter, Mr. Fitzgerald, and Mr. Eagles as Secretary.

Dr. Munro announced the recent appointment of Dr. Stuart Smith as Director of Fish and Wildlife for Alberta, and Mr. A.T. Pelletier as Assistant Deputy Minister for Recreation of the Department of Lands and Mines in New Brunswick. He also announced the appointment of Mr. Brian Carter as Mr. Pelletier's replacement as Director of the Fish and Wildlife Branch.

The Chairman introduced Dr. A.H. Corner, Head, Histopathology Section, Animal Pathology Division, Department of Agriculture, Ottawa, and announced that Inspector Huget was representing the R.C.M. Police at the Conference.

Dr. Munro then outlined the recent implementation of the National Wildlife Program, the scope of which was discussed at last year's Conference in Winnipeg. He mentioned two highlights, the development of a program for safeguarding and maintaining wetlands habitat, and the introduction of the Canada migratory game bird hunting permit.

Dr. Munro mentioned that later in the Conference there would be a paper dealing with the Canadian Wildlife Service's pilot projects for leasing wetlands. He said that the Service had learned a great deal from these preliminary studies; for example, the difficulty of drafting an agreement form which is acceptable to farmers, will stand up in the courts, and does not impose an impossible administrative burden. The Service expects to move into the operational phase of the leasing program in 1967.

He said the wetlands maintenance program has two aspects: easements on production areas, and the acquisition of resting and sanctuary areas which are of particular importance. The Department of Transport is acting as real estate agent in all purchases. A salt marsh in Nova Scotia has been purchased and one or two small acquisitions are under way in British Columbia. In addition, negotiations are under way for an area in Saskatchewan which the Service has proposed be managed jointly with the Saskatchewan Government. There has been some misunderstanding that the Service intends to make sanctuaries out of all the acquired areas and prohibit hunting or other public use. This is not the case.

Dr. Munro then dealt with several points that had been raised about the Canada migratory game bird hunting permit. He said the Post Office has several advantages as a vendor. It provides an efficient national distribution system. In some provinces, it is not possible to obtain records until months after the season, whereas the Service receives sales records from the Post Office in a few days.

Dr. Munro then listed plans for publicity and said that it would be emphasized that this was a national permit. He said that the requirement for the permit was in the Migratory Birds Regulations and should therefore be enforced like any other regulation.

As to the need for a permit at all, Dr. Munro said that the names and addresses of all persons who hunted were required to obtain a statistical universe for a national waterfowl harvest survey. It was not possible to use provincial sales records owing to variations in provincial licensing systems.

Dr. Munro then introduced Mr. Gordon Gibson, Executive Assistant to Mr. Laing. He also introduced Dr. Louis Lemieux, Director, Parks and Reserves Services, Department of Tourism, Fish and Game for the Province of Quebec, and made several announcements about activities associated with the Conference, including a visit to Laurentides Provincial Park.

Dr. Munro then introduced the new Chief of the Canada Land Inventory Division, Mr. Arthur Benson. Mr. Benson reported briefly on the meeting of the National Committee on Wildlife Land Classification which had been held the day before. The Committee was formed to make a continuing review of the principles and techniques used to classify and map areas for the wildlife sector of the Canada Land Inventory. Mr. Benson outlined the scope of ARDA's work and pointed out that while ARDA did not carry out basic research, the inventory will be most useful to researchers.

Dr. Munro then introduced Dr. Bandy of the British Columbia Fish and Game Branch. Dr. Bandy reported on the work of the sub-committee that had reviewed procedures, and recommended that since it had achieved its purpose it should now be disbanded. He said that classification systems tend to vary regionally or provincially, but every attempt should be made to prevent this and keep the Canada Land Inventory valid nationally.

The presentation by Mr. Benson and Dr. Bandy prompted considerable discussion. Points covered included:

(1) agreement that the system should not vary regionally;

(2) reasons for ungulates and waterfowl being chosen as the classifying factors in the wildlife inventory (national occurrence); and

(3) the problems of data retrieval at the provincial and federal levels.

At the end of the discussion period, Dr. Munro introduced Mr. Dan Poole, Secretary of the Wildlife Management Institute, and Dr. Philip Barske of the Northeast Regional Office.

Dr. Munro then asked delegates to outline suggested changes to the Migratory Birds Regulations (other than Schedules A and B).

The section dealing with pollution was discussed first. Dr. Cooch provided the background information and this led to a lively discussion on the possibilities of modifying this regulation to cover pollution by pesticides. A draft of a new section on pollution will be presented by the Canadian Wildlife Service for further discussion.

Comments were received on other sections of the regulations dealing with the use of sailboats for hunting migratory birds, standards for maintenance of captive waterfowl, smaller provincial game management areas that can be used to develop hunting zones for migratory birds, shotguns plugged to restrict capacity to three shells, and the possession of more than one shotgun by a hunter in the field.

Afternoon session, July 12

Dr. Munro introduced Mr. Richard Fyfe of the Canadian Wildlife Service who presented a paper entitled "Birds of prey and the practice of falconry in Canada". It was felt that considerable public interest had been awakened which would help to change public opinion about these birds.

The Chairman asked Mr. Ronald Mackay, Western Region, and Mr. Nolan Perret, Eastern Region, Canadian Wildlife Service, to report on the status of waterfowl in their respective regions. Mr. Mackay's report indicated that while gains are encouraging, waterfowl numbers are still well below the long-term average. The Chairman then asked the provincial delegates from the west for their views and comments.

Mr. Perret did not present population estimates but gave a run-down on the work being carried out in the Eastern Region. He hoped that banding and aerial surveys will in future years provide data comparable to that being presented by the Western Region.

After coffee break, the meeting reconvened in closed session to discuss proposed amendments to the Migratory Birds Convention Act and Regulations.

Morning session, July 14

The Chairman introduced Mr. Dick Passmore, Executive Director, Canadian Wildlife Federation, reported on National Wildlife Week, 1966. He said that the 1966 program on the theme "Preservation of Wildlife Habitat", was the largest ever and reached virtually every elementary and secondary school.

Mr. Passmore suggested that the theme for National Wildlife Week, 1967, might be "Conservation in Canada's Second Century". Mr. Passmore further suggested that a concerted effort be made by provincial agencies to encourage the provincial Departments of Education to incorporate more conservation education into curricula for elementary and secondary schools.

The Chairman thanked Mr. Passmore and introduced Mr. C. de Laet, Secretary-General of the Canadian Council of Resource Ministers. Mr. de Laet briefly reviewed the role of the Council and proceeded to outline plans for the National Conference on Pollution and our Environment. Mr. de Laet stressed that the role of the conference was not scientific or technical but rather was a management conference to formulate recommendations that would help establish guidelines for future action.

The Chairman, acting on Mr. de Laet's suggestion, proposed that a committee be established to review papers to be presented in the wildlife field and select issues of particular significance for discussion at the pollution conference workshops. The Chairman then asked Dr. Solman to act as co-ordinator for the committee, with Dr. Smith of Alberta, Dr. Corbeil of Quebec, Mr. van Nostrand of Nova Scotia, and Mr. Walden of Ontario as members at large.

The Chairman introduced Dr. V.E.F. Solman, Staff Specialist, Migratory Bird Habitat, Canadian Wildlife Service, who presented a paper entitled "Waterfowl losses and ways to reduce them". In the discussion following Dr. Solman's paper, delegates expressed concern over the loss of waterfowl due to lead poisoning and crippling.

The Chairman introduced Dr. W.J.D. Stephen of the Canadian Wildlife Service who presented a paper entitled "Acceptability of agreements for rental of rights to basins". Considerable interest was shown by the delegates in this subject.

The Chairman introduced Mr. A.T. Pelletier, Assistant Deputy Minister of Recreation, Department of Lands and Mines, Fredericton, New Brunswick, who presented a paper entitled "Enforcement of the Migratory Birds Convention Act". Discussion following the presentation of Mr. Pelletier's paper indicated that the delegates were gravely concerned over enforcement problems and this feeling was summed up by Dr. Munro's remarks "...nor is there any doubt in the minds of any of us here that it [enforcement] must be improved and improved quickly". Several delegates expressed concern that the introduction this year of the Canada migratory game bird hunting permit would create many enforcement problems.

The Chairman called on Mr. Darrell Eagles, Head, Editorial and Information Section, Canadian Wildlife Service, to explain in some detail the extensive publicity that was being given to the permit.

Afternoon session, July 14

The Chairman asked Mr. Paynter to introduce Mr. Noble Buell, Assistant Director of Wildlife, Bureau of Sport Fisheries and Wildlife. Mr. Buell presented a paper entitled "A highlight report on some recent fish and wildlife matters in the United States". Mr. Buell's remarks were well received by the delegates and Dr. Munro expressed the appreciation of the Conference for Mr. Buell's attendance and presentation.

The Chairman then asked for nominations for a representative to attend the National Waterfowl Advisory Council meeting in Washington on August 9th and 10th. Dr. S. Smith of Alberta was chosen as the delegate with Mr. Walden to act as a substitute if necessary.

A brief discussion was then held concerning the place and time of future Federal-Provincial Wildlife Conferences. It was decided the 1967 Conference would be held in Ottawa in July and the 1968 Conference in Whitehorse.

Mr. Walden was then asked by the Chairman to present the report of the Recommendations Committee. The recommendations will be found as an appendix to this report.

The Chairman then called for further discussion on the textual portion of the Migratory Birds Convention Act and Regulations. After some discussion, Mr. Anderson requested a closed session to present his views on the introduction of the Canada migratory game bird hunting permit.

After the closed session, the Chairman thanked the delegates for their interest and attention and adjourned the Conference.

RECOMMENDATIONS
of the
30th FEDERAL-PROVINCIAL WILDLIFE CONFERENCE

MEMBERS OF THE COMMITTEE

Mr. F.A. Walden, Chairman
Mr. J.B. Fitzgerald
Mr. B.C. Carter
Mr. Darrell Eagles, Secretary

RECOMMENDATION 1

IT IS RECOMMENDED THAT the meeting express its appreciation to the Honourable Gabriel Loubier, Minister of Tourism, Fish and Game for the splendid hospitality extended to delegates of the 30th Federal-Provincial Wildlife Conference in Quebec City.

RECOMMENDATION 2

WHEREAS this Conference has previously recommended 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, and since this recommendation has not been implemented;

IT IS THEREFORE RECOMMENDED THAT the Department of Northern Affairs and National Resources take the necessary steps to include an appropriate amendment to the Migratory Birds Convention Act.

RECOMMENDATION 3

WHEREAS this Conference has previously recommended the establishment of a minimum fine of $25.00 and a maximum fine of $1,000.00 for convictions under the Migratory Birds Convention Act and since this recommendation has not been implemented;

IT IS THEREFORE RECOMMENDED THAT the Department of Northern Affairs and National Resources take necessary steps to include an appropriate amendment to the Migratory Birds Convention Act.

RECOMMENDATION 4

IT IS RECOMMENDED 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 representatives, Messrs. Noble Buell and Dan Poole, and Dr. Phil Barske, at the 30th Federal-Provincial Wildlife Conference; the Department of Northern Affairs and National Resources for its handling of Conference arrangements, and to the R.C.M. Police for its support and co-operation at both provincial and federal levels.

RECOMMENDATION 5

WHEREAS concern has been expressed about the conditions under which some permit holders maintain migratory birds;

IT IS RECOMMENDED 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.

RECOMMENDATION 6

WHEREAS the continuing pollution of our environment is resulting in harmful side-effects, the full import of which is not adequately known, and whereas chemical poisons with unknown persistence and side-effects are continually being devised, and whereas this meeting is particularly concerned about the effects of pollution on the environment of migratory birds;

IT IS THEREFORE RECOMMENDED 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.

RECOMMENDATION 7

WHEREAS the ad hoc sub-committee on land capability classification for wildlife has completed its task, and whereas it would be desirable to periodically review the results of technical work of the wildlife section of the Canada Land Inventory, devise suitable methods of inventory, create a techniques manual, recommend research basic to wildlife capability classification, and facilitate co-operation with other agencies concerned with land classification;

IT IS THEREFORE RECOMMENDED THAT a national advisory committee on land capability for wildlife be created, comprised of a repre-

sentative 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.

RECOMMENDATION 8

WHEREAS the birds of prey are increasingly important because of their aesthetic and recreational values, and whereas populations of some species are or may be threatened by use of pesticides, by indiscriminate killing, and by thoughtless human interference;

THIS CONFERENCE RECOMMENDS 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.

RECOMMENDATION 9

WHEREAS ingestion of expended shot results in an annual production loss of over two million ducks and geese from lead poisoning,

AND WHEREAS great sums of money are being expended to preserve wetlands to maintain production to the highest level permitted by water levels,

AND WHEREAS there are many production factors over which waterfowl managers have no control;

This Conference supports the research now being carried out to find a suitable substitute for lead shot and recommends test programs and that adoption of a suitable substitute be carried out with all possible speed.

RECOMMENDATION 10

WHEREAS a federal inter-departmental committee is considering the rights of Indians under the various Treaties or other commitments made to them,

AND WHEREAS the provinces are directly affected by the exercise of such rights in hunting and fishing;

THIS CONFERENCE THEREFORE RECOMMENDS THAT the provinces should be represented in the continuing consideration of these problems.

RECOMMENDATION 11

WHEREAS the signing of the Migratory Birds Treaty by Canada and the United States in 1916 imparted a primary responsibility to the

federal government for the protection and management of migratory birds and whereas enforcement of the Migratory Birds Regulations is an essential factor in management that has not, in the opinion of the delegates, received adequate attention, and whereas mention is made in Canada's National Wildlife Policy and Program of the importance of law enforcement to ensure equitable sharing of the migratory bird harvest;

THEREFORE IT IS RECOMMENDED THAT the Canadian Wildlife Service study this urgent problem and make recommendations to the federal government that resources be made available to field a trained enforcement group fully adequate for the task.

RECOMMENDATION 12

The delegates endorse the recommendation of the Canadian Wildlife Federation that the theme of National Wildlife Week 1967 deal with conservation in Canada's second century.

The delegates endorse the desirability of furthering conservation education in the schools and express the hope that provincial resource departments will use their good offices to make provincial departments of education aware of the potential benefits.

Those who registered at the Conference

Mr. Stuart Anderson	Deputy Minister of Mines and Natural Resources Legislative Building Winnipeg, Manitoba
Mr. George Arsenault	Canadian Wildlife Service P.O. Box 35 Sillery, Quebec
Dr. John Bandy	Fish and Game Branch Department of Recreation and Conservation University of British Columbia Vancouver 8, British Columbia
Dr. Philip Barske	Wildlife Management Institute 2325 Burr Street Fairfield, Connecticut U.S.A.
Mr. George Bayly	Deputy Minister of Lands and Forests Toronto, Ontario
Mr. W.A. Benson	Chief Canada Land Inventory Division Department of Forestry Ottawa 4, Ontario
Mr. E.F. Bossenmaier	Wildlife Branch Department of Mines and Natural Resources 908 Norquay Building Winnipeg 1, Manitoba
Mr. Paul-A. Brown	Assistant Deputy Minister (Fish and Game) Department of Tourism, Fish and Game Quebec City, Quebec
Mr. Noble E. 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 Lands and Mines Fredericton, New Brunswick
Dr. F.G. Cooch	Staff Specialist Migratory Bird Populations Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario
Dr. A.H. Corner	Head Histopathology Section Animal Pathology Division Animal Diseases Research Institute Hull, Quebec
Dr. H.-Etienne Corbeil	Director Wildlife Management Service Department of Tourism, Fish and Game Quebec City, Quebec
Mr. Christian de Laet	General Secretary Canadian Council of Resource Ministers Montreal, Quebec
Mr. Pierre Des Meules	Department of Tourism, Fish and Game Quebec City, Quebec
Mr. J.A. Marc Dion	Club Provancher Saint-Joachim 739 ouest Saint-Cyrille Quebec City, Quebec
Mr. H.R. Donnelly	Canadian Wildlife Service Eastern Region 293 Albert Street Ottawa 4, Ontario
Mr. C.A. Drolet	Canadian Wildlife Service P.O. Box 35 Sillery, Quebec
Mr. Darrell Eagles	Head Editorial and Information Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario

Mr. J.B. Fitzgerald	Director of Game Yukon Territorial Government Federal Building Whitehorse, Yukon
Mr. R. Fyfe	Canadian Wildlife Service P.O. Box 180 Sackville, New Brunswick
Mr. Gordon F. Gibson	Executive Assistant to the Minister of Northern Affairs and National Resources 400 Laurier Avenue West Ottawa 4, Ontario
Mr. Guy Giguère	Department of Tourism, Fish and Game Quebec City, Quebec
Mr. D.H. Gimmer	Wildlife Specialist Indian Affairs Branch Department of Citizenship and Immigration Ottawa, Ontario
Dr. J.B. Gollop	Research Supervisor Canadian Wildlife Service Prairie Migratory Bird Research Centre University of Saskatchewan Campus Saskatoon, Saskatchewan
Mr. Patrick A. Hardy	Managing Director Canadian Audubon Society 46 St. Clair Avenue East Toronto 7, Ontario
Dr. J. Hatter	Director Fish and Game Branch Department of Recreation and Conservation Victoria, British Columbia
Inspector A. Huget	Royal Canadian Mounted Police Ottawa, Ontario
Mr. K.K. Irizawa	Department of Lands and Forests Maple, Ontario

Mr. R. Jakimchuk	Canadian Wildlife Service 10177 - 104th Street Edmonton, Alberta
Mr. P. Kwaterowsky	Northwest Territories Game Service Fort Smith, N.W.T.
The Honourable Arthur Laing	Minister of Northern Affairs and National Resources Ottawa, Ontario
Mr. J.P. Lamoureux	Canadian Wildlife Service P.O. Box 35 Sillery, Quebec
Mr. Marcel Laperle	Canadian Wildlife Service P.O. Box 35 Sillery, Quebec
Mr. W.G. Leitch	Ducks Unlimited (Canada) 606-389 Main Street Winnipeg 2, Manitoba
Dr. Louis Lemieux	Director Parks and Reserves Services Department of Tourism, Fish and Game Quebec City, Quebec
The Honourable Gabriel Loubier	Minister of Tourism, Fish and Game Quebec City, Quebec
Mr. A.G. Loughrey	Superintendent Eastern Region Canadian Wildlife Service 293 Albert Street Ottawa 4, Ontario
Mr. R.H. Mackay	Operations Supervisor Canadian Wildlife Service 10177 - 104th Street Edmonton, Alberta
Mr. A.H. Macpherson	Research Supervisor Eastern Region Canadian Wildlife Service 293 Albert Street Ottawa 4, Ontario

Mr. G.W. Malaher	Director Wildlife Branch Department of Mines and Natural Resources Winnipeg, Manitoba
Mr. H.S. Maliepaard	Department of Natural Resources Regina, Saskatchewan
Mr. S.F. Manuel	Chief Biologist Wildlife Service Department of Mines and Resources St. John's, Newfoundland
Mr. W.R. Miller	Canadian Wildlife Service Room 900 269 Main Street Winnipeg, Manitoba
Mr. George J. Mitchell	Chief Wildlife Biologist Department of Lands and Forests Edmonton, Alberta
Mr. W.A. Morris	Canadian Wildlife Service 6660 Northwest Marine Drive Vancouver 8, British Columbia
Dr. David A. Munro	Director Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario
Mr. W.T. Munro	Canadian Wildlife Service P.O. Box 35 Sillery, Quebec
Mr. R.C. Passmore	Executive Director Canadian Wildlife Federation 37 Queensline Drive Ottawa, Ontario
Mr. E.L. Paynter	Director Wildlife Branch Department of Natural Resources Regina, Saskatchewan
Mr. A.T. Pelletier	Assistant Deputy Minister - Recreation Department of Lands and Mines Fredericton, New Brunswick

Mr. N.G. Perret	Wildlife Co-ordinator Canada Land Inventory Canadian Wildlife Service 161 Laurier Avenue West, Ottawa 4, Ontario
Mr. D.G. Pike	Director of Wildlife Management Department of Mines, Agriculture and Resources St. John's, Newfoundland
Mr. Daniel Poole	Secretary Wildlife Management Institute Department of the Interior Wire Building Washington, D.C. U.S.A.
The Honourable Kelso Roberts	Minister of Lands and Forests Toronto, Ontario
The Honourable Henry A. Ruste	Minister of Lands and Forests Edmonton, Alberta
Constable J.A. St-Pierre	Royal Canadian Mounted Police Montreal, Quebec
Mr. F.H. Schultz	Executive Assistant to the Director Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario
Mr. Georges Sévigny	Inspector General Protection Service Department of Tourism, Fish and Game Quebec City, Quebec
Dr. S.B. Smith	Director Fish and Wildlife Department of Lands and Forests Edmonton, Alberta
Dr. Victor E.F. Solman	Staff Specialist Migratory Bird Habitat Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario

Dr. W.J.D. Stephen	Canadian Wildlife Service Prairie Migratory Bird Research Centre University of Saskatchewan Campus Saskatoon, Saskatchewan
Dr. W.E. Stevens	Superintendent Western Region Canadian Wildlife Service 10177 - 104th Street Edmonton, Alberta
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Mr. W.J. Thurlow	Canadian Wildlife Service 400 Laurier Avenue West Ottawa 4, Ontario
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Mr. Stanley E. Vass	Department of Fisheries Charlottetown, P.E.I.
Mr. F.A. Walden	Department of Lands and Forests Toronto, Ontario
Mr. Wm. R. Whitman	Canadian Wildlife Service P.O. Box 180 Sackville, New Brunswick
Mr. Bruce S. Wright	Director Northeastern Wildlife Station Fredericton, New Brunswick

BIRDS OF PREY AND THE PRACTICE OF FALCONRY IN CANADA

Richard Fyfe
Canadian Wildlife Service
Sackville, New Brunswick

The recent marked declines in the populations of the bird- and fish-eating raptors in Europe and North America have resulted in increased interest and concern about the welfare of all birds of prey. In general it can be said that the status of these birds appears to be unchanged in remote and little developed areas, but that in populated areas their numbers have either declined sharply, or, less tolerant species have been replaced.

This pattern apparently prevails in North America except for the north-eastern United States and south-eastern Canada. Sharp declines have occurred in the north-eastern United States, southern Ontario, and southern California. Specifically, the populations of the bald eagle, osprey, peregrine falcon, Cooper's hawk, and sharp-shinned hawk have been affected. The population decreases in these species correspond very closely to similar drastic declines in Europe.

On both continents the declines appear to have occurred without any apparent increase in the normal mortality factors. In two recent symposiums, it has been suggested that the most important cause of the declines is the use of pesticides, especially the chlorinated hydrocarbons such as D.D.T., Aldrin, and Dieldrin.[1,2] Evidence suggests that these chemicals are lost very slowly from animal tissue and that raptors may receive what amounts to the cumulative intake of all of the prey.

The declines have been characterized by regional die-offs which closely correspond to agricultural practices and by a typical sequence. This sequence is as follows:

> Breeding pairs of birds present with normal nesting success;

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[1]International Symposium on the Peregrine Falcon, August 29 to September 1, 1966, Madison, Wisconsin.

[2]Symposium on the Birds of Prey, April 27-30, 1966, State College, Pennsylvania.

Breeding pairs of birds present with low nesting success;

Breeding pairs of birds present but exhibiting aberrant behaviour such as eating eggs or their own young;

Single birds present;

No birds present and eyries deserted.

This sequence has been observed with peregrine, European bird-eating accipiters, osprey, and the bald eagle, and I suggest that these are the indicators to be looked for in order to determine the health of a given population.

In Canada only southern Ontario is positively known to have had a severe population crash. In this area, of the more than 70 known peregrine eyries only two were occupied in 1965 and I believe that no young were produced. In western Canada, field work suggests one local population crash of prairie falcons and pigeon hawks, apparently correlated with heavy poisoning for grasshoppers with Dieldrin. In other more remote areas in Saskatchewan and Alberta the birds appear to be in excellent shape and the prairie falcons and golden eagles in these areas have had the best production ever recorded. In general it appears that in this country most raptor populations have not declined markedly except as indicated, and that the goshawk, broad-winged hawk, and sparrow hawk apparently are increasing and spreading their ranges.

The current status by species in this country as determined by literature, personal contacts, and personal field work is as follows:

Eagles and osprey

The populations of the bald eagle and osprey are generally sparse in eastern Canada and may have been affected in specific areas in southern Ontario and the Maritimes by intensive spraying. Bald eagles are extremely abundant along the coast of British Columbia north to Alaska and are common in the northern prairies and District of Mackenzie. The golden eagle rarely breeds in eastern Canada. In western Canada it breeds in the ranching areas of the prairies, in the Rocky Mountains, and in the District of Mackenzie. This species is never really abundant owing to its large territorial requirements.

Falcons

Gyrfalcon - This is a not uncommon breeding bird in northern Canada wherever suitable breeding habitat and food species are

available. The status of this species apparently is unchanged and is not likely to change.

Peregrine - Peregrines are rare breeding birds in eastern Canada and Alberta. The current population is not known but the species has declined sharply since 1955. The species is still a common breeding bird in most of Canada north of 55°N. latitude and on the west coast of British Columbia, and is a common migrant on the Atlantic coast in September and October.

Prairie falcon - Prairie falcons are common breeding birds in Saskatchewan and Alberta wherever suitable hatitat is available. Nesting success in 1966 was the highest yet recorded. Nevertheless a small population along the south Saskatchewan River in eastern Alberta and western Saskatchewan is now gone.

Sparrow hawk

This species is apparently increasing in eastern North America, with scattered populations in western Canada and north in forested regions to the Arctic Ocean.

Pigeon hawk

Pigeon hawks are rare to common in the aspen parkland of Saskatchewan and Alberta, with scattered populations throughout the mixed wood and boreal forest from Newfoundland to British Columbia and north to the Mackenzie Delta. Their status apparently is unchanged except in specific areas on the prairies.

Accipiters

Goshawk - The goshawk breeds from coast to coast in mixed woods and boreal forests, and apparently has not been affected by pesticides in eastern Canada (presumably because of a predominantly mammal diet). If anything, this species is on the increase and is extending its range.

Cooper's hawk and sharp-shinned hawk - These two species have declined sharply in eastern Canada in the past twenty years (estimated at about a 90 per cent decline), apparently as a result of pesticide poisoning. There are scattered populations across the prairie parkland and these birds are common in southern British Columbia.

Buteos - The buteos seem to be maintaining their population level with two notable exceptions. The ferruginous hawk appears to be at a dangerously low population level. A few of these birds still breed in south-western Saskatchewan and southern Alberta. The broad-winged hawk, on the other hand, apparently is increasing rapidly and is extending its range.

Raptor populations

The birds of prey are seldom abundant in any area except when concentrated during migration, as they generally have very large territorial requirements for both nesting and hunting. The availability of food and suitable nesting hatitat appear to be the main factors determining the size of the territories and normally are the major limiting factors in raptor populations. Once established, except for those species dependent on highly cyclic food species, raptor populations tend to be remarkably stable over long periods of time. Also, as most species are long lived, once a population has been established, the annual production far exceeds the annual mortality of adults and a floating population of non-breeding birds is available to fill any vacancies. This phenomenon occurs despite what appears to be an exceptionally high mortality of immature birds.

The various mortality factors affecting a population include disease, natural catastrophes (storms, land slides) and interference by humans. Normally a healthy population thrives despite these elements. However, any one factor could be disastrous when the population is very low. Particularly serious is human interference including picnicking and hiking near nest sites, shooting, egg collecting, collection of young for falconry; equally detrimental are the activities of bird watchers, wildlife photographers, scientific collectors, and scientific observers who are not fully aware of the extremely shy nature of these species.

A healthy population normally produces an annual surplus which the falconer harvests. Such a harvest was formerly carried out in the British Isles for about 500 years without any apparent decrease in the peregrine population and a similar annual harvest of Peales falcons in the Queen Charlotte Islands does not appear to have affected the breeding population, with 1966 one of the most productive years recorded. I believe that a limited harvest has no apparent ill effects and is merely utilizing a renewable resource.

The sport of falconry

Falconry is the taming and training of a bird of prey so that it will remain and hunt game species in the presence of and in co-operation with man. The bird is flown completely free with the prey being determined through the training and timing of the release by the falconer. Virtually any raptor can be trained whether immature or adult, but falconers generally limit their activities to the falcons, accipiters, or large buteos. The method of training is primarily through a system of food rewards and takes from about a month to a maximum of six to eight months.

The sport tends to be self-limiting as the difficulty of obtaining birds (usually from high cliffs in extremely remote areas) and the long, tedious period of taming and training tends to discourage most would-be falconers. Nevertheless, those who stay with it are usually extremely dedicated both to the welfare of the birds of prey and to the sport of falconry. In Canada today there are active falconers in virtually every province.

Public reaction

The usual public reaction toward the sport is one of curiosity and interest, and in most instances few people are opposed to it. Among the most strenuous critics are such groups as humane societies, pigeon fanciers, and even occasionally sportsmen. Most criticism results from misinformation can be readily overcome by good public relations on the part of the falconers. In general, falconers and falconry are well accepted by naturalists and professional biologists as evidenced by the fact that the North American Falconry Association is affiliated with the National Audubon Society, and by the Saskatchewan Natural History Society Conservation Award given to the Saskatchewan Falconry Association in 1963.

Most misconceptions about falconry concern the care of the birds and their use as hunters. In nature the presence of predatory birds and mammals is a normal daily occurrence to which the prey species react instinctively. Once such a predator has passed, the prey very quickly resumes other activities. Some prey species apparently even enjoy the chase and will actually return to tease a falcon which has tried unsuccessfully to catch it. If, on the other hand, the predator (in this instance a raptor) is successful, it catches an individual bird or animal which in most instances was singled out because of some slight aberration from the normal. It is this specific behaviour, common to all predators, which ensures the survival of the fittest so necessary to the continued existence of each wild species. The kill is accomplished quickly and there are no cripples that get away to die slowly.

As far as cruelty to the falcon is concerned it is obvious that the health and well-being of the birds are of prime importance if the falcon is to fly well. Anyone who has examined the birds in the care of a serious falconer will have observed their excellent condition, and will also have noted that such birds seldom have even so much as a single broken feather. People sometimes express concern at the birds being tethered; however, wild hawks or owls will sit on a given perch for hours on end. All trained birds are flown free almost daily and at this time they are absolutely free to leave the falconer and his environment. The suggestion that

the birds return only because of hunger is also unfounded, as I have had birds return fully fed. (In one instance I had a falcon return to the house carrying the remainder of her prey.)

Sportsmen occasionally voice concern over what they believe to be the extreme efficiency of a trained hawk or falcon as a hunter. In the wild this may be true, although I have not personally seen any evidence to suggest it. On the other hand I can say that hunting with a trained bird is not a particularly efficient means of hunting, perhaps simply because such a bird is seriously handicapped by having to hunt with man.

In some respects falconry is similar to hunting with a well-trained dog in that the performance of the animal is of great importance, in falconry of more importance than the quarry. As a field sport falconry admittedly has a low harvest, yet provides many hours of enjoyable recreation with many, many flights per head of quarry. Other advantages of the sport include the fact that, in contrast to hunting with a shotgun, hunting with a raptor does not leave cripples (the prey being either caught or escaping unharmed), and the fact that hawks and falcons are not dangerous to humans or the larger livestock. The latter point is one of the most desirable aspects as the sport has great potential for the hunting of game species in close proximity to heavily settled areas.

Public relations and public education are but two of the problems faced by falconers in this country. The major specific problems faced by falconers in Canada are:

1. The thoughtless shooting of raptors in nearly all provinces regardless of specific legislation protecting the birds of prey. As a result the falconer is continually faced with the concern that his birds will be shot. (In Montreal a bird was shot by a rifle while perched in a falconer's back yard.)

2. The greatest problem faced by the serious falconer is the activities of the untutored beginner or would-be pet-keeper. Too often these people are referred to as falconers and their abuses frequently provide the basis for unwarranted criticism of the sport.

For the welfare of the serious falconer, as well as for the birds, I believe that it is desirable for each province to regulate the sport of falconry. Specifically I believe that regulations should

(a) specify the requirements which must be met before an individual is allowed to practise the sport,

(b) control the annual harvest of locally raised and migrant birds, and

(c) specify the hunting regulations that are applicable to the falconer.

The legislation for falconry in the State of Idaho could well serve as a model, as it has for many years proven satisfactory both to Idaho and to the falconers of that state. In this country Dr. Hatter, Director of the Fish and Game Branch of the British Columbia Department of Recreation and Conservation, has indicated that the legislation of falconry in British Columbia has proved workable.

Research needed

The recent concern over the sudden decline of several species of raptors has brought about an awareness of just how little we know about the birds of prey. It has become apparent that in order to safeguard the existence of these birds considerable research is necessary. Aside from such basic work as life history and behavioural studies, immediate work should be carried out on the population dynamics and ecology of specific current raptor populations. Furthermore, should any species appear to be seriously threatened, research into domestic breeding would be vital so that the species would not be lost. (Because it is realized that it will take several years to reduce the effects of the chlorinated hydrocarbons now in the environment and because it is entirely possible that these chemicals may be the major decimating factor of the peregrine falcon, several individuals are now co-operating in an attempt to breed this species in captivity. At the present time seven pairs of peregrine falcons are being kept by falconers for observation and experimentation relative to domestic breeding of this species.)

Examples of specific research and studies which should be considered are as follows:

(a) Comparative studies on specific populations of raptors with the emphasis on the declining species.

(b) Life history, behavioural, and ecological studies on representative species in each group of raptors.

(c) Breeding experiments with species in each group with particular emphasis on the declining species. Such experiments are of value both for potential reintroductions and as a means of taking pressure off wild populations.

In addition to the above, an annual census of known breeding and migrating populations should be carried out. Such information could be obtained through co-operation with the serious falconers and naturalists in this country, and I strongly suggest that these people be used whenever possible as they are perhaps more concerned about the welfare of these birds than anyone else.

As a biologist, falconer, and concerned individual, I sincerely hope that the combined interest and activities of falconers and conservationists will foster increased research as well as public awareness and concern for the welfare of the birds of prey.

NATIONAL POLLUTION CONFERENCE

C. de Laet
General Secretary,
Canadian Council of
Resource Ministers
Montreal, P.Q.

Mr. Chairman, Mr. Minister, Gentlemen:

I am very glad to speak to you today even if the early hour mitigates somewhat any significant enthusiasm on the part of either the delegates or myself.

As you know, the CCRM has been established and is financed jointly by the eleven senior governments of Canada. It was born at the Resources for Tomorrow Conference which took place in 1961. May I point out here how significant to the success of this conference was the participation of the wildlife interests and the Canadian Wildlife Service. As I mentioned, the RFT conference recommended that some provision be made for a continuing review of resource problems and policies as part of a mechanism for liaison and consultation among all the resource sectors.

Acting on this recommendation, the federal and provincial governments reconstituted the conference national steering committee as a permanent Council. This was the birth of the Canadian Council of Resource Ministers.

Being unique in form and subject matter meant that there were few precedents to indicate how we should operate and what functions we should assume. Our terms of reference, therefore, have been both general and open-ended: to advise, to study, to co-ordinate information, to maintain constant liaison with our member governments, to bring them together for discussion, to promote the preparation of inventories of resources and of resource projects - in short, to act as a catalytic force, a focus for crystallization of concepts, as a component of progress toward a comprehensive resource policy structure. Our approach is systematic and strategic. We deal in problem definition; the recognition of what is significant and fundamental, the description of problem interrelations. We attempt to evolve generic systems for classification of problems and their parameters, as a first step toward establishing a comprehensive information system to maintain a continuous overview of Canadian resource projects, policies, and administration.

We seek to create a set of methodologies; tools for analysis, planning, implementation, and management, to serve the needs of our member governments, municipalities, other groups. In all of this we strive to maintain our over-all perspective, so that coherent set of classification and planning tools will emerge, to better enable our pragmatic structure of overlapping jurisdiction to operate knowledgeably and efficiently to a common purpose.

However, we are not a research agency. We do not become involved in detailed technological investigation. With our limited time and resources we can only advise on isolated projects, when requested to do so, and then only to ensure that the master plan is in accord with the larger problem context. Our concern is with the framework of problem-solving rather than with the specific occurrence of the problem.

There you have in very broad outline, Mr. Chairman, the nature and functions of the Canadian Council of Resource Ministers, and of its permanent secretariat. I stress again the uniqueness of this body in Canadian public administration. It represents an experimental attempt to create a framework for permanent or regular consultation among the eleven governments. It is too early to say that this novel experiment in public administration in a federal system is a proven success, but it certainly appears to be fulfilling a useful role in providing a permanent link among governments.

I repeat what is implied above: The Council does not formulate policy. Each member government retains full responsibility for formulating its own policy, but it will have had the benefit of the views of the other ten governments as it drafts future programs.

The secretariat, in its work, has found that there are three key-words that sum up its operations: communication, co-operation, and co-ordination. Of these functions, the most important by far is communication.

The Council and its secretariat are therefore introducing a new look in communication in the area of resource management in Canada -- among governments, between government and industry, between government and the general public, and even within the public sector itself. We feel that it is by spreading information around as widely as possible that we can best set the stage for co-ordination policy. In fact, once full and accurate information is available to all, policy co-ordination and a willingness to co-operate in resource management tend to follow almost painlessly.

The Council is therefore attempting to open up new lines of communication, and disseminate new sets of information. To this end we have made an inventory and evaluation of joint programs

between the federal government and the provinces -- (and between provinces) -- in the resources field. We have held a Western Canada Resources Symposium, involving representatives of the four western provinces. We have even more recently completed a report on the Administration of Water Resources in Canada, 1965. Some other items on the agenda of the last meeting of Council were: the problem of resources personnel; forest fire fighting; the International Biological Program; statistical data on recreation; the National Wildlife Program; tariffs and levies in renewable resources; legislative-administrative studies in Canadian resource development.

THE POLLUTION CONFERENCE

By far the most important specific task yet to be assigned to the secretariat by the Council is the planning and organization of the National Conference on Pollution and our Environment. At this point, let me simply outline by way of information some salient facts and vital statistics about the conference:

Date - Monday, October 31 to Thursday, November 4, 1966

Place - Queen Elizabeth Hotel, Montreal, Quebec

The conference will bring together 600 persons, invited by the eleven governments that sponsor the Council. These will represent all levels of government, business, and industry, private and semi-private groups and associations, as well as experts in related scientific and technical fields and guests from other countries. Objectives: To examine the nature, extent, and effects of environmental pollution, and the measures required for its continuing assessment and control; to assist government and industry in formulating guidelines for improving knowledge and control of environmental pollution; and to provide information designed to increase public understanding of pollution control.

Almost 100 background papers dealing with every aspect of environmental pollution have been especially written, and will be distributed to all participants before the conference. The background papers deal with four basic areas:

1) What are the problems in environmental pollution?

2) What progress has been made to date in pollution control?

3) What should be our goals for pollution abatement and control and environmental quality?

4) Guidelines for the future: How can we reach our goals?

This national conference, like our other activities, is essentially an exercise in communications. But we hope it will be more than that. We hope it will develop a consensus on useful and realistic guidelines for pollution control and abatement and that it will bring out meaningful recommendations. The conference will not be a scientific or technical conference - we feel a large number of the answers in these areas are already known. Rather, it will be a management conference, and a social or behavioural science conference. The problems that beset pollution control are dominantly administrative problems -- legal, financial, educational, informational -- and it is in these areas that we will make some progress at the conference.

To assist in the conference processes, we are quite busy this summer. A significant number of study groups are analysing the background papers that have been prepared, in order to identify the major gaps in our understanding of the subject and to voice challenging questions which will stimulate thoughtful discussions at the conference itself. Governmental, interdepartmental study groups are already at work. Many other study groups are being established by regions, by academic disciplines, by professional interests, by problem areas: for instance, it is hoped that this meeting will find of interest the establishment of a study group relating to the influence of air, water, and soil pollution on outdoor recreation and wildlife. I shall come back to this matter at the end of my talk.

In addition, two area studies being carried out during the summer have been devised for the following purposes:

1) to illustrate the complexity and also the interactions present in the subject of pollution control and depollution;

2) to provide conference delegates with a common frame of reference;

3) to increase understanding between the applied scientists and the social scientists.

On advice, the secretariat has selected for those studies:

1) a rural area: the Upper Yamaska River Basin in the Province of Quebec;

2) an urban industrial area: the City of London, Ontario, and surrounding counties.

These studies are designed to bring out the components of physical and socioeconomic factors for typical regions, leading to practical lessons and recommendations for action programs.

We are all aware that work towards pollution control and towards depollution is a long and formidable task and that the conference, a specific event in time, must nevertheless reflect the dynamics of the situation.

A natural ending to this address would be to recall the words of Niccolo Machiavelli in The Prince Chapter III:

"Thus it happens in matter of state; for knowing afar off (which it is only given to a prudent man to do) the evils that are brewing, they are easily cured. But when, for want of such knowledge, they are allowed to grow so that every one can recognize them, there is no longer any remedy to be found."

And now, may I come back quickly on the possibility of setting up a study group closely related to your own problems. The increasing importance of outdoor recreation and the significant part played by wildlife as a determinant for the satisfaction of recreational needs appears to make it important that your views and your hopes be reflected at the discussions which will take place at the conference. As I mentioned earlier, a large number of background papers have been written on various aspects of pollution and it is hoped that this study group would attempt to interpret these background papers and report their findings to the secretariat towards the middle of September.

Needless to say, the secretariat of the Council would be delighted to contribute any possible assistance to the members of such a study group so as to reduce what must necessarily be for you an additional working load.

Your Chairman, Dr. Munro, felt that you would be interested in this suggestion and I am entirely at your disposal to answer any question you may now have on this matter.

Thank you.

WATERFOWL LOSSES AND WAYS TO REDUCE THEM

V.E.F. Solman
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There are many causes of waterfowl loss. Some losses occur naturally and are not possible to control. Also many birds are wounded or killed during hunting seasons and are not retrieved. How large are these losses compared to the size of the harvest of the waterfowl resource and what can be done to reduce them?

Lead poisoning, as a cause of waterfowl loss has been known for more than 100 years. Ducks pick up expended lead shot from the bottom when feeding. The lead poisoning that results has been reported for 35 years. But during the years when waterfowl numbers were high, nothing was done to reduce the lead poisoning loss. Figures presented at a number of recent international meetings suggest that the loss caused by lead poisoning in North America has in some years been as high as one million birds.

In the publication "Wasted Waterfowl" the statement is made that in the 1950's lead poisoning claimed 3.5 per cent of the mallard population each year - about 630,000 mallards. That is more than were shot by hunters in the Mississippi Flyway in 1961 and more than are produced in all United States waterfowl management areas combined, or in Manitoba. Most of the losses occur in winter, after the hunting season. Loss of a million ducks at that time of year means there will be 1.7 million fewer birds around when the next hunting season starts.

Recently, with lowered waterfowl populations and the expansion of intensive habitat management, we are comparing the cost of the loss of a million birds through lead poisoning to the cost of producing a million birds by buying or leasing wetland breeding habitat. With Canada embarking on a $50,000,000 land acquisition program and the United States well along on a program costing more than $100,000,000, we must reduce lead poisoning losses to protect our investments. Poisoning by lead shot must be stopped from the point of view of environmental pollution alone.

Before we get very far in searching for lead-shot substitutes, someone will raise the question of cost. Lead shot is cheap, about 16 cents a pound. Iron shot is about the same price. Ducks can be killed by iron shot, although shotgun barrel damage may result from its use. However, iron shot can be coated with teflon and when so coated, does not damage shotgun barrels, at least not in the tests carried out thus far. While iron shot is not toxic to waterfowl, ferric iron does accumulate in the livers of ducks whose gizzards contain iron pellets. Feeding trials on iron shot are continuing to determine the long-term effect of large deposits of ferric iron in ducks' livers.

Copper, nickel, and zinc are also under test as substitutes for lead shot. Nickel shot is a product of the nickel refining industry and can be made in any desired size. At first glance nickel looks rather expensive at a price of about one dollar a pound compared to about 16 cents a pound for lead and intermediate prices for copper and zinc. The cost difference between different types of shot is less important than you might think. According to our 1961 survey of expenditures on hunting and fishing in Canada, the average waterfowl hunter spends nearly $80 a year on his sport. Of that amount, about $11 is spent for ammunition - about seventy-five shells. The amount of lead in those shells is worth about 80 cents. Nickel would cost about $3.20 more. We would, therefore, have increased a hunter's expenditure by only about 4 per cent of his total expenditure of $80. I believe that North American hunters would accept - if not demand - such a substitute if it resulted in the survival of several hundred thousand additional ducks for production and for harvest by hunting.

Nickel shot, of course, is not as heavy as lead shot and this brings me to a second type of loss. We know that for every bird brought to bag a number are struck by shot pellets but not killed. Some of those birds are not seriously injured and continue to live in a normal manner. Others are seriously injured, die later, and are lost to the hunter. We believe "crippling loss" varies from a quarter to half the legal harvest of migratory birds. In a typical hunting season, several million birds may be crippled and lost not only to the hunter, but also to the breeding population.

One group of investigators believe, from field studies, that the difference between a bird killed and brought to bag and a bird crippled and lost depends upon the distance that the bird falls from the hunter. The kinds of injuries, including pellets through the body and broken wings, are not significantly different in birds killed and brought to bag and those crippled and normally not recovered. The main difference is the distance

from the hunter at which the bird falls and the likelihood, therefore, of its being retrieved by the hunter.

When iron shot is used, larger pellets are needed to get killing power equivalent to lead shot. Iron, being lighter than lead, dissipates its kinetic energy faster than lead and the ballistic curve for iron shot is not the same as lead. Iron will kill ducks at a distance of 35 to 40 yards. Some evidence suggests that the use of iron shot reduces crippling loss because of the larger shot and more open pattern but the evidence is not conclusive. More tests are required.

In addition to hunter training and other methods which I shall discuss later, what we need to reduce crippling loss is shot which will kill ducks at a range at which the hunter is likely to recover the bird. We intend to study the ballistics of the kinds of shot materials that are now available and to develop a shot that will, in fact, make it easier for the hunter to avoid losing cripples.

Many years ago we began to try to teach hunters to tell different duck species apart so we could begin species management. "The Waterfowl Hunters' Guide" was our first effort in that direction. That has been superseded by "Ducks at a Distance" which does a better job. Through use of such aids there probably has been some improvement in the ability of hunters to recognize duck species. The next stage is now in the works - complete training kits for hunter-training on species recognition. We are producing a film "Ducks, of Course" which will do more than any film has before to help hunters learn to identify waterfowl. With that film there will be study guides and a series of Super 8 films for automatic projection, each dealing with a separate species.

Improved species recognition can help us to effectively manage the waterfowl populations we have by removing gun pressure from those species which are in short supply. Also, it can help to reduce crippling loss. If you cannot tell a black duck from a blue-winged teal under the poor light of normal hunting conditions, it is probably too far away for effective shooting. It has been suggested that a sighting ring of plastic could be developed for shotguns which would permit an easy shoot or no decision to be made about a passing bird. If the bird fills the ring sight it is within range. If it does not fill the sight it is beyond range and the gun should not be fired. Simple gadgets of this sort, with allowance for the different sizes of birds, should be tried under field conditions to see if they will do the job. With some kind of range estimation device and with shot having the right ballistics, we should be able to reduce the crippling that takes millions of ducks each year.

If we can reduce the lead poisoning loss by getting away from lead shot, and the crippling loss by hunter education and adjustment of shot ballistics, the result is the same as increasing the production of existing wetlands by several million birds. We can also be sure that the money we spend on land acquisition and management will really produce more ducks and not just ducks to fill the vacancies left by those poisoned or crippled.

You may well ask now, if we do develop non-toxic shot and some of these other desirable bits of equipment I have mentioned, how can we ensure that the hunters will use them. The answer is, of course, legislation. No one is proposing to outlaw lead shot immediately because to do so without having an acceptable substitute ready would be ridiculous. We do propose, however, to develop and test, as soon as possible, in co-operation with our colleagues in the United States, suitable substitutes for lead shot. With testing complete and production methods worked out, we will consider legislation to enforce their use for the hunting of birds.

Naturally, such legislation will affect a great many citizens and will require good public support to be effective. We believe the goal of saving hundreds of thousands of waterfowl for public recreational use, including hunting, will ensure the public support and co-operation we need to bring into effect new methods of waterfowl harvesting to reduce crippling and lead poisoning losses. I have samples of shot of several kinds here which you may wish to examine. We can produce shot with weights ranging from less than that of lead to more than the weight of lead if that is necessary. Once a substitute is being mass produced we do not believe that cost will be a problem, especially in view of the possible rewards. Environmental pollution by lead or any other substance is something which we can no longer tolerate. We must maintain waterfowl hunting as an attractive recreation and at the same time ensure that the waterfowl resource will not be harmed by side-effects of the hunting methods used.

ACCEPTABILITY OF AGREEMENTS FOR RENTAL OF RIGHTS TO BASINS

W.J.D. Stephen
Canadian Wildlife Service
Saskatoon, Saskatchewan

Reduced opportunity for hunting ducks had by 1959 led to consideration of the effects on hunting should the waterfowl production capacity of the Prairie Provinces be lost permanently. In 1961 an International Waterfowl Committee was formed to consider continental waterfowl management. The principle of maintaining suitable duck production habitat in the prairie region was accepted and it was decided that this might be accomplished by paying farmers on whose land ducks were produced. "Easement" type of agreements with farmers in return for payments were considered. A pilot study was initiated in 1963 to test the mechanics of acquiring "easements". The response of farmers in that pilot study is reported here.

Methods

In 1963 an area situated on the Manitoba-Saskatchewan boundary, in the vicinity of Sinclair, Manitoba, and Antler, Saskatchewan, was selected for study. This area was chosen so reaction within a locality and in two provinces might be measured. It was determined by aerial inspection that the study area had a high density of wet basins which appeared drainable into either of two creeks flowing through the area.

In 1964 the study was extended to Alberta, where sections were selected at random along routes surveyed by the United States Bureau of Sport Fisheries and Wildlife within the 18-mile-long sample segments which had an average of 20 or more wet basins per square mile in the July survey during the period 1955 to 1961. Those years included high and low numbers of wet basins. Landowners within the selected sections were offered leasing agreements.

In 1965 additional samples were selected at random in Manitoba and Saskatchewan along routes surveyed by the United States Bureau of Sport Fisheries and Wildlife within 18-mile-long sample segments which had an average of 10 or more wet basins per square mile in the July survey during the period 1955 to 1961.

In addition, in 1965 we solicited applications for rental from landowners in the Rural Municipality of Orkney, Number 244, near Yorkton, Saskatchewan. Mailing addresses of 656 burgesses or landowners on the voters list were obtained from the Municipality

office. An explanatory letter with an addressed, postage-free reply form was mailed to all landowners who were not corporations. The form inquired whether or not the landowner was interested in considering an offer to rent rights to wetlands.

Two types of agreement, differing in duration and number of payments, were offered to landowners for preservation of wetlands. One agreement endures for 20 years, with the total monetary consideration paid as a lump sum. The other agreement endures for 10 years with half of the total consideration paid at the beginning of the agreement, one quarter at mid-term, and one quarter at the end of the agreement. The 10-year agreement was offered in the Rural Municipality of Orkney and the 20-year agreement in all other tests.

Other than the differences outlined, the basic terms for preservation of wetlands were similar in both agreements. The owner agrees not to drain, fill, or burn marsh vegetation on natural basins on specified land. Except for those three prohibitions, farming operations including cultivation, grazing, and haying are not affected in any way. The agreements provide for inspection of the basins by department employees. Control of trespass by the landowner is not otherwise affected.

In 1963 and 1964 separate agreements were made with each landowner for each parcel of land, usually a quarter section. In 1965 one agreement was made per landowner and may have referred to several parcels of land. This reduced the cost of processing documents.

Total monetary consideration of offers was computed for 826 quarter sections in 34 blocks selected as previously described. Prices offered were based on the area of the basins and the estimated selling price per acre of the land surrounding them. The area of the basin at full surface level was estimated from aerial photographs and measured with a planimeter to the nearest 0.01 acre. The value of the surrounding land was estimated from the municipal property tax assessment expanded by an appropriate factor. The factor of 2.5 times the assessed value was used in 1963 tests and 4.0 was used in the others. Those factors were determined by consultation with officials of the provincial Departments of Municipal Affairs and by comparison of selling prices and assessed values in sales handled by the Department of Veterans Affairs in the Rural Municipality of Orkney. The estimated selling price of the basins was then discounted for prepayment at the rate of five per cent.

Offers to landowners were presented personally and by mail. Of the 139 landowners offered 20-year agreements, interview questions were presented to 120 farmer operators prior to the offer. The farm operator was the person directly responsible for land operations as owner or partner and only one questionnaire was conducted per household. Eleven of the remaining 19 landowners had the agreements presented to them personally but were not interviewed. The remaining eight offers were mailed to non-resident landowners. All 10-year agreements were offered by mail. Landowners who did not return the documents given them were considered to have rejected the agreement.

Agreements providing for payments of less than $50 were not generally offered. The exceptions were: agreements for less than $50 per quarter which were offered among agreements for other quarter sections held by the same landowner, an offer of less than $50 which was made to a wife at the same time as an offer of more than $50 was made to her husband, and one offer of $49.66 which was considered close enough to be worth a try.

Results

From 1963 to 1965 agreements valued at $103,804 for 6,585 basins covering 8,378 acres were offered to 239 landowners during the pilot studies of rental of rights to basins (Table 1). Only two were corporate landowners. All other land was held singly or jointly by individuals. Of 612 quarter sections sampled for 20-year rentals, including those on which agreements were not offered, 547 quarters or 89.5 per cent were owned by individuals, 44 quarters of 7 per cent were Crown-controlled, and 21 or 3.5 per cent were owned by corporate groups.

As expected there was a tendency for low offers to be rejected and for high offers to be accepted (Table 2). The highest offer rejected was $2,105.58 for a 20-year agreement on six quarter sections. The lowest offer accepted was $56.33 for a 20-year agreement on one quarter section, although a total consideration of $5.00 for one quarter section was accepted as part of a total offer of $182.34 for a 20-year agreement on three quarter sections. The rate of acceptance of offers less than $3,000 was approximately 50 per cent for both 10- and 20-year agreements (Table 3), suggesting farmers might react similarily to either term. The acceptance rate for all offers in this sample cannot be extrapolated to an acceptance rate of all prairie farmers. Agreements were not offered on the entire holdings of all farmers in the sample and all farm sizes were not sampled. In an operational program that would be done, and if the same basis for payment were used more farmers would thus be offered an acceptable payment.

Acceptance of low offers and rejection of high offers was of interest. As expected, the average amount of money offered per landowner was higher among those accepting agreements (Table 1). However, dollars per acre, dollars per basin, and dollars per quarter were about the same for both accepted and rejected offers, suggesting total price was of more consequence to landowners than how the price was calculated.

It appeared that social as well as economic factors affected the acceptance of agreements. Sixty per cent of the 120 farm operators interviewed accepted the agreements. Significantly higher than that acceptance rate (chi square 5.74 with 1 d.f.) was observed among farmers reporting their age as less than 45 years, although there was no significant deviation from 60 per cent among those of any age who reported intention to continue farming for more than 20 years (Table 4). It is also of interest to note that in the 1961 census 45 per cent of all farm operators in the Prairie Provinces were reported less than 45 years old.

Interviewed farmers reporting need for more than $3,000 capital had higher than 60 per cent acceptance of agreements, as did those intending to increase livestock production, those who hunt migratory birds and other game, and those who did not permit to hunt on their land but were not significantly higher as the frequencies were low (Table 4). Acceptance rate was close to 60 per cent whether or not the farmer reported he was opposed to borrowing money or he liked ducks or other wildlife around his farm. The sample was considered too small to test second-order interactions such as between price and social characteristics or whether farmers who were more than 45 years of age and stated intention of increasing livestock production accepted agreements more readily than average.

Discussion

Much remains to be learned about the acceptability of rental agreements for rights to basins, and the value of an area for duck production. There were seven sample blocks in which all of the offers were either accepted or rejected but in 30 of 34 blocks six landowners or fewer were sampled, too few to be significantly different from 50 per cent. Of the remaining four blocks, the acceptance rate was about 50 per cent in two but the Antler-Sinclair block, with an acceptance rate of 12 out of 14 offers, and one north of Vermillion, Alberta, with an acceptance rate of 9 out of 12 offers, were much higher than 50 per cent, but not much different from each other. The price offered per quarter section was $345 in the Antler-Sinclair block and $218 in the block north of Vermillion. Obviously, if duck production

per quarter section were the same in both areas the cost per duck produced would be less in the block north of Vermillion.

The waterfowl production capacity of prairie basins needs to be known much better than it is now. Assessed value of land in the Prairie Provinces and, generally, selling price are based on the agricultural productivity of the land, thus prices offered in the pilot study and used in the above example reflect the estimated agricultural productivity of the land. It is also intended that estimated agricultural productivity will form the basis for offers in the operating program. This means that the highest price will be paid in the best agricultural producing areas. The best agricultural producing areas are not in the best duck producing areas. As an extreme example, the level lacustrine plains west of Winnipeg, Manitoba, southeast of Regina and Rosetown, Saskatchewan, or east of Lethbridge, Alberta, are highly productive and expensive farmland but produce few ducks. The ARDA land capability inventory will improve our knowledge of the relative values of land for agriculture and the coincidence of wildlife production capacity. However, we must ultimately determine the effects of all other agricultural practices as well as draining, filling, and burning on the numbers and distribution of all waterfowl species.

The effect of climate on waterfowl production must be known much better than it is now. There is little to be gained in terms of waterfowl production from paying a rental for basins which are dry most of the time. However, some ducks rated highly in the hunter's bag, the pintail for example, characteristically breed in the grassland which is the semi-arid zone of the prairies and where many of the basins are dry most of the time. The period 1955 to 1961 was one of both drought and abundance of water with correlated high and low numbers of ducks. However, less than 15 per cent of the total 608 sampling segments surveyed by the United States Bureau of Sport Fisheries and Wildlife went completely dry during the July surveys of those years. Many of the segments in grassland held at least one pond per square mile in July in each year although there was marked fluctuation in the numbers of wet basins. Periodic drying and wetting of prairie basins has an effect on the numbers and distribution of all species of waterfowl which is known only in very general terms, such as, if the prairies are dry there are few ducks to shoot.

Biologists contributing to the management of waterfowl resources must keep reminding themselves that money is not a substitute for knowledge. The idea of a payment which will both maintain waterfowl production capacity and enable farmers to share in revenue produced by the waterfowl resource is an attractive one.

However, let us acknowledge that if we knew more about the factors affecting waterfowl harvest and production, we could probably make even better use of the money. We have that responsibility. This rental program will, among other things, buy a little time, and research on factors of production has to be expanded if we are to make good use of that time.

Table 1. Landowners, quarter sections, number and acreage of basins sampled with offers of 10- and 20-year agreements.

	20-year rentals*		10-year rentals		
	Accepted	Rejected	Accepted	Rejected	Pooled
Total dollar consideration	$36,011	$25,875	$26,377	$15,540	$103,804
Total acres of basins	2,391	1,587	2,930	1,470	8,378
Total basins	2,885	1,724	1,141	835	6,585
Total quarter sections	138	125.5	103.5	90	457
Total landowners	73	67	47	52	239
Mean[1] dollars per landowner	$ 493	$ 386	$ 561	$ 299	$ 434
Mean[1] dollars per acre	$ 15	$ 16	$ 9	$ 11	$ 12
Mean[1] dollars per basin	$ 12	$ 15	$ 23	$ 19	$ 16
Mean[1] dollars per quarter	$ 261	$ 206	$ 255	$ 178	$ 227

*includes offers made to corporate landowners.

[1]means not weighted for unequal sub-sample sizes.

Table 2. Rates of acceptance of offers in three price ranges by non-corporate landowners.

	$200 or less		$201 to 600		$601 to 3,000	
	f	%	f	%	f	%
Offered	84	100	108	100	45	100
Accepted	29	35	58	54	32	71
95% confidence interval	24	47	46	69	69	93

Table 3. Cumulative acceptance rate of offers less than $3,000 for rental of rights to basins.

Total consideration	20-year rentals: Number offered	20-year rentals: Number accepted	20-year rentals: Hypothetical 50 per cent of offered	10-year rentals: Number offered	10-year rentals: Number accepted	10-year rentals: Hypothetical 50 per cent of offered
less than $3,000	138	72	69.0	99	47	49.5
2,550	138	72	69.0	98	46	49.0
2,300	137	71	68.5	98	46	49.0
2,150	137	71	68.5	97	45	48.5
2,000	136	71	68.0	97	45	48.5
1,950	135	70	67.5	97	45	48.5
1,850	135	70	67.5	97	45	48.5
1,750	134	69	67.0	97	45	48.5
1,650	132	67	66.0	97	45	48.5
1,550	131	67	65.5	97	45	48.5
1,400	130	67	65.0	97	45	48.5
1,350	130	67	65.0	96	45	48.0
1,250	130	67	65.0	95	44	47.5
1,150	129	67	64.5	95	44	47.5
1,100	128	66	64.0	94	44	47.0
1,050	127	65	63.5	93	43	46.5
1,000	125	63	62.5	92	42	46.0
950	125	63	62.5	90	40	45.0
900	125	63	62.5	88	39	44.0
850	125	63	62.5	87	39	43.5
800	125	63	62.5	86	38	43.0
750	123	61	61.5	84	36	42.0
700	122	60	61.0	84	36	42.0
650	120	58	60.0	82	35	41.0
600	115	56	57.5	77	31	38.5
550	111	54	55.5	74	29	37.0
500	102	49	51.0	71	28	36.5
450	96	46	48.0	68	27	34.0
400	88	44	44.0	60	22	30.0
350	71	35	35.5	55	18	27.5
300	61	29	30.5	49	14	24.5
250	52	21*	26.0	45	11**	22.5
200	44	19	22.0	40	10	20.0
150	32	11*	16.0	26	7	13.0
100	19	5	9.5	13	4	6.5
50	1	0	0.5	1	0	0.5

*maximum difference 5, calculated d = .0362; critical d equal to or more than .1158.

** maximum difference 11.5, calculated d = 0.1161; critical d equal to or greater than 0.1377.

Table 4. Acceptability of 20-year rental agreements for rights to basins to farmers with varying socio-economic characteristics.

		Response to rental		
		Per cent accepted	Per cent rejected	Sample size
Interviewed		60	40	120
Question	Category			
Age	less than 45	72*	28	35
	45 or more	54	46	84
	no answer	n/a	n/a	1
Farming plans	20 additional years or less	61	39	18
	more than 20 additional years	60	40	67
	don't know	60	40	35
Need for capital	needs $3,000 or more	85	15	13
	needs less than $3,000	57	43	58
	no answer	57	43	49
Public hunting	hunting not allowed	82	12	11
	no restrictions or can't control	57	43	76
	only known people and permission only	61	39	33
Production increase plans	increase livestock	69	31	32
	no plans to increase	50	50	36
	increase cultivated crops	62	38	52
Hunting	hunt migratory birds and other game	67	35	48
	do not hunt	56	44	66
	hunt other game only	50	50	6
Borrowing money	in favour of	60	40	84
	opposed to	61	39	31
	no answer	60	40	5
Likes wildlife	likes all wildlife	57	43	44
	not ducks	45	46	26
	not other wildlife including predators	66	34	50

*chi square 5.74 with 1 d.f.; n/a - not applicable.

ENFORCEMENT OF THE MIGRATORY BIRDS CONVENTION ACT

A.T. Pelletier
Assistant Deputy Minister - Recreation
Department of Lands and Mines
Province of New Brunswick

Comments made at previous conferences on enforcement of the Migratory Birds Convention Act no doubt supported the kind invitation of the chairman to me to address the delegates of the 30th Federal-Provincial Wildlife Conference.

The Migratory Birds Convention Act, because of its very nature, falls into the jurisdiction of the Parliament of Canada.

Mr. Chairman, you will no doubt recognize the following quotations taken from a committee study report presented to the Canadian Council of Resource Ministers at Dalvay, P.E.I., in 1964.

"In 1916 migratory birds ceased to be considered as of a merely local or private concern in the provinces and became the subject of a treaty with the United States. A federal enabling act, the Migratory Birds Convention Act (1917) provided that the federal government should have primary regulatory power with respect to migratory birds. The property right in migratory birds remained vested in the provinces, which thereby also retained some measure of responsibility for management.

"The division of responsibility which has existed in regard to migratory birds has been ill-defined and the management of the resource has suffered. With regard to habitat management which is of prime importance for the future of migratory game birds, each level of government has tended to assume that responsibility lies with the other level and as a consequence the needed work has not been accomplished.

"There are indications that the federal government is now moving towards a more positive assumption of its role. Nevertheless a clear-cut statement of responsibilities to be assumed by each level of government in this field is urgently needed."

Canada's National Wildlife Policy and Program as stated in the House of Commons on April 6th last has injected a new life into those responsible for wildlife management and we feel, Mr. Chairman, that recommendations of the Canadian Wildlife Service are being given due consideration at the proper level.

One section of Canada's national wildlife policy "Control of Migratory Bird Harvest" deals with enforcement and regulations. Compared with other sections it appears that the Canadian

Wildlife Service is very hesitant to make definite commitments on the responsibility for Migratory Birds Convention Act enforcement.

Can a general statement like "Enforcement and information programs designed to secure uniformity of hunting practices with regulations will be expanded and improved" clarify the responsibilities to be assumed by each level of government in this field?

It would be unfair to say the Department of Northern Affairs, through its Canadian Wildlife Service, is not attempting to enforce the regulations of the Migratory Birds Convention Act, but a survey of all provinces indicates that we cannot rely on the services of the Royal Canadian Mounted Police to carry out this responsibility. The terms of the agreement, unknown to most provinces, are most likely more important than the limited personnel having a diversity of duties which render training along conservation lines very difficult or impossible due to lack of equipment and facilities.

The demand for more time to be spent on other more tangible types of law enforcement such as Criminal Code and Motor Vehicle Act enforcement adds to the lessening of conservation work. Generally speaking attention is given to conservation enforcement only after reports of violations are brought to light.

Preventive patrols are rarely carried out, and it goes without saying that prevention work in this field is as important as it is in accident prevention or Criminal Code violations.

Another important drawback to good conservation enforcement is the geographic aspect in relation to the other more common activities of men. An enforcement officer carrying out traffic duties is in a position to observe or detect illegal activities in most other fields, whereas very few other activities are carried on in localities where migratory game infractions are likely to occur. Thus in order to carry out our effective program of conservation law enforcement and prevention, the officer must divert from the ordinary paths travelled by the general public in its usual day-to-day activities.

Some provinces have incorporated in their Game Act provisions which safeguard to a limited degree the intents and purposes of the Migratory Birds Convention Act and it would be wrong to assess enforcement efforts in this field by the number of cases reported to the Canadian Wildlife Service. I consider this of minor importance because co-operation between the R.C.M.P. and provincial game officers is indeed reported excellent and we have no criticism against the force but we

want to bring to the attention of the Canadian Wildlife Service weaknesses in the enforcement system of the Migratory Birds Convention Act.

The comments I have just made present a quasi-national picture on this important phase of migratory birds management. I do not consider answers to the five questions submitted to the provinces a detailed survey of enforcement problems related to the Migratory Birds Convention Act. They do, however, indicate an urgent need to give more consideration to this "important tool" of migratory birds management programs.

Provinces were asked to comment on the five following questions, and it is with some pride that I can say that all provinces but one contributed to the survey.

Question No. 1

What participation does your province take in the enforcement of the Migratory Birds Convention Act and Regulations?

Most provinces participate in the enforcement of the Migratory Birds Convention Act. The degree of participation varies in each province, some definitely assume full responsibility while others depend on the co-operation of the R.C.M.P. or on the R.C.M.P. alone.

Question No. 2

Will the new permit system complicate or simplify enforcement procedures?

It will not simplify enforcement procedures. Some provinces will be reluctant to participate in law enforcement as much as they have done in the past. The vendorship system along with duplication of hunting licences will create problems. No definite instructions have been received as to enforcement of the new proposed permit.

Question No. 3

Can the Canadian Wildlife Service adequately enforce the Regulations under its present agreement with the R.C.M.P.?

Provinces are not familiar with the terms of agreement. They all feel that the R.C.M.P. force cannot replace game conservation officers especially trained for that work.

Question No. 4

What suggestions do you have to improve enforcement in your province?

Answers to this question are given for each province as received as it is most important that their own views be known. I will, however, use numbers rather than the proper identity as it was not the intent of the survey to present the case for each province but rather present suggestions to the Canadian Wildlife Service for its consideration.

1. We might have more meetings, possibly one a year, between the R.C.M.P. detachments and our Departmental officers.

2. To improve law enforcement in this province, I would suggest a staff of federal enforcement officers and an increase in numbers in our own staff. I rather doubt that the Canadian Wildlife Service would be in a position to engage enforcement officers. During the current fiscal year, our enforcement staff will be increased by six permanent officers with civil service status, and for the hunting seasons, we hope to have a number of additional temporary enforcement officers. This additional enforcement staff will no doubt enable us to devote more time to the enforcement of the Migratory Birds Regulations.

3. Some of the suggestions to improve enforcement have been mentioned in answer to question no. 3. It is suggested that the best way to improve enforcement of the Migratory Birds Regulations is for closer co-operation between the federal and provincial authorities and a greater input of federal manpower into the field of direct enforcement. While the R.C.M.P. have co-operated with us, the main effort for enforcing the Migratory Birds Regulations of this province has been the field force of the Fish and Wildlife Branch. We have received much welcome co-operation from the local staff but have always felt that it was a local option more than an organized directive from senior R.C.M.P. authority. It is suggested that to improve this relationship, the Canadian Wildlife Service and the R.C.M.P. Headquarters, Ottawa, should come to some agreement as to the level and type of participation that will be supplied. It is thought that once the enforcement of the Migratory Birds Act receives official blessing and sanction at the senior levels that it will be much easier for our staff to work with the field staff of the R.C.M.P.

4. We have been recommending to our Legislature for some time the replacement of R.C.M.P. game officers with Provincial Conservation Officers with training in fish and wildlife recognition and management principles. Recently our Minister announced that three Conservation Officers positions were created by Order-in-Council and we hope to have people appointed to these positions in the near future. The intention is to send these officers to a Forest Ranger School to undertake a course in Wildlife Technology. We also feel it would be desirable to continue with the R.C.M.P. game enforcement officers for a year or two so that the new officers can learn law enforcement procedures: Whether the R.C.M.P. will go along with this latter arrangement has not been determined as yet. Our reasons for making the change are many and varied. As you know, the duties of a Conservation Officer today are not simply enforcement and police work. Lacking training and knowledge in sport fish and wildlife technology, the R.C.M.P. officer cannot, in our opinion, satisfy the requirements of a Conservation Officer position. Also, there has been almost an annual turnover in personnel charged with fish and game law enforcement and usually new recruits are appointed to these positions. Liaison (at the senior levels especially) is usually indirect through our Attorney-General's Department and this also complicates matters considerably.

5. The only way in which enforcement can be improved in this province is by appointment of additional officers or employment of present R.C.M.P. constables. At the present time, there is a tacit liaison between this Division and the R.C.M.P., and as I mentioned earlier, our local officers generally receive excellent co-operation. However, the involvement of R.C.M.P. in enforcement of Migratory Birds Regulations is so minimal in most cases as to be virtually non-existent.

6. More training in species identification for all concerned in field enforcement (in the marshes during hunting) is needed. The only offences detected at landings or on road blocks are excess over limits and possession of protected species.

Observance of regulations would improve if hunters could be induced to take a more intelligent interest in their sport. There is urgent need for good films on species identification and

their wide use at sportsmen's meetings. We have prepared and used a series of coloured slides on duck identification.

7. As indicated in the past, a more favourable enforcement program might be arranged if a special R.C.M.P. agent with sufficient background experience were assigned to the province for Migratory Birds Convention Act work and who could co-ordinate the efforts of provincial personnel and R.C.M.P. In addition, there is also need for several migratory birds enforcement officers with whom our provincial staff could work, particularly on federal sanctuaries.

8. I believe that the Canadian Wildlife Service can get a great deal more assistance in enforcement from the R.C.M.P. if the proper channels are used. One difficulty we have here is that about the same time our waterfowl season opens, the two-bit safe-crackers seem to patrol our province, breaking into elevator offices, small stores, etc., and this keeps the police pretty busy in some sections. Another thing that will help a great deal is giving them instruction and education on waterfowl. They do not get the specific training many provincial officers do in this regard, but I believe the new addition to their force here will help this situation greatly.

9. The introduction of the permit will bring to light that enforcement of the Migratory Birds Convention Act is primarily a responsibility of the Canadian Wildlife Service. We should avoid duplication of law enforcement systems for the same type of resources, if we want to promote the respect of our conservation officers and sell our management programs.

Question No. 5

Do you give any identification instruction to R.C.M.P. officers?

The answers for most provinces were negative although the need for training in migratory bird identification was expressed. If the need for enforcement of the Migratory Birds Regulations is given enough priority, it might be possible for provincial staff to hold a series of informal discussions with the R.C.M.P. aimed at teaching migratory bird identification and providing interpretation of the Migratory Birds Convention Act and Regulations.

I realize, Mr. Chairman, that I have exceeded my time. If my comments lead to a good lively discussion by the delegates, the resolution committee will perhaps be justified to consider some of the provincial suggestions deserving of further study and consideration by the Canadian Wildlife Service.

Wildlife management programs depend on an adequate control of the harvest. They will not produce the expected results and receive public support without proper enforcement of the laws and regulations which are usually the most important working tools of the management plans.

A HIGHLIGHT REPORT ON SOME RECENT FISH AND WILDLIFE MATTERS IN THE UNITED STATES

Noble E. Buell
Assistant Director
Bureau of Sport Fisheries
and Wildlife

I am most pleased to be here at this meeting which marks the first three decades of Federal-Provincial Wildlife Conferences. I am saddened by the event which made it possible - the loss of our friend Lansing Parker. Since he was here at the 29th Conference, Dr. Joe Linduska came on board as Associate Director of the Bureau in February. There has also been some realignment of responsibilities in the Bureau's top staff. James McBroon is Assistant Director for Cooperative Services - Divisions of River Basin Studies, Federal Aid, Fishery Services, and Wildlife Services. Dr. Ray Johnson is Assistant Director for the Divisions of Wildlife and Fishery Research. Sam Benjamin is Assistant Director for Administrative Services and Engineering. I am Assistant Director for the Operations Divisions - Wildlife Refuges, Fish Hatcheries, Management and Enforcement, and Realty.

First, some of the highlights of the waterfowl habitat preservation program. As I think you know, the 88th Congress enacted a new Refuge Revenue Sharing Act. It is now in effect and the first payments to counties will be made this fall. We believe this will overcome much of the opposition to Bureau acquisition of waterfowl habitat.

The fifth year of the 7-year accelerated land acquisition program under the Wetlands Load Fund Act ended on June 30th. So far in the program we have acquired 742,000 acres from Duck Stamp and Loan Fund appropriations. This year, ending June 30th, we added 225,000 acres, of which 42,600 were waterfowl refuges, 36,700 were waterfowl production areas purchased in fee, and 146,000 were waterfowl production areas acquired by easements.

Since June 15, 1965, the Migratory Bird Conservation Commission has approved 5 major new refuges - Grays Lake National Wildlife Refuge, 13,000 acres in Idaho; the Las Vegas-Maxwell National Wildlife Refuge, 12,710 acres in New Mexico; the Brazoria National Wildlife Refuge, 6,300 acres in Texas; the San Luis Island National Wildlife Refuge, 7,400 acres in California; and the Muscatatuck National Wildlife Refuge, 7,900 acres in Indiana.

In April, Secretary Udall asked his Advisory Board on Wildlife and Game Management to take a hard look at the National Wildlife Refuge

System and study "what the National Wildlife Refuge System should be, if it could be rounded out, filled in, or otherwise altered and completed to include all that our national wildlife lands and waters should include or, conversely, need not or should not include." Specifically, he referred to public interest in endangered species and vertebrates other than birds and mammals, and asked for a report on the related roles of State and private refuges, and the demand for Federal refuges to spread hunting opportunity. We were most pleased to learn the Secretary appointed Dr. Ian Cowan of the University of British Columbia to this Advisory Board, filling the vacancy left by Dr. Cain's appointment as Assistant Secretary of Interior for Fish and Wildlife and Parks.

In a brief report in some other areas of activity, I am delighted to tell you that Waterfowl Tomorrow continues to be a success story. Through mid-May 1966, 40,000 copies had been sold in the United States.

A second in a series of projected Bureau books on fish and wildlife resources is due to be released in a few months. Under the title Birds in Our Lives, the new book will tell the many-faceted story of North American birds and the impact they have on our day-to-day living. The negative as well as the positive values of birds will be brought into focus for the reader.

The volume will be well illustrated with photographs and wash drawings. It will contain 54 chapters -- each one on a different topic. The topics will range from the part played by birds in the development of the airplane to the influence on art, literature, and music.

Like Waterfowl Tomorrow, the forthcoming book is the product of many authors -- 61, to be exact. Further details about the book will be released later through the press.

Only a limited edition will be available for free distribution. Announcement copies will be mailed to Canadian wildlife agencies, possibly by October.

We have a third book on the planning board which we hope to have ready for release in 1968. The subject will be rare and endangered species. Key illustrations in this volume are expected to be in color.

All captive wildlife stock of the endangered wildlife research program, formerly held at Monte Vista National Wildlife Refuge in southern Colorado, was moved on February 21, 1966, to the Patuxent Wildlife Research Center, Laurel, Maryland. There, a temporary building, pens, and ponds have been built for the stock which includes "Canus", the young, injured whooping crane rescued in Wood Buffalo National Park 2 years ago.

The Endangered Wildlife Research Station is supervised by the Assistant Director of the Patuxent Center. Four field biologists are now studying Hawaiian threatened species, the California condor, the black-footed ferret in South Dakota, and the Florida everglade kite and other species in the Southeast.

Construction soon will begin on a propagation building, a service-equipment storage building, two wells, a storage reservoir and water distribution system, and other improvements at the Patuxent Wildlife Research Center.

You will recall the Pesticides Review Staff was established 2 years ago. We receive, from the U.S. Department of Agriculture, those proposed labels which might influence fish or wildlife habitats. These have totalled more than 15,000 labels in slightly less than 2 years. The current rate is about 200 each week.

In reviewing labels, the first concern is to eliminate uses that pose unnecessarily severe hazards to fish and wildlife. Most commonly, although not always, such uses involve the contamination of water with products toxic to fish. Second consideration is rate of application and, third, the clarity of instructions. Finally, the warnings must be consistent with the degree of hazard.

The conservation legislation of the 1st session of the 89th Congress (1965) is impressive. Some of the highlights are the Department of Agriculture and Related Agencies Appropriation Act which for the 4th successive year prohibited financial or technical assistance with ACP funds in drainage of type 3, 4, and 5 wetlands anywhere in the United States; The Federal Water Project Recreation Act which in part allows expenditures of $28 million from project funds for lands for migratory waterfowl refuges; The Garrison Diversion Unit Act which assured a water supply for State and Federal waterfowl management areas in the Dakotas; The River and Harbor Act of 1965 and Flood Control Act of 1965 which provided for 5 waterfowl refuges; and The Food and Agriculture Act of 1965 which authorized long-term contracts for cropland conversion to wildlife-conserving uses and authorized the Secretary of Agriculture to establish an Advisory Board on Wildlife.

The Anadromous Fish Act was passed in October 1965. It provides funds for State and other non-Federal interests to finance up to 50 per cent of the cost of projects such as stream improvement and construction of fishways, spawning channels, hatcheries, and research. Twenty-five million dollars is authorized through June 30, 1970.

Thirty-one States having anadromous fishery resources, including Coastal States and those bordering the Great Lakes, are eligible for funds under the new program. The regulations spell out requirements for eligibility and specify that all research must be co-ordinated to avoid costly duplication. Proposed regulations were published for public comment on June 10th.

The Act will be administered jointly by Bureau of Commercial Fisheries and Bureau of Sport Fisheries and Wildlife. The legislation concerns both commercial and sport fishermen.

Funds to launch the program have just been authorized by Congress. For fiscal year 1967, which begins July 1, 1966, the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife each will have $2.5 million for programs in the 31 eligible States. A ceiling of $1 million has been placed on the amount that can be granted in any one year to a single State.

In the present 2nd session of the 89th Congress, additional conservation legislation has been proposed. Included is the fifth year of prohibition on drainage assistance on class 3, 4, and 5 wetlands; several amendments to the Wetlands Loan Act of 1961, one of which would extend the loan fund Act provisions for 8 years; several amendments to the Migratory Bird Hunting Stamp Act proposing to increase the price of the "duck stamp" and providing changes in uses of the proceeds, and one which would require a stamp to hunt "migratory game birds" other than waterfowl. Hearings have been held in the House on a National System of Estuarine Areas, and both the House and Senate have held hearings on an Endangered Species Bill. The Fur Seal Act of 1966 would replace the Act of 1944 and strengthen protection of sea otters. An amendment to The Oil Pollution Act of 1961 should help reduce oil pollution at sea, in U.S. coastal waters, and in the Great Lakes, if enacted. House and Senate concurrent Resolutions propose a U.S. sponsored World Wildlife Conference.

The aerial survey of waterfowl nesting grounds has been completed. All the detailed data available are also in your hands, I believe. Briefly, the duck breeding population has increased about 37 per cent from 1965. This is encouraging, even though the population is still below the 13-year average.

The survey crew in central Alberta reported a 57 per cent increase in ducks over the 1965 breeding population, but nesting ducks in Alberta were still 25 per cent below their long-term average.

The situation was better in Saskatchewan where, in the south, there was a reported 65 per cent increase in ducks over 1965. In northern Saskatchewan and Ontario there is no change from 1965. On the long-

The primary goals of Job Corps are to provide basic educational and work skill training for the corpsmen and our Wildlife Refuge program has benefitted to a marked degree since the work skills training is performed on actual projects on refuge lands. The results are additional funding and manpower put to constructive use in refuge development, maintenance, and improvement. Basic skill training is provided in land management operations, equipment operation, small tools utilization and operation, surveying, elementary forestry and wildlife practices, and fire suppression and pre-suppression. The training and its results are extremely beneficial to the refuge program. Even greater values lie in the intangible area. Thousands of young men, most of them city dwellers, have been exposed to the delights made possible by the conservation agencies. They have seen and felt the beauty of the great outdoors; enjoyed the thrill of fishing, boating and swimming; heard and responded to the beat of thousands of wings of migrating birds; and have heard the cry of the loon and the musical howl of the coyote. All of these things are making their mark — these young men now have invested a "sweat equity" in all of this. The future is probably not ours to see but we feel that placing these youngsters upright in their world of tomorrow has gained thousands of new friends for conservation efforts.

Mr. Parker reported last year that the Bureau's Division of Predator and Rodent Control was about to be redesignated the Division of Wildlife Services. This has been done and two new functions (Branches) have been assigned to that Division - wildlife enhancement and pesticide surveillance. This has required a major effort in staffing, retraining, and funding. This reorganization is virtually completed and the Division was "tooled up" sufficiently to be operational in all three of its major activities on July 1st.

This touches very briefly on a number of Bureau activities in this "highlight" review. I may have overlooked some in which someone here is especially interested. I expect to be here during the Conference and, at some convenient time, will be most pleased to try to discuss in more detail these and any that I have omitted, if anyone has a particular interest.

In closing I want to mention that we are concerned with the bird-airplane problem and are appreciative of the lead Canadian officials have taken in current studies. Exotic introductions of wildlife are still a matter of concern to us under the Amended Lacey Act - particularly some of the caged bird imports, such as weaver birds and bulbuls which may have a potential for serious crop damage. The Congress authorized a research program on the Polynesian rat in Hawaii, the beginning of a solution to the long-standing depredation problem of sugar cane and pineapple growers.

Thank you for the opportunity to be here to renew old acquaintances and make new ones.

term average, Saskatchewan's breeding duck populations was still down 20 per cent.

Nesting conditions were excellent in southern Manitoba, but waterfowl there did not show the gains noted farther west. The same population level was reported in 1965. In Montana nesting ducks increased by 25 per cent over last year.

The Tri-State region (western Minnesota, North and South Dakota) was up about 5 per cent from 1965 but no better than the long-term average.

We don't know what effect the late season had on early nesting efforts or how water conditions will hold up through the critical brood stage, but there is reason to expect a better hatch this year.

In closing, there are a few other developments of interest.

We are, of course, impatient but very encouraged by the industry and conservation organization efforts to tackle the problems of non-toxic shot and waterfowl crippling.

The Bureau portion of the Job Corps program is developing very well and we are pleased with the contribution this program is making both to conservation and to the betterment of the coming generation.

The Job Corps program was authorized by Title I of the Economic Opportunity Act of 1964 which authorized the seven centers operated by the Bureau.

These centers have an authorized enrollment of 1162 corpsmen, and we are rapidly approaching capacity. Staffs of the centers number 315, and are Bureau employees — many are employees with considerable service who have transferred to the Job Corps phase of Bureau operations because of their interest in the program, and are passing on their conservation skills and experiences to the corpsmen.

These youthful citizens average 17½ years of age and are either school dropouts of three months or more, unable to find or hold an adequate job, or are underprivileged from having grown up in impoverished surroundings.

They come from any geographical area, any religious, racial, or ethnic group. A new training concept is emerging in which vocational education and some advanced skill training will be given in the conservation centers to prepare young men for direct employment.