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**FISH AND WILDLIFE MANAGEMENT
REPORT**

**PROVINCE OF ONTARIO
DEPARTMENT OF LANDS AND FORESTS
Division of Fish and Wildlife**

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SOME PUBLIC RELATIONS PROBLEMS IN DEER MANAGEMENT

by
H. G. Lumsden


In the administration of wildlife resources, one of the most important aspects is that of dealing effectively with public opposition to management programs. Failure to overcome this obstacle results in waste of research effort and in frustration of the game management staffs concerned. The Great Lakes Deer Committee, some years ago questioned the use of doing further deer research as long as the public refused to accept current findings and to permit the institution of biologically sound management programs. This conclusion applies equally to other wildlife management problems. Professional wildlifers are almost unanimous in their views on the uselessness of bounties as a means of predator control and on the waste of certain warm water fish stocking practices. Almost every game department that has tried to institute reforms on these problems has faced bitter opposition. Much public relations effort has been put into trying to change opinion on these issues, but only a few departments have succeeded in instituting sound programs.

In the field of education to give basic understanding to the public, Gabrielson (2) summed up the situation well when he said:

"This field has been most intensively worked and has on the whole yielded meager results when compared to the effort exerted."

The reason for these disappointing results may have been a lack of understanding of the psychological barriers which exist and of the structure of society and the manner in which opinions are formed, held, and changed.

The deer management pattern has been remarkably similar in most States and Provinces, particularly in eastern North America. There have been exceptions and departures but generally game administrators have been faced in the last ten to twenty years with deer herds living beyond the carrying capacity of their range. Forest damage, unthrifty deer populations and periodic die-offs have frequently been described. The biologically sound remedy for this situation is to kill more deer, but when attempts have been made to change regulations to permit a larger harvest during hunting seasons, resistance, often violent and emotional, has sprung up from deer hunters and other groups. The reason for this has often been that most hunter



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groups hold beliefs remote from reality. Their brief annual experience with deer often indicates scarcity. The concept of carrying capacity is not understood and they cannot see that deer can be overabundant and yet only one hunter in three to five may be successful in killing one during the open season. History has also been a factor in forming the current protectionist attitude; it was only twenty years ago in some areas when deer were extremely scarce and animals were being imported at great expense for stocking purposes.

In order to overcome this obstacle programs of education have been undertaken which have generally consisted of the production of articles and literature designed to sell the desired management program and the delivery of formal lectures to sportsmen's groups, explaining and defending the game department's position. It is probable that there has been no inadequacy in the technical quality of the material presented in these programs, but the manner of presentation has generally failed to take into account the social and psychological factors involved.

Various reasons have been offered for failure in deer education programs. The one most often heard is that insufficient material was distributed and not enough people reached. While it is possible that this was so in some cases, it seems likely that other factors were more often responsible for failure.

Hyman and Sheatsley (3) have outlined some of the problems of effectively reaching the people who are the targets of information campaigns. The following quotations are taken from their paper:

"There exists a hard core of chronic 'know-nothings'. All persons do not offer equal targets for information campaigns. Surveys consistently find that a certain proportion of the population is not familiar with any particular event. If all persons provided equal targets for exposure there would be no reason for the same individuals always to show a relative lack of knowledge. I notice there is something about the uninformed which makes them harder to reach no matter what the level or nature of the information. Interested people acquire the most information."

"Studies have shown that each specific information campaign does not start with the same handicap in terms of public apathy. Motivation is high on some issues, low on others."

"A study conducted by the National Opinion Research Centre demonstrated a close relationship between apathy and ignorance. It is likely that all questioned had an equal opportunity to learn about the two subjects but information reached about half of the interested group and only about one fifth of the disinterested."

"It could be argued that the exposed people became interested after they had been exposed to the information, and the disinterested persons were apathetic because they were not exposed. It is probable the the two factors are interdependent."

"Nevertheless it is true that in the case of even outstanding public issues, large groups of the population admit little or no interest."

"This fact cannot be ignored by those in charge of information campaigns. Such groups constitute a special problem which cannot be solved simply by increasing the flow of information."

"Scientific surveys are needed to determine who these people are, why they lack interest, and what approach can best succeed in reaching them."

"People seek information congenial to prior attitudes. Evidence from polling national samples supports the view that people tend to expose themselves to information which is congenial with their prior attitudes, and to avoid exposure to material which is not congenial. This is an important factor which must be considered by those in charge of information campaigns. Merely increasing the flow is not enough if the information continues to flow in the direction of those already on your side."

"People interpret the same information differently. Much experimental work has shown that a person's perception and memory of materials shown to him are often distorted by his wishes, motives, and attitudes. Here, then, is another psychological problem that faces those responsible for information campaigns. Exposure to information in itself is not always sufficient. People will interpret the information in different ways according to their prior attitudes."

"Information does not necessarily change attitudes. The principle behind all information campaigns is that the disseminated information will alter attitudes or conduct. There is abundant evidence in all fields, of course, that informed people actually do react differently to a problem than uninformed people do."

But it is naïve to suppose that information always affects attitudes or that it affects all attitudes equally. The general principle needs serious qualification."

"There is evidence, based on investigation made with academic samples that individuals, once they are exposed to information, change their views differently, each in the light of his own prior attitude. Data gathered by the National Opinion Research Council in recent national surveys shows that these academic findings are equally applicable to the entire adult population."

"The above findings indicate clearly that those responsible for information campaigns cannot rely simply on "increasing the flow" to spread their information effectively. The psychological barriers we have pointed out create real problems for those charged with the task of informing the public, and in many cases public-opinion surveys offer the only means by which these problems can be recognized and thereby overcome."

The scope of this paper by Hyman and Sheatsley does not cover the pressures that society brings to bear upon an individual in forming or changing his beliefs. To understand this it is necessary to consider the structure of society.

Krech and Crutchfield (4) have described society as: "...an interrelated system of social groups." They define a group as:

"...two or more people who bear an explicit psychological relationship to one another. These groups may be very simple and involve in their functioning no more than the loosely coordinated behaviour of several individuals, or they may be extremely complicated and operate through the highly specialized and formalized action pattern of thousands of people under a monolithic leadership. Such social groups influence the needs, beliefs, attitudes and actions of the people involved, and the structure and function of such groups are in turn determined by the dynamic interactions of their constituent members. "For most groups it can be safely generalized that group membership serves a function for the individual. Through it he satisfies needs and demands."

Sportsmens' clubs consist of groups of individuals with similar attitudes and goals. Unorganized into formal clubs, there exist thousands of other groups with similar outlooks scattered in every community in the country. These are the units with which the deer manager must deal, for it is they which have a powerful influence on the opinions of their members.

A normal individual is not a free agent in making up his mind on an issue. Lewin (5) says that:

"Many social habits are anchored in the relation between the individuals and certain group standards. If an individual should try to diverge too much from group standards, he would be ridiculed, treated severely and finally ousted from the group. Most individuals therefore stay pretty close to the standard of the group to which they belong or wish to belong to. In other words, the group level itself acquires value. It becomes a positive force keeping the individual in line with the standards of the group."

Those concerned with dealing with the public on deer or other similar wildlife issues must have frequently had the experience of spending some time with an intelligent sportsman, perhaps in the bush, and of apparently convincing him of the necessity for a certain course of action. Days or weeks later the same individual is found to have reverted back to his original point of view. Occasionally the information is accepted but the individual will in his interpretation use the most extraordinary mental gymnastics in order to adhere to his original beliefs.

Such experiences are apt to be discouraging for the worker. The returning of the individual to his former attitude and beliefs is probably explainable in many cases by the foregoing.

In the same paper Lewin also discusses resistance to change and methods of effecting change.

"If the resistance to change depends partly on the value which the group standard has for the individual, the resistance to change should diminish if one lessens the strength of the value of the group standard or changes the level perceived by the individual as having social value."

"Perhaps one might expect single individuals to be more pliable than groups of like-minded individuals. However, experience indicates that it is usually easier to change individuals formed into a group than to change any one of them separately."

"There are two basic methods of changing levels of conduct.

1. by adding forces in the desired direction.
2. by diminishing opposing forces.

The secondary effects of these two methods should be different.

In the first case the process on the new level would be accompanied by a state of relatively high tension; in the second case by a state of relatively low tension. Since increase of tension above a certain degree is likely to be paralleled by higher aggressiveness, higher emotionality and lower constructiveness, it is clear that as a rule the second method will be preferable to the high pressure method."

These comments were made on a series of experiments involving the changing of attitudes of housewives to the use of certain foods. In two experiments a formal lecture was delivered to one group on the subject while another group held a discussion and made a group decision. A subsequent check revealed that the formal lecture was far less effective in obtaining a change than the discussion and group decision. In the third experiment a series of women were given individual instruction for 25 minutes while groups of six were given instruction and discussion for the same period. Again the group approach was far more effective.

In discussing these techniques and their relative effectiveness, Lewin says:

"Lecturing may lead to a high degree of interest. It may affect the motivation of the listener, but it seldom brings about a definite decision on the part of the listener to take certain action at a specific time. A lecture is not often conducive to decision."

"Group discussions although usually leading to a higher degree of involvement as a rule do not lead to a decision either. However, active participation may make an audience more ready to make up its mind. A group discussion gives the leader a better indication of where the audience stands and what particular obstacles have to be overcome.

"Although the individual may be physically part of a group listening to a lecture, he is nevertheless in a quasi-private, psychologically isolated situation with himself and his own ideas."

"Individuals are usually unwilling to depart too far from group standards. The individual is likely to change only if the group changes."

"The group decision procedure which is used here attempts to avoid high pressure methods and is sensitive to resistance to change. Its success may be due in part to the attempt to bring about a favourable decision by removing counterforces within the

individuals rather than by applying outside pressure. As long as a groups standards are unchanged, the individual will resist changes more strongly the farther he is to depart from group standards.

"A change in attitude is often short lived. The objective of a planned change should include permanence as well as the change itself. A successful change included therefore three aspects:

1. Unfreezing the old level.
2. Moving to the new level.
3. Freezing at the new level.

The unfreezing of the present level may involve quite different problems in different cases, i.e., in cases of prejudices, complacency, and self-righteousness."

Brown (1) also comments in his book on the group approach to the problem of changing beliefs and attitudes. He says:

"It is in general useless to try to change the attitudes of group members individually. The group must be dealt with as a whole. The obvious reason for this is that since the attitudes are a function of the group and its situation, it is useless to attack them in the individual member."

"It is also largely useless to attempt to change attitudes by lecturing or logical arguments."

He adds later:

"Attempting to change a person's views into views which conflict strongly with those of his group is, in effect, asking him to set himself against the group, and since to most people the respect of their group is more important than the holding of an opinion, we are not likely to be successful in most cases;

"...lecturing at people is, in a sense, a form of verbal attack which many people inwardly resent, and, in trying to change a man's views we are attacking something that is part of himself, we are asserting that he is wrong and we are right. Reason, however important a part it may play in society, does not play a major part in most peoples lives. Lecturing, logical argument, and the individual approach are, therefore, unlikely to lead to success in changing group attitudes, and the most successful method of doing this has been shown to be the use of group discussion."

Sherif (7) also discussed the technique of lecturing or logical argument as a means of changing attitude.

"Attempts at changing attitudes or social prejudices experimentally by the dissemination of information or factual argument have been notably unrewarding. Some investigators have been unable to obtain any change. Others have obtained various degrees of shift in the desired direction although there were almost always some cases showing negative or no change these changes are apt to be discrete and rather ephemeral."

He quotes Taylor as saying:

"It is not possible to change any attitude into any other attitude: What we can do is to change attitudes which are remote from reality into attitudes more closely based on reality."

"The more unstructured a situation is (i.e., the less factual information that is available about it), the greater the likelihood that attitudes will become based on emotion and consequently remote from reality."

Krech and Crutchfield (4) warn that certain mistakes are sometimes made by those concerned with information campaigns.

"Several common errors should be emphasized which are sometimes made by action groups in their attempts to diagnose beliefs and attitudes."

"The first error is failing to realize the important functional value of beliefs and attitude. Too frequently educators assume that undesirable attitudes reflect inherent cussedness or the effects of conditioning or bad training. The service performed by these beliefs and attitudes for the individual is neglected."

"Another error derives from the attempt to discover one universal need or emotion that holds for all people harbouring any given kind of belief or attitude."

"Finally another common error in this connection is the historical error in which the needs and emotions that are ascribed to beliefs and attitudes are seen from the historical perspective rather than from that of the immediate psychological field."

They suggest two Guides in Action Programs.

1. "The problem of changing beliefs and attitudes has been aptly summarized by Lewin and Grabbe (1945) in their statement that, 'the re-educative process has to fulfill a task which is essentially equivalent to

a change in culture'. It cannot be emphasized too strongly that the task of changing beliefs and attitudes involves working through most, if not all, of our formative agencies - whether formal institutions, individual people or even objects."

"Any attempt to change only one set of the factors involved in beliefs and attitudes can have but limited effect. The program should be a multidimensional one."

2. "Most beliefs and attitudes receive social support. This not only tends to make beliefs and attitudes resistant to change, but can also help induce change."

"Effective measures designed to control beliefs and attitudes must seek, wherever possible, to create new group identifications for the people it would change to the end that social support for the new beliefs and attitudes will be forthcoming. Social support for the new beliefs and attitudes is effective only in so far as the individual is or wants to be a member of the group that has those beliefs and attitudes."

"When no proper group exists for such identification it becomes difficult if not impossible to establish certain beliefs and attitudes. Fortunately very few cultures are homogeneous. We must attempt to educate the individual as a part of a group, and we can do that by taking advantage of the diversification within our cultural pattern."

Conclusions and Suggestions.

The main task of educators in the field of wildlife management in general and in deer management in particular is that of bringing the beliefs and attitudes of the public closer to reality. The work of the authors quoted would suggest the following:

Printed material will probably not be read properly by those whose views conflict with the content and if they do read it they will probably misinterpret it. Its value then for changing peoples views is limited; it should be directed at those who are partially or are already in agreement with the content. It should be designed to keep them informed of developments and to stimulate and hold their interest. In presentation it should avoid a hard-hitting approach which might give the impression of an attack on the readers beliefs. The present system of District News Releases should be re-examined in the light of these considerations.

The group discussion technique will probably be the most effective method in changing attitudes. There are, however, practical difficulties in the use of this method at sportsmens' clubs or other similar meetings. The size of such gatherings often prohibits the type of frank discussion which is desirable. When a group exceeds six or eight members there is a tendency for it to lose cohesion and divide into two or more groups often differing to a greater or lesser degree in their attitudes. In some cases it may be possible to handle such a meeting by deliberately splitting it into manageable units each of which can be led by an exponent of the department's management plan.

Trappers' councils are now established across the province. Although it is probable that council meetings have not generally been run in the best "group discussion" manner, great changes have been made in the trapping organization and regulations with really very little organized objection. It is probable that the council approach was largely responsible for this.

Perhaps the council idea could be extended to sportsmen. Clubs might be asked to nominate five or six of their number to aid the Department in its deer work. They should be men who can spare an occasional Saturday or Sunday to join in the work or checking stations and in the compiling of the data. They should perhaps help in deer yard surveys in both summer and winter and in checking on winter deer mortality. They should in fact be encouraged to partake in any department activities which will keep them **in closer** touch with reality. They will be bound to speak about their experiences and observations to their associates thus bringing all closer to reality.

Literature Cited

1. Brown, J. A. C. 1954.
Social Psychology of Industry (A296 Pelican Series) Penguin Books.
2. Gabrielson, I. N. 1951.
Wildlife Management. MacMillan.
3. Hyman, H. H. and Sheatsley, P. B. 1952.
Some Reasons Why Information Campaigns Fail.
In Readings in Social Psychology. Swanson, G. E., Newcome, T. M., Hartley, E. L. Henry Holt.
4. Krech, D. and Crutchfield, R. S. 1948.
Theory and Problems of Social Psychology.
McGraw-Hill.
5. Lewin, K. 1952
Group Decision and Social Change. In Readings in Social Psychology. Swanson, G. E., Newcome, T. M., Hartley, E. L. Henry Holt.
6. Lewin, K. and Grabbe, P. 1945.
Conduct Knowledge and Acceptance of New Values.
J. Soc. Issues 1, No. 3: 53-64.
7. Sherif, M. 1948.
An Outline of Social Psychology. Harper and Bros.
New York.

AN EVALUATION OF COMMON AQUATIC PLANTS
AS FOOD FOR WATERFOWL, MUSKRATS, BEAVER,
AND MOOSE.

by
J. K. Reynolds

The value of many aquatic and emergent plants as foods for waterfowl, muskrats, beaver and moose is often in dispute among those people concerned with management of these species. In an attempt to summarize the available information, Table I has been prepared.

At its best, this Table can serve only as a very general guide to the relative values of the plants listed for the birds and mammals mentioned. For each genus of plants listed there are in most cases several species (indicated as "spp.") in Ontario, some of which are of greater value as foods for these animals than are others. Geographic variations also occur; some foods noted as "excellent" in some parts of the province are not necessarily so regarded in others. And seasonal variations occur: some food plants rarely or never eaten in summer may assume considerable importance in winter.

Most of the data for this table have been derived from presumably authoritative published sources. The writer is indebted to Dr. R. L. Peterson for making additions and corrections to the list of foods eaten by moose.

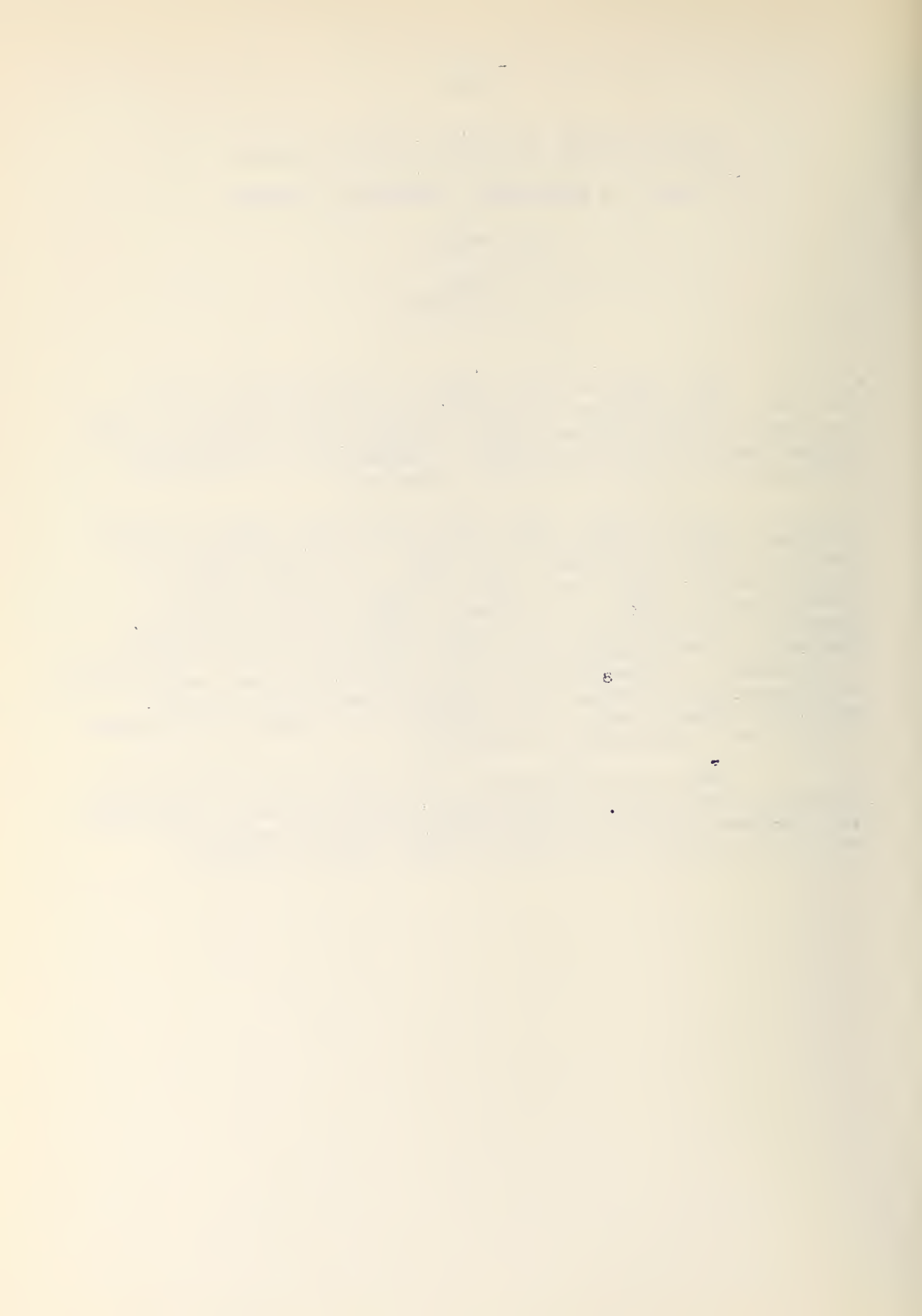


TABLE I - Evaluation of Common Aquatic Plants as Food for Waterfowl, Muskrats, Beaver and Moose.

Common Name	Scientific Name	Waterfowl	Musk rats	Beaver	Moose
Alders	Alnus spp.	nil	fair	excellent	fair to good
Arrowheads	Sagittaria spp.	good	good	good	fair
Bulrushes	Scirpus spp.	good to excellent	good	?	fair
Burreeds	Sparganium spp.	fair	good	?	good
Bushy Pondweeds	Najas spp.	excellent	?	?	nil ?
Buttercups	Ranunculus spp.	fair	?	?	fair
Cattails	Typha spp.	nil	good	good	nil
Coontails	Ceratophyllum	fair	good	?	fair
Duckweeds	Spirodila, Lemna, etc.	good	good	fair	nil
Lotus	Nelumbo	nil	?	fair	nil
Musk Grasses	Chara, Nitella	good	nil	nil	?
Pondlilies	Nymphaea, Castalia	fair	good	good	good to excellent
Pondweeds	Potamogeton spp.	good	good	good	excellent
Reeds	Phragmites	nil	?	good	nil
Sedges	Carex spp.	fair	fair to good	good	fair
Smartweeds	Polygonum spp.	good to excellent	slight	?	nil
Spike rushes	Eleocharis spp.	fair to good	good	?	fair
Water Cress	Nasturtium	?	fair	?	nil
Watermilfoils	Myriophyllum	fair	fair	?	fair
Watershield	Brasenia	fair to good	?	?	excellent
Waterweeds	Anacharis, Elodea	fair	fair	fair	nil
Wild Celery	Vallisneria	excellent	good	fair	excellent
Wild Rice	Zizania	excellent	good	excellent	good
Willows	Salix spp.	nil	fair	excellent	excellent

TWEED DISTRICT DEER, 1954.

by
P. A. Thompson

The gathering of information on the deer herd of Tweed District for 1954 was carried out along the same lines as in 1952 and 1953. Sportsmen through their co-operation supplied valuable information both on road checks and in the special study areas of the District. On checking stations Department staff aged 910 deer, of which 234 were weighed. Seventy deer passing through the checking stations were unaged and unsexed. From this sample the hunters' success was 32.02%, almost identical to the success of 1953.

The following table gives figures on resident and non-resident deer hunters' success for 1952-53-54:

	<u>1954</u>	<u>1953</u>	<u>1952</u>
Resident Hunters	2969	2627	2792
Non-Resident	91	133	30
Total Hunters	3060	2760	2822
Deer	980	885	897
Success	32.02%	32.1%	31.8%
Man Days per Deer	15.8	17.4	21.8

The weights obtained show little difference to last year. The following table gives average weights in pounds.

<u>Year</u>	<u>Fawns</u>	<u>1½</u>	<u>2½</u>	<u>3½</u>	<u>4½</u>	<u>5½</u>	<u>6½</u>	<u>7½</u>	<u>8½</u>
1954 Bucks	69	111	140	178	174	178	-	-	203
1953 Bucks	66	110	147	186	183	198	167	-	218
1952 Bucks	70	110	147	169	195	199	204	222	226
1954 Does	63	100	110	111	112	-	116	144	-
1953 Does	64	94	104	105	117	102	102	103	103
1952 Does	61	92	110	114	112	117	-	113	-

The 1954 season shows a considerable increase in the fawn population. Aging figures show that 31.54% of the kill were fawns as compared to 29.6% for 1953. Mature deer show males 37.36% and females 31.10% of the kill. A comparison of 1952-1953-1954 age class percentages is given in the following table:

	<u>1954</u>	<u>1953</u>	<u>1952</u>
Bucks	37.36	38.1	41.0
Does	31.10	32.4	33.3
Fawns	31.54	29.6	25.6

	<u>Bucks</u>			<u>Does</u>			<u>Combined Bucks and Does</u>		
	<u>1954</u>	<u>1953</u>	<u>1952</u>	<u>1954</u>	<u>1953</u>	<u>1952</u>	<u>1954</u>	<u>1953</u>	<u>1952</u>
1	36.76	41.1	25.9	32.16	29.9	28.0	34.67	36.3	26.9
2	28.53	20.2	32.5	35.34	27.7	36.4	31.62	23.8	34.4
3	19.70	18.5	29.8	17.67	23.7	20.6	18.78	21.0	25.3
4	8.82	11.8	6.6	6.71	6.9	6.5	7.86	9.5	6.6
5	2.94	4.4	2.6	4.24	4.7	5.6	3.53	4.6	4.1
6	1.47	1.0	1.6	2.47	3.5	.9	1.93	2.1	1.4
7	.88	-	.4	1.06	1.5	1.4	.96	.7	.9
8	.88	1.3	.4	.35	1.8	.5	.64	1.6	.4
9	-	.7	-	-	.4	-	-	.5	-

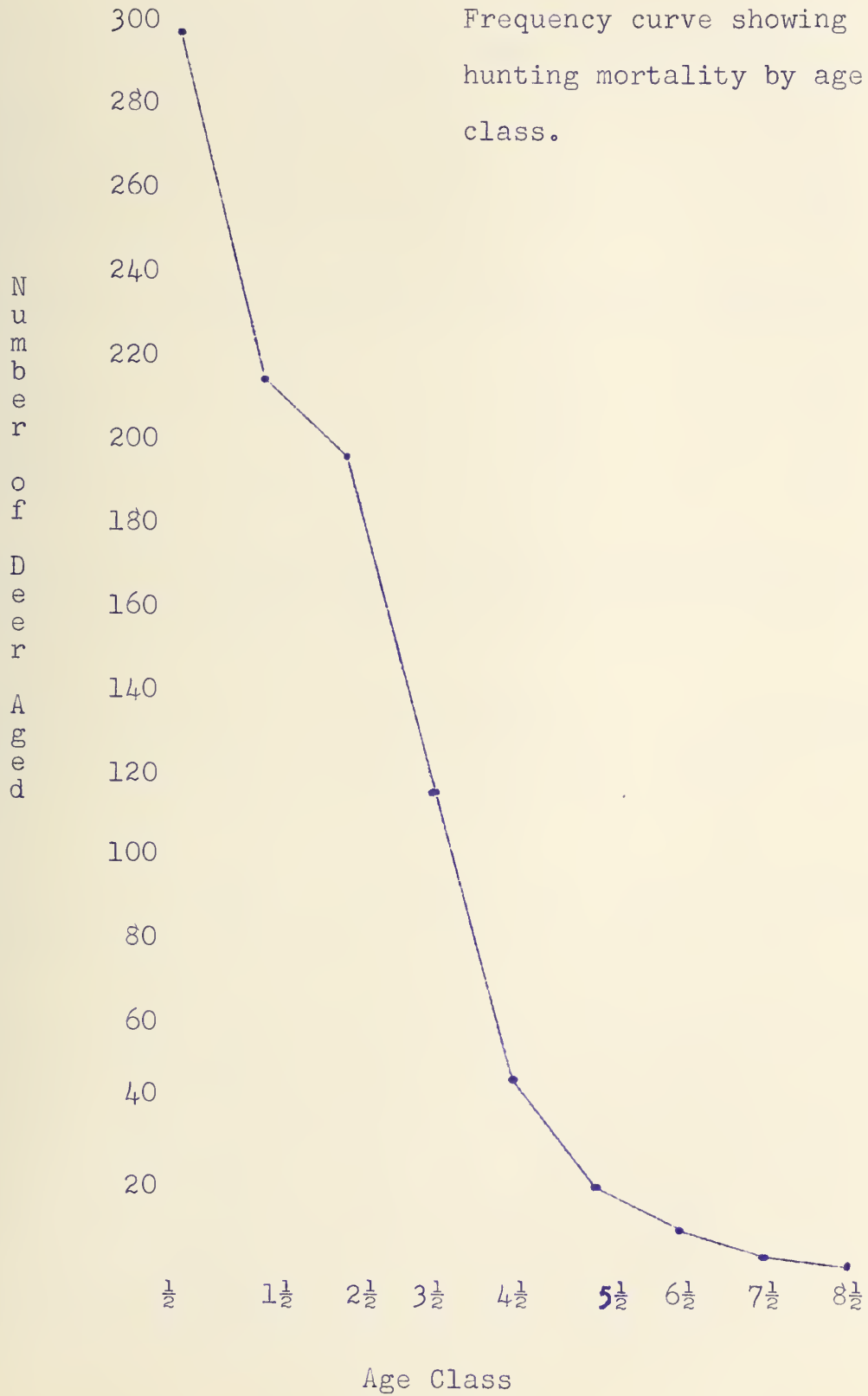
Average age for 1952 deer 2.86 years
 Average age for 1953 deer 2.93 years
 Average age for 1954 deer 2.76 years

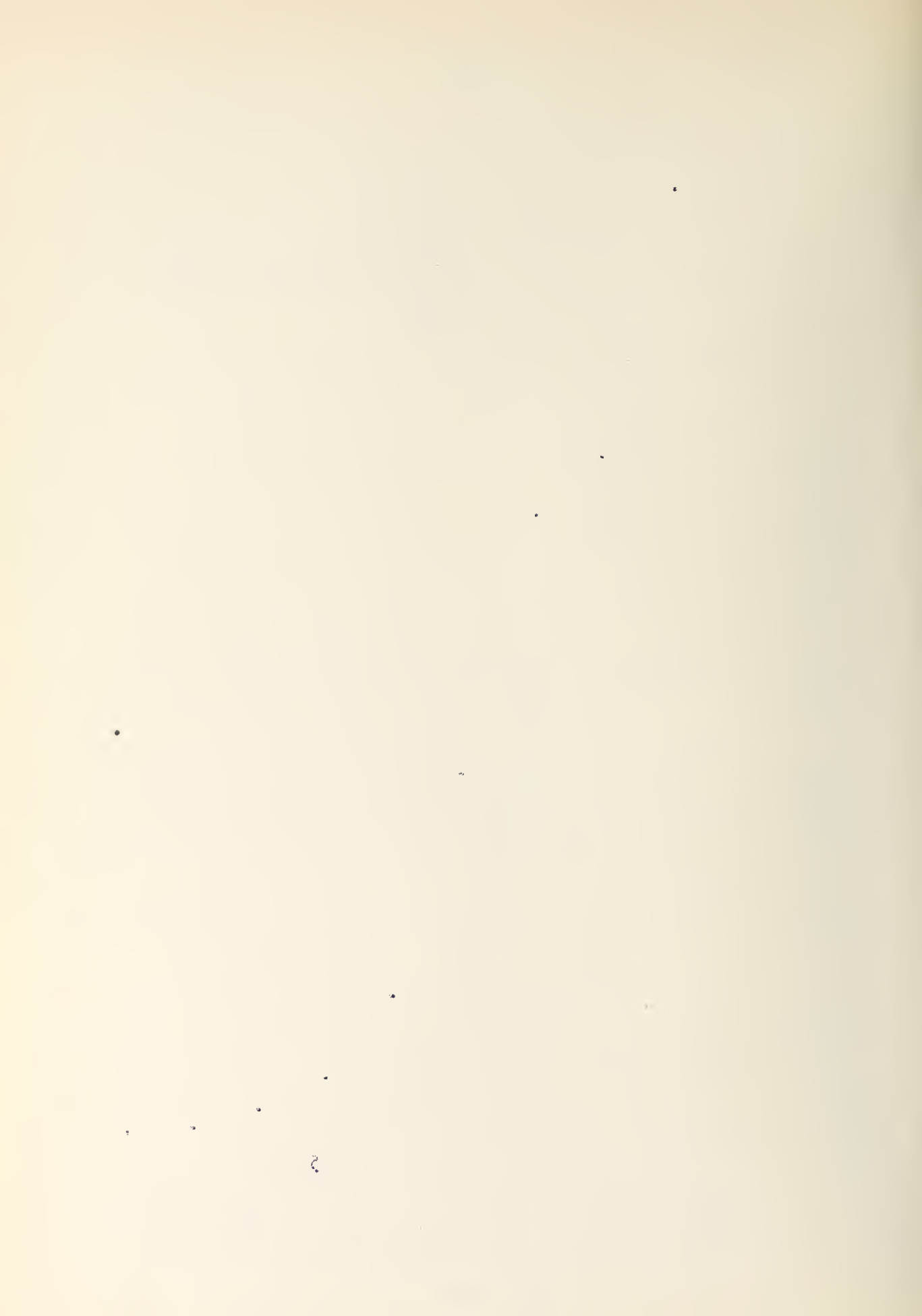
For the past three seasons much valuable information has been obtained from hunters hunting from Crown land camps on a land use permit. Each permittee is supplied with a questionnaire form and full instructions as to its use and disposition. See attached form. From the 269 permittees, 212 returns were made. The following information was obtained from the returns made by Crown camp hunters for 1954:

<u>Camps</u>	<u>Returns Made</u>	<u>Hunters</u>	<u>Deer</u>	<u>% Success</u>
269	212	1589	906	56.7

The hunters' success from Crown land camps for the past four hunting seasons is as follows:

	<u>Number Hunters</u>	<u>Number Deer</u>	<u>Percent Success</u>
1951	605	467	77.2
1952	717	468	65.4
1953	986	565	57.4
1954	1589	906	56.7





From the returns made by hunters hunting in Crown camps the distribution of the kill was as follows:

Total deer killed in compilation 821

<u>1st Week</u>	<u>Parties Hunting</u>	<u>Deer Killed</u>	<u>Percent of Kill</u>
Monday	169	170	20.7
Tuesday	173	121	14.7
Wednesday	172	116	14.1
Thursday	170	125	15.2
Friday	161	82	10.0
Saturday	141	63	7.7

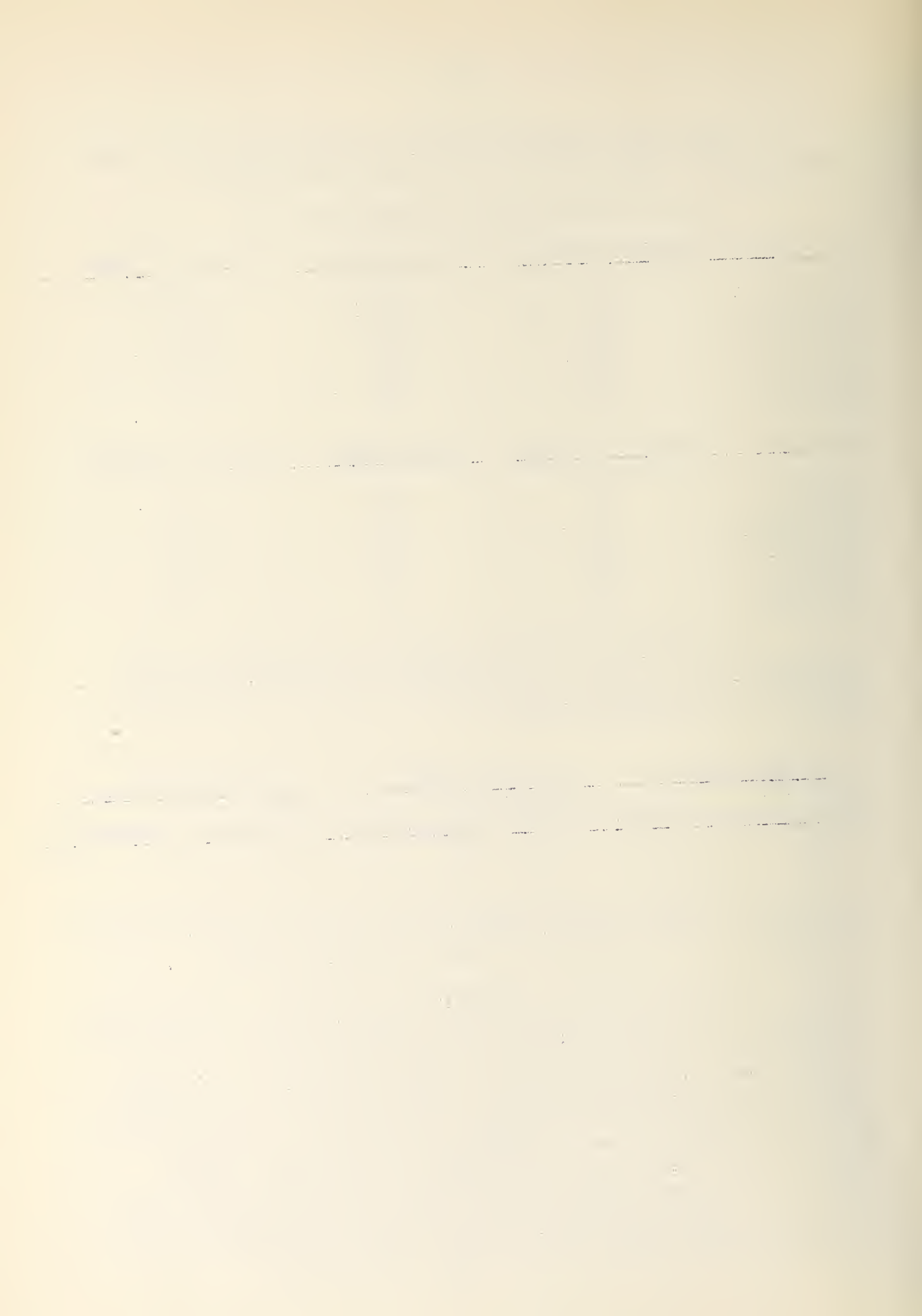
<u>2nd Week</u>	<u>Parties Hunting</u>	<u>Deer Killed</u>	<u>Percent of Kill</u>
Monday	98	40	4.9
Tuesday	92	40	4.9
Wednesday	74	31	3.8
Thursday	62	18	2.2
Friday	39	11	1.3
Saturday	27	4	.5

An effort was made to gather information on the shedding of milk teeth and lactation of 1½ year old deer. Altogether 152 animals were examined and the findings are given in the following table:

<u>♂ Milk Teeth</u>			<u>♀ Milk Teeth</u>			<u>♀ Lactation</u>		
No.			No.			No.		
<u>Checked</u>	<u>Unshed</u>	<u>Shed</u>	<u>Checked</u>	<u>Unshed</u>	<u>Shed</u>	<u>Checked</u>	<u>Dry</u>	<u>Milking</u>
90	41	49	62	23	39	34	31	3

Checking of shedding of milk teeth is to learn, over the years, if hard winters affect the health of fawns enough to retard the development of their permanent teeth.

Weather plays an important part in our harvesting of deer. The weather of this 1954 season was more favourable to the hunters than during the 1953 season, but was still not what is considered good deer hunting weather. In the northern part of the District, sparse patches of snow, the remnants of an early snow storm, remained on the ground but was not sufficient for tracking. There was no frost in the ground and deer ran at will paying little heed to their regular runs. The blow down caused by Hurricane Hazel altered or changed many of the regular runways. The first week of the season provided the best hunting weather, while the almost continuous rain for the last three days of the second week made the hunting almost impossible.



Again this season deer hunters hunting in the Limerick deer study area provided valuable information. The following is a comparison of data collected during the 1953 and 1954 seasons.

	<u>Deer Killed</u>					<u>Deer Killed</u>	
	<u>Hunters</u>	<u>Bucks</u>	<u>Does</u>	<u>Fawns</u>	<u>Total</u>	<u>Per Sq. Mile</u>	<u>Percent Success</u>
1954	117	32	34	19	85	2.5	72.6
1953	110	30	32	14	76	2.2	72.4

Figures and data from the South Canonto deer study area have been omitted from this report. It is understood that a separate report will be made by the Division of Research, who have more or less taken over this area.

The information obtained on deer checking stations, special study areas, and Crown land camps, show that our deer herd in the Tweed District is still on the upward trend. The present amount of hunting pressure seems to have no ill effects on the deer population. Barring a severe winter with a pile up of snow, hunters should continue to enjoy deer hunting as it has been for the past three seasons.

Form used for collecting data on crown land camps.

Name

Address.....

Name of Camp.....

Township Lot Conc

Number in Party

How many dogs did you use

Total number of deer killed

Bucks Does..... Fawns

Number of days hunted

Number of bear killed

Please tick days when deer were shot.

First week of hunt	Monday	Second week of hunt	Monday
	Tuesday		Tuesday
	Wednesday		Wednesday
	Thursday		Thursday
	Friday		Friday
	Saturday		Saturday

ANNOTATED LIST OF BIRDS SEEN ON THE

ASHEWEIG RIVER, 1950.

by
C. A. Elsey

During the "break-up" period of 1950, a field-party was stationed near the junction of the Asheweig and Winisk Rivers in Northern Ont. (Longitude $87^{\circ} 20'$, Latitude $54^{\circ} 15'$) studying disease in beaver. The following list is condensed from records of the birds seen.

An unusually late spring resulted in the late appearance of birds from the south, for example, Canada Geese are usually seen by the 22nd of April. In 1949, the natives reported that they were seen on April 9th. In 1950, they did not appear until May 3rd. On May 17th, there was a great influx of birds from the south. It was a warm day with a strong southwest wind.

This area is close to the edge of the tree line around Hudson Bay. It is almost 200 miles west of Cape Henrietta Maria and 110 miles southwest of Winisk. Most of the country here is swampy, with higher ridges at intervals, usually along river banks. Even these higher places are only a few feet above the level of the swamp. The highest known place was only about 30 feet above the level of the river at its lowest in winter.

The dominant vegetation was black spruce. In the lower places there was considerable tamarack. In higher spots some white spruce was found. The vegetation along the river bank consisted of willow and alder. Aspen, balsam, poplar and white birch were very rare. The ground vegetation was mostly moss and labrador tea.

The date given after the name of the bird is the 1st date on which the species was seen. All records are sight records.

1. COMMON LOON. Gavia immer - May 28. Seen occasionally only;
2. GREAT BLUE HERON. Ardea herodias - May 19. Only one seen.

3. CANADA GOOSE. Branta canadensis - May 3. This species was abundant during the remainder of our visit. On May 17, there was an unusually large number of these birds brought in on a southwest wind. One flock that may have been Hutchins's Geese was seen on May 14.
4. SNOW GOOSE. Chen hyperborea - May 13. These birds flew high, and were apparently headed towards the coast of Hudson Bay. Most of these were seen on May 20, when flocks of blue and snow geese totaling an estimated 2,500 flew over.
5. BLUE GOOSE. Chen caerulescens - May 13. Always seen in association with snow geese.
6. MALLARD. Anas platyrhynchos - May 5. Common.
7. BLACK DUCK. Anas rubripes - May 17. Common.
8. BALDPATE. Mareca americana - May 27. Seen occasionally in pairs or small flocks.
9. GREEN-WINGED TEAL. Anas carolinensis - May 19. Seen occasionally.
10. PINTAIL. Anas acuta tzitzihua - May 19. Seen occasionally.
11. GREATER SCAUP DUCK. Aythya marila nearctica - May 27. Rare.
12. AMERICAN GOLDEN-EYE. Bucephala clangula - May 29. Rare.
13. WHITE-WINGED SCOTER. Melanitta deglandi - May 28, 10 seen (4 on May 28 and 6 on June 7).
14. SURF SCOTER. Melanitta perspicillata - May 20. Common for a few days and then only occasional. They took great pleasure in riding down river on sheets of ice and then swimming upstream to begin their ride again.
15. AMERICAN SCOTER. Oidemia nigra - May 25. Abundant when they first came but later reduced until the description of common is more fitting. Seen mostly on the Asheweig River.

16. AMERICAN MERGANSER. Mergus merganser americanus - May 19. Occasionally used by the Indians as food which probably had a controlling influence on their numbers.
17. RED-TAILED HAWK. Buteo jamaicensis - May 17. Only one seen.
18. AMERICAN ROUGH-LEGGED HAWK. Buteo lagopus - May 13. Occasionally seen after this date. Sometimes two were observed at once. They were in the light colored phase.
19. OSPREY. Pandion haliaetus carolinensis - May 19. Two seen on May 19, one on May 21 and two on June 5.
20. SPARROW HAWK. Falco sparverius - May 4. Rare, two seen on May 4 and two on May 8.
21. SPRUCE GROUSE. Canachites canadensis - April 24. Rare.
22. WILLOW PTARMIGAN. Lagopus lagopus - April 1. Abundant. The Indians reported that they expected these birds to leave for the coast when the warm weather first started to come. The first evidence of this was seen on April 7, when all ptarmigan movement appeared to be headed downstream and one flock was seen flying overhead. This movement continued until April 22. There were still ptarmigan around until May 7, (An injured one was seen on May 11.)
23. SHARP-TAILED GROUSE. Pedioecetes phasianellus - April 23. Rare, eight seen.
24. SANDHILL CRANE. Grus canadensis - May 9. Only 7 of these birds were seen. However, their calls could frequently be heard in the distance, always coming from the same location where the Indians reported that they nest each year.
25. SEMIPALMATED PLOVER. Charadrius hiaticula semipalmatus - May 21. One pair seen.
26. WOODCOCK. Philohela minor - May 27. One only, doubtful. This bird was identified by its flight pattern with which the writer is not too familiar. The Indians readily pointed out the picture in Peterson's "A Field Guide to the Birds."

27. SPOTTED SANDPIPER. Actitis macularia - May 27.
Abundant.
28. GREATER YELLOW-LEGS. Totanus melanoleucus - May 17.
Common.
29. LESSER YELLOW-LEGS. Totanus flavipies - May 17. One
pair.
30. BONAPARTE'S GULL. Larus philadelphia - May 19. Rare,
two seen on May 19 at junction of Muzhikoba
and Asheweig and four at Muzhikoba lake on
May 29.
31. HERRING GULL. Larus argentatus - May 6, Five seen.
32. BLACK TERN. Chlidonias nigra surinamensis - May 29.
Five seen at Muzhikoba Lake.
33. GREAT HORNED OWL. Bubo virginianus - April 23. One
seen and heard regularly around swamp. A
nest of young was observed on the Muzhikoba
River.
34. RICHARDSON'S OWL. Aegolius funereus - May 26. One
seen.
35. BELTED KINGFISHER. Megaceryle alcyon - May 21.
Occasionally, members of this species were
seen after this date. On June 4, two king-
fishers were observed in what appeared to
be nest-building activities. The site was
the dirt gathered by ice as it pushed against
the upstream side of an island. There was
still ice beneath this dirt. The birds did
not continue their activities after the one
evening.
36. YELLOW-SHAFTED FLICKER. Colaptes auratus - May 17.
Although they were seldom seen it was common
to hear these birds calling.
37. PILEATED WOODPECKER. Dryocopus pileatus - May 10. Rare.
38. YELLOW-BELLIED SAPSUCKER. Sphyrapicus varius - May 22.
One only seen.
39. DOWNY WOODPECKER. Dendrocopos pubescens - April 12.
Only two others seen; all females.
40. TREE SWALLOW. Iridoprocne bicolor - April 17. These
birds were occasionally seen in a flock of
about 10 birds moving up or down river. Two
were seen on the Muzhikoba River.

41. CANADA JAY. Perisoreus canadensis - April 8. This species was abundant. Although no nests were seen, four young ones appeared on June 5. They seemed to be making their 1st attempts to fly.
42. RAVEN. Corvus corax - April 8. Only one seen.
43. AMERICAN CROW. Corvus brachyrhynchos - April 12. Crow tracks were seen on April 12. Crows were seen and heard occasionally after this. On April 23, they became more abundant and were seen regularly until May 24, when the ice broke up on the river. After this date no more were seen.
44. BLACK-CAPPED CHICKADEE. Parus atricapillus - April 23. Occasional.
45. BROWN-CAPPED CHICKADEE. Parus hudsonicus - April 24. Rare.
46. AMERICAN ROBIN. Turdus migratorius - April 4. Seen and heard occasionally after this date.
47. GOLDEN-CROWNED KINGLET. Regulus satrapa - May 18. One only yellow.
48. YELLOW WARBLER. Dendroica petechia - May 29. One only seen.
49. MYRTLE WARBLER. Dendroica coronata - May 17.
50. RED-WINGED BLACKBIRD. Agelaius phoeniceus - May 17. Two flocks seen passing by our camp and one near the source of the Muzhikoba River where the habitat seemed to be more suitable. In addition to the flocks, occasional lone individuals were seen.
51. RUSTY BLACKBIRD. Euphagus carolinus - May 18. Not seen again until May 29, when about 15 were observed on the Muzhikoba River.
52. PINE GROSBEAK. Pinicola enucleator leucura - April 12. Common.
53. RED CROSSBILL. Loxia curvirostra - A large flock April 10. Thereafter they were rarely seen.
54. SLATE-COLORED JUNCO. Junco hyemalis - May 17. Rare.

55. WHITE-THROATED SPARROW. Zonotrichia albicollis - May 21.
Very common. Although no nests were located
it is probable that they were nesting in the
area.
56. FOX SPARROW. Passerella iliaca - May 21. Common.
Probably nesting there.
57. SNOW BUNTING. Plectrophenax nivalis - April 2. Rare.

RECENT MARTEN AND FISHER PRODUCTION IN THE
SIOUX LOOKOUT WILDLIFE MANAGEMENT DISTRICT

by
A. T. Cringan

Sioux Lookout trap-lines yielded 161 marten in 1953-54, the greatest harvest since before 1948-49. This was the third consecutive year that the marten catch exceeded 100. Catches of recent years are given in Table I.

TABLE I - Marten Production, Sioux Lookout Wildlife Management District. Basis: Sealing records and seizure reports; District area 4,660 square miles.

<u>Year</u>	<u>Quota</u>	<u>Marten Legally Caught</u>	<u>Per- cent of Quota</u>	<u>Marten Acc. Caught</u>	<u>Total Prod.</u>	<u>Square Miles Per Marten</u>	<u>Marten Per Square Mile</u>
1948-49	closed	-	-	33	33	140	0.007
1949-50	closed	-	-	7	7	670	0.0014
1950-51	76	43	57%	6	49	95	0.011
1951-52	200	111	56%	14	125	37	0.027
1952-53	274	111	40%	-	111	42	0.024
1953-54	297	161	54%	-	161	29	0.035
1948-54 Average	-	-	-	-	81	58	0.017
1951-54 Average	257	128	50%	-	132	35	0.028

The mean production during the past three years, one marten per 35 square miles, is gratifying. If sustained, then this district will probably come to be rated among the better marten-producing districts of the province.

In 1953-54, the highest-producing trap-line was SL 82, where 10 marten were trapped from about 45 square miles, or 1 marten per 4.5 square miles. Several other trap-lines yielded more than 1 marten per 10 square miles.

The increase in production which occurred in 1953-54 probably reflects a general increase in population, since it occurred in a year of reduced trapping effort. A slight range extension occurred in the extreme western part of the district, and a marten was trapped to the west of Highway 72 for the first time in 6 years. Elsewhere, marten distribution has remained just about unchanged.

The increased marten production since 1948 has naturally been accompanied by an improvement in the overall economic importance of marten. Certain aspects of the economic picture are presented in Table II.

TABLE II - Value of marten produced per trapper and per square mile in the Sioux Lookout District. Basis: Pelt values used are province-wide averages.

<u>Year</u>	<u>No. of Trappers</u>	<u>Marten Prod.</u>	<u>Marten Per Trap-per</u>	<u>Marten Per Square Mile</u>	<u>Value of Marten</u>	<u>Value Per Trap-per</u>	<u>Value Per Square Mile</u>
1948-49	81	33	0.374	0.007	\$14.20	\$ 5	.10¢
1949-50	95	7	0.074	0.0014	18.30	1	.03¢
1950-51	98	49	0.475	0.011	20.00	9	.22¢
1951-52	104	125	1.14	0.027	13.20	15	.36¢
1952-53	104	111	1.07	0.024	10.20	11	.24¢
1953-54		161		0.035			

The marten now ranges from the fourth to the seventh most important fur in the district, sharing this range with otter, fisher, and weasel.

Sioux Lookout trap-lines produced 98 fisher in 1953-54, a moderate decline from the 1952-53 peak production of 135. Catches of recent years are given in Table III.

TABLE III - Fisher Production, Sioux Lookout Wildlife Management District. Basis: Sealing records and seizure reports; district area 4,660 square miles.

<u>Year</u>	<u>Quota</u>	<u>Fisher Legally Caught</u>	<u>Per-cent of Quota</u>	<u>Fisher Acc. Caught</u>	<u>Total Prod.</u>	<u>Square Miles Per Fisher</u>	<u>Fisher Per Square Mile</u>
1948-49	open	39	-	-	39	119	0.008
1949-50	closed	-	-	7	7	665	0.0015
1950-51	closed	-	-	20	20	233	0.004
1951-52	221	90	41%	30	120	39	0.026
1952-53	302	135	45%	-	135	35	0.029
1953-54	292	98	34%	-	98	48	0.021
1948-54 Average	-	-	-	-	70	67	0.015
1951-54 Average	272	108	40%	-	118	39	0.025

This appears to be excellent fisher-producing country, for average production has been one fisher per 39 square miles per year, since the season re-opened in 1951. The 1941-47 average production in the Chapleau District was one fisher per 104 square miles per year, according to Peterson and Crichton.

The best fisher-producing trap-lines in 1953-54 was SL 32, where 15 fisher were caught from 130 square miles, or 1 fisher per 8.7 square miles; SL 76, where five fisher were caught on 30 square miles, or 1 fisher per 6.0 square miles; and SL 50, whose area of 65 square miles yielded 8 fisher, or 1 fisher per 8.1 square miles.

It is possible that 1952-53 was a peak year, and next year's production should either confirm or deny this. The decrease in 1953-54 was accompanied by a reduction in the number of trap-lines producing any fisher:

<u>Year</u>	<u>Number of trap-lines producing any fisher</u>
1948-49	17
1949-50	5 (closed season)
1950-51	13 (closed season)
1951-52	45
1952-53	45
1953-54	38

Fisher, economically, is the fourth to the seventh most important fur in the District, being of paramount importance with the otter, weasel and marten. Certain economic aspects of fisher production are given in Table IV.

TABLE IV - Value of Fisher Produced Per Trapper and Per Square Mile in the Sioux Lookout District.
Basis: Pelt values used are province-wide averages.

<u>Year</u>	<u>No. of Trap-per</u>	<u>Fisher Prod.</u>	<u>Fisher Per Trap-per</u>	<u>Fisher Per Square Mile</u>	<u>Value of Fisher</u>	<u>Value Per Trap-per</u>	<u>Value Per Square Mile</u>
1948-49	81	39	0.48	0.008	\$25.10	\$11	.21¢
1949-50	95	7	0.07	0.0015	34.40	3	.05
1950-51	98	20	0.20	0.004	34.60	7	.14
1951-52	104	120	1.16	0.026	21.90	25	.57
1952-53	104	135	1.30	0.029	19.75	26	.57
1953-54		98		0.021			

PHEASANT REPORT — LAKE SIMCOE DISTRICT, 1954

by
H. R. McCrimmon

I. Introduction

The following account of the status of pheasants within the regulated Townships, Lake Simcoe District, includes data on the propagation and distribution during 1954, results and analysis of open pheasant season, a comparison of the 1949, 1950 and 1954, and other pertinent information.

II. Propagation

A total of 7,250 pheasant chicks and 8,050 poults were provided by the Province for distribution by the townships. In addition, the Peel pheasant farm raised and released 4,500 poults in Peel County. The Department has encouraged the delivery of chicks to townships instead of poults with the result that the quota of 2,400 chicks has been increased to the present level. These chicks are usually cared for in local private chickerries under arrangement with the township concerned. The 1954 distribution of pheasants within the Lake Simcoe District was as follows:

<u>County</u>	<u>Township</u>	<u>Chicks</u>	<u>Poults</u>	<u>Total</u>
Ontario	Whitby West	500	800	1,300
	Whitby East	1,000	1,000	2,000
	Pickering	900	1,100	2,000
	Scugog	500		500
York	Markham	nil	500	500
	Whitchurch	1,000	1,000	2,000
	Vaughan	700	800	1,500
	King	700	850	1,550
	Gwillimbury East	nil	250	250
Simcoe	Gwillimbury North	nil	250	250
	Adjala	nil	100	100
	Tecumseth	nil	300	300
	Gwillimbury West	nil	100	100
	Batteaux Club	200		200
	Stayner Club	500		500
	Georgian Bay Hunters? and Anglers?	200		200
Peel		<u>1,050</u>	<u>1,000</u>	<u>2,050</u>
		7,250	8,050	15,300

III. The Open Pheasant Season in Regulated Townships

1. Open Season: The regulated townships were not in agreement concerning the desirable length of the open pheasant season. Consequently, a two-day hunt (October 29th and 30th) was held in the Townships of East Whitby, Whitby and Pickering in Ontario County and Markham and Whitchurch Townships in York County. In all other Townships a four-day season (October 27-30th was held).

2. Township Licences: Each of the regulated townships set a special licence fee during the open pheasant season and certain townships imposed an additional conservation fee. Most townships limited the number of township licences which would be issued. These data are included in the following table:

Fees Charged for Hunting Licences in Regulated Townships

County	Township	Fee During Pheasant Season		Fee After Pheasant Season		Res.	Non-Res.	Res.	Non-Res.	Additional Conservation Charge	Limit on Non-Res. Licences
		Res.	Non-Res.	Res.	Non-Res.						
York	Vaughan	.25	3.00	.25	1.00	.25	1.00	nil	nil	nil	nil
	King	.25	1.00	.25	1.00	.25	1.00	nil	nil	nil	nil
	Markham	.50	per day	.50	2.50	.50	2.50	nil	nil	nil	400
	Whitchurch	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	400
	East Gwillimbury	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	200
Ontario	North Gwillimbury	1.00	2.00	1.00	1.00	1.00	1.00	nil	nil	nil	200
	East Whitby	.25	2.50	.25	1.00	.25	1.00	.50	.50	.50	200
	Whitby	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	200
	Pickering	.25	2.00	.25	1.00	.25	1.00	.75	1.00	1.00	450
	Toronto	2.25	9.00	2.25	9.00	2.25	9.00	.75	1.00	1.00	25
Peel	Toronto Gore		3.00								
		.25	2.00	.25	1.00	.25	1.00	.75	1.00	1.00	300
Simcoe	Chinguacousy	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	200
	Caledon	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	200
	Albion	.50	2.50	.50	1.50	.50	1.50	.50	2.50	2.50	150
	Adjala	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	200
	Tecumseth	.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00	400
	West Gwillimbury	.25	3.00	.25	1.00	.25	1.00	nil	nil	nil	200
			.25	3.00	.25	1.00	.25	1.00	.75	1.00	1.00

3. Number of Hunters: Although 1,608 resident and 2,575 non-resident licences were issued at the time of the pheasant season, only a percentage of the 4,183 licenced hunters actually participated in the pheasant hunt. Only the townships of Markham, Pickering, and Chinguacousy sold their quota of non-resident licences. The greatest number was sold by Vaughan Township which did not restrict the sale of licences. At the time of the pheasant season the sale of licences was as follows:

Number of Hunting Licences Issued by Regulated Townships at Time of Open Pheasant Season.

<u>County</u>	<u>Township</u>	<u>Length of Open Season</u>	<u>Number of Licences Issued</u>		
			<u>Resident</u>	<u>Non-Resident</u>	<u>Total</u>
York	Vaughan	4 days	191	447	638
	King	4 days	79	173	252
	Markham	2 days	268	400	668
	Whitchurch	2 days	88	263	351
	East Gwillimbury	4 days	41	44	85
	North Gwillimbury	4 days	46	25	71
	Total		713	1,352	2,065
Ontario	East Whitby	2 days	85	150	235
	Whitby	2 days	47	187	234
	Pickering	2 days	300	450	750
	Total		432	787	1,219
Peel	Toronto		138	13	151
	Toronto Gore		9	31	40
	Chinguacousy		125	200	325
	Caledon		23	29	52
	Albion		83	95	178
	Total		378	368	746
Simcoe	Adjala		12	8	20
	Tecumseth		32	50	82
	West Gwillimbury	4 days	41	10	51
	Total		85	68	153

4. Hunting Success: A Survey was made during the open season to determine the numbers of pheasants seen and shot by hunters in those regulated townships suitable for pheasants. This work was done with the assistance of Conservation Officers and those Deputy Game Wardens employed by several Townships. A total of 691 hunters was checked with a total of 3,248 hunting hours. These hunters saw 731 cock pheasants and shot 281 or 38% of the birds seen. No reports are given for the Townships of East, West and North Gwillimbury, Albion, Adjala and Tecumseth where hunting intensity and pheasant population was low. A breakdown of these data is as follows:

Pheasant Census Returns of Open Pheasant Season in Regulated Townships.

<u>County</u>	<u>Township</u>	<u>No. of Hunters Checked</u>	<u>No. Hours Hunting</u>	<u>No. of Cock Birds Seen</u>	<u>Birds Shot</u>	<u>No. of Hen Birds Seen</u>
York	Vaughan	95	543	74	42	51
	King	66	411	124	44	71
	Markham	244	986	225	76	299
	Whitchurch	46	258	49	19	28
	East Gwillimbury	No report				
	North Gwillimbury	No report but few pheasants or hunters				
	Total	451	2,198	479	181	449
Ontario	East Whitby	22	63	5	2	10
	Whitby	17	87	27	8	10
	Pickering	108	424	111	40	106
	Total	147	574	143	50	126
Peel	Toronto	No report				
	Toronto Gore	No report				
	Chinguacousy	92	454	109	50	89
	Caledon	1	12	0	0	0
	Albion	No report but few pheasants or hunters				
	Total	93	476	109	50	89
Simcoe	Adjala	No report				
	Tecumseth	No report				
	West Gwillimbury	No report but few pheasants or hunters				
	Total	691	3,248	731	281	664

An analysis of the number of pheasants seen and shot in the various regulated townships follows:

<u>County</u>	<u>Township</u>	<u>No. of Cock Birds Seen Per Hunting Hour</u>	<u>No. of Cock Birds Shot Per Hunting Hour</u>	<u>No. of Hen Birds Seen Per Hunting Hour</u>
York	Vaughan	0.14	0.08	0.09
	King	0.30	0.17	0.17
	Markham	0.23	0.08	0.30
	Whitchurch	<u>0.19</u>	<u>0.07</u>	<u>0.11</u>
	Total	0.22	0.08	0.21
Ontario	East Whitby	0.88	0.03	0.16
	Whitby	0.31	0.09	0.11
	Pickering	<u>0.26</u>	<u>0.09</u>	<u>0.25</u>
	Total	0.25	0.09	0.22
Peel	Chinguacousy	0.24	0.11	0.18
Total		<u>0.23</u>	<u>0.09</u>	<u>0.20</u>

Comparative Data on 1949, 1950 and 1954 Pheasant Shoots in Regulated Townships.

	<u>No. of Cock Birds Seen</u>		<u>No. of Cock Birds Shot</u>		<u>No. of Hen Birds Seen</u>	
	<u>Per Hunter</u>	<u>Per Hunting Hour</u>	<u>Per Hunter</u>	<u>Per Hunting Hour</u>	<u>Per Hunter</u>	<u>Per Hunting Hour</u>
1949	0.33	0.07	0.2	0.04	0.62	0.13
1950	0.90	0.15	0.36	0.06	1.73	0.28
1954	1.1	0.23	0.4	0.09	1.0	0.20

5. Analysis of Data for Counties of Ontario, York and Peel.

(a) Hunters in the three Counties saw an average of 1.6 cock birds, or 0.23 birds per hunting hour, and 0.96 hen birds or 0.20 birds per hunting hour. A considerably greater number of cock birds were seen in 1954 than in 1950 when the last detailed study was made. However, fewer hen birds were seen in 1954.

(b) Pheasants killed during open season. Hunters in the three Counties killed an average of 0.4 cock birds, or 0.09 per hunting hour. This is a slightly higher hunting success than in 1950.

(c) Comparison of Pheasant Abundance in 1949, 1950 and 1954. The survey of 1950 suggested that the pheasant population in the three counties was roughly twice as great as in 1949. The 1954 population would seem to be about the same or slightly greater than that of 1950.

(d) Sex ratio of pheasant population. A comparison of the number of birds of each sex seen by hunters during the open season indicates about an equal number of hen and cock birds. This is the first time in some years that the number of hens has not exceeded considerably the number of cock birds.

(e) Township Licence Fees. The 4,183 townships licences purchased by hunters at the increased fee for the open pheasant season brought a revenue of approximately \$10,600 to the regulated townships. Assuming that each licence was used during the pheasant hunt with average success, the hunters would shoot an estimated 1,700 pheasants at a cost of some \$6.00 per bird in the township licence fees. However, as only a percentage of the licences were used, the number of birds shot would be considerably lower and the cost per bird greater.

REPORT ON 1954 PHEASANT SHOOT, NORTH NORWICH
TOWNSHIP, OXFORD COUNTY

by
W. H. Cantelon

Introduction

North Norwich Township is considered the most likely Township in the Lake Huron District to produce maximum results under our present pheasant management programme.

All pheasant poults and pheasant chicks placed by the Department of Lands and Forests in North Norwich Township were banded for identification purposes.

For the 1953 pheasant shoot and again this year, 1954, a voluntary census report form was solicited from each hunter who purchased a pheasant license.

The following data were derived strictly from census report forms from 95.3% or 240 out of the 252 hunters who took part in the shoot.

	<u>1953</u>	<u>1954</u>
(1) Hunter success average per gun per day.	.75	.77
(2) Percentage of banded birds shot as compared with unbanded birds shot.	55.4	36.4
(a) percentage of total banded birds shot that were banded as poults	22.4	27.6
(b) percentage of total banded birds shot that were banded as chicks	77.6	72.4
(c) percent return of total birds banded as chicks.	10.0	8.0
(d) percent return of total birds banded as poults.	11.1	7.4
(e) percent return of total banded birds	10.3	7.8
(3) Percentage of hunters using dogs during hunt.	66.0	75.0

	<u>1953</u>	<u>1954</u>
(4) <u>October 27th, 1954</u> : Weather - cloudy and cold with showers. 220 hunters - average in birds each	1.22	1.1
<u>October 29th, 1954</u> : Weather - partly cloudy and cold with morning showers. 102 hunters - average in birds each	.68	.75
<u>October 30th, 1954</u> : Weather - mostly sunny and mild. 92 hunters - average in birds each	.35	.47

Game Farm Stocking

During 1954, 1,500 baby pheasant chicks were placed in this Township along with 500 pheasant poults. The chicks were handled by farmer-sportsmen under the supervision of the Pheasant Committee of the Township Council.

Of the 1,500 baby pheasant chicks placed in six separate locations in the Township 1,203 or 80% were wing-banded and released.

Harvesting

The sale of pheasant licenses for the Regulated Township of North Norwich took place two days before the pheasant shoot. Mr. J. F. Gage, Huron District Biologist, and Mr. W. H. Cantelon, Huron District Wildlife Management Officer, both attended this sale and distributed Game Bag Census forms to each purchaser of a license and explained the importance of the pheasant banding project in this township. The Chairman of the Pheasant Committee was also present and asked better co-operation from those applying for a pheasant license who had not sent in a return the previous year.

Each hunter was also supplied with a return envelope complete with postage stamp.

By December 31st, 191 or 76% out of 252 hunters had sent in the pheasant census form. At the beginning of January, 1955, a reminder was sent to the delinquent 61 hunters. By March 1st, 1955, there were only 12 hunters who had not made a return.

Summary:

- (1) The number of hunters - 240 or 95.3% - of the total number participating in the shoot who made a return was encouraging because this return is on a voluntary basis.
- (2) This is the second year the voluntary return form has been used exclusively in North Norwich Township and it has proven to be much more accurate than field checks, which are limited owing to an inadequate field staff as compared to the large number of hunters participating. Field checks are still used for special detail data, all of which could not be recorded on a return form which we wish to keep as simple as possible.
- (3) Contrary to the previous year (1953) non-residents of the Township rated highest amongst the delinquent hunters (see Table II).
- (4) Information gained shows an increase over the previous year of unbanded birds shot, although over 1/3 of the birds taken were released stock.
- (5) The 1954 report is comparable to that of 1952 and 1953 in that pheasants delivered as day old chicks and released in the area where they have been reared, contribute more to the shoot than do poults raised at the game farm and released from release pens.
- (6) The 1953 census for North Norwich Township revealed ten banded birds as being of the previous year's (1952) release. Seven of these birds were banded as chicks.

The 1954 census reveals only four banded birds shot which were released in 1953. Two of these were banded as chicks and two were banded as poults (see Table I).

TABLE I - Voluntary Game Bag Census, 1954

	<u>Oct.</u> <u>27</u>	<u>Oct.</u> <u>29</u>	<u>Oct.</u> <u>30</u>	<u>Total</u>
No. of hunters	220	102	92	
No. of birds shot	247	77	44	368
No. of banded birds shot	93	28	13	134
No. of 1953 banded birds shot	2	0	2	4

TABLE II

	<u>1953</u>	<u>1954</u>
No. of hunters filing returns by Jan. 1	176	191
No. of hunters filing returns by March 1	236	240
No. of hunters who filed no return and are residents of North Norwich Township	15	4
No. of hunters who filed no return and are non-residents of North Norwich Township	10	8
No. of hunters who failed to file a return by March 1st.	25	12

REPORT ON EXPERIMENTAL TRAPLINES

SEASON OF 1953-1954.

by J. K. Reynolds

The experimental traplines established in 1951, in the Districts of Chapleau and Gogama, were again in operation through the trapping season of 1953-54. An outline of the plan of operation, objectives of the project, and other relevant matters were included in the report of the first season's operations (see Wildlife Management Report #6). A report for the year 1952-53 has also been distributed. The present report covers the season of 1953-1954.

OPERATION

In order to gauge the validity of conclusions drawn from the operations of the previous two years, no major changes in the plan of operation were put into effect this year. The periods of operation were:

Chapleau Trapline - 18th October, 1953, to 13th April, 1954;
Gogama Trapline - 21st October, 1953, to 12th April, 1954.

Trapping on the Chapleau line was carried on by C. Elencoff and T. Cachagee, under the direction of Fish and Wildlife Supervisor V. Crichton and Wildlife Management Officer P. W. Swanson. On the Gogama line J. Eno and E. Evanush were the trappers, direction was provided by Fish and Wildlife Supervisor D. G. Waldriff and Wildlife Management Officer M. L. Loucks.

CATCH

In Table 1 the catch of fur-bearers on the two traplines is summarized on a monthly basis for the seasons of 1951-1952, 1952-1953, and 1953-1954. In Table 2 is presented a summary of this catch in terms of numbers of each species caught per square mile of trapline area. Table 3 is a summary of the numbers of animals caught accidentally on these two lines during the past three seasons.

In almost every species of fur-bearer the catches have remained remarkably constant over the three years' trapping period, despite extraordinarily high trapping pressures. Trapping of beaver was suspended after the close of activities in 1952-1953 in an attempt to assess the length of time required for this species to

re-establish itself after almost complete decimation resulting from over-trapping (see report for 1952-1953).

INCOME FROM TRAPPING

This year, for the first time in the present programme, an attempt has been made to assess the income potentially available from areas comparable to the experimental traplines, using the data of the past three seasons as a basis for computation. In this discussion particular interest attaches to Tables 4 and 5, which merit close study.

In these Tables it will be noted, for example, that in all the important species except otter, average market prices of pelts have declined from year to year. (Details of Table 4 were supplied by H. J. Clarke, Division of Fish and Wildlife, and based on annual surveys throughout the Province of Ontario.) Accordingly, although catch has remained reasonably constant, income on both lines has declined considerably.

This provides a clear indication of the sad plight faced by many trappers in the province last year, especially those in the more remote areas where no alternate or supplementary forms of income were available. For these people the situation has been even further aggravated by the steady increase in prices of foods and other commodities.

BAIT

The exclusive use of canned sardines as bait has been shown conclusively to be as good a bait as any in general use. This fact should be brought to the attention of all concerned.

Its advantages over "native" baits (fish, portions of carcasses, birds, etcetera) and various scents and lures (oil of rhodium, catnip, etcetera) include the following:

1. No time is lost in securing bait in order to begin setting traps;
2. If small holes are punched in each can they may last most of the winter, although one or two changes during the winter are often advisable;
3. They are not bothered by Canada jays (whiskey jacks) and relatively little by mice, shrews, or rabbits. Trappers should remember that a trap closed on the body of a whiskey jack might just as well be hung up in a tree and not set; the taking of nearly 300 of these birds on the two experimental traplines in 1951-1952, before sardines came into use, represents the loss of at least 300 trap-nights. As soon as sardines were substituted for native baits these losses disappeared almost entirely (see Table 5).

In this connection it is worth while speculating that the attractiveness of sardines in cans may be the smell of the fish or it may be the shiny finish of the cans. A modification of trapping techniques for 1954-1955, in which alternate traps will be "baited" with strips of bright metal instead of sardines in cans, may settle this point.

Although an attempt has been made during the first three years of operations to "hold the line" as far as standardization of procedure is concerned, it is suggested that the time has now come for certain theories of catch, bait, distribution of animals, influx and egress on the trapline, and other important phases of the investigation to be undertaken during 1954-1955 and subsequently. Accordingly, in addition to the changes in bait mentioned above, several other innovations have been set in motion for 1954-1955. Others should follow. Results of these must await future reports.

TABLE 1.

SUMMARY OF CATCH OF FUR-BEARERS,
BY MONTHS, 1951/52, 1952/53, 1953/54.

(a) Chapleau Line.

Month	Beaver	Marten	Fisher	Mink	Otter	Weasel	Fox	Total
1951/52	9	15	3	13	2	0	1	20
1952/53	2	12	2	5	5	1	0	23
1953/54	x	14	1	0	0	3	2	43
1951/52	5	10	1	7	1	4	2	29
1952/53	11	17	1	1	2	4	0	24
1953/54	x	18	0	4	0	1	0	30
1951/52	12	10	1	0	2	1	0	15
1952/53	6	9	0	1	0	1	1	29
1953/54	2	4	0	3	0	1	1	15
1951/52	x	x	x	x	x	x	x	x
Total	45	74	10	19	13	5	4	170

(b) Gogama Line.

Oct.	0	0	0	1	0	0	0	1	6
Nov.	3	5	3	3	0	18	0	13	29
Dec.	6	3	1	1	0	15	0	21	22
Jan.	2	6	1	0	1	7	0	11	21
Feb.	1	0	2	0	0	5	1	10	7
Mar.	3	0	0	0	0	4	0	13	2
Apr.	x	x	0	x	1	2	x	x	x
Total	15	6	4	6	1	49	3	69	87

TABLE 2. SUMMARY OF CATCH OF FUR-BEARERS PER SQUARE MILE OF TRAPLINE

	<u>CHAPLEAU LINE</u>				<u>GOGAMA LINE</u>			
	<u>1951/52</u>	<u>1952/53</u>	<u>1953/54</u>	<u>Av.</u>	<u>1951/52</u>	<u>1952/53</u>	<u>1953/54</u>	<u>Av.</u>
Beaver	4.7	0.7	x	2.7	1.4	0.6	x	1.0
Marten	7.8	7.0	7.8	7.6	1.8	1.6	2.0	1.8
Fisher	1.0	0.7	0.4	0.7	0.4	0.5	0.6	0.5
Mink	2.0	1.5	1.0	1.5	0.6	0.6	0.7	0.6
Otter	1.3	0.8	0.6	0.9	0.1	0.2	0.1	0.1
Weasel	0.5	1.4	2.3	1.4	2.0	4.6	0.8	2.5
Fox	0.4	0.9	0.7	0.7	0.3	0.2	0.3	0.3

TABLE 3. SUMMARY OF NON-FURBEARERS TRAPPED ACCIDENTALLY.

Species	<u>CHAPLEAU</u>			<u>GOGAMA</u>		
	<u>1951/52[*]</u>	<u>1952/53</u>	<u>1953/54</u>	<u>1951/52</u>	<u>1952/53</u>	<u>1953/54</u>
Snowshoe Hare	15	41	27	23	38	50
Red Squirrel	40	33	36	97	72	122
Flying Squirrel	30	13	4	153	30	21
Mouse (sp.)	5	1	0	5	0	3
Canada Jay	95	7	0	197	4	1
Blue Jay	6	1	1	5	1	0
Horned Owl	1	0	0	0	2	0
Snow-white Owl	2	1	0	0	0	0
Ruffed Grouse	0	0	3	1	0	0
Marsh Hawk	0	1	0	0	0	0

* Estimates.

TABLE 4. AVERAGE PRICE PAID FOR PELTS IN ONTARIO, 1951/52-1953/54.

Species	1951/52	1952/53	1953/54
Beaver	\$ 14.15	\$ 13.15	\$ 9.65
Marten	13.20	10.20	6.50
Fisher	21.90	19.75	15.35
Mink	20.95	18.75	15.95
Otter	19.90	21.40	20.65
Weasel	0.95	1.05	0.70
Fox	0.80	0.70	0.60

TABLE 5. INCOME PER SQUARE MILE OF TRAPLINE

Species	<u>CHAPLEAU</u>			<u>GOGAMA</u>		
	1951/52	1952/53	1953/54	1951/52	1952/53	1953/54
Beaver	\$ 66.50	\$ 9.21	-	\$ 19.80	\$ 7.89	-
Marten	103.00	71.40	\$ 50.70	23.76	16.32	\$13.00
Fisher	21.90	13.83	6.14	8.76	9.88	9.21
Mink	41.90	28.13	15.95	12.57	11.25	11.17
Otter	25.90	17.12	12.39	1.99	4.28	2.07
Weasel	0.50	1.47	1.61	1.90	4.83	0.56
Fox	.32	0.72	0.49	0.24	0.16	0.21
Totals:	\$ 260.02	\$141.88	\$ 87.28	\$ 69.03	\$ 54.61	\$36.22
Gross Income	\$2470.00	\$1348.00	\$829.16	\$731.22	\$578.87	\$383.93
Income per sq. mile (excl. of beaver)	\$ 193.50	\$ 132.67	\$ 87.28	\$ 44.22	\$ 46.72	\$ 36.22
Gross Income (excl. of beaver)	\$1840.00	\$1260.37	\$629.16	\$521.73	\$495.23	\$383.93

MID-WINTER WATERFOWL INVENTORY - 1955.
NORTH SHORE OF LAKE ONTARIO
SAINT LAWRENCE RIVER TO QUEBEC BOUNDARY

by
H. G. Lumsden

The mid-winter waterfowl inventory was carried out from the air on those shores in Lake Ontario lying west of Presqu'ile Bay on January 11th. East of that point and in the Saint Lawrence the checks were done on January 12th.

The Beaver aircraft employed was flown by Mr. LeFevre. The counts were done in the Saint Lawrence by Mr. Peck and Mr. Brooks from the Rideau District, Mr. Whitfield from the Tweed District, and Mr. Lumsden from Maple. In Lake Ontario from Presqu'ile to Kingston they were done by Mr. Whitfield and Mr. Thompson from Tweed, and Mr. Lumsden. The shores between Presqu'ile and Hamilton were checked by Mr. Lumsden.

The weather was ideal for these counts with light winds, excellent visibility and freezing temperatures; altitudes flown were 400 to 200 feet.

The western end of Lake Ontario held very little ice, but round the coasts of Prince Edward County many of the bays were partially covered with small newly formed floes. There was consequently slightly less shallow area available for waterfowl use compared to January, 1954. In the Saint Lawrence conditions were very similar to those of 1954, but there was more ice in Lake Saint Francis.

The following table gives the results of the count for the Saint Lawrence compared to those of previous years:

	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Golden-eye	7447	9905	3241	5341	5413
Merganser	409	354	395	454	578
Black Duck	282	199	341	617	803
Mallard	6	1	10	0	5
Scaup	6	0	475	180	335
Canvas-back	10	0	100	0	0
Totals	<u>8150^{II}</u>	<u>10,459</u>	<u>4562</u>	<u>6645</u>	<u>7301</u>

^{II} The 1951 figures omit that part of the river lying between Croil Island and the Quebec border, a distance of about 26 miles.

The following table gives the results of the count for Lake Ontario from Presqu'ile to Kingston:

	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Golden-eye	383	828	1014	1889	1869
Old Squaw	536	912	283	229	861
Merganser	30	21	68	36	23
Scaup	0	22	500	114	3410
Redhead	0	2	0	0	0
Black Duck	21	0	55	544	155
Mallard	0	0	0	23	0
Buffle-head	0	0	0	3	0
Unidentified	0	0	0	0	116
Totals	<u>970</u>	<u>1785</u>	<u>1920</u>	<u>2838</u>	<u>6434</u>

Between Hamilton Bay and Presqu'ile the following ducks were seen:

Golden-eye	238
Old Squaw	2261
Scaup	2180
Merganser	50
Buffle-head	4
Black & Mallards	50
Unidentified	50
Totals	<u>4833</u>

Due to flying restrictions along the Metropolitan Toronto Water Front, it was not possible to carry out a complete check of the ducks present in this Section of Lake Ontario.

REPORT ON PIKE IN
LAKE ST. CLAIR AND WESTERN LAKE ERIE, 1948.

by
K. H. Loftus

Purpose:

- (1) To determine the status of pike as a game fish in these waters.
- (2) To check the growth rate of the abundant small pike.

Observations:

Lake St. Clair -

Information concerning pike in this area was gathered at Mitchell's Bay where American and Canadian anglers congregate in rather large numbers. On one day, just previous to the opening of the bass season, 131 anglers were fishing in Mitchell's Bay. Pike appeared more frequently in their creels than any other species, since most of these anglers were fishing for pike only. Mr. A. E. Roberts, Senior Conservation Officer in this area, indicated that such a number of pike anglers was not uncommon. Large numbers of pike are caught, especially by Americans, even after the bass season opens, and it is apparently a comparatively popular species in this area.

A total of 107 scales samples were taken from selected specimens. A large number of the samples were taken from the abundant small specimens ranging from 12 to 16 inches in length. A few samples were taken from pike of all sizes to obtain comparative length-age data.

Analysis of the scales for growth rate indicated that the abundant 12-16 inch length groups were made up almost entirely of three year olds. Comparison of this information with growth data for pike in two other regions showed that these pike were not stunted, rather they were enjoying what might be termed a normal growth rate. Their unusual abundance is probably the result of an unusually successful spawning and survival in the spring of 1945.

Western Lake Erie -

In the western Lake Erie District, overseers D. Bailey and E. O'Neill, M. Murdock M.P.P. for Essex, E. Chauvin, secretary of the Essex County Sportsmen Association, and Mr. Chappas, Reeve of La Salle, were interviewed concerning the status of pike as a game fish. Mr. Bailey and Mr. O'Neill both stated that pike are not fished by either resident or non resident anglers. Excellent pickerel fishing in this area is apparently much more attractive than pike or even bass fishing. Mr. Chauvin confirmed these statements emphatically and added that his organization would like pike spearing legalized with the aim of reducing the population of the species. Mr. Chappas indicated that the men he represented would like to spear pike through the ice for recreation since most of them do not have the time to fish during the summer fishing season. All the men interviewed agree that the pike population in this area was not cropped by anglers.

Twenty-five pike scale samples were obtained from three commercial fishermen along the Detroit river who made special seine hauls to obtain the information. Although the sample was small, growth analysis indicated conformity with the growth of pike from Mitchell's Bay.

Summary and Conclusions:

- (1) The northern pike population provides game fishing to many anglers in Lake St. Clair.
- (2) A cross section of public and official opinion indicated that this species is not fished for by anglers in the western Lake Erie area.
- (3) The abundant 12-16 inch pike in Lake St. Clair are considered to be the result of an unusually successful year class in 1945.

THE ANGLER AND FISHERIES MANAGEMENT

by
H. R. McCrimmon

Biologists of the Department are being asked repeatedly to develop sport fish management programmes for our inland lakes. In many cases studies have been carried out which have permitted a good understanding of the biology of the lake and its productivity. However, development of a management programme is inhibited by an inadequate knowledge of the annual harvest of fish of all species. In such waters biologists have gone as far as possible without the participation of the fishermen who must be made to realize that they must contribute necessary catch statistics as the basis for management.

It is necessary that we stress the importance of creel records in our management programme. It is the policy in the Lake Simcoe District to impress on the public their responsibility to provide fishing records in those lakes which have been biologically surveyed and where more effective management is desired. One of these lakes is Sixmile Lake where the shoreline is rimmed by 300 cottages and where the cottagers have formed a strong association, the members contributing to a high percentage of the fishing pressure. At the request of this Association, the following article was written for their annual publication in order to outline emphatically the management problems on the lake and the responsibility of the cottage owners:

"When the subject of fisheries Management is discussed, most fishermen think in terms of fish plantings - the numbers of fish of a preferred species which are hatched and reared in Provincial Fish Hatcheries and then ultimately planted in lakes and usually at the request of residents or cottagers. Unfortunately, fish plantings often fail to perform successfully the function which the public anticipates. This is due in part to the relatively insignificant numbers of young fish which can be planted in comparison to the numbers that are produced in natural spawning, in part to the limiting factors of food and space in a body of water which determines whether or not it can accommodate more fish than are naturally there, and in part to a great variety of complex environmental conditions which have apparent or hidden effects on the fish of a lake. Plantings of young maskinonge, pickerel, and smallmouth bass are made in Sixmile Lake each year. Do you believe that these plantings are contributing to the sport fishery?

With increasing demands on the fish populations of our smaller lakes by anglers, biologists are concerned with a study of the habitat conditions of a lake to determine if there are areas which are not used extensively by sport fishes and where suitable species could be established which would offer recreation to fishermen as well as relieve some of the fishing pressure on native fishes. In Sixmile Lake there are weedy areas apparently suitable for largemouth bass and deep areas where lake trout should thrive. Several plantings have been made in an attempt to establish or re-establish these species of fish. If the plantings are successful, a few fish of the first plantings should soon enter the fishery although it may be many years before the success of the plantings can be determined. Will you try angling for largemouth bass in the weedy bays or trolling for lake trout in the deep hole in the eastern part of the lake next summer?

Most of the other fisheries management tools are directed towards a control of man in capturing fish by imposing creel limits, size limits, open and closed seasons, fish sanctuaries and other means.

A daily creel limit on fish assures a relatively fair distribution of available game fish taken from a lake by its anglers. If angling pressure and the capture of a game species should exceed its production in a lake, only then may limitations on the capture of fish assume more than aesthetic value. How many times did you take your limit of bass or pickerel from Sixmile Lake in 1954? Does angling pressure and the annual capture of game fish justify the present creel limits?

Legal size limits were established in Ontario many years ago in order that each species may mature and spawn at least once before capture. However, it has since been found that there is such a variation in the growth rates of fish that fish from some waters may reach legal lengths before maturing while fish from other waters may mature when very small and never reach legal lengths even in old age. It would appear from the general principles of biology that the stocks of fish in a body of water would be in a better condition, show increased growth rate, and generally prosper, if the fishing effort was applied more evenly to fish of all ages rather than to the older fish only. How many sub-legal fish did you return to the water?

Protection of fish by closed seasons serves two purposes. When the closure covers the spawning period, as for bass, maskinonge, pickerel, trout, and other species, it provides protection while the fish are guarding their nests, and to the school-spawning fish, such as pickerel,

while they are concentrated on the spawning beds. Other closed seasons provide protection from exploitation during certain periods of the year in order to remove excessive and continuous fishing pressure. In certain cases these management practices appear to be supported by factual information, while in other cases, they appear to serve no useful purpose except as a safeguard and a reminder to fishermen that the fish resource require conservation. Do the closed seasons cover adequately the spawning periods of the preferred kinds of fish in Sixmile Lake?

Fish sanctuaries have been established in many waters throughout the Province in localities containing suitable spawning areas, having sufficient area and depth to provide permanent sanctuary for a limited population but with an area sufficiently small so that surplus bass, or other fish, produced within the sanctuary will move out and become available to anglers. In theory, this management practice appears sound. However, its actual practical efficiency is still a matter of assessment, but it has a high value as a visual indication to anglers fishing the vicinity that the game fish may be depleted if not adequately conserved. Do you think that fish sanctuaries would serve a useful purpose in Sixmile Lake?

A number of lakes in Southern Ontario have excessive populations of undesirable fish, usually termed coarse fish, which dominate their fisheries. These fish include the suckers, carp, rockbass, sunfish and a variety of other species. A number of these kinds of fish are present in Sixmile Lake but, in general, are not exploited by fishermen but rather left to increase their numbers while only the desirable sport fishes are removed. Many of these fish, such as the sunfish, can provide excellent recreational fishing if taken on light tackle and the flesh of most species is usually of excellent quality. How many coarse fish did you catch in Sixmile Lake last summer? How many did you return to the water to multiply?

The health of cottagers on small lakes is sometimes menaced by pollution problems arising from the improper handling of garbage and sewage. Are you doing everything possible to keep the waters of Sixmile Lake clean and free of disease?

How interested are you in developing an effective fisheries management programme for Sixmile Lake? The Department of Lands and Forests, through its surveys during the past decade, has a reasonably good understanding of the biology of the lake and its productivity. However, sound management of the fishery cannot be attained unless the annual harvest of all species of fish is known. The only

logical means by which this information can be collected is through an annual creel census in which all fishermen participate. Several questions have been asked in preceding paragraphs which it is hoped may stimulate interest and discussion on the merits of present laws and fishing practices in the lake. A factual creel census is essential in answering these and many other questions which biologists of the Department must know if the fishery is to be managed in your best interests.

As you are a member of the Sixmile Association, Sixmile Lake is more-or-less your lake. Its fishing problems are your problems and it is up to you to see that every attempt is made to maintain or improve the quality of the fishing. The Department of Lands and Forests is most sympathetic with your fishing problems, as it is with those of hundreds of other lakes and every effort is made to help you by carrying out accepted management techniques which may be of questionable value in Sixmile Lake. Biologists are trying to manage your fishery with no idea of the numbers of fish which you are taking from the lake each year and only you can supply this necessary information. The Department is prepared to supply creel census cards, tabulate, and analyze all data. However, the first step in understanding your fishery and establishing a sound management programme in future years is the voluntary participation of you and all of your associates in an annual creel census."

