Depredation Control Studies

MANITOBA

1952

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Introduction

Since 1949 damage to cereal crops by waterfowl has become an alarming issue in the Province of Manitoba. Although the problem no doubt existed before that time, it was apparently taken for granted that duck damage was another of the natural hazards that a farmer must face. The situation has been seriously complicated, however, by the attempts of governmental and private agencies to increase and protect migratory waterfowl, and by the unbridled expansion of agriculture into natural duck habitat.

During 1949 high water levels, unfavourable harvest weather conditions and an estimated 100 per cent increase in waterfowl numbers at The Pas, produced the worst damage period so far experienced. Local farmers were particularly embittered that year because they had, in 1948, suffered considerably from a devastating flood.

In 1950 waterfowl depredations at The Pas were negligible.

During 1951 The Pas area was again subjected to duck damage, aggravated by high water levels and periods of bad harvest weather.

In 1952 the Canadian Wildlife Service carried out experiments in an attempt to ascertain the value of different types of scaring devices for use in depredation areas. These scaring devices had received considerable attention in the

United States and were reported to be quite effective. A pamphlet entitled "Prevent Duck Damage", adapted from a pamphlet issued by the United States Fish and Wildlife Service, was issued by the Canadian Wildlife Service. This pamphlet was circulated throughout depredation areas, through the co-operation of the Manitoba Game and Fisheries Branch.

The chief concern of those connected with this depredation control study in Manitoba was to carry out a thorough test of the techniques outlined in the pamphlet entitled "Prevent Duck Damage". Inasmuch as The Pas area has been the focal point of the depredation problem in Manitoba for the past three or four years, that area was chosen for the project. In the event that no problem would exist at The Pas in 1952, the Big Grass Marsh area in Southern Manitoba was chosen as an alternate.

Data obtained by the waterfowl population survey team in Manitoba, during the 1952 breeding and production period, showed that there had been a 20 per cent decrease in breeding birds and in production. This fact, combined with good harvest weather and lower water levels, produced a duck depredation situation at The Pas much less severe than in 1951. Although the farmer had little in the way of complaint, it was not a very satisfactory year for experimentation with scaring devices. The best feature of the 1952 depredation control

program was undoubtedly that the farmers for the first time saw evidence of governmental appreciation of their problem with waterfowl.

This report deals with the experiments and observations made in The Pas area from August 19 to 30 and September 7 to 10. The period September 2 to 4 was spent observing depredation conditions in the Big Grass Marsh area. The latter observations are noted at the end of this report. The personnel concerned with this program were:-

at The Pas	C. Morrish H. Lagimodiere	Manitoba Game and Fisheries Branch
	D. Reid D. G. Colls	Canadian Wildlife Service
at Big Grass Marsh	A. Reeve -	Biologist, Manitoba Game and Fisheries Branch
	D. G. Colls -	Canadian Wildlife Service

The Pas Area

The waterfowl depredation problem in Manitoba centers in the great flood plain of the Saskatchewan River, known locally as the Carrot River Valley. The total area involved is some 152,000 acres, of which 7,400 acres are patented lands, 1,300 acres are Indian Reservation and the remaining 143,300 acres are Crown land. Farming is concentrated along a 20 mile stretch of the south bank of the Carrot River. Much of the valley area provides excellent habitat for waterfowl and The Pas has become well-known to sportsmen all over the North

American continent.

In 1945 the Provincial Government launched the Carrot River Land Settlement project, under which certain Crown lands are farmed on a crop share basis.

A comprehensive discussion concerning the physical features, soil types and wildlife habitat was published in 1951 by the Office of River Basin Studies of the U.S. Fish and Wildlife Service. (1)

Crop Conditions

According to Mr. E. Batchelar of the Provincial Lands Branch at The Pas, the following acreages were seeded on Crown lands in The Pas area during the past four years.

	1949	1950	1951	1952
Barley	1,483	2,023	4,421	2,550
Oats	1,819	1,515	2,374	1,850
Wheat	171	538	945	500
Flax	62	878	271	630
Rye	-	8	36	100
Summerfallow	3,108	4,902	4,375	3,150
Total cultivated acreages	6,643	9,864	12,422	8,780

The decrease in cultivated acreage this year was due to flooding north of the Carrot River and to excessive surface moisture at seeding time in certain areas of the Carrot River Valley.

It should be remembered that patented lands are not included in the above acreages. There are, at this time, no figures available on the total cultivated acreage in The Pas area.

Harvest operations began in early August in 1952, and were considered general by the last week of that month. The harvest was completed around October 15 with the threshing of flax.

Weather and Water Conditions

According to the Meteorological Division of the Department of Transport the following are the weekly precipitation and temperature records at The Pas during the period August 12 to September 15.

Period ending	Precipitation Actual	Normal	Temperature H.	L.	M.	N.
August 18.	.14	.49	73	43	58	61
August 25.	.23	.48	87	42	64	59
September 1.	.21	.46	75	42	60	57
September 8.	.53	.39	78	36	53	54
September 15.	.35	.44	65	39	53	52

Precipitation was, therefore, about 65 per cent of normal during the critical portion of the harvest period. Temperatures during the same period averaged about 33 per cent above the normal.

Precipitation total from April 1 to September 15 was 12.20 inches. Normal precipitation for that period is 9.57 inches. All of the "above normal" total precipitation mentioned occurred before the end of the first week of July.

During the same period, August 12 to September 15, in 1951, the precipitation total at The Pas was 4.39 inches, about 197

per cent of normal for the area. The precipitation total from April 1 to September 15 was 15.08 inches, which is 6.51 inches above normal. About 2.16 inches of this "above normal" rainfall occurred during the 1951 harvest period.

With regard to conditions during the 1952 harvest season the Searle Grain Company Limited report that "All in all this has been about an average harvesting season, far better of course than was experienced in the past two years". (2)

Surface waters were not quite so abundant within the depredation area this year as in 1951. Due to the pressure of other duties relative to the depredation control study there was insufficient time available to check completely into this matter. The general feeling among those people interviewed was that, while most of the 1951 water areas were still present, their area and water depth had decreased somewhat.

Waterfowl Populations and Movements

The 1952 waterfowl breeding ground survey in Manitoba showed no important change from 1951 figures, in the population of breeding birds in The Pas area. The July 1952 production survey showed a decreased number of broods as compared with 1951 figures. (3) Hunter bag data, obtained during the first three days of the open season, showed an average bag well below the five year average. Although hunter success is closely tied to such factors as weather and availability, it

seems reasonable to assume that the lowered success can also be attributed to a decreased waterfowl population.

Compared with previous years the movements of waterfowl within the Carrot River Valley were not spectacular. Morning and evening flights were observed throughout the study period in the general region of the study area. No major flights were noted coming from the north, over the Carrot River, into the valley area. The flights that did come were observed to drop into the vicinity of the larger water bodies well to the south, or to continue out of sight toward the Pasquia hills. At the same time, flights were coming from the south into the grain fields. The largest single group observed numbered some 300 ducks. The vast majority were in groups of 4 to 20 birds. The morning flight, during the observation period, seemed to occur between 5:30 and 6:30 a.m., the evening flight between 7:30 p.m. and dark. An estimated 85 per cent of the birds were mallards.

Waterfowl Depredations

Damage to swathed and stooked grain in 1952 was light by comparison with 1949 and 1951 standards. In spite of previous arrangements made with several people at The Pas so that I would receive immediate notification of damage, no complaints were noted before arrival in the area on August 19.

The first permit to shoot ducks damaging crops was issued

on August 21. By August 31 a total of 118 permits had been issued on 23 farms. In 1951 over 300 such permits were issued by the R.C.M.P. at The Pas.

The individual cropped areas, in that portion of the Carrot River valley covered by the accompanying map, for which permits were issued in 1952, are shown in red. Only 18 of the 23 holdings permitted are shown. Of the remaining 5, one was located 1½ miles south-west of Pasquia Lake, one was on the Saskatchewan River some 10 miles north-west of The Pas and three were about 1 mile west of The Pas.

When the 1952 waterfowl season at The Pas opened on September 11, the largest number of hunters ever recorded at The Pas were scattered throughout the Carrot River Valley. No further complaints were then heard. It was of interest to note that several farmers interviewed after the opening of the season felt that hunters caused as much, or more, damage as the ducks and they were therefore posting their property.

The kill under authority of the permits issued to August 31 is considered very light. The majority of permit shooters checked had nothing to show for their expenditures of time and shotgun shells. Many who obtained permits to assist farmers went out to the fields for one or two evenings and then gave up in disgust.

On September 8 an evening road block set up at the Knapp Dam produced only 7 pre-season shooters, none of whom had killed a bird.

Depredation Control Studies

In view of the information presented thus far it is obvious that very little conclusive data was, or could have been, gathered at The Pas during the 1952 harvest period. However, depredations are so dependent on weather conditions that it was entirely possible for the situation to deteriorate overnight to the point where serious damage might occur.

Since the situation at The Pas has been critical in recent years, and because of the general bad feelings among farmers toward Federal and Provincial governments and waterfowl, it seemed wise to conduct whatever experiments were feasible in the Carrot River Valley area. It also appeared that a demonstration of the use of scaring devices would engender better relations and would give the farmer some idea of how to help himself.

Due to the large number of water areas and the consequent wide dispersion of crops in the Carrot River Valley area, it was exceedingly difficult to choose an area for use in the demonstration of the scaring devices. Any area chosen had to be small enough to be under the constant control and observation of the personnel involved and yet it had to be large enough to include sufficient cropped land for study purposes. It was felt by the study personnel that one square mile of crop would be the most satisfactory area for any sort of conclusive results, and that such an area could be covered by the number of people involved.

However, it was found that, in order to work on that crop acreage, a total of 4 square miles must be kept under observation. The one square mile of crop in this case would have included all types of crop grown in The Pas region. If we had wished to concentrate on one section of barley some 5.5 square miles would have had to be kept under surveillance. We did not find it practical or possible to work over such large areas with the available personnel.

The accompanying map shows the amount of the various types of crop in 1952 on various leases, in the general areas which were subjected to duck depredations in 1949 and 1951. The various leased areas are outlined in green. This information is not complete, except for the areas shown. It is presented to support our problem in finding any sizeable, continuous crop acreage in locations having always suffered damage. Although this map does not show the location, within each lease, of the various crop acreages, it can be stated with certainty that the cropped areas are rarely continuous and are widely scattered among areas of summerfallow, water and brush.

The map also shows, outlined in brown, the general areas in which most of the 1951 duck damage was concentrated.

The first complaint encountered during the preliminary reconnaissance of the Carrot River valley concerned 80 acres

of swathed rye located on the NW¼ Sec. 9 T55 R27. Subsequent morning and evening observations showed that an average of about 1,000 ducks, almost entirely mallards, were flighting into the quarter section. The number of birds was extremely variable during a two day observation period, ranging from 300 to 1,500. Since there was nothing much occurring elsewhere in the valley at the time, and since the lessee of this particular field was one of the most vehement farmers in The Pas, we decided to try to keep the birds off the swathed crop.

During this reconnaissance period, most of the daylight hours were devoted to the preparation of scaring devices. Twenty of the Scarecrows and ten of the Tin Flashers, discussed in the "Prevent Duck Damage" pamphlet, were constructed. Six of the Spirolum Whirlers had been acquired.

Patrol throughout the rest of the valley was maintained during the daytime to locate a suitable area for experiment. The only really large continuous acreage (210 acres) of barley was located about three quarters of a mile south-west of the above mentioned rye field. Unfortunately for the experiment, the lessee and his family had moved out to the area and were planning to bring all their stooks into a 20 acre area beside the granary. This was being done so that maximum protection against ducks could be attained at all times by at least one

member of the family. The plan involved considerable extra work but was considered worthwhile by this farmer.

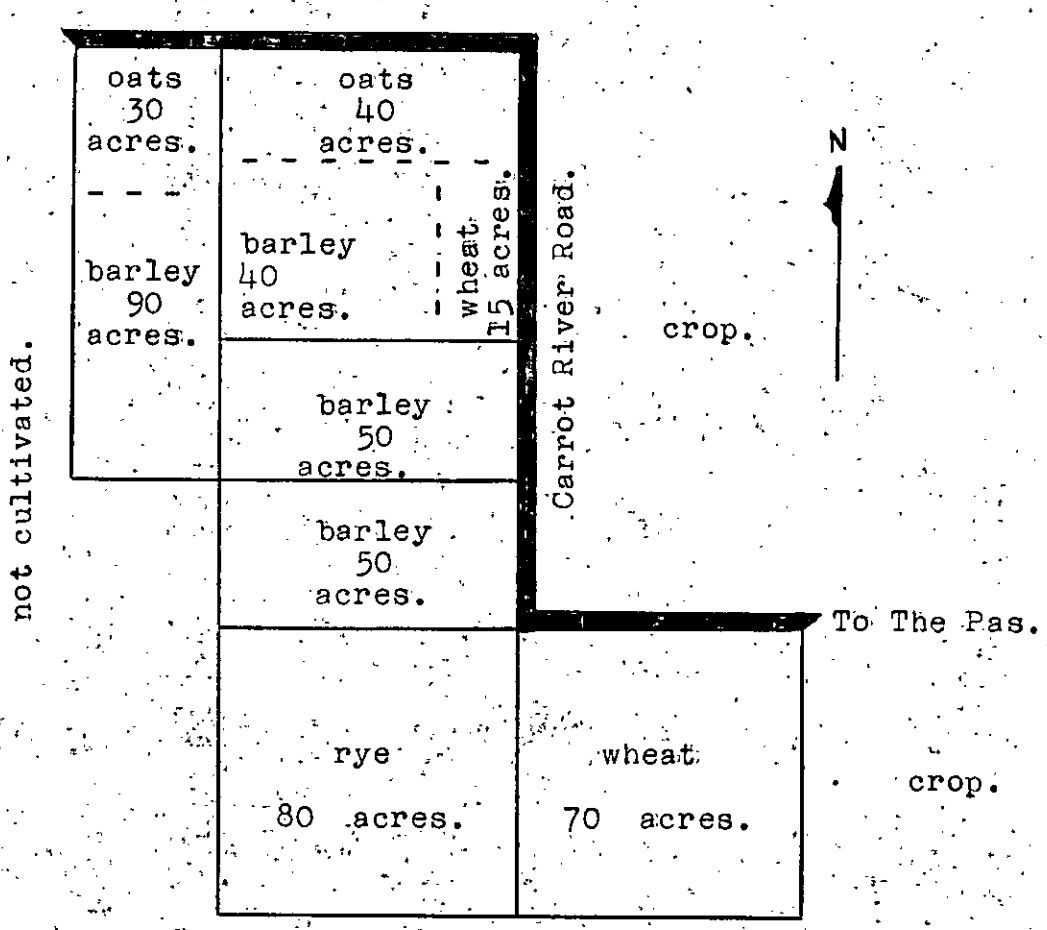
We finally decided to concentrate our effort on a 600 acre area which included the original rye field. This area could be kept under constant observation, it was accessible in nearly all weather, was reasonably handy for other farmers who might wish to see the scaring devices, and there were fair flights of ducks over and into the general area. The location of this demonstation area is also shown, outlined in blue, on the accompanying map.

The demonstration area is shown to a larger scale on the following sketch map. (Page 13)

The eastern most quarter-section, containing 70 acres of wheat, was not cut by September 13, the last day of patrol. An occasional duck had been observed to drop into lodged areas in this crop.

The 80 acres of rye were located on the quarter-section west of the aforementioned wheat field. This crop had been swathed prior to our arrival in The Pas, and approximately 20 acres had been combined. Combining was continuing when the field was first observed and numbers of ducks were feeding, morning and evening, on the uncombined swathes. On the evening of August 21 four of the Tin Flashers and one Spirolum Whirler were erected in the swathes. These devices were moved and kept under

Sketch Map showing Demonstration Area at The Pas, Manitoba.



Scale: 3 inches = 1 mile.

observation until August 25 when combining was completed. The devices were then removed and birds were allowed to feed unmolested on waste heads.

To the north of the rye field was a half-section containing about 140 acres of barley, 40 acres of oats, 15 acres of wheat and the remainder in summerfallow. By August 21 about 40 acres of the barley was cut and stooked, and all the oats was cut and stooked. The remaining barley and wheat was still standing by September 13. As many as 2,000 ducks attempted to feed in the area of stooked barley during the latter part of the observation period. Up to 14 Scarecrows were erected in the cut area, the density being increased to that number to see if they alone had the desired effect. These Scarecrows were moved by the farmer and were left with him until such time as he completed his harvest operations.

To the west of the last mentioned field was a 120 acre field containing some 90 acres of barley and 30 acres of oats. In this field 60 acres of barley and all of the oats was cut and stooked by August 21. The remaining 30 acres of barley was in stook by September 10. A maximum number of 250 ducks attempted to feed, at any one time, in this field. Six of the Tin Flashers were installed and were kept under observation until September 8 when they were taken down by the farmer himself. These devices

were then moved over to the edges of the standing barley to the north of the harvested rye field.

Results of Control Studies

It was hoped that, by setting up different devices in adjacent fields, comparable data on the scaring values of Scarecrows, Tin Flashers and Spirolum Whirlers might be obtained. There were, however, too many unknowns involved, such as why ducks choose this barley field and not its neighbour, what the results might have been had there been Scarecrows or Tin Flashers in every field in the Carrot River Valley, and what might have happened under conditions of high waterfowl density and adverse weather, to obtain the conclusive results desired.

The results of the work conducted with the various scaring devices are discussed as follows.

Scarecrows. Up to 14 Scarecrows were used on 40 acres of stooked barley. An example of the field notes kept during the observation period is as follows.

August 26 - 7:25 p.m. 3 ducks from south into stooks.
7:40 p.m. 5 ducks from south, veered from tin flasher in barley field to west and landed between 2 scarecrows.
7:50 p.m. 4 ducks landed among scarecrows.
7 ducks flew south over field.
5 ducks came from south and appeared to flare from scarecrows.
7:55 p.m. 7 ducks landed just south of stooked barley and walked in.
8:00 p.m. 1 duck came from west into field.
15 ducks flying high heading north.
8:15 p.m. 1 duck came from west into field.
And so on until 9:00 p.m. when all waterfowl activity ceased.

August 27 -	5:00 a.m.	2 ducks from north flew over field and landed among scarecrows.
	5:15 a.m.	9 ducks from south came into field several very high flights going south.
	5:20 a.m.	4 ducks from south into field.
	5:25 a.m.	20 ducks from south flew over field for 5 minutes and landed among scarecrows.
	5:35 a.m.	23 ducks flew in from west and landed.
	5:40 a.m.	2 ducks came into field from south.
	5:55 a.m.	22 ducks from south into field.
	6:17 a.m.	17 ducks left the field and remainder left in small groups until 6:30 a.m.
	No further activity.	

This example is typical of the waterfowl activity and the effect of Scarecrows in the demonstration area. On only one morning, September 9th, did a significant number of ducks, estimated at 2,000, fly into this field. They paid no attention to the Scarecrows and were finally dispersed by the use of a shotgun.

The field notes given above were made at times when Scarecrows were the only depredation deterrent used in the field. On other mornings and evenings, when duck numbers were about the same, both the shotgun and the .22 rifle were used. Under existing conditions it was then possible to keep all birds out of the field.

In addition to the above mentioned use of Scarecrows, three were given to each of two farmers who professed a desire to try our Scarecrow design. These were supplemented by Scarecrows erected by each of these farmers and by shooting. The farmers felt, after trial, that they could scare ducks just as successfully

under existing conditions, by the use of the shotgun alone.

Scarecrows of varied design were noted in many fields in the Carrot River Valley area. It appeared that they were erected more by tradition than by virtue of their usefulness in protecting crops.

Photograph No.1 shows a Scarecrow erected on the barley field. Photograph No.2 shows a general view, looking south along the western edge, of the barley field. Two Scarecrows can be seen.

Tin Flashers. Twenty Tin Flashers were constructed during the course of this demonstration. Considerable difficulty was experienced in keeping them in operation in the heavy winds which occurred. This trouble was largely overcome by extra bracing and stronger wire and swivels, but daily maintenance was necessary.

Altogether 10 Tin Flashers were set up on the demonstration area. When there was wind, the stronger the better, these devices appeared to be the most effective of all in keeping ducks out of the swathed or stooked crop. The tin plates would revolve and flash constantly, and if there was sufficient wind they banged loudly against the cross arm and upright. The combined effect turned group after group of ducks away from the area.

When there was any movement of the tin plate ducks which flew directly over the device were observed to flare sharply.

When there was little or no wind supplementary shooting was

necessary to keep birds from landing in the areas between the Tin Flashers.

Ten more Tin Flashers were erected, on September 2, on 160 acres of swathed barley in fields located at the north-east corner of Pasquia Lake. The farmer, who was just starting to combine, reported that ducks flew into the crop from Pasquia Lake and he professed a desire to try our devices. He agreed to maintain them and, incidentally, erected 10 more Tin Flashers constructed by himself. When supplemented by shooting he felt these Tin Flashers assisted in keeping the majority of ducks out of the swath. He admitted that he would probably have obtained better results had the devices been erected behind the swather.

Adaptations of the Tin Flasher appeared in six other fields during early September. Certain of the more interested and co-operative farmers came to us for advice. They purchased their own materials and designed their own flashers. While no results were 100 per cent effective there was a general opinion that the Tin Flasher was a good idea.

Photograph No.3 shows the Tin Flasher constructed and erected on the demonstration area. Photograph No.4 shows an example of a Tin Flasher erected by a farmer in a swathed barley field. Photograph No. 5 shows a field of swathed barley on which 5 Tin Flashers are visible.

Spirolum Whirler. This device was tried on several occasions in conjunction with Scarecrows and Tin Flashers. They did not survive the normal winds for more than a day. The flashing produced by the twirling of this material was not visible to our eyes within the distance of one half mile across a field. The ducks did not appear to pay any attention to the whirlers.

Cost of Materials and the Amount of Time Involved in Construction of Various Scaring Devices

All devices used were constructed and used in accordance with directions shown in the "Prevent Duck Damage" pamphlet. Since most farmers are interested in a practical and economical scaring device it was thought that unit costs should be kept in mind. Accordingly all materials used were purchased new. It can therefore be assumed that the unit cost quoted will be a maximum, for the farmer can substitute scrap lumber, old sacks, haywire and old nails or bolts in many places.

Scarecrows:

Materials:	20 burlap sacks	$5.00
	200' heavy fishing line	1.40
	2 bales hay	1.00
	20 pcs. 2x2 - 8' long	6.80
	2 qts. white paint	4.70
	2 qts. black paint	4.70
	2 qts. yellow paint	4.70
	2 gal. varasol for thinning paint	1.70
Total cost for 20 scarecrows		$30.00

Unit cost = $1.50

Labour:	To stuff and shape 20 sacks	
	3 men @ 4 hours	12 hours
	To paint 20 sacks as per pamphlet - 2 coats sprayed	
	3 men @ 3 hours	9 hours
	To erect 20 scarecrows in field	
	3 men @ 1 hour	3 hours
Total time to prepare and erect 20 scarecrows....		24 hours

Time per unit = 1.2 hours

Tin Flashers:

Materials:	20 sheets tin plate 20" x 40"	$14.00
	20 pcs. 1x4 - 6'	4.00
	20 pcs. 2x4 - 6'	9.92
	40' furnace chain	2.00
	100' steel fishing line	2.50
	40 washers and bolts	.80
	40 screw hooks	1.00
	40 heavy fishing swivels	4.00
	1# nails	.20
Total cost for 20 Tin Flashers		$38.42

Unit cost = $1.92

Labour:	To construct cross and hang tin plates	
	3 men @ 5 hours	15 hours
	To erect 20 flashers in field	
	3 men at 2 hours	6 hours
Total time to prepare and erect 20 flashers		21 hours

Time per unit = 1.05 hours

Spirolum Whirler:

Materials:	6 - 30 foot Spirolum Whirlers	$18.00
	(N.B. used in 15 foot lengths)	
	24 pcs. 2x2 - 4' long	4.08
Total cost for 12 Whirlers		$22.08

Unit cost: $1.84

Labour: To cut and prepare 12 Whirlers
2 men @ 2 hours ..... 4 hours
To erect 12 Whirlers in field
2 men @ 1 hour ..... 2 hours
Total time to prepare and erect 12 Whirlers..... 6 hours

Time per unit = 0.5 hours

The cost of the various devices per quarter-section of crop, when used at the density recommended by the depredation pamphlet, is as follows.

10 Scarecrow: $15.00 per quarter section of crop
? Tin Flasher: $19.20 per quarter section of crop
? Spirolum Whirler: $18.40 per quarter section of crop

These costs, given as maximums, should be sharply decreased by the use of materials available around most farms, and by modifications that the farmer will no doubt introduce.

Based on cost and value in the control of depredations the Spirolum Whirler is not considered practical or effective.

The Scarecrow, while not considered as effective as the Tin Flasher, could be produced for nothing with materials available to most farmers.

The Tin Flasher, considered the most effective and useful device tried at The Pas, could probably be produced by the farmer for the cost of the tin plate only, using scrap lumber and haywire found on his farm. This should reduce the cost to about $0.70 per unit, or $7.00 per quarter section.

Public Relations

Manitoba Game and Fisheries Branch Publicity.

Excellent co-operation in this regard was received from Mr. F.B.Chalmers, Supervisor, Northern Resources Area, of the Province of Manitoba. Mr. Chalmers several times inserted publicity for the control program and the depredation pamphlet in the Department of Mines and Natural Resources weekly news broadcast over Radio Station CFAR, Flin Flon. As an example the following is a copy of the section prepared and inserted by Mr. Chalmers in the Department News Broadcast of Wednesday, August 27, 1952.

> The Canadian Wildlife and Provincial Conservation Officers are carrying out experiments, and illustrations in determining the most effective types of scare devices for driving ducks from grain fields in the Carrot River area, which it is hoped will be useful to farmers in that area. The Migratory Birds Convention Act is a statute of the Government of Canada which provides, in part, that farmers whose grain fields are being damaged by ducks may apply for Special Permits to scare these ducks from their grain. The R.C.M.P. are the authorities from whom these Permits must be secured.
>
> Farmers wishing to have persons scare ducks from fields must first apply to the R.C.M.P. for a Permit and have them issue Permits to such parties as the farmers may select for this purpose. Permits, of course, do not cover scaring of ducks from lands other than grain fields which have not been harvested. The Officers strongly recommend to farmers that they see to it that hunters do not attempt to hunt or scare ducks on their lands from which grain has been harvested; once a duck finds that he may feed on the waste grain in harvested fields and is not molested, he is more likely to return there to feed than to seek new grain fields which have not been harvested and where he has been driven from the grain by hunters.

Mr. Chalmers also took every opportunity to discuss the control program, and the idea that the farmers must help themselves, with local farmers and business men in The Pas area. For example, on September 3rd while holding a private meeting to discuss some Departmental business with eight of the leading farmers, he took time to discuss the depredation control program and point out the necessity for farmer co-operation and self-assistance.

Newspaper Publicity

A good deal of publicity, some unfavourable or detrimental, was received this year in certain Manitoba newspapers.

A particularly detrimental news article appeared in the Winnipeg Tribune on August 28. This issue arrived on news stands in The Pas and Flin Flon on August 29. That night the R.C.M.P. detachment at The Pas was barraged with local and long distance telephone calls requesting permits for use over the coming Labour Day weekend. It was also apparent that the attitude of the farmer, toward the damage problem, changed after the wide circulation of this article which claimed that "thousands of ducks were laying waste the crops". Such a problem actually did not exist prior to August 29, but thereafter existed in a serious way in the minds of certain farmers.

Fortunately the reporter who prepared the article for the Winnipeg Tribune was in The Pas at the time, and we found the opportunity to discuss the matter with him. The result was an article which appeared in the Winnipeg Tribune of August 30.

Examples of the newspaper publicity presented on this subject by several newspapers are to be found at the end of this report.

Farmer Relations.

At the start of our 1952 program in The Pas area a decidedly antagonistic attitude was noted among the majority of farmers interviewed. It was felt, however, that by the end of August this attitude had been nearly eliminated by the presence of the depredation control study team and the efforts to demonstrate control techniques. While farmers appeared, in general, very reluctant to follow our suggestions and procedures, there was evidence of acceptance by several of the leading farmers in the community. The major problem seems to be that of getting farmers to do the necessary daily maintenance on scaring devices, and the morning and evening supplementary shooting. Several of the farmers who did install Tin Flashers did not seem interested in maintaining them. This condition may be quite different in a year when there is sufficient depredation occurring to warrant the expenditure of the extra effort. It must always be remembered, however, that the farmer does work long, hard hours during the harvest period and that what may seem to us to be a little extra effort, may to the farmer be "the straw that broke the camel's back".

Many of the farmers voiced, in no uncertain terms, their disagreement with a law that requires them to obtain a permit

to protect their own crops on their own land. They also pointed out that very often it is most inconvenient to have to journey the 10 to 20 miles into town for the purpose of obtaining a permit. Because there are no telephones in the Carrot River Valley there is no way to ascertain beforehand whether the R.C.M.P. will be in their office, which they often are not as they have many other duties to perform. In addition the roads in the valley area are such that in wet weather it is often perilous, if not impossible, to drive into town. There are indeed several valid reasons, as mentioned here, for the farmer's displeasure over the permit system.

Perhaps the most discouraging feature about the depredation problem, from the farmer's point of view, is the lack of any concrete, tested and reliable method for attacking damage situations. There has been little evidence in past years, except vocal, of an appreciation of his trouble and of an earnest desire to assist him in finding means to control it. The 1952 depredation control campaign probably was most valuable in that it showed in word and deed an interest in duck damage problems.

Summary

It appeared that, under the conditions existing at The Pas in 1952 (i.e. low waterfowl population, low precipitation and lower surface water levels during the harvest period), it was quite possible to keep the majority of grain eating ducks out of grain fields with a minimum amount of effort by the farmer. It is not possible, or advisable, to extend this statement to future years or conditions. Shooting was definitely required as a supplement to scaring devices used. From our experiments no preference can be stated between the shotgun and the .22 calibre rifle, based only on the observed effect on ducks. The Tin Flashers showed the most favourable scaring results among the devices tried. Spirolum Whirlers are considered impractical and ineffective.

Big Grass Marsh Area, Manitoba

This recent history of duck depredation in the Big Grass Marsh area is much the same as that already discussed for The Pas. The major difference in the problem is the fact that Sandhill Cranes often play the most important role in the damage picture. Ducks are, however, present in the area in sufficient numbers to cause serious damage in certain years.

The Big Grass Marsh is located about 100 miles north-west of Winnipeg, just north of the town of Gladstone, Manitoba. The marsh extends to the north for a distance of about 15 miles. Most of the damage to crops has occurred on the cropped areas along the west side of the marsh. In this region cultivation extends as close to the marsh as possible, inhibited only by a P.F.R.A. community pasture and the marsh itself.

It was decided that the period September 2 to 4 could best be spent endeavouring to demonstrate and publicize depredation control techniques in the Big Grass Marsh area. Mr. A. Reeve, Biologist, Manitoba Game and Fisheries Branch, accompanied the writer during this period.

Cpl. L. Hall, R.C.M.P., Gladstone, provided a list of 11 permits that had been issued to August 31. In a letter accompanying this list Cpl. Hall states -

"The following permits have been issued this year, which represents one fifth of the number issued at this time

.....

last year. Should the wet weather continue, no doubt more applications will be received. All applicants state that the damage is being done by the cranes which are apparently in greater numbers". Later enquiry revealed that no further permits were issued in the Big Grass Marsh area.

Weather conditions prior to September 2 had been most favourable for harvest operations and a good deal of the crop had been safely removed in that period. Light rains then halted harvesting for several days but there were sufficient numbers of harvested fields in the area so that many birds could feed without causing damage. Harvesting was completed late in September with no significant damage to crops.

Efforts to locate an area suitable for a depredation control demonstration proved fruitless. Duck and crane flights leaving the marsh area spread out over most of the farmed belt and were so diluted that control experiments were judged worthless. There was a little control by shooting carried out by farmers during the period of adverse weather but those observed and interviewed did nothing of consequence.

It then appeared that the most valuable function that could be performed, under existing conditions, was to publicize the 1952 control experiments and the depredation pamphlet. One day was therefore spent interviewing and discussing the

problem with farmers, local business concerns, co-operatives and Grain Elevators. Several hundred copies of the pamphlet were distributed and the use of soaring devices was discussed. Every effort was made to show that the farmer's problem is appreciated and that something is being done about it.

References

1. Kimball, J.W. and Anderson, J.M. Pasquia Reclamation Area, Saskatchewan Delta, Manitoba Canada. - A Special Evaluation Report on Wildlife Resources. U.S. Department of the Interior, Fish and Wildlife Service, Office of River Basin Studies. 1951.

2. Searle Grain Company Limited. Crop Report No. 1, 2 and 3, and 1952 Grain Market Feature Bulletins. Searle Grain Company Ltd., Research Department, Winnipeg, Manitoba. 1952.

3. Hawkins and Wellein. Waterfowl Breeding Ground Survey, 1952, in Manitoba. Unpublished report.

Map of Carrot River Area,
The Pas, Manitoba

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Photographs No. 1 - 5

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Copies of Newspaper Articles

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CARROT RIVER AREA, THE PAS, MANITOBA

LEGEND. Demonstration area.....

Outline of general area in which most duck damage occurred in 1951.....

Leases in that portion of the Carrot River valley in which most of the 1951 damage occurred.....

Type of crop and acreage on leases according to Lands Branch.....

Leases for which depredation permits issued in 1952.....

100 oats.

CARROT RIVER

LAKE 1 NORTH

LAKE 1 SOUTH

LAKE 2

LAKE 3

LAKE 5

LAKE 6

LAKE 7

LAKE 8

DRAIN

Road

Surveyed

TOWNSHIP 55

TOWNSHIP 54

RANGE 29 W.P.M.

RANGE 28 W.P.M.

RANGE 27 W.P.M.

30 oats 90 barley

40 oats 40 barley 15 wheat

60 barley

50 barley

80 rye

70 wheat

24 oats 20 barley

210 barley

14 wheat 25 oats 32 barley

25 oats

16 oats

7 wheat 19 oats 44 barley

42 barley

40 barley

20 oats 120 barley

6 wheat 31 oats 30 barley

35 barley

31 oats

77 wheat

60 barley

30 wheat 10 oats 67 barley

23 barley

67 oats

32 oats

60 oats 44 barley

38 barley

10 wheat 50 barley

29 oats 46 barley

8 oats

32 oats 60 barley

14 wheat

40 oats 60 barley

15 oats 75 barley 10 rye

50 oats 45 barley

100 oats

20 oats 50 barley

14 wheat 15 oats 30 barley

10 oats 8 barley

67 wheat 103 oats 7 flax

25 wheat 20 oats 75 barley

53 barley

60 oats

33 oats

85 wheat

45 wheat 25 oats

25 oats

PASQUIA LAKE

PASQUIA RIVER

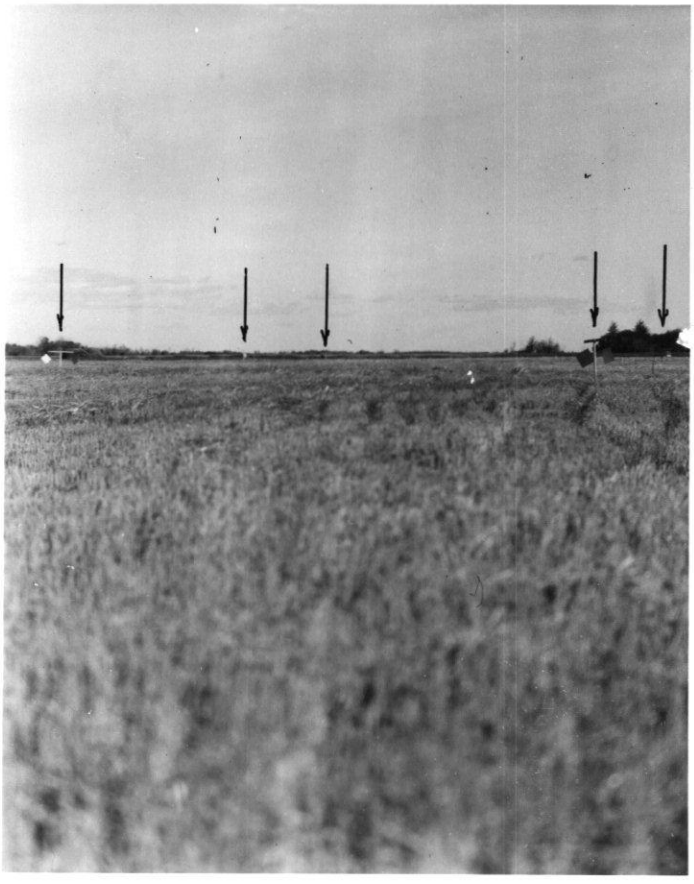
NATIONAL RAILWAY

Photograph No. 1. Closeup showing one of the Scarecrows erected in the stooked barley field. Standing barley behind the Scarecrow. The Pas, Manitoba, September, 1952.

Photograph No. 2. General view looking south along western border of stooked barley field. Stooking was in progress. Two Scarecrows visible. The Pas, Manitoba, September, 1952.

Photograph No. 3. Closeup of a Tin Flasher erected in a stooked barley field. There is visible movement of the tin plates, although the wind was light. The Pas, Manitoba, September, 1952.

Photograph No. 4. An example of a modified Tin Flasher erected by a farmer on his swathed barley field. The Pas, Manitoba, September, 1952.



Photograph No. 5. A field of swathed barley on which five Tin Flashers can be seen. The Pas, Manitoba, September, 1952.

"NORTHERN MAIL"
August 27, 1952

MASSIVE DUCK POPULATION RESULT FROM HIGH WATER

With the duck hunting season (between the 53rd and 57th parallels) opening at noon, September 11th, sportsmen can look forward to phenomenal numbers of ducks.

Heavy moisture during the past summer has resulted in a huge duck hatch on the prairies and the Athabaska delta, many of which will soon wing south via the Mississippi flyway through The Pas.

This is learned from B.W.Cartwright, chief naturalist for Ducks Unlimited, who with Fieldman Fred Sharpe, Brooks, Alberta, spent several days in The Pas over the weekend en route to survey the Athabaska regions.

"Terrific! We never saw anything like it," he commented of his observations on the prairies. "The brood average (ducks per square miles) in Saskatchewan is 4.7 against 1.2 last year. Alberta is away up too - the conditions were excellent," he added.

Manitoba's brood average was estimated at 8 per cent over all, with exceptional increases amongst Canvasbacks, as high as 9.7 per cent, the naturalist said.

However the greatest duck populations of the Athabaska delta, which follows the flyway through The Pas, are expected to show even greater increases in the survey.

The shooting season, which extends to Nov. 8th in this area has been extended from last year in view of the waterfowl conditions. Bag limits remain unchanged, with eight per day, 16 in possession at one time and 40 for the season, geese are five, 10 and 15 respectively.

Farmers may secure permits to scare migratory birds from crop land.

WINNIPEG TRIBUNE
August 28, 1952

'THOUSANDS' OF DUCKS INVADE NORTHERN FARMS

THE PAS

Hunters with special permits are covering the grain fields in the nearby Carrot River farming area in a concentrated effort to scare off thousands of ducks which are laying waste the crops.

In response to the appeal of farmers that action be taken to offset the devastation by wildfowl in past years, the department of Natural Resources authorized R.C.M.P. to issue the special permits when requested to do so by a farmer.

The early invasion by the ducks bears out forecasts that this fall will be a banner season for northern duck hunters. Heavy rainfall and considerable flooding during the spring and early summer has resulted in a huge duck population in the Athabaska delta, from which the fowl migrate along the Mississippi flyway, passing through The Pas area.

B.W. Cartwright, chief naturalist of Ducks Unlimited, who visited this region during the weekend on the organization's annual prairie province survey of conditions and duck and goose populations, said this year's hatch was terrific.

"We have never seen anything like it," he commented, "The brood average (ducks per square mile) is 4.7 in Saskatchewan compared with 1.2 last year. Alberta also is way up. Conditions have been excellent.".

In Manitoba, the brood average was estimated at eight per cent overall, with exceptional increases among Canvas Backs as high as 9.7 per cent.

The shooting season north of the 53rd parallel opens at noon Sept. 11 and has been extended to Nov. 8 in view of the exceptional waterfowl conditions. Bag limits remain the same as last year - eight per day, with 16 possession at one time and 40 for the season's total. Geese bags are five, 10 and 15 respectively.

Permit hunters have had their work cut out in the Carrot River for the last few days, but the ducks are only part of the problem. The mosquitoes are the worst in years, following the

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weekend's hot spell. Those holding permits are supposed to "shoot to scare", but occasionally a duck is bound to get hit.

And after darkness and mosquitoes have driven the hunters back to town, the ducks return to their favorite feeding grounds - the crops of grain in the big valley.

WINNIPEG TRIBUNE
August 30, 1952

IT TAKES NOISE TO SCARE DUCKS

THE PAS

Fieldmen of the Canadian Wildlife Services Thursday flatly contradicted reports that thousands of ducks were laying waste crops in the Carrot River farming area.

D.G. Colls, dominion wildlife officer for Manitoba and Saskatchewan, and Donald Reid, his assistant, both of Winnipeg, have been in the district this summer demonstrating and observing the effects of duck-scaring gadgets in co-operation with the provincial game branch.

Compared with last year, Colls told The Tribune, damage to crops to date is decidedly lower. Fewer permits have been requested by farmers in the first week of the normal depredation period.

This is due partly to weather conditions. Absence of rain during the harvest has allowed farmers to proceed with the work faster.

Most duck damage is caused when grain lies in swath or stooks. Standing grain seldom suffers, because ducks appear to prefer feeding where they can see in all directions, and also where they can take off.

The Dominion Wildlife Service is campaigning in close co-operation with the game branches of the three prairie provinces and Ducks Unlimited in an effort to counteract crop losses from migratory waterfowl.

Techniques for scaring ducks from the fields, developed and tested in the United States by the U.S. Fish and Wildlife Service, are being adopted to Canadian uses. The D.W.S. has published a pamphlet illustrating the possible methods of duck-scaring, and its fieldmen are setting up areas to test these methods.

Actually, Colls said, it requires a combination of techniques. The devices are simple, such as using scarecrows

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and twisted metallic tape which twirls in the wind.

Most effective device tested to date is the flasher, consisting of two twin plates. The plates spin and rattle in the wind, flashing in sun or moonlight. Without wind they are ineffective.

Nothing appears completely effective without considerable noise and a certain amount of gunfire has been found necessary in conjunction with the flashers. Thus shooting permits are issued when required.

The Carrot River Valley has been established as a demonstation area for duck scaring. Colls and Reid plan to set up a similar area in the Big Grass marsh area north of Gladstone sometime next week. They will return here before opening of the regular duck season Sept. 11.

WINNIPEG TRIBUNE
September 3, 1952

THE DUCKS COME BACK

Wild ducks have staged a marvellous comeback in Manitoba. According to B.W.Cartwright, chief naturalist for Ducks Unlimited, who has just returned from a prairie survey of wildfowl populations, this year's hatch "was terrific". In this province, he says, the brood average is estimated at eight per cent overall, with exceptional increases among canvasbacks as high as 9.7 per cent.

There can be no question but what government conservation measures, and the fine work of Ducks Unlimited have done wonders to assist in the comeback. But experts agree that the wet cycle following the eight-year prairie drought was the real savior of our waterfowl.

Back in the late 30's when practically all sloughs south of Dauphin were dried up and large lakes in the south reduced to small stagnant pools, mighty few ducks were to be seen except in the fall when flocks hatched in the north were heading for winter feeding grounds. Today there are thousands of sloughs and dugouts in the former arid areas and on all of these waterfowl may be seen feeding.

But experts warn that the wet cycle is nearing an end; that much drier seasons may be expected soon. Fortunately Manitoba profited by the bitter experiences of the 30's. Many woodlots, shelterbelts and shrubs have been planted and control dams have been built at strategic points. These give some assurance that a long dry spell would not have the devastating effect of the drought of 15 years ago. Nevertheless, if there is not more tree-planting, more dugouts and more dams built, farmers are bound to suffer again and the ducks will once more disappear from this part of the country.

To many farmers, and especially those near The Pas, the bountiful duck harvest is not regarded as a blessing. Already there are many complaints that wildfowl are playing havoc with standing grain. It is only right that those farmers who are suffering loss should be given permits to shoot to scare before the season opens. If in the process of "shooting to scare" there are a few casualties there will be no surprise. But if there should

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break out an epidemic of wholesale slaughter game officials should be quick to take action.

No doubt there will be pressure on the government to increase the duck bag limit because of the plentiful supply of birds. In the view of many, however, it would be a serious mistake to yield to this pressure. The present bag limit of eight per day and 40 for the season is surely generous enough. Now that the ducks have come back it would be folly to permit over-shooting.

There will be sympathy for those farmers whose fields are being raided but no doubt, they find some solace in the saying of prairie old-timers that a good duck year is a good grain year.

WINNIPEG TRIBUNE
September 9, 1952

OLD-FASHIONED METHOD STILL BEST DUCK SCARER

PORTAGE LA PRAIRIE, MAN.

Old-fashioned farming know-how is being used north of here in a big experiment aimed at limiting raids on farmers' grain fields by ducks from the Delta marshes - famous breeding grounds in central Manitoba.

The basic remedy - scarecrows.

For years farmers around Oakland, Man., have been plagued by ducks flocking into newly-swathed fields and detroying grain. The Delta Waterfowl Research Station in co-operation with the Manitoba Game and Fish Department has had four men in the field for two years studying the problem.

Patrol Farm Lands. They patrol a belt of farm land three miles wide extending 15 miles south of the Delta, and study the ducks' habits. When they spot a field that is ripe for a duck raid they seek the farmer's help in erecting a scarecrow.

This consists of an onion sack filled with straw, suspended from a 10-foot pole driven in the ground at a 45-degree angle. It is topped with a piece of aluminum which spins and flashes in the wind and sun.

Blank Shots Fired. When gunfire is needed in addition to scarecrows, shotguns are loaded with blanks which make more noise and will scare birds one-quarter of a mile away. Driven from a swathed field, the birds usually land in stubble where they can forage without harming anything.

Roy James, an Oakland farmer, said there are more ducks this year but less damage - thanks to the scarecrows.

TITLE

DATE LOANED	BORROWER'S NAME