

# The Fall Recoveries of Young Mallards Banded at Kindersley, Saskatchewan

by **J. B. Gollop**, Canadian Wildlife Service, Saskatoon

This article deals with the distribution in Canada and the United States of fall recoveries of mallards banded before they were old enough to fly in the vicinity of Kindersley, Saskatchewan. In order that the paper be no more complicated than necessary, it is based only on recoveries reported by hunters during the hunting season immediately following the summer of banding. Records for birds recovered in other ways and reports for subsequent years have not been used. Furthermore, although this project started in 1952 and ended in 1959, the present paper is based on the four years in which enough recoveries were reported to give reliable results for each year—1955 to 1958, inclusive. Therefore the paper is based on 1,104 recoveries distributed as follows: 1955, 184; 1956, 197; 1957, 384; 1958, 339.

Most of the personnel used in the banding phase of this project were employed by the Canadian Wildlife Service but other agencies contributed generously at various times—the Saskatchewan Wildlife Branch, Ducks Unlimited, the U.S. Fish and Wildlife Service and private citizens at Kindersley, particularly R. A. Lamont and M. W. Morgan. More than 1,000 hunters reported recoveries to the U.S. Fish and Wildlife Service Bird Banding Office which, in turn, forwarded their information to me.

The 13,264 young mallards banded during these four years were caught in a 2,900-square-mile block reaching from the South Saskatchewan River north for 70 miles and from the Saskatchewan-Alberta boundary east for 41 miles. Kerrobert is within the area near the northeast corner.

Two-thirds of the birds were caught by crews of two men and one dog; the remainder were herded into traps set on land by crews of five to seven men. Dogs were used regularly on the 100 to 150 ponds worked each year. A good day's banding for a dog-crew was 50 mallards; the highest catch for a single day was

123. Traps were used only occasionally because situations justifying them—large numbers of young on sloughs with no emergent plants such as sedges, rushes and smartweed—were few and far between. The largest number caught by trapping was 533 young mallards. Each of three other drives yielded more than 400, but as many ended with fewer than ten.

The following is a summary of information on hunters and hunting regulations during these years. The number of duck hunters in Alberta and Saskatchewan was probably less than 100,000. In the Pacific, Central and Mississippi Flyways of the United States the total number of active hunters alternated between 1.8 and 1.7 million. (The Atlantic Flyway and Mexico are omitted here because of the few recoveries from these areas.) The daily limit in Alberta remained at ten, in the Mississippi Flyway at four, and in the Central at five. In Saskatchewan the daily limit dropped from 15 to 11 after the first three years and in the Pacific Flyway from six in the first two years to five in the last two. In the northern parts of Saskatchewan and Alberta hunting seasons opened on September 1 or 2; in the south, on September 6 or 7, except in 1956 when it was September 12. In all years mallards left the Canadian prairies in November before hunting seasons legally closed. The earliest U.S. hunting seasons opened in October and the latest closed on January 15. Season lengths remained at 70 days in the Mississippi Flyway, went from 65 to 75 in the Central, and from 80 to 95 in the Pacific.

The average geographical distribution of the recoveries of the four years is presented in the accompanying map. The map indicates the percentage of recoveries reported from each province and state; for states on the boundary of the distribution, only that part in which the recoveries actually occurred is shaded.

As is readily apparent, mallards

raised at Kindersley showed little indication to travel as a group. During the September-to-January period they were found in two provinces, 33 states and Mexico. In as short a period as ten days in 1956 Kindersley mallards were taken at Reward, Saskatchewan, on November 11, in California on November 17, and in North Carolina on November 19. It is 2,070 miles between the Saskatchewan and Carolina recoveries and 2,500 miles between the two U.S. points. Four months earlier these three birds were being reared within 25 miles of each other.

Further evidence that birds of a feather do not flock together comes from an examination of recoveries from bandings on a single water area. We have 107 U.S. reports for young mallards banded in three years on the 100-acre slough just south of the town of Marengo. These birds spread themselves over 19 states, including California and North Carolina.

Considering all recoveries, 35 per cent were from Canada; in individual years this varied from 27 to 40 per cent. The remainder were from the United States (except for one report from Mexico). Half of the U.S. recoveries were from the Mississippi Flyway, 40 per cent from the Central, nine per cent from the Pacific, and less than one per cent from the Atlantic. Outside of Saskatchewan the major harvest of these young mallards occurred in Alberta, Montana, South Dakota, Nebraska, Iowa, Missouri, Arkansas, Louisiana and Texas. Next to Saskatchewan, the largest kill for any province or state was in Arkansas, mostly in the flooded oak flats around Stuttgart where millions of mallards regularly winter.

In Canada 36 of every 100 recoveries came from within 10 miles of the banding sloughs, these recoveries being reported almost every week of the season each year until freeze-up in November. Seventy of each 100 recoveries were within 50 miles, the remaining 30 being divided equally between Saskatchewan and Alberta. Each year some recoveries were made north of the banding sites and in 1958 one-fifth of the continental kill was reported from this direction. Many of these birds came from the

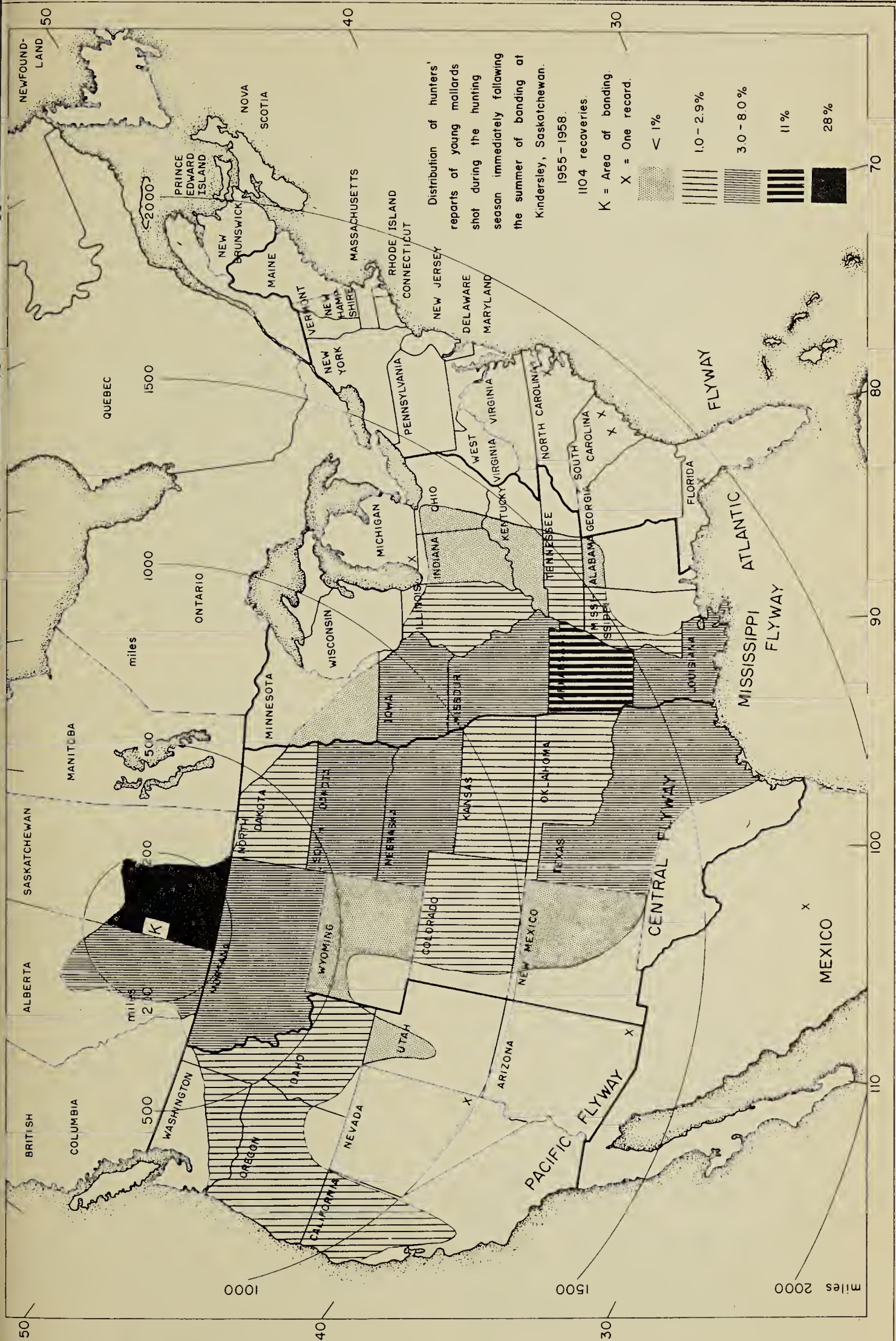
Beaverhill Lake area near Edmonton, Alberta; the farthest was from Barrhead, Alberta, 280 miles northwest of Kindersley.

In Saskatchewan most of the birds were recovered within the block of banding but a noticeable concentration of reports occurred in the Luskland-Wilkie-Macklin triangle. Banded mallards were shot as far north as Neilburg, North Battleford and Shellbrook, and as far east as Watrous, Imperial, Crane Valley and Coronach. Other points of recovery more than 50 miles from the banding sloughs were Antelope, Assiniboia, Climax, Cutknife, Darmody, Elbow, Golden Prairie, Gull Lake, Hodgeville, Instow, Kyle, Mankota, Maple Creek, Moose Jaw, Richard, Robsart, Rockhaven, Shaunavon, Swift Current and Waldeck.

It may be of interest to note that tourists reported 110 of the 299 recoveries made in Saskatchewan. U.S. hunters, coming from 13 states, reported 74, while hunters from Alberta, Ontario, British Columbia and Quebec reported 36. However, these figures do not necessarily mean that non-resident hunters took more than one-third of the Kindersley-raised mallards shot in Saskatchewan. It is quite possible that hunters who spend more money on their hunting are also more likely to report bands. If true, their percentage of the kill would be exaggerated.

On a monthly basis, the reported kill was distributed approximately as follows: nine per cent in September, 23 per cent in October, 41 per cent in November, 20 per cent in December and eight per cent in January. The small September kill may be surprising, since young ducks probably are less wary and are weaker flyers at the start of the four-month hunting period than later. Part of the reason is that hunting was legal only in Canada during this period. It may also be that hunters in western Saskatchewan and eastern Alberta concentrated on shooting geese at that time.

Major differences occurred in the timing and geographical distribution of the kill in different years. As might be expected, if a high kill occurred during the first half of the season it occurred in the northern



part of the continent. If the harvest was high late in the season, it was concentrated in the south. This situation is indicated in the following table:

**Per Cent of Total Recoveries**

	1955	1957	1958	1956
By November 10 .....	60	50	43	31
Within 800 miles of Kindersley .....	60	58	46	38

This difference in geographical distribution is also illustrated when only the Central and Mississippi Flyways are considered for 1955 and 1956:

	1955	1956
<b>North</b> (Montana, Wyoming, North and South Dakota Minnesota, Iowa) .....	40%	9%
<b>Middle</b> (Colorado, Nebraska, Kansas, Missouri, Illinois, Indiana, Ohio, Tennessee, Kentucky) .....	39%	37%
<b>South</b> (New Mexico, Texas, Oklahoma, Louisiana, Arkan- sas, Mississippi, Alabama) .....	21%	54%
	<u>100%</u>	<u>100%</u>

In conclusion it should be emphasized that figures and statements throughout this paper refer to the distribution of recoveries reported by hunters. This is not the same thing as distribution of the actual kill. There are at least two factors complicating the relationship between reported kill and actual kill of banded birds. If a hunter shoots a banded bird but does not recover it, he cannot report it. Studies have shown that crippling losses vary in different areas and, therefore, reporting rates will vary from one area to another for this reason. The second factor is local publicity encouraging the reporting of bands. More bands are likely to be reported where this occurs than from other areas. Information from special studies indicates that because of the particular distribution of this group of recoveries the difference between reported and harvested Kindersley-banded mallards may not be too different on a flyway basis.

However, once this relationship has been established, an important objective is still another step away. Distribution of the harvested segment of the population may not be the same as distribution of the overall population. The main problem here is that different proportions of a population may be harvested in a

given year in different areas or in the same area in different years. For instance, consider the case where hunting conditions are such that 20 per cent of Kindersley mallards in the Central Flyway but only 10 per cent in the Mississippi Flyway were shot. Banding would then show twice as many recoveries in the western flyway as in the eastern if there were actually the same number of birds in each flyway. If there were twice as many birds in the Mississippi Flyway, band recoveries would be equal from each area. A person assuming that the proportions killed were the same would make a significant error in accepting the band recovery data at face value. This problem has not been solved.

To summarize: This paper deals with the geographical and seasonal distributions of the first-year band recoveries of Kindersley-raised mallards as reported by hunters. The geographical distribution of the reported recoveries may not be too different from the geographical distribution of the actual harvest of these birds. However its relationship to the distribution of the Kindersley-raised mallard population as a whole is not known at present and cannot be determined from banding data alone.

### S. N. H. S. NEWSLETTER

The S.N.H.S. has for the first time put out a newsletter as a supplementary means of keeping members better informed about the various activities of the Society. It is hoped that this will provide a broader and more regular communication between members and our executive. Frequently in the past, through lack of space, we have had to set aside letters and comments which might have been of interest to the readers; through the newsletter it will now be possible to publish more of these items. Members and executive are urged to send newsworthy comments and notes to the Newsletter Editor, Box 1121, Regina.—Ed.