



Aussi disponible en français

No. 69, November 1976

Report on the first Common Snipe wing surveys in Canada, 1974 and 1975, and results of some recent harvest surveysby J. V. Dobell¹ and F. G. Cooch²**Introduction**

Parts collection ^{needed} surveys have been ~~needed~~ for many years to increase our knowledge about certain species. Many migratory and non-migratory game birds can be aged and sexed from plumage characteristics of either wing or tail feathers. Indices such as reproduction rate and age structure can be derived from such surveys. Information may also be provided on species identification, migration chronology, and differential mortality. Samples from a wide range are also available for monitoring toxic chemical residue levels.

The Canadian Wildlife Service has undertaken annual collections of duck wings and goose tails since 1967 and of woodcock wings since 1970. The first snipe wing collection was begun in 1974. This report summarizes the results of the 1974 and 1975 Common Snipe (*Capella gallinago*) wing collection surveys. Sample sizes are in some cases very small. It will take several more years of sampling to predict trends more accurately.

Methods

The technique described by Tuck (1972) was used to determine the age from external plumage characteristics of the wing. Birds up to 1 year old are considered to be immature, and those over one year adults. Only about 10% of the wings could not be aged, largely because of soiling or damage.

In 1974, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland were surveyed. All hunters who had reported shooting at least one snipe on the 1973 Migratory Bird Harvest Questionnaire were sent 10 snipe-wing envelopes and explanatory pamphlets. In 1975 all provinces and the Yukon were sampled in a similar manner to 1974; however, a disruption in postal service probably affected the rate of return.

Harvest rate

Table 1 gives the estimates of the Canadian harvest from 1972 to 1975, derived from the annual Migratory Game Bird Harvest Survey (Cooch and Raible 1975; Cooch, pers. comm.). No identifiable trend in the harvest is apparent for that period. The harvest is greatest for the provinces of Quebec and Newfoundland, which together accounted for 58% of the reported national kill in 1975. The average annual kill per successful hunter in Canada was 3.92 in 1967 (Benson 1968), and has increased to 4.82 in 1973 and 5.66 in 1975 (Cooch and Raible 1975).

¹CWS, Fredericton, New Brunswick E3B 4Z9.²CWS, Ottawa, Ontario K1A 0H3.**Timing of harvest**

Table 2 provides some information on the timing of the kill within provinces. Although the sample is extremely small, the lack of a heavy kill at the start of the season is apparent and is similar to the pattern found in the woodcock harvest but in strong contrast to waterfowl harvest patterns.

The fall migration in 1975 appears to have been earlier than in 1974, especially in Newfoundland. The first 10 days of October accounted for the largest harvest in both years. It will take a much larger sample of wings to determine migration chronology and patterns.

Productivity

Table 3 gives some information on the age structure of provincial samples of snipe wings. As Tuck (1972) points out, the immature/adult ratio is probably biased toward immature birds since they are gregarious and relatively vulnerable during migration, while adults are solitary. The greatest use of the age ratio may be as an index of changing productivity over the years.

From the limited data available it seems that 1975 was a much poorer breeding season than 1974. The overall weighted mean age ratio declined from 2.47 immatures per adult snipe in 1974 to 1.72 in 1975. The greatest change appears to be in the Newfoundland sample where the age ratio dropped from 2.63 in 1974 to 1.24 in 1975. The cold, wet weather conditions which occurred in that province during May-June may have affected the productivity in 1975.

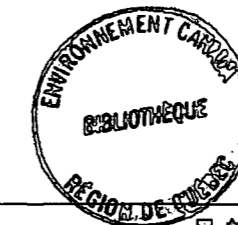
Species composition and overcalculation of snipe harvest

Table 4 provides information about the number of contacts, by province, and the return information collected by those contacts.

The species represented were divided into three categories - Common Snipe, protected shorebirds, and other game birds. The other game bird category consisted mostly of duck wings, but some woodcock and Virginia Rail wings were also present. An assumption was made that the hunter did not mistake those species in the other game bird category for Common Snipe.

Subsequent adjustments are based on the further assumption that those species in the protected shorebird category were mistaken for Common Snipe. The number of respondents who returned wings of protected shorebirds differed only slightly, from 1974 (26%) to 1975 (21%). That small difference may be attributable to the postal interruption in 1975, if the more knowledgeable hunters were more likely to have saved their wings until normal postal service resumed. Although the numbers are very small, little regional variation can be associated with species mis-identification.

Since each envelope returned represents one day's successful hunt, an index of hunter success can be achieved

SK
471
C3371
ND .69

by dividing the total snipe wings returned by the number of envelopes. The 1974 results indicated a 2.9 snipe harvest per successful day. In 1975 this index dropped slightly to 2.6.

It is apparent that the "snipe" harvest, as estimated from hunter returns presented in Table 1, is an overestimate of the actual kill. Table 5 presents a recalculation of those results based on the returns of the wing survey reported here. This seems likely to be a closer representation of the harvest of Common Snipe in Canada than the estimates based on the National Migratory Game Bird Harvest Survey. The latter estimates, however, may reflect the kill of shorebirds of all species.

Wings of shorebirds other than Common Snipe were returned by some hunters. Species identification is given in Table 6 and is based largely on Minton and Godfrey (1966).

Comparison with US harvest

In the US the estimated harvest of snipe increased from 385 000 to 471 000 in the 10-year period 1964 to 1973 (USFWS 1975) while the number of snipe hunters rose from 56 000 to 83 000. (The estimates for 1974 and 1975 are not available). Although the harvest increased, the annual rate of harvest in the US decreased from 6.88 per hunter in 1964 to 5.67 per hunter in 1973.

Table 1
Estimates of successful snipe hunters and harvest of snipe 1972-75, as indicated by the National Migratory Game Bird Harvest Survey

Prov.	Successful hunters				Birds harvested			
	1972	1973	1974	1975	1972	1973	1974	1975
Nfld.	3 105	3 691	3 456	3 623	18 866	18 610	17 472	17 964
PEI	147	234	254	314	842	905	940	2 070
NS	947	1 120	1 469	1 293	4 106	4 957	9 021	7 998
NB	495	638	555	482	2 000	3 326	2 639	2 488
Que.	5 952	6 140	7 298	6 018	28 978	38 035	46 626	38 843
Ont.	3 110	2 645	4 095	2 542	14 835	6 040	14 099	11 038
Man.	545	539	597	657	1 971	2 105	4 008	3 089
Sask.	672	1 006	332	562	2 701	3 118	1 819	3 042
Alta.	1 689	1 044	1 597	1 009	5 740	4 873	8 103	4 813
BC	1 316	824	607	796	11 967	4 273	2 693	6 617
Yukon	-	-	-	29	-	-	-	31
Canada	17 978	17 881	20 260	17 325	92 006	86 242	107 420	97 993

References

Benson, D. A. 1968. Waterfowl harvest and hunter activity in Canada during the 1967-68 hunting season. Can. Wildl. Serv. Prog. Note No. 5. 6 pp.

Cooch, F. G. and H. A. Raible. 1975. Harvest of migratory game birds other than waterfowl in Canada 1974. Can. Wildl. Serv. Prog. Note No. 52. 7 pp.

Godfrey, W. E. 1966. The birds of Canada. Information Canada Cat. No. NM93-203. 428 pp.

Minton, C. D. T. Wader ageing guide. British Trust for Ornithology Wader group publ. Mimeo. 9 pp.

Tuck, L. M. 1972. The snipes. Can. Wildl. Serv. Mono. Series No. 5. Information Canada Cat. No. 65-7/5. 429 pp.

U.S. Fish and Wildlife Service. 1975. Issuance of Annual Regulations permitting the sport hunting of migratory birds. U.S. Dept. of the Interior. 312 pp.

Table 2
Timing of harvest of Common Snipe as shown by wing receipts, tabulated by 10-day periods

Prov.	Year	Sept.			Oct.			Nov.	Total
		1-10	11-20	21-30	1-10	11-20	21-31*	1-10	
Nfld.	1974	2	1	9	7	23	28	4	74
	1975	2	7	14	23	22	1		69
PEI	1974					4			4
	1975					2			2
NS	1974				8	4	3		15
	1975				10				10
NB	1974				5	7	9		21
	1975						1		1
Que.	1974			28	57	19	15	6	125
	1975		6	9	32	38	9	7	101
Ont.	1974		2		2	4		4	12
	1975	1			2			1	4
Sask.	1975	3							3
Alta.	1975		1						1
BC	1975			7					7

*11-day period.

Table 3
Proportion of adult and immature Common Snipe wings in provincial samples in 1974 and 1975

Prov.	Adult		Immature		Unknown age		Im./Ad.		
	1974	1975	1974	1975	1974	1975	1974	1975	
Nfld.	19	29	50	36	5	4	2.63	1.24	
PEI	2	1	2	1	0	0	1.00	1.00	
NS	5	3	10	7	0	0	2.00	2.33	
NB	3	0	17	1	1	0	5.67		
Que.	34	28	74	53	17	14	2.18	1.89	
Ont.	3	0	9	3	-	1	3.00		
Sask.	-	1	-	2	-	0	-	2.00	
BC	-	3	-	4	-	0	-	1.33	
Total	66	65	162	107	23	19			
Weighted mean for all provinces sampled*								2.47	1.72

*Weighting is based on the provincial harvest adjusted to remove protected species of shorebirds.

Table 4
Contributor information

Prov.	Snipe						Protected shorebirds						Other game birds*							
	Orig. contacts		Respondents		Envelopes		Wings		Respondents		Envelopes		Wings		Respondents		Envelopes		Wings	
	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975
Nfld.	95	91	8	16	25	29	74	69	3	4	5	9	5	3	0	4	0	0	7	0
PEI	11	9	1	2	2	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0
NS	46	74	7	3	11	4	15	10	1	0	2	5	0	0	0	0	0	0	0	0
NB	30	30	2	1	4	1	21	1	2	0	2	2	0	0	1	0	3	0	0	4
Que.	144	134	13	20	36	34	125	101	6	5	9	76	7	4	6	13	6	13	12	12
Ont.	43	58	4	2	8	4	12	4	0	0	0	0	0	1	0	0	0	2	0	0
Man.	0	18	-	0	-	0	-	0	1	1	-	-	2	-	0	0	0	-	0	0
Sask.	0	12	-	1	-	1	-	3	0	0	-	-	0	-	0	0	0	-	0	0
Alta.	0	22	-	1	-	1	-	1	1	1	-	-	1	-	0	0	0	-	0	0
BC	0	13	-	1	-	1	-	7	1	1	-	-	10	-	0	0	0	-	0	0
Total	369	461	35	46	86	77	251	198	12	12	20	92	25	8	7	9	12	22	16	16

*Other gamebirds are ducks, woodcock and rails.

Table 5
Adjusted estimates of Common Snipe harvest in Canada in 1974 and 1975 by subtraction of estimates of kill of protected shorebirds

	"Snipe" harvest (from Table 1)		% respondents returning protected shorebirds		Protected shorebird harvest		Actual Common Snipe harvest	
	1974	1975	1974	1975	1974	1975	1974	1975
Canada	107 420	97 959	26	21	27 929	20 571	79 491	77 388

Table 6
Wings of protected shorebirds sent in to Common Snipe survey, 1974 and 1975

Species	Contributors*		Envelopes		Wings	
	1974	1975	1974	1975	1974	1975
American Golden Plover	2	-	3	-	5	-
Black-bellied Plover	2	-	2	-	2	-
Solitary Sandpiper	1	1	1	1	1	1
Greater Yellowlegs	6	2	8	2	9	3
Lesser Yellowlegs	2	2	2	2	3	3
Pectoral Sandpiper	1	-	1	-	1	-
White-rumped Sandpiper	1	4	1	4	1	5
Dunlin	1	-	1	-	1	-
Sanderling	1	-	2	-	69	-
Short-billed Dowitcher	2	2	2	2	3	2
Long-billed Dowitcher	-	1	-	1	-	10
Unknown	2	1	2	1	4	1
Totals	21	13	25	13	99	25

*The totals here differ somewhat from those in Table 4 because some contributors returned envelopes containing several species.

S.C.F. - C.W.S.

NOV 30 1976

QUÉBEC