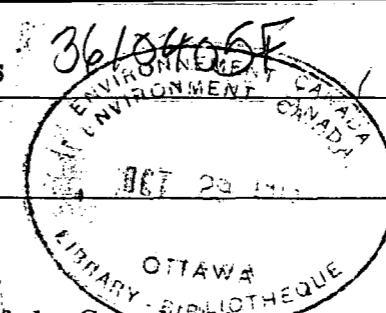


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Progress Notes contain *interim* data and conclusions and are presented as a service to other wildlife biologists and agencies.

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Report on 1972 sales of the Canada migratory game bird hunting permit, migratory game bird harvest and hunter activity
by F.G. Cooch,¹ G.W. Kaiser¹ and L. Wight¹

Introduction

In 1972, geographical boundaries of survey substrata were unchanged from 1971 (see Appendix 1 of Progress Notes 28 and 9 for geographical co-ordinates). A major change was made in the method of sampling purchasers of Canada migratory game bird hunting permits, based on a sampling design developed by Dr. A.R. Sen and Dr. G.E.J. Smith, Biometrics Section. In addition the format of the survey questionnaire was changed to incorporate improvements in design developed by F. Filion, Biometrics Section.

All previously reported survey results were based on a sample drawn from the record of sales in the previous year. New hunters or those who do not hunt consistently from one year to the next were not sampled. In 1972 we were able to sample proportionally hunters with varying degrees of experience. At the same time the facility to produce data directly comparable to those of previous years was retained. For comparative purposes, therefore, this report contains kill statistics based on both the old and the revised survey methods. The effect of inclusion of the intermittent hunters will be obvious. More detail is given in the section relating to survey design.

Permit sales

The general rate of increase in the number of permits sold, slowed in 1972. As of January 31, 1973, 421,667 sales records had been placed on computer tape, an increase of only 3,440 over 1971. The 1972 sales record with comparable figures from 1969, 1970 and 1971 is given in Table 1. Of the 1972 total, 111,265 permittees are either new or inconsistent hunters with somewhat different characteristics from the remainder of the sample universe.

Table 2 is similar in design and intent to Table 2 of Progress Note 28 which gives permit sales by sample strata and province. The table also shows distribution of and response to the harvest survey questionnaire. Subsamples used in the 1972 sampling design have been lumped to give a single response rate. Consequently, it is no longer possible to extrapolate data from Table 2 except crudely.

As a result of permit redesign in 1972, only 22 of 421,667 permits could not be related to province and zone of sale. Consequently they are ignored, and for the first time no prorating of the sales record to zone or province of purchase was necessary.

A total of 25,851 questionnaires were mailed and delivered; 15,400 were returned (59.6 per cent), but of these 3,604 were unuseable because the respondents did not purchase a permit in 1972. The net response was therefore

11,796 or 45.6 per cent, compared to 31.96 per cent in the 1971 survey. Characteristics of the subsamples and variations in response rate, and their implications for increased efficiency of the survey, are being studied independently of this report.

Table 2 shows potential hunters (permit purchasers), active hunters (those who hunted at least once) and successful hunters (those who harvested at least one bird) within each sample. Crude extrapolation factors to expand from the sample to the universe are derived by dividing the potential hunters from a zone (sampling strata) into the number of permits sold in that zone.

The harvest survey

The 1972 harvest survey sample was divided into four subsamples. Sample A was drawn from those who bought a permit in 1972 but not in 1971, sample B from those who purchased a permit in 1971 but not in 1970, and sample D from those who purchased permits in both 1970 and 1971 but had never been sampled. A fourth sample (C) was drawn from hunters who had responded in previous harvest surveys. This sample is not considered in the present report and is for research purposes only.

Results of the 1972 harvest survey by province are given in Table 3. The kill for any species is reported only from those areas where open seasons exist. For comparison, results of the 1971 harvest survey are given as well as results of the 1972 survey based on (a) subsamples B and D alone (this corresponds to last year's sampling method) and (b) subsamples A, B and D combined. Columns BD and ABD are also based on a reassignment of hunters to their indicated zone of hunting and not to their zone of purchase as in previous years. Successful hunters who moved out of the zone of purchase were deleted from further consideration within that zone but are included in the zone in which they hunted. Figures for 1971 have been adjusted in a similar manner.

Comparison of column ABD with BD shows the decrease from previous estimates of kill. This is due to inclusion of intermittent (new) purchasers of the permit in the sample. The changes in distribution of the kill are, we believe, a more accurate representation of the actual situation occurring in the field. These recalculations (inclusion of new hunters and assignment of data to actual zone of harvest) result in some major shifts in indicated kill and hunter activity between the zones in some provinces, but do not alter the provincial totals greatly.

In Table 3, the number of successful hunters is totalled for each species group but no attempt is made to provide a grand total of successful hunters for all groups combined because of the wide variety of species groups which may be taken by a single hunter. It is invalid to compute successful hunter totals based on Table 3 and compare them with totals given in Tables 4 and 5 under man-days of recreation.

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Survey results

If one includes intermittent hunters, national harvest totals for the major groups of migratory game birds changed little between 1971 and 1972. Gains in one province or zone were generally offset by decreases in others. If, on the other hand, estimates in 1972 had been based as in the past on a sampling universe derived from the sales record of the previous year, a harvest of 407,000 additional sport ducks would have been indicated. Except for woodcock and coots, kill of the minor species groups remained remarkably consistent with results published for 1971-72 (P.N. 28).

The full impact of the 1972 subsampling plan is not clearly shown in this report because nearly 8,000 American hunters were included in the 111,000 hunters who had not purchased a permit in 1972 (sample A). Many of these non-resident hunters may be specialists who go to areas of known good hunting, are experienced and successful, and give above average response to the survey. As a result of those characteristics, kill in zones of high concentration of non-resident hunters may be somewhat inflated. We are presently endeavouring to determine the degree of inflation and attempt ways of correcting that anomaly in the 1973-74 survey.

The new method of allocating hunters to zones does not have any effect on national totals but does result in varying degrees to reallocation among provinces and between sampling zones within provinces. The new procedure also

has an effect on the indicated average kill per successful and active hunter, as these are now also calculated on a zone of harvest basis weighted according to sampling fraction.

Average season bag per successful hunter or active hunter is a more useful statistic than total kill for assessing the quality of any given hunting season. Total kill is in part a function of permit sales, and may show an apparent increase which is not really related to improved hunting opportunity. In most zones there is greater difference between samples BD and ABD than there is between BD and the 1971 survey results. This is a result of the lower success rate of intermittent hunters.

An effort will be made to recalculate and publish material for previous progress notes of this series using this zone of harvest basis. It will not be possible to adjust previous harvest survey data to incorporate the effect of intermittent hunters.

Tables 4 and 5 give estimates of average daily bag, season bag and numbers of man-days of recreation spent hunting migratory game birds in 1972 for waterfowl and non-waterfowl. Because a hunter may hunt more than one species group it is not presently possible to add the two tables together and derive national totals of recreational activity. This has been a problem for several years, and a major redesign of the harvest survey questionnaire will be needed before the problem is solved.

Table 1
Permit sales by province of residence
and province of purchase, 1972

Province of residence	Province of purchase											
	Nfld.	PEI	NS	NB	Que.	Ont.	Man.	Sask.	Alta.	BC	Unknown	Total
Nfld.	23,511	0	0	13	13	6	2	2	2	4	0	23,553
PEI	1	4,446	5	1	16	2	2	3	0	0	0	4,476
NS	7	14	12,088	13	2	39	4	10	6	3	7	12,193
NB	0	7	6	11,009	9	8	6	3	5	1	0	11,054
Que.	1	0	2	2	51,526	180	16	34	26	3	2	51,792
Ont.	27	4	5	10	281	123,617	204	264	137	15	4	124,568
Man.	5	0	0	4	2	67	38,234	216	47	1	0	38,576
Sask.	1	0	0	0	18	10	55	43,021	86	3	1	43,195
Alta.	6	0	0	0	10	86	95	889	60,882	13	0	61,981
BC	0	2	0	0	6	8	65	599	1,201	30,476	0	32,353
Yukon	0	0	0	0	10	1	2	7	127	8	5	160
NWT	0	0	0	0	2	0	0	8	10	5	0	25
Unknown	67	2	9	25	80	510	505	1,012	146	164	2	2,526
Canadian total	23,626	4,475	12,115	11,077	51,975	124,534	39,190	46,068	62,675	30,696	21	406,452
Non-residents	56	17	43	259	1,107	6,893	1,943	3,936	634	336	1	15,225
Total sales												
1972	23,682	4,492	12,158	11,336	53,982	131,427	41,133	50,004	63,309	31,032	22	421,677
1971	23,460	4,513	11,381	11,146	50,276	133,563	40,960	49,448	62,902	30,225	363	418,237
1970	21,347	3,926	9,926	10,293	46,009	135,231	39,230	47,722	59,986	31,350	630	405,650
1969	19,089	3,794	8,848	10,110	39,477	134,037	41,611	45,347	53,602	32,764	646	389,325

Table 2
Sample selection and response to the questionnaires
in the Harvest Survey, 1972

Province	Survey stratum	Total permit sales	Contacts	Characteristics of the sample						
				Total receipts		Number of permit purchasers	Active hunters		Successful hunters	
				No.	%		No.	%	No.	%
Nfld.	01	21,449	2,130	1,093	51.3	802	504	62.8	278	34.7
	02	2,233	650	252	38.8	184	115	62.5	75	40.8
	Unknown	0	0	0	—	10	0	—	0	—
	Total	23,682	2,780	1,345	48.4	996	619	62.1	353	35.4
PEI	01	4,492	856	347	40.5	263	210	79.8	142	54.0
	Total	4,492	856	347	40.5	263	210	79.8	142	54.0
NS	01	8,870	1,228	670	54.6	437	315	72.1	202	46.2
	02	3,288	638	435	68.2	424	328	77.4	212	50.0
	Unknown	0	0	0	—	6	0	—	0	—
	Total	12,158	1,866	1,105	59.2	867	643	74.2	414	47.8
NB	01	8,302	1,258	797	63.4	594	435	73.2	339	57.1
	02	3,034	626	380	60.7	274	182	66.4	127	46.4
	Unknown	0	0	0	—	11	0	—	0	—
	Total	11,366	1,884	1,177	62.5	879	622	70.8	466	53.0
Que.	01	42,744	2,334	1,605	68.8	1,211	871	71.9	701	57.9
	02	10,338	597	398	66.7	352	264	75.0	171	48.6
	Unknown	0	0	0	—	13	0	—	0	—
	Total	53,082	2,931	2,003	68.3	1,576	1,135	72.0	872	55.3
Ont.	01	38,787	1,850	1,146	61.9	710	527	74.2	408	57.5
	02	69,207	2,018	1,242	61.5	1,053	868	82.4	677	64.3
	03	23,433	863	526	61.0	412	312	75.7	235	57.0
	Unknown	0	0	0	—	27	0	—	0	—
	Total	131,427	4,731	2,914	61.6	2,202	1,707	77.5	1,320	59.9
Man.	01	38,005	1,834	1,182	64.4	937	849	90.6	627	66.9
	02	3,128	562	331	58.9	216	194	89.8	150	69.4
	Unknown	0	0	0	—	6	0	—	0	—
	Total	41,133	2,396	1,513	63.1	1,159	1,043	90.0	777	67.0
Sask.	01	19,746	1,286	804	62.5	698	611	87.5	516	73.9
	02	8,453	594	316	53.2	302	272	90.1	249	82.5
	03	21,805	1,350	822	60.9	551	481	87.3	420	76.2
	Unknown	0	0	0	—	7	1	14.3	1	14.3
	Total	50,004	3,230	1,932	59.8	1,558	1,365	87.6	1,186	76.1
Alta.	01	26,272	1,469	869	59.2	624	528	84.6	447	71.6
	02	37,037	1,984	1,090	54.9	873	768	88.0	679	77.8
	Unknown	0	0	0	—	17	0	—	0	—
	Total	63,309	3,453	1,959	56.7	1,514	1,296	85.6	1,126	74.4
BC	01	11,966	590	383	64.9	322	243	75.5	188	58.4
	02	19,066	1,134	722	63.7	454	316	69.6	263	57.9
	Unknown	0	0	0	—	6	0	—	0	—
	Total	31,032	1,724	1,105	64.1	782	559	71.5	451	57.7
Canada		421,677	25,851	15,400	59.6	11,796	9,199	78.0	7,107	60.2

Table 3
Number of successful hunters and birds harvested
by hunters from samples A, B and D

Species group	Survey stratum	Successful hunters			Birds harvested			Birds per hunter		
		1971	1972	1972	1971	1972	1972	1971	1972	1972
		Samples B and D	A, B and D	Samples A, B and D	Samples B and D	A, B and D	Samples B and D	A, B and D	Samples A, B and D	
Newfoundland										
Sport ducks	01	7,504	8,144	7,546	39,845	52,438	46,155	5.31	6.44	6.12
	02	1,238	1,214	1,089	13,467	11,734	9,996	10.88	9.67	9.18
	Total	8,742	9,358	8,635	53,312	64,172	56,151	6.10	6.86	6.49
Canada Geese	01	1,531	1,811	1,538	3,063	9,603	7,533	2.00	5.32	4.90
	02	619	607	514	2,869	3,347	2,719	4.63	5.51	5.29
	Total	2,150	2,418	2,052	5,932	12,977	10,152	2.76	5.37	4.95
Other geese	01	92	49	81	214	49	128	2.33	1.00	1.58
	02	15	0	5	91	0	10	6.07	0	2.00
	Total	107	49	86	305	49	138	2.85	1.00	1.60
Sea ducks	01	2,021	3,476	3,081	15,436	25,475	24,090	7.64	7.33	7.82
	02	211	455	367	4,514	8,137	6,854	21.39	17.88	18.68
	Total	2,232	3,931	3,448	19,950	33,612	30,944	8.94	8.55	8.97
Snipe	01	3,185	3,078	2,982	13,568	21,250	18,452	4.26	6.90	6.19
	02	166	126	123	1,232	431	414	7.37	3.42	3.37
	Total	3,351	3,204	3,105	14,791	21,681	18,866	4.41	6.77	6.08
Prince Edward Island										
Sport ducks	01	3,027	2,833	2,555	30,466	21,134	18,203	10.07	7.46	7.12
Canada Geese	01	1,594	1,908	1,761	8,410	11,828	10,655	5.28	6.20	6.05
Other geese	01	13	26	43	13	26	93	1.00	1.00	2.16
Sea ducks	01	737	448	412	3,562	2,291	1,840	4.83	5.11	4.47
Snipe	01	482	186	147	2,571	983	842	5.33	5.28	5.73
Woodcock	01	134	79	58	295	186	135	2.20	2.35	2.33
Nova Scotia										
Sport ducks	01	3,611	4,343	3,914	46,380	41,279	35,308	12.84	9.50	9.02
	02	2,345	2,550	2,462	24,679	23,636	20,426	10.53	9.27	8.30
	Total	5,956	6,893	6,376	71,059	64,915	55,734	11.93	9.42	8.74
Canada Geese	01	1,181	1,364	1,096	4,792	4,461	3,742	4.06	3.27	3.41
	02	702	610	494	1,746	2,321	1,681	2.49	3.80	3.40
	Total	1,883	1,974	1,590	6,538	6,782	5,423	3.47	3.44	3.41
Other geese	01	17	32	41	17	329	285	1.00	10.00	6.95
	02	17	23	20	17	46	35	1.00	2.00	1.75
	Total	34	55	61	34	366	320	1.00	6.65	5.25
Sea ducks	01	3,183	2,494	2,152	26,561	22,337	18,247	8.34	8.96	8.48
	02	565	895	734	2,636	5,008	3,990	4.67	5.60	5.44
	Total	3,748	3,389	2,886	29,197	27,345	22,237	7.79	8.07	7.71
Snipe	01	667	465	448	3,919	2,497	2,239	5.88	5.37	5.00
	02	565	582	499	3,919	2,134	1,867	6.94	3.67	3.74
	Total	1,232	1,047	947	7,838	4,631	4,106	6.36	4.42	4.34
Woodcock	01	616	512	491	5,956	6,692	5,429	9.67	13.07	11.06
	02	274	384	358	2,807	1,764	2,043	10.24	4.59	5.71
	Total	890	896	849	8,763	8,456	7,472	9.85	9.44	8.80

Table 3 (cont'd)
Number of successful hunters and birds harvested
by hunters from samples A, B and D

Species group	Survey stratum	Successful hunters			Birds harvested			Birds per hunter		
		1971	1972	1972	1971	1972	1972	1971	1972	1972
		Samples B and D	A, B and D	Samples A, B and D	Samples B and D	A, B and D	Samples B and D	A, B and D	Samples A, B and D	
New Brunswick										
Sport ducks	01	5,273	5,476	5,005	42,410	46,986	41,608	8.04	8.58	8.30
	02	1,704	1,707	1,600	14,212	10,344	9,501	8.34	6.06	5.94
	Total	6,977	7,183	6,605	56,622	57,330	51,109	8.12	7.98	7.74
Canada Geese	01	357	715	626	633	1,698	1,625	1.77	2.37	2.60
	02	633	342	344	2,077	1,398	1,408	3.28	4.09	4.09
	Total	990	1,057	970	2,710	3,096	3,033	2.74	2.93	3.13
Other geese	01	49	0	16	65	0	16	1.33	0	1.00
	02	114	131	106	341	211	164	2.99	1.61	1.55
	Total	163	131	122	406	211	180	2.89	1.61	1.48
Sea ducks	01	519	590	563	2,352	4,894	4,173	4.53	8.29	7.41
	02	422	394	358	2,077	1,420	1,494	4.92	3.60	4.17
	Total	941	984	921	4,429	6,314	5,667	4.71	6.42	6.15
Snipe	01	389	362	359	1,249	1,448	1,279	3.21	4.00	3.56
	02	178	131	136	1,298	501	721	7.29	3.82	5.30
	Total	567	493	495	2,547	1,949	2,000	4.49	3.95	4.04
Woodcock	01	665	906	833	4,105	9,014	7,344	6.17	9.95	8.82
	02	276	288	260	3,066	3,805	2,885	11.11	13.21	11.10
	Total	941	1,194	1,093	7,171	12,819	10,229	7.62	10.74	9.36
Quebec										
Sport ducks	01	26,823	29,343	26,354	359,513	453,401	364,381	13.40	15.45	13.83
	02	7,360	6,234	5,990	94,966	57,900	50,489	12.90	9.29	8.43
	Total	34,183	35,577	32,344	454,479	511,301	414,870	13.30	14.37	12.83
Canada Geese	01	8,645	6,034	5,328	32,631	21,329	19,118	3.77	3.53	3.59
	02	3,015	2,074	1,989	13,389	5,768	5,736	4.44	2.78	2.88
	Total	11,660	8,108	7,317	46,020	27,098	24,854	3.95	3.34	3.40
Other geese	01	2,084	2,200	1,730	13,921	8,542	6,937	6.68	3.88	4.10
	02	1,286	767	697	7,005	2,169	2,312	5.45	2.83	3.32
	Total	3,370	2,967	2,427	20,926	10,711	9,249	6.21	3.61	3.81
Sea ducks	01	2,438	1,743	1,541	17,956	9,963	8,358	7.36	5.72	5.42
	02	2,438	1,483	1,331	20,926	9,507	9,163	8.58	6.41	6.88
	Total	4,876	3,226	2,872	38,882	19,470	17,521	7.97	6.04	6.10
Coots	01	3,103	2,186	1,827	8,468	5,822	4,674	2.73	2.66	2.56
	02	488	206	199	3,901	990	967	7.99	4.81	4.86
	Total	3,591	2,392	2,026	12,369	6,812	5,641	3.44	2.85	2.78
Snipe	01	4,788	4,781	4,261	27,266	24,835	21,277	5.69	5.19	4.99
	02	1,374	1,954	1,691	17,911	9,028	7,697	13.04	4.62	4.55
	Total	6,162	6,735	5,952	45,177	33,863	28,974	7.33	5.03	4.87
Woodcock	01	4,522	4,941	4,202	29,128	34,770	28,313	6.44	7.04	6.74
	02	488	939	791	2,217	5,629	4,370	4.54	5.99	5.52
	Total	5,010	5,943*	5,038*	31,345	41,026*	33,134*	6.26	6.90	6.58

*Contains data to which no stratum can be assigned.

Table 3 (cont'd)
Number of successful hunters and birds harvested
by hunters from samples A, B and D

Species group	Survey stratum	Successful hunters			Birds harvested			Birds per hunter		
		1971	1972	1972	1971	1972	1972	1971	1972	1972
		Samples B and D	Samples A, B and D	Samples A, B and D	Samples B and D	Samples A, B and D	Samples B and D	Samples A, B and D	Samples A, B and D	
Ontario										
Sport ducks	01	20,392	21,011	19,507	227,941	302,695	262,034	11.18	14.41	13.43
	02	39,421	47,579	45,477	335,166	436,456	423,478	8.50	9.17	9.31
	03	16,761	11,699	13,176	175,905	135,023	130,160	10.50	11.54	9.88
	Total	76,564	80,289	78,160	739,012	874,174	815,672	9.65	10.89	10.44
Canada Geese	01	3,095	2,820	2,436	9,344	13,011	11,042	3.02	4.61	4.53
	02	7,067	5,906	5,811	16,469	13,530	13,457	2.33	2.29	2.32
	03	2,161	1,393	1,727	8,059	6,136	4,166	3.73	4.40	2.41
	Total	12,323	10,119	9,974	33,872	32,677	28,665	2.75	3.23	2.87
Other geese	01	234	595	517	468	2,340	2,088	2.00	3.93	4.04
	02	642	1,007	1,093	2,978	1,399	1,811	4.64	1.39	1.66
	03	1,752	664	732	12,907	3,094	3,229	7.37	4.66	4.41
	Total	2,628	2,266	2,342	16,352	6,833	7,128	6.22	3.02	3.04
Sea ducks	01	1,051	665	632	5,840	3,659	3,097	5.56	5.50	4.90
	02	1,051	806	731	6,424	2,944	2,644	6.11	3.65	3.62
	03	409	199	306	1,869	499	996	4.57	2.51	3.25
	Total	2,511	1,670	1,669	14,133	7,102	6,737	5.63	4.25	4.04
Coots	01	2,102	1,265	1,279	7,008	3,612	3,464	3.33	2.86	2.71
	02	2,044	1,082	904	10,571	2,653	2,139	5.17	2.45	2.37
	03	1,343	587	684	3,971	1,835	2,285	2.96	3.13	3.34
	Total	5,723	2,934	2,867	21,550	8,100	7,888	3.77	2.76	2.75
Snipe	01	934	465	517	2,920	2,328	2,651	3.13	5.01	5.13
	02	2,219	2,191	2,243	9,753	10,812	10,645	4.40	4.93	4.75
	03	934	364	350	3,387	1,350	1,539	3.63	3.71	4.40
	Total	4,087	3,020	3,110	16,060	14,490	14,835	3.93	4.80	4.77
Woodcock	01	5,840	4,614	4,167	28,032	41,424	35,817	4.80	8.98	8.59
	02	4,789	5,885	5,617	21,900	34,649	30,055	4.57	5.89	5.35
	03	1,343	1,124	977	10,804	4,914	4,544	8.04	4.37	4.65
	Total	11,972	11,756*	10,902*	60,737	81,452*	70,854*	5.07	6.93	6.50
Manitoba										
Sport ducks	01	22,088	25,873	25,205	268,516	349,530	327,392	12.20	13.51	12.99
	02	5,169	2,264	2,237	63,716	29,538	28,781	12.33	13.05	12.87
	Total	27,177	28,137	27,442	332,232	379,068	356,173	12.23	13.47	12.98
Canada Geese	01	9,590	14,439	13,485	31,598	46,968	43,073	3.30	3.25	3.19
	02	2,471	1,054	973	12,060	4,902	4,485	4.88	4.65	4.61
	Total	12,061	15,493	14,458	43,658	51,870	47,558	3.62	3.35	3.29
Other geese	01	3,771	6,000	5,469	9,817	16,914	15,180	2.60	2.82	2.78
	02	553	473	445	2,406	2,093	2,048	4.35	4.42	4.60
	Total	4,324	6,473	5,914	12,223	19,007	17,228	2.83	2.94	2.91
Sea ducks	01	163	0	21	553	0	21	3.39	0	1.00
	02	130	0	0	618	0	0	4.75	0	0
	Total	293	0	21	1,171	0	21	4.00	0	1.00
Coots	01	748	378	453	1,983	1,460	1,595	2.65	3.86	3.52
	02	163	67	67	2,503	266	288	15.36	3.97	4.30
	Total	911	445	520	4,486	1,726	1,883	4.92	3.88	3.62
Snipe	01	650	368	458	2,471	1,409	1,452	3.80	3.83	3.17
	02	163	98	87	585	590	519	3.59	6.02	5.97
	Total	813	466	545	3,056	1,999	1,971	3.76	4.29	3.62
Sandhill Cranes	01	130	108	113	228	108	113	1.75	1.00	1.00
	02	0	0	0	0	0	0	0	0	0
	Total	130	108	113	228	108	113	1.75	1.00	1.00

*Contains data to which no stratum can be assigned.

Table 3 (cont'd)
Number of successful hunters and birds harvested
by hunters from samples A, B and D

Species group	Survey stratum	Successful hunters			Birds harvested			Birds per hunter		
		1971	1972	1972	1971	1972	1972	1971	1972	1972
		Samples B and D	Samples A, B and D	Samples A, B and D	Samples B and D	Samples A, B and D	Samples B and D	Samples A, B and D	Samples A, B and D	
Saskatchewan										
Sport ducks	01	17,458	18,679	17,376	288,383	273,320	243,491	16.52	14.63	14.01
	02	8,854	8,564	8,706	160,417	164,049	153,759	18.12	19.16	17.66
	03	14,534	14,584	14,480	241,356	235,107	217,893	16.61	16.12	15.05
	Total	40,846	41,827	40,585*	690,157	672,476	615,166*	16.90	16.08	15.16
Canada Geese	01	8,102	8,865	7,851	35,082	37,843	31,555	4.33	4.27	4.02
	02	2,840	2,238	2,082	10,399	7,466	7,061	3.66	3.34	3.39
	03	3,258	2,978	2,695	10,190	12,429	10,102	3.13	4.17	3.75
	Total	14,200	14,081	12,628	55,671	57,738	48,718	3.92	4.10	3.86
Other geese	01	5,889	8,458	7,554	27,439	36,860	33,322	4.66	4.36	4.41
	02	543	1,051	893	2,046	3,232	2,588	3.77	3.08	2.90
	03	1,545	2,015	1,720	5,722	6,082	4,925	3.70	3.02	2.86
	Total	7,977	11,524	10,167	35,207	46,174	40,835	4.41	4.01	4.02
Sea ducks	01	0	111	79	0	1,612	1,146	0	14.52	14.51
	02	42	69	72	251	279	240	5.98	4.04	3.33
	03	0	64	44	0	519	353	0	8.11	8.02
	Total	42	244	195	251	2,410	1,739	5.98	9.88	8.92
Coots	01	919	265	357	5,429	1,658	1,620	5.91	6.11	4.54
	02	459	266	434	2,005	1,648	2,667	4.37	10.03	6.15
	03	585	705	688	2,506	2,493	2,236	4.28	3.17	3.25
	Total	1,963	1,236	1,479	9,940	5,799	6,523	5.06	4.69	4.41
Snipe	01	585	166	198	1,712	667	655	2.93	4.02	3.31
	02	125	274	296	376	1,531	1,554	3.01	5.59	5.25
	03	209	129	178	3,259	259	492	15.59	2.01	2.76
	Total	919	569	672	5,387	2,457	2,701	5.86	4.32	4.02
Sandhill Cranes	01	292	333	277	585	1,223	910	2.00	3.67	3.29
	02	84	55	39	125	55	39	1.49	1.00	1.00
	03	543	671	569	2,005	1,320	1,081	3.69	1.97	1.90
	Total	919	1,059	885	2,715	2,598	2,030	2.95	2.45	2.29
Alberta										
Sport ducks	01	22,407	20,524	19,117	328,991	288,406	249,829	14.68	14.05	13.07
	02	27,793	31,360	30,650	518,967	610,071	550,325	18.67	19.45	17.96
	Total	50,200	51,884	49,767	847,958	898,477	800,154	16.89	17.32	16.08
Canada Geese	01	7,723	6,976	5,884	36,430	32,110	25,611	4.72	4.60	4.35
	02	6,504	8,652	8,154	24,846	34,319	31,588	3.82	3.97	3.87
	Total	14,227	15,628	14,038	61,276	66,429	57,199	4.31	4.25	4.07
Other geese	01	3,607	4,619	3,978	10,263	18,987	15,681	2.85	4.11	3.94
	02	2,693	5,817	5,139	6,300	22,846	19,632	2.34	3.93	3.82
	Total	6,300	10,436	9,117	16,563	41,833	35,313	2.63	4.01	3.87
Sea ducks	01	203	154	135	711	2,009	1,469	3.50	13.05	10.88
	02	152	276	190	203	829	572	1.34	3.00	3.01
	Total	355	430	325	914	2,838	2,041	2.57	6.60	6.28
Coots	01	1,270	386	376	3,455	1,005	944	2.72	2.60	2.51
	02	1,016	531	558	6,504	991	1,564	6.40	1.87	2.80
	Total	2,286	917	934	9,959	1,996	2,508	4.36	2.18	2.69
Snipe	01	254	493	545	2,998	1,682	1,617	11.80	3.41	2.97
	02	864	1,209	1,144	6,808	4,376	4,123	7.88	3.62	3.60
	Total	1,118	1,702	1,689	9,806	6,058	5,740	8.77	3.56	3.40

*Contains data to which no stratum can be assigned.

Table 3 (cont'd)
Number of successful hunters and birds harvested
by hunters from samples A, B and D

Species group	Survey stratum	Successful hunters			Birds harvested			Birds per hunter		
		1971	1972	1972	1971	1972	1972	1971	1972	1972
			Samples B and D	Samples A, B and D		Samples B and D	Samples A, B and D		Samples B and D	Samples A, B and D
British Columbia										
Sport ducks	01	7,345	7,393	7,353	82,631	106,209	91,045	11.25	14.37	12.38
	02	8,627	10,883	9,860	145,937	202,696	169,632	16.92	18.63	17.20
	Total	15,972	18,276	17,213	228,568	308,905	260,677	14.31	16.90	15.14
Canada Geese	01	1,778	1,816	1,607	6,033	4,143	3,729	3.39	2.28	2.32
	02	787	1,866	1,508	2,273	5,298	4,071	2.89	2.84	2.70
	Total	2,565	3,682	3,115	8,306	9,441	7,800	3.24	2.56	2.50
Other geese	01	58	401	295	87	903	623	1.50	2.25	2.11
	02	437	381	362	1,691	826	700	3.87	2.17	1.93
	Total	495	782	657	1,778	1,729	1,323	3.59	2.21	2.01
Sea ducks	01	58	0	0	904	0	0	10.41	0	0
	02	612	700	679	3,060	4,451	3,536	5.00	6.36	5.21
	Total	670	700	679	3,964	4,451	3,536	5.92	6.36	5.21
Coots	01	437	474	422	1,603	1,811	2,655	3.67	3.82	6.29
	02	233	64	162	495	636	636	2.12	9.94	3.93
	Total	670	538	584	2,098	2,447	3,291	3.13	4.55	5.64
Snipe	01	204	473	355	495	3,778	2,570	2.43	7.99	7.24
	02	904	971	961	4,401	10,895	9,397	4.87	11.22	9.78
	Total	1,108	1,444	1,316	4,896	14,673	11,967	4.42	10.16	9.09
Mourning Doves	01	466	327	290	3,643	4,917	3,361	7.82	15.04	11.59
	02	87	381	362	146	1,715	1,772	1.68	4.50	4.90
	Total	553	708	652	3,789	6,632	5,133	6.85	9.37	7.87
Band-tailed Pigeons	01	175	0	0	379	0	0	2.17	0	0
	02	1,078	1,684	1,535	8,715	11,269	9,458	8.08	6.69	6.16
	Total	1,253	1,684	1,535	9,094	11,269	9,458	7.26	6.69	6.16

Table 4
Recreational activity provided by the hunting of ducks and
geese using samples A, B and D, 1972

Province	Survey stratum	Total harvest	Total recreation-days	For active hunters			Estimated active hunters
				Average season bag	Average daily bag	Average recreation-days	
Nfld.	01	77,809	144,593	5.9	0.6	10.9	13,276
	02	19,483	12,341	13.2	1.6	8.4	1,476
	Total	97,292	156,934	6.6	0.6	10.6	14,752
PEI	01	30,796	38,909	8.6	0.8	10.9	3,568
	Total	30,796	38,909	8.6	0.8	10.9	3,568
NS	01	57,587	62,713	9.8	0.9	10.6	5,892
	02	26,136	32,680	6.7	0.8	8.3	3,916
	Total	83,723	95,393	8.5	0.8	9.7	9,808
NB	01	47,425	45,341	7.7	1.0	7.4	6,134
	02	12,570	20,229	5.5	0.6	8.8	2,289
	Total	59,995	65,570	7.1	0.9	7.8	8,423
Que.	01	398,799	305,616	12.7	1.3	9.7	31,507
	02	67,705	75,890	7.3	0.9	8.2	9,286
	Total	466,504	381,506	11.4	1.2	9.4	40,793
Ont.	01	278,264	224,665	11.1	1.2	9.0	24,864
	02	441,393	396,426	7.7	1.1	6.9	57,257
	03	138,555	128,219	8.1	1.1	7.5	17,155
	Total	858,212	749,310	8.6	1.1	7.5	99,276
Man.	01	385,672	222,662	11.4	1.7	6.6	33,745
	02	35,318	20,482	12.2	1.7	7.1	2,888
	Total	420,990	243,144	11.5	1.7	6.6	36,633
Sask.	01	309,519	145,727	15.1	2.1	7.1	20,521
	02	163,651	71,388	17.1	2.3	7.5	9,559
	03	233,277	109,306	14.2	2.1	6.6	16,451
	Total	706,470*	326,421	15.2	2.2	7.0	46,554
Alta.	01	292,594	149,722	13.0	2.0	6.7	22,460
	02	602,123	281,270	17.4	2.1	8.1	34,556
	Total	894,717	430,992	15.7	2.1	7.6	57,016
BC	01	95,398	67,899	10.1	1.4	7.2	9,445
	02	177,941	131,350	15.3	1.4	11.3	11,623
	Total	273,339	199,249	13.0	1.4	9.5	21,068

*Contains data to which no stratum can be assigned.

Table 5
Recreational activity provided by the hunting of coots, snipe,
woodcock, pigeons, doves and cranes, using samples A, B and D

Province	Survey stratum	Total harvest	Total recreation-days	For active hunters			Estimated active hunters
				Average season bag	Average daily bag	Average recreation-days	
Nfld.	01	19,391	37,779	4.1	0.5	8.0	4,742
	02	467	3,065	1.5	0.2	9.6	318
	Total	19,858	40,844	3.9	0.5	8.1	5,060
PEI	01	1,050	3,390	1.4	0.3	4.5	760
	Total	1,050	3,390	1.4	0.3	4.5	760
NS	01	7,670	9,515	5.4	0.8	6.6	1,433
	02	3,922	6,448	3.0	0.6	5.0	1,289
	Total	11,592	15,978*	4.2	0.7	5.8	2,737*
NB	01	8,688	10,816	4.1	0.8	5.1	2,094
	02	3,608	4,388	5.4	0.8	6.5	673
	Total	12,296	15,288*	4.4	0.8	5.5	2,784*
Que.	01	55,170	57,311	5.7	1.0	6.0	9,624
	02	13,885	17,747	4.7	0.8	6.0	2,980
	Total	69,507*	75,961*	5.5	0.9	6.0	12,649*
Ont.	01	45,854	52,515	5.4	0.9	6.2	8,485
	02	49,329	61,618	3.4	0.8	4.3	14,305
	03	8,369	20,779	2.6	0.4	6.5	3,206
	Total	103,991*	135,453*	4.0	0.8	5.2	26,193*
Man.	01	3,603	13,522	0.8	0.3	3.1	4,344
	02	898	1,002	3.1	0.9	3.5	290
	Total	4,501	14,524	1.0	0.3	3.1	4,634
Sask.	01	3,543	7,866	1.5	0.5	3.3	2,356
	02	5,148	4,795	4.1	1.1	3.8	1,265
	03	3,881	6,197	1.9	0.6	3.0	2,074
	Total	12,572	18,858	2.2	0.7	3.3	5,695*
Alta.	01	5,069	11,956	1.5	0.4	3.5	3,447
	02	5,998	15,648	1.3	0.4	3.3	4,700
	Total	11,067	27,604	1.4	0.4	3.4	8,147
BC	01	8,588	6,532	7.5	1.3	5.7	1,148
	02	21,357	18,841	6.4	1.1	5.6	3,353
	Total	29,945	25,373	6.7	1.2	5.6	4,501

*Contains data to which no stratum can be assigned.

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