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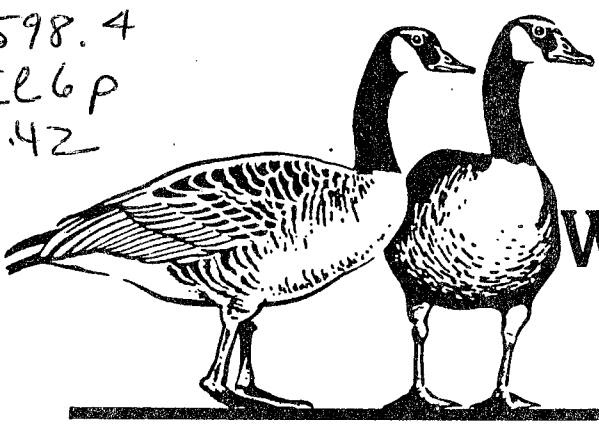
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CANADA GOOSE HARVEST AND HUNTER ACTIVITY IN THE SOUTHERN ILLINOIS QUOTA ZONE DURING THE 1982 SEASON

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Abstract: Regulations governing the taking of Canada geese in the Southern Illinois Quota Zone were changed significantly for the 1982 season. These included changes in the requirements for the non-commercial license and a change in the commercial license fee structure from a previously complicated system to a flat \$15.00 per blind or pit. The 1982 quota zone season opened on 8 November and closed 40 days later on 17 December. The statewide goose season, including the quota zone, was shortened from 50 days in 1981 to 40 days because of a continued decline in the Mississippi Valley Population (MVP) of Canada geese. The quota assigned to Illinois in 1982 was reduced from 30,000 in 1981 to 27,000 with 65 percent or 17,500 assigned to the quota zone. Goose hunters made 42,432 trips to the quota zone and harvested a total of 17,863 Canada geese for a success rate of .42 geese per trip. Hunters on commercial clubs in Alexander County reported the highest success rate (.52) but commercial clubs in the Crab Orchard vicinity and in Union County followed closely with respective success rates of .51 and .49. Hunters in Williamson/Jackson Counties accounted for 43 percent of the total quota zone goose harvest. Alexander County and Union County followed with 35 percent and 22 percent of the total quota zone goose harvest. Hunter harvest on non-commercial areas, no longer covered by the registration requirement, was estimated using the past 9-year mean percent harvest occurring on these areas in each of the counties. A total of 106 commercial clubs were licensed in 1982. The Canada goose population wintering on areas in the quota zone peaked at 166,000 in early November. An extremely mild winter resulted in an unusually slow goose migration to the southern Illinois wintering areas. Aerial inventories did not increase after the early November peak so that late winter counts were far below those recorded in previous years. Tail fans collected from geese harvested in Union and Alexander Counties revealed a low age ratio of 1.1:1. This data combined with the age ratio of geese harvested on the public hunting areas at Union County and Horseshoe Lake resulted in an overall age ratio of 1.9:1. This low age ratio in the 1982 harvest confirmed predictions of below average production in the spring of 1982. Mild weather, a high proportion of adults in the flock and a reduced population combined to make the 1982 season one of the poorest on record in the quota zone.

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INTRODUCTION

The Southern Illinois Quota Zone is composed of Alexander, Union, Williamson and Jackson Counties. The three major goose wintering areas within these counties include the state-owned 7900-acre Horseshoe Lake Refuge in Alexander County, the 44,000-acre Crab Orchard National Wildlife Refuge in Williamson and Jackson Counties, and the 6200-acre state-owned Union County Refuge. The quota zone system has been in effect in southern Illinois since 1960 with only minor changes in regulations through the years. The quota zone hunter registration system is recognized as one of the most efficient and accurate methods of monitoring Canada goose harvest in local areas where geese are concentrated and hunting pressure is intensive.

This report and the Canada Goose Harvest and Population Study in Illinois is a part of a Federal Aid, Pittman Robertson Project, Number W-43-R (31).

QUOTA ZONE REGULATIONS

Since 1973 the regulations pertaining to the requirements for licenses and permits in the quota zone have remained unchanged. During this 9-year period, all areas where goose hunting occurred in the 4-county quota zone were required to have either a non-commercial (free) or commercial license.

Commercial licenses were issued for those areas where the landowner or operator was reimbursed either directly or indirectly for the privilege of hunting geese on his property. The cost of the license was dependent on the number of pits or blinds on the area. The basic permit fee during the period 1973-1981 was \$50.00 for 5 or less blinds or pits; \$125.00 for more than 5 and not more than 10 blinds or pits; and \$25.00 for each 10 blinds or pits or fraction thereof over 10 blinds or pits. The commercial license was therefore necessary for clubs charging a daily hunting fee, those leasing hunting rights, and all other clubs that in any way received reimbursement for allowing goose hunting on their property.

Non-commercial licenses were issued at no cost to the landowner or operator that allowed goose hunting on his property but received no compensation for granting this privilege.

All goose hunters in the quota zone were required to register daily and report their daily harvest. Daily kill registers were mailed by the clubs to the Union County Refuge Office twice weekly throughout the goose season for tabulation of the harvest during each report period. This system obviously afforded a high degree of accuracy in monitoring the harvest throughout the goose season. It also identified the areas in the 4 counties where Canada geese were being harvested.

Although the quota zone permit and registration system had proven to be successful, it placed a considerable burden upon goose hunters in this part of the state. The regulation that no goose could be killed until a license was issued and a register signed was overly restrictive. This undoubtedly forced many hunters to violate when the isolated opportunity to kill a goose presented itself. This regulation also created major problems regarding the legality of killing Canada geese on the Mississippi River and other areas such as Kinkaid Lake, Cedar Lake, Oakwood Bottoms and the Scatters, where registration was impossible. Administration problems had also developed in recent years. The number of non-commercial permits had increased to the point where handling and mailing costs were nearly overbearing. Mailing of over 300 applications followed by another mailing of packets of licenses, registration sheets and other materials had become quite costly and time consuming. Recognition of the shortcomings associated with the quota zone, non-commercial registration system prompted waterfowl program staff to closely review past harvest records and to consider other alternatives that might alleviate these problems.

The non-commercial registration system was initiated to identify the location and magnitude of the goose harvest on outlying private lands. After nine years, these questions have been adequately answered. Table 1 summarizes the quota zone goose season for each year from 1973 through 1981. During this period, quota size ranged from 22,000 to 40,000 and season length ranged from 27 days to 70 days. Except for an unusually large number of free permits in 1977, the number increased gradually and consistently from 207 in 1973 to 358 in 1981.

Although the number of non-commercial areas increased each year, the annual harvest on these areas from 1973-1981 remained relatively constant (Table 2). This indicates that most of the significant goose harvest areas had been licensed and new outlying areas licensed each year did not result in any increase in harvest. By far the greatest portion of the goose harvest on non-commercial areas occurred around Crab Orchard NWR (Table 2). This is obviously due to the greater size of the refuge and the increased number of private land parcels around the refuge boundary. Over the past nine years, the harvest on non-commercial areas averaged 6.2 percent of the Alexander County harvest, 8.6 percent of the Union County harvest and 32.7 percent of the goose harvest in Williamson and Jackson Counties. Harvest on free areas accounted for an average of 16.7 percent of the annual quota zone harvest over the last 9 years. The information in Table 2 indicates that over 80 percent of the quota zone harvest consistently occurred on commercial clubs. It also became apparent that harvest on non-commercial areas was relatively constant and that the mean percent of the county harvest from the last 9 years could be used to account for the harvest on outlying areas. There is no reason to expect the level of harvest on outlying areas to change from that recorded during the last 9 years. Using a long-term mean percent of each of the counties' total harvest to account for the unreported kill might even prove to be more accurate than the registration system because of a decline in the reporting rate for non-commercial areas over the last few years.

In September, 1982, HB 2409 was signed into law. This new law changed several sections of the Wildlife Code dealing with waterfowl permit requirements and the fee structure for commercial licenses. As a result of these changes, a non-commercial permit was no longer required for any area in the quota zone for the 1982 season unless the area was actively managed for the taking of waterfowl. All other regulations pertaining to the taking of geese on these areas remained unchanged. A commercial license was still required for those areas where reimbursement was received for goose hunting and a non-commercial permit was required for those areas actively managed for waterfowl hunting. A managed area is defined as one where the elevation of water is intentionally manipulated or where food is provided or increased in availability for the purpose of attracting waterfowl. The only change in regulations pertaining to the commercial license was a change in the permit fee structure. The complicated system of permit fees defined earlier in this report was changed to a flat \$15.00 per blind or pit. Obviously, the most important outcome of this change in regulations was the elimination of the licensing and hunter registration requirement for over 300 non-commercial clubs.

METHODS

As in the past, registration packets containing daily registration sheets, club permit, administrative order, and self addressed envelopes were prepared and distributed to all landowners in the quota zone applying for a commercial goose license. All commercial clubs in the quota zone submitted daily registration sheets twice weekly throughout the season, and harvest inventories were updated each time by Union County field office personnel. The information presented in Table 2 was used during the 1982 goose season to account for the unreported harvest in outlying areas. Following tabulation of the harvest from the registration sheets submitted by commercial clubs each report period, total harvest in each of the counties was calculated using the following equations:

TOTAL HARVEST IN ALEXANDER COUNTY	=	<u>Reported Harvest on Commercial Clubs in Alexander County</u>
		.94 (9-year average harvest on non- commercial areas .06)
TOTAL HARVEST IN UNION COUNTY	=	<u>Reported Harvest on Commercial Clubs in Union County</u>
		.915 (9-year average harvest on non- Commercial areas .085)
TOTAL HARVEST IN WILL./JACK. COUNTIES	=	<u>Reported Harvest on Commercial Clubs in Will./Jack. Counties</u>
		.675 (9-year average harvest on non- commercial areas .325)
TOTAL QUOTA ZONE HARVEST	=	Sum of 4 County Totals

Individual county percentages were used rather than the mean total quota zone percentage (16.7) so that inaccurate estimates due to disproportionate county harvests would not occur.

An automatic answering service was again provided in the phone system at the Union County office. Harvest data and other season information such as Canada goose population levels on each of the refuges were updated on the recording each time a harvest count and aerial inventory were made. This service has proven to be very useful to interested hunters throughout the state and club operators in the quota zone region. Media services also find this to be helpful as a source of immediate information on the progress of the goose season in southern Illinois.

Canada goose populations on the three wintering areas in the quota zone, Rend Lake, and Ballard County, Kentucky were monitored by weekly aerial inventories. Biologists with the Illinois Department of Conservation and the U.S. Fish and Wildlife Service conducted the weekly inventories using the Department's Cessna 337 or Cessna 210.

Age ratio information was gathered from examination of tail fans collected from geese harvested on the Union County and Horseshoe Lake Public Hunting Areas and private clubs from both Union and Alexander Counties. Tail fans from geese harvested on private clubs were collected from local commercial pickers and stored individually in envelopes for future examination by biologists.

RESULTS AND DISCUSSION

The 1982 quota zone goose season opened on 8 November and closed 40 days later on 17 December. The assigned quota for the zone was reduced from 24,000 in 1981 to 17,500 for the 1982 season. Quotas have declined for the last 5 years from 40,000 in 1978, 20,000 in 1979, and 27,000 in 1980. Season length in the quota zone was also reduced for the second consecutive year from 70 days in 1980 to 50 days in 1981 and 40 days in 1982.

The 1982 season was essentially a re-run of the 1981 season. For the second consecutive year, a reduced quota combined with good hunter success early in the season prompted predictions of a short season. However, after the initial early migration, extremely mild weather discouraged a continued influx of geese into southern Illinois. This, combined with another spring with below average production and many adults in the flock, caused a sharp decline in hunter success following the first two weeks of the season. As a result, the season unexpectedly continued to the 40-day limit.

Hunting Pressure

Goose hunters reported a total of 28,669 trips to commercial clubs in the quota zone during the 1982 season. This included 3,424 hunter-trips to the Horseshoe Lake and Union County Public Hunting Areas. An additional 13,763 hunter-trips were estimated for outlying areas that did not have to report during the 1982 season. This resulted in an estimated total for all areas in the quota zone of 42,432 hunter-trips. The average daily number of hunters was 1,061 which was below the low daily average of 1,139 reported during the 1981 season.

On commercial clubs, 39 percent of the hunting activity occurred in Alexander County, 25 percent in Union County and 35 percent in Williamson/Jackson Counties. When all areas are considered, however, the Crab Orchard area reported the bulk of the hunter activity with 43 percent of the total quota zone hunter effort (Table 3).

Commercial licenses were issued to 106 clubs in the quota zone in 1982. This compares with 109 such permits in 1981. Over 50 percent of the commercial clubs were located in the Crab Orchard vicinity. Commercial clubs in this area are smaller than the clubs in Union and Alexander Counties and this tends to equalize hunter effort between the three areas (Table 3).

Hunters made a total of 4,805 trips to public hunting areas in the quota zone during the 1982 season. This comprised nearly 17 percent of the hunter effort on commercial clubs in the quota zone. The Union County Public Hunting Area received the most use with 2,327 hunters for the season. This represented 32 percent of the total hunting effort on commercial clubs in Union County in 1982 (Table 4).

Harvest

The final harvest in the quota zone for the 1982 season was 17,863 geese. This was only a few hundred geese over the assigned quota of 17,500. Licensed commercial clubs harvest 14,647 geese, or 82 percent of the total quota zone harvest. This was nearly the same portion of the harvest as reported in 1981.

Annual goose harvest in the individual counties for the last 5 seasons are compared in Table 5. Hunters in the Crab Orchard area harvested 7,727 geese or 43 percent of the total harvest in the quota zone. In Alexander County, 6,281 geese were harvested or 35 percent of the total. Union County hunters harvested 3,855 geese or 22 percent of the total quota zone harvest.

The average number of geese harvested per day during the 1982 season was 447. This was down 12 percent from the low average daily harvest of the 1981 season and 50 percent below the 1980 season average.

Hunters reported harvesting the greatest number of geese during the first report period. Between 8 November and 11 November 5,531 geese were harvested in the quota zone. Canada goose harvest throughout the rest of the season ranged from an early season high of 2,776 geese per report period to a late season low of 110 geese (Table 6).

Canada goose harvest on outlying areas was estimated as explained earlier in this report using a 9-year average of 6 percent in Alexander County, 8.5 percent in Union County and 32.5 percent in Williamson/Jackson Counties. This resulted in an estimated harvest of 3,216 geese on non-commercial areas which represented 18 percent of the total quota zone goose harvest.

Goose hunters harvested 1,393 geese on the public hunting areas in the quota zone during the 1982 season. This was a 47 percent decline from the 1981 harvest of 2,648 geese. Goose harvest on the Union County Public Hunting Area declined for the 4th consecutive year with a harvest of 1,098 geese. The harvest of 146 geese on the Horseshoe Lake Public Hunting Area was the lowest ever recorded in recent years (Tables 7 and 8). The harvest on public hunting areas represented 8 percent of the total quota zone harvest and 9.5 percent of the harvest on commercially licensed areas in the quota zone.

Hunter Success

Hunter success in the quota zone was good early in the 1982 season but declined sharply after the first two weeks. Poor hunter success during the last half of the season resulted in a low overall success rate of .42 for the season. This equals the success rate of 1979 and represents the lowest success rate recorded in the last 10 years (Table 9). Alexander County hunters reported the highest success rate in the quota zone with a success rate of .51. Union and Williamson/Jackson Counties followed with respective success rates of .45 and .36. Hunter success on commercial clubs varied only slightly throughout the zone with a success rate of .52 in Alexander County, .51 in Williamson and Jackson Counties and .49 in Union County.

Success rates on non-commercial areas varied from a low of .22 in Williamson and Jackson Counties to .24 in Union County and a high of .38 in Alexander County.

The Union County Public Hunting Area again reported the highest success rate on public lands in the quota zone with a success rate of .47. Table 10 shows that the 1982 season on the Horseshoe Lake Public Hunting Area was one of the poorest on record. The .13 success rate at Horseshoe Lake was the lowest recorded in at least the last 10 years (Table 7). Although hunter success was much better at Union County, it was still far below the 5-year average. It is apparent from Table 10 that hunter interest in the public hunting areas at Union County and especially Horseshoe Lake is declining because of below average hunter success.

Population Status

The Canada goose population in the quota zone peaked at 166,000 in early November. Because of extremely mild weather throughout the flyway, Canada goose numbers did not increase as usual on wintering areas later in the season (Table 11). Normally, peak populations are inventoried in late December or January. For example, the 1981 peak quota zone population of 180,000 occurred in late January and the 1980 peak population of 207,000 occurred in early January. Canada goose population peaks in southern Illinois have declined consistently since 1977 (Figure 1).

The number of Canada geese on wintering areas in October and the first half of November of 1982 was higher than the number inventoried in 1981. However, later in the season the total number of Canada geese in southern Illinois and west Kentucky was substantially lower than in 1981 and 1980 (Figure 2). This was partially due to mild winter weather conditions and a slow (nearly non-existent) migration to the wintering areas following the initial, early migration. Ample food and open water on areas to the north of the wintering refuges resulted in thousands of geese lingering in the northern latitudes into late January.

Peak population on the three wintering areas in the quota zone were achieved at approximately the same time during the 1982 season (Figure 3). All three areas peaked unusually early in the season. Crab Orchard National Wildlife Refuge peaked at 86,000 on 8 November. Horseshoe Lake peaked at 54,000 on 1 November, and Union County Refuge reached its peak of 30,000 in early November. Except for Crab Orchard National Wildlife Refuge, these inventories compare poorly with the 1981 peak counts of 60,000 at Union County, 85,000 at Horseshoe Lake and 74,000 at Crab Orchard National Wildlife Refuge.

The number of geese at Rend Lake in 1982 was far below the number recorded in previous years. As usual, the population at Rend Lake was slow in building, however, the usual large influx of geese in late winter did not occur in 1982. As a result, the population peaked at 40,000 in early February instead of over 100,000 as it has done the past several years.

Ballard County, Kentucky also experienced an extremely slow 1982 season. Canada goose numbers remained far below normal in late winter because of the unusual absence of a late winter goose migration. The 1982 peak population of 12,000 Canada geese at Ballard County compares poorly with the 1981 peak of 140,000.

Table 12 compares age ratios of Canada geese harvested in Union County and Alexander County during the 1982 season. Age ratios in both counties reflected below average production in the spring of 1982. The 1.7 ratio in Alexander County in 1982 was substantially lower than the 2.4 ratio reported during the 1981 season. Likewise, the 0.9 ratio in Union County in 1982 was significantly less than the 1981 ratio of 1.4. The overall age ratio in the quota zone harvest declined from 2.0 in 1981 to 1.1 in 1982. This confirmed predictions of below average production in the spring of 1982 and partially explained the poor hunter success during the 1982 hunting season.

As in 1981, age ratios in the harvest on the public hunting areas started out high but declined rapidly later in the season (Table 13). Final age ratios for the season were 1.3 immatures per adult at Horseshoe Lake and 2.7 immatures per adult at Union County. The 1982 age ratios are compared with the previous 17 years in Table 14.

CONCLUSIONS

In general, the 1982 quota zone goose season was one of the poorest on record. The downward trend in the Mississippi Valley Canada goose population continues to be a critical problem for waterfowl managers. Poor production in 1981 and 1982 has not helped in attempts to reverse the decline in the goose flock. An Illinois Waterfowl Hunter Questionnaire Survey revealed a significant overharvest in Illinois during the 1981 season. Overharvest in Illinois and Wisconsin, coupled with poor production in recent years has contributed to the decline in the goose flock. A reduced quota (27,000) a shortened season (40 days) and a reduced bag limit (1 bird outside of the quota zone) were steps taken in Illinois during the 1982 season to avoid another overharvest. The 1982 Illinois waterfowl hunter survey and the Federal estimate of waterfowl harvest in Illinois both revealed that the more stringent regulations effectively controlled the goose harvest in Illinois in 1982. It is hoped that controlled harvest in the flyway will be combined with good production to bring about a reversal in the downward trend in the MVP. A return to liberal goose quotas, season lengths and bag limits will be justified only by significant increases in the present level of the goose flock that winters in southern Illinois.

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Table 1. Annual Southern Illinois Quota Zone goose season statistics, 1973-1982.

<u>Year</u>	<u>Quota Size</u>	<u>Season Length</u>	<u>Date Open</u>	<u>Date Closed</u>	<u>Harvest</u>	<u>Avg. Daily Succ. Rate</u>	<u>Pop. Peak</u>	<u>Hunter Trips</u>	<u>No. of Comm. Clubs</u>	<u>Free Permits</u>
1973	24,000	63	11/19/73	01/20/74	22,871	.41	209,500	56,245	101	207
1974	22,000	38	11/25/74	01/01/75	24,673	.49	217,000	49,971	60	230
1975	22,000	30	11/23/75	12/23/75	25,075	.57	180,000	44,310	58	239
1976	22,000	27	11/22/76	12/18/76	25,865	.59	316,000	44,080	61	296
1977	29,000	44	11/21/77	01/03/78	30,747	.53	405,000	57,472	72	347
1978	40,000	69	11/13/78	01/20/79	40,490	.57	253,000	70,983	146	290
1979	29,000	70	11/69/79	01/17/80	29,193	.42	248,000	69,414	137	307
1980	27,000	31	11/03/80	12/03/80	27,835	.68	220,000	40,888	113	332
1981	24,000	50	11/09/81	12/28/81	25,328	.44	180,000	56,964	109	358
1982	17,500	40	11/08/82	12/17/82	17,863	.42	166,000	42,432	106	---

Table 2. Canada goose harvest on non-commercial areas in the Southern Illinois Quota Zone expressed as percent of total harvest, 1973-1981.

	Alexander County		Union County		Will./Jackson Counties		Quota Zone	
	% of Total County Harvest Areas	No. Free Areas	% of Total County Harvest Areas	No. Free Areas	% of Total County Harvest Areas	No. Free Areas	% of Total County Harvest Areas	No. Free Areas
1973	3	--	11	--	35	--	15	(207)
1974	9	(31)	9	(39)	45	(160)	21	(230)
1975	7	(32)	15	(44)	36	(163)	18	(239)
1976	10	(39)	14	(39)	28	(218)	19	(296)
1977	7	(44)	11	(32)	38	(271)	23	(347)
1978	5	(38)	4	(22)	29	(230)	12	(290)
1979	4	(33)	3	(24)	25	(250)	13	(307)
1980	5	(39)	4	(21)	25	(272)	13	(332)
1981	6	(38)	6	(23)	33	(297)	17	(358)
Mean	6.2		8.6		32.7		16.7	

Table 3. Hunter-trips and harvest of Canada geese in the southern Illinois quota zone during the 1982 season.

County	Number of Permits Issued	Hunter Trips	Percent By		Harvest	Percent By		Success Rate
			Permit	Counties		Permit	Counties	
Alexander (Horseshoe Lake)								
Licensed Club ^a	33	11,305	92		5,904	94.0		.52
Other Areas ^b		983	08		377	06.0		.38
Total		12,288	100	29	6,281	100.0	35	.51
Union County								
Licensed Clubs ^a	18	7,256	84		3,527	91.5		.49
Other Areas ^b		1,382	16		328	08.5		.24
Total		8,638	100	20	3,855	100.0	22	.45
Williamson/Jackson (Crab Orchard NWR)								
Licensed Clubs ^a	55	10,108	47		5,216	67.5		.51
Other Areas ^b		11,398	53		2,511	32.5		.22
Total		21,506	100	51	7,727	100.0	43	.36
Grand Total	106	42,432	100	100	17,863		100	.42

^a Licensed clubs are those areas that charge a daily fee for hunting and areas covered by lease or other monetary agreement. Number of hunter trips and harvest are reported directly by daily registration of hunters.

^b Other areas represent all other areas where goose hunting occurs. In 1982 the free permit was eliminated and hunters were no longer required to register to hunt on free areas. Number of hunter trips and harvest were estimated using the past 9-year mean percent harvest and percent hunter trips occurring on free areas in each of the counties.

Table 4. Contribution of public hunting areas to the hunting effort and harvest of Canada geese during the 1982 season.

County	Hunter Trips	Percent of County Commercial Club Total	Harvest	Percent of County Commercial Club Total	Success Rate
Alexander ^a	1,097	9.7	146	2.5	.13
Union ^b	2,327	32.1	1,098	31.1	.47
Williamson/Jackson ^c	1,381	13.7	149	2.9	.11
All counties	4,805	16.8	1,393	9.5	.29

^a Horseshoe Lake Public Hunting Area, a licensed club.

^b Union County Public Hunting Area, a licensed club.

^c Crab Orchard NWR Controlled Hunting Area, a licensed club.

Table 5. Harvest of Canada geese by county in the Southern Illinois Quota Zone, 1978 to 1982 ^a

County	1978		1979		1980		1981		1982	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alexander	16,348	40	8,331	28	9,810	35	7,766	31	6,281	35
Union	10,915	27	7,480	26	5,733	21	7,133	28	3,855	22
Williamson/Jackson	$\frac{13,227}{40,490}$	$\frac{33}{100}$	$\frac{13,382}{29,193}$	$\frac{46}{100}$	$\frac{12,292}{27,835}$	$\frac{44}{100}$	$\frac{10,429}{25,328}$	$\frac{41}{100}$	$\frac{7,727}{17,863}$	$\frac{43}{100}$
Total:										

^a Harvest data for 1978-1981 are from daily registers of licensed commercial and non-commercial clubs. In 1982 the non-commercial or "free" license and registration requirement was eliminated so that the harvest on these areas was estimated using past 9-year county harvest averages.

Table 6. Goose harvest in the quota zone throughout the 1982 season.

	Canada Goose Harvest on Commercial Areas						*Total Harvest in Quota Zone Geese	*Harvest Per Report Period Geese
	Alexander		Union		Will./Jackson			
	Hunters	Geese	Hunters	Geese	Hunters	Geese		
11/11/82	2,028	2,009	1,151	802	1,912	1,699	5,531	
11/14/82	3,544	3,217	2,170	1,243	3,260	2,381	8,307	
11/18/82	5,112	3,995	2,882	1,805	4,445	2,868	10,472	
11/21/82	6,454	4,690	3,808	2,226	5,591	3,417	12,484	
11/25/82	7,621	4,943	4,749	2,546	6,468	3,860	13,761	
11/28/82	9,158	5,455	5,529	2,856	7,860	4,361	15,385	
12/02/82	9,928	5,559	6,145	2,964	8,503	4,509	15,833	
12/05/82	10,619	5,662	6,459	3,033	9,052	4,621	16,184	
12/09/82	10,883	5,704	6,700	3,068	9,362	4,705	16,392	
12/12/82	11,068	5,765	6,879	3,159	9,674	4,890	16,829	
12/16/82	11,253	5,876	7,187	3,489	10,029	5,190	17,753	
12/17/82	11,305	5,904	7,256	3,527	10,108	5,216	17,863	

* Includes harvest on non-commercial areas

Table 7. Hunter use, harvest and hunter success on the Horseshoe Lake Public Hunting Area 1973-1982.

Year	Season Length	Number Hunters	Average Number Hunters Per Day	Geese Harvested	Success Rate
1973	63	3,857	54	875	.31
1974	38	2,724	82	1,527	.58
1975	30	2,373	91	960	.40
1976	27	2,154	94	562	.26
1977	44	2,439	66	678	.28
1978	69	3,381	56	1,457	.43
1979	70	2,514	37	434	.17
1980	31	1,427	46	1,194	.84
1981	50	1,986	40	494	.25
1982	40	1,097	27	146	.13

Table 8. Hunter use, harvest and hunter success on the Union County Public Hunting Area 1973-1982

Year	Season Length	Number Hunters	Average Number Hunters Per Day	Geese Harvested	Success Rate
1973	63	4,266	80	1,593	.37
1974	38	2,980	93	1,964	.66
1975	30	2,489	96	2,292	.92
1976	27	2,302	99	1,832	.80
1977	44	3,045	82	962	.32
1978	69	4,998	83	3,441	.69
1979	70	5,524	81	2,800	.51
1980	31	2,681	86	2,325	.87
1981	50	3,647	73	1,927	.53
1982	40	2,327	58	1,098	.47

Table 9.. Success rates for Canada goose hunters in the Southern Illinois Quota Zone, 1975-1982.

COUNTY	1975	1976	1977	1978	1979	1980	1981	1982
Alexander	.55	.49	.56	.64	.37	.79	.42	.51
Union	.50	.62	.35	.66	.50	.72	.56	.45
Williamson/Jackson	.43	.65	.59	.46	.41	.60	.40	.36
All Counties	.57	.59	.53	.57	.42	.68	.44	.42

Table 10. Comparison of the 1982 season on the Union County and Horseshoe Lake Public Hunting Areas with the 1981 season and the 1976-1980, 5-year average.

	Union County Public Hunting Area 5-year Average (76-80)		Horseshoe Lake Public Hunting Area 5-year Average (76-80)	
	1981	1982	1981	1982
Percent of Total County Hunters	32	27	12	11
Percent of Total County Harvest	33	28	10	06
Number of Hunters	3,888	2,327	2,383	1,986
Average Number Hunters Per Day	85	58	53	40
Harvest	2,290	1,098	65	494
Success Rate	.60	.47	.40	.25
				1982
				1,097
				146
				.13

Table 11. Canada goose populations on wintering areas throughout the fall and winter of 1982-83.

DATE:	BALLARD COUNTY	HORSESHOE LAKE	UNION COUNTY	CRAB ORCHARD*	REND LAKE	TOTAL
10-12-82	100	28,000	18,000	50,000	3,000	99,100
10-18-82	4,500	45,000	21,000	70,000	3,000	143,500
10-25-82	3,000	52,000	24,000	77,000	3,000	159,000
11-01-82	5,500	54,000	26,000	83,000	7,000	175,500
11-08-82	4,000	50,000	30,000	86,000	12,000	182,000
11-15-82	5,000	54,000	25,000	58,000	8,000	150,000
11-24-82	5,000	50,000	26,000	53,000	11,000	145,000
11-29-82	5,000	50,000	31,000	48,000	14,000	148,000
12-06-82	5,000	40,000	27,000	44,000	14,000	130,000
12-13-82	9,200	34,000	30,000	20,000	24,000	127,200
12-20-82	6,000	32,000	21,000	30,000	22,000	111,000
01-03-83	12,000	30,000	26,000	24,000	18,000	110,000
01-17-83	10,000	30,000	35,000	33,000	35,000	143,000
02-03-83	12,000	40,000	28,000	23,000	40,000	143,000

*Includes Campbell Pond

Table 12. Age ratio in the Illinois Canada goose harvest during the 1982 season. Data gathered from tail fans collected throughout the season from commercial pickers in Alexander County and Union County.

<u>Area</u>	<u>Immatures</u>	<u>Adults</u>	<u>Ratio</u>
Alexander County	85	51	1.67:1
Union County	<u>127</u>	<u>138</u>	<u>.92:1</u>
Total	212	189	1.12:1

Table 13. Age ratio in the Canada goose harvest on the Union County and Horseshoe Lake Public Hunting Areas during the 1982 season.

<u>Date</u>	<u>Horseshoe Lake P.H.A.</u>		<u>Union County P.H.A.</u>	
	<u>Age Ratio</u>	<u>Sample Size</u>	<u>Age Ratio</u>	<u>Sample Size</u>
Nov. 09*	5.5:1	11	4.1:1	101
Nov. 10-Nov. 19	1.5:1	82	3.4:1	552
Nov. 20-Nov. 29	.8:1	42	1.7:1	184
Nov. 30-Dec. 09	2.0:1	9	1.9:1	72
Dec. 10-Dec. 17	<u>Area Closed</u>	<u> </u>	<u>2.3:1</u>	<u>146</u>
For the 40-Day Season	1.3:1	144	2.7:1	1,055

* First day of hunting

Table 14. Age ratios, expressed as immatures per adult, among Canada geese harvested on the Horseshoe Lake and Union County Public Hunting Areas, 1965 to 1982.

Year	Horseshoe Lake	Union County
1965	---	3.7
1966	1.1	2.6
1967	0.8	2.6
1968	1.2	2.2
1969	0.9	1.2
1970	0.9	3.4
1971	1.4	2.8
1972	0.8	1.1
1973	0.8	1.6
1974	1.8	2.5
1975	2.6	4.1
1976	2.5	2.7
1977	1.7	1.3
1978	1.2	1.2
1979	---	2.8
1980	3.2	4.5
1981	2.6	2.2
1982	<u>1.3</u>	<u>2.7</u>
MEAN	1.6	2.5

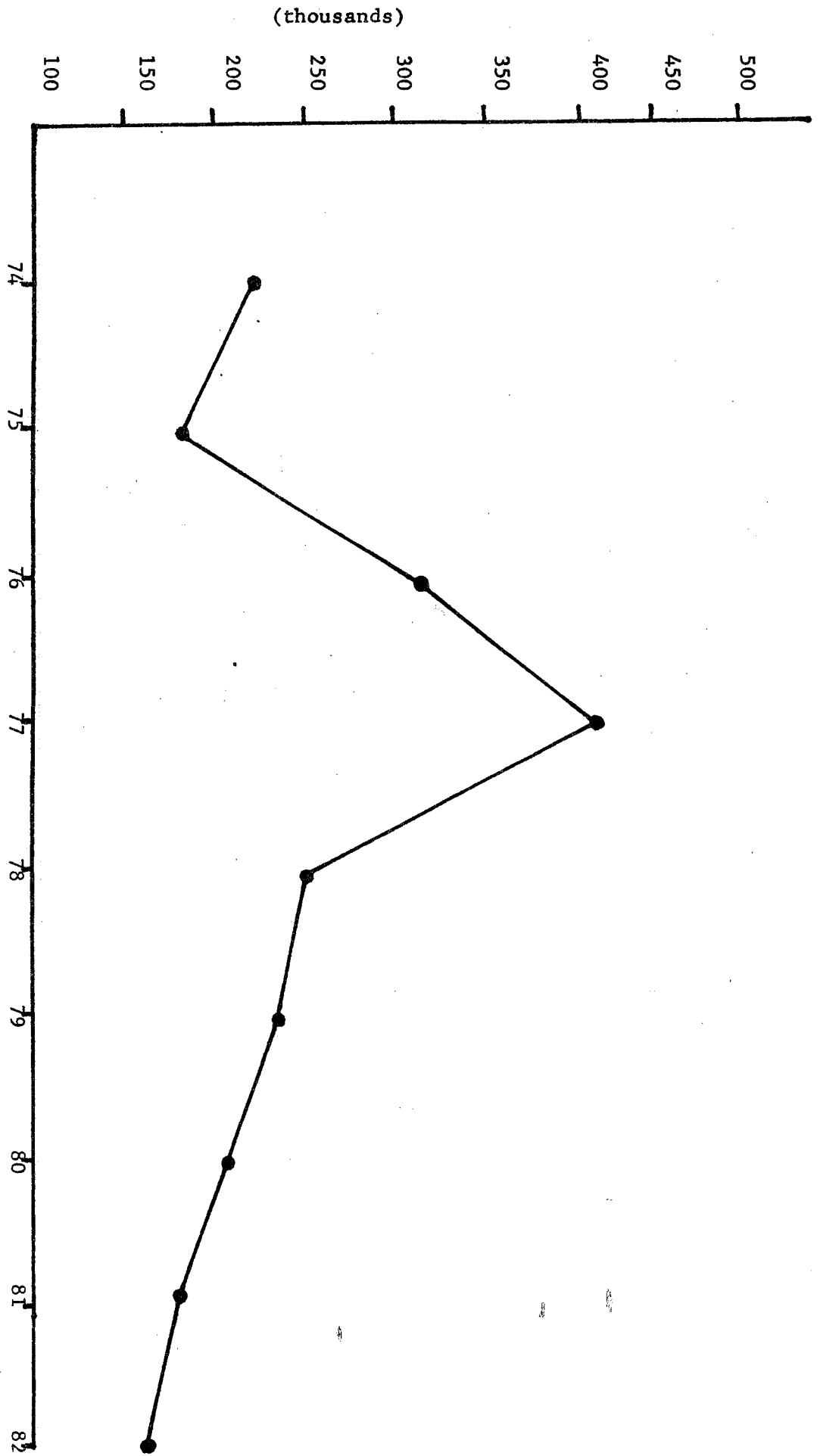


FIGURE 1. Peak populations of Canada geese in the southern Illinois quota zone, 1974 to 1982.

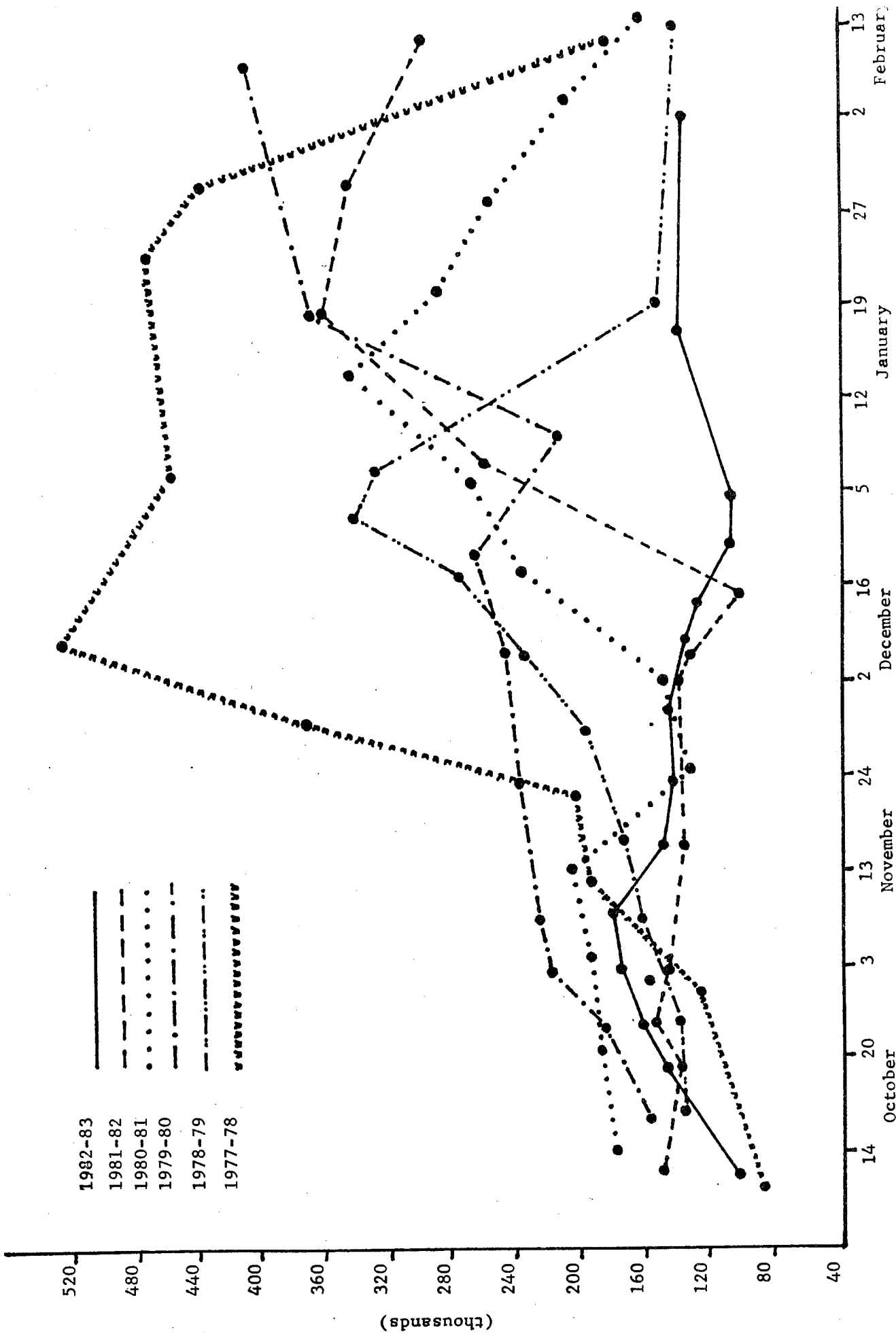


Figure 2. Numbers of Canada geese in southern Illinois (Quota Zone, Rend Lake and Ballard County, Kentucky combined) during the fall and winter, 1977-78 to 1982-83.

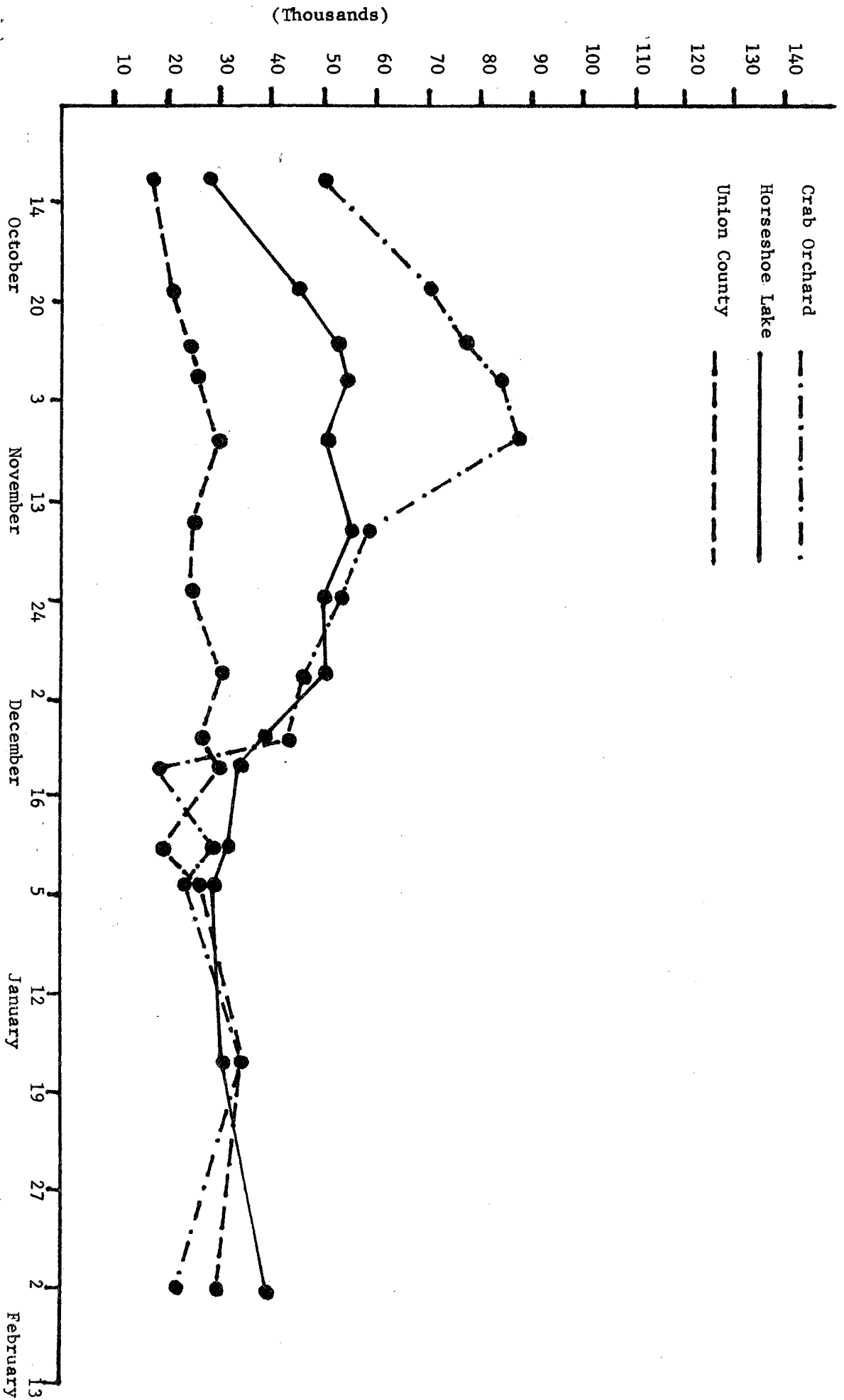


Figure 3. Numbers of Canada geese on the three refuges in southern Illinois quota zone during fall and winter, 1982-83.