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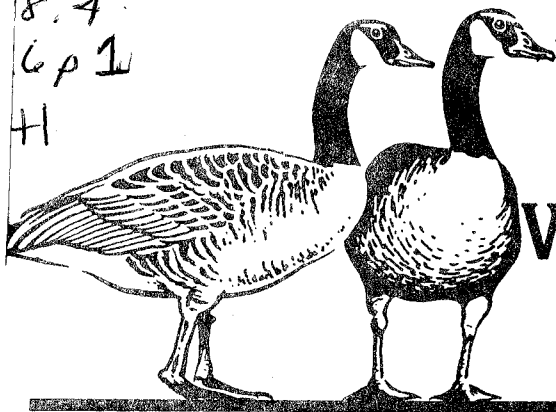
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WATERFOWL PROGRAM 876-220

ILLINOIS DEPARTMENT OF CONSERVATION
DIVISION OF FISH AND WILDLIFE RESOURCES

WATERFOWL HARVEST AND HUNTER USE AT REND LAKE DURING THE 1980 AND 1981 SEASONS

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ABSTRACT: Hunter use and harvest at Rend Lake in 1980 and 1981 were determined from hunter registration sheets. Hunters were required to register before each day's hunt. The duck season in the southern zone, which includes Rend Lake, opened on 30 October 1980 and closed 50 days later on 18 December 1980. Rend Lake duck hunting opened on 29 October in 1981 and closed on 17 December for a 50 day total that year. The goose season opened concurrent with the duck season in 1980 and on 12 November in 1981. Closing date for goose season was 31 December both years. Waterfowl hunters on public lands at Rend Lake harvested 5,493 ducks and 3,508 geese in 1980 and 6,285 ducks and 2,827 geese in 1981. In 1980, 79 licensed goose clubs reported a total harvest of 2,117 geese on private lands. In 1981, 61 licensed clubs harvested 1,916 Canada geese. It is impossible to identify hunter-trips made specifically for geese during the duck season, however, during the period 21-31 December 1980, 2,182 hunter-trips were made after the close of duck season and 4,106 such hunter-trips were made in 1981. The overall success rate for duck hunters at Rend Lake was .39 ducks per trip in 1980 and .46 during the 1981 season. The overall success rate for hunters who harvested geese both during and after the duck season was .22 geese per trip for the 1980 season and .16 in 1981. The in-season Canada goose population peaked at 25,000 on 16 December 1980 and 18,000 on 2 December 1981. Peak duck populations were recorded from 8-15 November, 1980 when 7,505 ducks were inventoried at Rend Lake. A peak population of 29,300 ducks was inventoried during the period of 25 October to 1 November 1981.

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INTRODUCTION

Waterfowl harvest at Rend Lake has been monitored by some type of system since 1975. The 1981 season was the third consecutive season that hunters were required to register at all access areas to public hunting at Rend Lake before each day's hunt. All private and commercial clubs around the area were required to keep a record of the hunters and the number of geese harvested. This was accomplished with the use of the "hunting club" registration sheets, the same used by commercial and private clubs in the Southern Illinois Quota Zone. An accurate determination of harvest and hunter use is crucial for the continued evaluation of the waterfowl management program at Rend Lake.

The Rend Lake Wildlife Management Area is a cooperative project between the U.S. Army Corps of Engineers and the Illinois Department of Conservation. It consists of approximately 16,000 acres of land and water in Jefferson and Franklin Counties. Implementation of the Waterfowl harvest and hunter use survey was partially funded by Pittman-Robertson Projects W-43-R and W-83-D.

A note of thanks is extended to all Division of Lands, Division of Fish and Wildlife Resources, and the U.S. Army Corps of Engineers personnel who assisted in the distribution and collection of hunter registration sheets throughout the 1980 and 1981 seasons at Rend Lake. Also, a note of thanks is extended to Division of Law Enforcement personnel who conducted bag checks and enforced the registration regulations. The harvest and hunter use survey would not be possible without the willing assistance of many dedicated people. Finally, a very special note of thanks is extended to all of the sportsmen who participated in the 1980 and 1981 seasons, whose cooperation and efforts to comply to the registration regulation have helped make this project a success.

METHODS

Waterfowl hunter use and harvest data at Rend Lake were again collected by the use of registration sheets. This has proven to be a more accurate survey than the windshield cards and bag checks used for the 1975-1978 seasons. Registration boxes and signs were repaired or replaced by newly constructed signs and boxes at all 43 hunter access areas around the lake and management areas. Hunters were required to sign in before hunting and report their daily kill following each day's hunt. Registration sheets were collected on a daily basis and the number of hunters and harvest by species were tallied for each day of the season.

Canada goose harvest and hunter activity on private land surrounding Rend Lake was monitored by the use of a registration and reporting system similar to that used in the Southern Illinois Quota Zone. Commercial licenses were issued for areas where reimbursement was received for goose hunting privileges. Free permits were issued for all other areas where goose hunting occurred. Hunters were required to register before hunting and report their harvest after each day's hunt. Hunting registers were then submitted by club owners at the end of the season to the Union County Field Office for tabulation of harvest and hunter use.

Canada goose population data were gathered from aerial inventories conducted weekly (weather permitting) throughout the season. These inventories were conducted by biologists with the Illinois Department of Conservation using the DOC Cessna 210 or Cessna 337. Aerial duck inventories were conducted bi-weekly by Robert Crompton of the Illinois Natural History Survey.

RESULTS AND DISCUSSION

The 1980 duck season opened in the southern zone and at Rend Lake on 30 October and closed 50 days later on 18 December. In 1981 the season for ducks at Rend Lake opened on 29 October and closed on 17 December for a 50-day total. The goose season opened concurrent with the duck season in 1980 and on 12 November 1981. Closing date for the goose season was 31 December for both

years. In 1981 the goose season framework in MVP harvest areas in the flyway was shortened from 70 days to 50 days. The 1981 season was, therefore, 12 days shorter than the previous year. Harvest and hunter success rates for the 1980 season reflect the extremely dry and somewhat mild weather conditions of that year. Waterfowl inventories showed increased numbers at Rend Lake through the 1981 season. However, extremely mild weather prevented any substantial increase in hunter harvest and success.

A total of 96 private goose clubs were licensed in the Rend Lake area in 1980. This was a dramatic increase over the 37 clubs licensed in 1979. The number of goose clubs was down slightly in 1981 when 79 clubs were issued licenses.

HUNTER USE

A total of 16,134 hunter-trips were reported on Rend Lake public hunting areas during the 1980 waterfowl season. This figure slightly increased in 1981 when 17,873 hunter-trips were made to these areas. Following the close of the duck season, goose hunters accounted for 2,182 of these hunter-trips in 1980. Their numbers jumped 88 percent during the 1981 goose season and totaled 4,106.

The average number of duck hunters per day at Rend Lake through the duck season was 279 in 1980 and 275 in 1981. These represent substantial increases over the 209 hunters per day averaged during the 1979 duck season. For 1980, the week with the heaviest hunting intensity during the season was the third report period (21-30 November) when 3,006 hunters visited Rend Lake (Table 1). In 1981 the vast increase in the number of goose hunters after the close of duck season (4,106 hunter-trips from 18-31 December) made this, the sixth and last report period, the week with the heaviest hunting pressure. Overall hunter-trips increased 24 percent in 1980 and another 10 percent during the 1981 waterfowl season. Licensed private goose clubs, who complied with regulations and returned their registration sheets, reported a total of 4,203 hunter-trips during the 1980 season and 4,095 hunter-trips in 1981. This compares with 3,212 hunter-trips to private goose clubs in 1979.

HARVEST

Waterfowl hunters at Rend Lake harvested 5,493 ducks and 3,508 Canada geese on the public hunting areas in 1980. During the 1981 waterfowl season, 6,285 ducks and 2,827 geese were harvested from these areas. The peak harvest period for ducks in both 1980 and 1981 was during the first 10 days of the season. Nearly 2,000 ducks were killed at Rend Lake during this period in both 1980 and 1981 (Table 1). Canada goose harvest was greatest during the last ten-day report period of each season. Peak goose harvest for a ten-day period rose 62 percent from 750 in 1980 to 1,214 in 1981. This increase reflects the even greater rise in the number of hunter-trips made during the last report period of the 1981 waterfowl season. Overall Canada goose harvest was down 19 percent during the 1981 season in comparison to 1980. In 1980, hunters at Rend Lake bagged 83 percent more geese than the 1,917 taken in 1979. Duck harvest rose two percent in 1980 and another 14 percent in 1981. An analysis of the 1980 and 1981 waterfowl harvest on individual Rend Lake public hunting areas is shown in

Tables 2A and 2B. Table 3 compares the harvest at Rend Lake by individual species for the past seven years. Registers received from 79 of the 96 licensed goose clubs in the Rend Lake vicinity revealed a harvest of 2,117 geese on private lands in 1980. In 1981, 61 licensed clubs reported a harvest of 1,916 Canada geese. Only 734 Canada geese were reported in the harvest on private lands surrounding Rend Lake in 1979.

HUNTER SUCCESS

The 1980 survey at Rend Lake revealed a duck hunting success rate of .39 ducks per trip. The 1981 success rate was higher with .46 ducks harvested per trip. Opening day (30 October) was tabulated separately for the 1980 season and showed a success rate of 1.03 ducks per trip. Opening day figures were not available for the 1981 waterfowl season.

Goose hunting is often incidental to duck hunting at Rend Lake. This makes the hunter success rate for geese rather unmeaningful. Based on total hunters and total geese harvested, the success rate for 1980 was .22 birds per trip and .16 birds per trip in 1981. Following the close of the 1980 duck season, goose hunters harvested geese at a rate of .34 birds per trip. Despite greatly increased harvest and hunter intensity late in the 1981 goose season, success rates were lower at .30 birds per trip following the duck season (Table 1). Goose hunting success on private lands in the vicinity at Rend Lake was quite good throughout the 1980 season. Hunters averaged .50 birds per trip. This more than doubled the success rate of .23 birds per trip reported by hunters in 1979. Goose hunter success on private lands in 1981 dropped slightly to .46 geese per hunter-trip.

Compared to 1979, duck hunting success was down 25 percent in 1980 but rose 18 percent in 1981. Goose hunting success on public hunting areas was up 47 percent in 1980 and down again 27 percent in 1981. The 1980 and 1981 success rates for duck hunters at Rend Lake were the lowest ever recorded since the survey was initiated (Table 4).

POPULATION STATUS

The in-season Canada goose population at Rend Lake peaked at 25,000 on 16 December 1980 and 18,000 on 2 December 1981 (Table 5; Figure 1). These inventories represent a decline from the peak of 32,000 observed during the 1979 season. Later in the winter, after the close of the 1980 hunting season, 88,000 Canada geese were inventoried at Rend Lake. There were 120,000 Canada geese inventoried at Rend Lake in late winter of 1981. The 1980 peak was down 2 percent from the 1979 peak of 90,000. In the winter of 1981-82 the Rend Lake goose population peak of 120,000 represented a 36 percent increase above the 1980 Canada goose peak number for the area.

A peak population of 7,505 ducks was inventoried during the period of 8-15 November 1980 (Table 6; Figure 2). This represents a decrease of 73 percent from the peak population of 27,615 reported in 1979. The peak duck population was back up 280 percent in 1981 when 29,300 ducks were inventoried during the period of 25 October to 1 November.

CONCLUSIONS

The low duck hunter success rate was undoubtedly related to the reduced waterfowl populations at Rend Lake throughout the 1980 season. The extremely dry and somewhat mild weather conditions also contributed to a reduced hunter success rate. Drought conditions in the prairie provinces of Canada resulted in reduced waterfowl production in the spring of 1980 and a higher ratio of adults in the fall flight contributed to lower hunter success rates for the 1980 season.

Drought conditions in prairie Canada continued for the second consecutive year in 1981. Although waterfowl numbers were higher at Rend Lake in 1981, mild weather and many adults in the mallard population once again resulted in low hunter success.

Hunter pressure continues to increase at Rend Lake. Problems with overcrowding were observed on several of the more popular public access areas during the 1981 season. It may be necessary to modify hunter management regulations to alleviate these problems during the 1982 season.

The use of the registration system, with minor problems, continues to be very effective. This system will continue for future years as a useful tool in helping to insure proper management of the waterfowl populations at Rend Lake.

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Table 1. Waterfowl harvest and hunter success on the public hunting areas at Rend Lake, Illinois throughout the 1980 and 1981 seasons.

1980

Date	No. of Hunters	Harvest			Hunter Success	
		Mallards	Total Ducks	Geese	Ducks	Geese
Oct. 30*	627	222	647	208	1.03	.33
Oct. 31-Nov. 09	2,650	620	1,270	457	.48	.17
Nov. 10-Nov. 20	2,567	844	1,004	568	.39	.22
Nov. 21-Nov. 31	3,006	502	854	531	.28	.18
Dec. 01-Dec. 10	2,598	857	1,135	521	.47	.20
Dec. 11-Dec. 20**	2,504	682	583	473	.23	.19
Dec. 21-Dec. 31	2,182	---	---	750	---	.34
Season Totals	16,134	3,727	5,493	3,508	.39	.22

*Opening Day

**Last day of duck season (Dec. 19)

1981

Date	No of Hunters	Harvest			Hunter Success	
		Mallards	Total Ducks	Geese	Ducks	Geese
Oct. 29-Nov. 07*	2,295	806	1,829	17	.80	.01
Nov. 08-Nov. 17	2,637	451	786	190	.30	.07
Nov. 18-Nov. 27	2,852	857	1,093	346	.38	.12
Nov. 28-Dec. 07	2,994	1,306	1,470	212	.49	.07
Dec. 08-Dec. 17**	2,989	995	1,107	848	.37	.28
Dec. 18-Dec. 31	4,106	---	---	1,214	---	.30
Season Totals	17,873	4,415	6,285	2,827	.46	.16

*Separate figures were not available for Opening Day.

**Last day of duck season (Dec. 17)

Table 2A. Waterfowl harvest and hunter use on public hunting areas at Rend Lake, Illinois for the 1980 waterfowl season.

NAME OF PUBLIC ACCESS AREA	TOTAL	TOTAL HARVEST		
	HUNTERS	MALLARDS	DUCKS	GEESE
Balbinos	87	6	7	33
Bonnie Church Camp	674	161	374	14
Bonnie Dam	308	77	142	50
Bonnie North	140	5	61	20
Bonnie South	1,155	233	318	208
Buck Creek	566	199	297	6
Casey Fork & Marina	668	97	113	234
Casey Fork Dam	442	135	210	143
Casey Fork East	27	29	45	0
Casey Fork West	68	3	5	17
Casey Fork North	102	15	22	22
Casey Fork South	195	12	21	44
Cottonwood	1,482	1,147	1,373	188
County Line	356	11	13	90
Crossroads	28	0	17	2
Dam West	89	13	31	15
Dareville	1,002	376	645	23
Elk Prairie	116	20	50	5
Genevo	234	11	24	29
All Gun Creek	395	110	145	28
Hamilton Branch	2	0	1	1
Honkers Point	708	8	15	165
Ina	584	36	84	220
Ken Gray	94	3	3	65
Lambrusco	368	1	5	111
Lone Cedar	1	2	2	0
Lone Pine	41	0	7	11
Mine 21	433	9	19	118
Muddy North	4	8	11	0
Muddy South	0	0	0	0
Nason North	256	122	251	3
Nason South	39	3	27	5
Pin Oak Flats	479	422	468	11
RLCD	62	1	3	4
Sail Boat Harbor	100	7	29	26
Silo	702	140	180	38
Turnip Patch	1,318	73	132	542
Waltonville East	419	103	164	0
Waltonville Dam	152	34	77	16
Walton (Others)	95	13	47	69
Ward Branch	792	38	51	312
Wayne Fitzgerald	25	1	0	0
Whistling Wings	1,326	727	66	620
Total	16,134	3,727	*5,555	3,508

*Slight difference from figure in Table 1 due to difference in treatment of data.

Table 2B. Waterfowl harvest and hunter use on public hunting areas at Rend Lake, Illinois for the 1981 waterfowl season.

NAME OF PUBLIC ACCESS AREA	TOTAL	TOTAL HARVEST		
	HUNTERS	MALLARDS	DUCKS	GEESE
Balbinos	53	--	--	--
Bonnie Church Camp	818	895	1,038	21
Bonnie Dam	322	54	104	46
Bonnie North	56	10	18	7
Bonnie South	1,330	93	203	239
Buck Creek	783	246	405	66
Casey Fork & Marina	490	14	22	106
Casey Fork Dam	551	135	177	90
Casey Fork East	217	240	272	4
Casey Fork So. & No.	--	--	--	--
Casey Fork West	221	20	41	38
Cottonwood	1,288	777	1,118	82
County Line	472	6	12	141
Crossroads	23	2	3	--
Dam West	127	20	46	15
Dareville	860	357	492	30
Elk Prairie	100	14	51	3
Genevo	90	3	30	7
All Gun Creek	374	84	119	20
Hamilton Branch	3	--	--	--
Honkers Point	758	3	11	82
Ina	666	2	10	248
Ken Gray	348	--	16	22
Lambrusco	907	29	42	294
Lone Cedar	--	--	--	--
Lone Pine	30	2	23	--
Mine 21	687	5	48	157
Muddy Dam	11	1	4	1
Muddy So. & No.	--	--	--	--
Nason North	156	63	85	3
Nason South	170	8	25	22
Pin Oak Flats	199	81	113	1
RLCD	177	8	19	22
Ryder Creek	8	6	7	--
Sail Boat Harbor	243	20	44	66
Silo	552	206	368	13
Turnip Patch	1,062	77	134	315
Waltonville Dam	128	24	41	--
Waltonville East	1,093	623	760	2
Waltonville (others)	35	23	28	--
Ward Branch	948	13	64	210
Wayne Fitzgerald	28	--	2	--
Whistling Wings	1,199	41	84	297
Miscellaneous	290	212	206	157
Total	17,873	4,415	6,285	2,827

Table 3. Harvest of ducks by species at Rend Lake, (Southern Zone), Illinois, 1975 through 1981. Data from bag checks conducted daily during the hunting seasons and hunter registration reports from 1979 on.

Species	1975	1976	1977	1978	1979	1980	1981
Dabbling Ducks							
Mallard	4,576	4,618	5,272	5,531	3,488	3,727	4,415
Black duck	166	174	157	183	115	127	180
Galdwall	592	274	703	611	334	291	386
American Wigeon	296	80	293	351	196	134	205
Green-winged teal	592	1,112	98	412	286	414	146
Blue-winged teal	58	108	78	618	47	47	66
Northern Shoveler	21	33	98	91	82	95	34
Pintail	36	93	195	183	81	83	80
Wood duck	390	455	1,504	948	302	388	476
Total	6,727	6,947	8,398	8,928	4,931	5,306	5,968
Diving Ducks							
Redhead	7	0	0	15	71	44	47
Canvasback	0	53	0	31	46	39	17
Scaup	58	274	175	214	149	94	112
Ring-necked duck	14	20	114	92	103	114	80
Common Goldeneye	0	73	17	31	0	0	4
Bufflehead	14	0	0	76	61	54	20
Ruddy duck	0	0	0	31	29	0	21
Total	93	420	306	490	459	545	301
Mergansers	58	47	44	61	2	0	14
ALL SPECIES	6,878	7,414	8,748	9,060	5,435	5,651	6,283

*Slight differences in harvest figures from Table 1 represent differences in treatment of data.

Table 4. Waterfowl harvest and hunter success at Rend Lake, Illinois, 1974-1981.

Year	No. of Hunters	Harvest		Hunter Success	
		Ducks	Geese	Ducks	Geese
1974	8,485	7,331	*	.86	*
1975	6,428	6,878	1,710	1.07	.58**
1976	6,555	7,414	2,017	1.13	.21**
1977	8,377	8,748	1,630	1.04	---
1978	12,622	9,060	4,604	.78	.36
1979	12,978	5,375	1,917	.52	.15
1980	16,134	5,493	3,508	.39	.22
1981	17,873	6,285	2,827	.46	.16

* No Survey conducted

** Last 20 days of goose season after close of duck season.

Table 5. Canada goose numbers at Rend Lake through the fall and winter of 1980-81 and 1981-82.

1980		1981	
Date	No. of Canada Geese	Date	No. of Canada Geese
10-14-80	7,000	10-13-81	1,500
10-20-80	16,000	10-19-81	3,000
11-03-80	16,000	10-27-81	8,000
11-10-80	18,000	11-03-81	10,000
11-24-80	20,000	11-17-81	15,000
12-02-80	20,000	12-02-81	18,000
12-16-80	25,000	12-07-81	17,000
01-05-81	46,000	12-14-81	16,000
01-12-81	75,000	01-07-82	110,000
01-19-81	75,000	01-18-82	120,000
01-27-81	88,000	01-29-82	110,000
02-02-81	65,000	02-11-82	4,000
02-13-81	75,000	02-22-82	75,000

Table 6. Number of ducks counted during aerial inventories of Rend Lake, 1978-1981. Data from the Illinois Natural History Survey.

Area and Year	10/15-20	10/25-11/1	11/8-15	11/15-12/1	12/10-15	12/20-1/1	1/5-1/10
Rend Lake							
1978	-----	9,350	15,180	19,185	11,125	-----	965
1979	1,255	11,080	26,460	27,615	13,680	-----	15,550
1980	4,720	4,710	7,505	3,125	1,275	1,300	1,050
1981	-----	29,300	15,430	15,425	25,765	8,955	1,480

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NUMBER OF DUCKS IN THOUSANDS

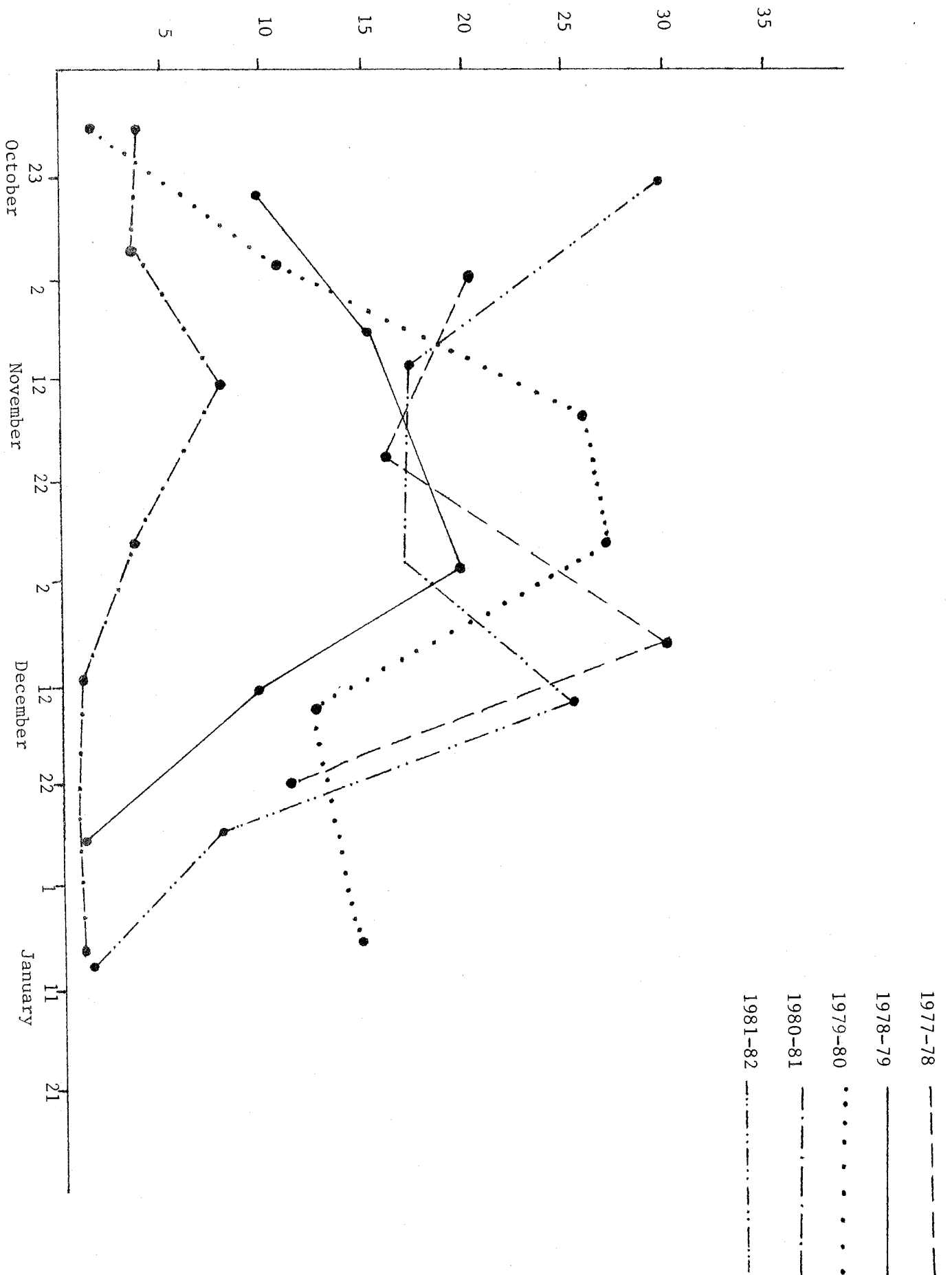


Figure 2. Numbers of ducks at Rend Lake during fall and winter, 1977-78 thru 1981-82.

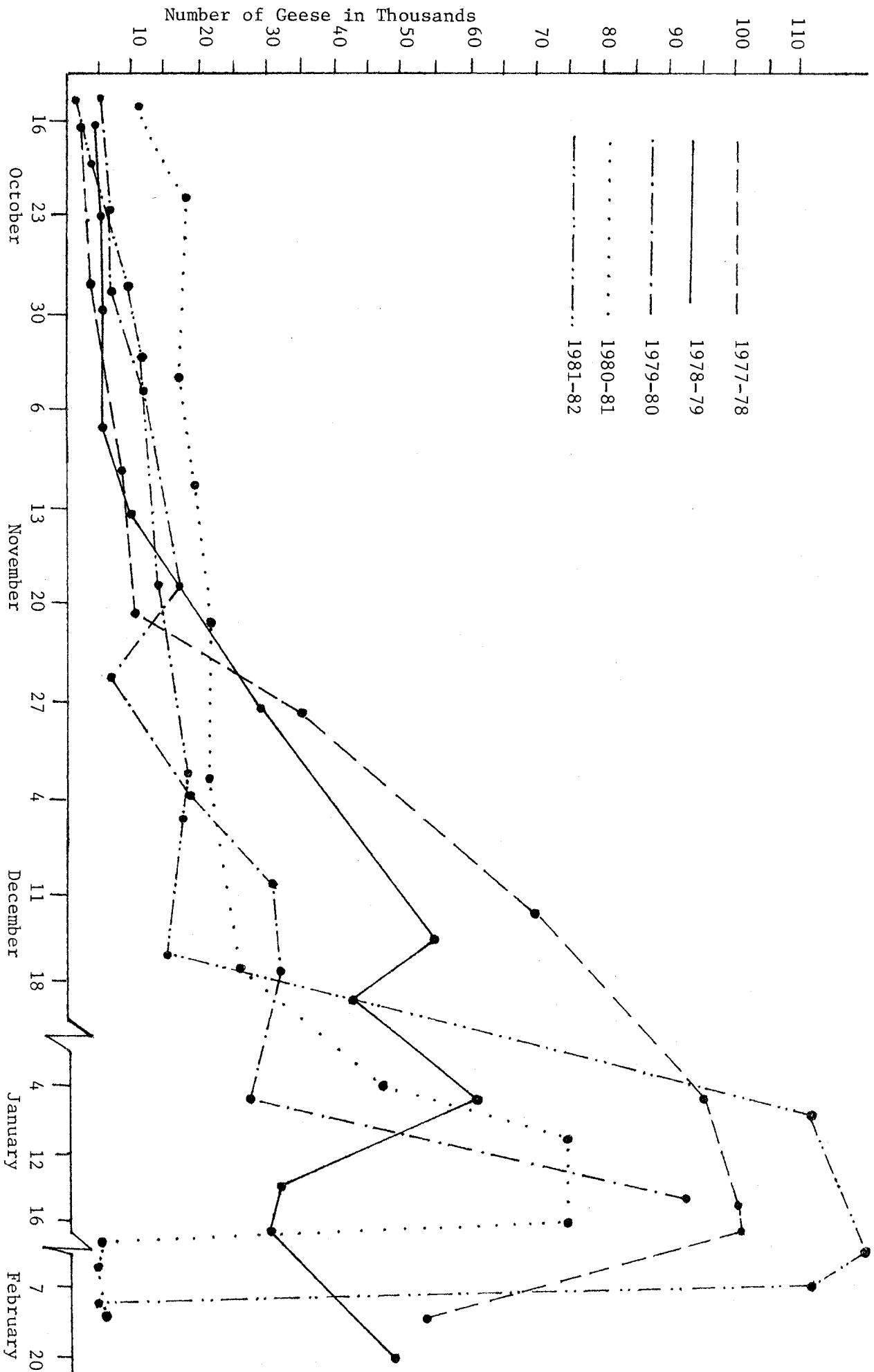


Figure 1. Numbers of Canada geese at Rend Lake during fall and winter, 1977-78 thru 1981-82.