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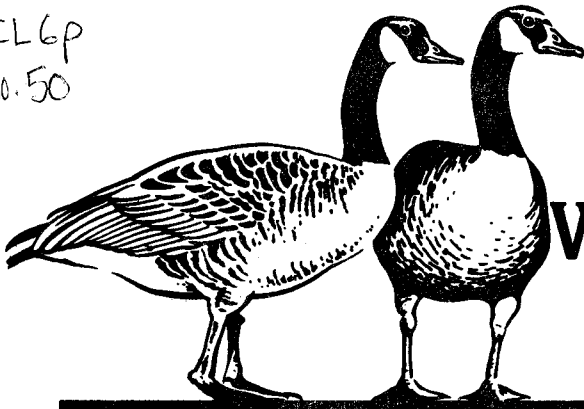
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July 20, 1985



WATERFOWL PROGRAM

ILLINOIS DEPARTMENT OF CONSERVATION
DIVISION OF FISH AND WILDLIFE RESOURCES

NATURAL HISTORY SURVEY

OCT 21 1985

A 5-YEAR COMPARISON OF HUNTER USE AND HARVEST ON
PUBLIC WATERFOWL AREAS IN ILLINOIS, 1979 - 1983

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Deborah Jaques - Waterfowl Technician
Dennis Thornburg - Waterfowl Program Manager

Abstract: Hunter use, harvest and success were surveyed annually on 22-25 public waterfowl areas throughout Illinois during the 5-year period 1979-1983. Waterfowl hunters averaged 65,500 trips to public areas annually and harvested an average of 47,158 ducks per season. Hunter success averaged 0.72 ducks per hunter-trip for the 5-year period. Hunting intensity was relatively stable except for a significant 11% decline in hunter-trips in 1982, followed by an increase of similar magnitude in 1983. Duck harvest ranged from a low of 40,420 in 1980 to a high of 57,904 in 1983. In 1983 duck hunters enjoyed the most successful season in 5 years even though peak waterfowl numbers in Illinois were the lowest ever recorded. Hunter success ranged from a low of 0.61 in 1980 to a high of 0.86 ducks per hunter-trip in 1983. Individual areas which consistently ranked high in harvest were Carlyle Lake, Rend Lake and Batchtown. Sanganois, Woodford County, Carlyle Lake, Batchtown and Godar-Diamond consistently ranked at the top in hunter success. Harvest and hunter success varied from year to year on individual areas depending primarily on food and habitat conditions at each site. Comparison of harvest data on public hunting areas with Federal statewide harvest estimates revealed that harvest on state areas accurately reflects trends in statewide harvest. Drought conditions in prairie Canada from 1980-1982 with only a slight recovery in 1983 contributed to the lowest mallard, diving duck and total duck numbers ever recorded in Illinois.

The research reported herein was supported in part by the Federal Aid in Wildlife Restoration Act as part of Federal Aid Project No. W-43-R.

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INTRODUCTION

Hunting intensity and harvest of waterfowl have been monitored on public hunting areas throughout Illinois for many years. The first Periodic Report, summarizing hunter use and waterfowl harvest on public areas, was published in 1973. Since that time the number of areas included in the survey has varied from year to year. Beginning in 1977 only those areas that have check stations, or where harvest data are gathered by reliable sampling techniques, have been included in the survey.

This report compares waterfowl harvest and hunter use on public hunting areas for 5 years (1979 - 1983). Many IDOC personnel have contributed to the collection of the data compiled in this report. Operating check stations, conducting car counts, making bag checks, and distributing windshield cards are often tedious tasks which require many hours of time and effort. Everyone who has participated in this survey through the years is to be commended, and a special thank you is extended to regional and district wildlife managers and personnel of the Division of Public Lands, particularly site managers and their staffs. Compilation of data and the preparation of this report was partially funded by Federal Aid, Pittman-Robertson Project 43-R.

METHODS

Several methods and techniques are used for monitoring hunter use and harvest on public hunting areas throughout the state. These include check stations (18 areas), car counts combined with bag checks (2 areas), car counts combined with windshield cards (2 areas), mail questionnaires (2 areas), and daily hunter registration (1 area). Obviously, there is no totally precise method of monitoring waterfowl harvest on a given area, however, all of the techniques utilized in this survey are sufficiently accurate to determine, at a minimum, trends in hunter success from one year to another. The majority of the areas have check stations. Since every hunter is required to report his daily kill before leaving the area, this method provides the most accurate harvest data. Daily registration at hunter access points is also very effective, but relies more on hunter integrity for accurately reporting his kill. The other methods mentioned above are sampling techniques and involve estimation of harvest based on projection of data.

Waterfowl population data were obtained from weekly or biweekly aerial inventories. The Mississippi River, from Rock Island to Alton, and the Illinois River, from DuPage to the mouth, were censused weekly throughout the fall and winter. Cooling reservoirs and other areas in northeastern Illinois were censused every other week, as were reservoirs in southern Illinois and the lower Mississippi River from

St. Louis to Cairo. Robert Crompton, of the Illinois Natural Survey, conducted the waterfowl inventories throughout the 5-year period. Weekly counts of the Illinois and Mississippi River Valleys were financed by the IDOC and counts in southern Illinois were funded by the U.S. Army Corps of Engineers.

Federal estimates of hunter-days and waterfowl harvest were obtained from annual U.S. Fish and Wildlife Service Administrative Reports which summarize data derived from a nationwide hunter questionnaire and waterfowl parts survey.

Illinois waterfowl hunting regulations (bag limit and season length) were stabilized throughout the 5-year duration of this survey. Bag limit was based on the point system and the point value of individual species did not change, except that in 1983 the point value of black ducks increased from 70 points to 100 points. Season length was 50 days for the 1979-1983 seasons.

The state was divided into two zones in 1979 for the purpose of hunting ducks and coots. This was the third and final year of a 2-zone, zoning experiment in Illinois. U.S. Highway 50 was the boundary between the north and south zones. The 1980 season was the first year of a 3-year, 3-zone, zoning experiment in Illinois. Except for minor changes in the zone boundaries, the 3 zones were unchanged throughout the 1980-1983 waterfowl hunting seasons. The north-central zone boundary was essentially Interstate 80, except for a jog south at the Mississippi River, and the south-central zone boundary followed highway routes, and was essentially a line running diagonally across the state from Chester, Illinois north-east to Terre Haute, Indiana. The Illinois waterfowl zone hunting season dates for 1979-1983 are presented in Table 1, and the locations of the areas monitored in this survey are shown in Figure 1.

RESULTS AND DISCUSSION

Hunter Use

The number of public waterfowl areas monitored, and the total amount of hunting pressure these areas received annually from 1979-1983, are shown in Table 2. Surveying effort varied only slightly during the 5-year period from 1979-1983. The number of hunter-trips remained fairly stable throughout the 5-year period, with an average of 65,500 trips per season. Most notable was the decrease in hunter-trips from 1981 (67,199) to 1982 (61,162). Much of the decline in the 1982 season was due to fewer hunters utilizing Illinois and Mississippi River areas. Hunters returned to the Illinois and Mississippi River areas in 1983. From 1982 to 1983, hunter-trips increased 117, 97, and 61%, respectively, at Batchtown,

Rice Lake, and Stump Lake; however, 67,130 trips estimated for the 1983 waterfowl season was only slightly above the 5-year average.

Hunter-use data for 10 public areas, that have been monitored annually from 1978-1983, provide an index of annual change in hunting pressure. Hunter-trips increased 5% from 1978 to 1979 on these areas. Total number of hunters decreased 1% from 1979 to 1980, and increased 3% in 1981. The most notable variance occurred in 1982 when the number of hunter-trips decreased 11% from the previous year. Following this, hunter-use increased 11% in 1983, resulting in a total for 1983 that was 2.5% above the average seasonal use for 1979-1983 (Table 3). Although the degree of annual variance differed, the general trend of hunter-use on public areas concurred with the Federal estimate of total number of waterfowl hunters active in Illinois during this 5-year period (Table 4, Fig. 2). The number of hunters at individual public hunting areas each year is shown in Tables 5-9.

Rend Lake consistently received the greatest number of waterfowl hunters from 1979-1983. Carlyle Lake ranked second. Hunting pressure was especially heavy at Rend Lake in 1980. During the 1980 season, twice as many hunter-use days were reported at Rend Lake (16,134), as were reported at Carlyle Lake (8,282). Batchtown ranked third in hunter-use each year, except in 1982, when the Sanganois public hunting area exceeded it by approximately 500 hunter-trips. Godar-Diamond ranked fourth in hunter-use days throughout 1979-1983. Rend Lake, Carlyle Lake, and Batchtown, together attracted 45% of all hunter-trips in 1979, 47% in 1980, and 46% in 1981. The percentage of total hunter-trips at these 3 areas decreased to 39% in 1982, primarily because of a significant decline in hunters at Batchtown. A decrease in hunter-trips at Rend Lake and Carlyle Lake further reduced the percentage to 37% in 1983.

Harvest

Total annual waterfowl harvest on public areas monitored in 1979-1983 is shown in Table 2. The average harvest over the 5-year period was 47,158 ducks per season. Lowest harvest occurred in 1980 when 40,420 ducks were taken. The 1983 harvest was the largest of this 5-year period with 57,904 ducks taken.

Annual trends in waterfowl harvest in Illinois are reflected by harvest figures for the 19 areas which have been surveyed each year from 1978 to 1983 (Table 3). These data indicate an overall decrease in harvest of approximately 15% from 1978 to 1979. A further decline of 12% occurred from 1979 to 1980. Harvest on the 19 areas increased 19% from 1980 to 1981, decreased 12% from 1981 to 1982, and increased 35% from 1982 to 1983. Federal estimates of statewide duck harvest in Illinois (1978-1983) are shown in Table 4. Comparison of this data indicates that the harvest on public waterfowl areas accurately reflects trends in statewide waterfowl harvest (Fig. 3).

Duck harvest on many public waterfowl areas has varied greatly from one year to another. In 1979, when 13 of the areas surveyed, including Rend Lake, Carlyle Lake, and the Mississippi River areas, showed an average decline in harvest of 19%, Woodford County and Sanganois, on the Illinois River, showed respective increases of 87% and 45% (Table 5). Total duck harvest again declined in Illinois in 1980 when nearly all Illinois and Mississippi River areas had reductions in harvest. Exceptions included Rice Lake, Anderson Lake, and Stump Lake, where harvest increased slightly from 1979. Baldwin and Shelbyville Lakes were the only reservoirs showing significant increase in harvest in 1980 (Table 6).

When duck harvest increased in Illinois in 1981, 10 of the public hunting areas surveyed increased their harvest by an average of 42% from 1980. The increased harvest at Carlyle Lake (111%) accounted for much of the improvement in the state harvest in 1981. While most areas in the Illinois Valley had decreased harvest, Spring Lake and Calhoun Point had increased harvests of 121% and 89%, respectively. Duck harvest in Illinois decreased again in 1982 and much of the decline was due to reduced harvest on Mississippi River areas. Increased harvest on Illinois River areas and the above average harvest at Carlyle and Rend Lakes partially compensated for the lower harvest occurring on 14 of 23 waterfowl areas in 1982 (Table 8).

A successful season in 1983 was reflected by 21 areas having an average increase in harvest over 1982 of 53%. Carlyle Lake was the only major waterfowl area that showed a significant decrease in harvest from 1982 to 1983 (Table 9).

Although most areas have fluctuated in harvest from year to year, two areas showing definite trends were Rice Lake and Mermet. Harvest at Mermet progressively declined from 1979 (1,547) to 1983 (872), while harvest at Rice Lake doubled from 1979 (612) to 1983 (1,233).

Carlyle Lake, Rend Lake, and Batchtown, with only one exception, were the 3 highest ranking waterfowl harvest areas in Illinois during the 5-year period. These 3 areas contributed 38-48% of the annual duck harvest on surveyed areas during 1979-1983. Batchtown's harvest has fluctuated from a high of 6,594 in 1979, followed by progressive annual declines, to a low harvest of 1,871 in 1982. Harvest at Batchtown increased 255% to 6,644 ducks in 1983. A harvest of 11,771 ducks at Carlyle Lake in 1981 was the highest recorded harvest on any area during the 5-year period. Harvest at Rend Lake dropped considerably from 1978 (9,060) to 1979 (5,435), and only in 1983 (8,311), did harvest approach the 1978 level (9,060).

Hunter Success

Hunter success rates on public waterfowl hunting areas for the 1979-1983 waterfowl seasons are shown in Table 2. The average success rate on public waterfowl hunting areas was 0.72 ducks per hunter-trip. Overall hunter success on public areas reached a high of 0.86 ducks per hunter-trip in 1983. Success rates for the previous 5 years (1974-1978) exhibited a wider range than the 1979-1983 period, but averaged to a similar 0.74 ducks per hunter-trip (Thornburg and Allen 1979). Success rates dropped considerably from 1978 (0.84) to 1979 (0.72). Significant decreases in hunter success at Batchtown, Godar-Diamond, and Rend Lake contributed to the decline. Twelve of the 15 areas with check stations showed an average decrease in success of 17% from the 1978 season, however, hunter success rates at Sanganois and Woodford County were 1.30 ducks per trip in 1979 (Table 5).

In 1980, the overall success rate dropped to 0.61 and represented the poorest average hunter success at public hunting areas in Illinois since 1973. Fourteen areas showed an average decline in hunting success rate of 24% in 1980, however, Baldwin Lake and Sanganois reported success rates exceeding 1.0 ducks per hunter-trip in 1980 (Table 6).

The overall success rate increased to 0.71 ducks per hunter-trip in 1981. The significant increase in success rates at Carlyle Lake (75%), Calhoun Point (51%), and Spring Lake (30%), contributed largely to this increase (Table 7). Statewide average daily success rate in 1982 (0.70) was similar to that of 1981. Sanganois, Woodford County, Carlyle Lake and Rice Lake led all other public waterfowl hunting areas with success rates exceeding 0.90 ducks per trip (Table 8).

Average daily hunter success on public areas increased to 0.83 in 1983. Success increased an average of 54% at 21 areas in 1983. Four areas on the Illinois and Mississippi Rivers reported success rates greater than 1.0 ducks per hunter-trip. Carlyle Lake was the only major waterfowl area that reported a lower success rate in 1983 (Table 9).

Only 2 areas, Sanganois (1.13) and Woodford County (1.01) averaged over 1.00 ducks per hunter-trip for the entire 5-year period. Sanganois was the only area that reported over 1.00 ducks per hunter-trip every year. Two important Mississippi River areas, Batchtown and Godar-Diamond, averaged 0.77 and 0.81 ducks per hunter-trip over this 5-year period. Highest rates at these 2 areas occurred in 1979 and 1983. Carlyle Lake's fluctuating success rates averaged 0.88 over this period. Except for 1980, success rates at Rend Lake increased from 1979 to 1983. The 5-year average at Rend Lake, however, was only 0.51 ducks per hunter-trip.

Populations and Migrations

Peak numbers of mallards inventoried along the Illinois and Mississippi

Rivers declined progressively from 1978 to 1983 (Table 10, Fig. 4). By 1982, peak populations along these 2 rivers had dropped to levels well below the past long-term average. The 1979 population peak of mallards (1,624,485) was much lower than the high numbers counted in 1978 (2,376,130). The 1979 peak, however, compared closely to the peak inventory in 1977. A drastic decline (59%) in numbers of mallards occurred from 1979 (1,624,485) to 1980 (673,880). A late and only slightly increased mallard population peak (713,505) occurred in 1981.

In 1982, mallard numbers again declined significantly to a late winter peak of 567,915. This progressive decline of mallards in Illinois continued in 1983 as their population peak reached an all-time low of 514,580. The peak number of mallards censused in 1983 represented a decrease of 77% from the 2,376,365 mallards counted in 1978. The 1983 population peak is 52% lower than the 1978-1983, 6-year average. Total duck numbers of all species declined at a similar rate during the 1978-1983 period (Fig. 4).

Peak diving duck populations inventoried on the Illinois and Mississippi Rivers have also shown a downward trend from 1978 to 1983 (Table 10, Fig. 4). The population peak in 1983 was 74% lower than the peak census of 1979, and 56% below the 1978-1983, 6-year average.

Peak waterfowl numbers on southern Illinois reservoirs have also declined from 1978 to 1983 (Table 10), except for a slight increase in duck numbers in 1981. The greatest decrease of duck numbers on southern Illinois reservoirs occurred from 1979 to 1980 (67%). Peak duck populations on southern Illinois reservoirs reached a 6-year low in 1983. This number was 84% lower than in 1978, and 68% below the 1978-1983 6-year average. Carlyle Lake consistently had the greatest duck populations among southern Illinois reservoirs, and averaged 43% of the population at peak occupation periods during 1979-1983. Peak numbers of ducks inventoried at Carlyle Lake ranged from 180,800 in 1978 to 15,605 in 1983. Numbers of ducks at Rend Lake during 1979-1983 were more stable. Peak populations at Sangcris and Baldwin Lakes, however, decreased greatly in 1980, and never recovered. Peak populations at Baldwin Lake in 1983 were 96% less than peak counts in 1979. Greatest concentrations on southern Illinois reservoirs occurred from mid to late-November, with the exception of 1981, when peak populations occurred in mid-December.

CONCLUSIONS

Persistent drought conditions throughout much of the duck production range of prairie Canada and the northern U.S. during 1980-1983 resulted in steadily declining breeding populations of mallards, pintails and some other ducks. Except for a slight recovery in 1983, fall flights reflected the poor habitat conditions and low production indices

throughout this period. Duck harvest in the U.S. declined substantially during the 3-year period, 1980-1982. Harvest rate, however, has been steadily increasing in the U.S. in recent years (Brace and Caswell 1984). Increasing harvest rate during a period of declining waterfowl populations has caused some concern amongst waterfowl managers.

Hunter success and harvest on Illinois public waterfowl areas are affected primarily by food and habitat conditions statewide and on individual sites. In 1979 good numbers of ducks were present throughout the state, however, only average food production on river and reservoir areas, combined with a mild fall and winter with many clear days, resulted in lower harvest and hunter success from the 1978 season. Similar conditions in 1980, combined with a reduced fall flight due to drought conditions in Canada, resulted in further declines in hunter success on most areas throughout the state. Flooding along river systems in 1981 and 1982 inundated natural foods on some areas. Fluctuating water levels and flooding reduced waterfowl food availability and rendered some river areas inaccessible to hunters in 1982. In contrast, Carlyle Lake had excellent natural food production in 1981 and hunters experienced one of the most successful seasons on record. Excellent food production occurred on Illinois and Mississippi River areas in 1983. Dry summer conditions were conducive to good moist-soil plant growth in river backwater areas. These conditions, along with stable water levels, accounted for a successful season on river areas in 1983.

It is apparent that the annual distribution of hunter success on public waterfowl areas is determined, to a great degree, by the management of the wetland resources at the respective sites. The provision of good waterfowl food and habitat can often increase waterfowl availability and vulnerability sufficiently to offset the lack of waterfowl numbers which would otherwise result in poor hunter success.

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Table 1. Season dates for waterfowl (duck and coot) hunting in Illinois, 1979-1983.

Zone	Year			
	1979	1980	1981	1982
North	Oct. 17-Dec. 5	Oct. 14-Dec. 2	Oct. 14-Dec. 2	Oct. 13-Dec. 1
Central	*	Oct. 23-Dec. 11	Oct. 22-Dec. 10	Oct. 21-Dec. 9
South	Oct. 31-Dec. 19	Oct. 30-Dec. 18	Oct. 29-Dec. 17	Oct. 28-Dec. 16

* State divided into 2 zones for waterfowl hunting in 1979

Table 2. Hunter and harvest statistics for public waterfowl hunting areas in Illinois, 1979-1983.

Year	Number of Areas Surveyed	Total Number of Hunters	Total Duck Harvest	Average Daily Success
1979	21	65,313	46,821	.72
1980	22	66,299	40,420	.61
1981	24	67,199	47,548	.71
1982	26	61,162	43,063	.70
1983	25	67,130	57,904	.86
5-Year Average				.72

Table 3. Hunter and harvest statistics for 19 public waterfowl areas in Illinois, 1979-1983.

Year	No. Hunter-Days	% Change Prev. Year	Total Duck Harvest	% Change Prev. Year	Average Daily Success	% Change Prev. Year
1979	61,994	+5.4	43,984	-15.0	.71	-15.5
1980	61,622	-0.6	38,538	-12.4	.63	-11.3
1981	63,449	+3.0	45,748	+18.7	.72	+14.3
1982	56,517	-10.9	40,383	-11.7	.71	-1.4
1983	62,822	+11.2	54,407	+34.7	.87	+22.5
5-Year Average 61,281			44,612		.73	

Table 4. Federal estimate of hunter-days and waterfowl (duck) harvest in Illinois, 1979-1983 (Carney et al. 1979-1983).

Year	No. Hunter-Days	% Change Prev. Year	Total Duck Harvest	% Change Prev. Year
1979	701,619	+03	425,067	-04
1980	553,901	-21	343,749	-19
1981	617,482	+11	387,754	+13
1982	523,222	-15	318,281	-18
1983	591,521	+13	456,860	+44
5-Year Average	597,549		386,342	

Table 5. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1979.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1978	Harvest	Rank	Success Ratio	Rank	% Change From 1978
1. Anderson Lake	1,368	+1.3	1,002	17	.72	09	-5.2
2. Baldwin Lake/Kaskaskia R.	1,247	+44.5	1,339	14	1.07	03	-3.0
3. Batchtown	8,116	+12.1	6,594	01	.81	06	-34.6
4. Calhoun Point	2,085	-6.7	1,364	13	.65	12	+10.0
5. Carlyle	8,097	-1.0	6,012	02	.74	08	-8.6
6. Clinton Lake	1,004	--	441	20	.44	15	--
7. Collins Lake	549	--	197	21	.36	17	--
8. Glades	2,984	+7.3	1,871	08	.63	13	-36.3
9. Godar-Diamond	3,698	+8.9	3,118	06	.86	05	-17.3
10. HSL - Madison Co.	1,917	-46.7	1,440	12	.75	07	+13.6
11. Marshall Co.	2,284	+7.0	1,445	11	.63	13	-4.5
12. Mermet	2,273	+16.6	1,547	10	.68	11	-29.0
13. Oakwood	2,315	-39.9	1,198	15	.52	14	-2.0
14. Rend Lake	12,978	+2.8	5,435	03	.42	16	-46.2
15. Rice Lake	890	-32.6	612	19	.69	10	+43.8
16. Sanganois	2,612	+7.8	3,412	05	1.31	02	+35.0
17. Sangchris	1,750	-2.3	904	18	.52	14	+10.6
18. Shelbyville	1,158	NC	1,039	16	.90	04	+23.2
19. Spring Lake	2,164	+11.7	1,854	09	.86	05	-33.8
20. Stump Lake	3,103	-5.8	2,297	07	.74	08	-8.6
21. Woodford Co.	2,721	+26.4	3,630	04	1.33	01	+47.8

NC - No Change

Table 6. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1980.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1979	Harvest	Rank	Success Ratio	Rank	% Change From 1979
1. Anderson Lake	1,413	+3.3	1,112	11	.79	06	+8.2
2. Baldwin Lake/Kaskaskia R.	2,125	+70.4	2,301	07	1.08	01	+9
3. Batchtown	6,862	-15.5	5,278	03	.77	07	-4.9
4. Calhoun Point	1,487	-28.7	612	20	.41	19	-36.9
5. Carlyle	8,282	+2.3	5,582	01	.67	11	-9.5
6. Clinton Lake	851	-15.2	224	22	.26	22	-40.9
7. Collins Lake	690	+25.7	315	21	.46	18	+27.8
8. Glades	2,608	-12.6	1,600	09	.61	12	-3.2
9. Godar-Diamond	3,277	-11.4	2,413	06	.74	09	-14.0
10. HSL - Madison Co.	1,529	-20.2	889	15	.58	13	-22.7
11. Lake DePue	853	--	843	16	.99	03	--
12. Marshall Co.	2,077	-9.1	1,078	12	.52	16	-17.5
13. Mermet	2,078	-8.6	1,067	13	.51	17	-25.0
14. Oakwood	2,973	+28.4	815	17	.27	21	-48.1
15. Rend Lake	16,134	+24.3	5,555	02	.34	20	-19.0
16. Rice Lake	1,090	+22.5	814	18	.75	08	+8.7
17. Sanganois	2,469	-5.5	2,639	05	1.07	02	-18.3
18. Sangchris	1,674	-43.4	897	14	.54	15	+3.8
19. Shelbyville	1,414	+22.1	1,290	10	.91	05	+1.0
20. Spring Lake	1,108	-48.4	634	19	.57	14	-33.7
21. Stump Lake	2,874	-7.4	2,724	04	.95	04	+28.4
22. Woodford Co.	2,431	-10.7	1,738	08	.71	10	-46.6

Table 7. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1981.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1980	Harvest	Rank	Success Ratio	Rank	% Change From 1980
1. Anderson Lake	1,150	-18.6	893	16	.77	05	-2.5
2. Baldwin Lake/Kaskaskia R.	2,486	+17.0	1,886	08	.76	06	-29.6
3. Batchtown	7,252	-7.3	4,604	03	.63	13	-18.2
4. Calhoun Point	1,978	+20.3	1,235	10	.62	14	+51.2
5. Carlyle Lake	10,018	+20.9	11,771	01	1.17	01	+74.6
6. Collins Lake	649	-5.9	319	21	.49	16	+6.5
7. Des Plaines River	892	--	216	22	.25	19	--
8. Glades	2,457	-16.3	1,182	11	.48	17	-21.3
9. Godar-Diamond	3,439	-5.5	2,555	05	.74	07	0.
10. HSL - Madison Co.	1,727	+12.9	1,106	12	.64	12	+10.3
11. Kankakee River	749	--	84	23	.11	20	--
12. Lake DePue	1,013	+18.7	664	20	.65	11	-34.3
13. Marshall Co.	1,643	-20.8	958	15	.58	15	+11.5
14. Mermet	1,670	-19.6	810	18	.49	16	-3.9
15. Rend Lake	13,767	+20.3	6,285	02	.46	18	-6.1
16. Rice Lake	1,152	+5.7	837	17	.72	09	-4.0
17. Sanganois	3,226	+30.7	3,630	04	1.13	02	+5.6
18. Sangchris	1,658	-0.1	963	14	.58	15	+7.4
19. Shelbyville	1,685	+19.2	1,050	13	.62	14	-30.8
20. Spring Lake	1,880	+69.7	1,404	09	.74	07	+29.8
21. Starved Rock	934	--	691	08	.73	08	--
22. Stump Lake	3,241	+2.5	2,222	06	.68	10	-26.1
23. Woodford Co.	2,371	-2.5	2,038	07	.85	04	+19.7

Table 8. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1982.

Area	Hunting Pressure			Harvest			Success Per Hunter Efforts		
	Hunter	% Change From 1981	% Change	Harvest	Rank	% Change From 1981	Success Ratio	Rank	% Change From 1981
1. Anderson Lake	1,425	+23.9		1,225	13	+37.2	.86	04	+11.7
2. Baldwin Lake/Kaskaskia R.	2,015	-17.3		1,510	08	-20.0	.75	06	N.C.
3. Batchtown	2,974	-59.0		1,871	06	-59.4	.63	09	0
4. Calhoun Point	1,837	-7.1		1,155	14	-6.5	.63	09	+1.6
5. Carlyle Lake	8,934	-10.8		8,518	01	-27.6	.95	02	-19.0
6. Chain O'Lakes	1,180	+14.3		902	16	-13.6	.80	05	-20.8
7. Collins Lake	838	+29.1		296	22	-07.2	.35	17	-28.6
8. Des Plaines River	757	-15.1		216	23	N.C.	.29	18	+16.0
9. Donnelly Area	502	--		87	26	--	.17	19	-28.6
10. Glades	2,109	-14.2		1,089	15	-7.9	.52	14	+8.3
11. Godar-Diamond	3,311	-3.7		2,418	05	-5.4	.73	07	-1.4
12. HSL - Madison Co.	2,274	+31.7		1,304	11	+17.9	.57	13	-10.9
13. Kankakee River	377	-49.7		109	25	+29.8	.29	18	+163.6
14. Lake DePue	695	-31.4		421	21	-36.6	.60	11	-7.7
15. Marshall Co.	2,166	+31.8		1,249	12	+30.4	.58	12	0
16. Mermet	1,485	-11.1		538	20	-33.6	.36	16	-26.5
17. Rend Lake	11,969	-13.1		6,833	02	+8.7	.57	13	+23.9
18. Rice Lake	1,489	+29.2		1,399	09	+67.1	.94	03	+30.5
19. Sanganois	3,485	+8.0		3,658	03	+1.0	1.05	01	-7.1
20. Sangchris Lake	1,545	-6.8		789	18	-18.1	.51	15	-12.1
21. Shelbyville	1,240	+26.4		868	17	17.3	.70	08	+12.9
22. Spring Lake	2,236	+18.9		1,374	10	-2.1	.61	10	-17.6
23. Starved Rock	895	-4.2		766	19	+10.9	.86	04	+17.8
24. Stump Lake	2,562	-21.0		1,794	07	-19.3	.70	08	+2.9
25. William Powers	239	--		179	24	--	.80	05	--
26. Woodford Co.	2,623	+10.6		2,495	04	+22.4	.95	02	+11.8

Table 9. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1983.

Area	Hunting Pressure			Harvest			Success Per Hunter Efforts		
	Hunter	% Change From 1982	% Change	Harvest	Rank	% Change From 1982	Success Ratio	Rank	% Change From 1982
1. Anderson Lake	1,430	N.C.		1,402	14	+14.4	.98	06	+14.0
2. Baldwin Lake/Kaskaskia R.	2,246	+11.5		1,940	09	+28.5	.86	09	+14.7
3. Batchtown	6,448	+116.8		6,644	03	+255.1	1.03	03	+63.5
4. Calhoun Point	2,050	+11.6		1,453	13	+26.0	.71	16	+12.7
5. Carlyle Lake	7,799	-12.7		6,972	02	-18.1	.89	08	-6.3
6. Chain O'Lakes	1,399	+18.6		1,369	15	+51.8	.98	06	+30.3
7. Collins Lake	784	-6.4		376	22	+27.0	.48	20	+37.1
8. Des Plaines River*	418	-44.8		215	23	N.C.	.51	19	+76.0
9. Donnelly Area	479	-4.6		118	24	+35.6	.25	23	+47.1
10. Glades	2,062	-2.2		1,481	12	+36.0	.72	15	+38.5
11. Godar-Diamond	4,237	+28.0		4,271	05	+76.6	1.00	05	+47.0
12. Horseshoe Lake (Madison)	2,825	+24.2		2,325	08	+78.3	.82	11	+44.0
13. Kankakee River*	97	-74.3		40	25	-63.3	.41	22	+41.4
14. Lake DePue	906	+30.4		858	21	+103.8	.95	07	+58.3
15. Marshall Co.	2,159	N.C.		1,927	10	+54.3	.89	08	+53.4
16. Mermet	1,447	-2.6		872	20	+62.1	.60	17	+67.0
17. Rend Lake	10,835	-9.5		8,311	01	+21.6	.77	13	+35.1
18. Rice Lake	2,925	+96.4		1,233	16	-11.9	.42	21	-55.3
19. Sanganois	3,948	+13.3		4,392	04	+20.1	1.11	02	+5.7
20. Sangchris Lake	1,550	N.C.		917	17	+16.2	.59	18	+15.7
21. Shelbyville	1,120	-9.7		910	18	+4.8	.81	12	+16.0
22. Spring Lake	2,023	-9.5		1,497	11	+9.1	.74	14	+21.3
23. Starved Rock	1,069	+19.4		897	19	+17.1	.84	10	-2.3
24. Stump Lake	4,142	+61.0		4,221	06	+135.3	1.02	04	+45.7
25. William Powers	No Data								
26. Woodford Co.	1,120	-9.7		910	18	+4.8	.81	12	+16.0

* Partial information from mail survey

Table 10. Peak numbers of ducks counted during aerial inventories of the Illinois and Mississippi River Valleys and Southern Illinois Reservoirs, 1978-1983. (Unpublished data from the Illinois Natural History Survey).

Year	Illinois and Mississippi River Valleys		Southern Ill. Reservoirs	
	Mallards	Diving Ducks	Total Ducks	Total Ducks
1978	2,376,365	666,060	3,128,285	307,485
1979	1,624,485	784,995	2,630,000	254,910
1980	673,880	526,565	1,439,600	85,075
1981	713,505	362,200	1,305,045	125,830
1982	567,915	268,655	872,525	78,310
1983	514,580	204,140	809,220	48,095
1978-83 Average	1,078,455	468,769	1,697,446	149,951

FIGURE 1. PUBLIC WATERFOWL HUNTING AREAS IN ILLINOIS

1. Chain O' Lakes
 2. Des Plaines River
 3. Kankakee River SP
 4. Collins Lake
 5. Starved Rock SP
 6. Lake DePue FWA
 7. Donnelly Area
 8. Marshall County CA
 9. Woodford County CA
 10. Rice Lake CA
 11. Spring Lake CA
 12. Anderson Lake CA
 13. Sanganois CA
 14. Godar-Diamond WMA
 15. Glades WMA
 16. Stump Lake WMA
 17. Calhoun Point WMA
 18. Batchtown WMA
 19. Clinton Lake
 20. Sangchris Lake SP
 21. Shelbyville Lake FWA
 22. Horseshoe Lake SP
 23. Carlyle Lake FWA
 24. Baldwin Lake - Kaskaskia River
 25. Rend Lake FWA
 26. Oakwood Bottoms
 27. Mermet Lake FWA
- SP - State Park
CA - Conservation Area
WMA - Waterfowl Management Area
FWA - Fish & Wildlife Area

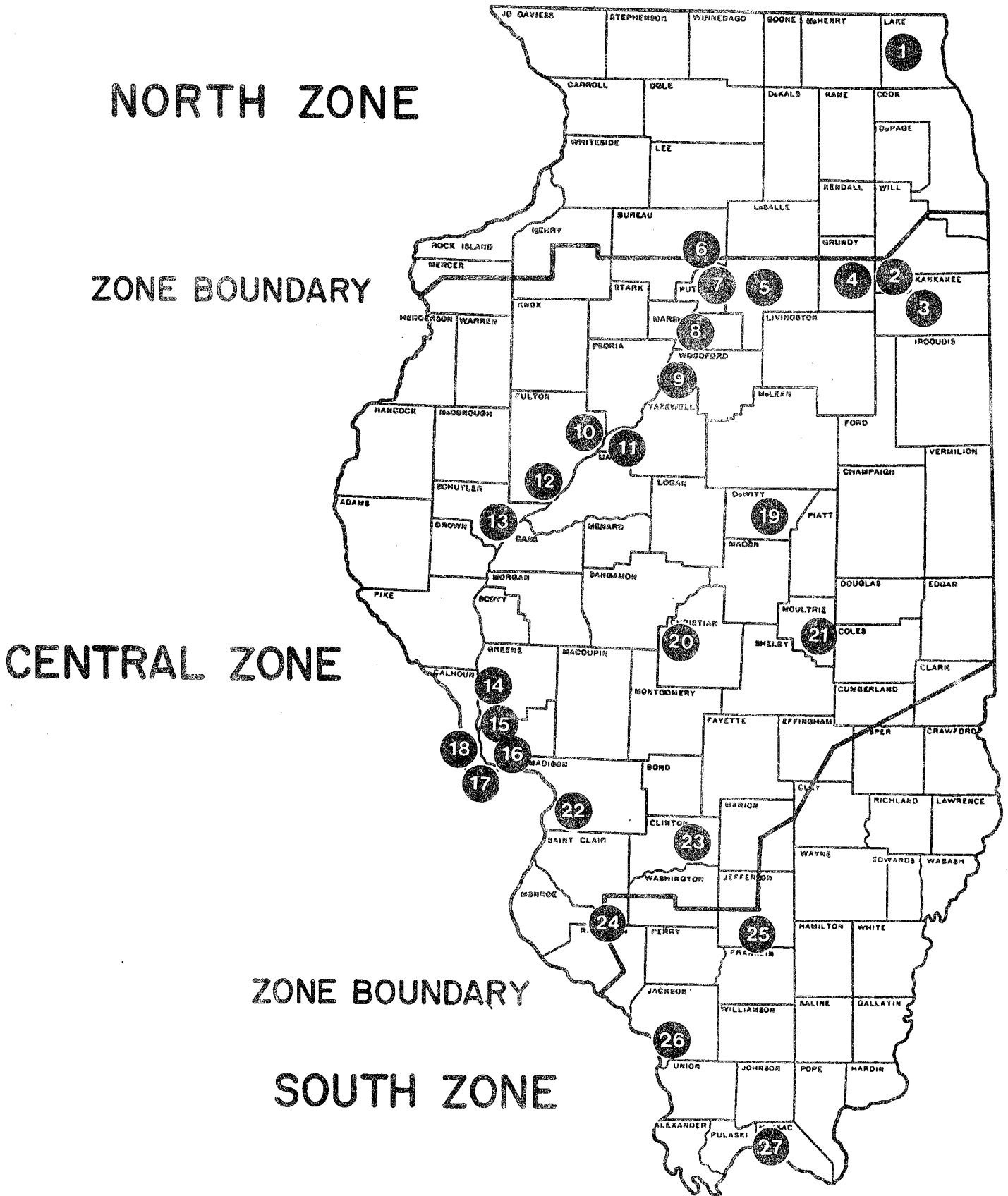


FIGURE I. PUBLIC WATERFOWL HUNTING AREAS IN ILLINOIS

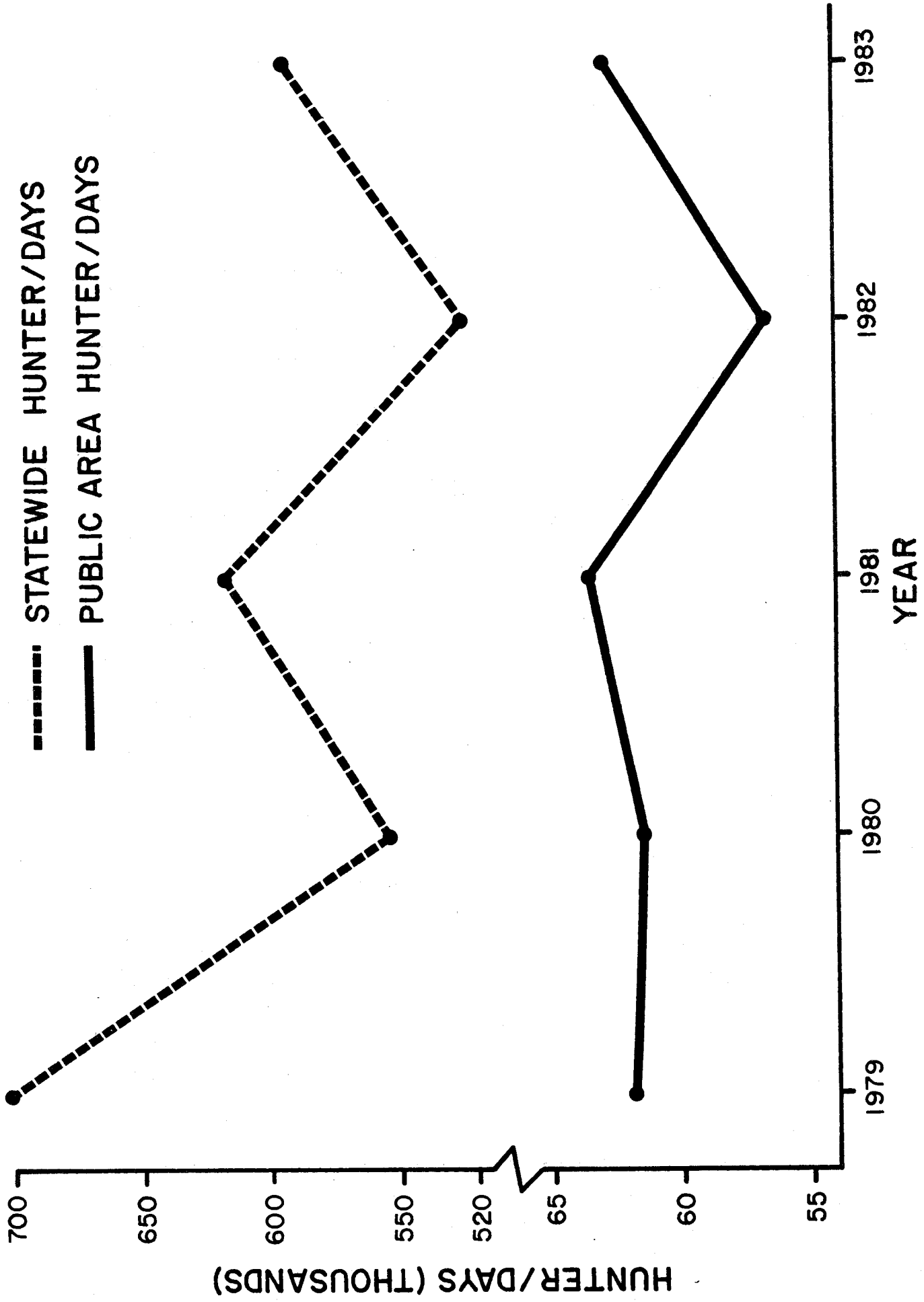


FIGURE 2. WATERFOWL HUNTER/DAYS, STATEWIDE AND ON 19 PUBLIC AREAS IN ILLINOIS, 1979 - 1983

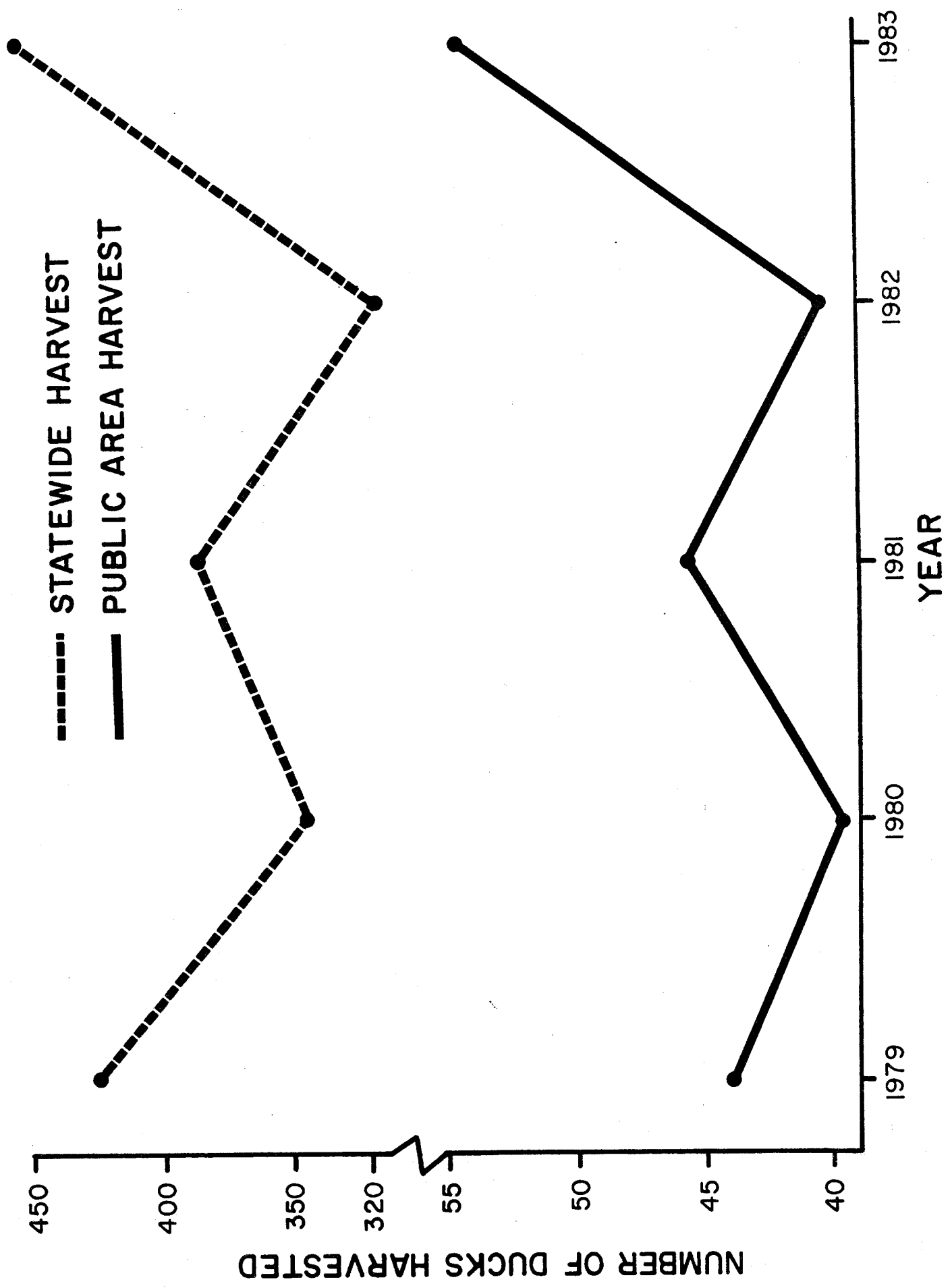


FIGURE 3. WATERFOWL (DUCK) HARVEST STATEWIDE (FEDERAL ESTIMATE) AND ON 19 PUBLIC AREAS IN ILLINOIS. 1979-1983

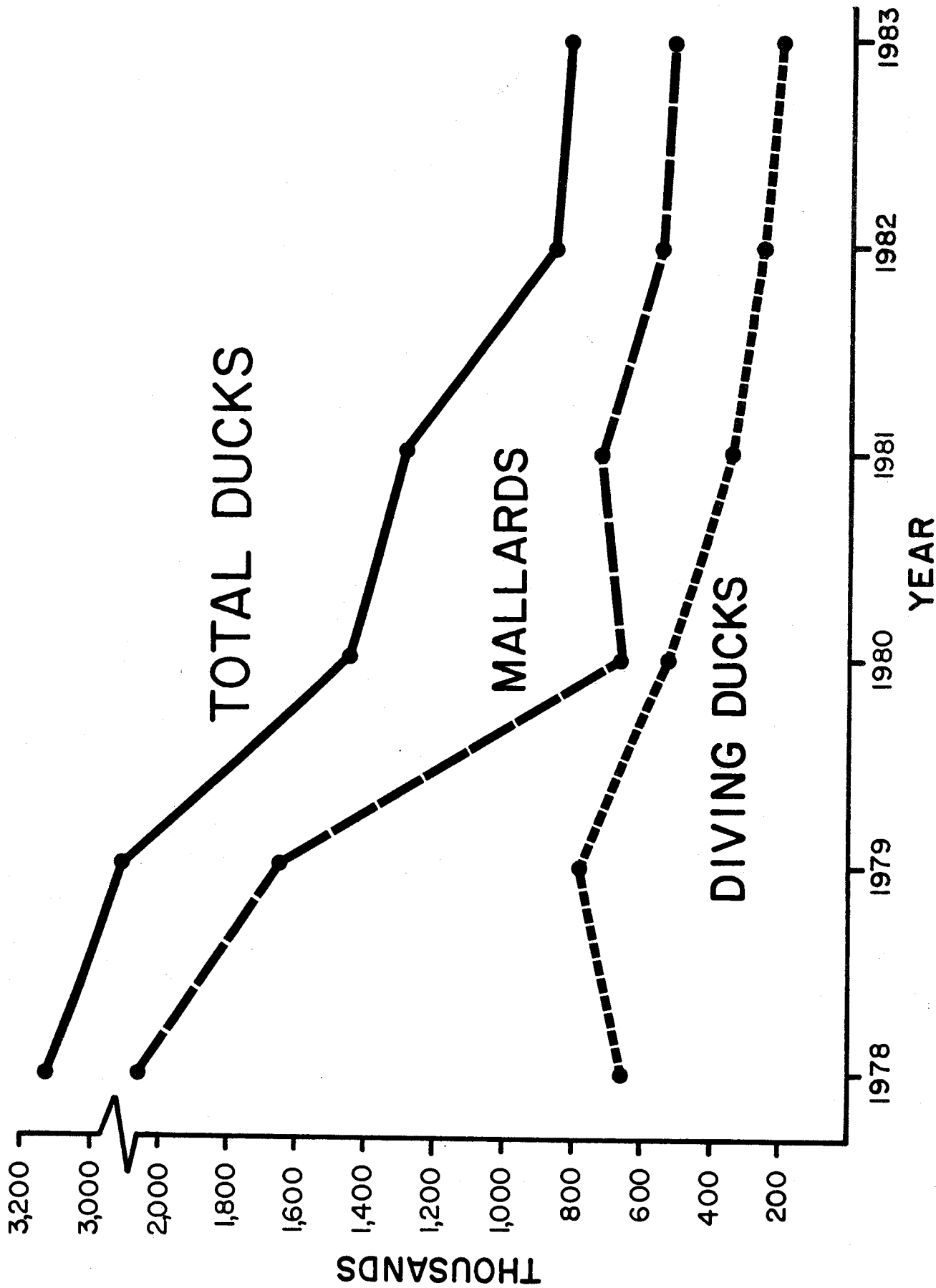


FIGURE 4. PEAK NUMBERS OF DUCKS ON THE ILLINOIS AND MISSISSIPPI RIVERS FROM 1978-1983. DATA FROM THE ILLINOIS NATURAL HISTORY SURVEY AERIAL INVENTORIES.

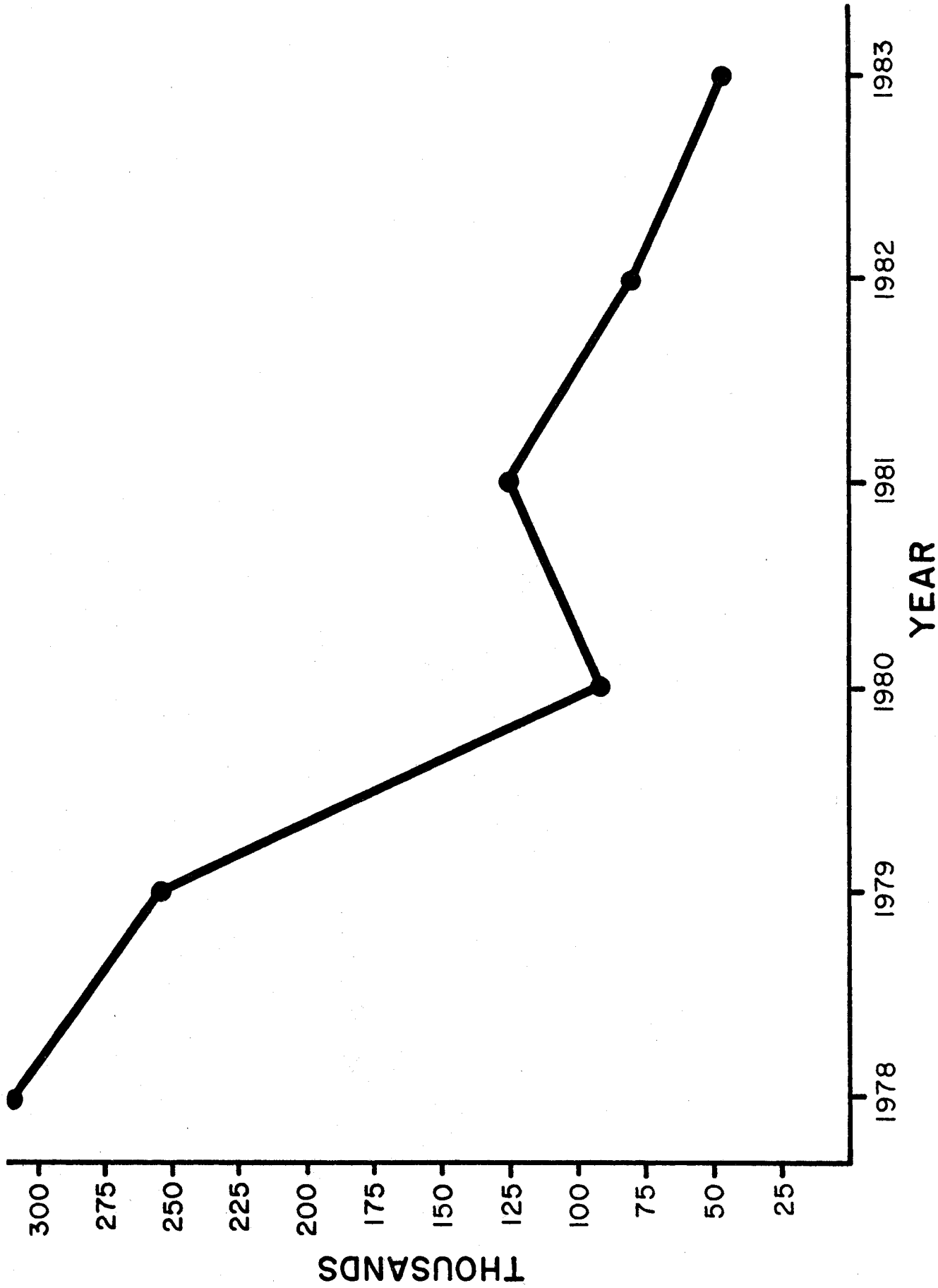


FIGURE 5. PEAK POPULATIONS OF DUCKS ON SOUTHERN ILLINOIS RESERVOIRS, 1978 - 1983. DATA FROM ILLINOIS NATURAL HISTORY SURVEY AERIAL INVENTORIES.