

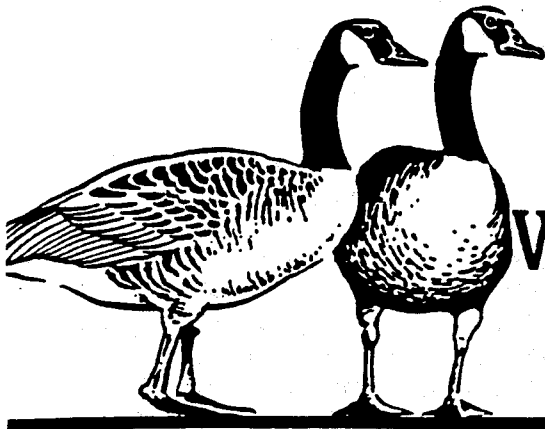


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WATERFOWL PROGRAM

ILLINOIS DEPARTMENT OF CONSERVATION
DIVISION OF WILDLIFE RESOURCES

A 5 - YEAR COMPARISON OF HUNTER USE AND HARVEST ON PUBLIC WATERFOWL AREAS IN ILLINOIS, 1984 - 1988

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Abstract: Waterfowl harvest, success rates and hunter use-days were monitored on 24-28 public waterfowl management areas throughout Illinois during the 5-year period 1984-88. Season length, bag limit, shooting hours and zone boundaries were reduced or changed at least once during the 5-year period. Waterfowl hunters averaged 52,915 days afield and harvested an average of 41,744 ducks on public areas during the 5-year period. Hunter success averaged 0.79 ducks per hunter-trip during this period. Days afield decreased 7%, 16% and 3% from 1984-86, respectively. In 1987, days afield increased 20%, however they decreased 21% in 1988. The annual harvest of ducks decreased from a high of 50,619 in 1984 to a low of 30,340 in 1988. In 1984, duck hunters recorded the highest duck harvest despite the fact that the Illinois and Mississippi River Valleys recorded the lowest number of ducks surveyed during the 5-year period. Hunter success decreased annually from a high of 0.87 in 1984 to a low of 0.64 in 1988. Areas which ranked in the top five in harvest included: Carlyle Lake, Rend Lake, Sanganois and Batchtown. Sanganois, Carlyle Lake, Godar-Diamond and Anderson Lake recorded the highest success rates. Harvest and hunter success varied from year to year on individual areas depending on food and habitat conditions at each site. Comparison of harvest data on public hunting areas with the Federal statewide harvest estimate revealed that harvest on state areas parallels the downward trend in the statewide harvest.

INTRODUCTION

Waterfowl harvest and hunter activity have been monitored on public hunting areas throughout Illinois for many years. The first Periodic Report summarized waterfowl harvest and hunter activity on public waterfowl management areas in 1973. The number of areas included in the survey has varied from year to year and new areas have been added to the survey as they are acquired. Beginning in 1977, only those areas that have check stations or where harvest data are gathered by reliable sampling techniques are included in this survey.

This report compares waterfowl harvest and hunter use on 24 - 28 public hunting areas during the 5-year period, 1984-88. Numerous IDOC personnel have contributed to the collection of the data compiled in this report. Operation of check stations, conducting car counts, making bag checks and distributing windshield cards requires many hours of time and effort. All those (personnel from the Divisions of Wildlife Resources and Public Lands) who participated in this survey are to be commended for their effort.

METHODS

Waterfowl harvest and hunter activity was monitored on public hunting areas throughout the state using a variety of techniques. These included: checkstations (20 areas), car counts combined with windshield cards (2), mail questionnaires (5) and daily hunter registration (1). There is no precise method of monitoring waterfowl harvest and hunter activity on an area. Each method has imperfections however, harvest trends can be determined from the data collected and compared to previous years. The majority of the areas (20) utilize checkstations, which require every hunter to report his daily harvest before leaving the area. This method is probably the most accurate. Daily registration (1) at hunter access areas is also effective, but the reporting accuracy relies on the honesty of each hunter. Other methods discussed above depend on estimation of harvest based on projection of data.

Aerial surveys were conducted throughout the fall and winter on the Mississippi River from Rock Island to Cairo and the Illinois River from DuPage to the confluence of the Mississippi River. Cooling reservoirs and other areas in northeastern Illinois were censused every other week, as were reservoirs in southern Illinois (Rend, Carlyle and Shelbyville). Robert Crompton, of the Illinois Natural History Survey conducted the waterfowl inventories throughout the 5-year period. Weekly counts of the Illinois and Mississippi River Valleys were funded by IDOC.

Federal estimates of waterfowl harvest and hunter activity were obtained from annual U.S. Fish and Wildlife Service (USFWS)

Administrative Reports which summarize data derived from a nationwide hunter questionnaire and waterfowl parts survey.

Illinois waterfowl hunting regulations (season length, shooting hours, daily bag limit and zone boundaries) changed almost yearly during the 5-year period. Season length decreased from 50 days in 1984 to 40 days in 1985 and finally decreased to 30 days in 1988. The traditional shooting hours option of 1/2 hour before sunrise was maintained from 1984-87. However, in 1988 the USFWS mandated sunrise shooting hours for all states. The point system was suspended in favor of the conventional bag in 1988.

Illinois maintained three zones (north, central and south) which were established in 1980. The zone boundaries between the north and central zones and central and south zones were modified in 1984. The north-central zone boundary was Interstate 80 - Interstate 280 to state Route 92. The central-south zone boundary was Interstate 70 - state Route 4 - state Route 161 - state Route 159 to state Route 155. Waterfowl season hunting dates for each zone during 1984-88 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 (28) surveyed and the number of hunter use-days from 1984-88 are shown in Table 2. The number of areas surveyed varied from 24 in 1984 to 28 from 1985-88. The number of hunter use-days varied greatly throughout the period, with an average of 52,915. Hunter use-days ranged from a high of 58,275 in 1984 to a low of 47,532 in 1988. Corresponding decreases in hunter use-days can be attributed to a reduction in season length from 50 days in 1984 to 40 days in 1985 to 30 days in 1988. Decreases in hunter use-days were generally consistent throughout most of the areas, but were more pronounced after reductions in season length.

Hunter use-days for 24 public waterfowl areas were monitored annually from 1984-88 to provide an index of annual change in hunting pressure. Hunter use-days decreased 7%, 16% and 3% from 1984-86, respectively. Hunter use-days increased 20% in 1987, but decreased 21% in 1988. The 5-year average number of hunter use-days decreased 16% compared to the previous 5-year average (1979-83) (Table 3). The general downward trend of hunter use-days on public areas (Figure 2) concurred with the Federal estimate of statewide hunter use-days during the 5-year period (Table 4, Figure 3). The federal estimate of statewide hunter use-days (1984-88) decreased 31% compared to the previous 5-year (1979-83) average. The number of hunter use-days from all surveyed areas is shown in Tables 5-9.

Rend Lake consistently received the greatest number of hunter use-days from 1984-88. Carlyle Lake ranked second in hunter use-days in all years, except 1985. Rend Lake usually reports twice as many use-days as Carlyle Lake. Batchtown ranked third in use-days in all years, except 1986 and 1988 when Sanganois had greater use-days. Other areas which ranked fourth in hunter use-days during the five year period included: Godar-Diamond (1984), Stump Lake (1985, 1987, 1988) and Baldwin Lake (1986). Rend Lake, Carlyle Lake, Batchtown and Sanganois accounted for 44% of all hunter use-days on surveyed areas in 1984, 46% in 1985, 55% in 1986, 53% in 1987 and 55% in 1988. These areas are becoming increasingly important in terms of hunter use-days. The number of hunter use-days on surveyed areas decreased in all years except 1987. However, these areas are experiencing an upward trend in use-days throughout the 5-year period. This reflects upon the quality of hunting experience offered by these areas.

Harvest

The annual waterfowl harvest on public areas (28) monitored from 1984-88 is shown in Table 2. The duck harvest ranged from a high of 50,619 in 1984 to low of 30,340 in 1988. The 5-year average harvest of ducks was 41,744 which was 11% below the previous 5-year period (1979-83).

Annual trends in waterfowl harvest in Illinois are reflected by harvest figures for the 24 areas which have been surveyed each year from 1984-88 (Table 3). The annual duck harvest decreased 7%, 16% and 11% from 1984-86, respectively. In 1987, the duck harvest increased 18%, but decreased 35% in 1988. The average duck harvest decreased 8% during 1984-88 compared to the previous 5-year (1979-83) average even though 5 more areas were added to the monitoring system in 1983. Federal estimates of the statewide duck harvest in Illinois (1984-88) are shown in Table 4. Comparison of this data indicates that the harvest on public waterfowl areas closely reflects the trends in the statewide waterfowl harvest (Figures 2,3). The annual duck harvest from all surveyed areas is shown in Tables 5-9.

The duck harvest on many public waterfowl areas varies greatly depending on food availability, habitat and weather conditions from one year to another. The major areas were categorized by river system or reservoir. Batchtown, Calhoun Point, Glades, Godar-Diamond and Stump Lake comprised the Mississippi River Areas. Anderson Lake, Rice Lake, Marshall County, Woodford County and Sanganois comprised the Illinois River Areas. The Southern Reservoirs consisted of Carlyle Lake, Rend Lake, Baldwin and Shelbyville Lake.

In 1984, two areas (Calhoun Point, Stump Lake) from the Mississippi River, one area (Woodford County) from the Illinois River and two areas (Carlyle and Shelbyville Lakes) from the

Southern Reservoirs showed an increase in harvest from 1983. Overall, 14 of the 24 surveyed areas recorded decreases in harvest from 1983 (Table 5).

Total duck harvest declined in 1985 when only two areas (Batchtown, Stump Lake) from the Mississippi River, two areas (Rice Lake and Sanganois) from the Illinois River and zero areas from the Southern Reservoirs showed an increase in harvest from 1984. Overall, 18 of the 24 areas revealed a decrease in harvest from 1984 (Table 6).

The duck harvest continued the downward trend in 1986. Zero areas from the Mississippi River, three areas (Marshall County, Rice Lake and Sanganois) from the Illinois River and three areas (Carlyle Lake, Baldwin and Shelbyville Lake) from the Southern Reservoirs showed an increase in harvest from 1985. Overall, 10 of the 24 surveyed areas recorded decreases in harvest from 1985 (Table 7).

The duck harvest in 1987 improved significantly on the major areas. All five of the areas (Batchtown, Calhoun Point, Glades, Godar-Diamond and Stump Lake) on the Mississippi River showed large increases in harvest. Only two areas (Anderson Lake and Woodford County) from the Illinois River and three areas (Carlyle Lake, Rend Lake and Shelbyville Lake) from the Southern Reservoirs showed an increase in harvest from 1986. Overall, 11 of the 24 areas showed a decrease in harvest from 1986 (Table 8).

In 1988, the duck harvest from most of the surveyed areas decreased significantly. All areas from the Mississippi River, Southern Reservoirs and Illinois River (except Anderson Lake) showed decreases in harvest. Overall, 20 of the 24 areas reported decreases in harvest from 1987 (Table 9).

Carlyle Lake, Rend Lake and Batchtown, with one exception, (Sanganois) were the three highest ranking waterfowl harvest areas in Illinois during the 5-year period. These three areas contributed 34%, 40%, 55%, 46% and 37% of the annual duck harvest on surveyed areas during 1984-88, respectively. Season length, food availability and weather conditions greatly influence the success and harvest at each area. The duck harvest at Carlyle Lake ranged from a high of 11,050 in 1987 to a low of 5,545 (99% decrease) in 1988. The harvest at Rend Lake fluctuated from a high 7,724 ducks in 1984 to a low of 3,582 ducks (115% decrease) in 1988. Similarly, Batchtown experienced a high harvest of 5,169 ducks in 1984 to a low of 2,121 (59% decrease) in 1988.

Hunter Success

Hunter success rates on public waterfowl hunting areas during the 1984-88 waterfowl seasons are shown in Table 2. The average success rate on public waterfowl hunting areas was 0.79 ducks per

hunter-trip. Success rates for the previous 5-year period (1979-83) were 0.72 ducks per hunter-trip (Jaques and Thornburg 1985). Overall hunter success on public areas reached a high of 0.87 (0.86 in 1983) ducks per hunter-trip in 1984 and a low of 0.64 in 1988. Success rates decreased annually from 1984 to 1988 which parallels decreases in duck harvest and hunter use-days.

Public waterfowl management areas which had greater than 1,000 hunter use-days each year are ranked by success rate in the following paragraphs. In 1984, the overall success rate was at the highest (0.87) point during the 5-year period. Woodford County reported the highest success rate (1.19), followed by Sanganois (1.18), Carlyle Lake (1.17) and Godar-Diamond (1.16). A total of 7 areas reported success rates greater than 1.00 ducks per hunter-trip. Eleven areas reported their success rates decreased from 1983 (Table 5).

The overall success rate decreased to 0.86 ducks per hunter-trip in 1985. Sanganois (1.53) reported the highest success rate followed by Carlyle Lake (1.27), Anderson Lake (1.21) and Woodford County (1.05). A total of six areas reported success rates greater than 1.00 ducks per hunter-trip. Success rates decreased on 12 areas from 1984 (Table 6).

The overall success rate continued to decrease to 0.79 ducks per hunter-trip in 1986. Sanganois reported the highest success rate (1.65), followed by Carlyle Lake (1.29), Anderson Lake (1.20) and Lake DePue (1.05). Six areas reported success rates greater than 1.00 ducks per hunter-trip. Success rates decreased on 16 areas from 1985 (Table 7).

In 1987, the overall success rate decreased to 0.77 ducks per hunter-trip. Carlyle Lake (1.32) reported the highest success rate followed by Godar-Diamond (1.12), Spring Lake (1.11) and Anderson Lake (0.99). A total of four areas reported success rates greater than 1.00 ducks per hunter-trip. Success rates decreased on 12 areas from 1986 (Table 8).

Success rates reached their lowest point (0.64) during the 5-year period during 1988. Anderson Lake (1.13) reported the highest success rate followed by Spring Lake (1.05), Lake DePue (1.03) and Carlyle Lake (1.00). Six areas reported success rates greater than 1.00 ducks per hunter-trip. Success rates decreased on 11 areas from 1987 (Table 9).

The following four areas averaged greater than 1.00 ducks per hunter-trip during the 5-year period: Sanganois (1.23), Carlyle Lake (1.22), Anderson Lake (1.12) and Godar-Diamond (1.04). Carlyle Lake was the only area that reported over 1.00 ducks per hunter-trip every year.

Populations and Migrations

Peak numbers of ducks decreased annually from a high of 1,609,790 in 1985 to a low of 756,101 in 1984 (Table 10, Figure 4). The average peak number of ducks in both river valleys during 1984-88 was 1,039,071 compared to 1,411,278 (26% less) during the previous period. The peak (1,609,790) occurred in 1985 which was 39% less than the peak (2,630,000) recorded in 1979 during the previous 5-year period (1979-83).

Peak numbers of mallards inventoried along the Illinois and Mississippi Rivers fluctuated yearly from a high of 719,620 in 1985 to a low of 389,915 in 1984 (Table 10, Figure 4). The average number of mallards in both river valleys during 1984-88 was 549,276 compared to 818,873 (33% less) during the previous period. The peak (719,620) occurred in 1985 which was 56% less than the peak (1,624,485) recorded in 1979 during the previous 5-year period (1979-83).

Peak numbers of diving ducks inventoried along the Illinois and Mississippi Rivers also varied yearly from a high of 440,165 in 1985 to a low of 188,320 in 1988 (Table 10, Figure 4). The average number of diving ducks present in both river valleys during 1984-88 was 298,775 compared to 429,311 (30% less) during the previous period. The peak (440,165) occurred in 1985 which was 44% less than the peak (784,995) recorded in 1979 during the previous 5-year period (1979-83).

Peak waterfowl numbers on southern Illinois reservoirs (Carlyle Lake, Rend Lake and Shelbyville Lake) fluctuated dramatically from a high of 68,885 in 1987 to a low of 8,765 in 1985 (Figure 5). Rend Lake wasn't surveyed in 1985, which is partially responsible for the low number. The average number of ducks surveyed on the reservoirs during 1984-88 was 39,155 compared to 118,442 (67% less) during the previous period. The peak (68,885) occurred in 1987 which was 73% less than the peak (254,910) recorded in 1979 during the previous 5-year period (1979-83).

CONCLUSIONS

Drought conditions have continued throughout major portions of prairie Canada and the northcentral United States since the early 1980's. The combination of mild winters and early dry springs have accelerated agricultural activities which has significantly impacted waterfowl production. The conversion of wetlands to agricultural operations and livestock grazing has resulted in the removal of crucial nesting and brood rearing habitat for waterfowl. In 1985, duck breeding populations decreased to an all-time low. The fall flight index for ducks during this period ranged from a high of 80 million in 1984 to a low of 62 million in 1985. The

ability of waterfowl populations to quickly rebound from periodic drought has not occurred during this period despite implementation of harvest restrictions.

Waterfowl harvest and hunter success is influenced by the availability of food and habitat conditions on management areas as well as the major river systems which ultimately influence waterfowl use and duration. Food and habitat conditions were good on managed areas in 1984. Despite mild weather and low numbers of ducks surveyed, the hunting was good throughout much of the season. Heavy rainfall throughout the fall and early winter provided an abundant supply of flooded cropfields which dispersed migrating waterfowl. Hunter success was good during the first half of the season, but decreased significantly in the second half.

Similar rainfall and flooding conditions occurred in 1985 which resulted in flooded cropfields and a delayed crop harvest. Hunter success, harvest and hunter use-days decreased from 1984 as a result of the lowest fall flight index on record.

Both river systems experienced frequent flooding throughout the summer and fall of 1986. Most of the natural food was destroyed or made inaccessible to waterfowl by the high water conditions. Extremely severe flooding occurred just prior to and during the hunting season which destroyed many blinds or rendered them unusable. Food conditions on areas not associated with the major river systems provided good row crop and natural food production. The duck harvest, hunter success and hunter use-days decreased from 1985 due to extremely difficult hunting conditions on both river systems coupled with a mid-November freeze which widely dispersed migrating waterfowl.

In 1987, rainfall and flooding regimes returned to a normal pattern throughout much of the state. Although some areas did record extremely dry conditions which reduced the size of many backwater areas on the major river systems. Food and habitat conditions were excellent on the reservoirs and isolated management areas. Duck harvest and hunter use-days increased on many areas in 1987, however success rates continued to decrease.

Illinois experienced a drought statewide in 1988. Record low precipitation and river levels left many backwater lakes and other wetlands dry throughout the entire hunting season. The extremely dry conditions provided excellent stands of natural vegetation, but very low water levels made it unavailable to waterfowl in the fall. The duck harvest, hunter use-days and success rates in 1988 were the lowest recorded during the 5-year period. Managed areas which were able to provide food and water reported good seasons.

Reduced fall flights of ducks as a result of poor production resulted in the implementation of restrictive harvest regulations (season length and bag limit reductions) during 1984-88. Annual

fluctuations in habitat conditions (food and water availability) and weather extremes contributed to a declining harvest of ducks on state managed areas in Illinois from 1984-88. The combination of these factors significantly influenced the composition and number of ducks harvested throughout the state. Liberalization of harvest regulations should not occur despite minor fluctuations in the fall flight index until habitat conditions improve and individual species recover or show upward trends.

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Table 1. Season dates for waterfowl (duck and coot) hunting in Illinois, 1984-1988.

Zone	1984 ^a	1985 ^b	1986 ^c	1987 ^d	1988 ^e
North	Oct. 10-Nov. 28	Oct. 16-Nov. 24	Oct. 15-Nov. 23	Oct. 14-Nov. 22	Oct. 29-Nov. 27
Central	Oct. 24-Dec. 12	Oct. 24-Dec. 02	Oct. 23-Dec. 01	Oct. 22-Nov. 30	Nov. 05-Dec. 04
South	Nov. 01-Dec. 20	Oct. 31-Dec. 09	Oct. 30-Dec. 08	Oct. 29-Dec. 07	Nov. 11-Dec. 10

^a50 day season

^b40 day season

^c40 day season

^d40 day season

^e30 day season

Table 2. Hunter and harvest statistics for public waterfowl hunting areas in Illinois, 1984-1988.

Year	Number of Areas Surveyed	Total Number of Hunters	Total Duck Harvest	Success Rate
1984	24	58,275	50,619	.87
1985	28	50,582	43,734	.86
1986	28	49,205	38,732	.79
1987	28	58,982	45,294	.77
1988	28	47,532	30,340	.64
5-Year Average		52,915	41,744	.79

Table 3. Hunter and harvest statistics for 24 public waterfowl areas in Illinois, 1984-1988.

Year	Number Hunter-Days	% Change Prev. Year	Total Duck Harvest	% Change Prev. Year	Success Rate	% Change Prev. Year
1984	58,275	-7.0	50,619	-7.0	.87	n/c
1985	49,176	-16.0	42,691	-16.0	.86	-1.0
1986	47,881	-3.0	37,953	-11.0	.79	-8.0
1987	57,590	+20.0	44,814	+18.0	.77	-2.0
1988	45,338	-21.0	29,037	-35.0	.64	-17.0
5-Yr. Avg.	51,652		41,023		.79	

Table 4. Federal estimate of hunter-days and waterfowl (duck) harvest in Illinois, 1984-1988 (Carney et al. 1984-1988).

Year	Number Hunter-Days	% Change Prev. Year	Total Duck Harvest	% Change Prev. Year
1984	466,251	-21	319,679	-30
1985	393,434	-16	261,354	-18
1986	443,813	+13	277,898	+6
1987	437,517	-1	221,181	-20
1988	304,113	-30	136,912	-38
5-Yr. Avg.	409,026		243,405	

Table 5. Hunter use, harvest and success from public waterfowl areas in Illinois during 1984.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1983	Harvest	Rank	Success Ratio	Rank	% Change From 1983
1. Anderson Lake	976	+46.5	1,126	14	1.15	5	+17.3
2. Baldwin/Kaskaskia	2,014	-10.3	1,368	12	.70	13	-18.6
3. Batchtown	4,979	-22.8	5,169	3	1.04	6	n/c
4. Calhoun Point	2,201	+7.4	1,575	10	.71	12	n/c
5. Carlyle	6,042	-22.5	7,060	2	1.17	3	+31.5
6. Chain O'Lakes	No data	--	--	--	--	--	--
7. Clinton Lake	No data	--	--	--	--	--	--
8. Collins Lake	595	+24.1	343	22	.58	19	+20.8
9. Des Plaines River	353	-15.6	125	23	.35	24	-31.4
10. Donnelley Area	Area closed	--	--	--	--	--	--
11. Glades	2,162	+4.8	1,419	11	.66	18	-8.3
12. Godar-Diamond	3,994	-5.7	4,656	4	1.16	4	+16.0
13. HSL-Madison Co.	1,960	-30.6	1,979	9	1.00	7	+22.0
14. Kankakee	270	+178.3	86	24	.32	23	22.0
15. Lake Depue	1,014	+12.0	882	16	.87	8	-8.4
16. Marshall Co.	1,880	-13.0	1,288	13	.68	17	-23.6
17. Mermet	1,255	-13.3	874	17	.70	14	+14.3
18. Powerton Lake	447	--	370	21	.83	10	--
19. Rend Lake	11,050	+2.0	7,724	1	.70	15	-9.1
20. Rice Lake	1,235	-57.8	705	18	.57	20	+35.7
21. Sanganois	3,366	-14.7	3,982	5	1.18	2	+6.3
22. Sangchris	1,275	-17.7	628	19	.49	22	-16.9
23. Shelbyville	3,227	+188.1	2,500	7	.77	11	-4.5
24. Spring Lake	1,100	-45.6	561	20	.51	21	-31.0
25. Starved Rock	1,081	+1.1	912	15	.84	9	n/c
26. Stump Lake	3,366	-18.7	2,348	8	.70	16	-31.4
27. William Powers	No data	--	--	--	--	--	--
28. Woodford Co.	2,463	+119.9	2,939	6	1.19	1	+46.9
Total	58,275		50,619		0.87		

Table 6. Hunter use, harvest and success from public waterfowl areas in Illinois during 1985.

Area	Hunting Pressure		Harvest		Success Per Hunter		Efforts	
	Hunters	% Change From 1984	Harvest	Rank	Success Ratio	Rank	Success Ratio	% Change From 1984
1. Anderson Lake	880	-9.8	1,067	11	1.21	3	1.21	+5.2
2. Baldwin/Kaskaskia	1,586	-21.2	985	13	.62	18	.62	-11.4
3. Batchtown	5,440	+9.2	5,199	3	.96	10	.96	-7.7
4. Calhoun Point	1,861	-15.4	1,045	12	.56	21	.56	-24.3
5. Carlyle	5,168	-14.5	6,555	1	1.27	2	1.27	+8.5
6. Chain O'Lakes	408	--	222	25	.54	23	.54	--
7. Clinton Lake	453	--	442	20	.98	9	.98	--
8. Collins Lake	665	+11.8	340	21	.51	25	.51	-12.1
9. Des Plaines River	227	-35.7	95	27	.42	27	.42	+20.0
10. Donnelley	328	--	147	26	.45	26	.45	--
11. Glades	2,009	-7.0	1,184	10	.59	20	.59	-10.6
12. Godar-Diamond	2,892	-27.6	2,887	5	.99	7	.99	-14.6
13. HSL-Madison Co.	2,291	+16.9	1,898	7	.83	13	.83	-17.0
14. Kankakee	117	-56.7	17	28	.14	28	.14	-56.3
15. Lake Depue	915	-9.8	864	15	.94	11	.94	+8.0
16. Marshall Co.	1,370	-27.1	1,243	9	.91	12	.91	+33.8
17. Mermet	990	-21.1	531	19	.54	24	.54	-22.9
18. Powerton Lake	282	-36.9	286	23	1.01	6	1.01	+21.7
19. Rend Lake	8,964	-18.9	4,901	4	.55	22	.55	-21.4
20. Rice Lake	1,437	+16.4	883	14	.61	19	.61	+7.0
21. Sanganois	3,882	+15.3	5,928	2	1.53	1	1.53	+29.7
22. Sangchris	988	-22.5	718	17	.73	16	.73	+49.0
23. Shelbyville	426	-86.8	301	22	.71	17	.71	-7.8
24. Spring Lake	1,094	-0.5	859	16	.78	14	.78	+53.0
25. Starved Rock	675	-37.6	666	18	.99	8	.99	+17.9
26. Stump Lake	3,673	+9.1	2,823	6	.77	15	.77	+10.0
27. William Powers	217	--	232	24	1.06	4	1.06	--
28. Woodford Co.	1,344	-45.4	1,416	8	1.05	5	1.05	-11.8
Total	50,582		43,734		0.86		0.86	

Table 7. Hunter use, harvest and success from public waterfowl areas in Illinois during 1986.

Area	Hunting Pressure		Harvest		Success Per Hunter		Efforts	
	Hunters	% Change From 1985	Harvest	Rank	Ratio	Rank	From 1985	% Change From 1985
1. Anderson Lake	596	-32.3	716	16	1.20	3	-32.9	-0.9
2. Baldwin/Kaskaskia	2,618	+65.1	1,095	11	.42	24	+11.2	-32.2
3. Batchtown	1,134	-79.1	731	14	.64	17	-85.9	-33.3
4. Calhoun Point	701	-62.3	374	18	.53	21	-64.2	-5.3
5. Carlyle	6,895	+33.4	8,900	1	1.29	2	+35.8	+1.5
6. Chain O'Lakes	259	-36.5	157	24	.60	18	-29.3	+11.1
7. Clinton Lake	459	+1.3	363	19	.79	14	-17.9	-19.4
8. Collins Lake	609	-8.4	285	22	.46	22	-16.2	-9.8
9. Des Plaines River	263	+15.8	97	27	.36	25	+2.1	-14.3
10. Donnelley Area	452	+37.8	142	25	.31	28	-3.4	-31.1
11. Glades	412	-79.5	187	23	.45	23	-84.2	-23.7
12. Godar-Diamond	1,504	-48.0	1,375	5	.91	9	-52.4	-8.0
13. HSL-Madison Co.	2,000	-12.7	1,656	4	.82	13	-12.8	-1.2
14. Kankakee	135	+15.4	46	28	.34	26	+170.6	+142.8
15. Lake Depue	1,146	+25.2	1,206	9	1.05	6	+39.6	+11.7
16. Marshall Co.	1,597	+16.6	1,347	6	.84	12	+8.4	-7.7
17. Mermet	1,207	+21.9	655	17	.54	20	+23.4	n/c
18. Powerton Lake	286	+1.4	340	20	1.18	4	+18.9	+16.8
19. Rend Lake	14,300	+59.5	4,859	3	.34	27	-0.8	-38.1
20. Rice Lake	1,485	+3.3	1,291	7	.87	10	+46.2	+42.6
21. Sanganois	4,571	+17.7	7,548	2	1.65	1	+27.3	+7.8
22. Sangchris	1,243	+25.8	726	15	.58	19	+1.1	-20.5
23. Shelbyville	328	-23.0	310	21	.94	7	+3.0	+32.3
24. Spring Lake	1,315	+20.2	1,130	10	.86	11	+31.5	+10.2
25. Starved Rock	739	+9.5	798	12	1.08	5	+19.8	+9.1
26. Stump Lake	1,153	-68.6	751	13	.65	16	-73.4	-15.6
27. William Powers	154	-29.0	117	26	.76	15	-49.6	-28.3
28. Woodford Co.	1,307	-2.8	1,211	8	.92	8	-14.5	-12.4
Total	49,205		38,732		0.79			

Table 8. Hunter use, harvest and success from public waterfowl areas in Illinois during 1987.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1986	Harvest	Rank	Ratio	Rank	% Change From 1986
1. Anderson Lake	1,277	+114.3	1,262	9	.99	5	-17.5
2. Baldwin/Kaskaskia	1,475	-43.6	497	18	.33	24	-21.4
3. Batchtown	4,221	+272.2	3,309	5	.78	10	+21.8
4. Calhoun Point	1,836	+161.8	1,224	12	.66	15	+24.5
5. Carlyle	8,375	+21.5	11,050	1	1.32	1	+2.3
6. Chain O'Lakes	408	+57.5	102	25	.25	27	-58.3
7. Clinton Lake	323	-29.6	197	22	.61	19	-22.8
8. Collins Lake	425	-30.2	176	23	.41	22	-10.9
9. Des Plaines River	630	+139.5	267	20	.42	21	+16.7
10. Donnelley Area	513	+13.5	138	24	.27	26	-12.9
11. Glades	1,695	+311.4	1,259	10	.74	13	+64.4
12. Godar-Diamond	3,226	+114.4	3,619	3	1.12	2	+23.0
13. HSL-Madison Co.	1,887	-5.6	1,258	11	.66	16	-19.5
14. Kankakee	360	+166.6	80	27	.22	28	-35.3
15. Lake Depue	1,186	+3.5	933	15	.78	11	-25.7
16. Marshall Co.	1,693	+6.0	1,124	13	.66	17	-21.4
17. Mernmet	169	-86.0	95	26	.56	20	+3.7
18. Powerton Lake	310	+8.4	243	21	.78	12	-33.9
19. Rend Lake	14,864	+4.0	5,998	2	.40	23	+17.6
20. Rice Lake	1,574	+6.0	1,108	14	.70	14	-19.5
21. Sanganois	3,694	-19.2	3,396	4	.92	7	-44.2
22. Sangchris	1,020	-17.9	648	17	.63	18	+8.6
23. Shelbyville	331	+0.9	360	19	1.08	4	+14.9
24. Spring Lake	1,472	+11.9	1,647	7	1.11	3	+29.0
25. Starved Rock	809	+9.4	659	16	.81	8	-25.0
26. Stump Lake	3,415	+196.1	3,299	6	.96	6	+47.7
27. William Powers	148	-4.5	43	28	.29	25	-61.8
28. Woodford Co.	1,646	+25.9	1,313	8	.79	9	-14.1
Total	58,982		45,294				0.77

Table 9. Hunter use, harvest and success from public waterfowl areas in Illinois during 1988.

Area	Hunting Pressure		Harvest		Success Per Hunter Efforts		
	Hunters	% Change From 1987	Harvest	Rank	Success Ratio	Rank	% Change From 1987
1. Anderson Lake	1,340	+4.9	1,516	7	1.13	1	+14.1
2. Baldwin/Kaskaskia	985	-33.2	407	18	.41	26	+24.2
3. Batchtown	2,926	-30.7	2,121	3	.72	14	-7.7
4. Calhoun Point	1,098	-40.2	564	16	.51	24	-22.7
5. Carlyle	5,503	-34.3	5,545	1	1.00	6	-24.2
6. Chain O'Lakes	1,404	+244.1	870	14	.62	20	+148.0
7. Clinton Lake	124	-61.6	52	28	.41	27	-32.8
8. Collins Lake	375	-11.7	212	21	.56	22	+36.6
9. Des Plaines	145	-77.0	117	26	.80	10	+90.4
10. Donnelley Area	414	-19.5	235	20	.56	23	+107.0
11. Glades	1,351	-20.3	1,040	12	.77	13	+4.0
12. Godar-Diamond	2,222	-31.1	1,944	6	.87	7	-22.3
13. HSL-Madison Co.	1,140	-39.6	740	15	.65	18	-0.1
14. Kankakee	108	-70.0	68	27	.63	19	+186.3
15. Lake DePue	1,185	n/c	1,230	8	1.03	5	+32.0
16. Marshall Co.	1,358	-19.8	1,070	11	.79	12	+19.7
17. Mernmet	277	+64.0	143	24	.51	25	-8.9
18. Powerton Lake	200	-35.5	211	22	1.05	3	+34.6
19. Rend Lake	14,748	-0.8	3,582	2	.24	28	-40.0
20. Rice Lake	1,184	-24.7	954	13	.80	11	+14.3
21. Sanganois	3,039	-17.7	2,097	5	.69	16	-25.0
22. Sangchris	650	-36.3	437	17	.67	17	+6.3
23. Shelbyville	176	-47.1	123	25	.70	15	-35.1
24. Spring Lake	1,161	-21.1	1,222	9	1.05	4	-5.4
25. Starved Rock	257	-68.2	403	19	1.57	2	+93.8
26. Stump Lake	2,529	-25.9	2,110	4	.83	9	-13.5
27. William Powers	252	+69.6	146	23	.60	21	+106.9
28. Woodford Co.	1,381	-16.1	1,181	10	.85	8	+7.6
Total	47,532		30,340		0.64		

Table 10. Peak numbers of ducks counted during aerial inventories of the Illinois and Mississippi River Valleys and southern Illinois reservoirs, 1984-1988. (Unpublished data from the Illinois Natural History Survey).

Year	Illinois and Mississippi River Valleys		Southern Ill. Reservoirs*	
	Mallards	Diving Ducks	Total Ducks	Total Ducks
1984	389,915	217,880	756,101	50,602
1985	719,620	440,165	1,609,790	8,765 [^]
1986	522,200	301,385	1,025,025	15,875
1987	620,100	346,125	1,030,965	68,885
1988	494,545	188,320	773,475	51,650
1984-88 Average	549,276	298,775	1,039,071	39,155

* Carlyle Lake, Rend Lake and Shelbyville Lake

[^] Rend Lake wasn't surveyed in 1985

Figure 1. Public Waterfowl Hunting Areas in Illinois.

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

CA - Conservation Area
FWA - Fish & Wildlife Area
SP - State Park
WMA - Waterfowl Management Area

North Zone

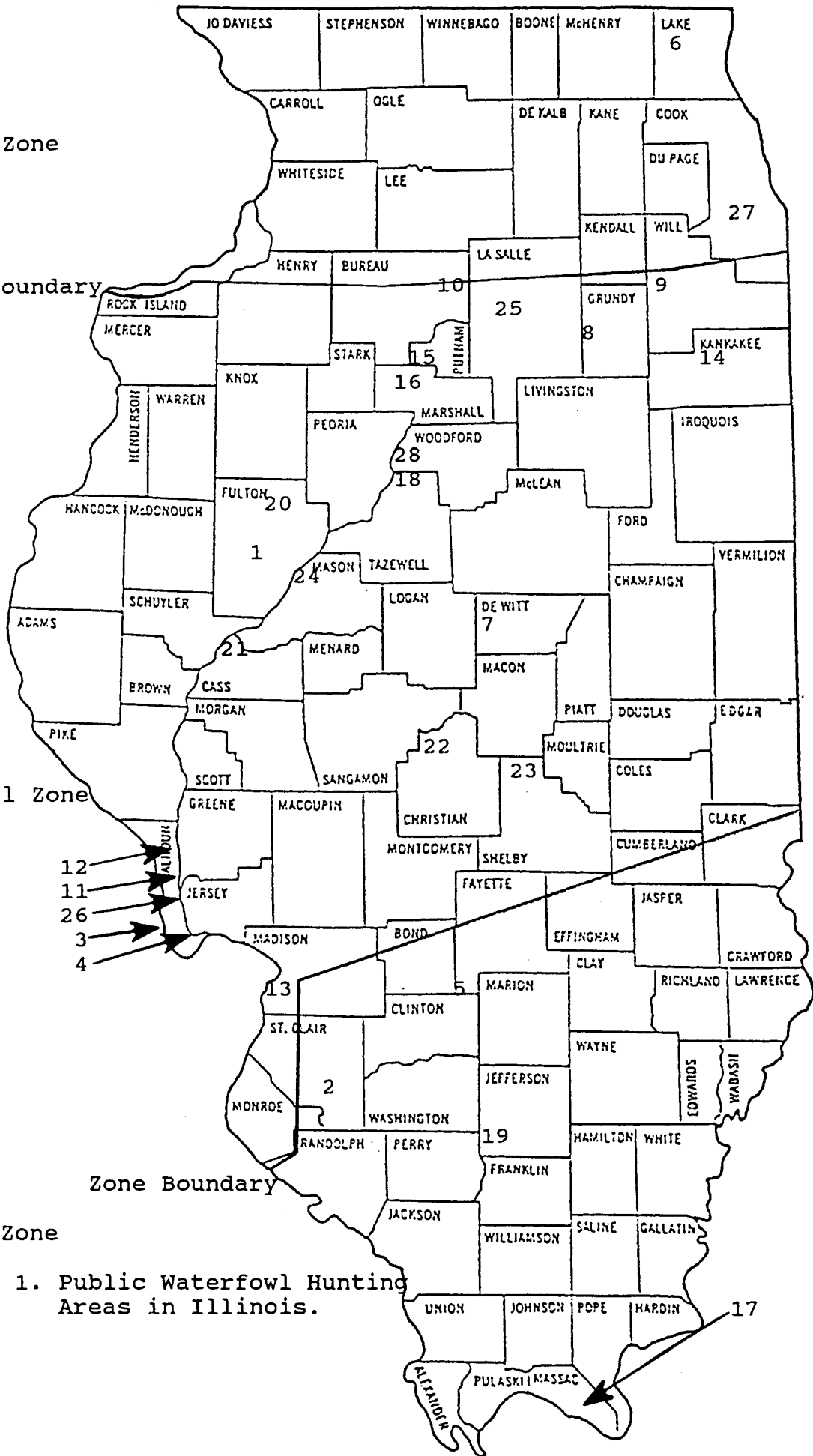
Zone Boundary

Central Zone

Zone Boundary

South Zone

Figure 1. Public Waterfowl Hunting Areas in Illinois.



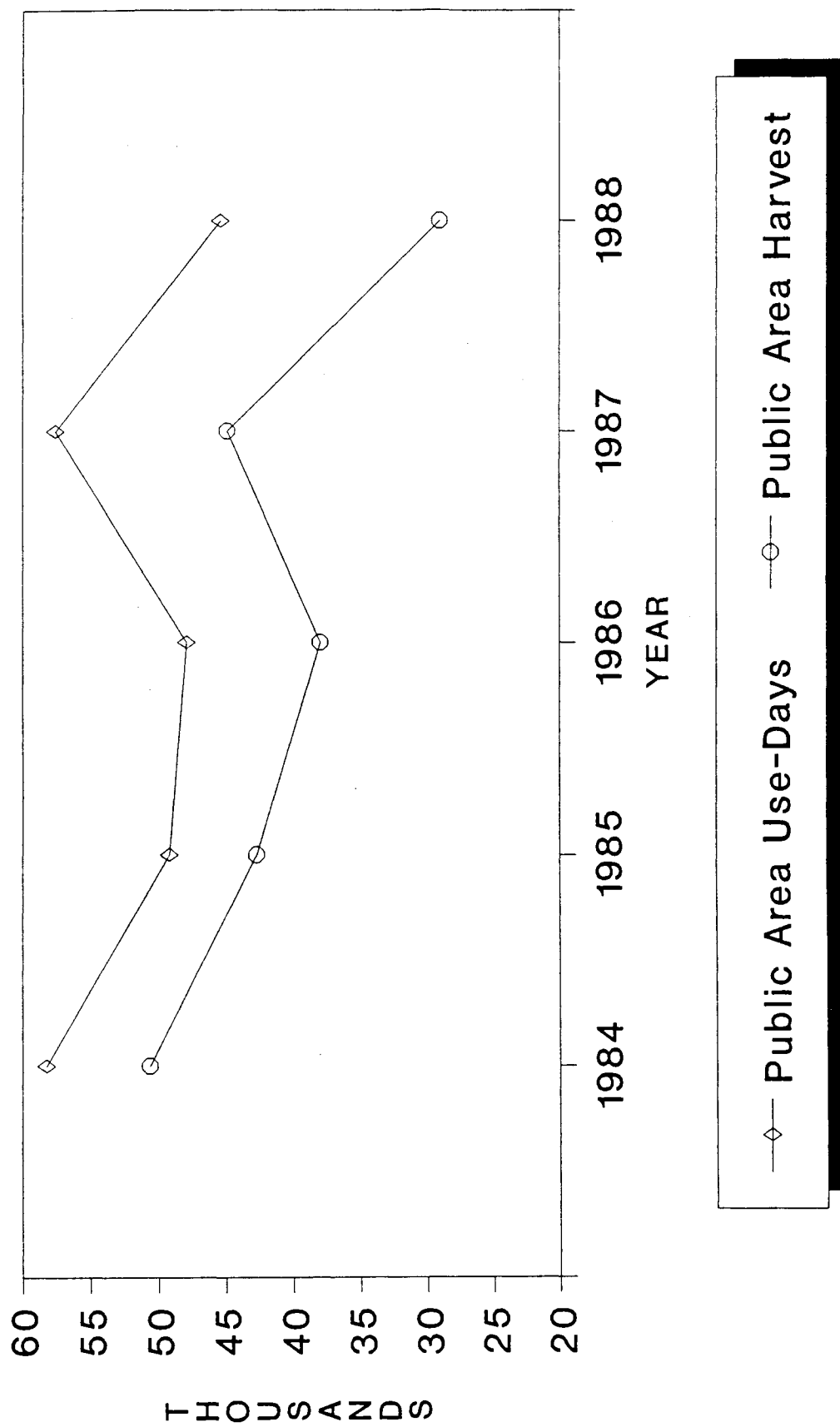


Figure 2. Waterfowl Hunter Use-Days and Duck Harvest on 24 Public Areas in Illinois from 1984-1988.

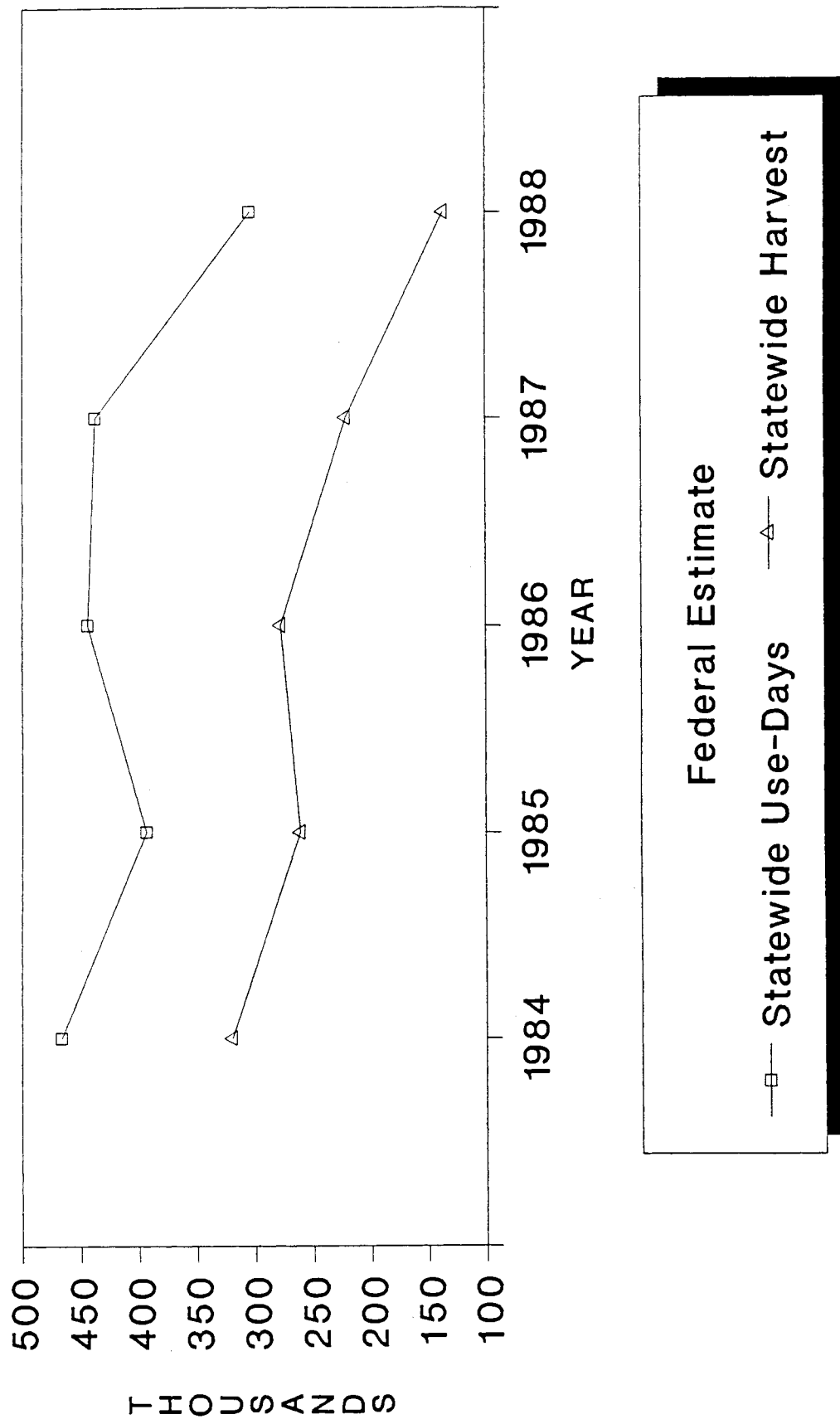


Figure 3. Statewide Duck Harvest and Hunter Use-Days in Illinois from 1984-1988 (Federal Estimate).

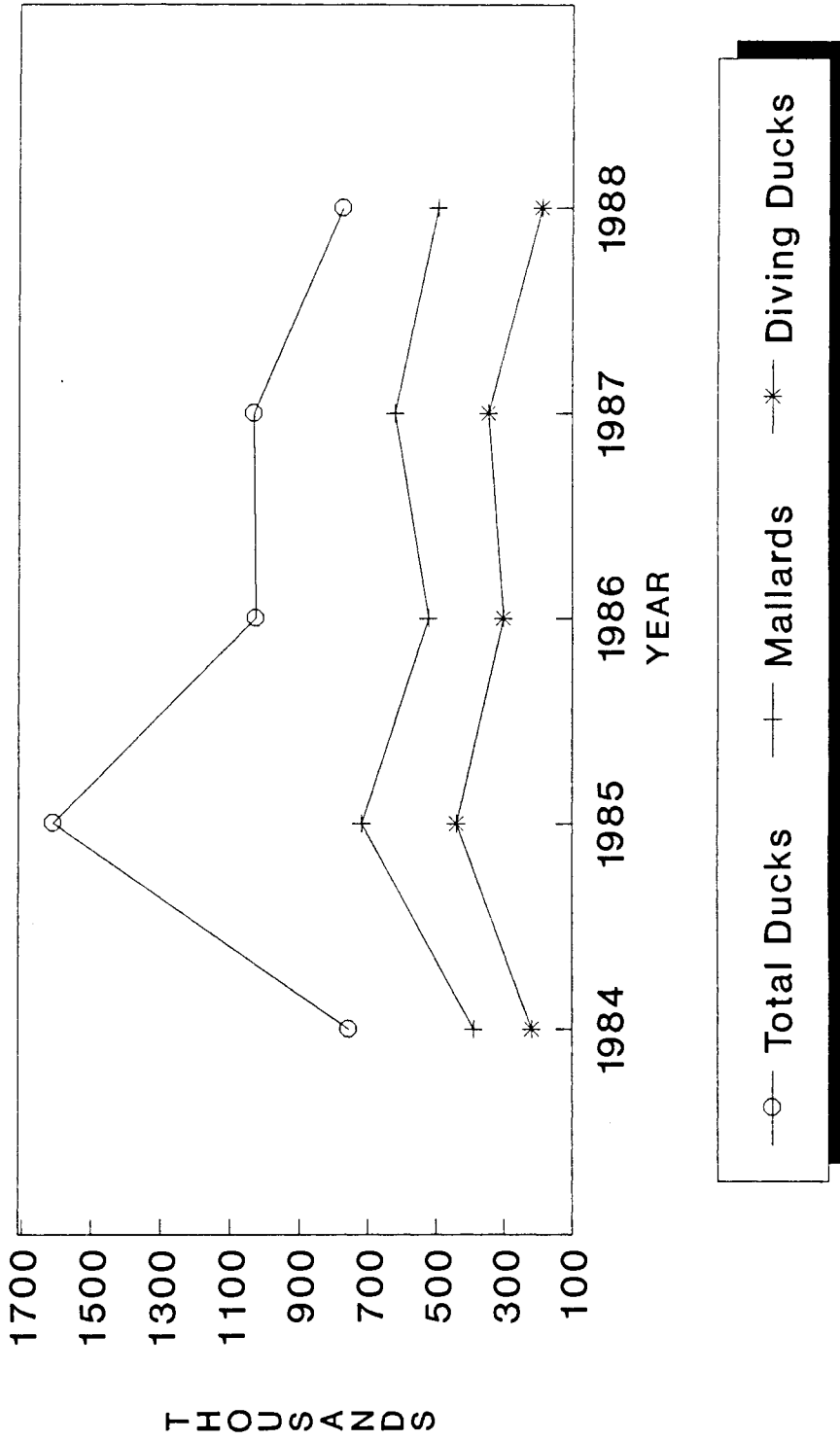


Figure 4. Peak Numbers of Ducks on the Illinois and Mississippi Rivers from 1984-1988. Data from INHS Aerial Surveys

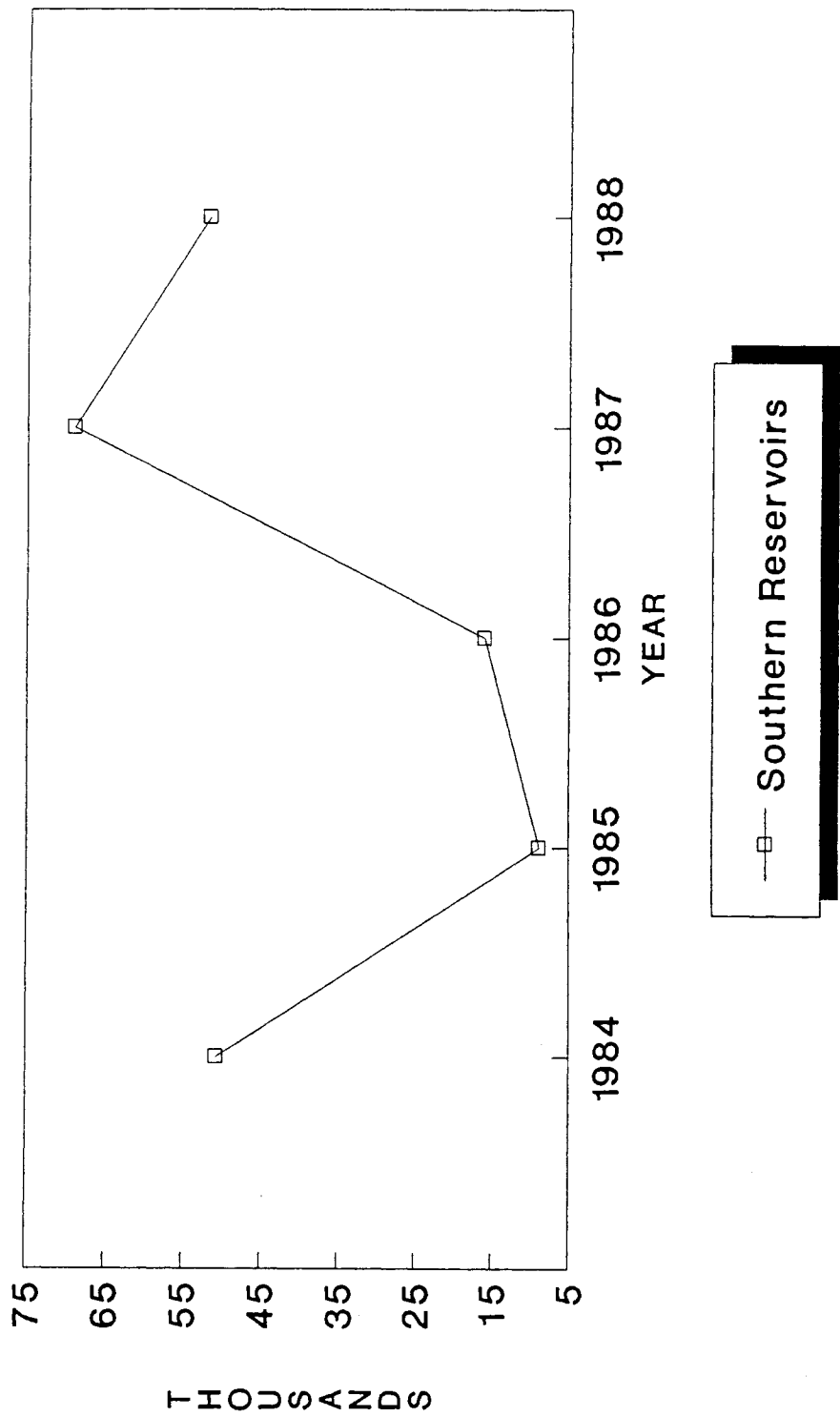


Figure 5. Peak Numbers of Ducks on the Southern Illinois Reservoirs (Rend, Carlyle, Shelbyville) from 1984-1988.